



CORE ELECTRIC COOPERATIVE

OVERHEAD CONSTRUCTION SPECIFICATIONS

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PAGE	AU	DESCRIPTION
-	-	TITLE PAGE - OVERHEAD SPECIFICATIONS
17.18	M3-30V	New Unit - Three-Phase Vacuum Reclosers (VIPER)

OVERHEAD CONSTRUCTION SPECIFICATIONS

TABLE OF CONTENTS

SECTION	DESCRIPTION
1	CORE Specifications (REA Bulletin 50-3)
2	Conductor
3	Single-Phase Construction
4	Vee-Phase Construction
5	Three-Phase Construction
6	Three-Phase Construction Narrow Profile
7	Three-Phase Construction Transmission Underbuild
8	Three-Phase Construction Overhead Neutral
9	Three-Phase Construction Double Circuit
10	Three-Phase Construction Double Circuit Overhead Neutral
11	Guying Assemblies
12	Anchor Assemblies
13	Transformer Assemblies
14	Secondary & Service Assemblies
15	Grounding Assemblies
16	Switches
17	Recloser Assemblies
18	Miscellaneous Assemblies
19	Capacitors & Regulators
20	Metering
21	Guidelines Specifications



**CORE
CONSTRUCTION
SPECIFICATIONS**

CORE SUPPLEMENTAL INFORMATION

GENERAL CONSTRUCTION SPECIFICATIONS

All construction shall be performed in a safe, thorough, and skillful manner in accordance with the staking sheets, plans and specifications, and the construction drawings.

The provisions of the National Electrical Safety Code (NESC) apply to all electric system facilities regardless of the source of financing. A utility must ensure that its electric system, including all distribution, transmission, and generating facilities, is designed, constructed, operated, and maintained in accordance with all of the applicable provisions of:

- (1) the most current provisions of the NESC, and
- (2) all applicable and current electrical and safety requirements of any State or local governmental entity.

Any electrical standard requirements established by CORE are in addition to, and not a substitution for nor modification of (1) and (2) listed immediately above.

The permitted loading, strength, and spacing (separation) of structures, assemblies and conductors shown on the assembly drawings are based on and are in compliance with the 2017 Edition of the NESC. Overhead distribution circuits shall be constructed with not less than the Grade C strength requirements as described in section 26, Strength Requirements, of the NESC when subjected to the loads specified in NESC Section 25, Loadings for Grades B and C. Distribution lines that under build transmission circuits or that cross over limited access highways and railroad tracks shall be constructed with not less than the Grade B strength requirements as described in NESC Section 26.

The drawings of equipment and materials shown in the construction assemblies depict the general categories of items found in RUS Informational Publication 202-1, "List of Materials Acceptable for Use on Systems of RUS Electrification Borrowers" ("List of Materials"). Any drawing of any piece of equipment or material that resembles a specific product of a manufacturer is unintentional.

Materials to be used for construction are designated by one or two lower-case alphabetic characters shown on the drawings and in the "ITEM" column in the drawing material blocks.

For example, "b" designates a steel, pole top pin. A utility may use, at its discretion, any of the applicable pole top pins from category "b" of the "List of Materials."

The drawings show the use of one polymer distribution insulator. However, two, 6-inch, ANSI Class 52-1 suspension insulators may be used.

Normally crossarm pins and post-type insulators come equipped with washers and locknuts.

Thus, the washers and locknuts for crossarm pins are not tallied in the "QTY" (quantity) columns in the material boxes on the construction drawings. However, the crossarm pin washers and locknuts are shown on the construction drawings in parenthesis to depict proper construction. If crossarm pins or post type insulators are purchased without washers, locknuts or studs, the quantity totals in the material boxes on the construction drawings will need to be adjusted accordingly.

Double coil spring washers shall be installed on all threaded material and hardware in addition to machine nuts and washers. The threads on installed bolts shall protrude past the machine nuts a minimum of one inch but not more than two inches.

Sometimes it may be prudent or necessary to modify CORE standard distribution assemblies to solve encountered construction problems. For example, a standard crossarm type assembly may need to be modified with heavy-duty crossarm braces to support large conductors.

CORE SUPPLEMENTAL INFORMATION

CONDUCTOR INSTALLATION SPECIFICATIONS

Conductors shall be handled with care and shall not be trampled on or run over by vehicles. Each reel shall be examined and the wire shall be inspected for cuts, kinks, or other damage. Damaged portions shall be cut out and the conductor spliced. The conductors shall be pulled over suitable rollers or stringing blocks properly mounted on the pole or crossarm to prevent binding or damage while stringing.

Conductors shall be sagged evenly and in accordance with the designer's or conductor manufacturer's recommendations. The air temperature at the time and place of sagging shall be determined by the use of a certified thermometer. The sag of all conductors after stringing shall be in accordance with the engineer's instructions.

For new construction, splices shall be no closer than 1,000 feet from one another and there shall be no more than 3 splices per mile in any primary phase or neutral conductor. Furthermore, splices shall not be located within 10 feet of any supporting structure. For all construction, splices shall not be located in Grade B crossing spans and preferably not in adjacent spans.

Splices shall be installed in accordance with the manufacturer's specifications and recommendations. All conductors shall be cleaned thoroughly by wire brushing before splicing or installing connectors or clamps. A suitable oxidation inhibitor shall be applied before splicing or applying connectors over aluminum conductor.

CONSTRUCTION SPECIFICATIONS FOR POLE TOP ASSEMBLIES

The neutral conductor shall be installed on the same side (preferably the roadside) of all tangent and small angle poles throughout each line section. See "Construction Specifications for Poles and Crossarms" for additional pole and crossarm construction specifications.

Neutral attachments may be lowered on standard pole top assemblies for the purpose of economically meeting conductor clearance requirements of the NESC.

Neutral attachments may be lowered on standard pole top assemblies a distance not exceeding an additional 6 feet for the purpose of performing construction and future line maintenance on these assemblies from bucket trucks designed for such work.

The conductor shall be tied to the top groove of pin-type or post-type insulators on tangent poles.

On angle structures the conductor shall be tied on the side of the insulator opposite the direction of the strain. Pin-type and post-type insulators shall be tight on the pins and brackets, respectively, and the top groove shall be in line with the conductor after tying. Borrowers shall not allow any up strain on pin-type or post-type insulators.

A 3 inch by 3 inch (minimum), square, curved washer (item "d") shall be used abutting the pole when installing primary deadend, neutral deadend and guy assemblies directly to the pole. These washers mitigate the crushing of wood fibers and facilitate the permitted longitudinal loads shown on the construction drawings.

A 2 ¼ inch (minimum) square washer shall be placed under the shoulder of 7.2 kV crossarm insulator pins whose surface area abutting the crossarm is less than 4 square inches. These washers mitigate the crushing of wood fibers and facilitate the permitted transverse loading.

The maximum line angles on tangent construction assemblies shall be limited to 5 degrees for small conductors and 2 degrees for conductors larger than # 1/0 because of likely slippage of the neutral conductor off of a spool-type insulator. Furthermore, based on additional calculations by the design engineer, these maximum line angles may need to be reduced for NESC Grade B construction.

Deadend and suspension angle pole top assemblies attached directly to poles shall be designed to hold the sum of all expected loads multiplied by the appropriate overload factors of NESC Table 253-1.

CORE has applied the applicable strength factors for Grade C construction from NESC Table 261-1 in the calculations for permitted longitudinal loading shown in the design parameters on the drawings. The

CORE SUPPLEMENTAL INFORMATION

permitted longitudinal loading on primary deadend assemblies attached directly to poles is based on 50 percent of the rated ultimate strength of the suspension insulators shown on the assembly drawings. The maximum line angles for pole top primary assemblies is based on the CORE designated maximum load on crossarm insulator pins, post type insulators, or pole top pins and the assumed conductor tensions. The applicable overload factors from NESC Table 253-1, for Grade C construction, have already been applied in the calculations for the maximum line angles. For large conductor sizes, the design engineer may need to calculate new (smaller) maximum line angles for NESC Grade B construction. The permitted unbalanced conductor tensions on primary deadend assemblies attached to crossarms are based on the results of the equations and methodology of the Design Manual. CORE has applied the overload factors of NESC Table 253-1 and used the Design Manual tensions to calculate the permitted unbalanced conductor tensions shown. The permitted unbalanced conductor tensions on crossarm assemblies shall be reduced by 40 percent for NESC Grade B construction.

CORE categorizes conductor sizes as follows:

- Small conductors are conductors with a rated breaking strength of less than 4,500 pounds (20,000 newtons), e.g., 1/0 Aluminum Conductor - Steel Reinforced (ACSR) and smaller.
- Large conductors are conductors with a rated breaking strength of 4,500 pounds (20,000 newtons) or greater but less than 10,000 pounds (45,000 newtons), e.g., 2/0 ACSR through 4/0 ACSR or 336.4 kcmil (18/1) ACSR.
- Extra large conductors are conductors with a rated breaking strength of 10,000 pounds (45,000 newtons) or greater, e.g., 266.8 kcmil (26/7) ACSR and larger.

Primary pole top assemblies identified as “large conductors” in the drawing titles shall be used to support large and extra large conductors. Large conductor assemblies may also be used for small conductors. Furthermore, large and extra large conductors may be installed on assemblies not designated as large conductors provided that the expected transverse or longitudinal loads (multiplied by the appropriate NESC overload factors) do not exceed the permitted loads or tensions shown on the design parameters of the drawings. For any conductor size, the horizontal, vertical or transverse loads shall not exceed the permitted strength of crossarms, crossarm pins, insulators, or insulator bracket assemblies. Usually, extra large conductors require that pin type and post type insulators have a “C” neck for conductor sizes up through 477.0 (18/1) ACSR and “J” necks for conductor sizes up to 795 kcmil, depending on the armor rods selected.

CONSTRUCTION SPECIFICATIONS FOR GUYS

The design engineer shall determine the number, type, and location of guys needed to be installed. Guys shall be attached to the pole as shown in the construction drawings and shall be installed before conductors are strung. Deadend structure guys shall be installed, as nearly as practicable, in line with the pull of conductors, but maybe slightly offset for double deadend structures. Guys that bisect line angles (bisector guys) at line angle structures shall be installed as nearly as practicable to the true bisector of the line angle.

The distance from the pole to the anchor rod (the guy lead) is recommended to be the same distance as from the ground to the guy attachment on the pole. This 1:1 guy slope is especially recommended on deadend structures.

The installation of sidewalk guys and push poles is discouraged due the difficulty of correctly designing and installing. CORE will consider the use of sidewalk guys and push poles on a case-by-case basis.

The NESC requires that the grade of construction of guys be the same or higher as the grade of construction of: (1) the pole or structure to which they are attached, or (2) the highest grade required for any conductors supported by the pole or structure.

CORE SUPPLEMENTAL INFORMATION

The permitted loads shown in the design parameters for guying assemblies have already been calculated by multiplying a strength factor based on the rules of NESC Section 261 and NESC Table 261-1.

The permitted loads on guy wires shall be determined by multiplying the rated breaking strength of the guy wire by the strength factor of 0.90 given in NESC Table 261-1.

Guy strength that must be provided is determined by totaling all loads expected to be exerting tension on the guy assembly and guy wire(s) and multiplying this total load by the appropriate overload factors according to NESC Rule 253 and as shown in NESC Table 253-1.

If the separation on the pole between any guy attachment bolt or hardware and any phase conductor attachment bolt is less than 15 inches, then a guy strain insulator assembly (M5-23 series) shall be installed at the top of the guy. Alternately, an insulated extension link (item "eu") shall be installed in the primary conductor tap, deadend, or suspension angle subassembly where it attaches to the pole. The purpose of this specification is to maintain minimum basic insulation impulse levels (BIL) and to increase clearances for line workers.

Down guy and overhead guy wires shall be effectively grounded in accordance with Rule 215C2 of the NESC and in accordance with the assembly drawings. Effectively grounded guy wires provide a direct path to ground and thus decrease the chances of electric shock, serious injury and even death to a person standing on the ground and making contact with a guy wire that has accidentally become energized by means of contact with a primary, secondary, service or neutral conductor. Furthermore, effectively grounded guy wires bonded to anchor rods decrease the overall system impedance to ground and improve the chances of primary overcurrent protection devices to operate as designed.

Down guy and overhead guy wires may be insulated in portions of a borrower's service area if all 5 of the following conditions are met:

(1) (a) has records documenting that anchors or anchor rods have failed due to corrosion after less than 20 years of service, or (b) has performed and documented a study that has determined that insulating down guy wires is an adequate and economical method to mitigate predicted premature corrosion of anchors and anchor rods in the service area covered by the study.

(2) Insulated down guys and their component parts shall be in compliance with all of the applicable rules of the NESC;

(3) Only fiberglass guy strain insulators shall be used to insulate guywires and the insulators shall be installed at the top of the guy wire;

(4) Required bonding clamps are securely installed between the anchor rod and the guy wire attached to the anchor rod; and

(5) The borrower has a special regimented maintenance program in place that periodically (as experience indicates) checks the insulation integrity of installed guy insulators.

Down guys installed on tangent, double deadend assemblies shall have a minimum clearance to the neutral conductor of 6 inches and shall have a guy strain insulator(s) installed at the top of the guy that extends from the pole attachment to at least 12 inches past the neutral conductor. (For example, the 6-inch clearance can be met for a down guy with a 30-foot guy lead that is attached to the pole 30 feet above the ground and 2.5 feet above the neutral by installing (offsetting) the guy anchor 6 feet perpendicular to the line of the neutral conductor.)

Alternately, two down guys without guy strain insulators may be installed, one on each side of the neutral, such that clearance between each down guy wire and the neutral conductor is a minimum of 12 inches. For either of the above designs, the down guy wire shall be effectively bonded to ground in accordance with specifications and the rules of the NESC.

CORE SUPPLEMENTAL INFORMATION

CONSTRUCTION SPECIFICATIONS FOR ANCHORING

As much as practicable, anchors and rods shall be installed in line with, and in the opposite direction of, the resultant strain of the conductors. Anchor assemblies shall be installed so that approximately 6 inches of the rod remains out of the ground. In cultivated fields or other locations as deemed necessary, the projection of the anchor rod above earth may be increased to a maximum of 12 inches to prevent burial of the rod eye.

The backfill of all anchor holes must be thoroughly tamped the full depth. The designated holding powers shown on the anchor assembly drawings are based on the maximum holding power of average Class 5 soil. When the anchor is installed in poorer soils, the holding power of the anchor shall be derated. A suggested guide is to derate by 25 percent in Class 6 soil and by 50 percent in Class 7 soil. For Class 8 soil it is usually necessary to use swamp anchors or power driven screw anchors which can penetrate the poor soil into firmer soil.

See the following "Soil Classifications" table for soil classes.

SOIL CLASSIFICATIONS

Class	Engineering Description
0	Sound hard rock, unweathered
1	Very dense and/or cemented sands; coarse gravel and cobbles
2	Dense fine sand; very hard silts and clays (may be preloaded)
3	Dense clayed sand and gravel; very stiff to hard silts and clays
4	Medium dense sandy gravel; very stiff to hard silts and clays
5	Medium dense coarse sand and sandy gravels; stiff to very stiff silts and clays
6	Loose to medium dense fine to coarse sand; firm to stiff clays and silts
7	Loose fine sand; alluvium; loess; soft-firm clays; varied clays; fill
8	Peat; organic silts; inundated silts; fly ash

CONSTRUCTION SPECIFICATIONS FOR TRANSFORMERS

It may be necessary, and it is permissible, to lower the neutral attachment on standard single-phase conventional type transformer assemblies an additional distance not exceeding 2 feet to provide adequate clearances for cutouts.

When applicable, transformers with external gap surge arresters shall be retired.

The construction drawings for three-phase transformer banks show cutouts (items "af") and arresters (items "ae) mounted adjacent to one another on the crossarm.

However, a cutout and arrester, as shown, may be replaced with a combination cutout/arrester (item "ax"). This change will require a change in the assembly's material shown on the construction drawings. Moreover, the arresters may be mounted directly on the transformer tank. (The cutouts remain on the arm.) Any of the above mounting arrangements for three-phase transformer banks are acceptable; the choice is left to the design engineer.

The construction drawings for single-phase conventional transformer assemblies show surge arresters mounted directly on the transformer tank which maximizes transformer surge protection. Except for single-phase conventional transformers with open link fused cutouts, the arrester may be mounted on a crossarm, on a bracket (item "fn") adjacent to the cutout, or a combination cutout/arrester (item "ax") may be used. The choice of using any of these acceptable mounting arrangements is left to the design engineer.

Tank-mounted arresters provide maximum surge protection to transformers because of the arresters' minimum lead lengths. However, when arresters are mounted directly on transformer tanks, the fused cutouts have less surge protection and are subject to more frequent operations. Nuisance operations on fused cutouts with minimal surge protection can be lessened with the use of dual-element fuses.

CORE SUPPLEMENTAL INFORMATION

The wiring schematics on the three-phase transformer/meter connection guide drawings are based on single-phase transformers with additive polarity. ANSI Standard C57-12.20 specifies that all single-phase transformers larger than 200 kVA have subtractive polarity. If the transformer/meter connection guides are used for single-phase transformers larger than 200 kVA, the schematic diagrams will need to be modified accordingly.

CONSTRUCTION SPECIFICATIONS FOR GROUNDING

Ground rods (item “ai”) shall be driven to their full length in undisturbed earth, a minimum of 2 feet from the face of the pole. The tops of the ground rods shall be at least 12 inches below the surface of the earth. The ground wire (item “av”) shall be attached to the rod with a ground rod clamp (item “aj”) and shall be secured to the pole with staples. The staples on the ground wire shall be spaced 2 feet part, except for the first 8 feet above the ground and the top 8 feet of the ground wire where they shall be spaced 6 inches apart.

The connection between the ground rod and the system neutral should be made by one continuous piece of conductor (the pole ground wire), and shall be installed in the shortest and most direct path according to the construction drawings. Splices, if required, shall be made using a compression type connector and shall be installed a minimum of 6 inches above the ground line. The pole ground wire shall be connected to the system neutral using a compression type connector.

All equipment shall have at least 2 connections from the frame, case, or tank to the multigrounded system neutral conductor as shown on the construction drawings. The pole ground wire may be used for one or both of these connections.

All neutral conductors on the pole shall be bonded directly to each other, and connected to the pole ground wire if present. All equipment ground wires, neutral conductors, down guys, messenger wires, and surge-protection ground wires shall be interconnected and attached to a common (pole) ground wire in accordance with the requirements of the National Electrical Safety Code (NESC).

Effectively grounded driven ground rods or trench type grounding assemblies shall be installed a minimum of four times per mile along overhead distribution lines. Customer-owned or other installed electric service grounds shall not be counted in the above minimum grounding assembly requirement.

Whereas under certain circumstances, plate type and wrap-around type grounding improvement assemblies may meet the grounding electrode requirements of Rule 094B4 of the NESC, CORE does not allow these types of grounding assemblies to be used to meet the NESC requirement of 4 grounds per mile because the effectiveness of these types of grounds in “disturbed” earth is often questionable. However the installation of these grounding improvement assemblies is encouraged to augment and improve the overall grounding of the distribution system that in turn generally improves the performance of line protection devices and improves safety.

CONSTRUCTION SPECIFICATIONS FOR SECONDARY CONDUCTORS AND SERVICE DROPS

Secondary conductors may be bare or covered wires or multi-conductor service cable. The conductors shall be sagged in accordance with the designer’s or manufacturer’s recommendations.

Conductors for secondary underbuild on primary lines may be bare wires, except in those circumstances where conditions may necessitate that covered wires or service cable be used. Service drop conductors shall be covered wires or service cable in accordance with NESC Rule 234C3.

Secondary and service drop conductors shall be installed such that the climbing space on poles is not obstructed. For new construction there shall not be more than one splice per conductor in any span, and splices shall be located at least 10 feet from the conductor support. Covered conductors or service cables used for both the secondary and service drop may be installed in one continuous run.

CORE SUPPLEMENTAL INFORMATION

The “permitted longitudinal loadings” shown on the assembly drawings are based on 50 percent of the mechanical-electrical ratings of the insulators. All applied loads must be multiplied by the appropriate NESC overload factors when applicable.

CONSTRUCTION SPECIFICATIONS FOR CONNECTORS, STIRRUPS, CLAMPS, TAPS, AND JUMPERS

Jumpers and other leads connected to line conductors shall have sufficient slack to allow free movement of the conductors without causing the jumpers to be pulled from their connectors.

Even if not shown on the drawings, jumpers shall have at least two bends in a vertical plane, or one in a horizontal plane, or the equivalent.

All leads on transformers, shall be a minimum of #4 copper conductivity. Jumpers on all other primary jumper applications shall be a minimum of #2 copper. Where aluminum jumpers are used, a connection to unplated bronze terminals shall be made by splicing a short stub of copper to the aluminum jumpers using a compression connector suitable for the bimetallic connection.

Connectors and hot-line clamps suitable for the purpose shall be installed as shown on the drawings and also in accordance with the manufacturer's specifications and recommendations.

On all hot-line clamp installations, the clamp and jumper shall be installed so that they are permanently bonded to the load side of the line, allowing the jumper to be de-energized when the clamp is disconnected.

Stirrups may be used to connect tap conductors (jumper wires) to primary conductors if the following criteria are met:

- The stirrup and hot line connector are sized to meet or exceed the current carrying capacity of the tap conductor or equipment jumper;
- All stirrup conductors are made of copper or bronze;
- All stirrup conductors are made of #2 copper equivalent conductivity or larger;
- All-purpose or aluminum hot line connector or clamps are not used with stirrups;
- All stirrups, connectors, and clamps are installed in accordance with the manufacturer's specifications;
- Stirrups with two compression connectors are not used in areas prone to aeolian vibration;
- Stirrups are not used to connect main lines together or to connect heavily loaded tap lines to main lines.

Stirrups are not recommended to be used to connect reclosers, autotransformers, or line regulators to primary conductors. Stirrups and hot line clamps shall not be used for sectionalizing taps nor taps for main lines for operational or maintenance purposes. Permanent compression or bolted type connectors shall be used because of their better current carrying capabilities and reliability. Line switches, fused cutouts, or solid blade cutouts should be used at line locations where occasional line sectionalizing may be required.

At locations where permanent connections using compression or bolted type connectors are not desired, and where the installation of sectionalizing equipment is also not desired, hot line connectors shall be installed.

SPECIFICATIONS FOR RIGHT-OF-WAY CLEARING

The right-of-way shall be prepared by removing trees, clearing underbrush, and trimming trees so that the right-of-way is cleared close to the ground and to the width specified.

However, low growing shrubs, which will not interfere with the operation or maintenance of the line, can be left undisturbed if so directed by the property owner. Slash may be chipped and blown on the right-of-way if so allowed. Trim, but do not remove shade, fruit, or ornamental trees unless otherwise authorized.

All trimming shall be done using good arboricultural practices.

CORE SUPPLEMENTAL INFORMATION

The landowner's written permission is usually required prior to cutting trees outside of the right-of-way. Trim trees fronting each side of the right-of-way symmetrically unless otherwise specified. Remove dead trees beyond the right-of-way which would strike the line in falling. Also, either remove or top leaning trees beyond the right-of-way that would strike the line in falling.

CONSTRUCTION SPECIFICATIONS FOR RAPTOR PROTECTION

Raptor injury and electrocution around power lines are major wildlife concerns of the U.S. Fish and Wildlife Service. Raptors are protected by the Endangered Species Act of 1973, the Bald Eagle and Golden Eagle Protection Act of 1962, and the Migratory Bird Treaty Act of 1918. The electrocution issue may be a problem especially on lines with voltages of 69 kV or less. Reports indicate that raptor concerns exist primarily on distribution lines in western and southwestern states; however, hazards can exist anywhere in the United States where large birds are present.

The provisions included in the raptor protection series of construction drawings will help to minimize or eliminate bird electrocutions. This construction should be used in areas where raptors or other large birds are present. It may be prudent to adopt these designs for all new construction. Additional information is available in the CORE Avian Protection Plan documents.

CONSTRUCTION SPECIFICATIONS FOR POLES AND CROSSARMS

Large, dense poles that have no serious defects shall be used at transformer, deadend, angle, and corner locations.

Poles shall be set so that the crossarm face in opposite directions on every other pole. However at line deadends, the last two poles shall be set so that the gains face the deadend. On unusually long spans, the poles shall be set so that the gains are located on the side of the pole away from the long span. On lines that curve, the gain shall be installed on the side of the pole that faces the midpoint of the curve. On sloping terrain, the gains shall be installed on the uphill side of the pole. Pole top insulator brackets and pole top pins shall be installed on the opposite side of the pole from the crossarm.

At line angles and deadends, poles shall be set such that they lean away from the strain of the primary conductors. They shall be set such that the final rake is not less than 1 inch for each 10 feet of pole height above ground after the conductors are installed at the required tension.

Newly set poles shall be backfilled and tamped to the full depth. Excess dirt shall be banked around the base of the pole.



CONDUCTOR

CONDUCTOR

PAGE	DRAWING	DESCRIPTION
2.01		Conductor Primary Overhead and Jumper Size
2.02		Conductor Secondary Overhead
2.03		Jumper Size Guide

CORE DESIGNATION	STRANDING	ASSET	INVENTORY #	CODE WORD	AMPACITY	DIA (IN.)	WT/1000 FT.	RATED STRENGTH	RECMD. DESIGN TENSION	USE RESTRICTION
M 6 ACSR	6/1	DT OP 365029	-	TURKEY	95	.198	36.1	1190	-	I & M
M 4 ACSR	7/1	DT OP 365012	15100471	SWANATE	130	.257	67.0	2360	1239	I, D & M
M 2 ACSR	7/1	DT OP 365015	15100271	SPARATE	175	.325	106.7	3640	1619	I, D & M
D 1/0 ACSR*	6/1	DT OP 365006	15101061	RAVEN	230	.398	145.3	4380	1679	I, D & M
I 2/0 ACSR	6/1	DT OP 365012	15102061	QUAIL	265	.447	183.2	5310	-	I & M
D 4/0 ACSR*	6/1	DT OP 365012	15104061	PENGUIN	350	.563	291.1	8350	2646	I, D, T & M
D T2 4/0 ACSR	2 x 4/0-6/1	DT OP 365048	15104062	PENGUIN/VR2	557	.922	582.0	16700	5191	I, D, T & M
I 266.8 ACSR	26/7	TR OH 356011	15102626	PARTRIDGE	475	.642	367.3	11300	-	I & M
I 336.4 ACSR	18/1	DT OP 365046	15103318	MERLIN	500	.684	365.2	8680	-	I & M
M 477.0 ACSR	18/1	DT OP 356014	15104718	PELICAN	625	.814	518.0	11800	3450	I, D, T & M
D 477.0 HACSR*	26/7	DT OP 365052	15104726	HAWK	659	.858	656.0	19500	4239	I, D, T & M
D 795.0 ACSR*	26/7	DT OP 356015	15107926	DRAKE	890	1.108	1094.0	31500	5150	I & T & M
ALL CONDUCTORS ABOVE SHALL BE A NON-SPECULAR SURFACE FINISH										
I 8 CWC	2/1 A		-		100	.199	74.27	2233	-	I & M
I 8 HD	SOLID		-		100	.129	49.98	826	-	I & M
I 6 CWC	2/1 A	DT OP 365012	-		140	.230	101.6	2585	-	I & M
I 6 HD	SOLID		15610601		140	.162	79.44	1280	-	I & M
I 4 CWC	2/1 A		-		180	.290	161.5	3938	-	I & M
I 4 HD	SOLID		-		180	.204	126.3	1970	-	I & M
I 2 HD	SOLID		-		230	.258	200.9	3002	-	I & M
I 2/0 CWC	6/1 F		-		350	.436	446.8	8094	-	I & M
I 4 STL	3#5		-		180	.392	273±	4250	-	I & M
I 6 STL	3#7		-		140	.311	171±	3200	-	I & M
TAP PHASE LINE CONDUCTOR	JUMPER CONDUCTOR									
477 ACSR	4/0 7STR CU									
4/0 ACSR	4/0 ACSR OR 1/0 7STR CU									
1/0 ACSR	1/0 ACSR OR 2 7STR CU									
2 ACSR	2 ACSR, 2 7STR CU OR 6 SOLID CU									
4 ACSR	4 ACSR, 2 7STR CU, OR 6 SOLID CU									
6 CWC	6 CWC, 2 7STR CU, OR 6 SOLID CU									

NOTES:
D Primary Retirement & Service
I Secondary & Maintenance
K Transmission
M Standard Wire Size
T
*

CONDUCTOR
PRIMARY OVERHEAD
AND JUMPER SIZE

DEC. 1985
OCT 2022
MFC

CONDUCTOR
12.47/7.2 KV



CORE DESIGNATION	STRANDING	ASSET	INVENTORY #	CODE WORD	AMPACITY	DIA (IN.)	WT/1000 FT.	RATED STRENGTH	RECMD. DESIGN TENSION	USE RESTRICTION
POLYETHYLENE										
INSULATION										
K 6 DUP*		DT SV 369025	16320606	COLLIE	80	.452	64	563	-	I, K & M
I 4 DPX			-	TERRIER	110	.565	115	1860	-	I & M
K 4 TPX			-	PERWINKLE	110	.64	172	1860	-	I & M
K 2 TPX		DT SV 369006	16330206	CONCH	150	.77	261	2850	1310	I, K & M
K 1/0 TPX		DT SV 369030	16331006	NERITINA	200	.98	419	4380	1715	I, K & M
I 2/0 TPX		DT SV 369006	16332006	RUNCINA	220	1.08	519	5310	-	I & M
I 3/0 TPX			-	CHERRYSTONE	260	1.19	643	6620	-	I & M
K 4/0 TPX*		DT SV 369038	16334006	RAZOR	300	1.31	799	8350	2570	I, K & M
I 4 QPX			-	HACKNEY	100	.72	229	1860	-	I & M
I 2 QPX		FDT SV 369003	16340206	PALOMINO	130	.87	346	2850	-	I & M
K 1/0 QUAD		DT SV 369026	16341006	STANDARDRED	180	1.11	556	4380	-	I, K & M
I 2/0 QPX		DT SV 369006	16342006	CHICOTEAGUES	200	1.22	687	5310	-	I & M
I 3/0 QPX			-	MARE	235	1.34	849	6620	-	I & M
K 4/0 QUAD		DT SV 369039	16344006	STALLION	275	1.48	1053	8350	-	I, K & M
I 500 QPX		DT SV 369063	16345006		475±					
I 8 CWC	2/1 A	DT SV 369011	-		100	.199	74.27	2233	-	I & M
I 6 CWC	2/1 A	DT SV 369011	-		140	.230	101.6	2585	-	I & M
I 4 HD	SOLID	DT SV 369011	-		160	.204	126.3	1970	-	I & M
I 2 HD	SOLID	DT SV 369011	-		210	.258	200.9	3002	-	I & M
I 14 WP	SOLID	DT SV 369011	-		-	-	-	-	-	I
I 12 WP	SOLID	DT SV 369011	-		-	-	35	207	-	I
I 10 WP	SOLID	DT SV 369011	-		-	-	53	330	-	I
I 8 WP	SOLID	DT SV 369011	-		83	-	75	504	-	I
I 6 WP	SOLID	DT SV 369011	-		110	-	112	801	-	I & M
I 4 WP	SOLID	DT SV 369011	-		145	-	164	1274	-	I & M
I 2 WP	SOLID	DT SV 369011	-		190	-	260	2030	-	I
I 2/0 WP	7 STR	DT SV 369011	-		300	-	502	3950	-	I
I 4/0 WP	7 STR	DT SV 369011	-		400	-	767	6280	-	I

NOTES:

- D Primary
- I Retirement
- K Secondary & Service
- M Maintenance
- T Transmission
- * Standard Wire Size

CONDUCTOR
SECONDARY OVERHEAD
SHEET 1 OF 2

DEC. 1985



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OCT 2022
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JDP

CONDUCTOR
12.47/7.2 kV

MAIN LINE CONDUCTOR	JUMPER SIZE TO EQUIPMENT
477 ACSR	¼ STRANDED COPPER
4/0 ACSR	¼ ACSR OR ¼ STRANDED COPPER
1/0 ACSR	¼ ACSR OR 2 STRANDED COPPER
2 ACSR	2 ACSR, 6 SOLID COPPER OR 2 STRANDED COPPER
4 ACSR	4 ACSR, 6 SOLID COPPER OR 2 STRANDED COPPER
6 CWC	6 CWC, 6 SOLID COPPER OR 2 STRANDED COPPER

RECLOSER TERMINAL RANGE

RECLOSER	TERMINAL TYPE	JUMPER RANGE
H RECLOSER	EYEBOLT	No. 8 - 2/0
4H RECLOSER	EYEBOLT	No. 6 - 350 MCM
L RECLOSER	EYEBOLT	No. 6 - 350 MCM
15kV NOVA TS RECLOSER	800A EYEBOLT	4/0 - 1000 MCM
15kV NOVA RECLOSER	630A EYEBOLT	1/0 - 500 MCM

HENDRIX CABLE	INVENTORY NO.
#6 CU SOL	15610505
#2 SDB STR.	15620205
#4 SDB STR.	15620301
1/0 SDB STR.	15620210
4/0 SDB STR	15620215

JUMPER SIZE GUIDE

NOV. 2016	REVISED OCT 2022	CONDUCTOR 12.47/7.2 kV	JUMPER GUIDE
	APPROVED BY MFJ		



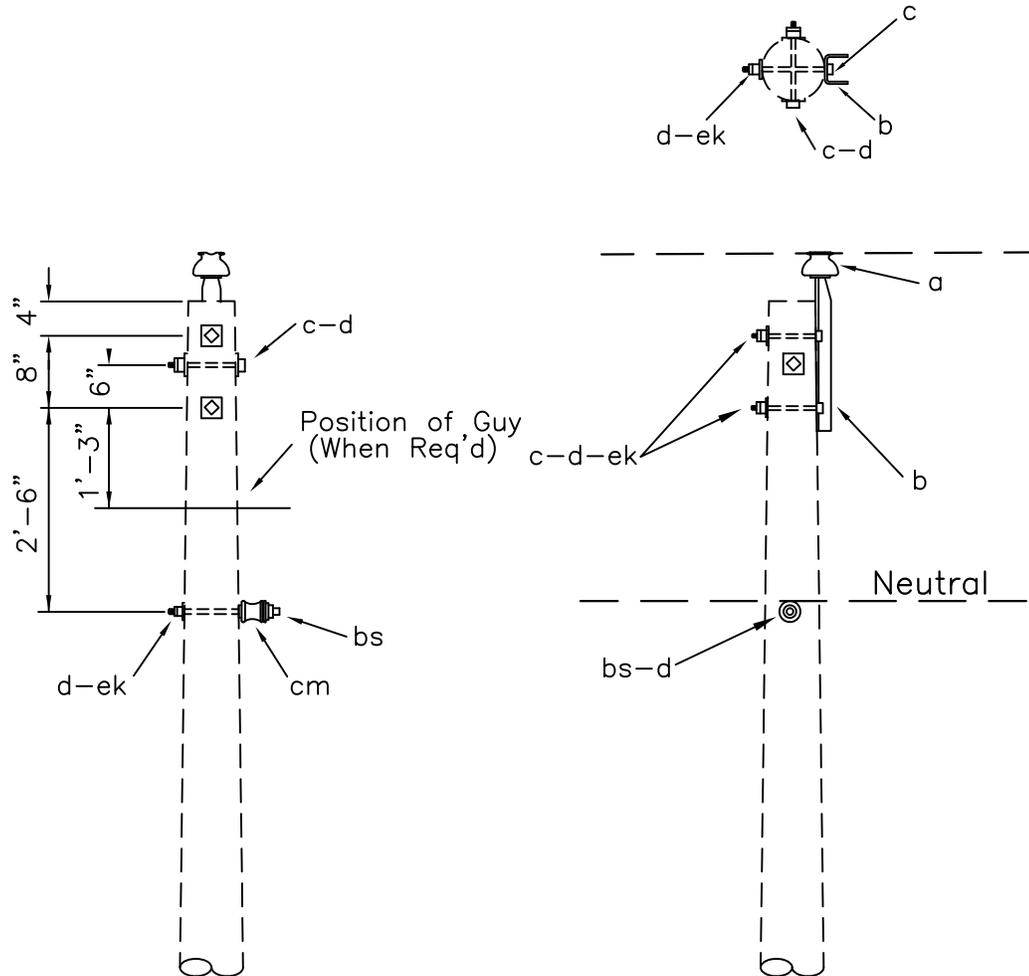
SINGLE PHASE CONSTRUCTION

SINGLE PHASE CONSTRUCTION

PAGE	DRAWING	DESCRIPTION
3.01	A1	Single Support (Tangent)
3.02	A1P	Single Support (Tangent) Large Conductor
3.03	A1-1	Double Support (Tangent)
3.04	A1-1P	Double Support (Tangent) Large Conductor
3.05	A2	Double Support
3.06	A2P	Double Support Large Conductor
3.07	A3	Suspension Angle
3.08	A4	Deadend Angle (Double)
3.09	A5	Deadend (Single)
3.10	A5-1 A5-2 A5-2A	Single Phase Tap
3.11	A5-3 A5-4	Single-Phase Tap
3.12	A6	Vertical Deadend (Double)
3.13	A7 A7-1	Crossarm Construction Deadend (Single)
3.14	A7F	Fiberglass Crossarm Construction Deadend (Single)
3.15	A7-HBA	Crossarm Construction Deadend (Single) Large Conductor
3.16	A7LA	Crossarm Construction Deadend (Single) Less Crossarms
3.17	A8	Crossarm Construction Deadend (Double)
3.18	A8F	Fiberglass Crossarm Construction Deadend (Double)
3.19	A8X	Crossarm Construction Deadend (Double) 10' Crossarms
3.20	A8FX	Fiberglass Crossarm Construction Deadend
3.21	A9 A9F	Crossarm Construction Double Line Arm
3.22	A9P A9PF	Crossarm Construction Double Line Arm Large Conductor
3.23	A9-1 A9-1F	Crossarm Construction Single Line Arm
3.24	A9-1P A9-1PF	Crossarm Construction Single Line Arm Large Conductor
3.25	A9-1UB	Crossarm Construction Single Line Arm Underbuild
3.26	A9-1XUB	Crossarm Construction Single Line Arm Underbuild
3.27	A10	Crossarm Construction Side Arm
3.28	A10P	Crossarm Construction Side Arm Large Conductor

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010

POLE TOP PIN ASSEMBLY



ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	5	Washer, square, 2 1/4"	-
bs	1	Bolt, single, upset	063905TT
cm	1	Insulator, spool, 3"	34263010
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

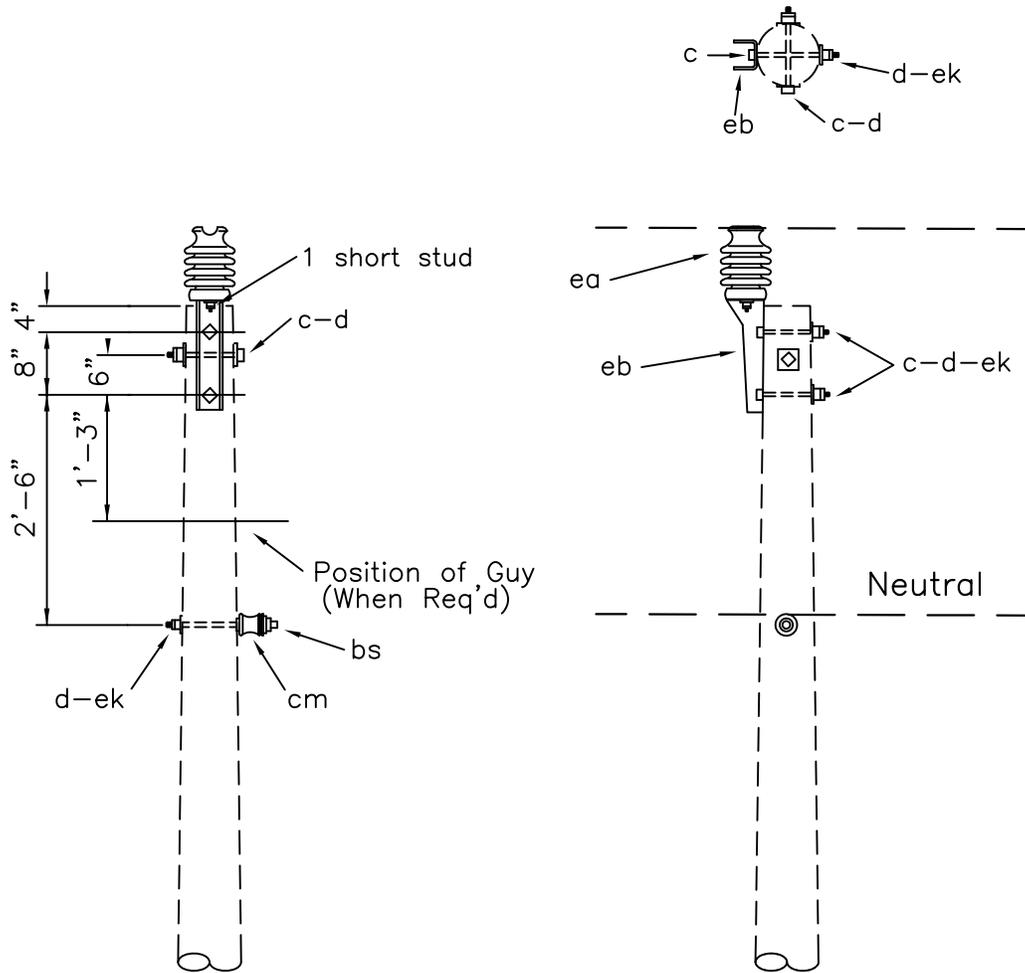
*Quantity as Required

SINGLE SUPPORT
(TANGENT)

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A1
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34251010

POLE TOP POST ASSEMBLY



ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	5	Washer, square, 2 1/4"	-
bs	1	Bolt, single, upset	063905TT
cm	1	Insulator, spool, 3"	34263010
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
-	1	Stud, insulator, 1 3/4" x 3/4"	34301000

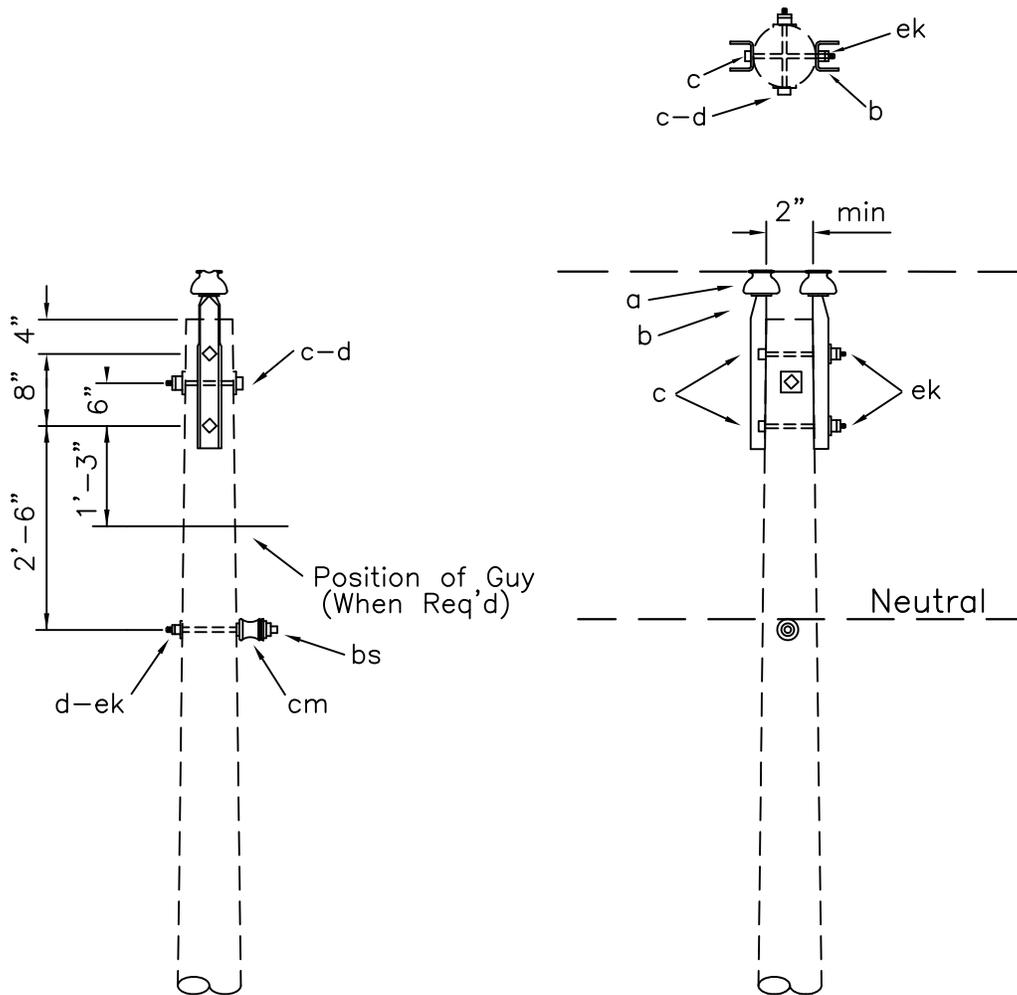
DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load.
 *Quantity as Required

SINGLE SUPPORT
 (TANGENT)
 LARGE CONDUCTOR

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A1P
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010

POLE TOP PIN ASSEMBLY



NOTE:
These assemblies used for NESC Grade B construction.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type (12.47/7.2 kV)	34223010
b	2	Pin, pole top, 20"	45612120
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 2 1/4"	-
bs	1	Bolt, single, upset	063905TT
cm	1	Insulator, spool, 3"	34263010
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

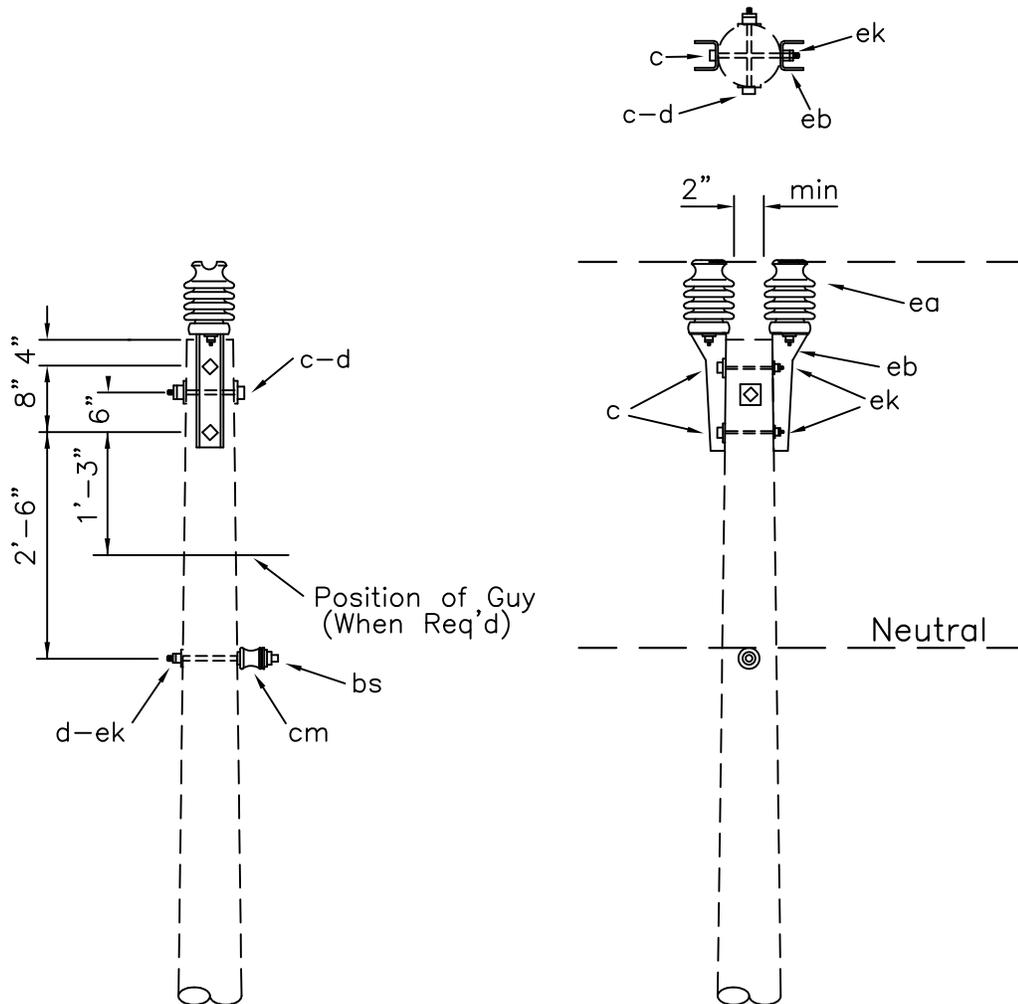
*Quantity as Required

DOUBLE SUPPORT
(TANGENT)

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A1-1
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010

POLE TOP POST ASSEMBLY



NOTE:
These assemblies used for NESC Grade B construction.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 2 1/4"	-
bs	1	Bolt, single, upset	063905TT
cm	1	Insulator, spool, 3"	34263010
ea	2	Insulator, post type (12.47/7.2 kV)	34251010
eb	2	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
-	2	Stud, insulator, 1 3/4" X 3/4"	34301000

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

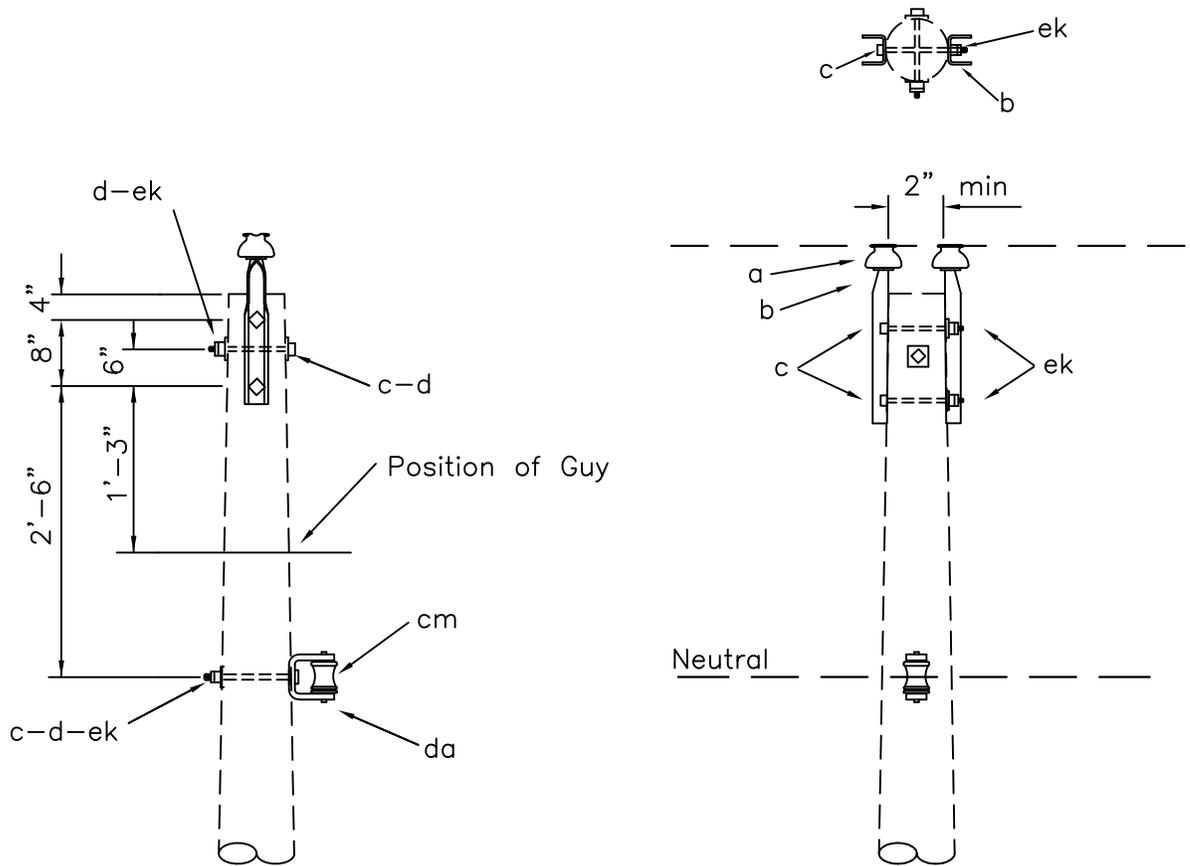
*Quantity as Required

DOUBLE SUPPORT
(TANGENT)
LARGE CONDUCTOR

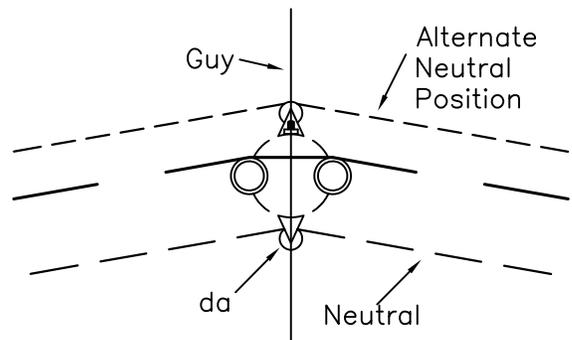
APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A1-1P
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010

POLE TOP PIN ASSEMBLY



PLAN



ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type (12.47/7.2 kV)	34223010
b	2	Pin, pole top, 20"	45612120
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 2 1/4"	-
cm	1	Insulator, 3" spool	34263010
da	1	Clevis, rigid, bare	07804500
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

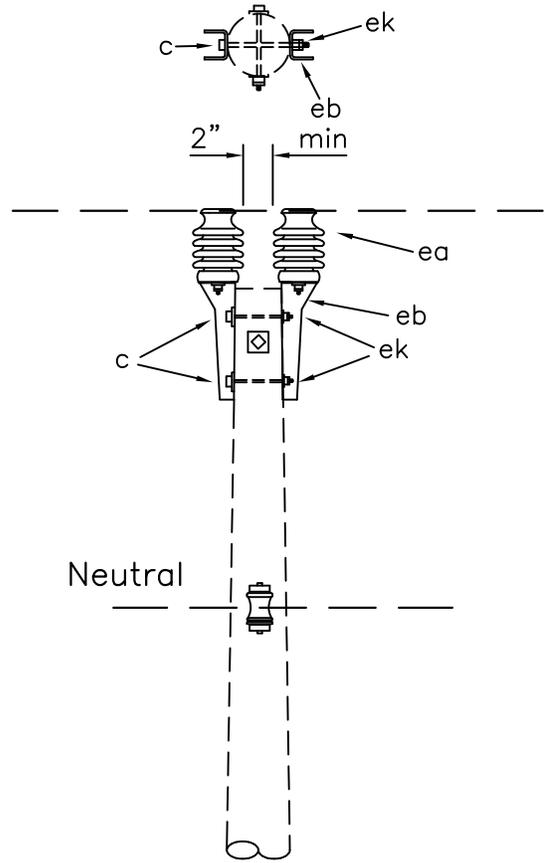
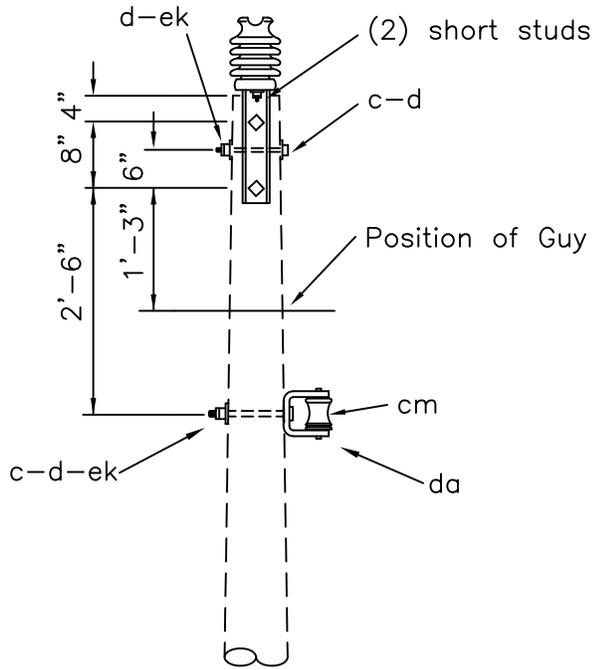
*Quantity as Required

DOUBLE SUPPORT

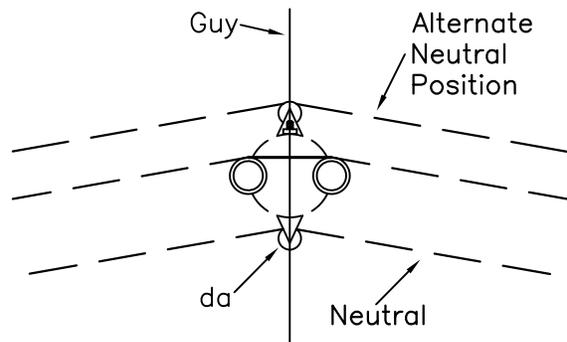
APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010

POLE TOP POST ASSEMBLY



PLAN



ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 2 1/4"	-
da	1	Clevis, rigid, bare	07804500
cm	1	Insulator, spool, 3"	34263010
ea	2	Insulator, post type (12.47/7.2 kV)	34251010
eb	2	Bracket, pole top	45612136
ek	*	Double coil spring washers, as req'd.	-
-	2	Stud, insulator, 1 3/4" X 3/4"	34301000

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

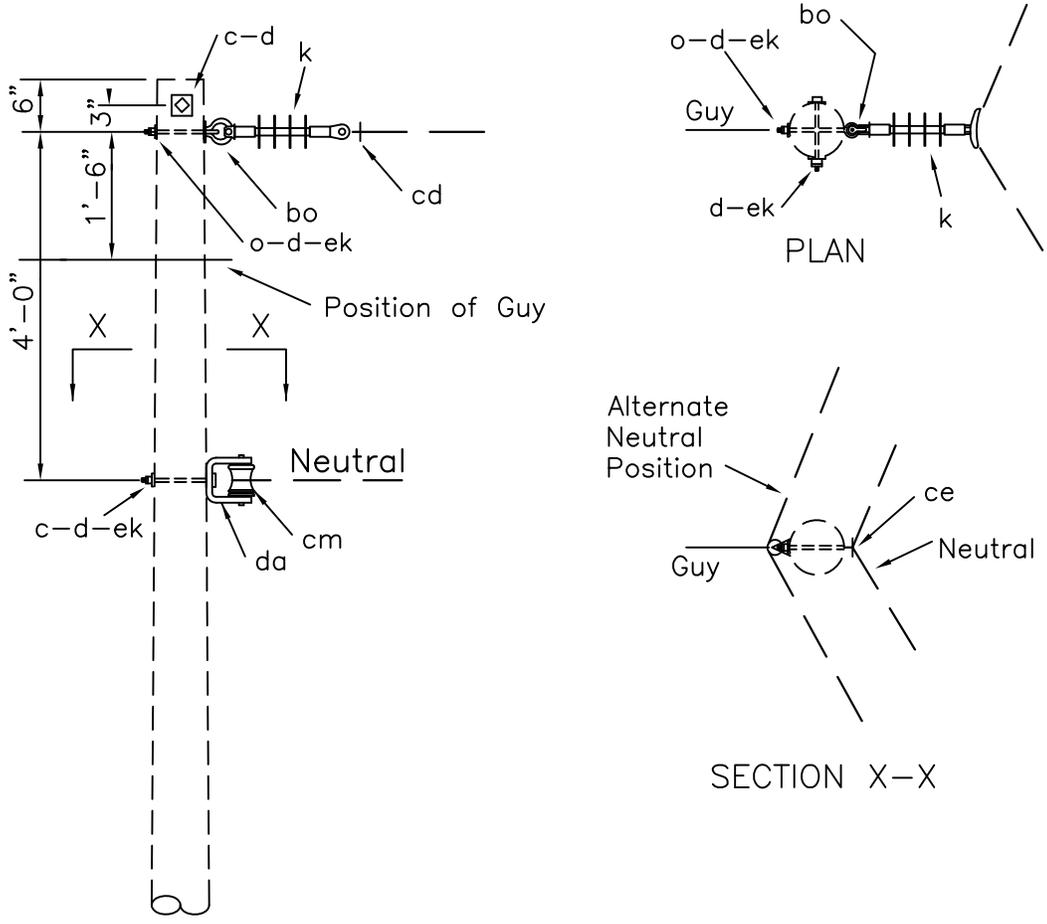
Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

DOUBLE SUPPORT
LARGE CONDUCTOR

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A2P
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	1	DT OH 365055	34281020



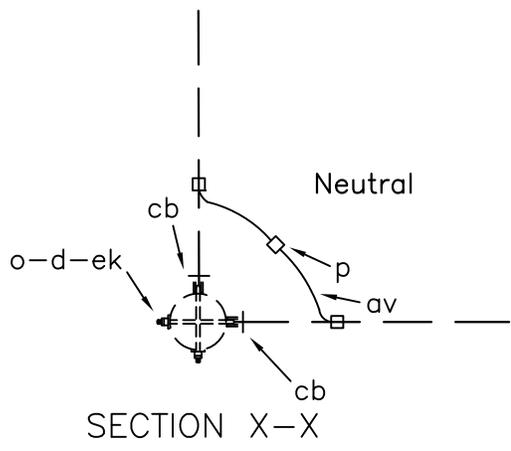
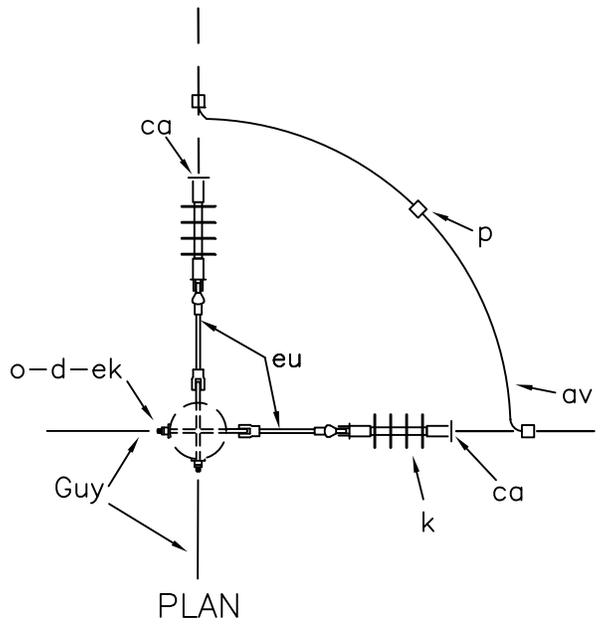
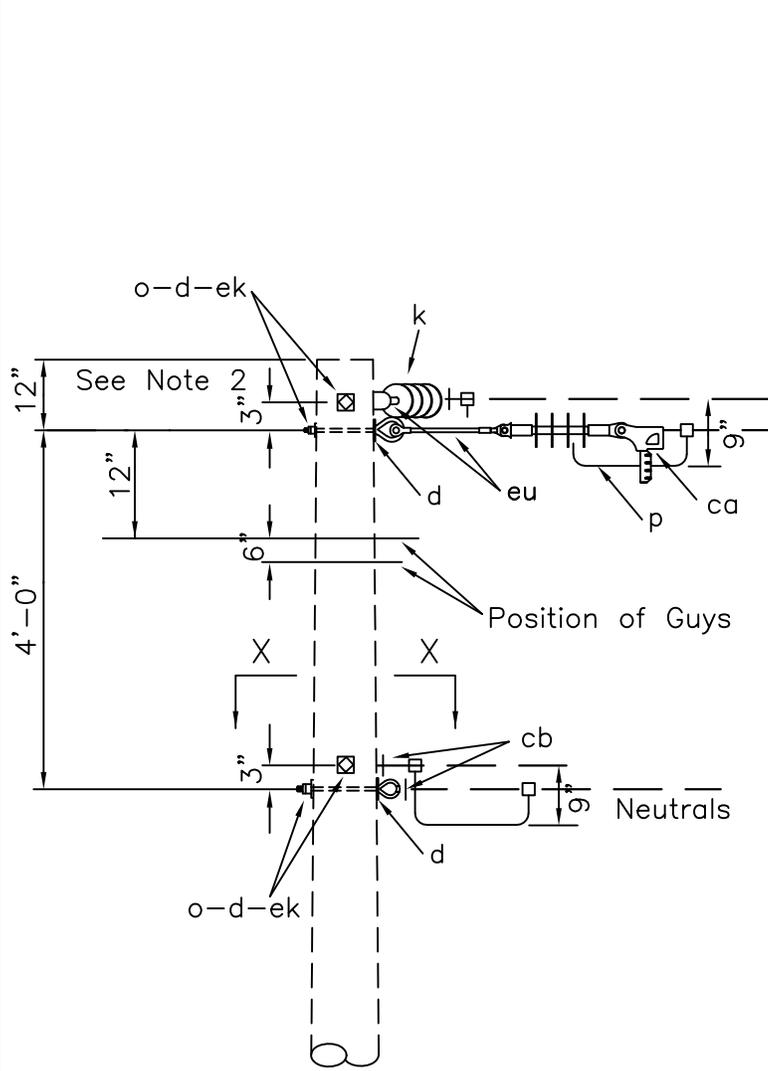
NOTE:
Items cd and ce are shown on assembly drawing M41-10.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3" curved	-
d	3	Washer, square, 2 1/4"	-
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
bo	1	Shackle, anchor	12302800
cd	1	Angle assembly, primary	11741035
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, rigid, bare	07804500
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS
 Max. Transverse Load:
 5000 lbs. per conductor
 Max. Line Angle:
 Lesser of 60° or as limited by
 transverse load.
 Min. Line Angle:
 20° or as limited by swing angle
 *Quantity as Required

SUSPENSION ANGLE			
APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A3
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	2	DT OH 365055	34281020



NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Separate by 6" (top position only) when angle equals 90°.
3. Retirement unit may not include item eu.
4. Item fi, connector M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

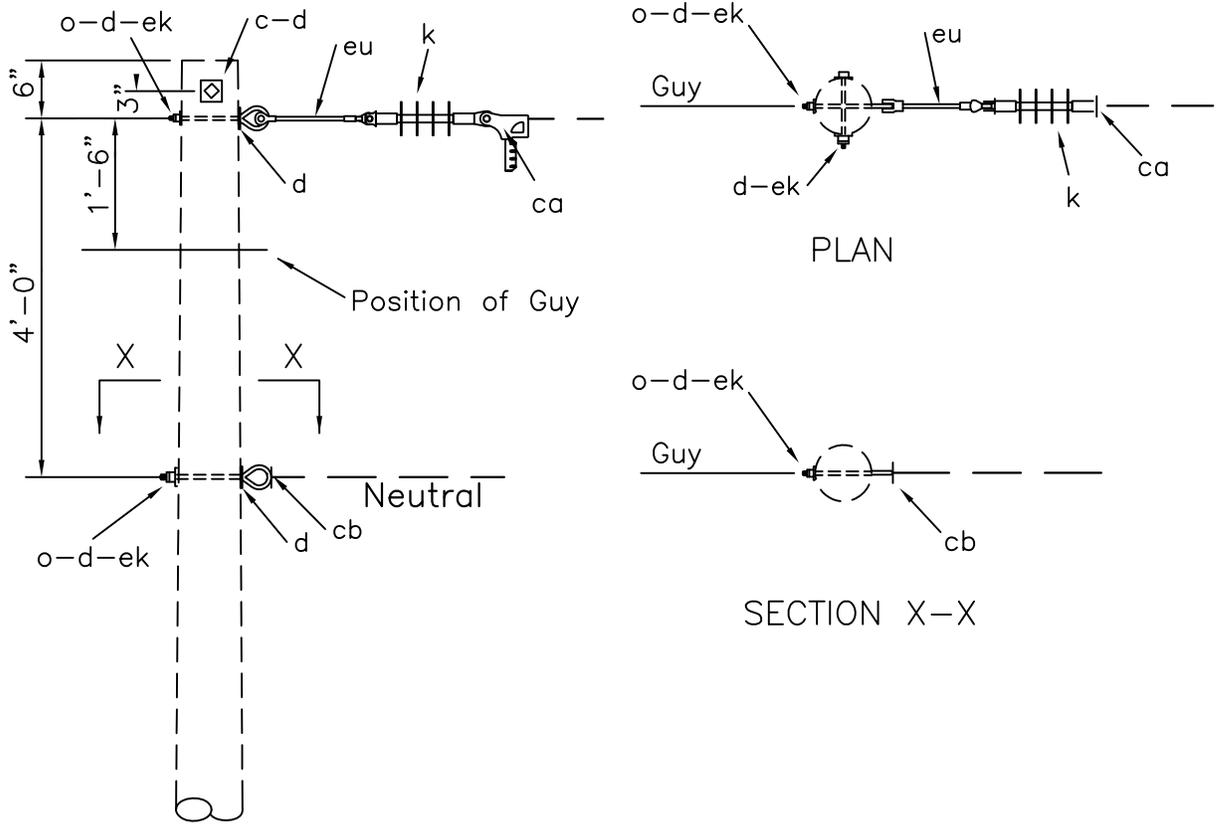
ITEM	QTY	MATERIAL	INVENTORY NO.
d	8	Washer, square, 3" curved	-
k	2	Insulator, suspension, epoxilator, 7.2kv	34281020
o	4	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
av	*	Jumpers, Insulated, Hendrix as required	-
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130

DESIGN LIMITS
 Max. Longitudinal Load:
 5000 lbs. per conductor

DEADEND ANGLE
 (DOUBLE)

* Quantity as Required	APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A4
		APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	1	DT OH 365055	34281020



NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Retirement unit may not include item eu.

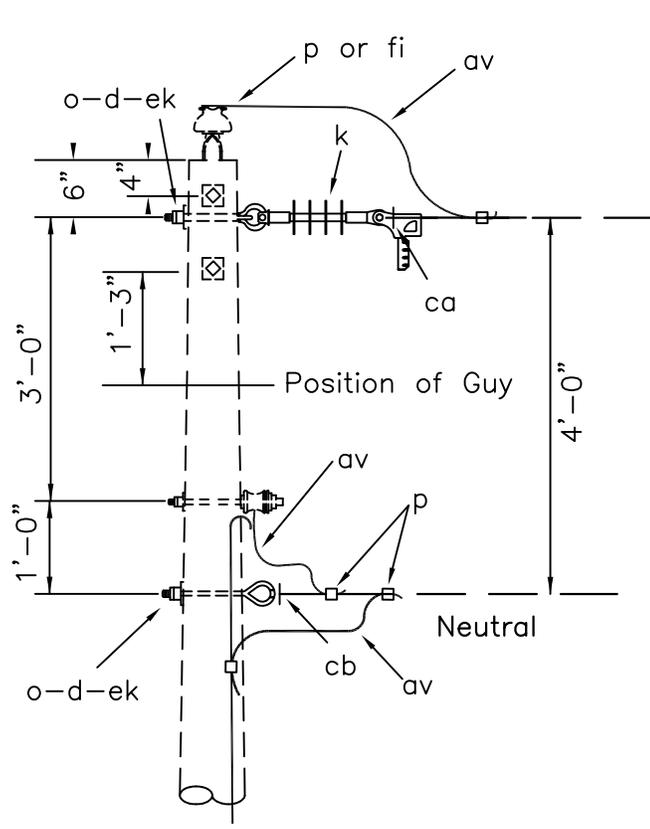
ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd length	063805TT
d	4	Washer, square, 3" curved	-
d	2	Washer, Square 2 1/4"	-
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
ca	1	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12"	34276130

DESIGN LIMITS
Permitted Longitudinal Load:
5000 lbs. per conductor

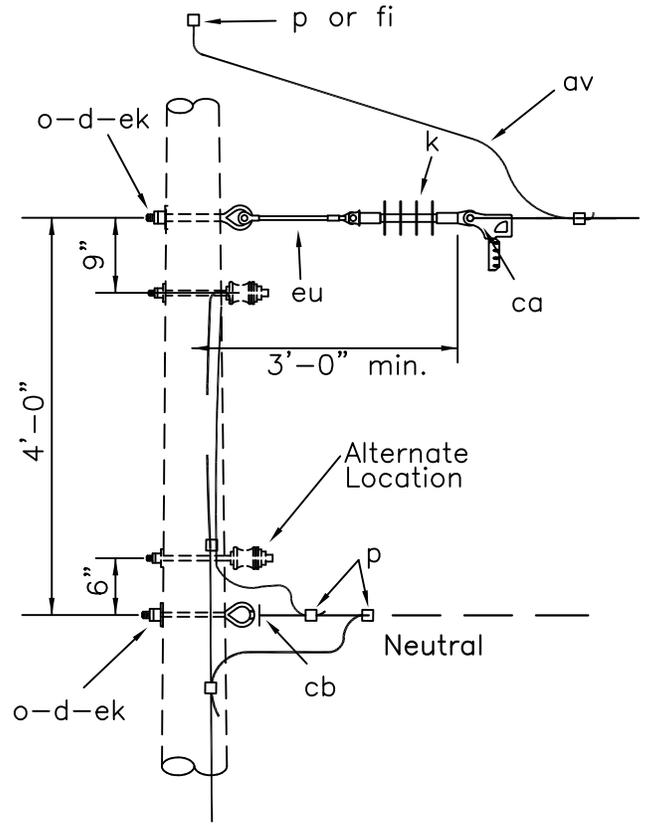
DEADEND (SINGLE)

*Quantity as Required	APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A5
		APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
k	1	DT OH 365055	34281020	A5-1, A5-2, A5-2A



A5-1



A5-2

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. A5-1 assembly may be used with drawings such as A1, A1-1, A2.
3. A5-2 assembly may be used with drawings such as C1 and C2-1.
4. See tap assembly Guide M29-1 and M29-2.
5. Specify A5-2A for tap to existing eyebolt.
6. Retirement unit may not include item eu.
7. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice
8. Jumper support separately specified when required.

ITEM	MATERIAL	INVENTORY NO.	QTY	QTY	QTY
d	Washer, square, 3" curved	-	4	4	-
k	Insulator, suspension, epoxilator, 7.2kV	34281020	1	1	1
o	Bolt, eye, 5/8" x req'd. length	063615TT	2	2	-
p	Connectors, as required	-	*	*	*
aa	Nut, eye, 5/8"	41904065	-	-	2
av	Jumpers, insulated, Hendrix as required	-	*	*	*
ca	Deadend assembly, primary	117220XX	1	1	1
cb	Deadend assembly, neutral	117220XX	1	1	1
ek	Double coil spring washers, as req'd.	-	*	*	-
eu	Link, extension, insulated, 12"	34276130	-	1	1

DESIGN LIMITS

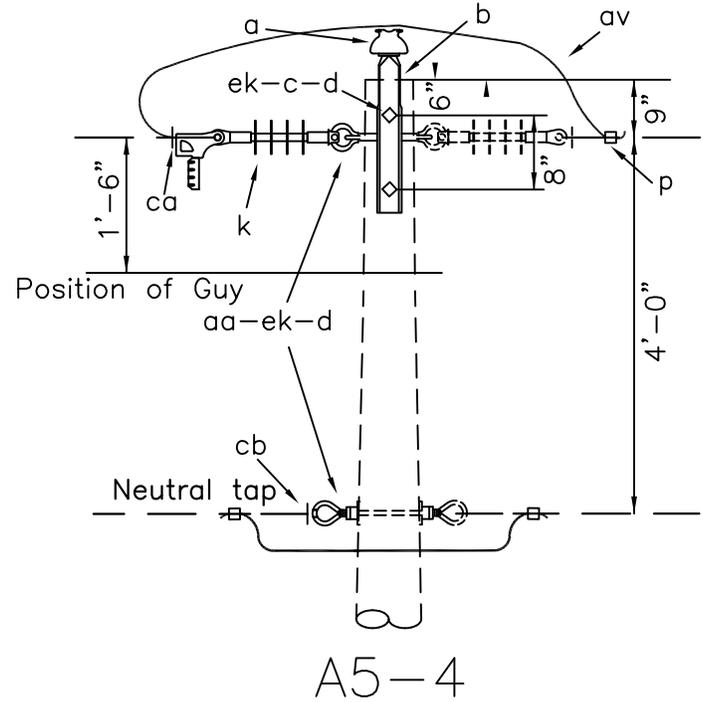
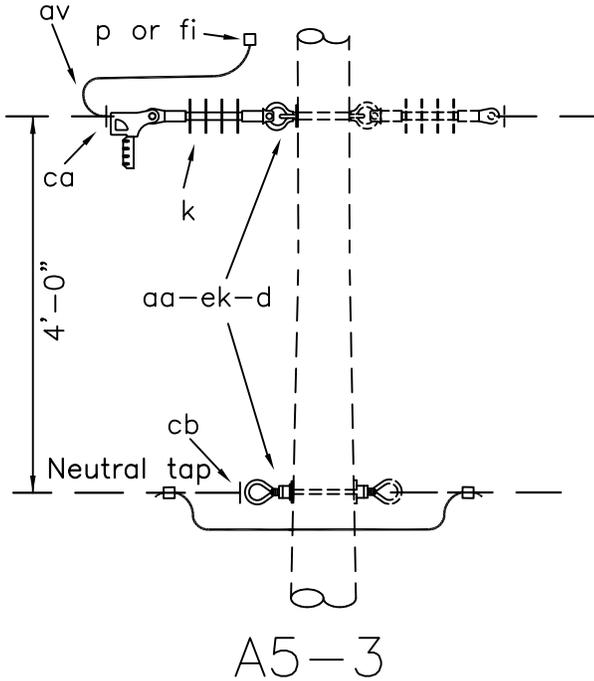
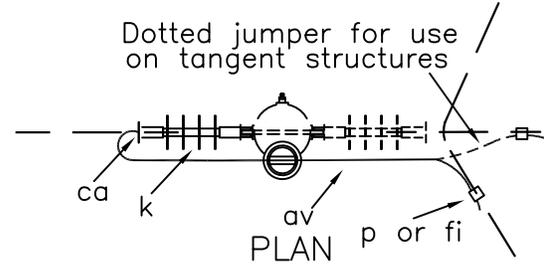
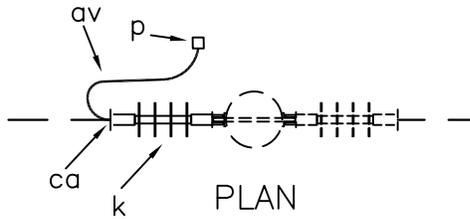
Permitted Longitudinal Load:
5000 lbs. per conductor

SINGLE PHASE TAP

*Quantity as Required

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A5-1 A5-2, A5-2A
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	1	DT OH 365055	34223010	A5-4
k	1	DT OH 365055	34281020	A5-3, A5-4



NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. A5-3 assembly may be used with drawings such as A4 and C4-1.
3. A5-4 assembly may be used with A3, A5, C3 and C5-1 structures.
4. See tap assembly guide M29-1 and M29-2.
5. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

ITEM	MATERIAL	CONFIGURATION:		
		A5-3	A5-4	
		INVENTORY NO.	QTY.	QTY.
a	Insulator, pin type (12.47/7.2 kV)	34223010	—	1
b	Pin, pole top, 20"	45612120	—	1
c	Bolt, machine, 5/8" x req'd. length	063805TT	—	2
d	Washer, square, 2 1/4"	—	—	2
k	Insulator, suspension, epoxilator, 7.2kV	34281020	1	1
p	Connectors, as required	—	*	*
aa	Nut, eye, 5/8"	41904065	2	2
av	Jumpers, insulated, Hendrix as required	—	*	*
ca	Deadend assembly, primary	117220XX	1	1
cb	Deadend assembly, neutral	117220XX	1	1
ek	Double coil spring washers, as req'd.	—	*	*

DESIGN LIMITS

Permitted Longitudinal Load:
5000 lbs. per conductor

SINGLE PHASE TAP

*Quantity as Required

APR. 1983

REVISED
OCT 2022

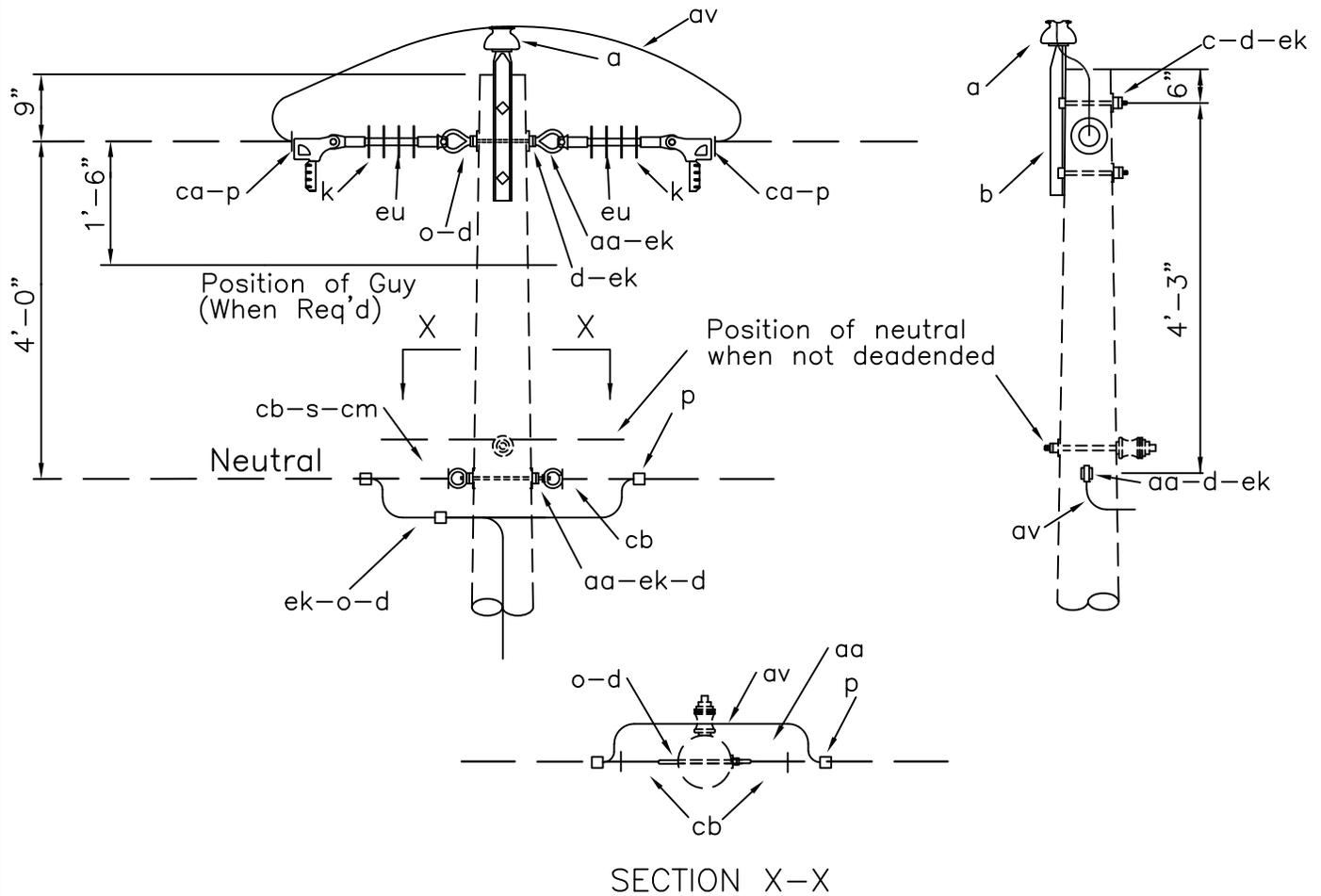
1-PHASE PRIMARY
12.47/7.2 kV

A5-3, A5-4



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
k	2	DT OH 365055	34281020



NOTE:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	2	Bolt, machine, 5/8" x req'd length	063805TT
d	4	Washer, square, 3" curved	-
d	2	Washer, square, 2 1/4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
aa	2	Nut, eye, 5/8"	41904065
av	*	Jumpers, insulated, Hendrix as required	-
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Longitudinal Load:
5000 lbs. per conductor

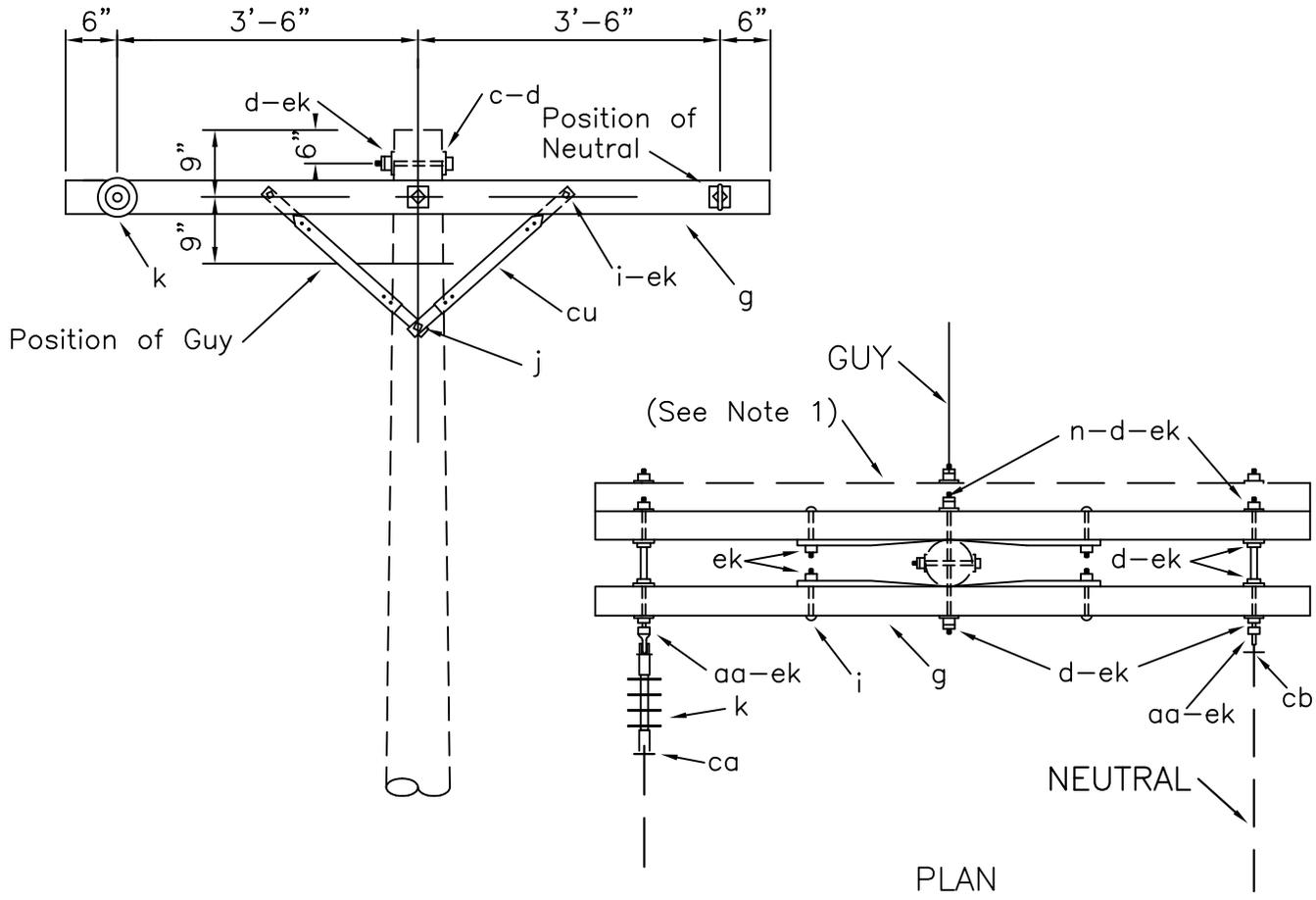
Max. Line Angle:
5°

VERTICAL DEADEND (DOUBLE)

*Quantity as Required

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A6
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
k	1	DT OH 365055	34281020	A7, A7-1



NOT FOR NEW CONSTRUCTION

NOTE:

1. Designate as A7-1 for assembly with 3 crossarms.
2. See drawing E5-3M for crossarm loading limitations.
3. Items ca and cb are shown on assembly drawing M42-13.
4. Retirement unit may not include item bi.

18290311
DT PC 364021

g	8' Wood Crossarm
A7	2
A7-1	3

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	10	Washer, square, 2 1/4"	-
i	4	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
aa	2	Nut, eye, 5/8"	41904065
bi	2	Gain plate	46800260
ca	1	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 28", Pair	07535128
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

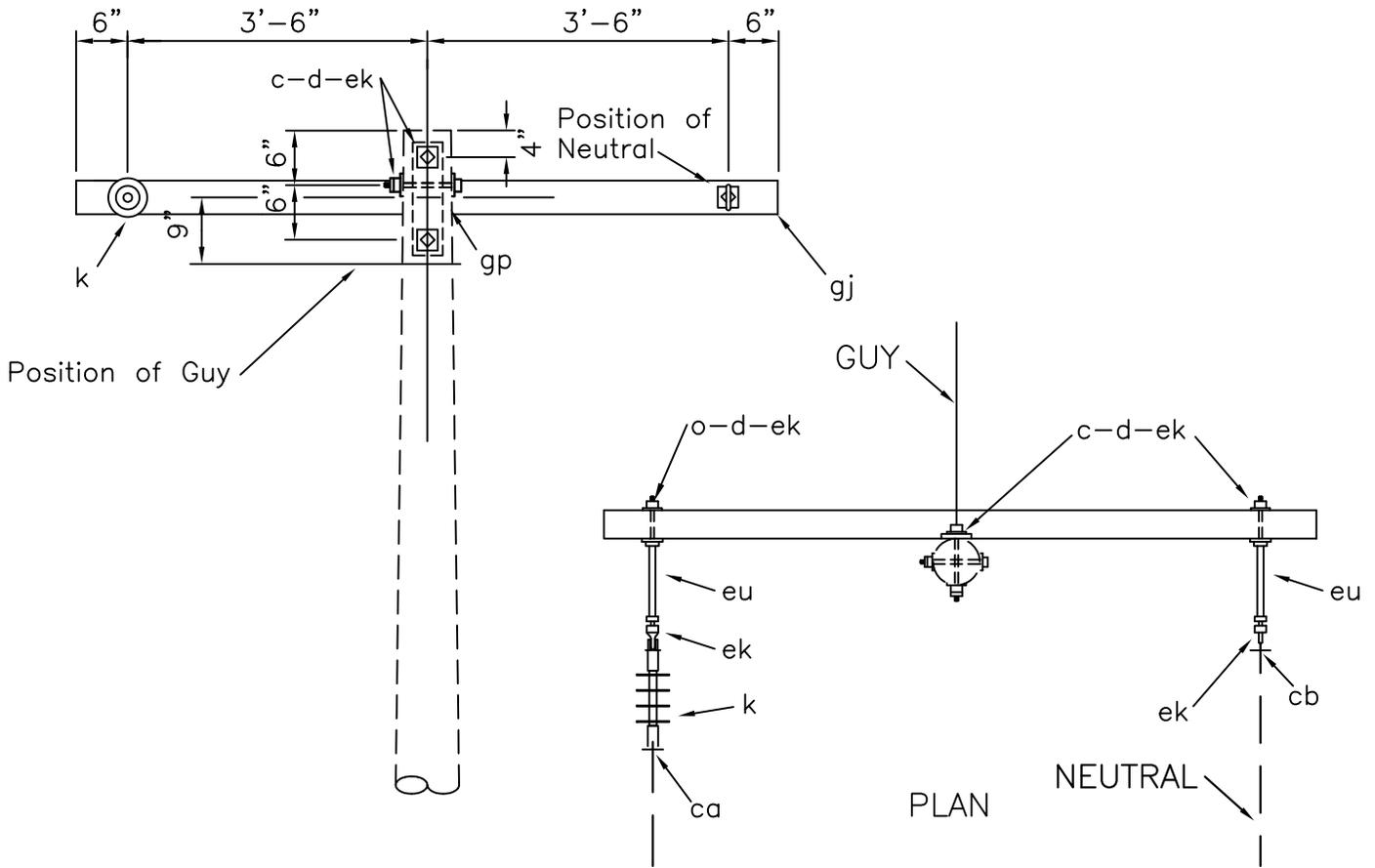
Max. Longitudinal Load:
Per conductor per 8' crossarm:
Grade B 569lbs
Grade C 945lbs

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)**

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A7, A7-1
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
gj	2	DT PC 364021	18081205
k	1	DT OH 365055	34281020



NOTE:

- Items ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3", curved	-
d	2	Washer, square, 2 1/4"	-
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
ca	1	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130
gj	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0" fiberglass, dead end	18081205

DESIGN LIMITS

Max. Longitudinal Load:
 Per conductor:
 Grade B ???lbs
 Grade C ???lbs

CROSSARM FIBERGLASS CONSTRUCTION
 DEADEND (SINGLE)

*Quantity as Required

APR. 1983

REVISED
 OCT 2022

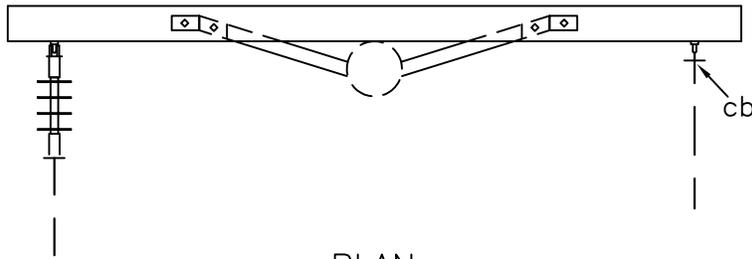
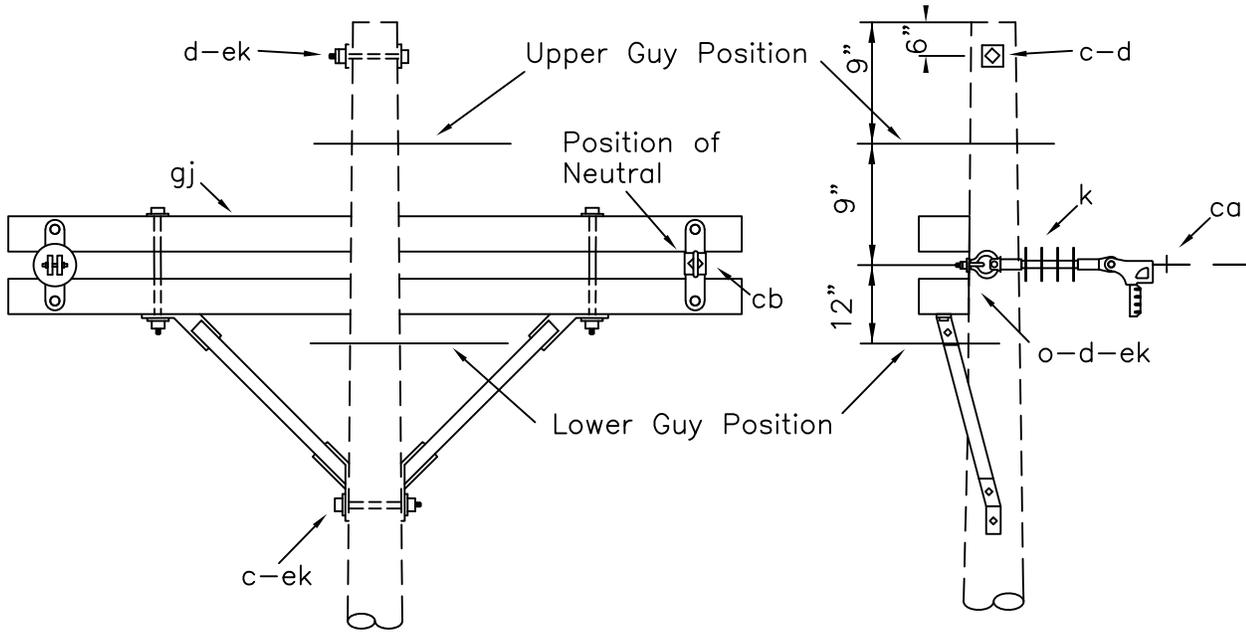
1-PHASE PRIMARY
 12.47/7.2 kV

A7F



APPROVED BY
 MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
k	1	DT OH 365055	34281020
gj	1	DT PC 364021	18081204



PLAN

NOT FOR NEW CONSTRUCTION

CONFIGURATION	ARM DIMENSIONS	CAT. NO.	INVENTORY NO.
A7HBA	3 3/4" x 5 3/4" x 8'-0"	2890-B	18081204

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
ca	1	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
gj	1	Crossarm assembly HB#2890-B	18081204

DESIGN LIMITS

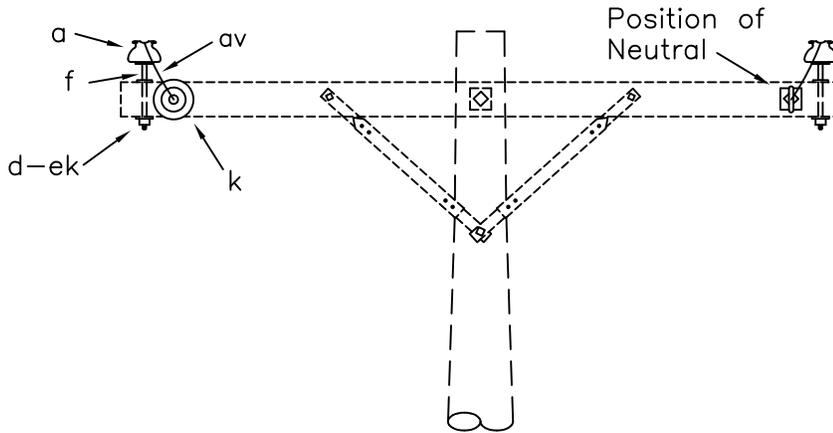
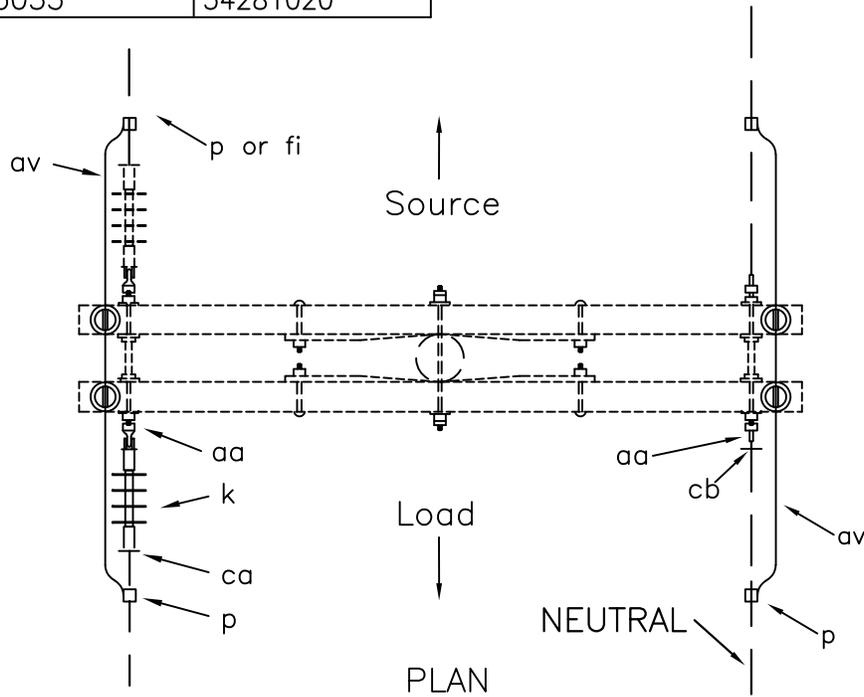
Max. Longitudinal Load per conductor:
 Grade B 2954 lbs
 Grade C 4793 lbs

**CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 LARGE CONDUCTOR**

*Quantity as Required

JULY 2014	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A7-HBA
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
k	1	DT OH 365055	34281020



NOTE:

1. Use with drawings such as A7 (shown), A7-1, C7HBB, ETC.
2. See drawing E5-3M for crossarm loading limitations.
3. Items ca and cb are shown on assembly drawing M42-13.
4. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type, (12.47/7.2 kV)	34223010
d	4	Washer, square, 2 1/4"	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
k	1	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required	-
aa	2	Nut, eye, 5/8"	41904065
av	*	Jumpers, Insulated, Hendrix as required	-
ca	1	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Line Angle:
5°

Max. Unbalanced design tension:
Per conductor per 8' crossarm:
Grade B 569 lbs
Grade C 945 lbs

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LESS CROSSARMS**

APR. 1985

REVISED
OCT 2022

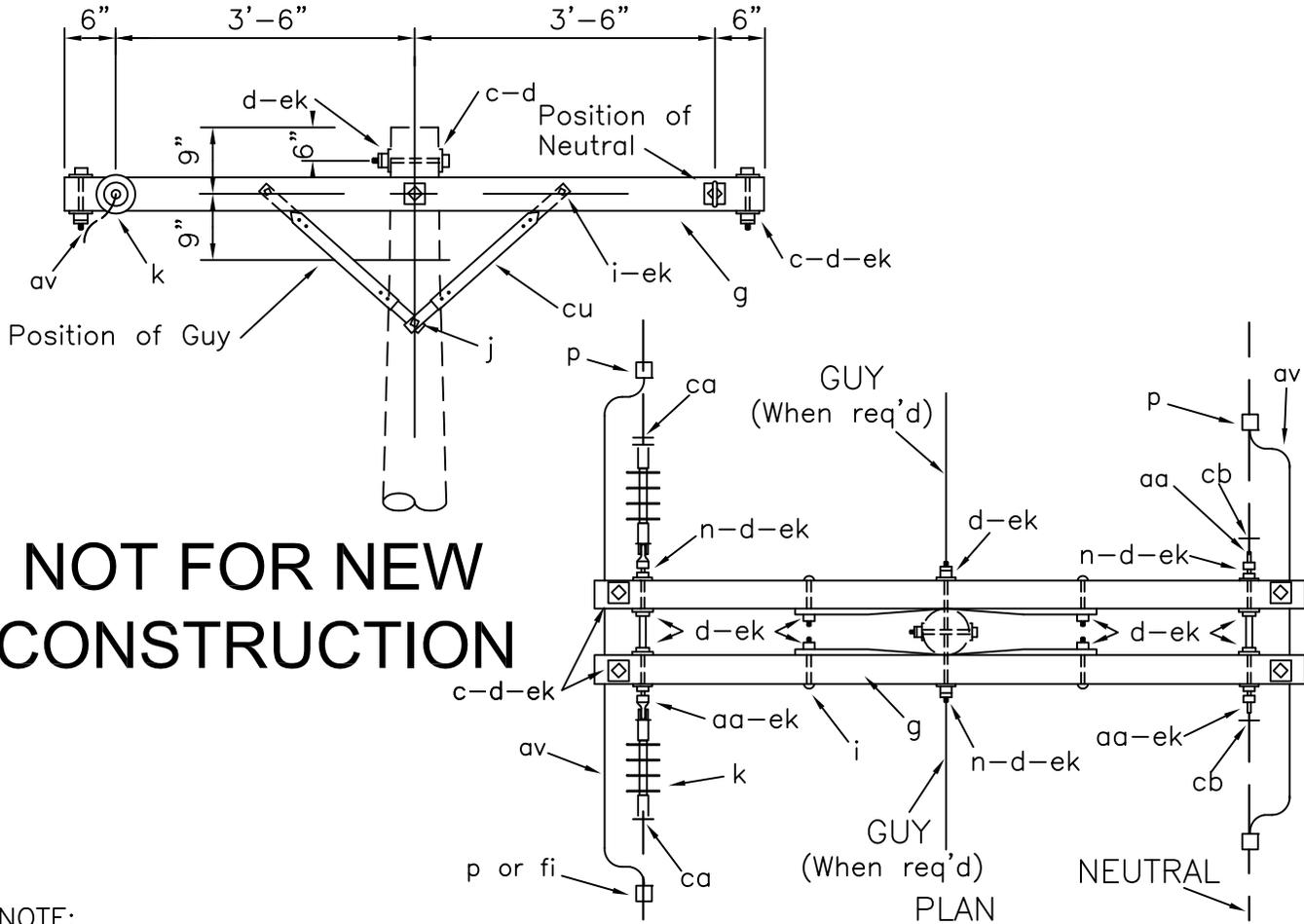
1-PHASE PRIMARY
12.47/7.2 kV

A7LA



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	1	DT OH 365055	34281020



NOTE:

1. Items ca and cb are shown on assembly drawings M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	18	Washer, square, 2 1/4"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
i	4	Bolt, carriage, 3/8" x 4 3/8"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as required	-
aa	4	Nut, eye, 5/8"	41904065
av	*	Jumpers, insulated, as required	-
bi	2	Gain Plate	46800260
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 28", pair	07535128
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Line Angle:
5°

Max. Unbalanced Design Tension
Per conductor per 8' crossarm:
Grade B 569 lbs
Grade C 945 lbs

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (DOUBLE)**

APR. 1983

REVISED
OCT 2022

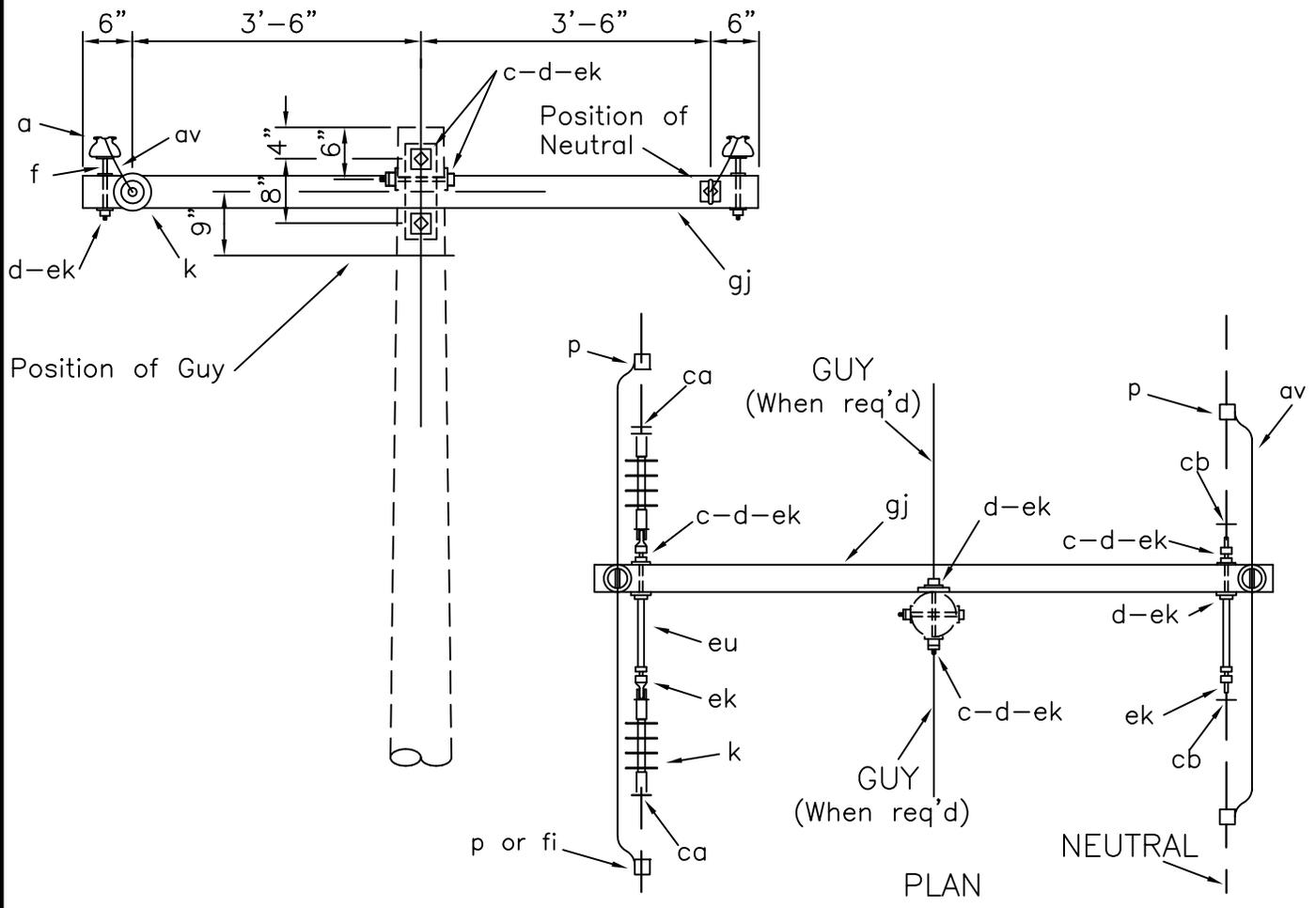
1-PHASE PRIMARY
12.47/7.2 kV

A8



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010
k	2	DT OH 365055	34281020
gj	1	DT PC 364021	18081205



NOTE:

1. Items ca and cb are shown on assembly drawings M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

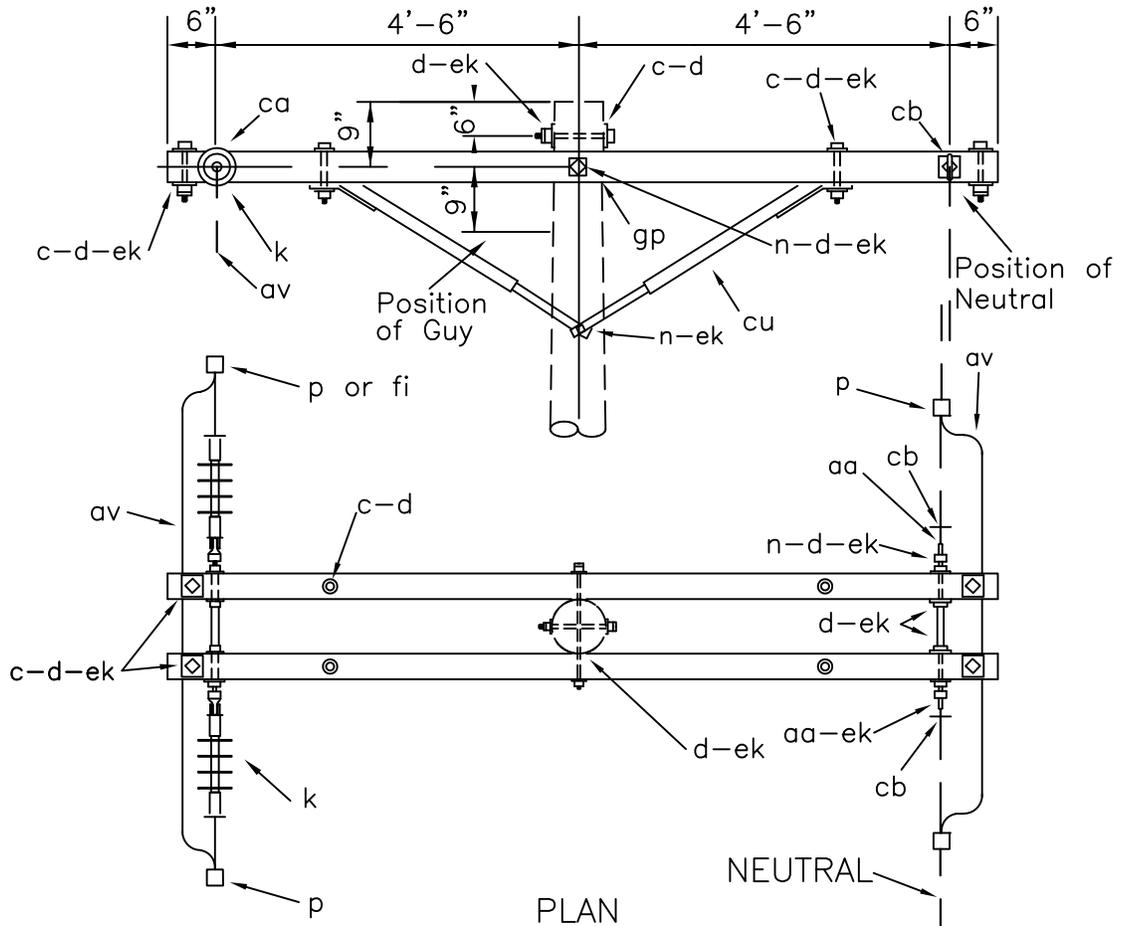
ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type, (12.47/7.2 kV)	34223010
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
d	4	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required	-
av	*	Jumpers, Insulated, Hendrix as required	-
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130
gj	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0" fiberglass, dead end	18081205

DESIGN LIMITS
 Max. Line Angle:
 5°
 Max. Unbalanced Design Tension
 Per conductor per 8' crossarm:
 Grade B ??? lbs
 Grade C ??? lbs
 *Quantity as Required

**CROSSARM FIBERGLASS CONSTRUCTION
 DEADEND (DOUBLE)**

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A8F
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
k	2	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

NOTE:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as required	-
aa	4	Nut, eye, 5/8"	41904065
av	*	Jumpers, insulated, as required	-
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60", pair	07535168
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Line Angle:
5°

Max. Unbalanced Design Tension
Per conductor per 10' crossarm:
Grade B 433 lbs
Grade C 735 lbs

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) 10' CROSSARMS

JULY 2014

REVISED
OCT 2022

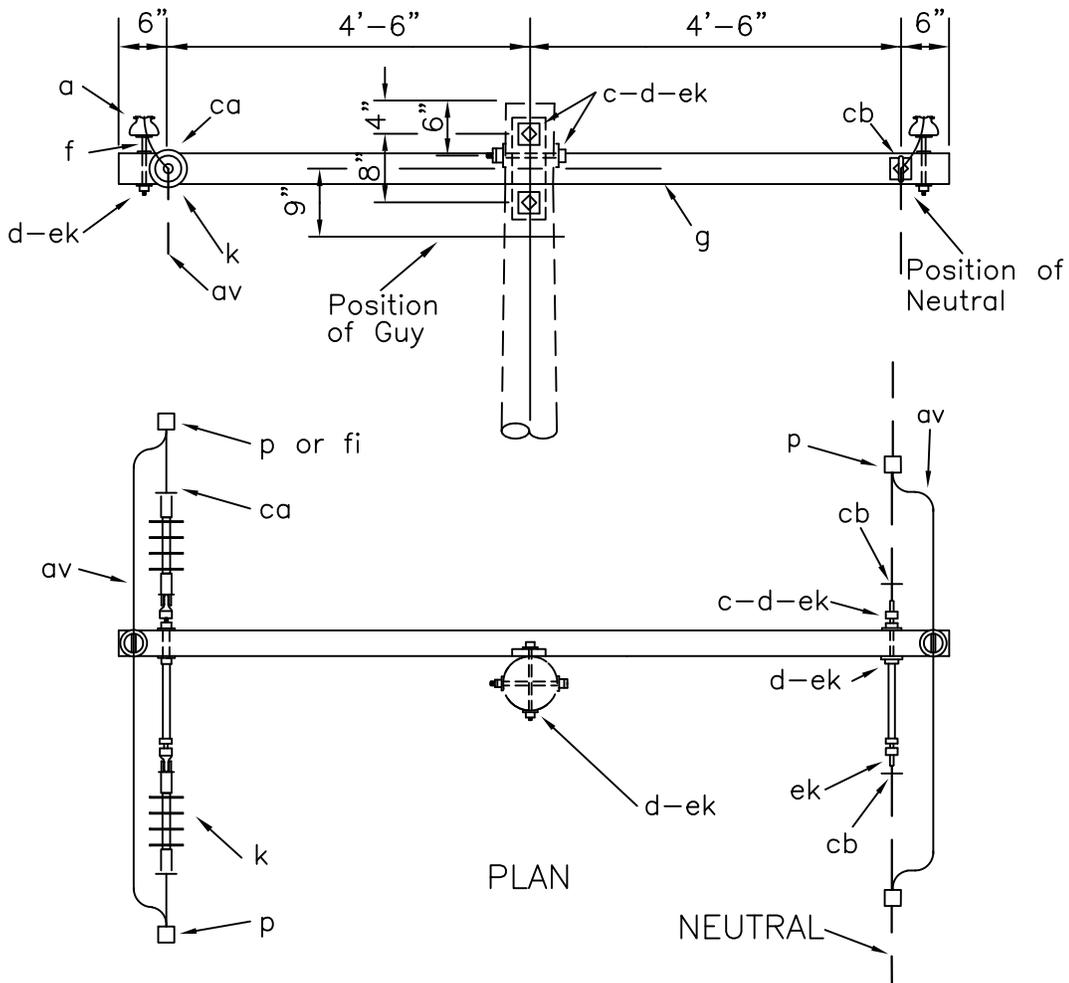
1-PHASE PRIMARY
12.47/7.2 kV

A8X



APPROVED BY
JDP

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010
g	1	DT PC 365055	18081207
k	2	DT OH 364021	34281020



NOTE:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required. Compression connectors are preferred practice.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type, (12.47/7.2 kV)	34223010
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
d	4	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'-0", fiberglass, dead end	18081207
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required	-
av	*	Jumpers, Insulated, Hendrix as required	-
ca	2	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

Max. Line Angle:
5°

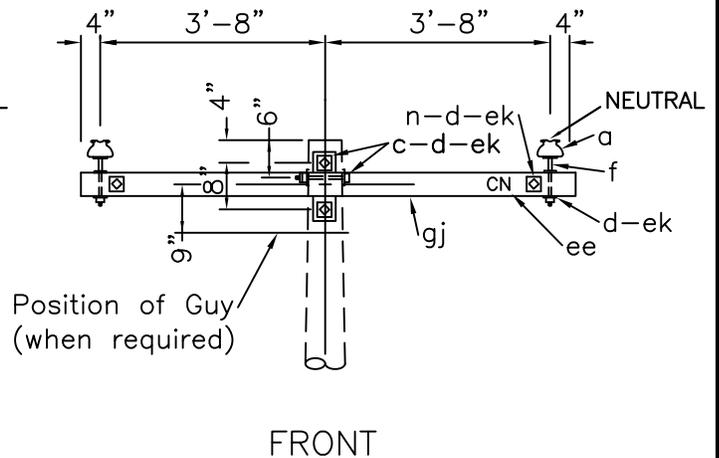
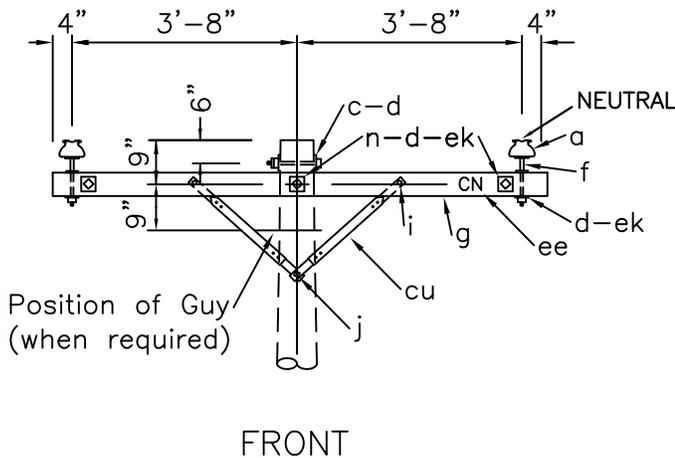
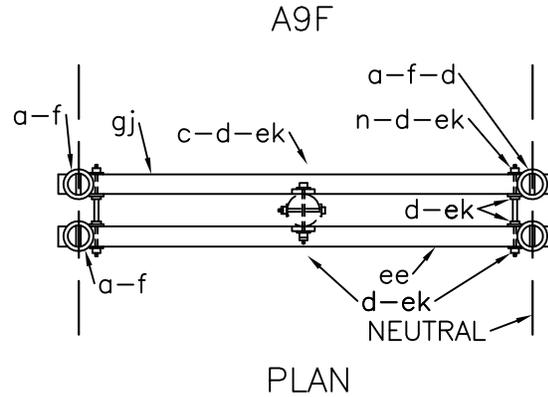
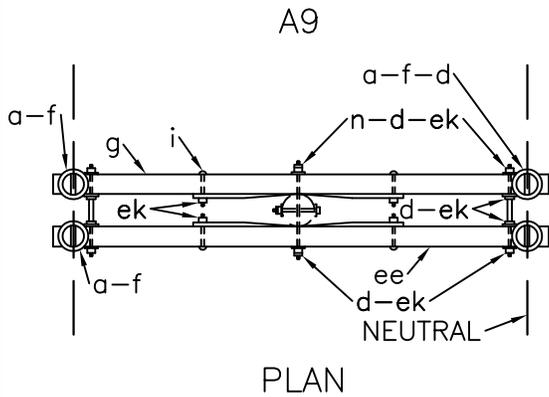
Max. Unbalanced Design Tension
Per conductor per 10' crossarm:
Grade B 433 lbs
Grade C 735 lbs

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
10' CROSSARMS**

JULY 2014	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A8FX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	4	DT OH 365055	34223010	A9, A9F
g	2	DT PC 364021	18290311	A9
gj	2	DT PC 364021	18290411	A9F



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A9, A9F
	APPROVED BY JDP		

		CONFIGURATION:	A9	A9F
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	4	4
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	1	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	–	2
d	Washer, square, 3"	–	2	2
d	Washer, square, 2 $\frac{1}{4}$ "	–	10	10
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	4	4
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	–
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	–
j	Screw, lag, $\frac{1}{2}$ " x 4"	–	2	–
n	Bolt, double arming, $\frac{5}{8}$ " x req'd length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd length	063306TT	1	–
bi	Gain plate	46800260	2	–
cu	Brace, wood, 28", pair	07535128	2	–
ee	Letters, 2 'C', 2 'N', w/ 1" nails	–	4	4
ek	Double coil spring washers, as req'd	–	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	–	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983

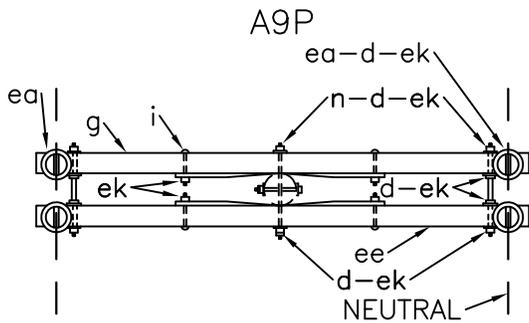


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OCT 2022
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MFJ

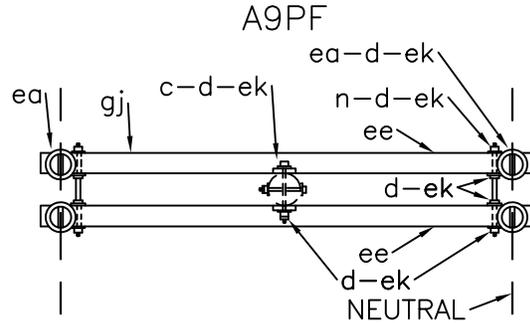
1-PHASE PRIMARY
12.47/7.2 kV

A9, A9F

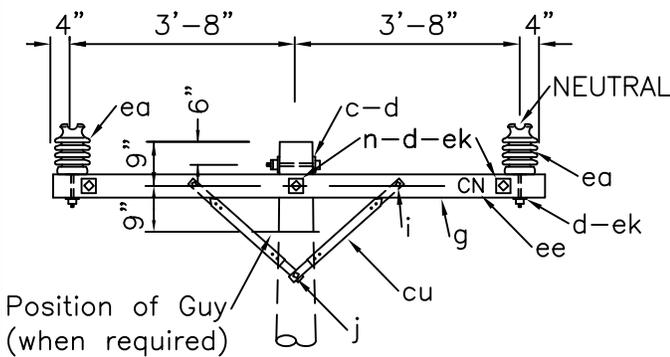
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	4	DT OH 365055	34251010	A9P, A9PF
g	2	DT PC 364021	18290311	A9P
gj	2	DT PC 364021	18290411	A9PF



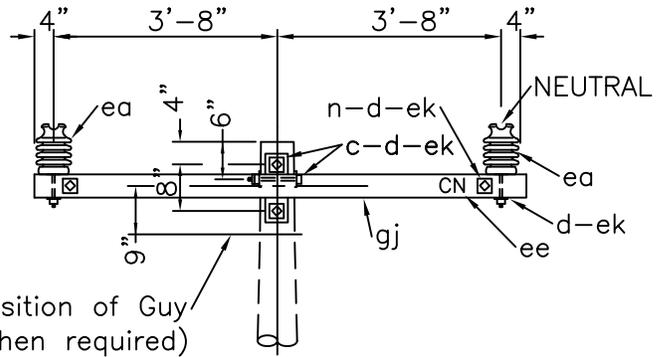
PLAN



PLAN



FRONT



FRONT

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983



REVISED
OCT 2022

APPROVED BY
JDP

1-PHASE PRIMARY
12.47/7.2 kV

A9P, A9PF

ITEM	MATERIAL	CONFIGURATION:	A9P	A9PF
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, square, 3"	-	2	-
d	Washer, square, 2 1/4"	-	10	10
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	2	-
i	Bolt, carriage, 3/8" x 4 1/2"	063103TT	4	-
j	Screw, lag, 1/2" x 4"	-	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	2	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-
bi	Gain plate	46800260	2	-
cu	Brace, wood, 28", Pair	07535128	2	-
ea	Insulator, post type (12.47/7.2kV)	34251010	4	4
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass, tangent	18290411	-	2
-	Stud insulator, 7" x 3/4"	34302000	4	4

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

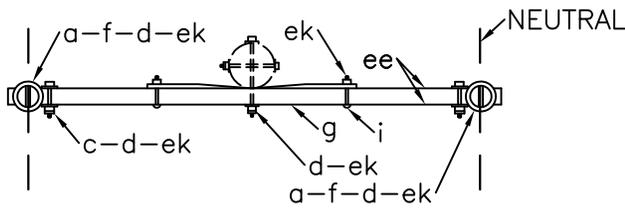
APR. 1983	REVISED OCT 2022
	APPROVED BY MFJ

1-PHASE PRIMARY
12.47/7.2 kV

A9P, A9PF

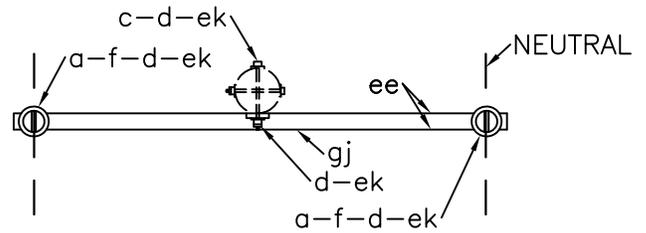
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	2	DT OH 365055	34223010	A9-1, A9-1F
g	1	DT PC 364021	18290311	A9-1
gj	1	DT PC 364021	18290411	A9-1F

A9-1

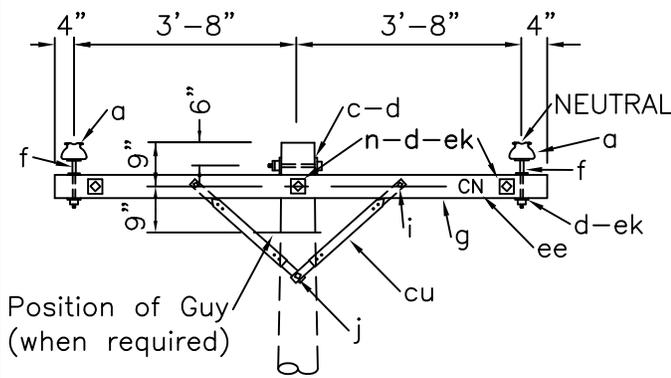


PLAN

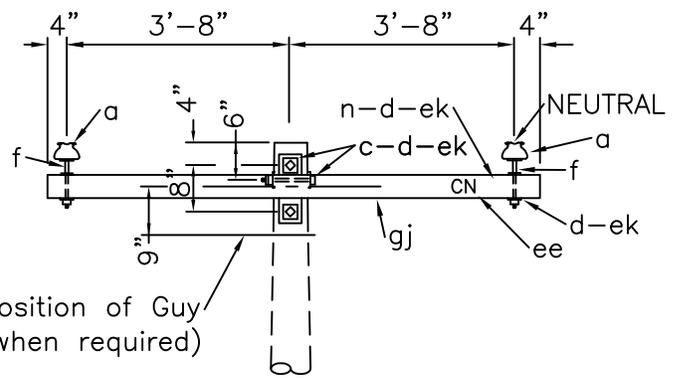
A9-1F



PLAN



FRONT



FRONT

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 1 OF 2

APR. 1983



REVISED
OCT 2022

APPROVED BY
JDP

1-PHASE PRIMARY
12.47/7.2 kV

A9-1, A9-1F

3.23.1

ITEM	MATERIAL	CONFIGURATION:	A9-1	A9-1F
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	2	2
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	4	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	-	2
d	Washer, square, 3", curved	-	1	2
d	Washer, square, 3"	-	1	-
d	Washer, square, 2 $\frac{1}{4}$ "	-	10	6
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	2	-
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
bi	Gain plate	46800260	1	-
cu	Brace, wood, 28", Pair	07535128	1	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 2 OF 2

APR. 1983



REVISED
OCT 2022

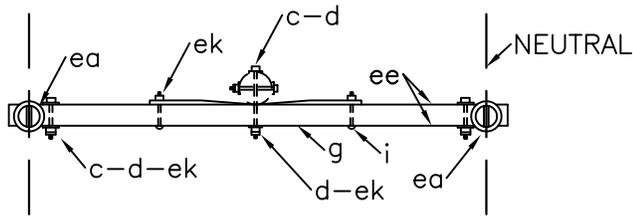
APPROVED BY
MDJ

1-PHASE PRIMARY
12.47/7.2 kV

A9-1, A9-1F

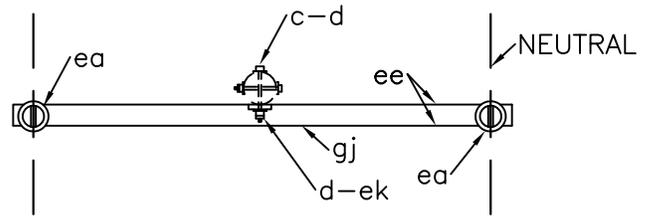
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	2	DT OH 365055	34251010	A9-1P, A9-1PF
g	1	DT PC 364021	18290311	A9-1P
gj	1	DT PC 364021	18290411	A9-1PF

A9-1P

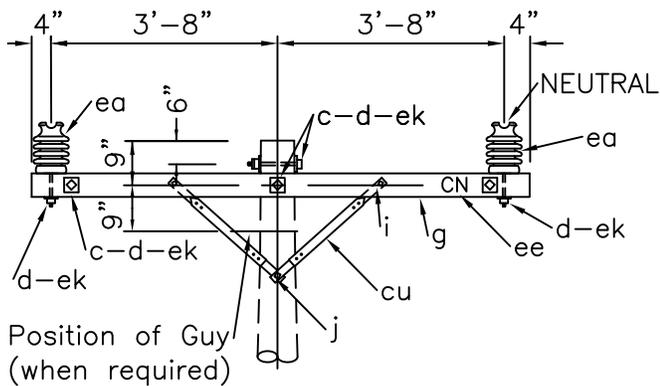


PLAN

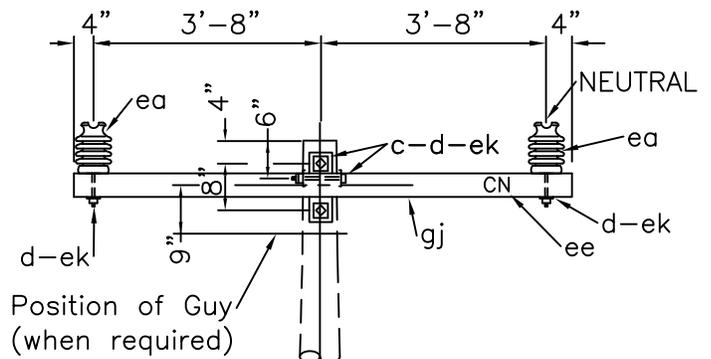
A9-1PF



PLAN



FRONT



FRONT

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983



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OCT 2022
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1-PHASE PRIMARY
12.47/7.2 kV

A9-1P, A9-1PF

3.24.1

		CONFIGURATION:	A9-1P	A9-1PF
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	4	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	-	2
d	Washer, square, 3" curved	-	1	2
d	Washer, square, 3"	-	1	-
d	Washer, square, 2 $\frac{1}{4}$ "	-	8	4
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
bi	Gain plate	46800260	1	-
cu	Brace, wood, 28", pair	07535128	1	-
ea	Insulator, post type (12.47/7.2 kV)	34251010	2	2
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1
-	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000	2	2

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



REVISED
OCT 2022

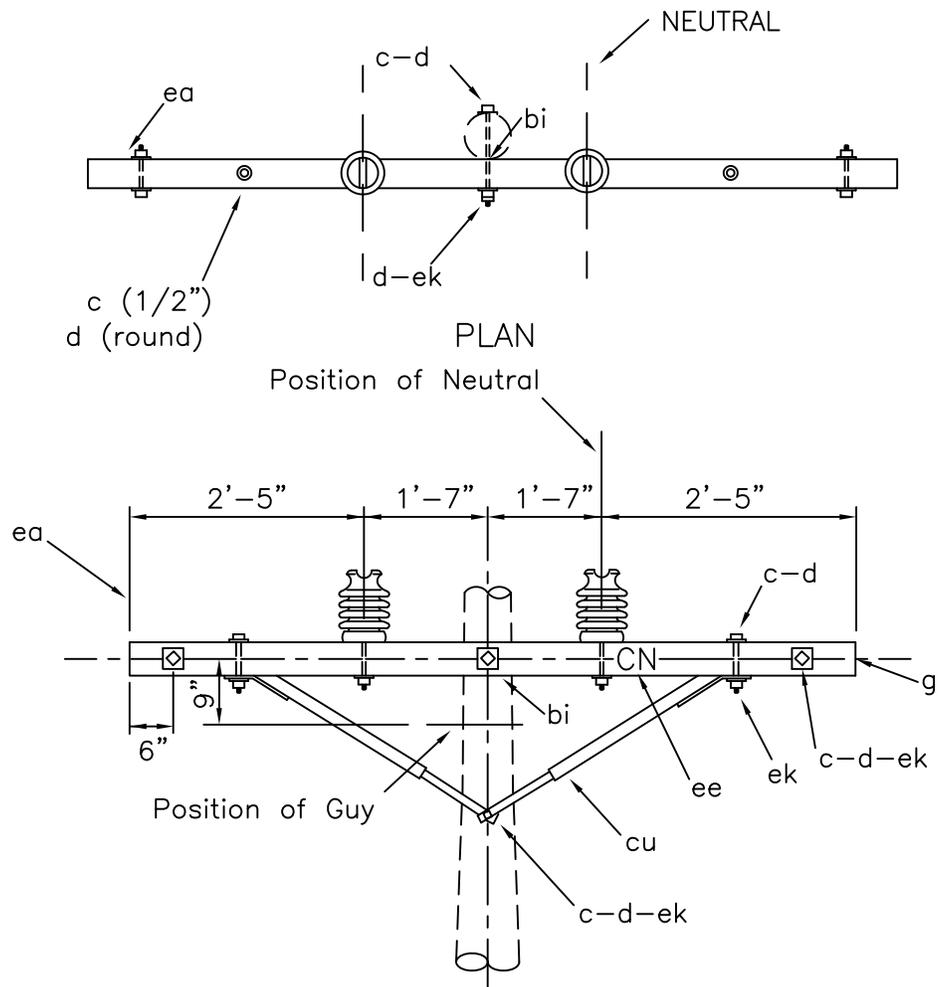
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MFJ

1-PHASE PRIMARY
12.47/7.2 kV

A9-1P, A9-1PF

3.24.2

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010
g	1	DT PC 364021	18290311

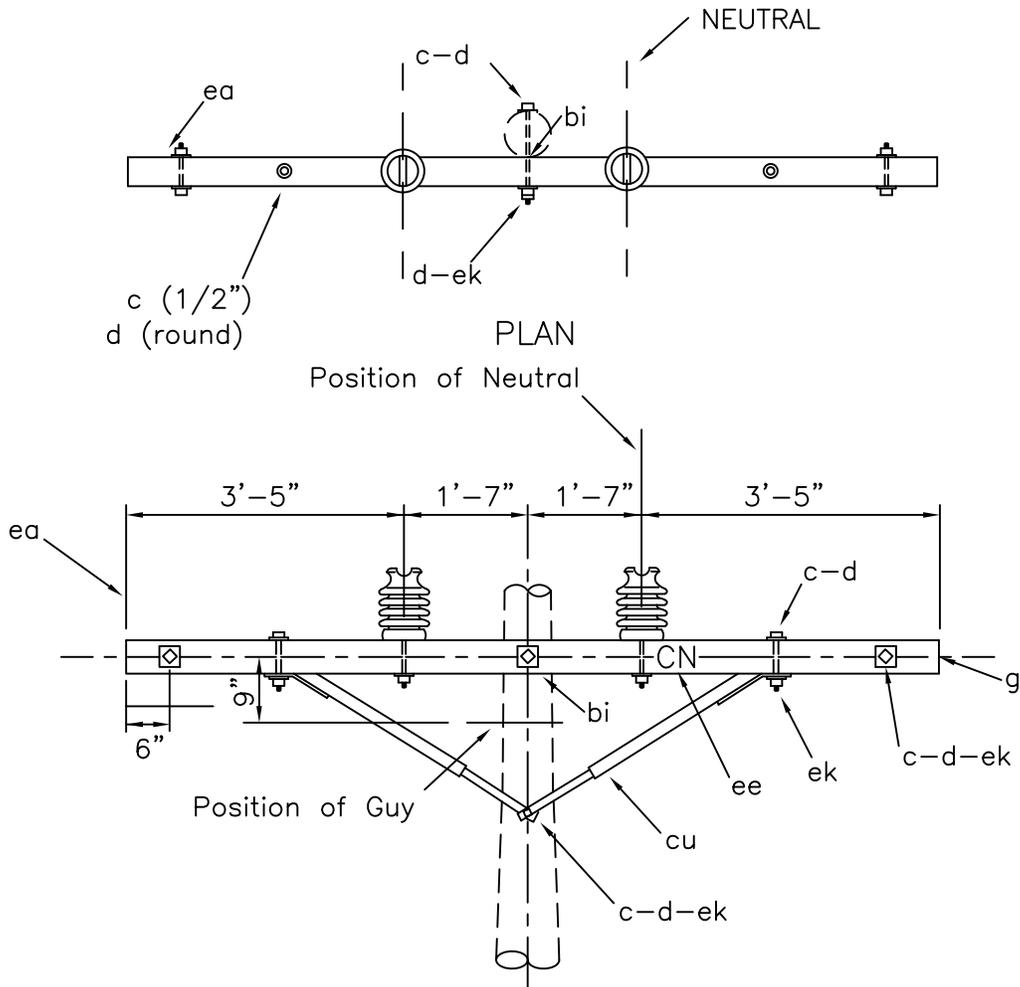


ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	1	Washer, square, 3" curved	-
d	1	Washer, square, 3"	-
d	7	Washer, square, 2 1/4"	-
d	2	Washer, round, 1 3/8"	-
g	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
bi	1	Gain plate	46800260
cu	1	Brace, wood, 60", pair	07535168
ea	2	Insulator, post type (12.47/7.2 kV)	34251010
ee	4	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd	-
-	2	Stud, insulator, 7" x 3/4"	34302000

DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

CROSSARM CONSTRUCTION SINGLE LINE ARM UNDERBUILD			
APR. 1983	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A9-1UB
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010
g	1	DT PC 364021	18290511



ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
c	1	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
d	1	Washer, square, 3" curved	-
d	1	Washer, square, 3"	-
d	7	Washer, square, 2 $\frac{1}{4}$ "	-
d	2	Washer, round, 1 $\frac{3}{8}$ "	-
g	1	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 10'-0"	18290511
bi	1	Gain plate	46800260
cu	1	Brace, wood, 60", pair	07535168
ea	2	Insulator, post type (12.47/7.2 kV)	34251010
ee	4	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd	-
-	2	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
UNDERBUILD

APR. 1983

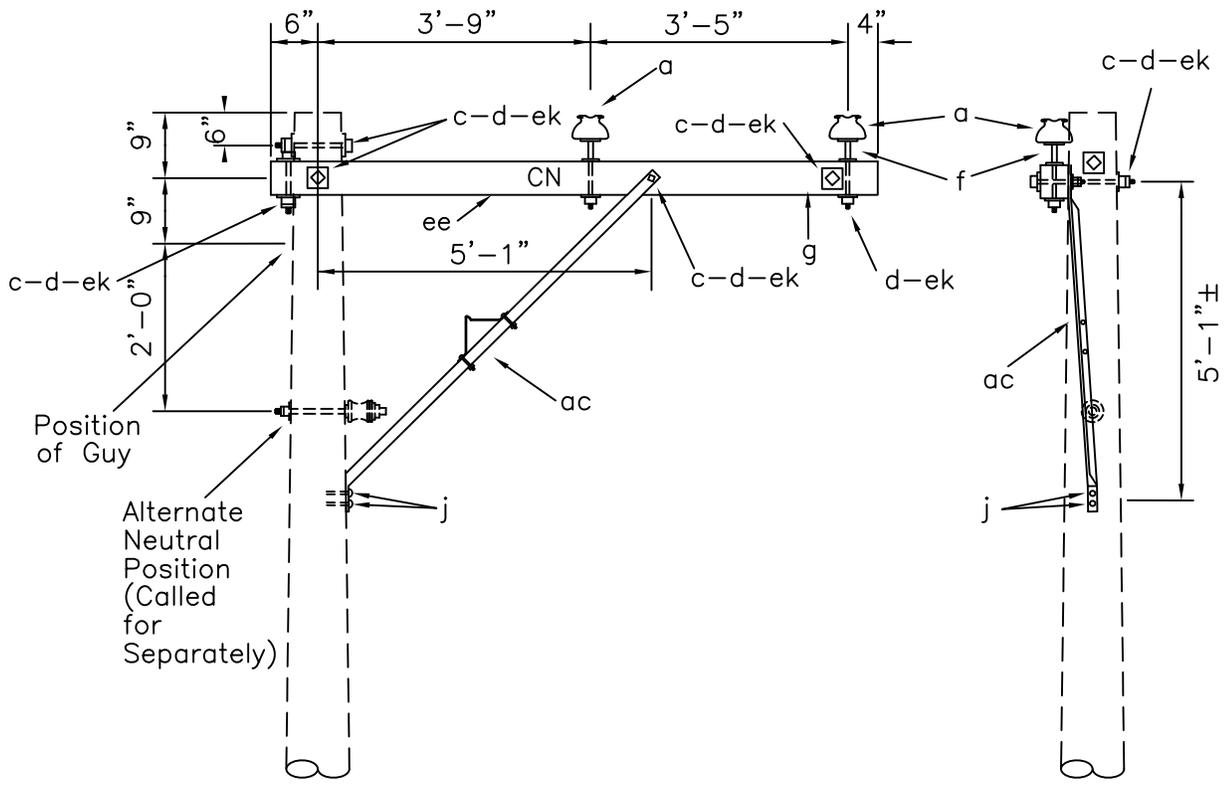


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OCT 2022
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MFJ

1-PHASE PRIMARY
12.47/7.2 kV

A9-1XUB

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010
g	1	DT PC 364021	18290311



ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type, (12.47/7.2 kV)	34223010
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	1	Washer, square, 3", curved	-
d	1	Washer, square, 3"	-
d	7	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 3 3/4" x 4 3/4" x 8'-0"	18290311
j	2	Screw, lag, 1/2" x 4"	-
ac	1	Brace, sidearm, 84"	07535184
ee	*	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-

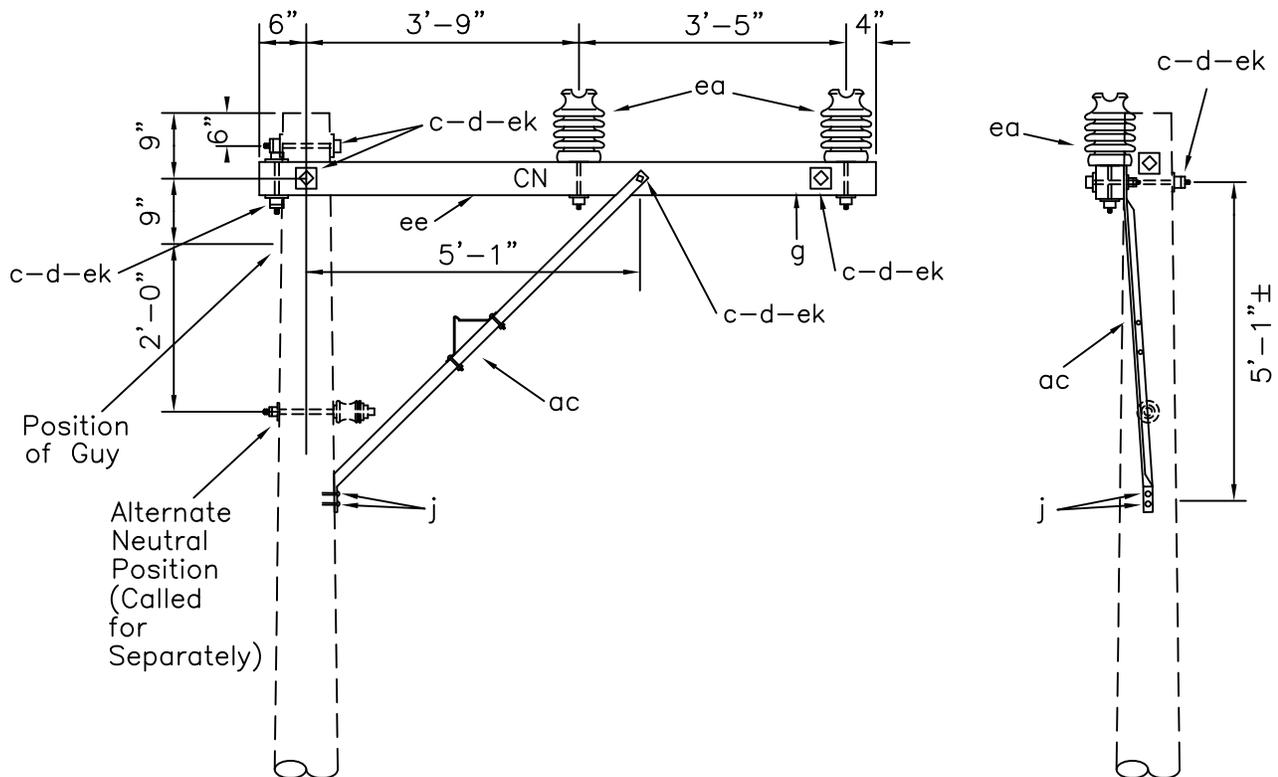
DESIGN LIMITS
 Max. Transverse Load:
 750 lbs per conductor

 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load.
 Max. Line Angle:
 2° if upset bolt is used.

 *Quantity as Required

CROSSARM CONSTRUCTION SIDE ARM			
MAY 1997	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A10
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311
ea	2	DT OH 365055	34251010



ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	1	Washer, square, 3", curved	-
d	1	Washer, square, 3"	-
d	7	Washer, square, 2 1/4"	-
g	1	Crossarm, 3 3/4" x 4 3/4" x 8'-0"	18290311
j	2	Screw, lag, 1/2" x 4"	-
ac	1	Brace, sidearm, 84"	07535184
ea	2	Insulator, post type (12.47/7.2kV)	34251010
ee	*	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-
-	2	Stud, insulator, 7"x3/4"	34302000

DESIGN LIMITS
 Max. Transverse Load:
 750 lbs per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load.
 Max. Line Angle:
 2° if upset bolt is used.
 *Quantity as Required

**CROSSARM CONSTRUCTION
 SIDE ARM
 LARGE CONDUCTOR**

JULY 2014	REVISED OCT 2022	1-PHASE PRIMARY 12.47/7.2 kV	A10P
	APPROVED BY MFJ		



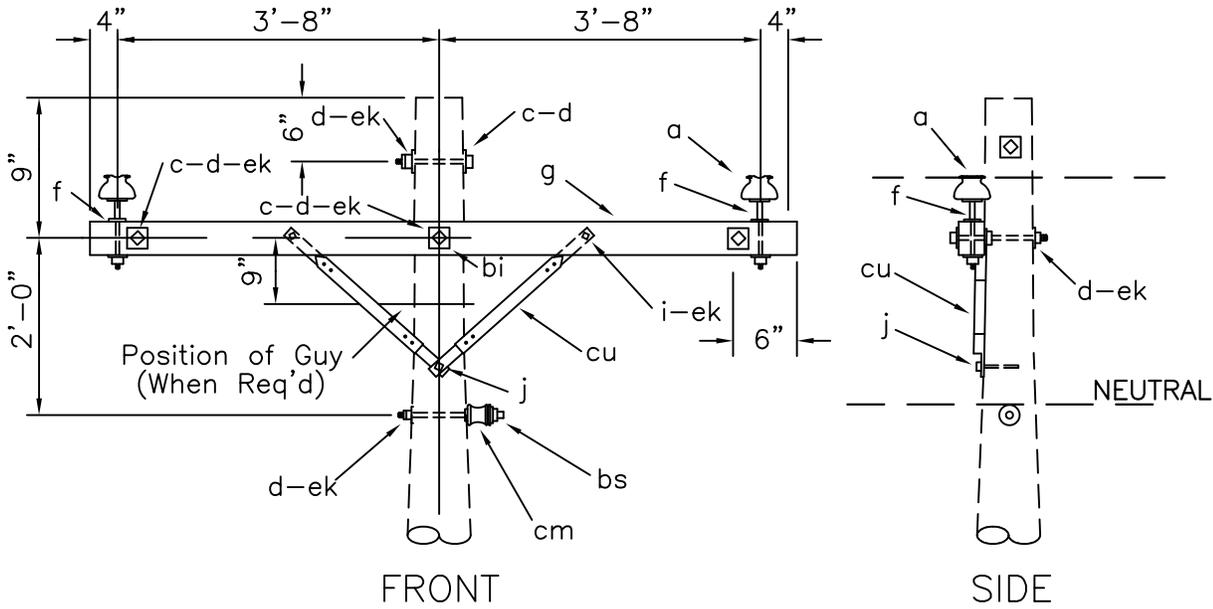
**VEE PHASE
CONSTRUCTION**

VEE PHASE CONSTRUCTION

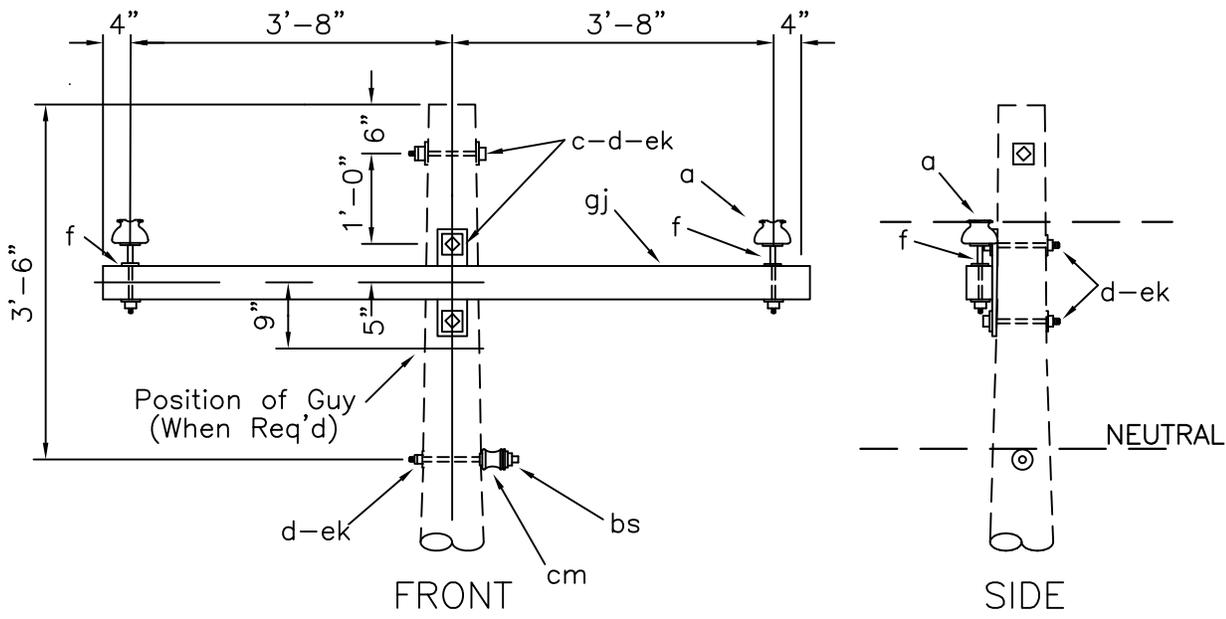
PAGE	DRAWING	DESCRIPTION
4.01	B1 B1F	Crossarm Construction Single Line Arm (Tangent)
4.02	B1P B1PF	Crossarm Construction Single Line Arm (Tangent) Large Conductor
4.03	B1-1 B1-1F	Crossarm Construction Double Line Arm (Tangent)
4.04	B1-1P B1-1PF	Crossarm Construction Double Line Arm (Tangent) Large Conductor
4.05	B2 B2F	Crossarm Construction Double Line Arm
4.06	B2P B2PF	Crossarm Construction Double Line Arm Large Conductor
4.07	B3 B3A	Vertical Construction Suspension Angle
4.08	B4	Vertical Construction Deadend Angle (Double)
4.09	B5	Vertical Construction Deadend (Single)
4.10	B7 B7-1	Crossarm Construction Deadend (Single)
4.11	B7F	Crossarm Construction Deadend (Single)
4.12	B7LA	Crossarm Construction Deadend (Single) Less Crossarms
4.13	B8	Crossarm Construction Deadend (Double)
4.14	B8F	Crossarm Construction Deadend (Double)
4.15	B9 B9F	Crossarm Construction Double Line Arm
4.16	B9P B9PF	Crossarm Construction Double Line Arm Large Conductor
4.17	B9-1 B9-1F	Crossarm Construction Single Line Arm
4.18	B9-1P B9-1PF	Crossarm Construction Single Line Arm Large Conductor
4.19	B9-2X B9-2FX	Crossarm Construction Double Line Arm 10' Crossarms
4.20	B9-2PX B9-2PFX	Crossarm Construction Double Line Arm Large Conductor 10' Crossarms
4.21	B9-3X B9-3FX	Crossarm Construction Single Line Arm 10' Crossarm
4.22	B9-3PX B9-3PFX	Crossarm Construction Single Line Arm Large Conductor 10' Crossarm
4.23	BV-3Y	Narrow Profile Construction Small Angle

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	2	DT OH 365055	34223010	B1, B1F
g	1	DT PC 364021	18290311	B1
gj	1	DT PC 364021	18290411	B1F

B1



B1F



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 1 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B1, B1F
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	MATERIAL	CONFIGURATION:	B1	B1F
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	2	2
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	11	7
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	2	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
bi	Gain plate	46800260	1	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", Pair	07535128	1	-
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983



REVISED
OCT 2022

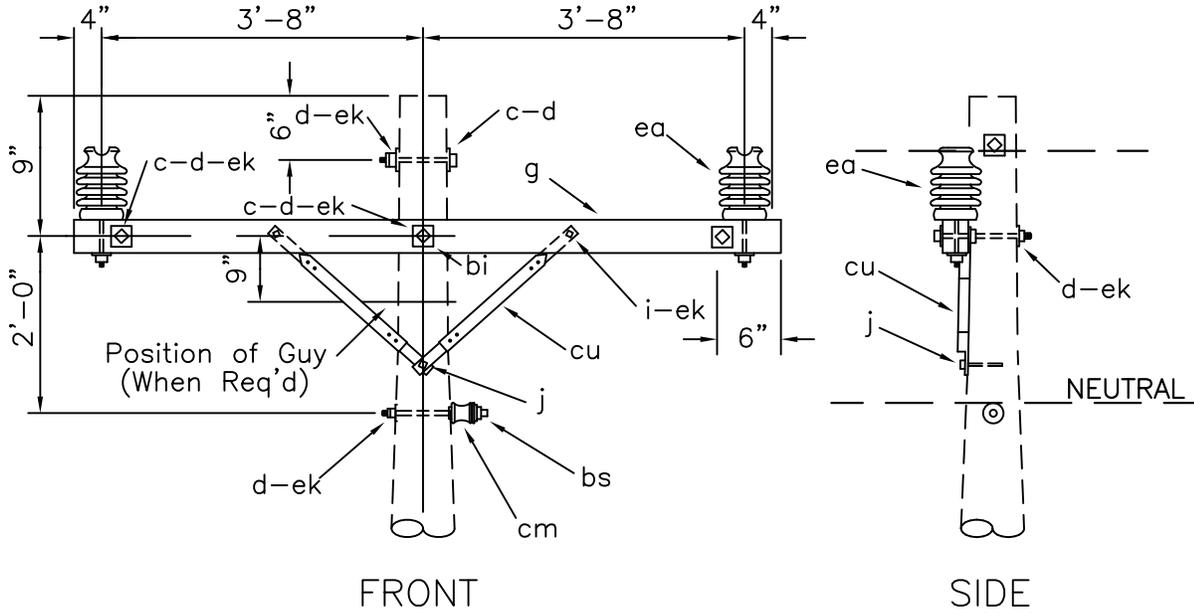
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VEE-PHASE PRIMARY
12.47/7.2 kV

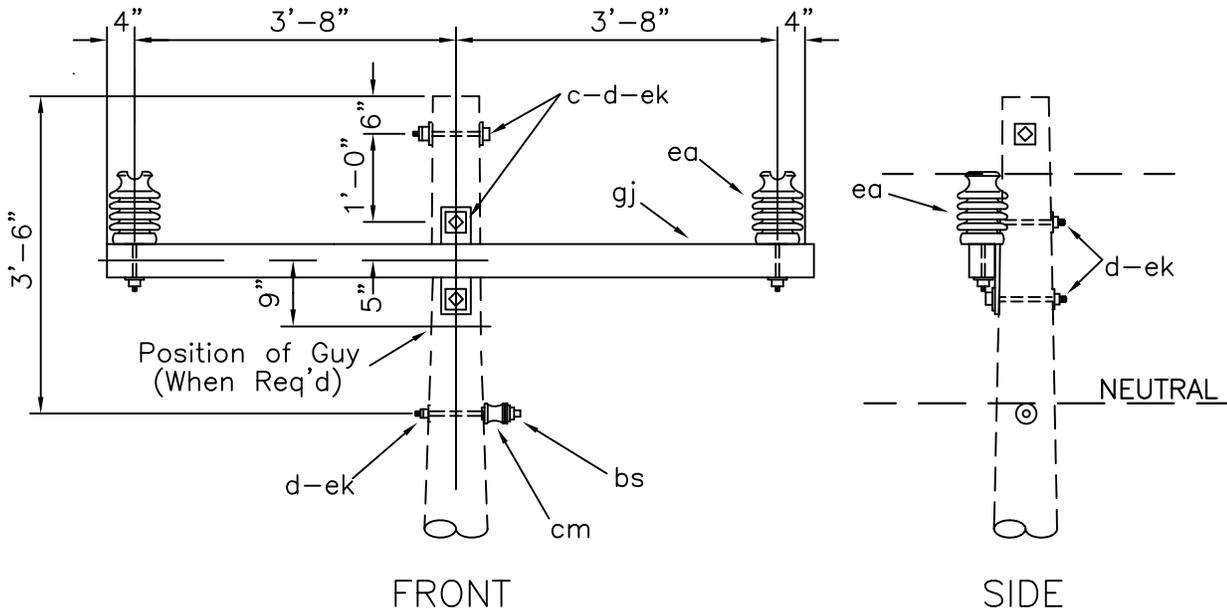
B1, B1F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	2	DT OH 365055	34251010	B1P, B1PF
g	1	DT PC 364021	18290311	B1P
gj	1	DT PC 364021	18290411	B1PF

B1P



B1PF



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983	REVISED OCT 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP

VEE-PHASE PRIMARY
12.47/7.2 kV

B1P, B1PF

ITEM	MATERIAL	CONFIGURATION:	B1P	B1PF
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	9	5
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
bi	Gain plate	46800260	1	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	1	-
ea	Insulator, post type (12.47/7.2 kV)	34251010	2	2
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1
-	Stud, long, insulator, 7" x $\frac{3}{4}$ "	34302000	2	2

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



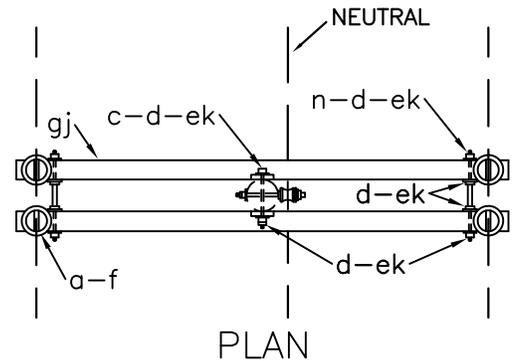
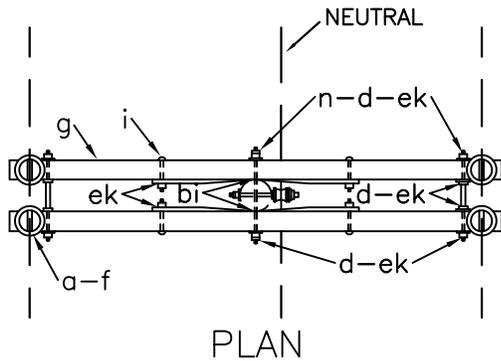
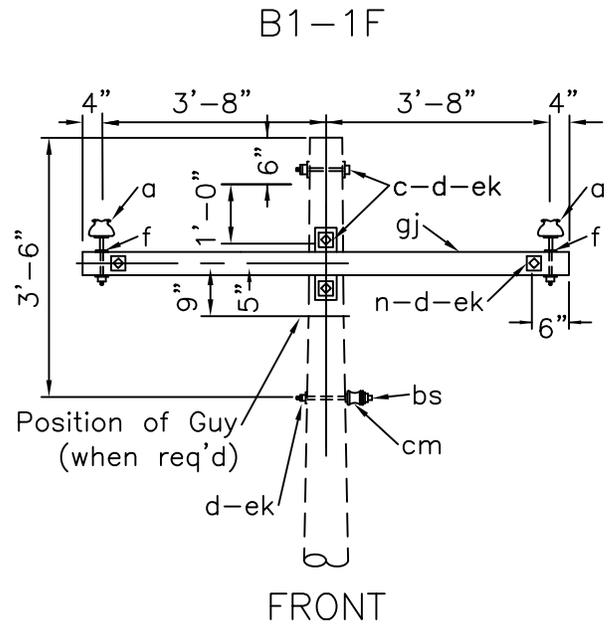
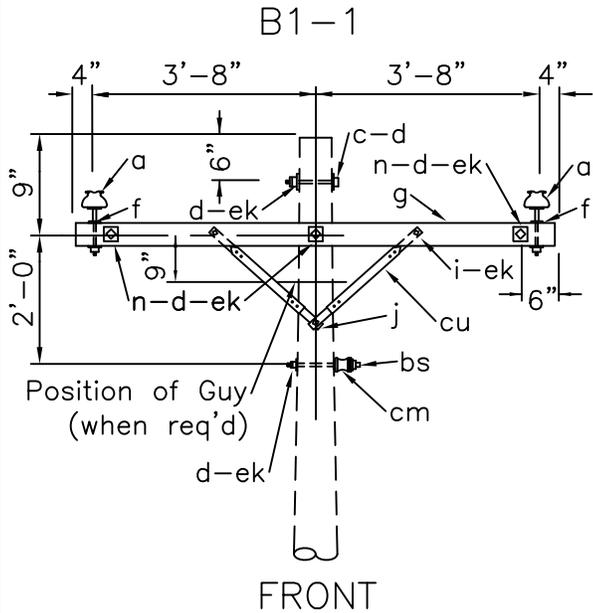
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OCT 2022

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MFJ

VEE-PHASE PRIMARY
12.47/7.2 kV

B1P, B1PF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	4	DT OH 365055	34223010	B1-1, B1-1F
g	2	DT PC 364021	18290311	B1-1
gj	2	DT PC 364021	18290411	B1-1F



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B1-1, B1-1F
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

		CONFIGURATION:	B1-1	B1-1F
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	4	4
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	1	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	-	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	19	19
d	Washer, square, 3", curved	-	2	-
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	4	4
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	2	-
n	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT	1	-
bi	Gain plate	46800260	2	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	2	-
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983

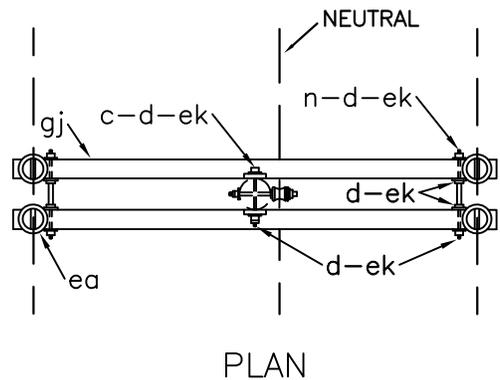
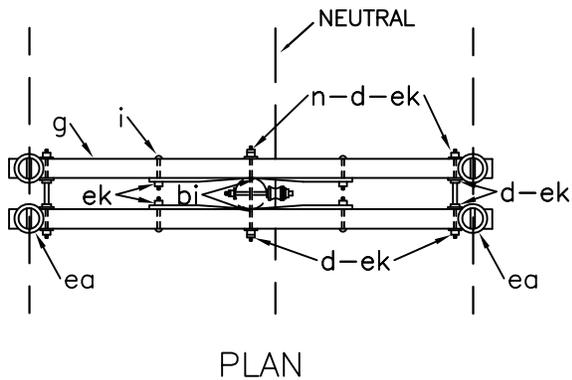
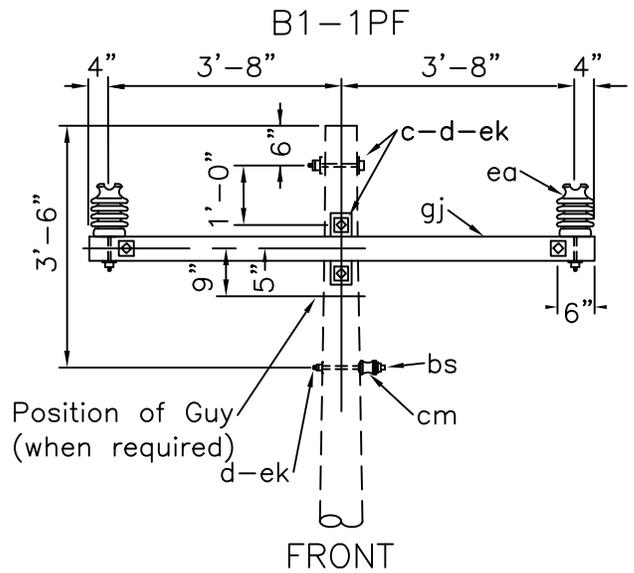
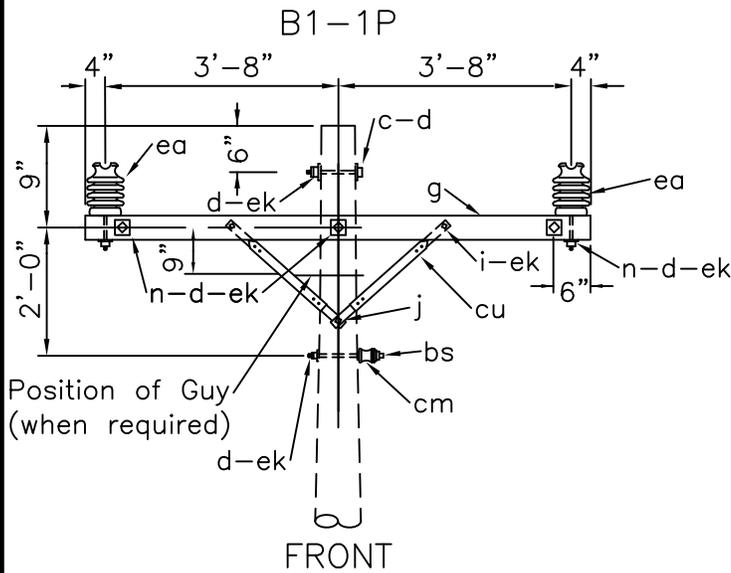


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VEE-PHASE PRIMARY
12.47/7.2 kV

B1-1, B1-1F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	4	DT OH 365055	34251010	B1-1P, B1-1PF
g	2	DT PC 364021	18290311	B1-1P
gj	2	DT PC 364021	18290411	B1-1PF



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
LARGE CONDUCTOR
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B1-1P, B1-1PF
	APPROVED BY JDP		

		CONFIGURATION:	B1-1P	B1-1PF
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	1	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	-	2
d	Washer, square, $2\frac{1}{4}$ "	-	15	15
d	Washer, square, 3"	-	2	-
g	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8', wood	18290311	2	-
i	Bolt, carriage, $\frac{3}{8}$ " x $4\frac{1}{2}$ "	063103TT	4	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	2	-
n	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT	1	-
bi	Gain plate	46800260	2	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	2	-
ea	Insulator, post type (12.47/7.2 kV)	34251010	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	2
-	Stud, long, insulator, 7" x $\frac{3}{4}$ "	34302000	4	4

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



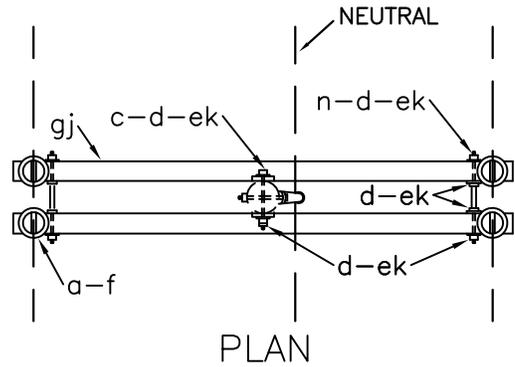
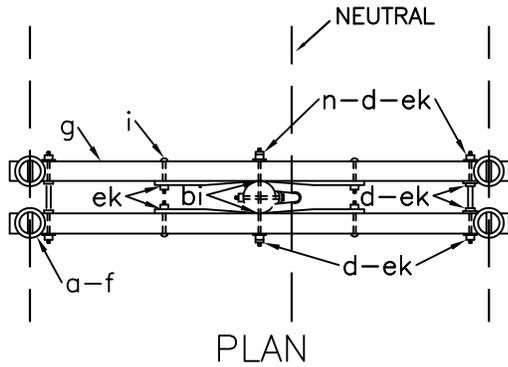
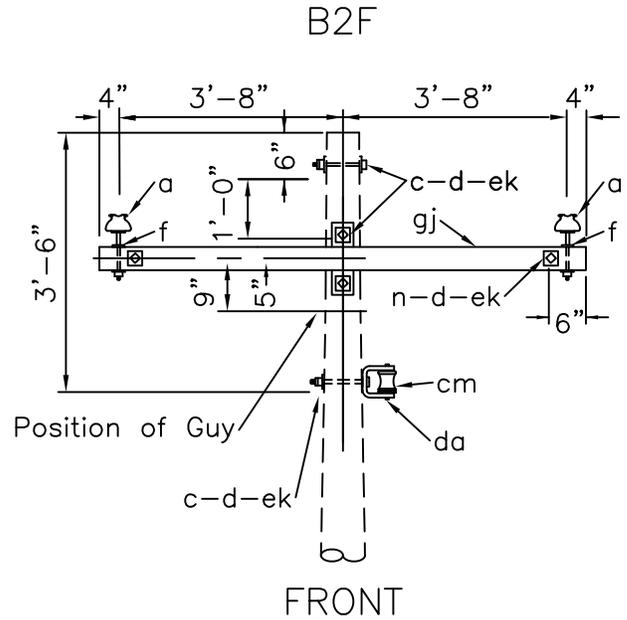
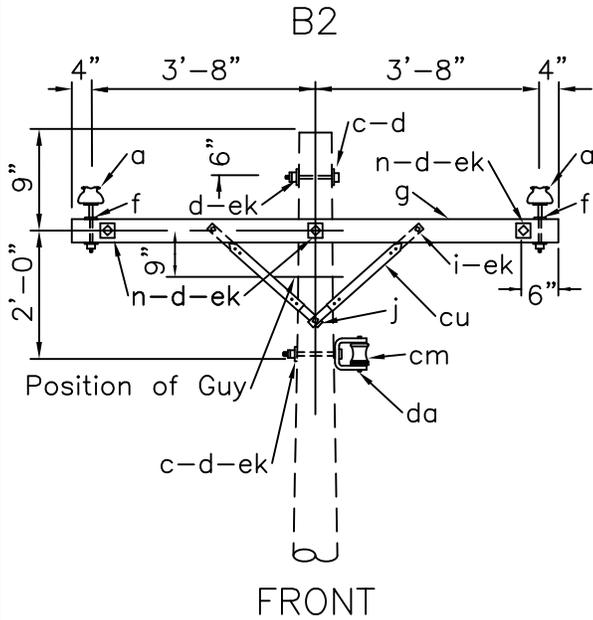
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VEE-PHASE PRIMARY
12.47/7.2 kV

B1-1P, B1-1PF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	4	DT OH 365055	34223010	B2, B2F
g	2	DT PC 364021	18290311	B2
gj	2	DT PC 364021	18290411	B2F



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B2, B2F
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

		CONFIGURATION:	B2	B2F
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	4	4
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	2	2
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	–	2
d	Washer, square, 2 $\frac{1}{4}$ "	–	19	19
d	Washer, square, 3"	–	2	–
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	4	4
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	–
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	–
j	Screw, lag, $\frac{1}{2}$ " x 4"	–	2	–
n	Bolt, double arming, $\frac{5}{8}$ " x req'd length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd length	063306TT	1	–
bi	Gain plate	46800260	2	–
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	2	–
da	Clevis, rigid, bare	07804500	1	1
ek	Double coil spring washers, as req'd	–	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	–	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983

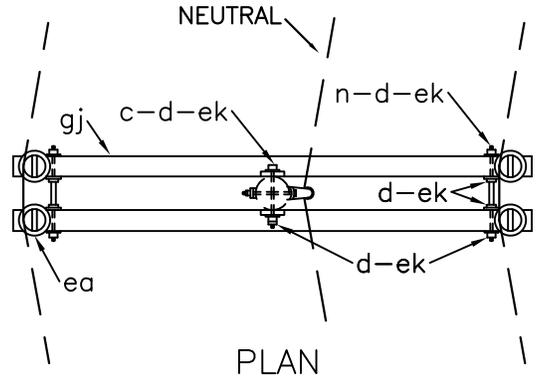
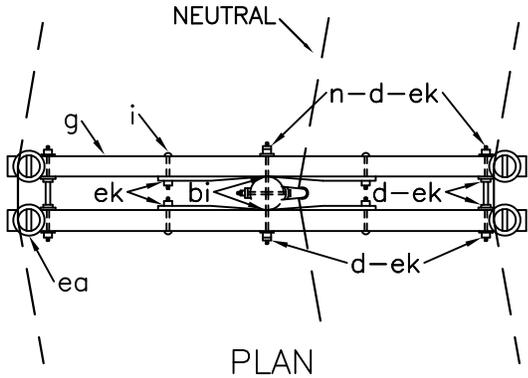
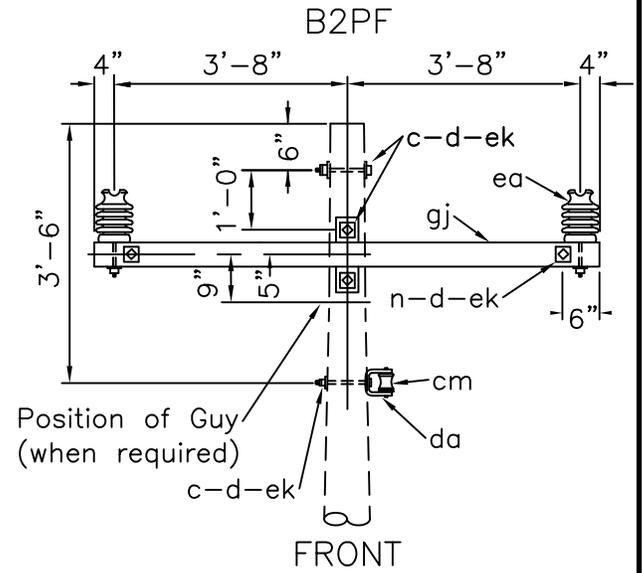
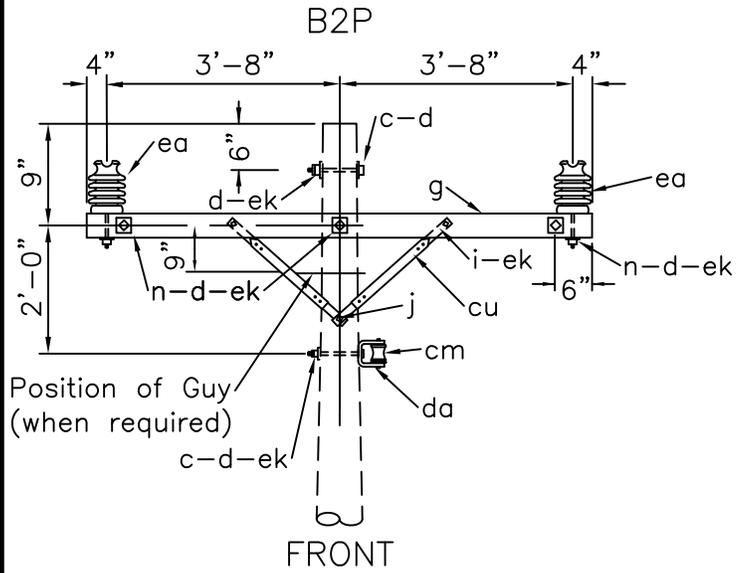


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VEE-PHASE PRIMARY
12.47/7.2 kV

B2, B2F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	4	DT OH 365055	34251010	B2P, B2PF
g	2	DT PC 364021	18290311	B2P
gj	2	DT PC 364021	18290411	B2PF



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM
LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B2P, B2PF
	APPROVED BY JDP		

		CONFIGURATION:	B2P	B2PF
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	2	2
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, square, 2 1/4"	-	15	15
d	Washer, square, 3"	-	2	-
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	2	-
i	Bolt, carriage, 3/8" x 4 1/2"	063103TT	4	-
j	Screw, lag, 1/2" x 4"	-	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	2	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-
bi	Gain plate	46800260	2	-
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	2	-
da	Clevis, rigid, bare	07804500	1	1
ea	Insulator, post type (12.47/7.2 kV)	34251010	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass, tangent	18290411	-	2
-	Stud, insulator, 7" x 3/4"	34302000	4	4

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



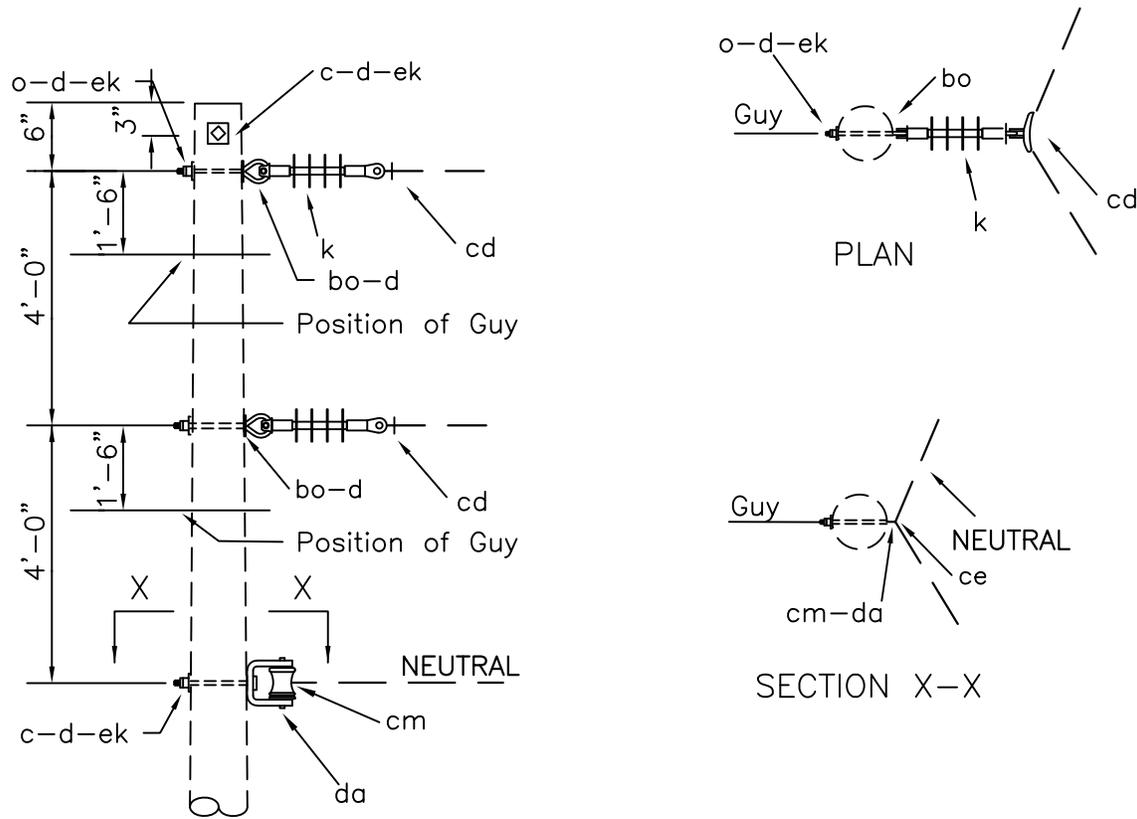
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VEE-PHASE PRIMARY
12.47/7.2 kV

B2P, B2PF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
k	2	DT OH 365073	34281020	B3, B3A



NOTES:

1. If future conversion is likely, allow space at top of pole for middle phase. Designate as B3A for this construction.
2. Items cd and ce are shown on assembly drawing M41-10.

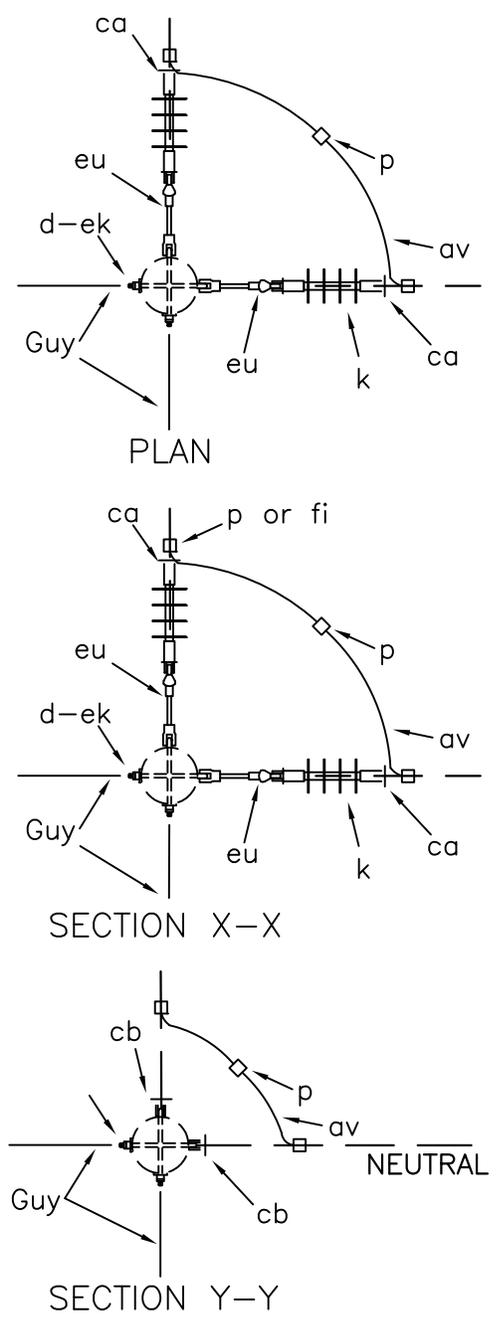
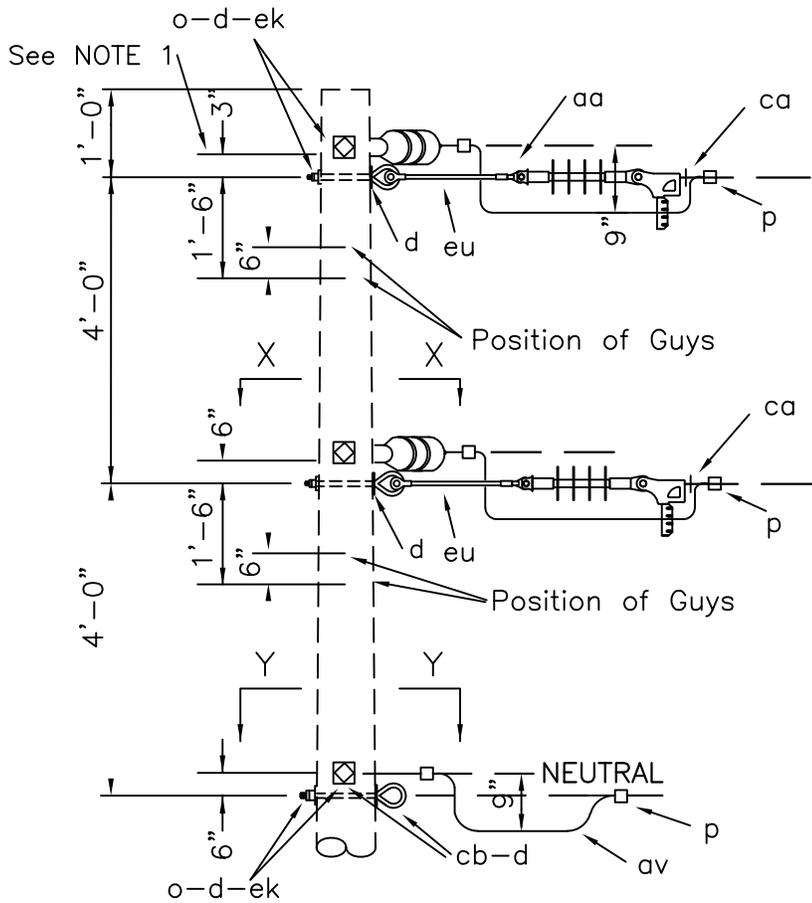
ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 3" curved	-
d	4	Washer, square, 2 1/4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
bo	2	Shackle, anchor	12302800
cd	2	Angle assembly, primary	11741035
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, rigid, bare	07804500
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS
 Max. Transverse Load:
 5000 lbs. per conductor
 Max. Line Angle:
 60° or as limited by transverse load.
 Min. Line Angle:
 20° or as limited by swing angle
 *Quantity as Required

**VERTICAL CONSTRUCTION
SUSPENSION ANGLE**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B3, B3A
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
k	4	DT OH 365055	34281020



- NOTES:
1. Separate 6" (top position only) when line angle equals 90°.
 2. Items ca and cb are shown on assembly drawing M42-13.
 3. Item fi, connector, M43-10 assembly, separately specified when required.

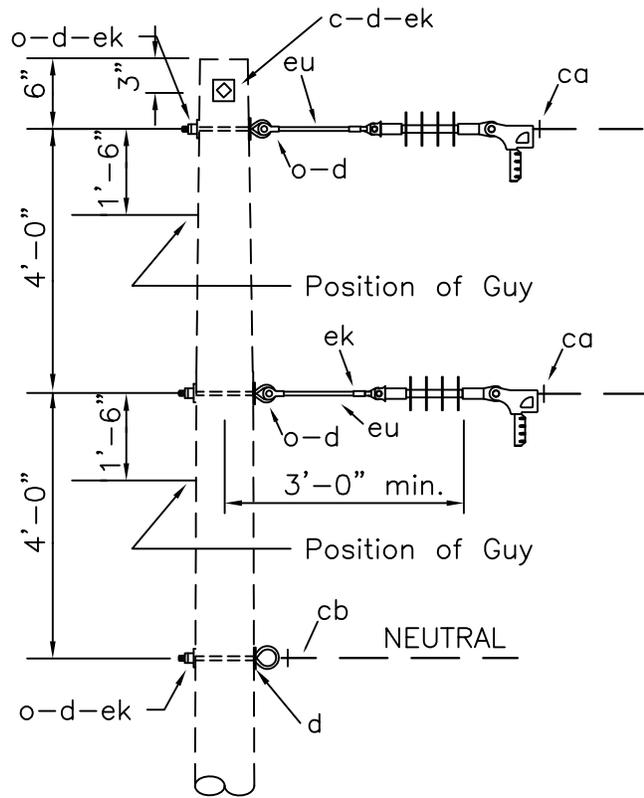
ITEM	QTY	MATERIAL	INVENTORY NO.
d	12	Washer, square, 3" curved	-
k	4	Insulator, suspension, epoxilator, 7.2kV	34281020
o	6	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd	-
av	*	Jumpers, Insulated, Hendrix as req'd	-
ca	4	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	4	Link, extension, insulated, 12" C-TE	34276130

DESIGN LIMITS
 Max. Longitudinal Load:
 5000 lbs. per conductor

VERTICAL CONSTRUCTION
 DEADEND ANGLE (DOUBLE)

*Quantity as Required	APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B4
		APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	2	DT OH 365055	34281020



NOTES:

1. If future conversion is likely, allow space at top of pole for middle phase. Designate as B5A for this construction.
2. Items ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	6	Washer, square, 3" curved	-
d	2	Washer, square, 2 1/4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
o	3	Bolt, eye, 5/8" x req'd. length	063615TT
ca	2	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130

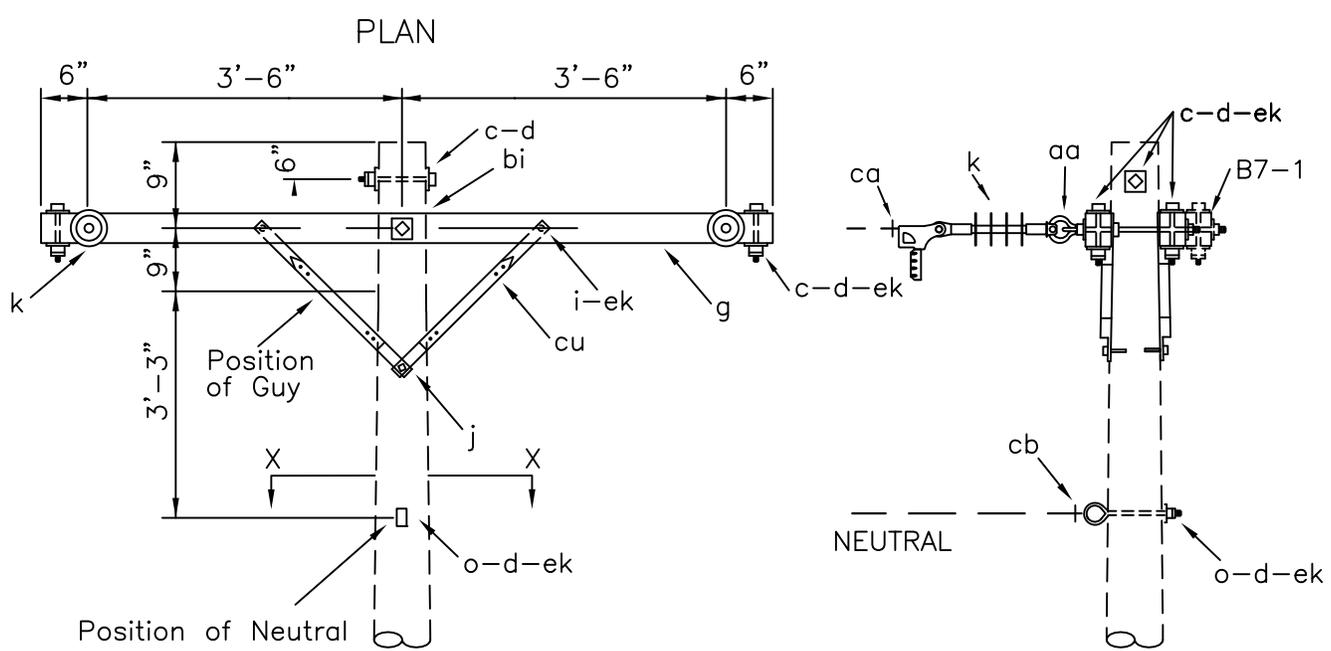
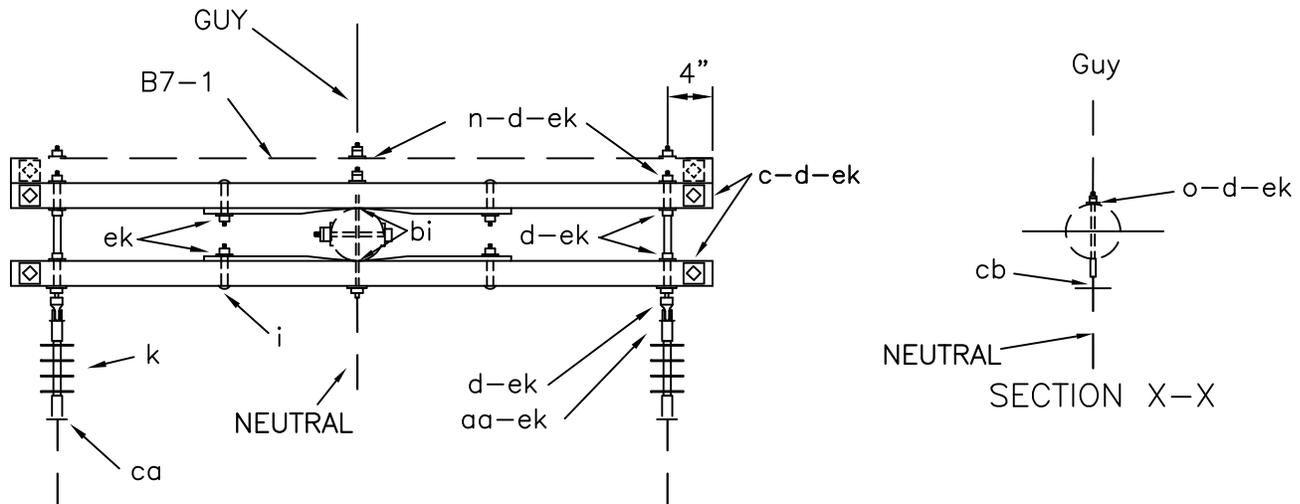
DESIGN LIMITS
 Max. Longitudinal Load:
 5000 lbs. per conductor

VERTICAL CONSTRUCTION
 DEADEND (SINGLE)

*Quantity as Required

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B5
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
k	2	DT OH 365055	34281020	B7, B7-1
g	2	DT PC 364021	18290311	B7
g	3	DT PC 364021	18290311	B7-1



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load per conductor:
 Per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

**CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 SHEET 1 OF 2**

*Quantity as Required

APR. 1983



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VEE-PHASE PRIMARY
 12.47/7.2 kV

B7, B7-1

NOTES:

1. Designate as B7-1 for assembly with three crossarms.
2. Items ca and cb are shown on assembly drawings M42-13.
3. See drawing E5-3M for crossarm loading limitations.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	1	Washer, square, 3" curved	-
d	19	Washer, square, 2 1/4"	-
g	2	Crossarm, 3 5/8" x 4 1/4" x 8'-0"	18290311
i	4	Bolt carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd length	063306TT
n	2	Bolt, double arming, 5/8" x req'd length	063305TT
o	1	Eyebolt, 5/8" x req'd. length	063615TT
aa	2	Nut, eye, 5/8"	41904065
bi	2	Gain plate	46800260
ca	2	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 28", pair	07535128
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Longitudinal Load per conductor:
 Per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 SHEET 2 OF 2

*Quantity as Required

APR. 1983

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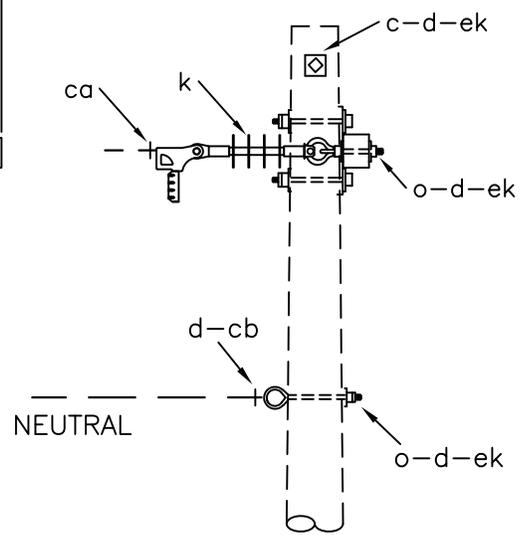
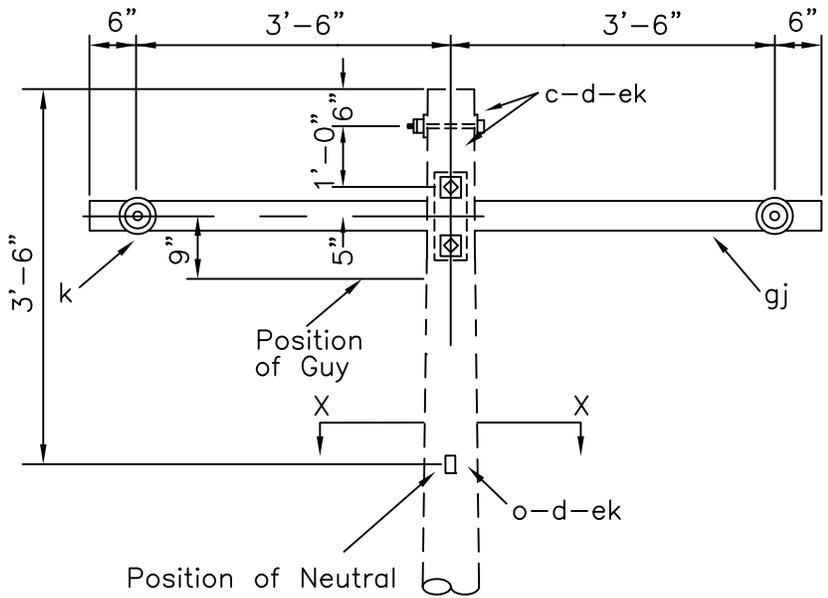
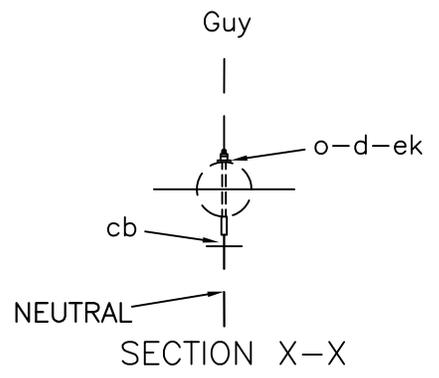
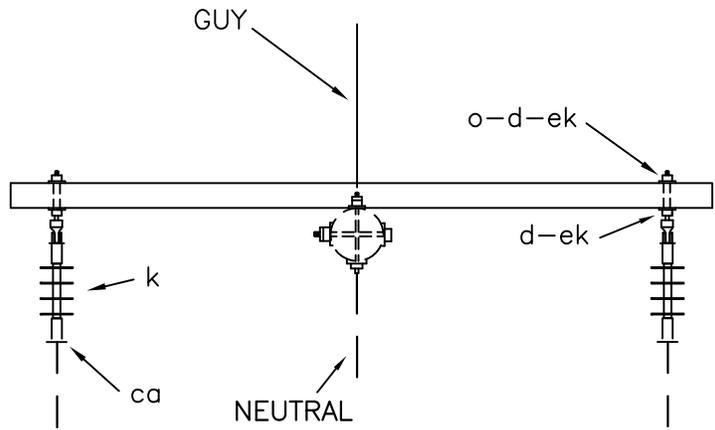


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VEE-PHASE PRIMARY
 12.47/7.2 kV

B7, B7-1

ITEM	QTY	ASSET #	INVENTORY NO.
gj	1	DT PC 364021	18081205
k	2	DT OH 365055	34281020



DESIGN LIMITS

Max. Longitudinal Load per conductor:
 Per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

**CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 SHEET 1 OF 2**

*Quantity as Required

APR. 1983



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VEE-PHASE PRIMARY
 12.47/7.2 kV

B7F

NOTES:

1. Only one arm is required for this installation. Arm shall be attached to the pole opposite to the tension as shown in HB constructions.
2. Items ca and cb are shown on assembly drawings M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	4	Washer, square, 3" curved	-
d	2	Washer, square, 2 1/4"	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Eyebolt, 5/8" x req'd. length	063615TT
ca	2	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washer, as req'd	-
gj	1	Crossarm, 3 5/8" x 4 1/4" x 8'-0" fiberglass, dead end	18081205

DESIGN LIMITS

Max. Longitudinal Load per conductor:
 Per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 SHEET 2 OF 2

*Quantity as Required

APR. 1983

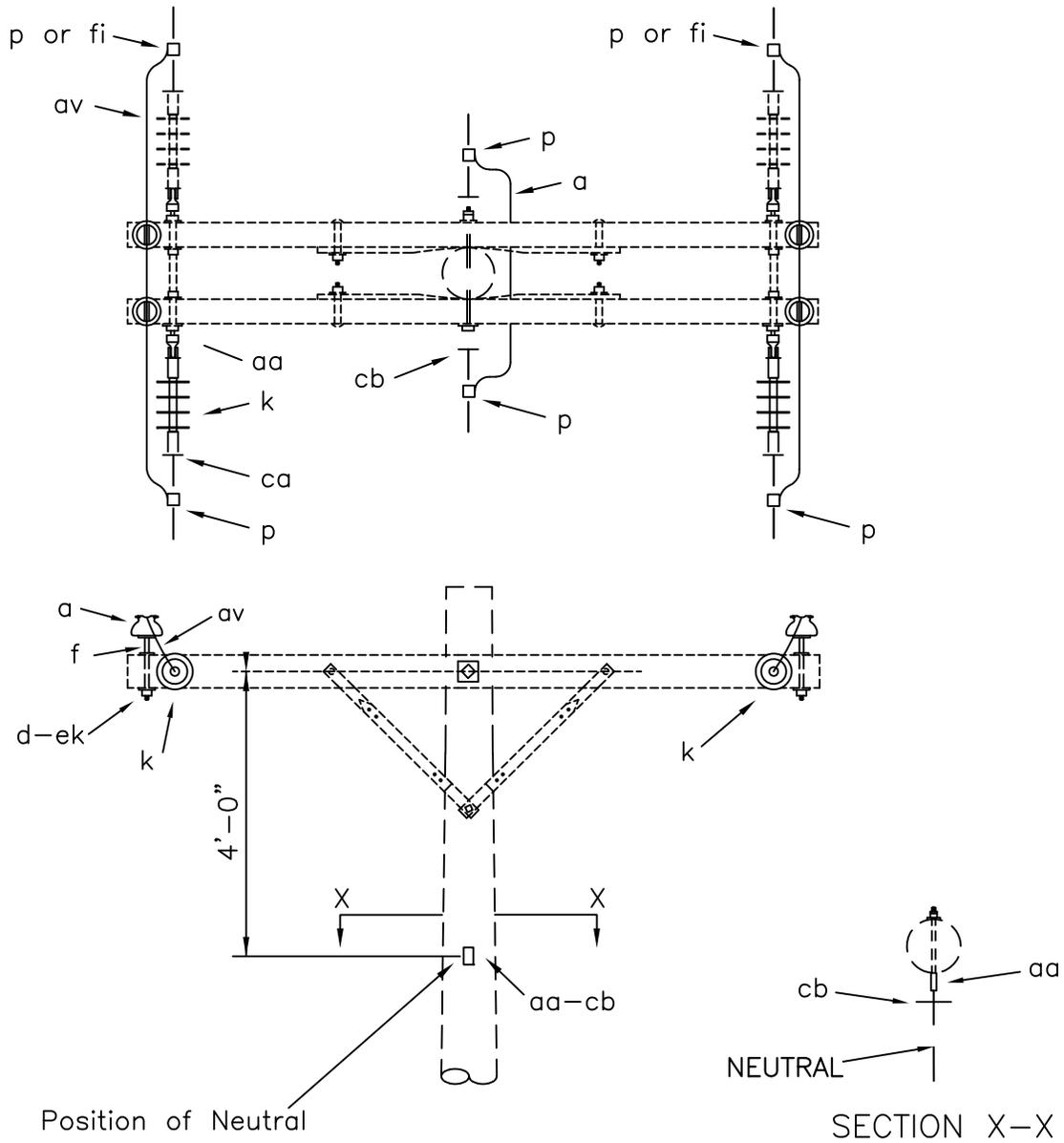
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VEE-PHASE PRIMARY
 12.47/7.2 kV

B7F

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
k	2	DT OH 365055	34281020



NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type, (12.47/7.2 kV)	34223010
d	4	Washer, square, 2 1/4"	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as req'd	-
aa	3	Nut, eye, 5/8"	41904065
av	*	Jumpers, Insulated, Hendrix as required	-
ca	2	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX

DESIGN LIMITS

Max. Line Angle: 5°

Max. Unbalanced Design Tension:
Per conductor per 8' crossarm:
Grade B 569 lbs
Grade C 945 lbs

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LESS CROSSARMS

DEC. 1985

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OCT 2022

VEE-PHASE PRIMARY

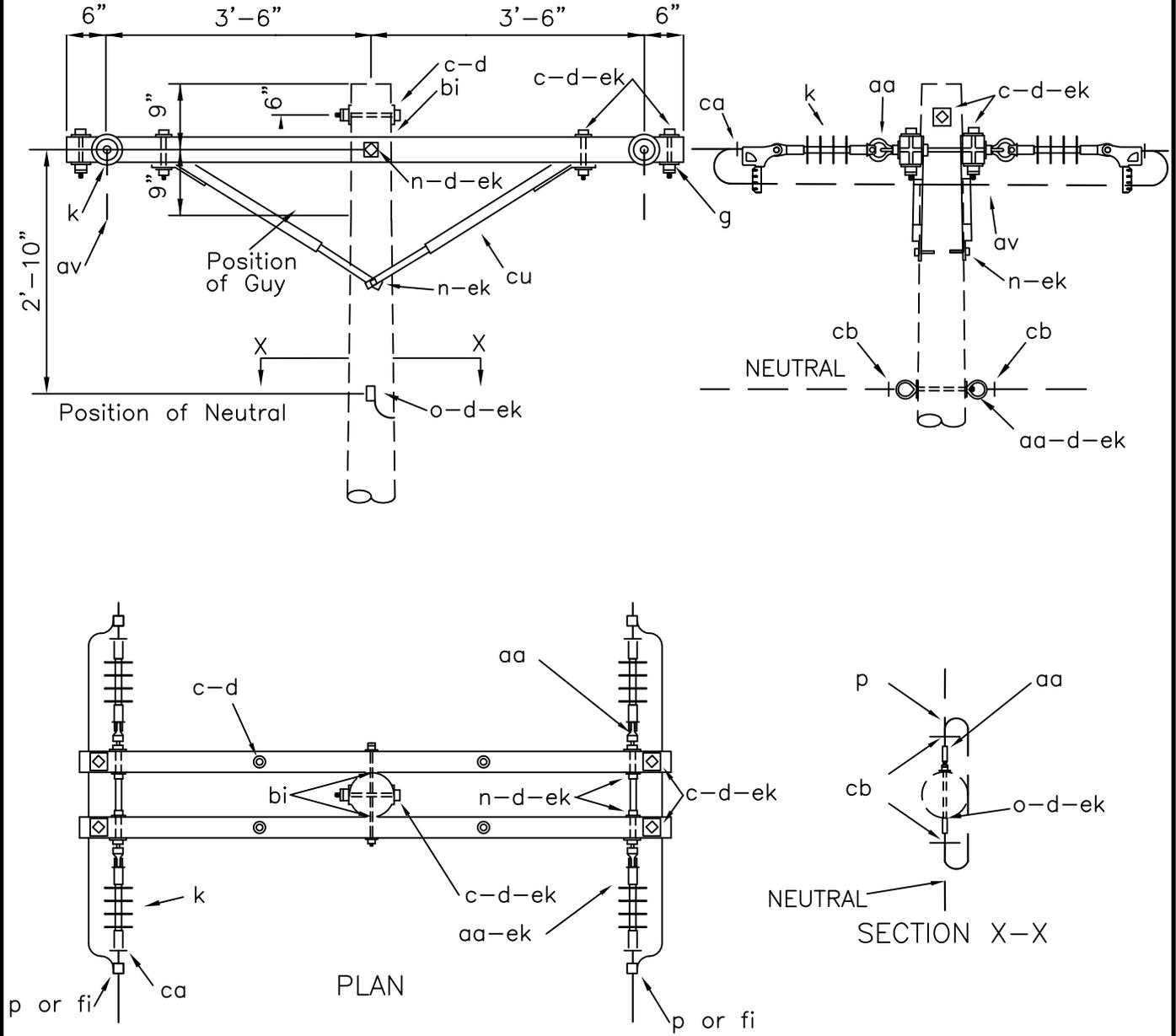
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MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	4	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Line Angle:
 5°
 Max. Unbalanced Design Tension Per
 Conductor per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 SHEET 1 OF 2

APR. 1983	REVISED OCT 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP

VEE-PHASE PRIMARY
 12.47/7.2 kV

B8

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required.

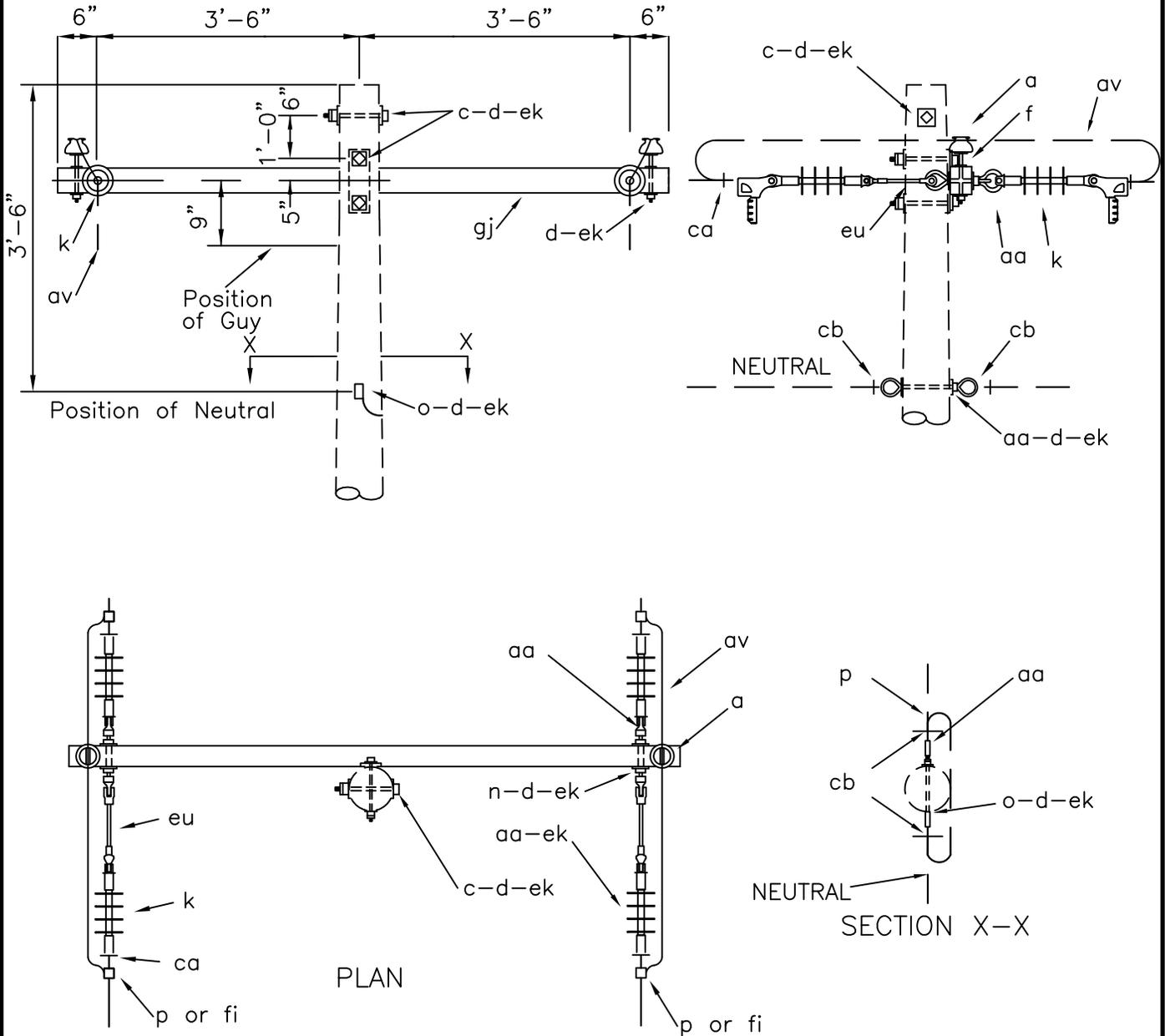
ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3" curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
k	4	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd length	063306TT
n	3	Bolt, double arming, 5/8" x req'd length	063305TT
o	1	Eyebolt, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd	-
aa	5	Nut, eye, 5/8"	41904065
av	*	Jumpers, insulated, as req'd	-
bi	2	Gain plate	46800260
ca	4	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" pair	07535168
ek	*	Double coil spring washer, as req'd	-
gj	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311

DESIGN LIMITS
 Max. Line Angle:
 5°
 Max. Unbalanced Design Tension Per
 Conductor per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs
 *Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 SHEET 2 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B8
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
a	2	DT OH 365055	34223010
k	4	DT OH 365055	34281020
gj	1	DT PC 364021	18081205



DESIGN LIMITS
 Max. Line Angle:
 5°
 Max. Unbalanced Design Tension Per
 Conductor per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 SHEET 1 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B8F
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Item fi, connector, M43-10 assembly, separately specified when required.

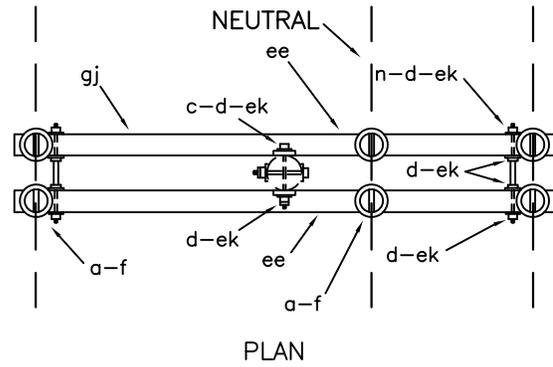
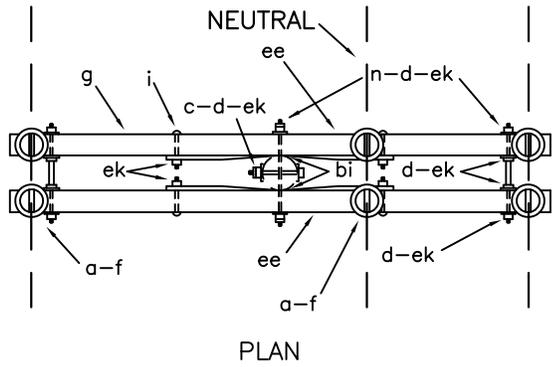
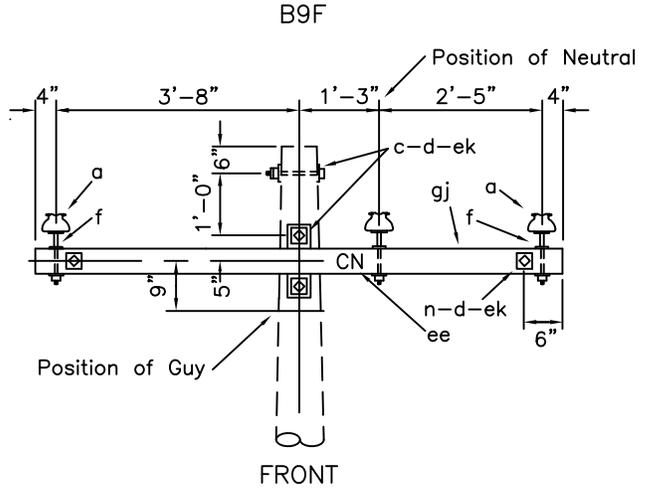
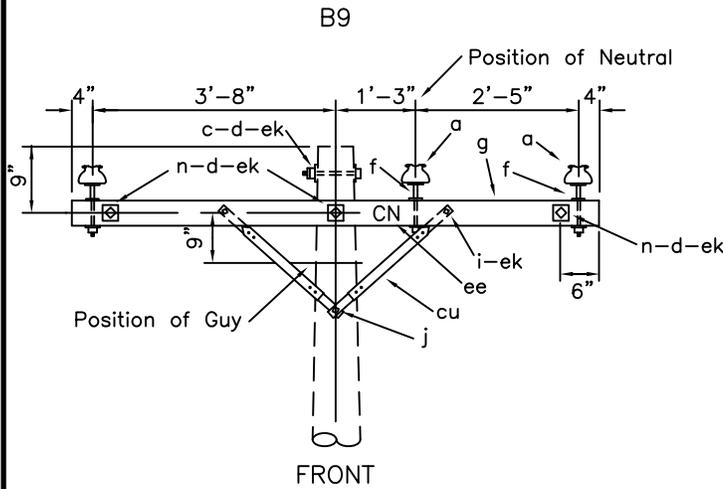
ITEM	QTY	MATERIAL	INVENTORY NO.
a	2	Insulator, pin type, (12.47/7.2 kV)	34223010
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3" curved	-
d	20	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
k	4	Insulator, suspension, epoxilator, 7.2kV	34281020
n	2	Bolt, double arming, 5/8" x req'd length	063305TT
o	1	Eyebolt, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd	-
aa	1	Nut, eye, 5/8"	41904065
av	*	Jumpers, Insulated, Hendrix as required	-
ca	4	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washer, as req'd	-
eu	2	Link, extension, insulated, 12"	34276130
gj	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0" fiberglass, dead end	18081205

DESIGN LIMITS
 Max. Line Angle:
 5°
 Max. Unbalanced Design Tension Per
 Conductor per 8' crossarm:
 Grade B 569 lbs
 Grade C 945 lbs
 *Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 SHEET 2 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B8F
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	B9, B9F
g	2	DT PC 364021	18290311	B9
gj	2	DT PC 364021	18290411	B9F



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9, B9F
	APPROVED BY JDP		

		CONFIGURATION:	B9	B9F
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	6	6
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	–	2
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	1	1
d	Washer, square, 3"	–	2	–
d	Washer, square, 2 $\frac{1}{4}$ "	–	22	22
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	6	6
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	–
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	–
j	Screw, lag, $\frac{1}{2}$ " x 4"	–	2	–
n	Bolt, double arming, $\frac{5}{8}$ " x req'd length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd length	063306TT	1	–
p	Connectors, as req'd	–	*	*
bi	Gain plate	46800260	2	–
cu	Brace, wood, 28", pair	07535128	2	–
ee	Letters, 2 'C', 2 'N', w/ 1" nails	–	4	4
ek	Double coil spring washers, as req'd	–	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	–	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983



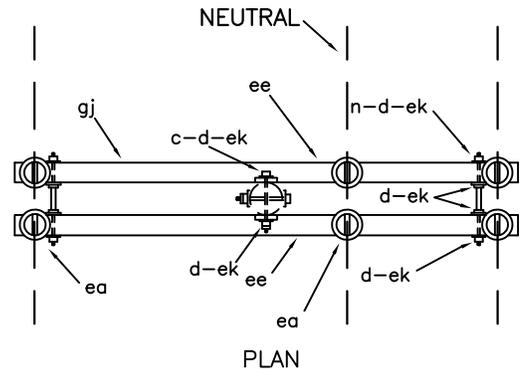
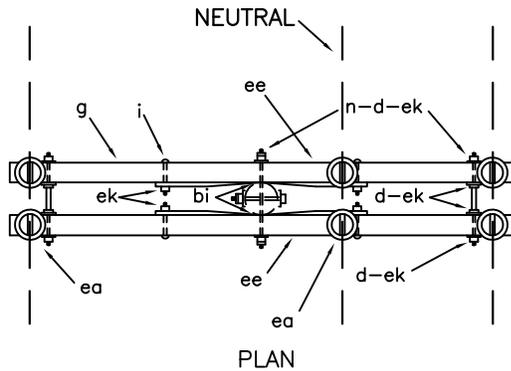
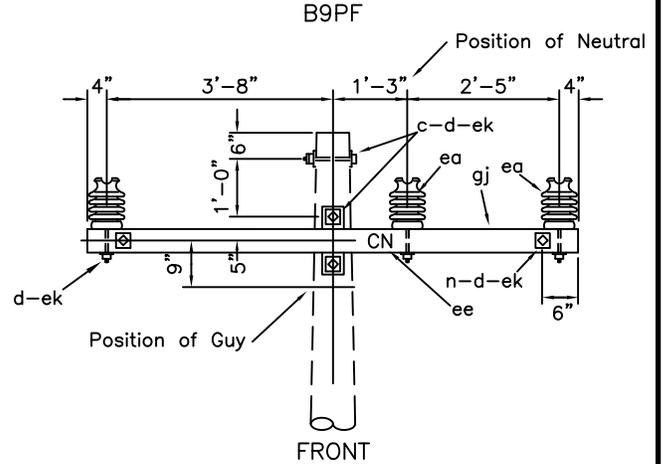
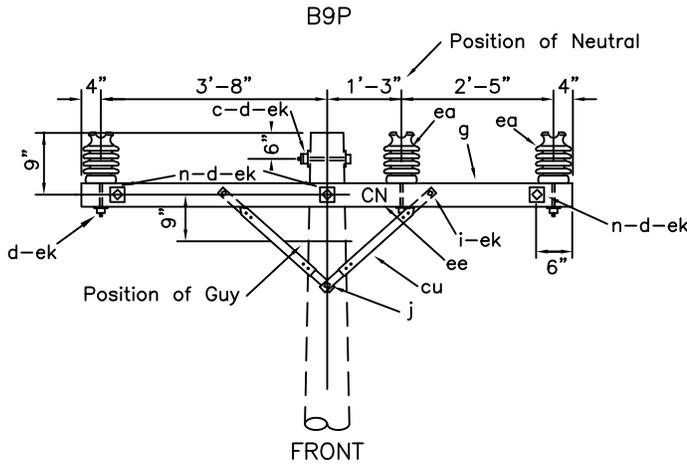
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VEE-PHASE PRIMARY
12.47/7.2 kV

B9, B9F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	B9P, B9PF
g	2	DT PC 364021	18290311	B9P
gj	2	DT PC 364021	18290411	B9PF



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9P, B9PF
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	MATERIAL	CONFIGURATION:	B9P	B9PF
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	1	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	—	2
d	Washer, square, 2 $\frac{1}{4}$ "	—	16	16
d	Washer, square, 3"	—	2	—
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	—
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	—
j	Screw, lag, $\frac{1}{2}$ " x 4"	—	2	—
n	Bolt, double arming, $\frac{5}{8}$ " x req'd length	063305TT	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd length	063306TT	1	—
p	Connectors, as req'd	—	*	*
bi	Gain plate	46800260	2	—
cu	Brace, wood, 28", pair	07535128	2	—
ea	Insulator, post type (12.47/7.2 kV)	34251010	6	6
ee	Letters, 2 'C', 2 'N', w/ 1" nails	—	4	4
ek	Double coil spring washers, as req'd	—	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	—	2
—	Stud, long, insulator, 7" x $\frac{3}{4}$ "	34302000	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



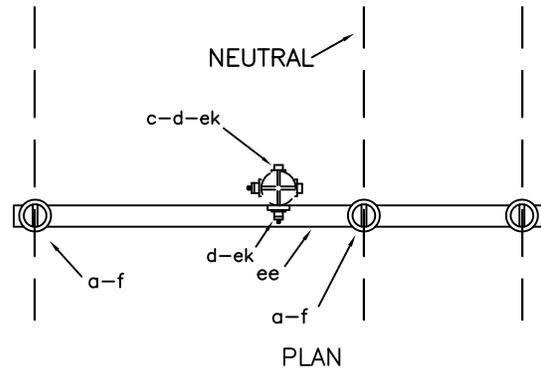
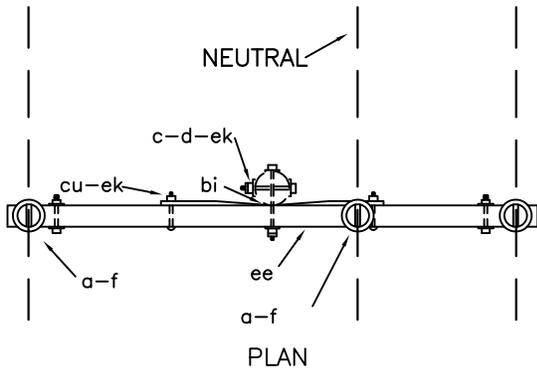
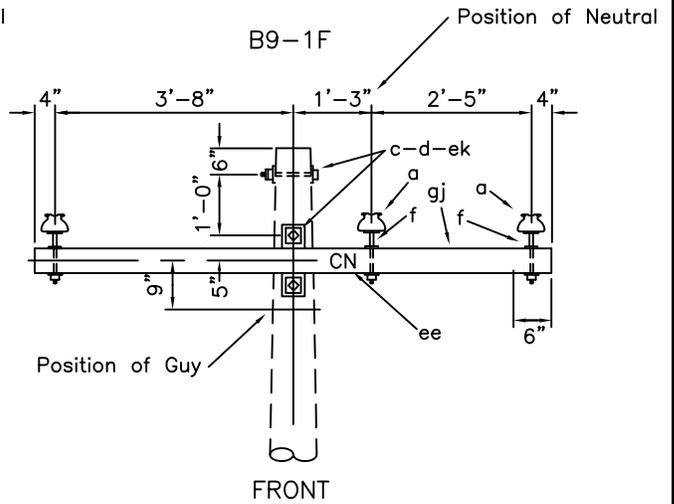
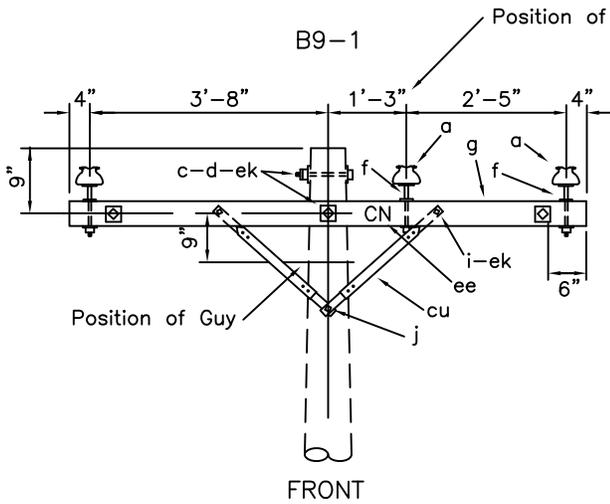
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VEE-PHASE PRIMARY
12.47/7.2 kV

B9P, B9PF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	3	DT OH 365055	34223010	B9-1, B9-1F
g	1	DT PC 364021	18290311	B9-1
gj	1	DT PC 364021	18290411	B9-1F



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 1 OF 2

APR. 1983



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VEE-PHASE PRIMARY
12.47/7.2 kV

B9-1, B9-1F

ITEM	MATERIAL	CONFIGURATION:	B9-1	B9-1F
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	3	3
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	12	8
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	3	3
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
p	Connectors, as req'd	-	*	*
bi	Gain plate	46800260	1	-
cu	Brace, wood, 28", pair	07535128	1	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load.

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 2 OF 2

APR. 1983

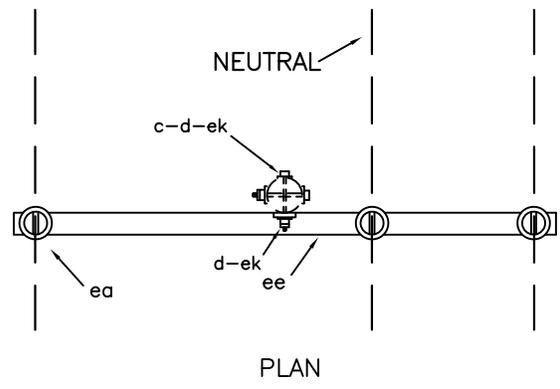
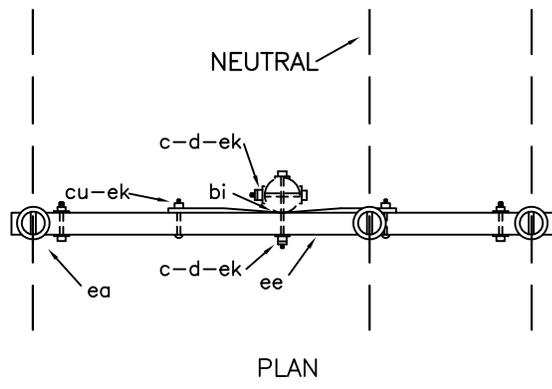
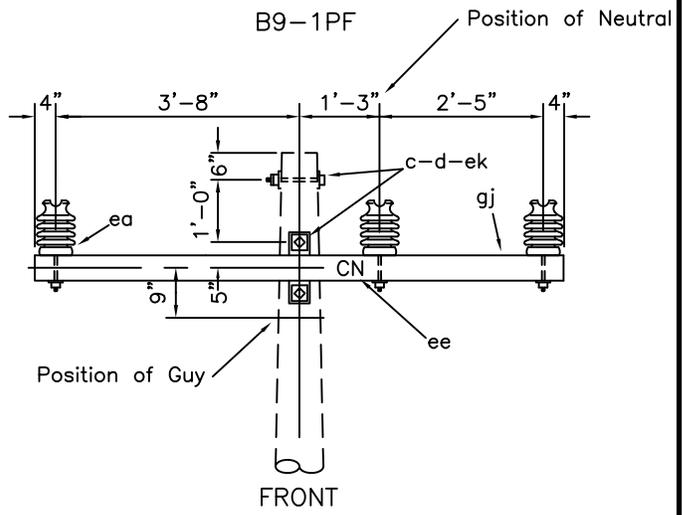
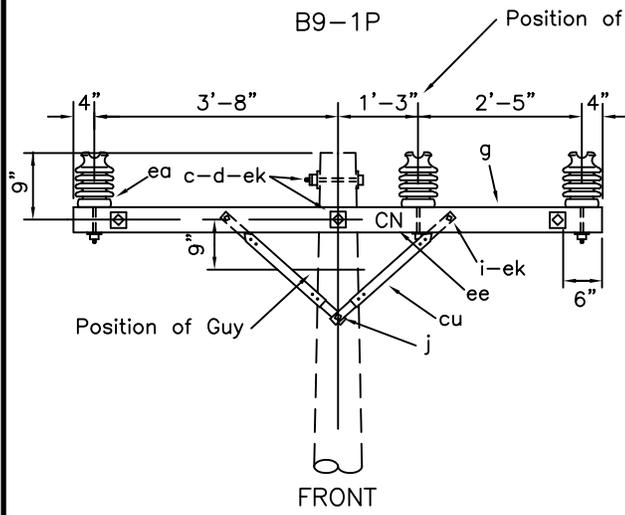


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MFJ

VEE-PHASE PRIMARY
12.47/7.2 kV

B9-1, B9-1F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	B9-1P, B9-1PF
g	1	DT PC 364021	18290311	B9-1P
gj	1	DT PC 364021	18290411	B9-1PF



DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

CROSSARM CONSTRUCTION
 SINGLE LINE ARM LARGE CONDUCTOR
 SHEET 1 OF 2

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9-1P, B9-1PF
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

		CONFIGURATION:	B9-1P	B9-1PF
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	9	5
d	Washer, square, 3"	-	2	-
d	Washer, square, 3", curved	-	-	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
p	Connectors, as req'd	-	*	*
bi	Gain plate	46800260	1	-
cu	Brace, wood, 28", pair	07535128	1	-
ea	Insulator, post type (12.47/7.2 kV)	34251010	3	3
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1
-	Stud, long, insulator, 7" x $\frac{3}{4}$ "	34302000	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



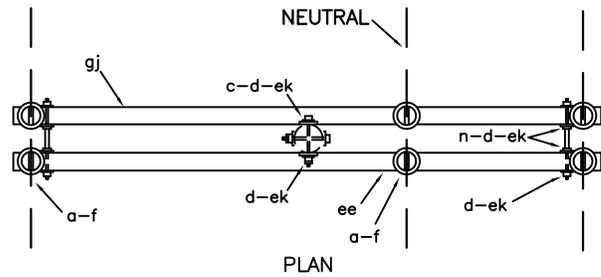
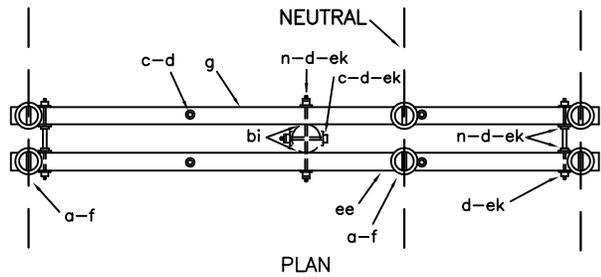
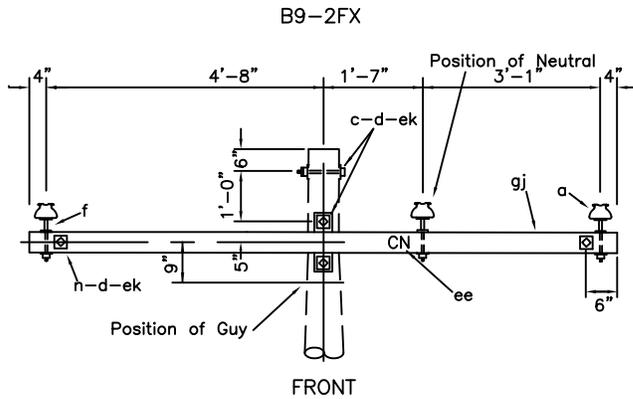
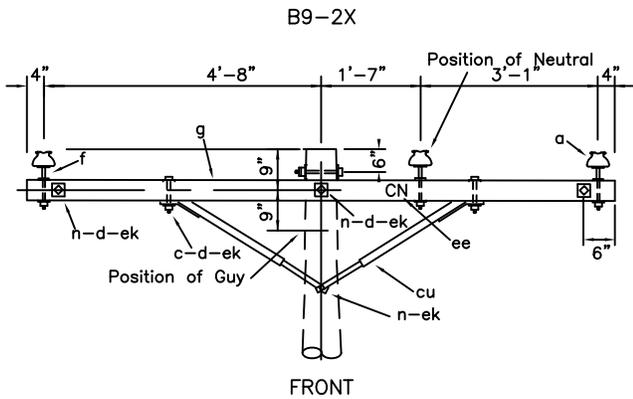
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VEE-PHASE PRIMARY
12.47/7.2 kV

B9-1P, B9-1PF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	B9-2X, B9-2FX
g	1	DT PC 364021	18290511	B9-2X
gj	1	DT PC 364021	18290611	B9-2FX



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9-2X, B9-2FX
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. Use this construction where conversion to three-phase line is likely.

ITEM	MATERIAL	CONFIGURATION:	B9-2X	B9-2FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	6	6
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, round, 1 3/8"	-	4	-
d	Washer, square, 2 1/4"	-	22	22
d	Washer, square, 3"	-	2	-
f	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111	6	6
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	3	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-
bi	Gain plate	46800260	2	-
cu	Brace, wood, 60", pair	07535168	2	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
SHEET 2 OF 2

APR. 1983



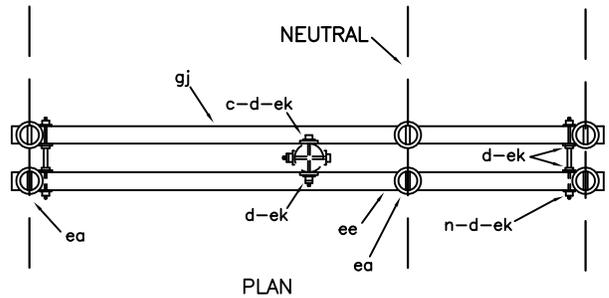
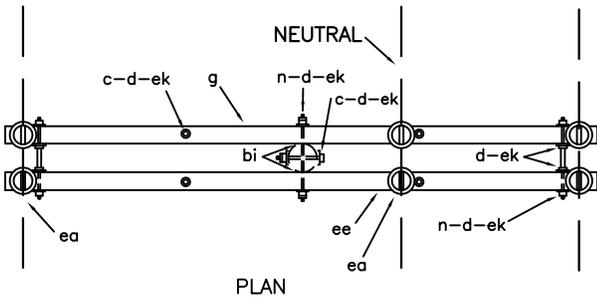
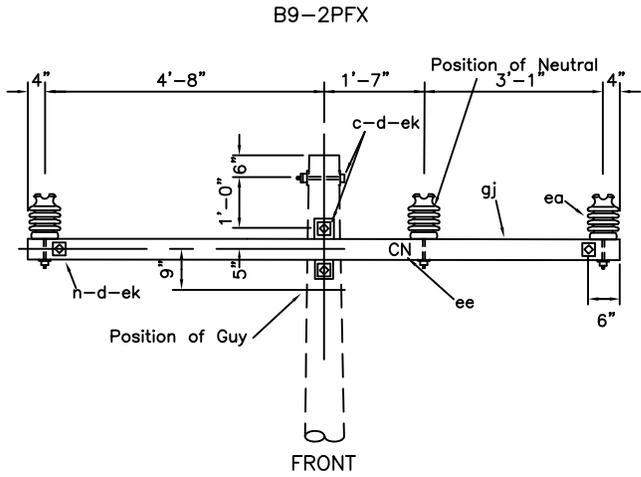
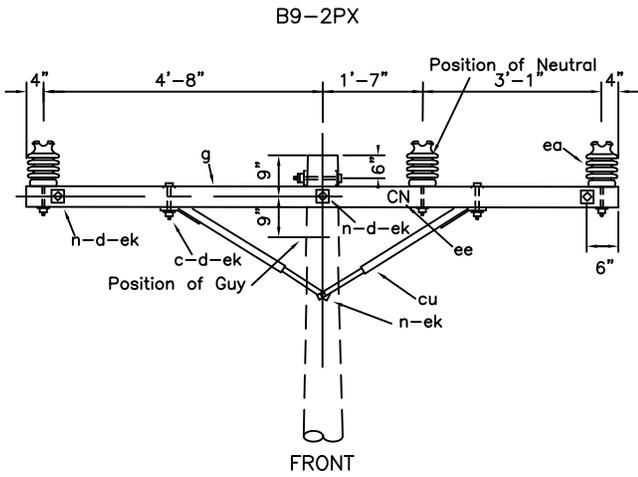
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MFJ

VEE-PHASE PRIMARY
12.47/7.2 kV

B9-2X,
B9-2FX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	B9-2PX, B9-2PFX
g	1	DT PC 364021	18290511	B9-2PX
gj	1	DT PC 364021	18290611	B9-2PFX



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9-2PX, B9-2PFX
	APPROVED BY JDP		

NOTES:

1. Use this construction where conversion to three-phase line is likely.

ITEM	MATERIAL	CONFIGURATION:	B9-2PX	B9-2PFX
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, square, 3"	-	2	-
d	Washer, square, 2 1/4"	-	16	16
d	Washer, round, 1 3/8"	-	4	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	3	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-
bi	Gain plate	46800260	2	-
cu	Brace, wood, 60", pair	07535168	2	-
ea	Insulator, post type, (12.47/7.2 kV)	34251010	6	6
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2
-	Stud, insulator, 7" x 3/4"	34302000	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



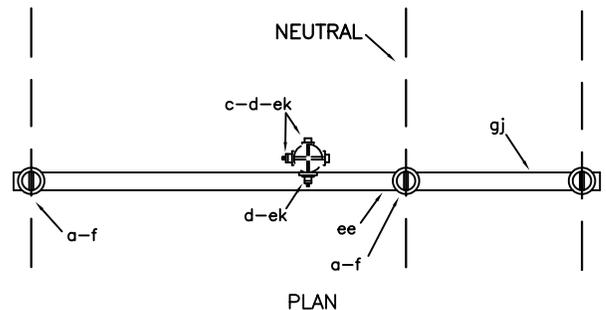
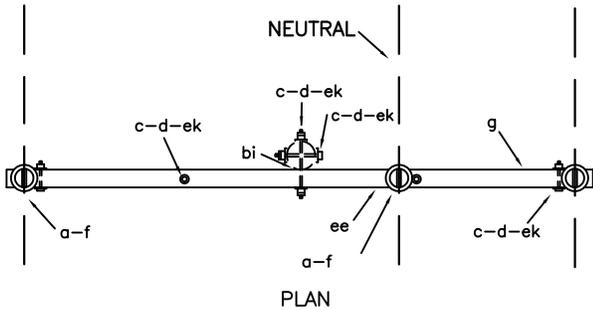
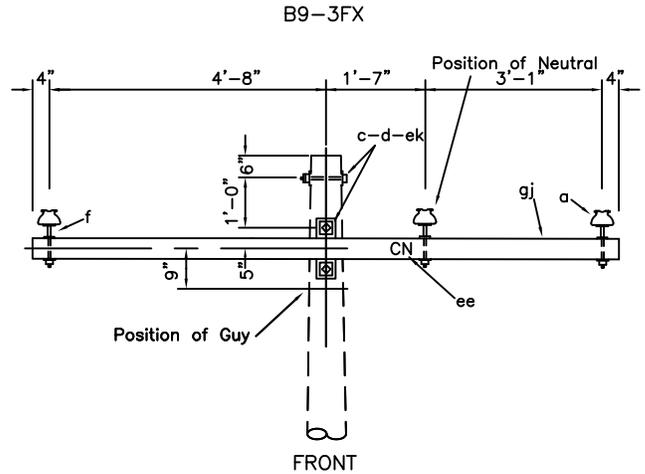
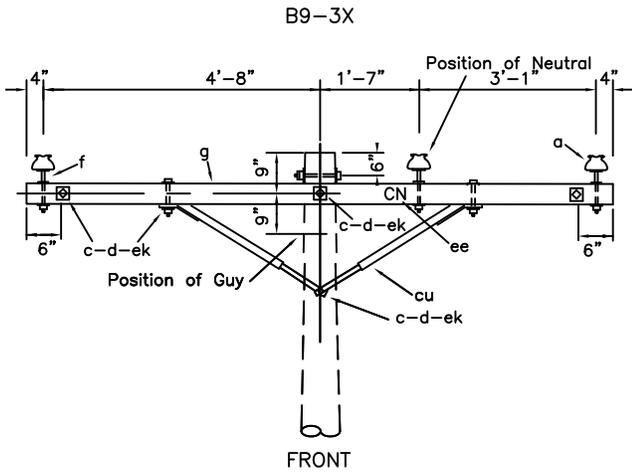
REVISED
OCT 2022

APPROVED BY
MFJ

VEE-PHASE PRIMARY
12.47/7.2 kV

B9-2PX,
B9-2PFX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	3	DT OH 365055	34223010	B9-3X, B9-3FX
g	1	DT PC 364021	18290511	B9-3X
gj	1	DT PC 364021	18290611	B9-3FX



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**CROSSARM CONSTRUCTION
SINGLE LINE ARM 10' CROSSARM
SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9-3X, B9-3FX
	APPROVED BY JDP		

NOTES:

1. Use this construction where conversion to three-phase line is likely.

ITEM	MATERIAL	CONFIGURATION:	B9-3X	B9-3FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	3	3
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2
d	Washer, round, 1 3/8"	-	2	-
d	Washer, square, 2 1/4"	-	9	8
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
f	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111	3	3
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-
bi	Gain plate	46800260	1	-
cu	Brace, wood, 60", pair	07535168	1	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM 10' CROSSARM
SHEET 2 OF 2

APR. 1983



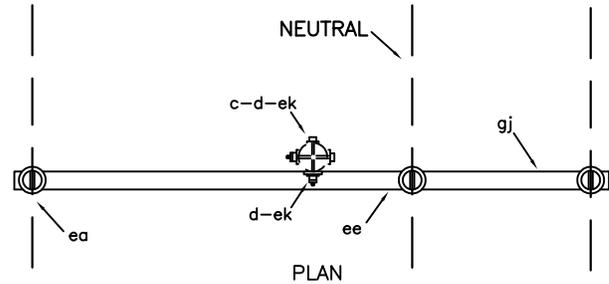
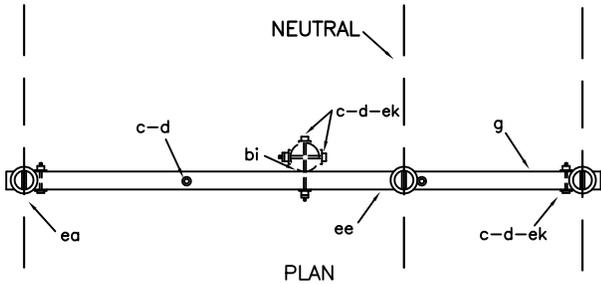
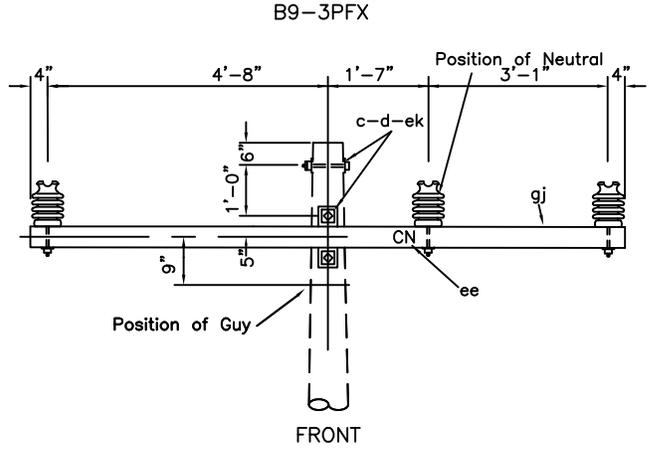
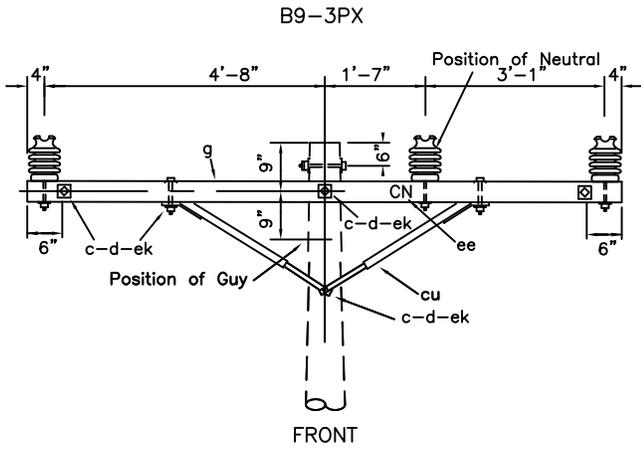
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MFJ

VEE-PHASE PRIMARY
12.47/7.2 kV

B9-3X,
B9-3FX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	B9-3PX, B9-3PFX
g	1	DT PC 364021	18290511	B9-3PX
gj	1	DT PC 364021	18290611	B9-3PFX



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**CROSSARM CONSTRUCTION
SINGLE LINE ARM 10' CROSSARM
LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983	REVISED OCT 2022	VEE-PHASE PRIMARY 12.47/7.2 kV	B9-3PX, B9-3PFX
	APPROVED BY JDP		

NOTES:

1. Use this construction where conversion to three-phase line is likely.

ITEM	MATERIAL	CONFIGURATION:	B9-3PX	B9-3PFX
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2
d	Washer, round, 1 3/8"	-	2	-
d	Washer, square, 2 1/4"	-	7	5
d	Washer, square, 3"	-	1	2
d	Washer, square, 3", curved	-	1	2
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-
bi	Gain plate	46800260	1	-
cu	Brace, wood, 60", pair	07535168	1	-
ea	Insulator, post type, (12.47/7.2 kV)	34251010	3	3
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	4	4
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1
-	Stud, insulator, 7" x 3/4"	34302000	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM 10' CROSSARM
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983

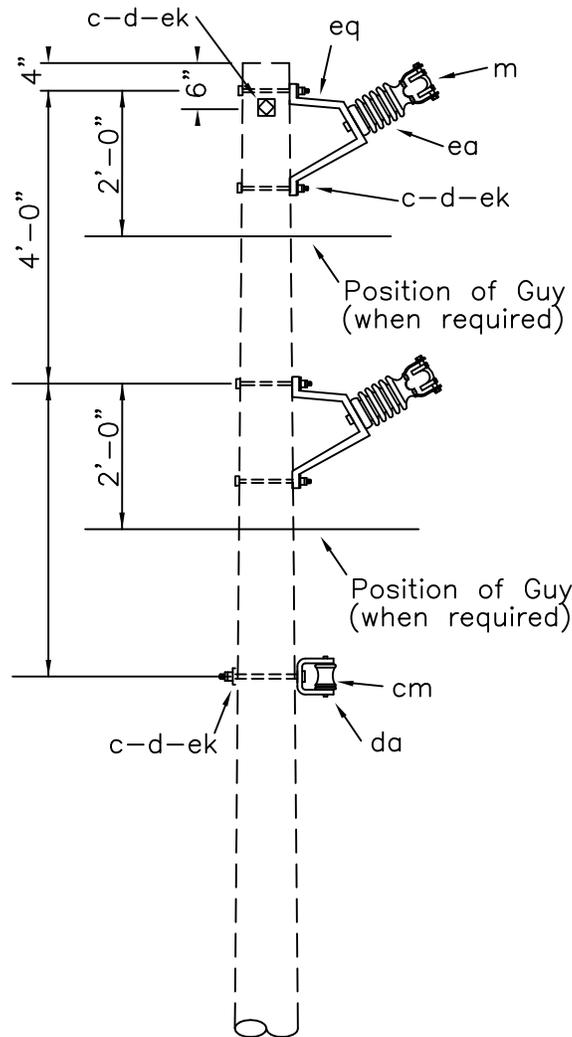


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VEE-PHASE PRIMARY
12.47/7.2 kV

B9-3PX,
B9-3PFX

ITEM	QTY	ASSET #	INVENTORY NO.
em	2	DT OH 365055	34254020



ITEM	QTY	MATERIAL	INVENTORY NO.
c	6	Bolt, machine, 5/8" x req'd length	063805TT
d	7	Washer, 2 1/4" square	-
m	2	Clamp, conductor	11742090
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, rigid, bare	07804500
ek	*	Double coil spring washer, as req'd	-
em	2	Insulator, post type, clamp	34254020
eq	2	Bracket, offset pole mount, 15", 30° rise	07807600
-	2	Stud, insulator, 1 3/4" x 3/4"	34301000

DESIGN LIMITS

Max. Transverse Load:
800 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**NARROW PROFILE CONSTRUCTION
SMALL ANGLE**

MAR. 2016	REVISED OCT 2022	3-PHASE PRIMARY 12.47/7.2 kV	BV-3Y
	APPROVED BY MFJ		



THREE PHASE CONSTRUCTION

THREE PHASE CONSTRUCTION

PAGE	DRAWING	DESCRIPTION
5.01	C1 C1F	Crossarm Construction Single Line Arm (Tangent)
5.02	C1X C1FX C1BFX	Crossarm Construction Single Line Arm (Tangent) 10' Crossarm
5.03	C1P C1PF C1PO C1POF	Crossarm Construction Single Line Arm (Tangent)
5.04	C1PL C1POL	Crossarm Construction Single Line Arm (Tangent) Large Conductor
5.05	C1PLX C1PFX C1POLX C1POFX	Crossarm Construction Single Line Arm (Tangent) Large Conductor 10' Crossarm
5.06	C1-1 C1-1F	Crossarm Construction Double Line Arm (Tangent)
5.07	C1-1X C1-1FX	Crossarm Construction Double Line Arm (Tangent) 10' Crossarm
5.08	C1-1P C1-1PF C1-1PO C1-1POF	Crossarm Construction Double Line Arm (Tangent)
5.09	C1-1PL C1-1POL	Crossarm Construction Double Line Arm Large Conductor
5.10	C1-1PLX C1-1PFX C1-1POLX C1-1POFX	Crossarm Construction Double Line Arm 10' Crossarms Large Conductor
5.11	C1-2	Crossarm Construction Single Line Arm (Tangent) Large Conductor
5.12	C1-3	Crossarm Construction Double Line Arm Large Conductor
5.13	C1-3P	Crossarm Construction Double Line Arm Large Conductor
5.14	C1-3PL C1-3PF C1-3POL C1-3POF	Crossarm Construction Double Line Arm Large Conductor
5.15	C1-3PLX C1-3PFX C1-3POLX C1-3POFX	Crossarm Construction Double Line Arm 10' Crossarms Large Conductor

THREE PHASE CONSTRUCTION

PAGE	DRAWING	DESCRIPTION
5.16	C1-4	Crossarm Construction Single Line Arm Large Conductor
5.17	C1-4PL	Crossarm Construction Single Line Arm Double Pole Top Large Conductor
5.18	C2 C2F	Crossarm Construction Double Line Arm
5.19	C2X C2FX	Crossarm Construction Double Line Arm 10' Crossarms
5.20	C2-1X C2-1FX	Crossarm Construction Double Line Arm
5.21	C2-2	Crossarm Construction Double Line Arm Large Conductor
5.22	C2-2PLX C2-2PFX C2-2POLX C2-2POFX	Crossarm Construction Double Line Arm Large Conductor
5.23	C3	Vertical Construction Suspension Angle
5.24	C3-1	Vertical Construction Suspension Angle Large Conductor
5.25	C3-2	Vertical Construction Suspension Angle Large Conductor
5.26	C4	Vertical Construction Deadend Angle (Double)
5.27	C4-2	Vertical Construction Deadend Angle (Double) Large Conductor
5.28	C4-2L	Vertical Construction Deadend Angle (Double) Large Conductor No Bands
5.29	C5-2L	Vertical Construction Deadend (Singles) Large Conductor No Bands
5.30	C5-3L	Vertical Construction Deadend (Singles) Large Conductor No Bands
5.31	C5	Vertical Construction Deadend (Single)
5.32	C5-2	Vertical Construction Deadend (Single) Large Conductor
5.33	C5-3	Vertical Construction Deadend (Single) Large Conductor
5.34	C7 C7-1	Crossarm Construction Deadend (Single)
5.35	C7X C7-1X	Crossarm Construction Deadend (Single) 10' Crossarms
5.36	C7FX	Crossarm Construction Deadend (Single) 10' Crossarms
5.37	C7LA	Crossarm Construction Deadend (Single) Less Crossarms
5.38	C7-1-9	Crossarm Construction Deadend (Single)
5.39	C7-1-9FX	Crossarm Construction Deadend (Single)
5.40	C7-2	Crossarm Construction Deadend (Single)
5.41	C7-HBA C7-HBB	Crossarm Construction Deadend (Single) Large Conductor
5.42	C8	Crossarm Construction Deadend (Double)
5.43	C8X	Crossarm Construction Deadend (Double) 10' Crossarms
5.44	C8FX	Crossarm Construction Deadend (Double) 10' Crossarms
5.45	C8-1	Crossarm Construction Deadend (Double)

THREE PHASE CONSTRUCTION

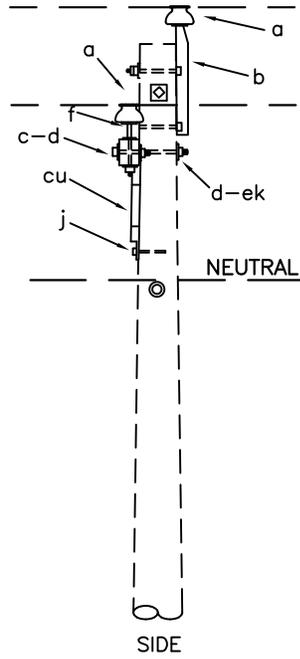
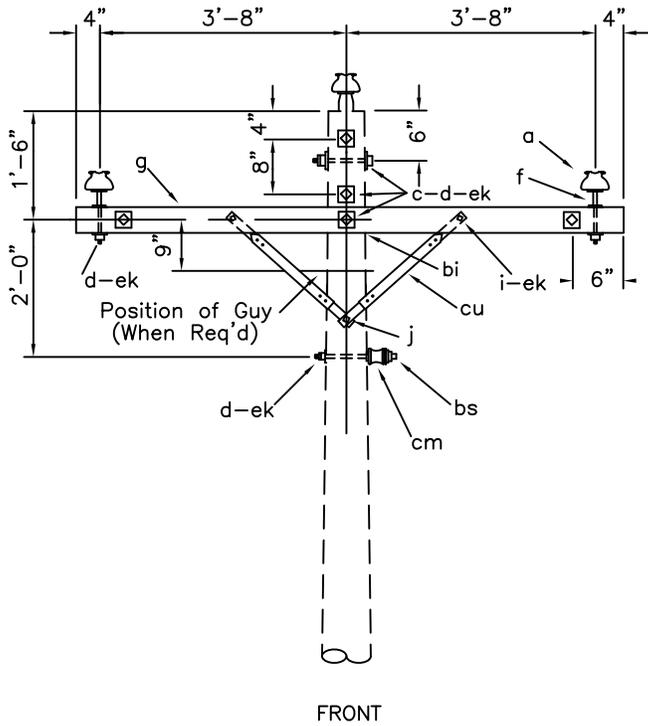
PAGE	DRAWING	DESCRIPTION
5.46	C8-1FX	Crossarm Construction Deadend (Double)
5.47	C8-1RVR	Crossarm Construction Deadend (Double) 2-Pole Long Span Assembly
5.48	C8-2	Crossarm Construction Deadend (Double) Large Conductor
5.49	C8-2A	Crossarm Construction Deadend (Double) Large Conductor
5.50	C8-2AX	Crossarm Construction Deadend (Double) 10' Crossarms Large Conductor
5.51	C8-2X	Crossarm Construction Deadend (Double) 10' Crossarms Large Conductor
5.52	C8-2AFX	Crossarm Construction Deadend (Double) 10' Crossarms Large Conductor
5.53	C8-2FX	Crossarm Construction Deadend (Double) 10' Crossarms Large Conductor
5.54	C8-3	Crossarm Construction Deadend (Double) Large Conductor Unbalanced Loads
5.55	C8-3X	Crossarm Construction Deadend (Double) Lg Cond. Unbalanced Loads 10' Arms
5.56	C8-4	Crossarm Construction Deadend (Double) 12' Crossarms
5.57	C8-HBA C8-HBB	Crossarm Construction Deadend (Double) Large Conductor
5.58	C8-IN	Crossarm Construction Deadend (Double) for Future OCR's
5.59	C8-INX	Crossarm Construction Deadend (Double) for Future OCR's 10' Crossarms
5.60	C9X C9FX	10' Crossarm Construction Double Line Arm
5.61	C9-1X C9-1FX	10' Crossarm Construction Single Line Arm
5.62	C9-1APLX C9-1APFX C9-1APOLX C9-1APOFX	Crossarm Construction Single Line Arm 10' Crossarm Large Conductor
5.63	C9-1PL	Crossarm Construction Single Line Arm Large Conductor
5.64	C9-2	Crossarm Construction Double Line Arm Large Conductor
5.65	C9-2PLX C9-2PFX C9-2POLX C9-2POFX	Crossarm Construction Double Line Arm Large Conductor
5.66	C9-3	Crossarm Construction Single Line Arm Large Conductor
5.67	C9-3PLX C9-3PFX C9-3POLX C9-3POFX	Crossarm Construction Single Line Arm Large Conductor

THREE PHASE CONSTRUCTION

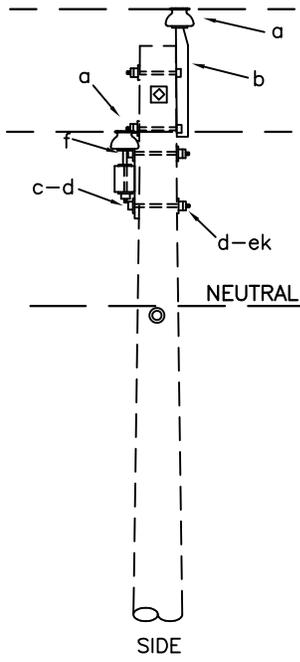
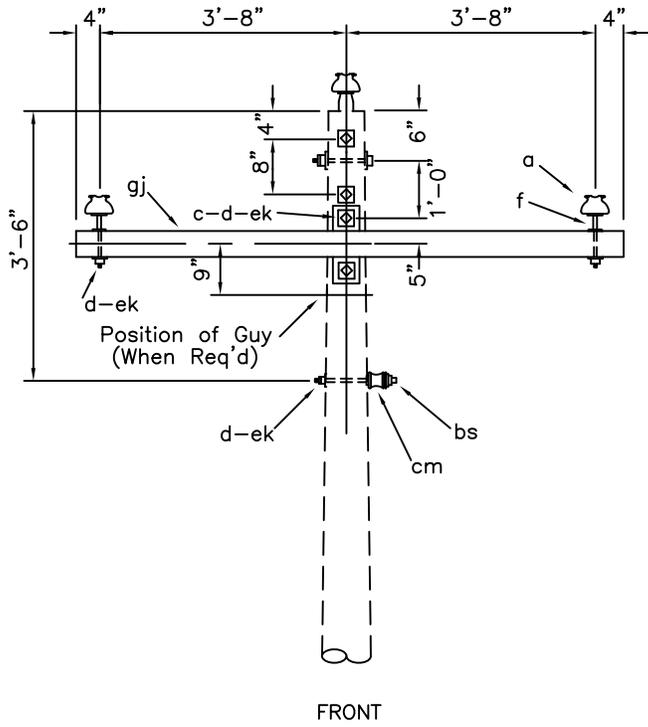
PAGE	DRAWING	DESCRIPTION
5.68	C9-4PLX C9-4PFX C9-4POLX C9-4POFX	Crossarm Construction Single Line Arm Large Conductor
5.69	C9AP C9AAP	Crossarm Construction Side Arm
5.70	ZC4-2	Vertical Construction Deadend (Double) Large Conductor
5.71	ZC5-2	Vertical Construction Deadend (Single) Large Conductor

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	3	DT OH 365055	34223010	C1, C1F
g	1	DT PC 364021	18290311	C1
gj	1	DT PC 364021	18290411	C1F

C1



C1F



DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 1 OF 2

APR. 1983



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NOV 2022

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3-PHASE PRIMARY
12.47/7.2 kV

C1, C1F

ITEM	MATERIAL	CONFIGURATION:	C1	C1F
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	3	3
b	Pin, pole top, 20"	45612120	1	1
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	2
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	5	3
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	13	9
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	2	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	2	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	1	-
bi	Gain plate	46800260	1	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	1	-
ek	Double coil spring washers, as req'd.	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	1

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983



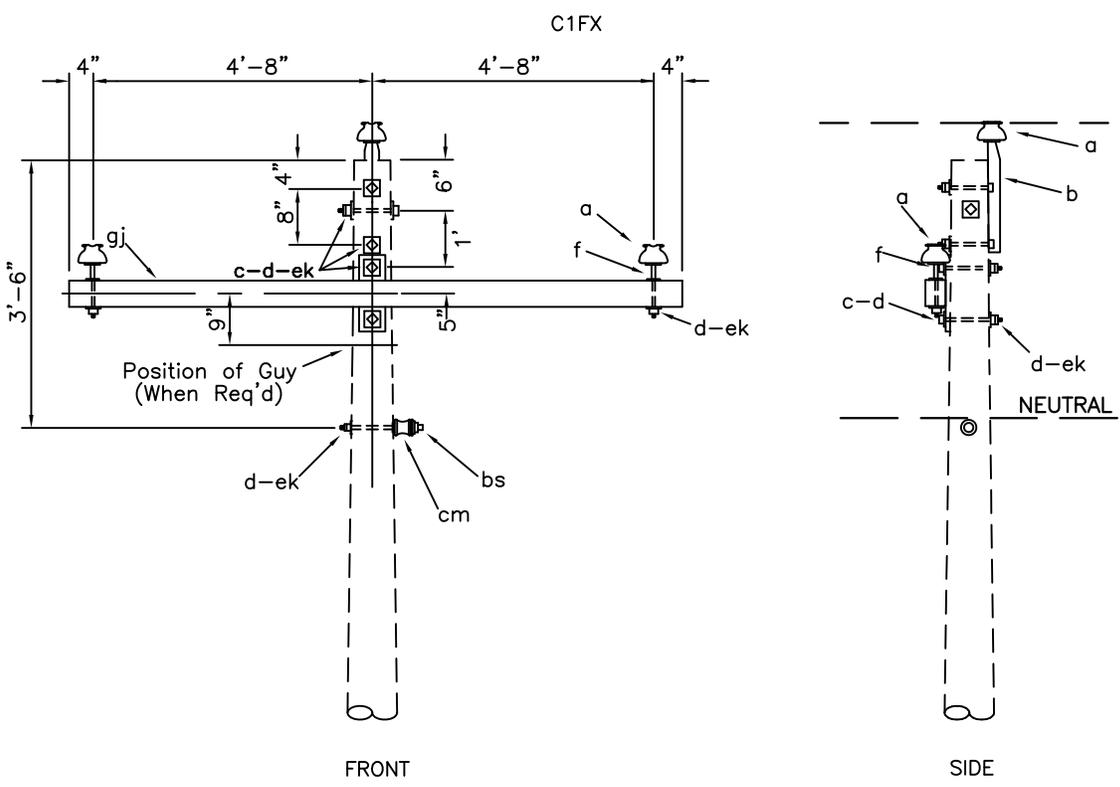
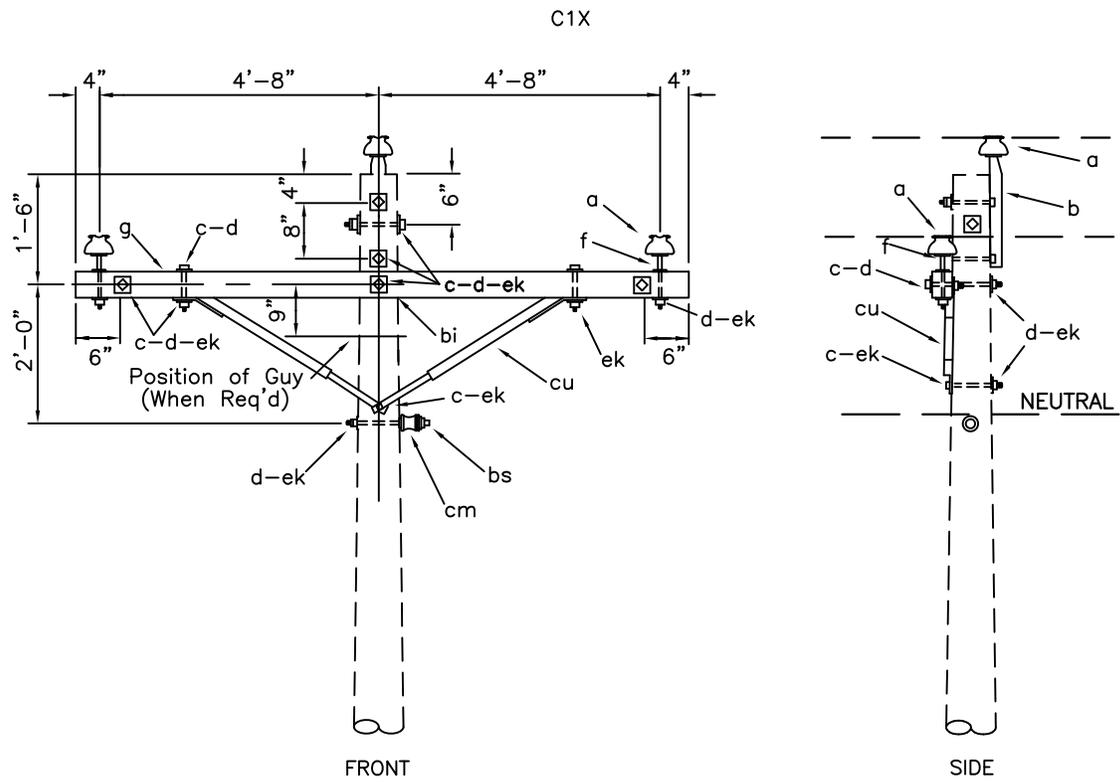
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3-PHASE PRIMARY
12.47/7.2 kV

C1, C1F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	3	DT OH 365055	34223010	C1X, C1FX
g	1	DT PC 364021	18290511	C1X
gj	1	DT PC 364021	18290611	C1FX



DESIGN LIMITS
 Max. Transverse Load:
 500 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT) 10' CROSSARM
SHEET 1 OF 2

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1X, C1FX
	APPROVED BY MFJ		

		CONFIGURATION:	C1X	C1FX
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	3	3
b	Pin, pole top, 20"	45612120	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	6	3
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-
d	Washer, square, 3"	-	1	-
d	Washer, square, 3", curved	-	1	2
d	Washer, square, 2 1/4"	-	14	9
d	Washer, round, 1 3/8"	-	2	-
f	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111	2	2
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-
j	Screw, lag, 1/2" x 4"	-	1	-
bi	Gain plate	46800260	1	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60", pair	07535168	1	-
ek	Double coil spring washers, as req'd.	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT) 10' CROSSARM
SHEET 2 OF 2

JULY 2014



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NOV 2022

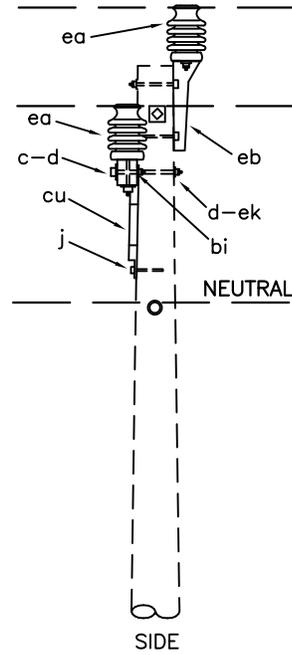
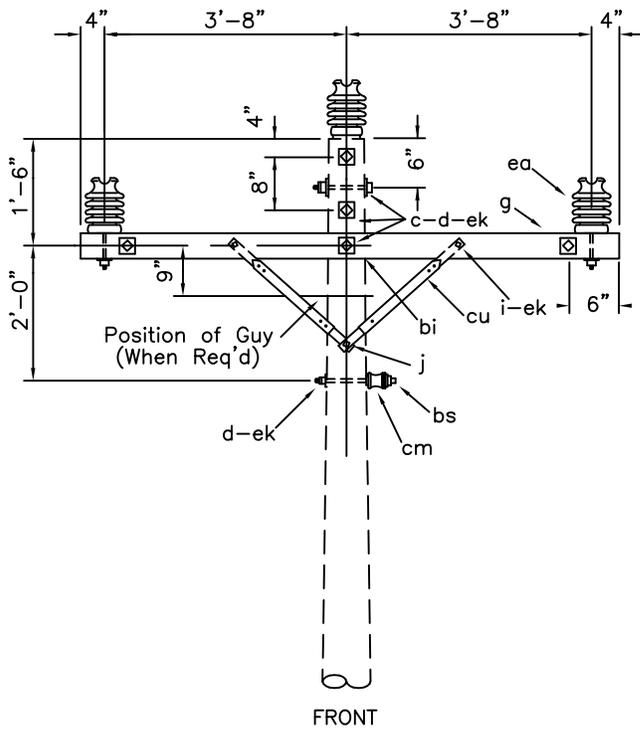
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3-PHASE PRIMARY
12.47/7.2 kV

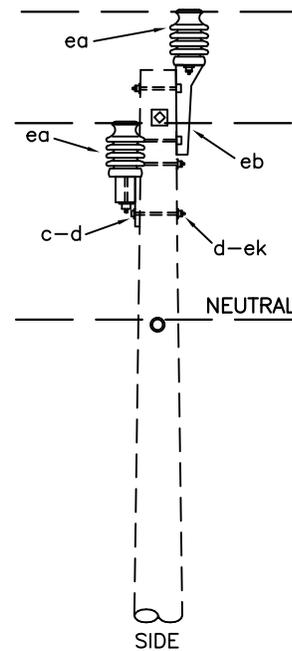
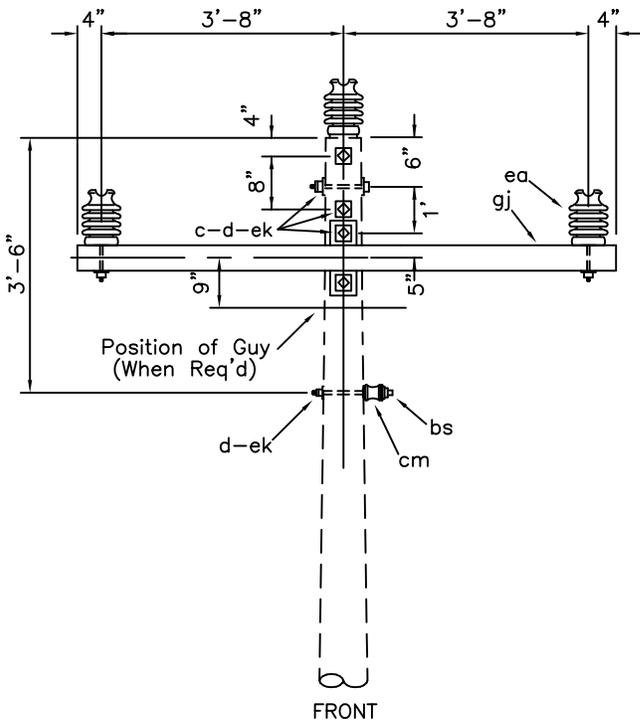
C1X, C1FX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34223010	C1P, C1PO, C1PF, C1POF
g	1	DT PC 364021	18290311	C1P, C1PO
gj	1	DT PC 364021	18290411	C1PF, C1POF

C1P, C1PO



C1PF, C1POF



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 1 OF 2

APR. 1983



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3-PHASE PRIMARY
12.47/7.2 kV

C1P, C1PF,
C1PO, C1POF

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION INVENTORY NO.	C1P QTY	C1PF QTY	C1PO QTY	C1POF QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2	1	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	5	3	5	3
d	Washer, square, 3"	-	1	-	1	-
d	Washer, square, 3", curved	-	1	2	1	2
d	Washer, square, 2 1/4"	-	9	9	9	9
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	1	-	1	-
i	Carriage, Bolt, 3/8" x 4 1/2"	063103TT	2	-	2	-
j	Screw, Lag, 1/2" x 4"	-	1	-	1	-
bi	Gain plate	46800260	1	-	1	-
bs	Bolt, single, upset	063905TT	1	1	1	1
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 28" span, pair	07535128	1	-	1	-
ea	Insulator, post type (12.47/7.2kV)	34251010	3	3	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	3	3
eb	Bracket, pole top	45612130	1	1	1	1
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass, tangent	18290411	-	1	-	1
-	Stud, insulator, 1 3/4" x 3/4"	34301000	1	1	1	1
-	Stud, insulator, 7" x 3/4"	34302000	2	2	2	2
-	Conductor clamp	11742090	-	-	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983



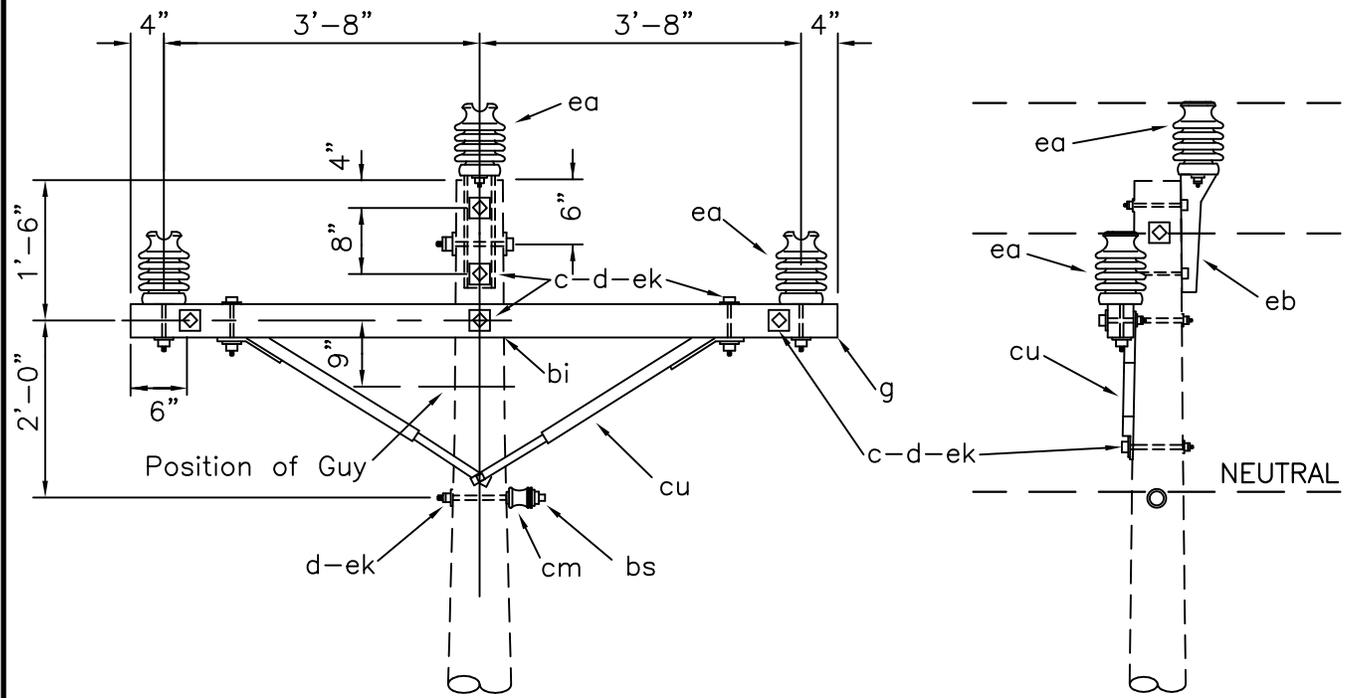
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3-PHASE PRIMARY
12.47/7.2 kV

C1P, C1PF,
C1PO, C1POF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34223010	C1PL
ea	3	DT OH 365055	34256200	C1POL
g	1	DT PC 364021	18290311	C1PL, C1POL



DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load
 *Quantity as Required

CROSSARM CONSTRUCTION
 SINGLE LINE ARM (TANGENT)
 LARGE CONDUCTOR SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C1PL, C1POL
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1PL	C1POL
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	1	1
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	6	6
c	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT	2	2
d	Washer, square, 3"	-	2	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	10	10
d	Washer, round, 1 $\frac{3}{8}$ "	-	2	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	1	1
bi	Gain plate	46800260	1	1
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60" span, pair	07535168	1	1
ea	Insulator, post type (12.47/7.2kV)	34251010	3	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	3
eb	Bracket, pole top	45612130	1	1
ek	Double coil spring washers, as req'd	-	*	*
-	Stud, insulator, 1 $\frac{3}{4}$ " x $\frac{3}{4}$ "	34301000	1	1
-	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000	2	2
-	Conductor clamp	11742090	-	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT)
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



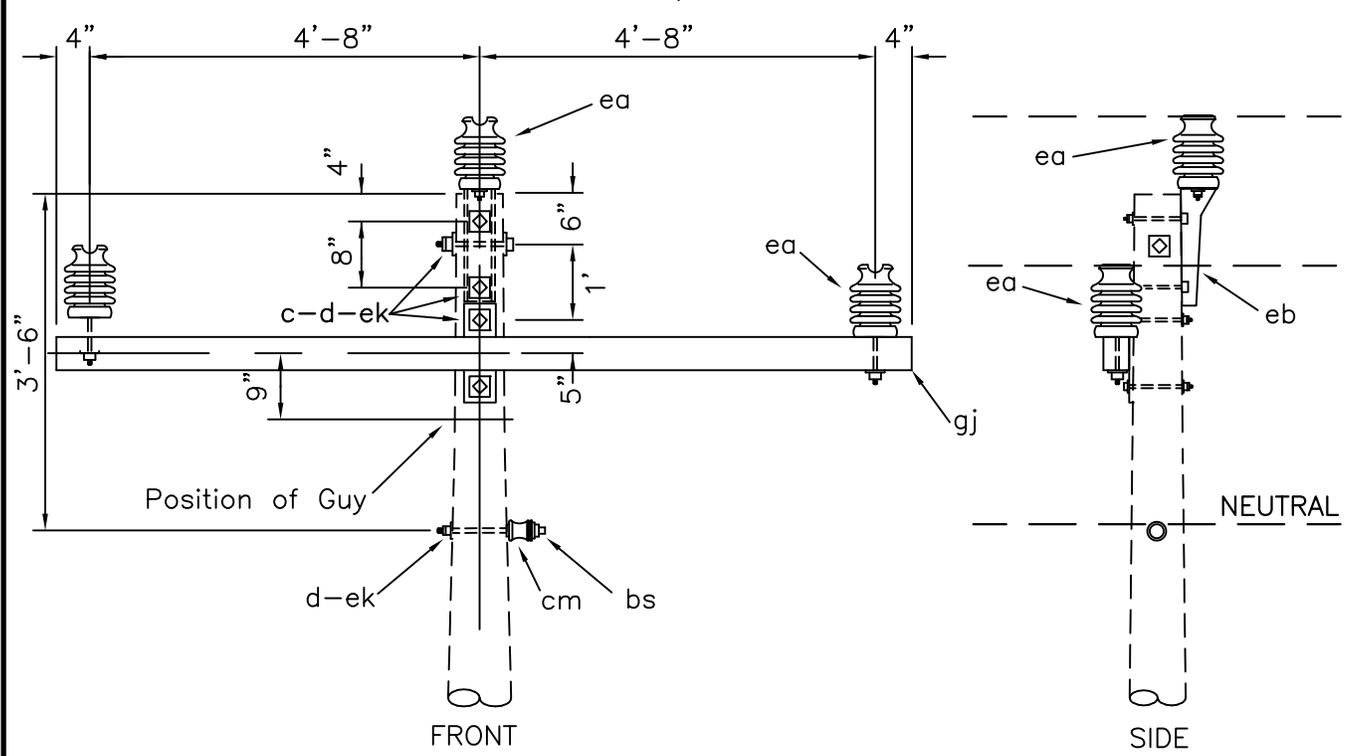
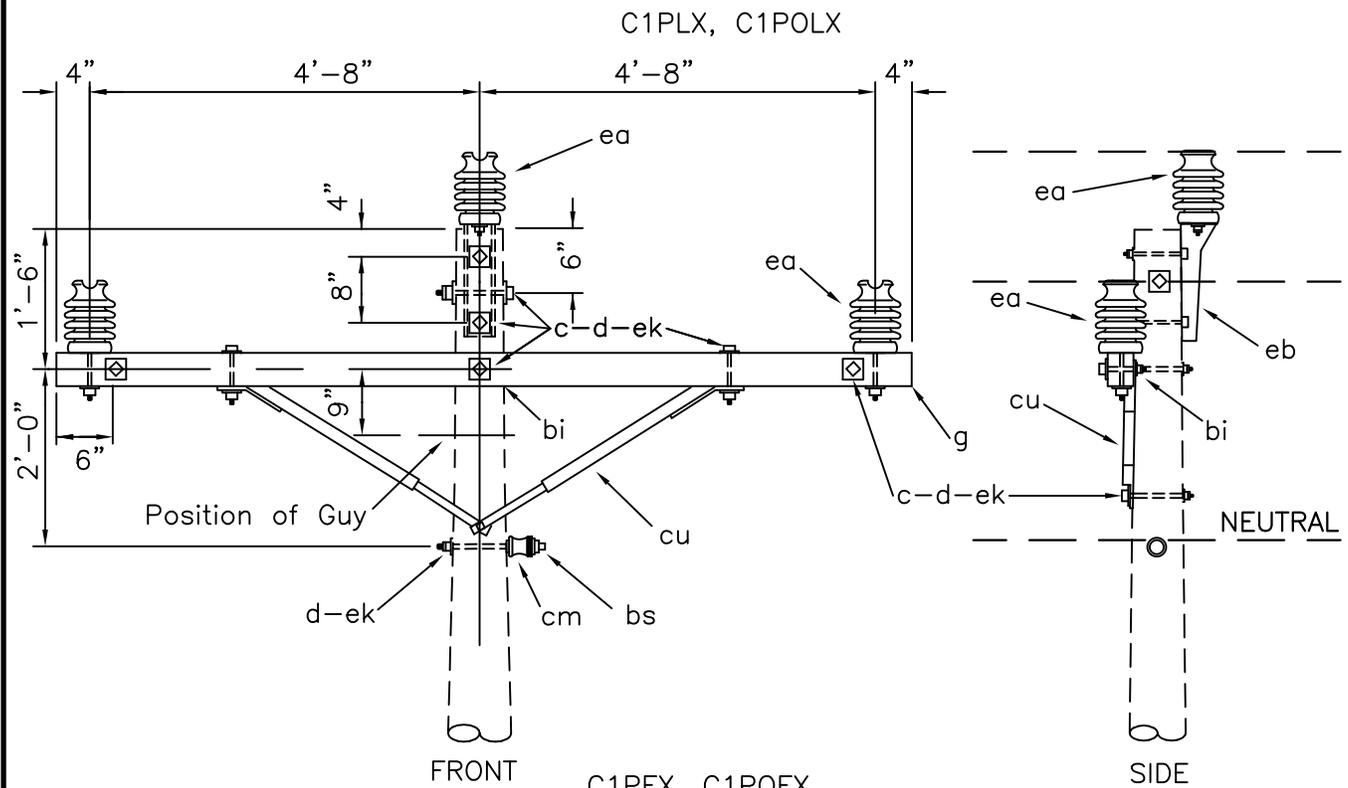
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3-PHASE PRIMARY
12.47/7.2 kV

C1PL, C1POL

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	C1PLX, C1PFX
ea	3	DT OH 365055	34256200	C1POLX, C1POFX
g	1	DT PC 364021	18290511	C1PLX, C1POLX
gj	1	DT PC 364021	18290611	C1PFX, C1POFX



DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load
 *Quantity as Required

**CROSSARM CONSTRUCTION
 SINGLE LINE ARM (TANGENT) LARGE
 CONDUCTOR 10' CROSSARM SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1PLX, C1PFX, C1POLX, C1POFX
 ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1PLX	C1PFX	C1POLX	C1POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2	1	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	6	3	6	3
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-	2	-
d	Washer, square, 3"	-	1	-	1	-
d	Washer, square, 3", curved	-	1	2	1	2
d	Washer, square, 2 1/4"	-	11	7	11	7
d	Washer, round, 1 3/8"	-	2	-	2	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-	1	-
bi	Gain plate	46800260	1	-	1	-
bs	Bolt, single, upset	063905TT	1	1	1	1
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	1	-	1	-
ea	Insulator, post type (12.47/7.2kV)	34251010	3	3	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	3	3
eb	Bracket, pole top	45612130	1	1	1	1
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass	18290611	-	1	-	1
-	Stud, insulator, 1 3/4" x 3/4"	34301000	1	1	1	1
-	Stud, insulator, 7" x 3/4"	34302000	2	2	2	2
-	Conductor clamp, Trunion shoe	11742095	-	-	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT) LARGE
CONDUCTOR 10' CROSSARM SHEET 2 OF 2

APR. 1983



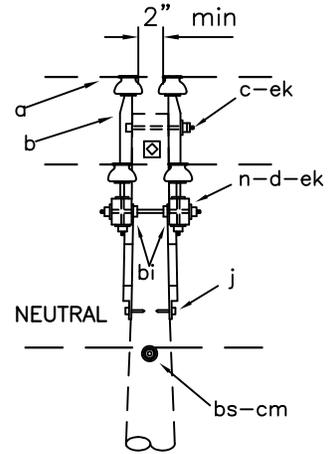
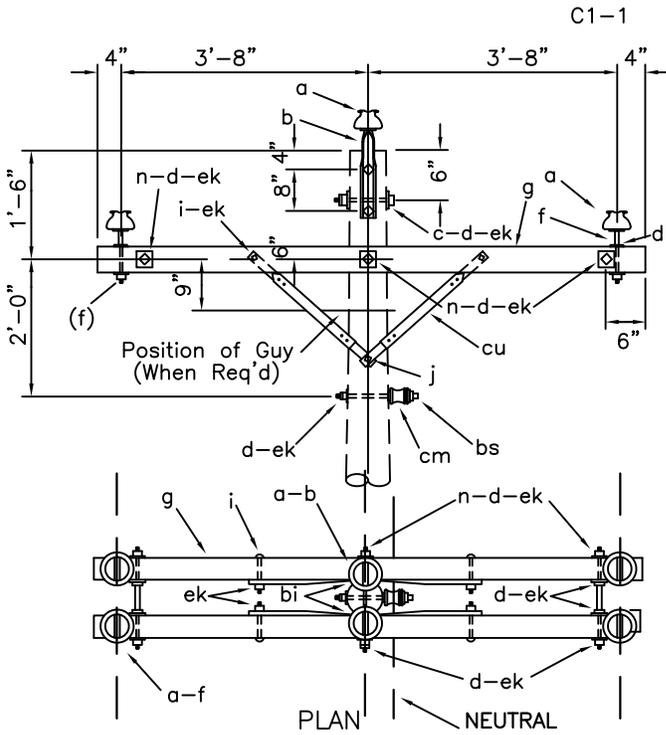
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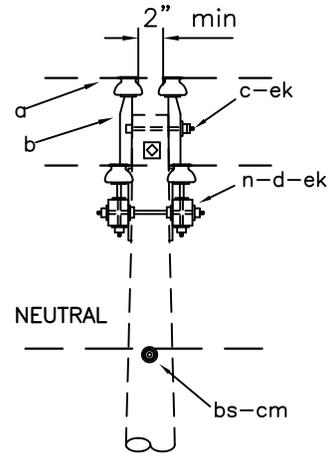
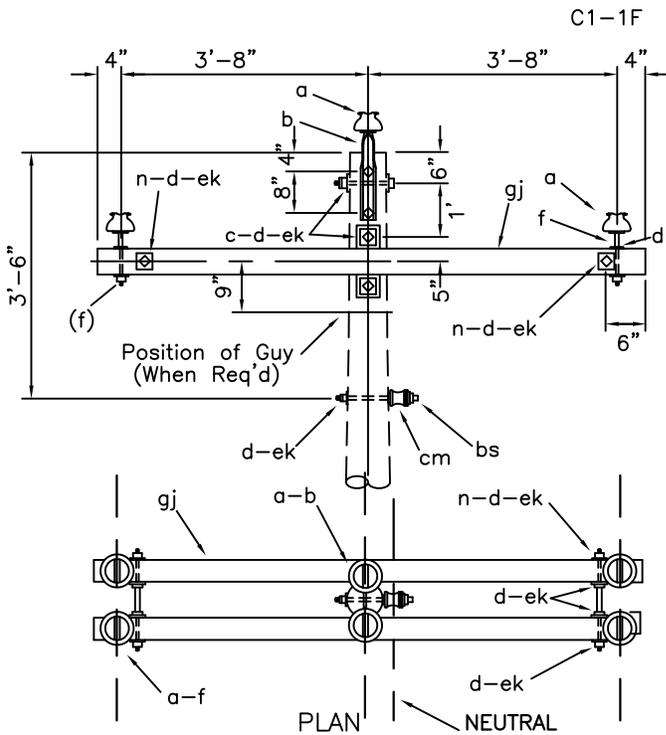
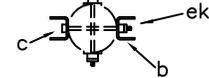
3-PHASE PRIMARY
12.47/7.2 kV

C1PLX, C1PFX,
C1POLX, C1POFX

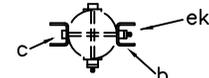
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	C1-1, C1-1F
g	2	DT PC 364021	18290311	C1-1
gj	2	DT PC 364021	18290411	C1-1F



POLE TOP PIN ASSEMBLY



POLE TOP PIN ASSEMBLY



DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
SHEET 1 OF 2

APR. 1983



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3-PHASE PRIMARY
12.47/7.2 kV

C1-1, C1-1F

		CONFIGURATION:	C1-1	C1-1F
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	6	6
b	Pin, pole top, 20"	45612120	2	2
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	3	3
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	3
d	Washer, square, 3"	-	2	-
d	Washer, square, 2 $\frac{1}{4}$ "	-	19	19
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	4	4
n	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT	1	-
n	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT	2	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	-
i	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT	4	-
j	Screw, lag, $\frac{1}{2}$ " x 4"	-	2	-
bi	Gain plate	46800260	2	-
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28" span, pair	07535128	2	-
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', fiberglass, tangent	18290411	-	2

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983



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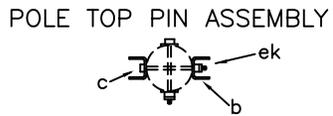
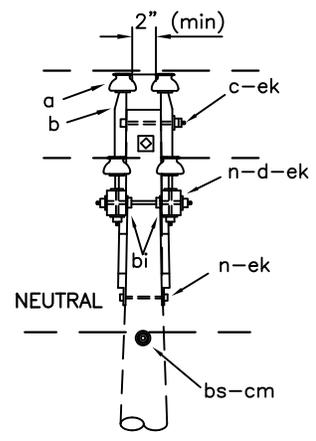
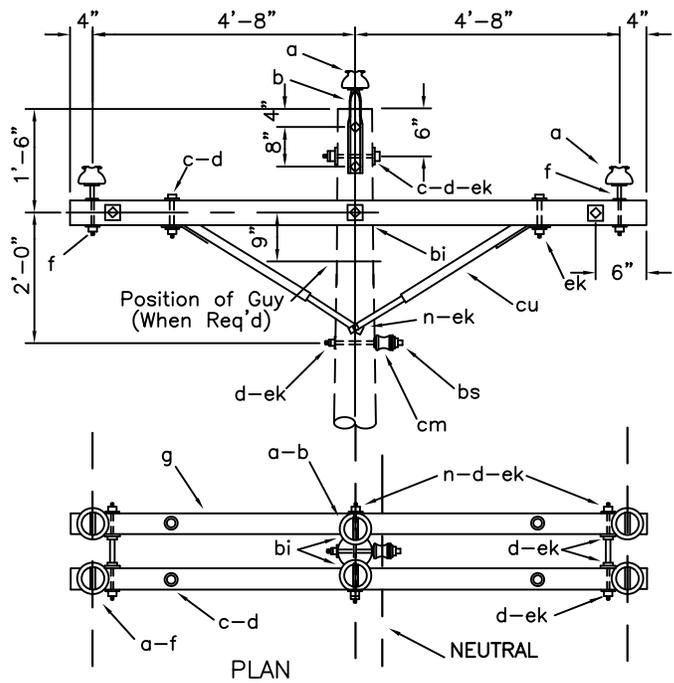
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3-PHASE PRIMARY
12.47/7.2 kV

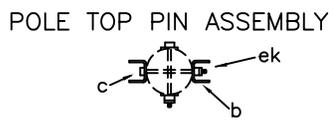
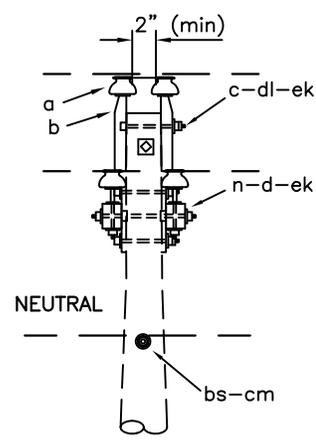
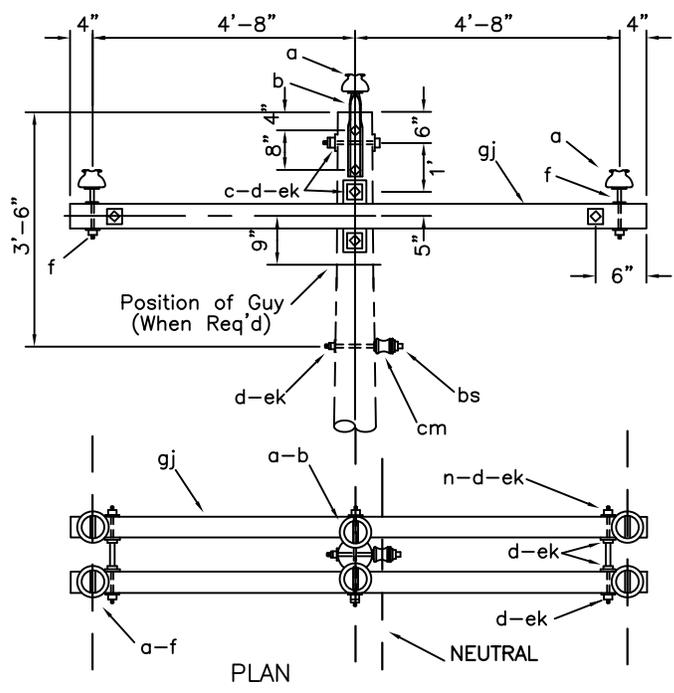
C1-1, C1-1F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	C1-1X, C1-1FX
g	2	DT PC 364021	18290511	C1-1X
gj	2	DT PC 364021	18290611	C1-1FX

C1-1X



C1-1FX



DESIGN LIMITS
 Max. Transverse Load:
 1000 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load
 *Quantity as Required

CROSSARM CONSTRUCTION
 DOUBLE LINE ARM (TANGENT) 10' CROSSARMS
 SHEET 1 OF 2

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1-1X, C1-1FX
	APPROVED BY MFJ		

ITEM	MATERIAL	CONFIGURATION:	C1-1X	C1-1FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	6	6
b	Pin, pole top, 20"	45612120	2	2
c	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT	—	2
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	3
c	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT	4	—
d	Washer, square, 3"	—	2	—
d	Washer, square, 2 $\frac{1}{4}$ "	—	19	19
d	Washer, round, 1 $\frac{3}{8}$ "	—	4	—
f	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ "	45413111	4	4
n	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT	1	—
n	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT	3	2
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 10', wood	18290511	2	—
bi	Gain plate	46800260	2	—
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60" span, pair	07535168	2	—
ek	Double coil spring washers, as req'd	—	*	*
gj	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 10', fiberglass	18290611	—	2

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT) 10' CROSSARMS
SHEET 2 OF 2

JULY 2014



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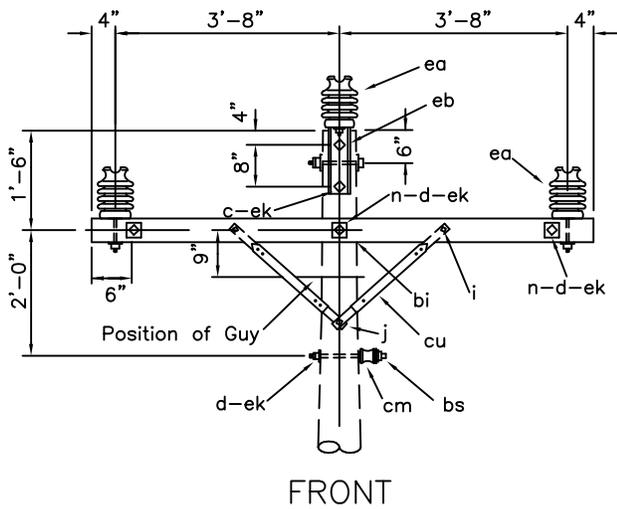
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3-PHASE PRIMARY
12.47/7.2 kV

C1-1X, C1-1FX

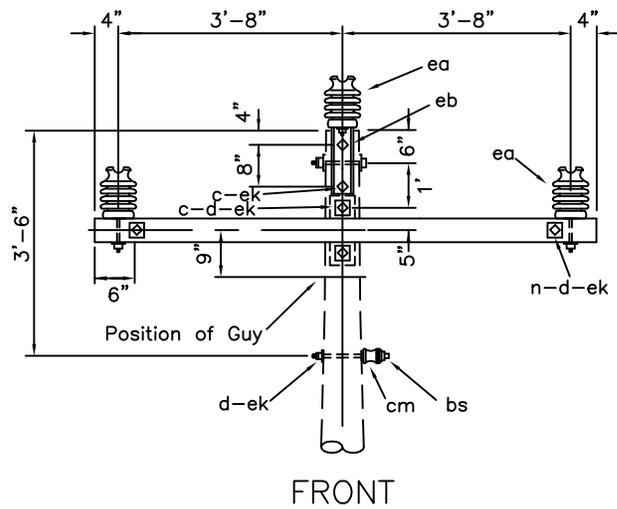
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C1-1P, C1-1PF
ea	6	DT OH 365055	34256200	C1-1PO, C1-1POF
g	2	DT PC 364021	18290311	C1-1P, C1-1PO
gj	2	DT PC 364021	18290411	C1-1PF, C1-1POF

C1-1P, C1-1PO

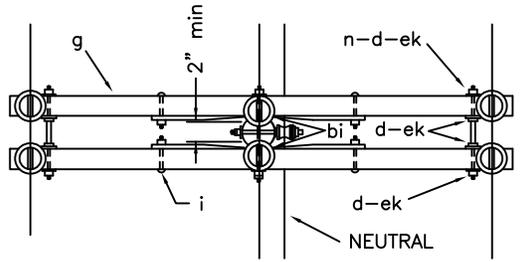


FRONT

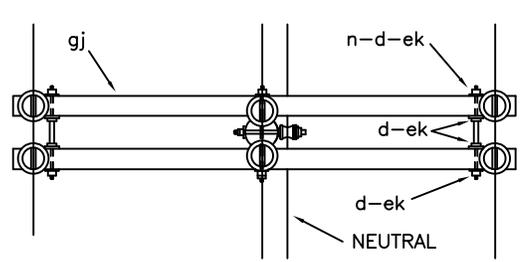
C1-1PF, C1-1POF



FRONT



PLAN



PLAN

DESIGN LIMITS
 Max. Transverse Load:
 1500 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load
 *Quantity as Required

CROSSARM CONSTRUCTION
 DOUBLE LINE ARM (TANGENT)
 SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C1-1P, C1-1PF, C1-1PO, C1-1POF
	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1-1P	C1-1PF	C1-1PO	C1-1POF
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	3	3	3	3
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 2 1/4"	-	15	15	15	15
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	2	-	2	-
i	Bolt, carriage, 3/8" x 4 1/2"	063103TT	4	-	4	-
j	Screw, lag, 1/2" x 4"	-	2	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	2	2	2	2
bi	Gain plate	46800260	2	-	2	-
bs	Bolt, single, upset	063905TT	1	1	1	1
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 28", pair	07535128	2	-	2	-
ea	Insulator, post type (12.47/7.2kV)	34251010	6	6	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	6	6
eb	Bracket, pole top	45612130	2	2	2	2
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass tangent	18290411	-	2	-	2
-	Stud, insulator, 1 3/4" x 3/4"	34301000	2	2	2	2
-	Stud, insulator, 7" x 3/4"	34302000	4	4	4	4
-	Clamp, Conductor	11742090	-	-	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
SHEET 2 OF 2

APR. 1983



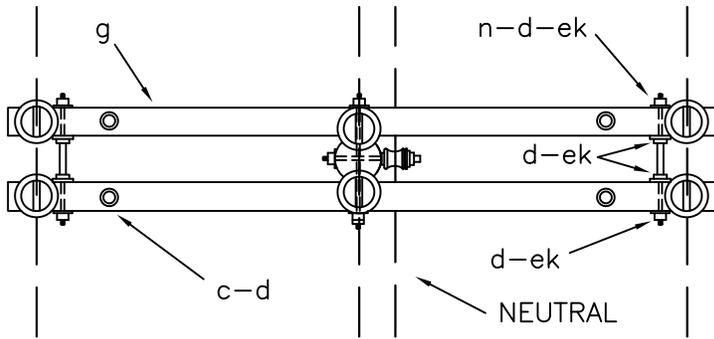
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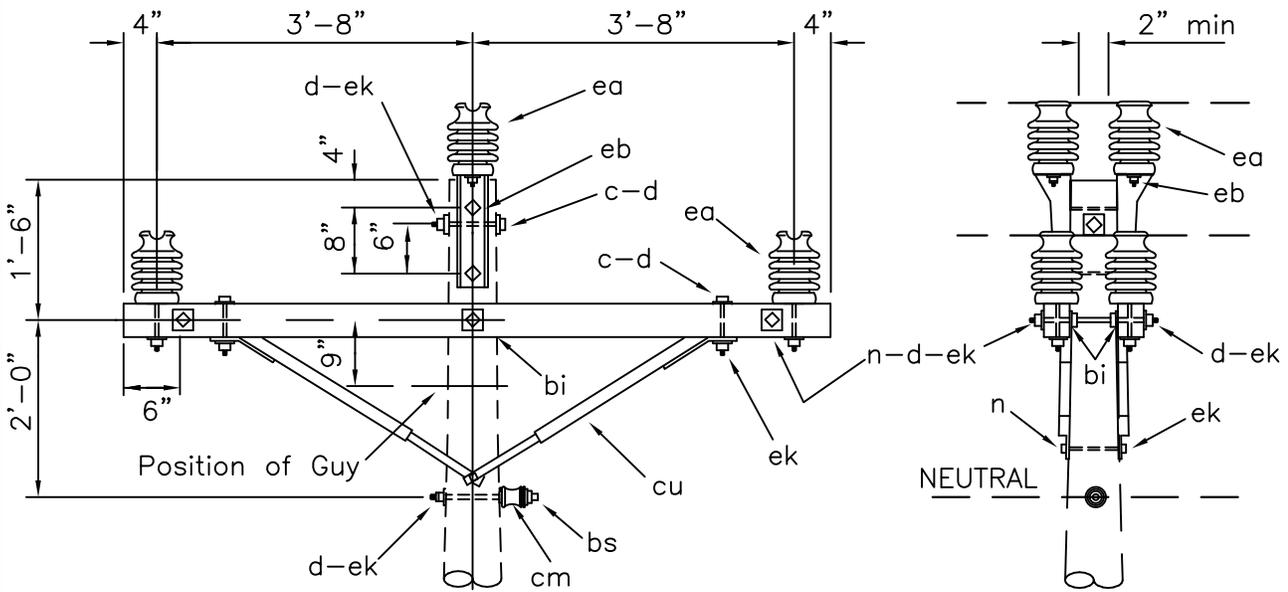
3-PHASE PRIMARY
12.47/7.2 kV

C1-1P, C1-1PF,
C1-1PO, C1-1POF

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C1-1PL
ea	6	DT OH 365055	34256200	C1-1POL
g	2	DT PC 364021	18290311	C1-1PL, C1-1POL



PLAN



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ	12.47/7.2 kV

C1-1PL, C1-1POL

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1-1PL	C1-1POL
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	3	3
c	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT	4	4
d	Washer, square, 3"	-	2	2
d	Washer, square, 2 $\frac{1}{4}$ "	-	15	15
d	Washer, round, 1 $\frac{3}{8}$ "	-	4	4
g	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8', wood	18290311	2	2
n	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT	1	1
n	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT	3	3
bi	Gain plate	46800260	2	2
bs	Bolt, single, upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60" span, pair	07535168	2	2
ea	Insulator, post type (12.47/7.2kV)	34251010	6	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	6
eb	Bracket, pole top	45612130	2	2
ek	Double coil spring washers, as req'd	-	*	*
-	Stud, insulator, 1 $\frac{3}{4}$ " x $\frac{3}{4}$ "	34301000	2	2
-	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000	4	4
-	Conductor clamp	11742090	-	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



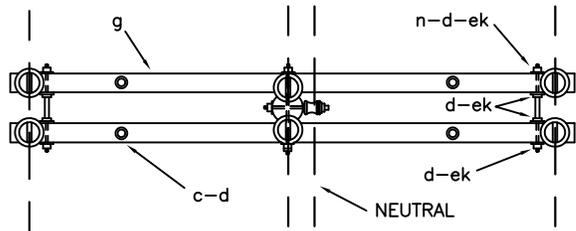
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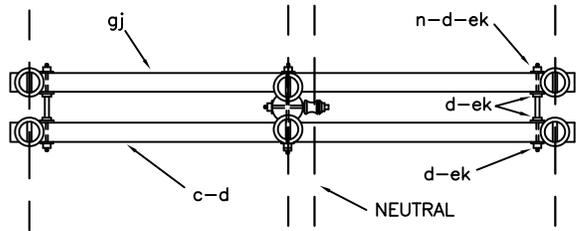
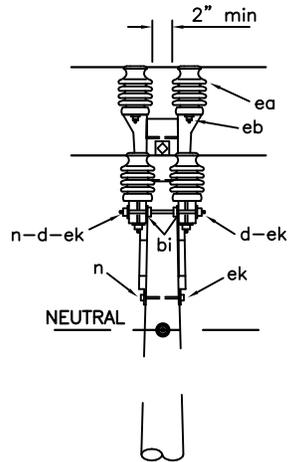
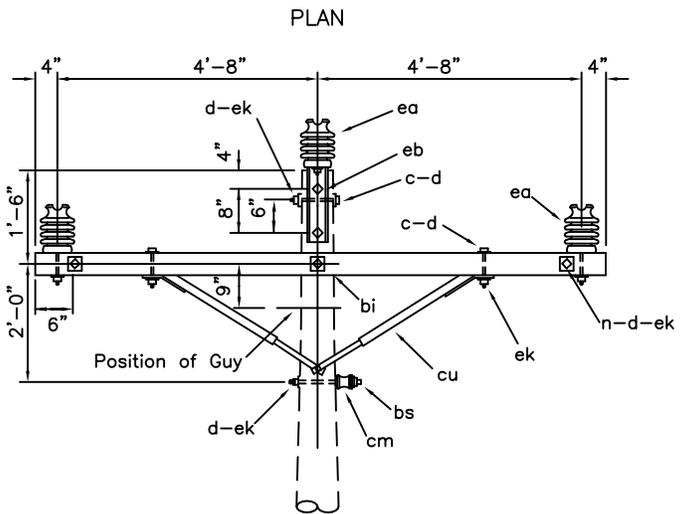
3-PHASE PRIMARY
12.47/7.2 kV

C1-1PL, C1-1POL

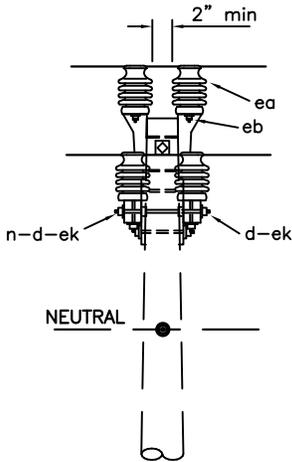
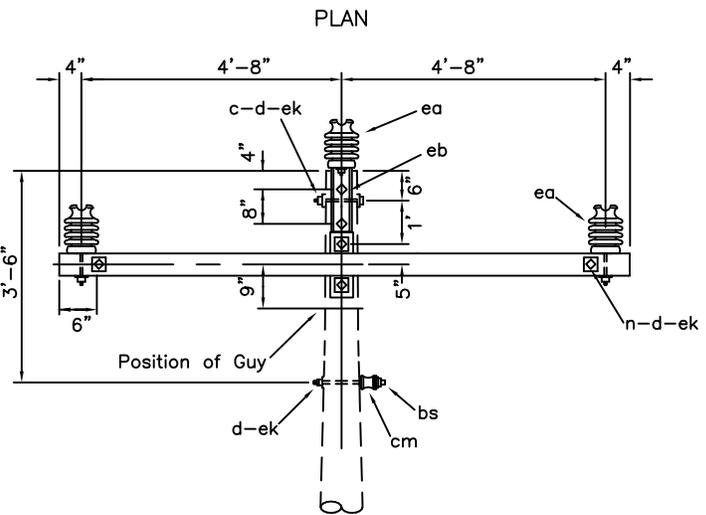
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C1-1PLX
ea	6	DT OH 365055	34256200	C1-1POLX, C1-1POFX
g	2	DT PC 364021	18290511	C1-1PLX, C1-1POLX
gj	2	DT PC 364021	18290611	C1-1PFX, C1-1POFX



C1-1PLX, C1-1POLX



C1-1PFX, C1-1POFX



DESIGN LIMITS
 Max. Transverse Load:
 1500 lbs. per conductor
 Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load
 *Quantity as Required

**CROSSARM CONSTRUCTION
 DOUBLE LINE ARM LARGE CONDUCTOR
 10' CROSSARMS SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1-1PLX, C1-1PFX, C1-1POLX, C1-1POFX
	APPROVED BY MFJ		

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1-1PLX	C1-1PFX	C1-1POLX	C1-1POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	3	3	3	3
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-	4	-
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 2 1/4"	-	15	15	15	15
d	Washer, round, 1 3/8"	-	4	-	4	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	2	3	2
bi	Gain plate	46800260	2	-	2	-
bs	Bolt, single, upset	063905TT	1	1	1	1
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	2	-	2	-
ea	Insulator, post type (12.47/7.2kV)	34251010	6	6	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	6	6
eb	Bracket, pole top	45612130	2	2	2	2
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2	-	2
-	Stud, insulator, 1 3/4" x 3/4"	34301000	2	2	2	2
-	Stud, insulator, 7" x 3/4"	34302000	4	4	4	4
-	Clamp, Conductor	11742090	-	-	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
10' CROSSARMS SHEET 2 OF 2

APR. 1983



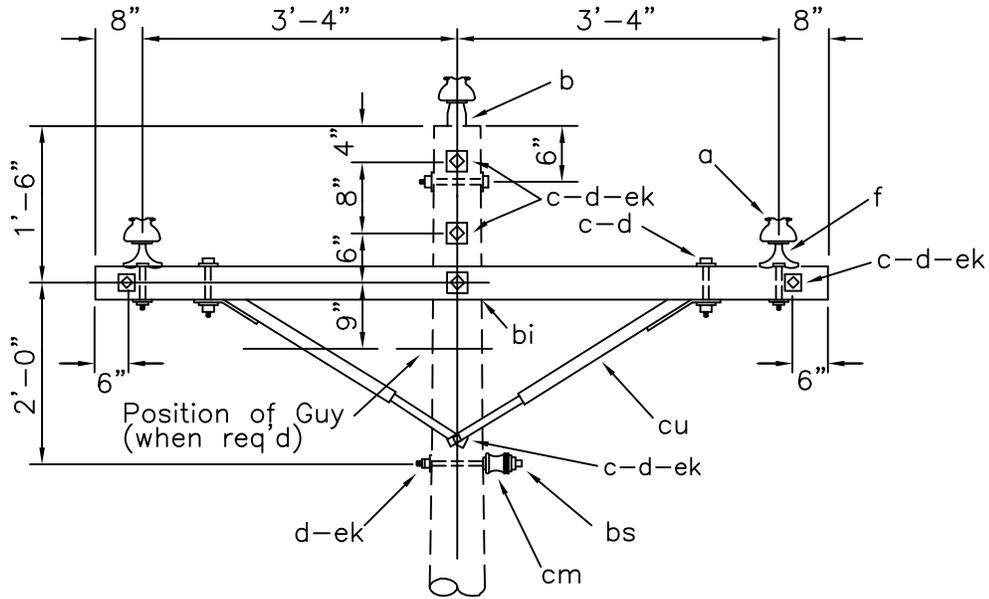
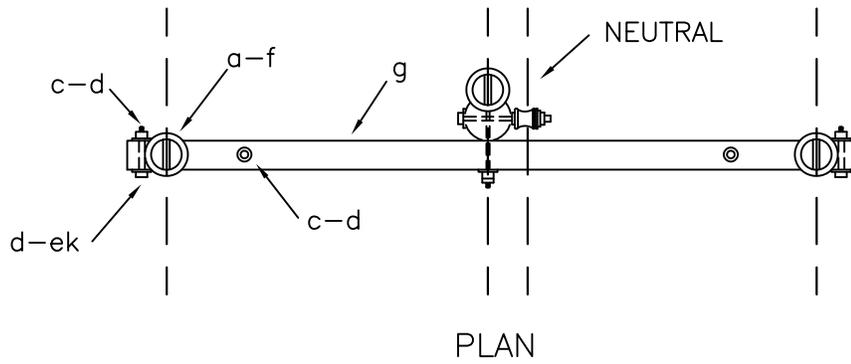
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NOV 2022

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3-PHASE PRIMARY
12.47/7.2 kV

C1-1PLX, C1-1PFX,
C1-1POLX, C1-1POFX

ITEM	QTY	ASSET #	INVENTORY NO.
a	3	DT OH 365055	34223010
g	1	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
a	3	Insulator, pin type, (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
d	10	Washer, square, 2 1/4"	-
d	2	Washer, round, 1 3/8"	-
d	2	Washer, square, 3"	-
f	2	Pin, crossarm, clamp type	45411153
g	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
bi	1	Gain plate	46800260
bs	1	Bolt, single, upset	063905TT
cm	1	Spool, insulator, 3"	34263010
cu	1	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION SINGLE LINE ARM (TANGENT) LARGE CONDUCTOR

APR. 1983



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NOV 2022

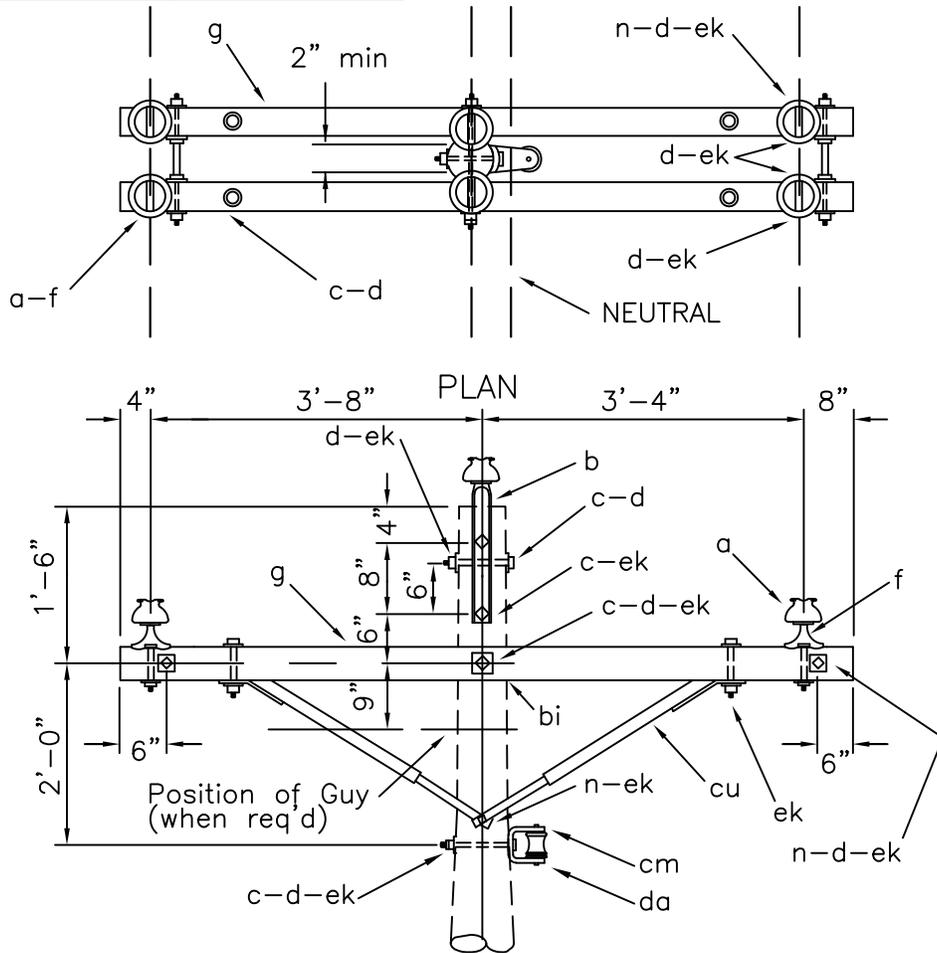
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3-PHASE PRIMARY
12.47/7.2 kV

C1-2

5.11.1

ITEM	QTY	ASSET #	INVENTORY NO.
a	6	DT OH 365055	34223010
g	2	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
a	6	Insulator, pin type, (12.47/7.2 kV)	34223010
b	2	Pin, pole top, 20"	45612120
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	11	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
d	2	Washer, square, 3"	-
f	4	Pin, crossarm, clamp type	45411153
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
bi	2	Gain plate	46800260
cm	1	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
dl	2	Spacer, pipe, 3/4" dia x 1 1/2'	-
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

CROSSARM CONSTRUCTION DOUBLE LINE ARM LARGE CONDUCTOR

*Quantity as Required

APR. 1983



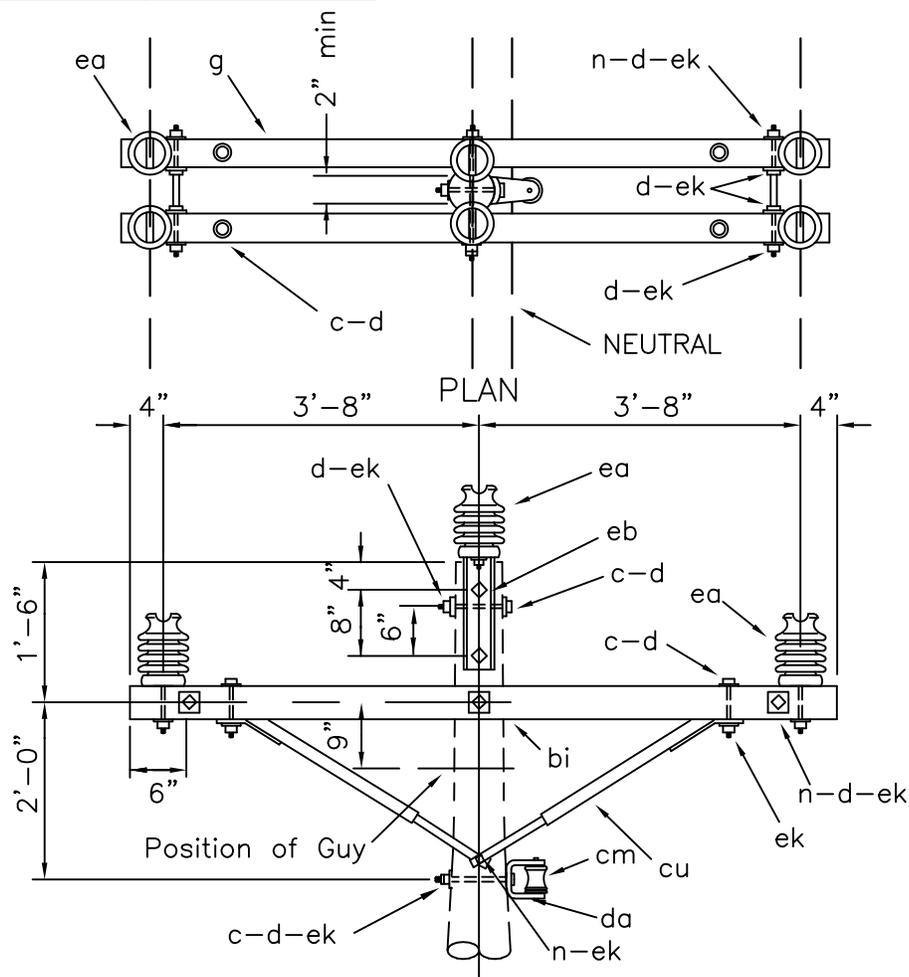
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NOV 2022
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3-PHASE PRIMARY
12.47/7.2 kV

C1-3

5.12.1

ITEM	QTY	ASSET #	INVENTORY NO.
ea	6	DT OH 365055	34251010
g	2	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	4	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	11	Washer, square, $2\frac{1}{4}$ "	-
d	2	Washer, square, 3"	-
d	4	Washer, round, $1\frac{3}{8}$ "	-
g	2	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8'-0"	18290311
n	3	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
n	1	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
bi	2	Gain plate	46800260
cm	1	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ea	6	Insulator, post type (12.47/7.2 kV)	34251010
eb	2	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
-	2	Stud, insulator, $1\frac{3}{4}$ " x $\frac{3}{4}$ "	34301000
-	4	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION DOUBLE LINE ARM LARGE CONDUCTOR

APR. 1983



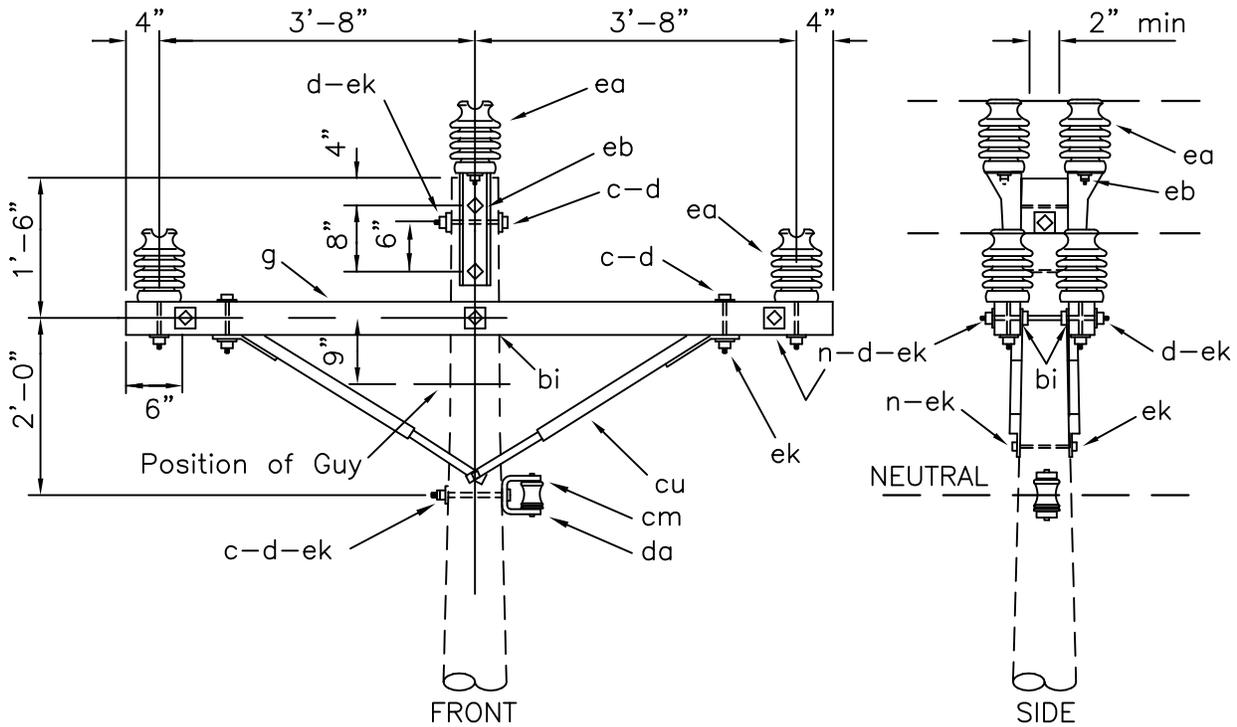
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3-PHASE PRIMARY
12.47/7.2 kV

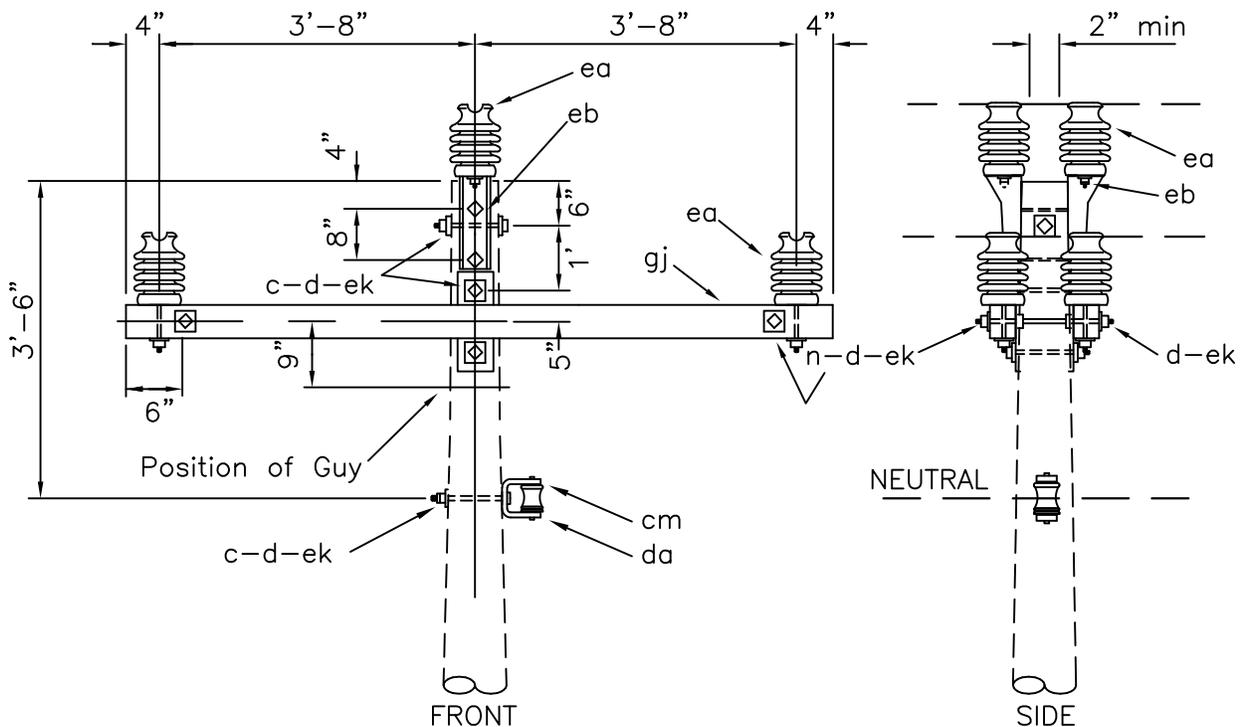
C1-3P

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C1-3PL, C1-3PF
ea	6	DT OH 365055	34256200	C1-3POL, C1-3POF
g	2	DT PC 364021	18290311	C1-3PL, C1-3POL
gj	2	DT PC 364021	18290411	C1-3PF, C1-3POF

C1-3PL, C1-3POL



C1-3PF, C1-3POF



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C1-3PL, C1-3PF, C1-3POL, C1-3POF
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C1-3PL	C1-3PF	C1-3POL	C1-3POF
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	4	4	4
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-	4	-
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 2 1/4"	-	15	15	15	15
d	Washer, round, 1 3/8"	-	4	-	4	-
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	2	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	2	3	2
bi	Gain plate	46800260	2	-	2	-
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	2	-	2	-
da	Clevis, Rigid, Bare	07804500	1	1	1	1
ea	Insulator, post type (12.47/7.2kV)	34251010	6	6	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	6	6
eb	Bracket, pole top	45612130	2	2	2	2
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass tangent	18290411	-	2	-	2
-	Stud, insulator, 1 3/4" x 3/4"	34301000	2	2	2	2
-	Stud, insulator, 7" x 3/4"	34302000	4	4	4	4
-	Clamp, Conductor	11742095	-	-	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



REVISED
NOV 2022

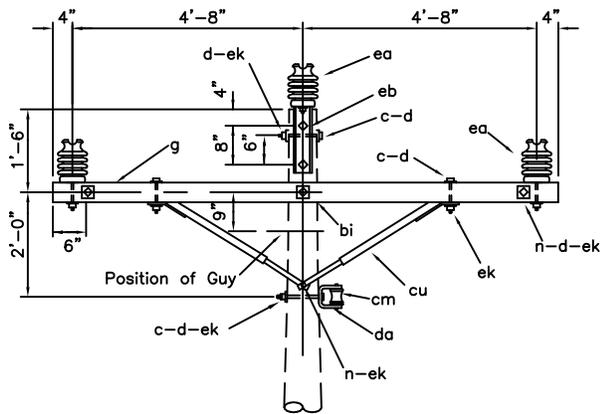
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3-PHASE PRIMARY
12.47/7.2 kV

C1-3PL, C1-3PF,
C1-3POL, C1-3POF

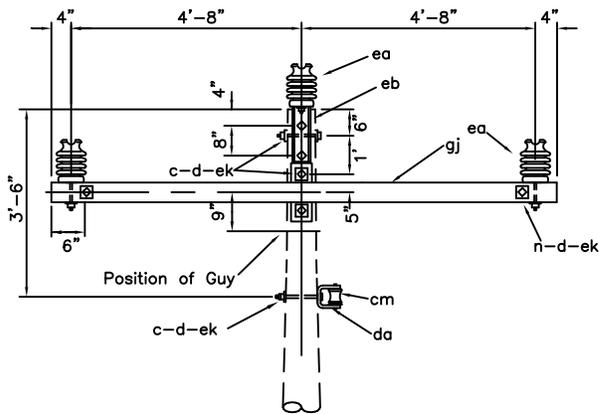
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C1-3PLX, C1-3PFX
ea	6	DT OH 365055	34256200	C1-POLX, C1-3POFX
g	2	DT PC 364021	18290511	C1-3PLX, C1-POLX
gj	2	DT PC 364021	18290611	C1-3PFX, C1-3POFX

C1-3PLX, C1-3POLX

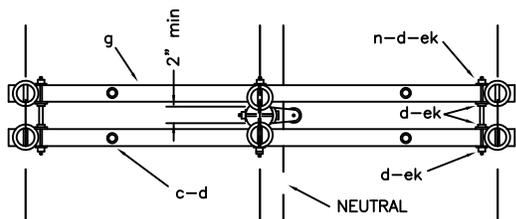


FRONT

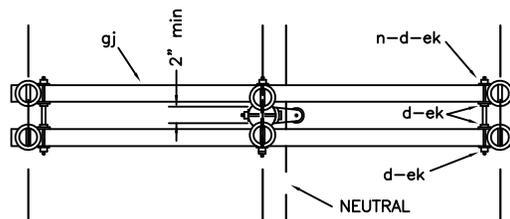
C1-3PFX, C1-3POFX



FRONT



PLAN



PLAN

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
10' CROSSARMS SHEET 1 OF 2

APR. 1983



REVISED
NOV 2022

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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C1-3PLX, C1-3PFX,
C1-3POLX, C1-3POFX

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

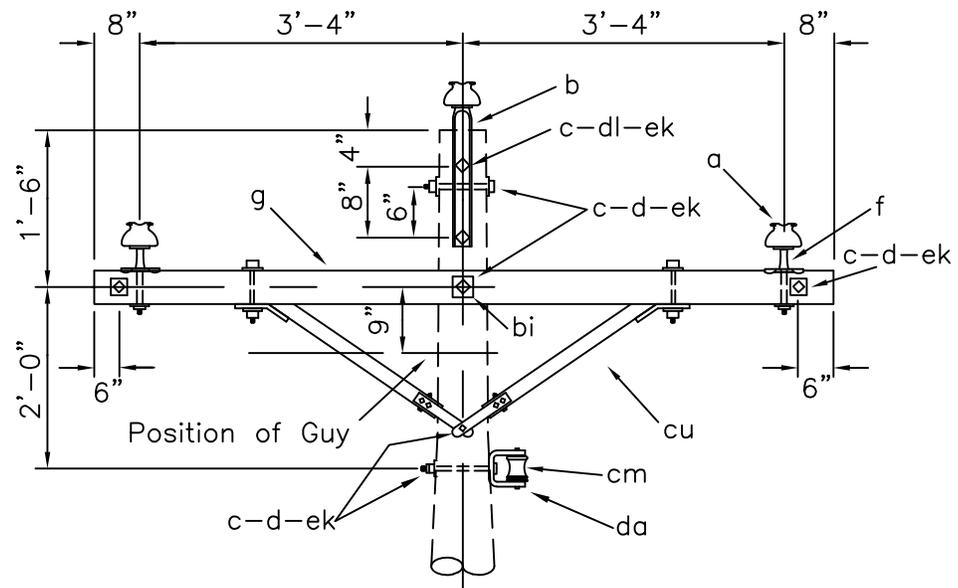
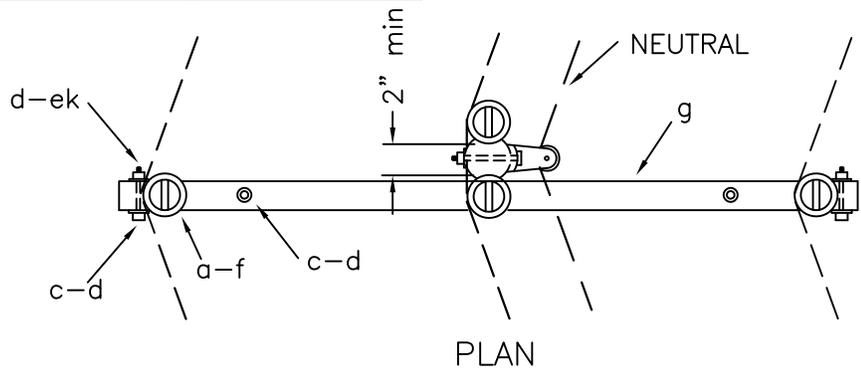
ITEM	MATERIAL	CONFIGURATION:	C1-3PLX	C1-3PFX	C1-3POLX	C1-3POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-	4	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	4	4	4
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 2 1/4"	-	15	15	15	15
d	Washer, round, 1 3/8"	-	4	-	4	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	3	3	3
bi	Gain plate	46800260	2	-	2	-
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	2	-	2	-
da	Clevis, Rigid, Bare	07804500	1	1	1	1
ea	Insulator, post type (12.47/7.2kV)	34251010	6	6	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	6	6
eb	Bracket, pole top	45612130	2	2	2	2
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2	-	2
-	Stud, insulator, 1 3/4" x 3/4" with washers and machine nuts	34301000	2	2	2	2
-	Stud, insulator, 7" x 3/4" with washers and machine nuts	34302000	4	4	4	4
-	Clamp, Conductor	11742090	-	-	6	6

DESIGN LIMITS
 Max. Transverse Load:
 1500 lbs. per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

**CROSSARM CONSTRUCTION
 DOUBLE LINE ARM LARGE CONDUCTOR
 10' CROSSARMS SHEET 2 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1-3PLX, C1-3PFX, C1-3POLX, C1-3POFX
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	1	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

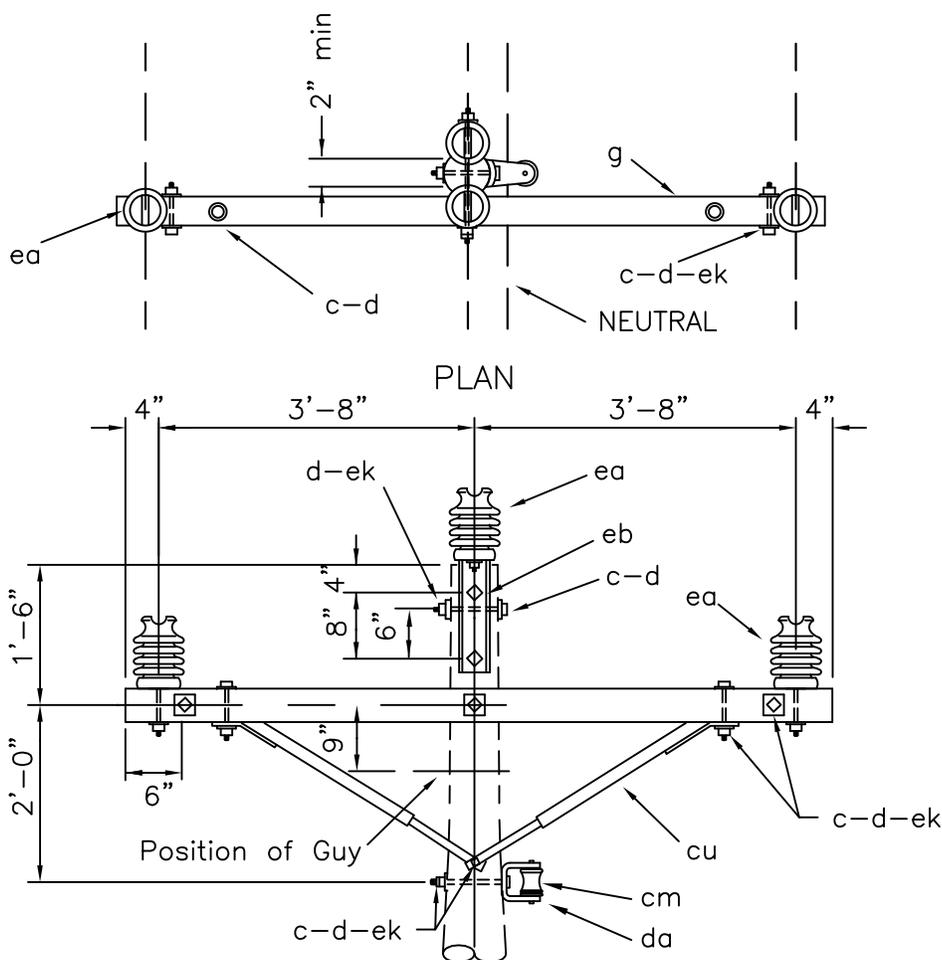
ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type, (12.47/7.2 kV)	34223010
b	2	Pin, pole top, 20"	45612120
c	7	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3"	-
d	8	Washer, square, 2 1/4"	-
d	2	Washer, round, 1 3/8"	-
f	2	Pin, crossarm, clamp type with washers and machine nuts	45411153
g	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
bi	1	Gain plate	46800260
cm	1	Spool, insulator, 3"	34263010
cu	1	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
dl	2	Pipe spacer 3/4" dia. x 1 1/2"	-
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS
 Max. Transverse Load:
 1000 lbs. per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

**CROSSARM CONSTRUCTION
 SINGLE LINE ARM
 LARGE CONDUCTOR SHEET**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C1-4
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	4	DT OH 365055	34251010
g	1	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
c	7	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
c	1	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
d	2	Washer, square, 3"	-
d	8	Washer, square, $2\frac{1}{4}$ "	-
d	2	Washer, round, $1\frac{3}{8}$ "	-
g	1	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8'-0"	18290311
bi	1	Gain Plate	46800260
cm	1	Spool, insulator, 3"	34263010
cu	1	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ea	4	Insulator, post type (12.47/7.2 kV)	34251010
eb	2	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
-	2	Stud, insulator, $1\frac{3}{4}$ " x $\frac{3}{4}$ "	34301000
-	4	Stud, insulator, 7" x $\frac{3}{4}$ "	34302000

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION SINGLE LINE ARM DOUBLE POLE TOP SUPPORT LARGE CONDUCTOR

APR. 1983



REVISED
NOV 2022

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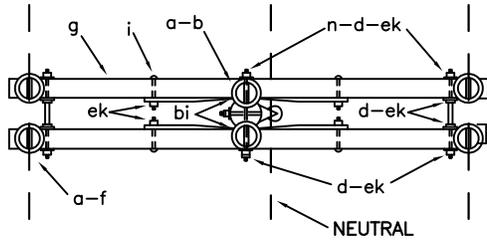
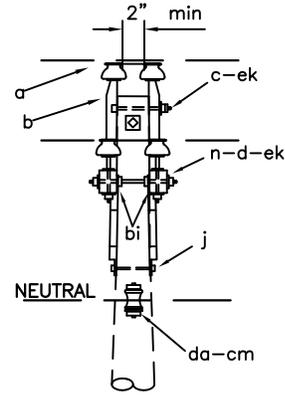
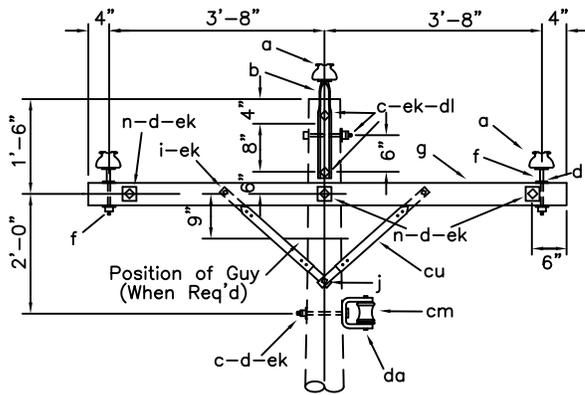
3-PHASE PRIMARY
12.47/7.2 kV

C1-4PL

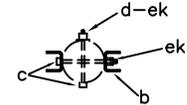
5.17.1

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
cm	6	DT OH 365055	34223010	C2, C2F
g	2	DT PC 364021	18290311	C2
gj	2	DT PC 364021	18290411	C2F

C2

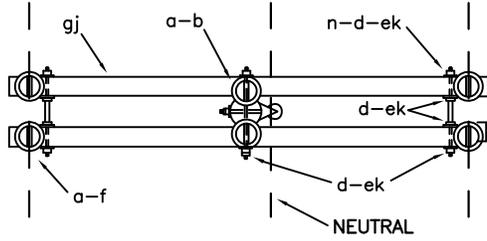
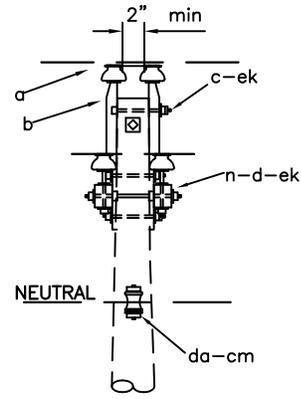
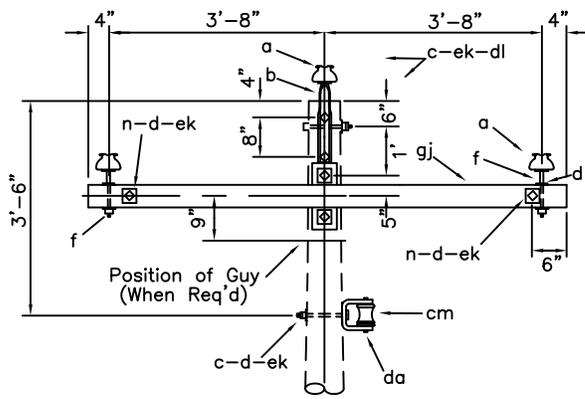


PLAN

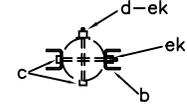


POLE TOP PIN ASSEMBLY

C2F



PLAN



POLE TOP PIN ASSEMBLY

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C2, C2F
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	MATERIAL	CONFIGURATION:	C2	C2F
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	6	6
b	Pin, pole top, 20"	45612120	2	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	4
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, square, 3"	-	2	2
d	Washer, square, 2 1/4"	-	19	19
f	Pin, crossarm, steel, 5/8" x 10 3/4" with washers and machine nuts	45413111	4	4
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	2	-
i	Bolt, carriage, 3/8" x 4 1/2"	063103TT	4	-
j	Screw, lag, 1/2" x 4"	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	2	2
bi	Gain plate	46800260	2	-
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 28", pair	07535128	2	-
da	Clevis, Rigid, Bare	07804500	1	1
ek	Double coil spring washers, as req'd.	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 8', fiberglass, tangent	18290411	-	2

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983



REVISED
NOV 2022

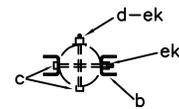
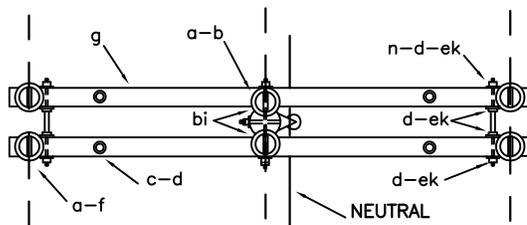
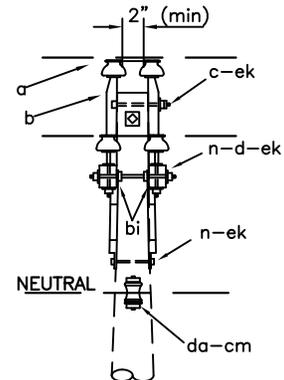
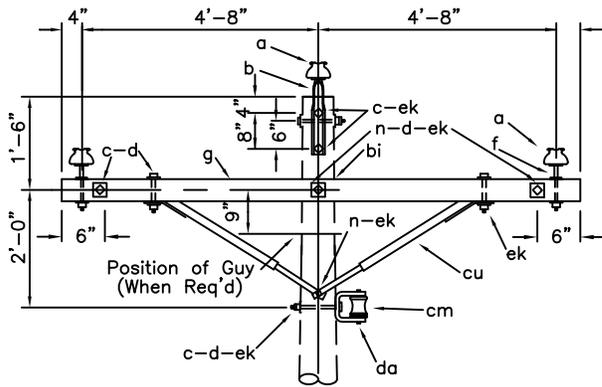
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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C2, C2F

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	C2X, C2FX
g	2	DT PC 364021	18290511	C2X
gj	2	DT PC 364021	18290611	C2FX

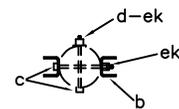
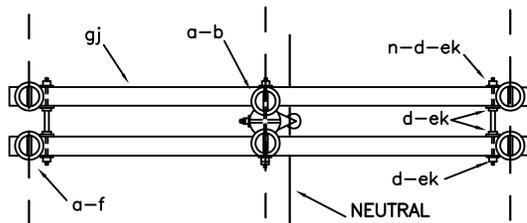
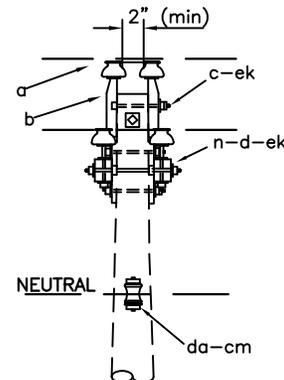
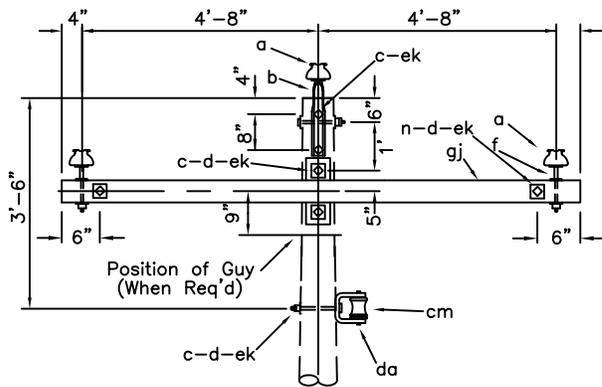
C2X



POLE TOP PIN ASSEMBLY

PLAN

C2FX



POLE TOP PIN ASSEMBLY

PLAN

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
SHEET 1 OF 2

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C2X, C2FX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	MATERIAL	CONFIGURATION:	C2X	C2FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	6	6
b	Pin, pole top, 20"	45612120	2	2
c	Bolt, machine, 3/4" x req'd. length	063806TT	—	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	4
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	—
d	Washer, square, 3"	—	2	—
d	Washer, square, 2 1/4"	—	19	19
d	Washer, round, 1 3/8"	—	4	—
f	Pin, crossarm, steel, 5/8" x 10 3/4" with washers and machine nuts	45413111	4	4
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	—
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	—
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	2
bi	Gain plate	46800260	2	—
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60", pair	07535168	2	—
da	Clevis, Rigid, Bare	07804500	1	1
ek	Double coil spring washers, as req'd.	—	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	—	2

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM 10' CROSSARMS
SHEET 2 OF 2

JULY 2014



REVISED
NOV 2022

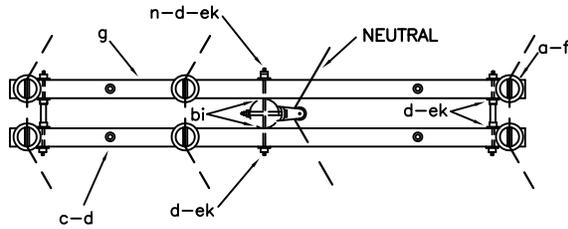
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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C2X, C2FX

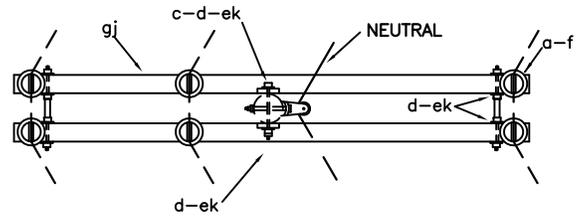
ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	6	DT OH 365055	34223010	C2-1X, C2-1FX
g	2	DT PC 364021	18290511	C2-1X
gj	2	DT PC 364021	18290611	C2-1FX

C2-1X

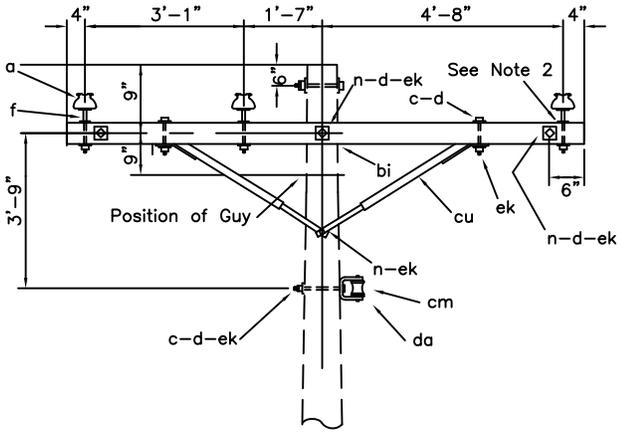


PLAN

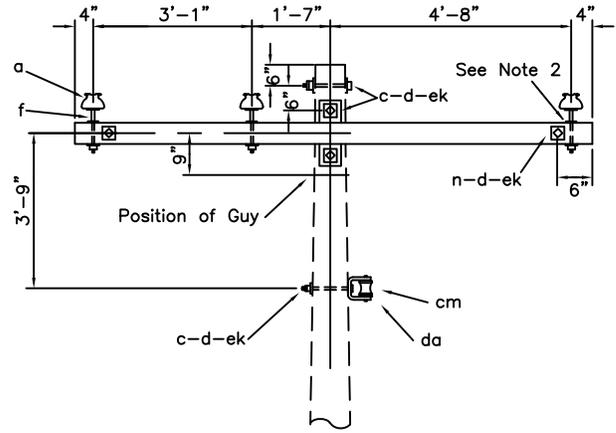
C2-1FX



PLAN



FRONT



FRONT

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2

APR. 1983



REVISED
NOV 2022
APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C2-1X, C2-1FX

NOTES:

- Center phase and neutral conductor may be located on the opposite side of the pole where necessary to avoid crossing conductors in midspan.
- When transverse load is more than 1000 lbs. per conductor, install a 2 1/4" square washer on the top of the crossarm for each pin. If the transverse load is more than 1500 lbs. per conductor, use vertical construction.

ITEM	MATERIAL	CONFIGURATION:	C2-1X	C2-1FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	6	6
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	2	2
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-
d	Washer, square, 3"	-	2	-
d	Washer, square, 2 1/4"	-	25	25
d	Washer, round, 1 3/8"	-	4	-
f	Pin, crossarm, steel, 5/8" x 10 3/4" with washers and machine nuts	45413111	6	6
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	2
bi	Gain plate	46800260	2	-
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60", pair	07535168	2	-
da	Clevis, Rigid, Bare	07804500	1	1
ek	Double coil spring washers, as req'd.	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983



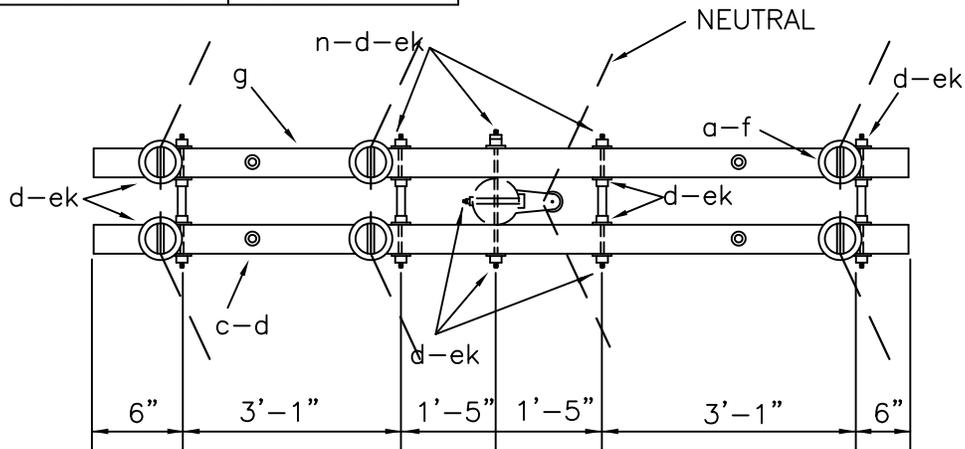
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JULY 2020

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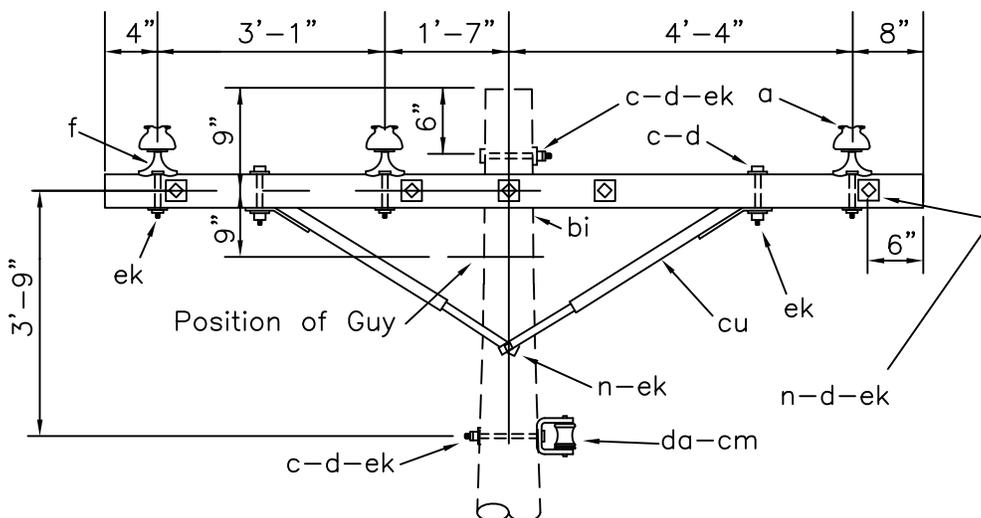
3-PHASE PRIMARY
12.47/7.2 kV

C2-1X, C2-1FX

ITEM	QTY	ASSET #	INVENTORY NO.
a	6	DT OH 365055	34223010
g	2	DT PC 364021	18290511



PLAN



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
a	6	Insulator, pin type (12.47/7.2 kV)	34223010
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	19	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	6	Pin, crossarm, clamp type, w/ washers and machine nuts	45411153
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
bi	2	Gain plate	46800260
cm	1	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
LARGE CONDUCTOR

APR. 1983



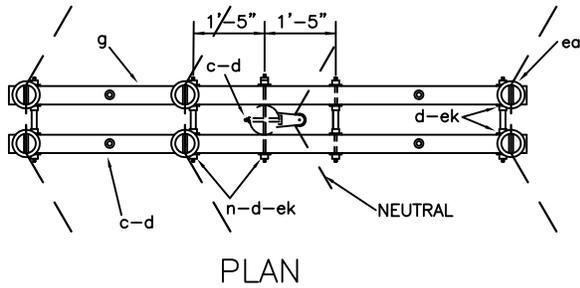
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3-PHASE PRIMARY
12.47/7.2 kV

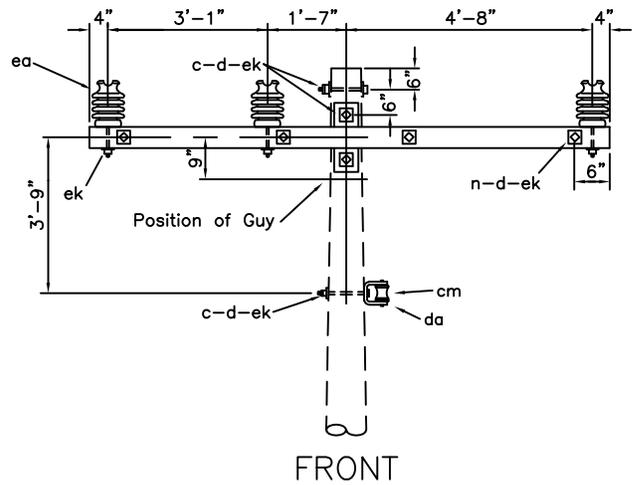
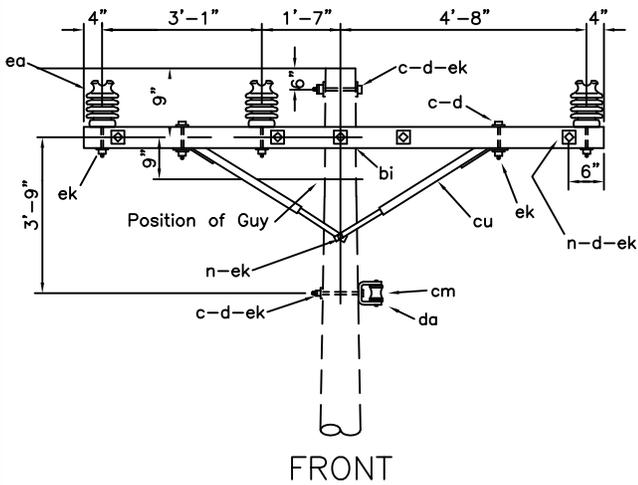
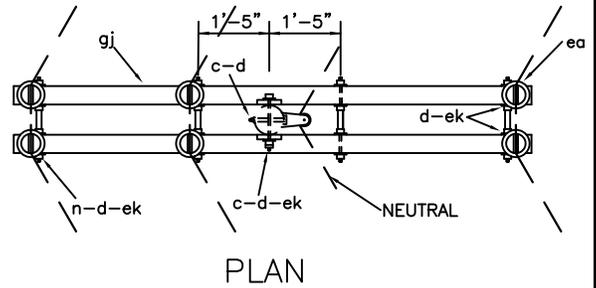
C2-2

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C2-2PLX, C2-2PFX
ea	6	DT OH 365055	34256200	C2-2POLX, C2-2POFX
g	2	DT PC 364021	18290511	C2-2PLX, C2-2POLX
gj	2	DT PC 364021	18290611	C2-2PFX, C2-2POFX

C2-2PLX, C2-2POLX



C2-2PFX, C2-2POFX



DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C2-2PLX, C2-2PFX, C2-2POLX, C2-2POFX
	APPROVED BY MFJ		

NOTES:

1. Neutral conductor may be installed on opposite sides of pole when necessary to avoid center phase and crossing conductors in midspan.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C2-2PLX	C2-2PFX	C2-2POLX	C2-2POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	2	2	2	2
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-	4	-
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 2 1/4"	-	25	25	25	25
d	Washer, round, 1 3/8"	-	4	-	4	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-	2	-
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	-	1	-
n	Bolt, double arming, 5/8" x req'd. length	063305TT	5	4	5	4
bi	Gain plate	46800260	2	-	2	-
cm	Insulator, spool, 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	2	-	2	-
da	Clevis, Rigid, Bare	07804500	1	1	1	1
ea	Insulator, post type (12.47/7.2kV)	34251010	6	6	-	-
ea	Insulator, polymer, post type (12.47/7.2kV)	34256200	-	-	6	6
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2	-	2
-	Stud, insulator, 7" x 3/4" w/ washers & machine nuts	34302000	6	6	6	6
-	Clamp, Conductor	11742090	-	-	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



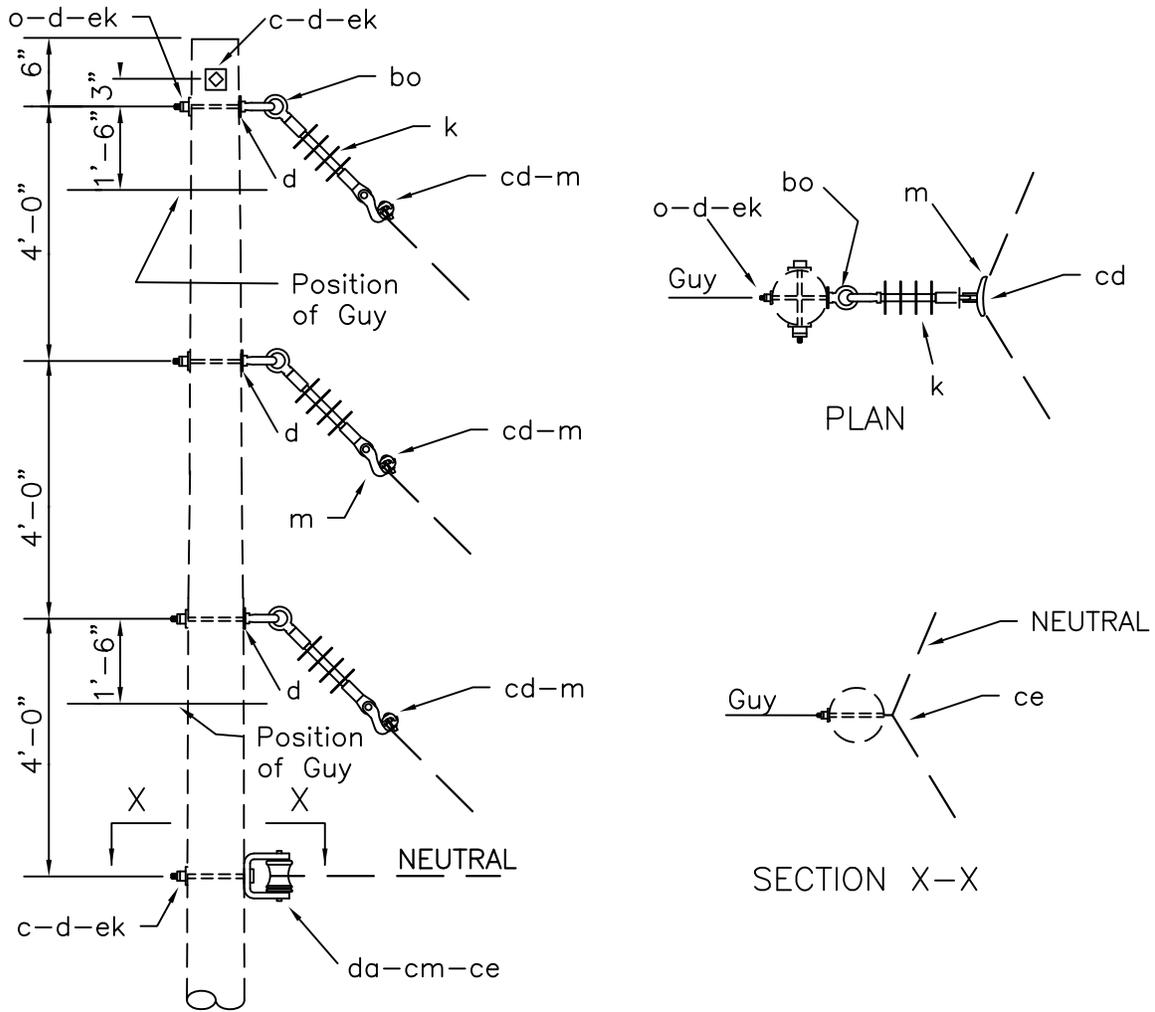
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NOV 2022

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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C2-2PLX, C2-2PFX,
C2-2POLX, C2-2POFX

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



NOTE:

1. Items cd and ce are shown on assembly drawing M41-10.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	6	Washer, square, 3", curved	-
d	3	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
m	3	Clamp, suspension	11741035
o	3	Bolt, eye, 5/8" x req'd. length	063615TT
bo	3	Shackle, anchor	12302800
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, Rigid, Bare	07804500
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
60°

Minimum Angle:
20° or as limited by transverse
load

*Quantity as Required

VERTICAL CONSTRUCTION
SUSPENSION ANGLE

APR. 1983



REVISED
NOV 2022

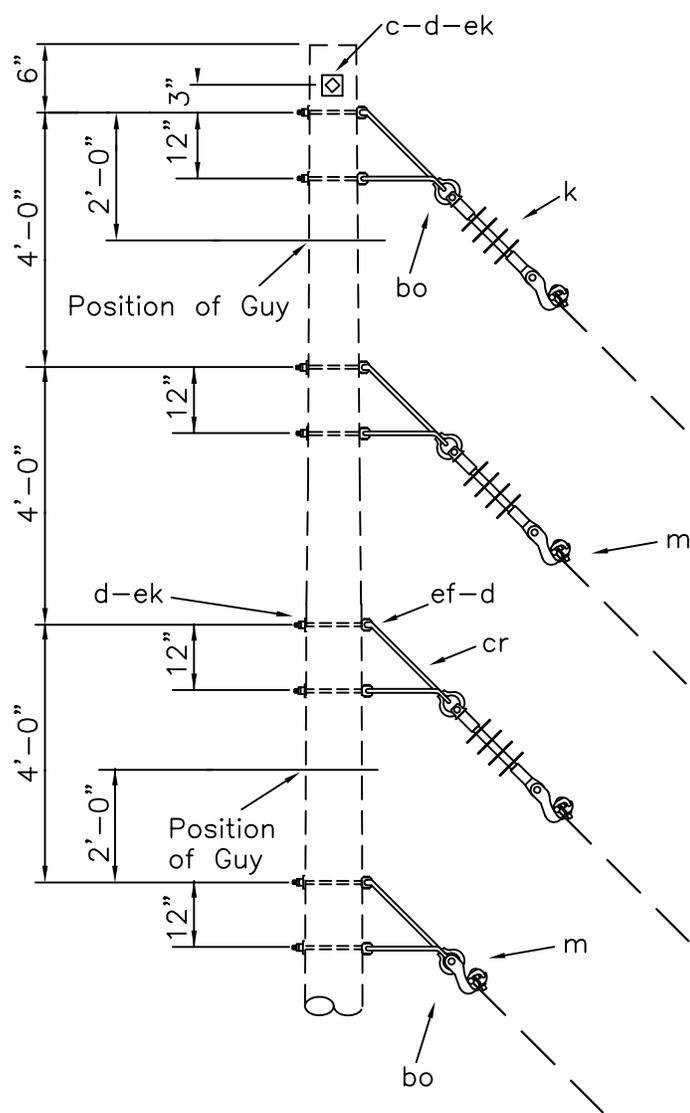
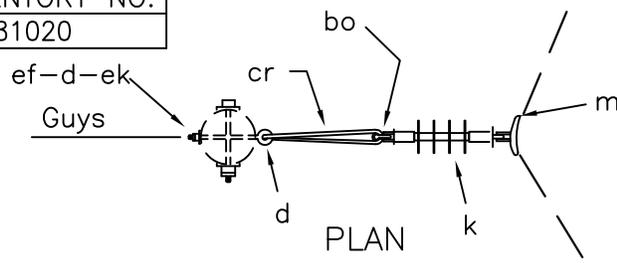
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3-PHASE PRIMARY
12.47/7.2 kV

C3

5.23.1

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020

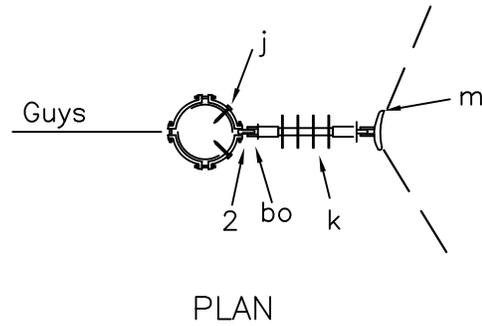
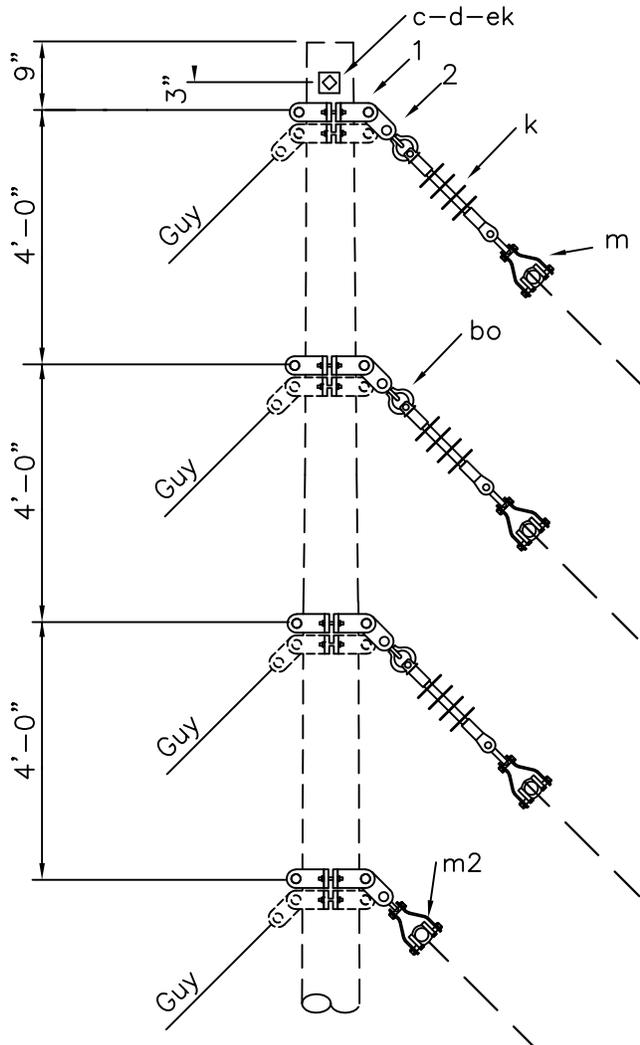


ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	8	Washer, square, 3", curved	-
d	10	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
m	4	Clamp, suspension	11741035
bo	4	Shackle, anchor	12302800
cr	4	Bracket, angle, suspension, 5/8"	-
ef	8	Bolt, clevis, 5/8" x 14", cut to length	06320508
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS
 Max. Transverse Load:
 1500 lbs. per conductor
 Max. Line Angle:
 60°
 Minimum Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

APR. 1983		REVISED NOV 2022		3-PHASE PRIMARY 12.47/7.2 kV		C3-1
		APPROVED BY MFJ				

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



**NOT FOR NEW
CONSTRUCTION**

NOTES:

1. See drawing E9-3M for pole band guys.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	8	Screw, lag 1/2" x 2"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
m	3	Clamp, suspension angle	11741035
bo	4	Shackle, anchor	12302800
ek	*	Double coil spring washers, as req'd.	-
1	4	Band, pole, (set)	47000000
2	4	Link, connecting, pair	47000200
m2	1	Clamp Suspension	11741033

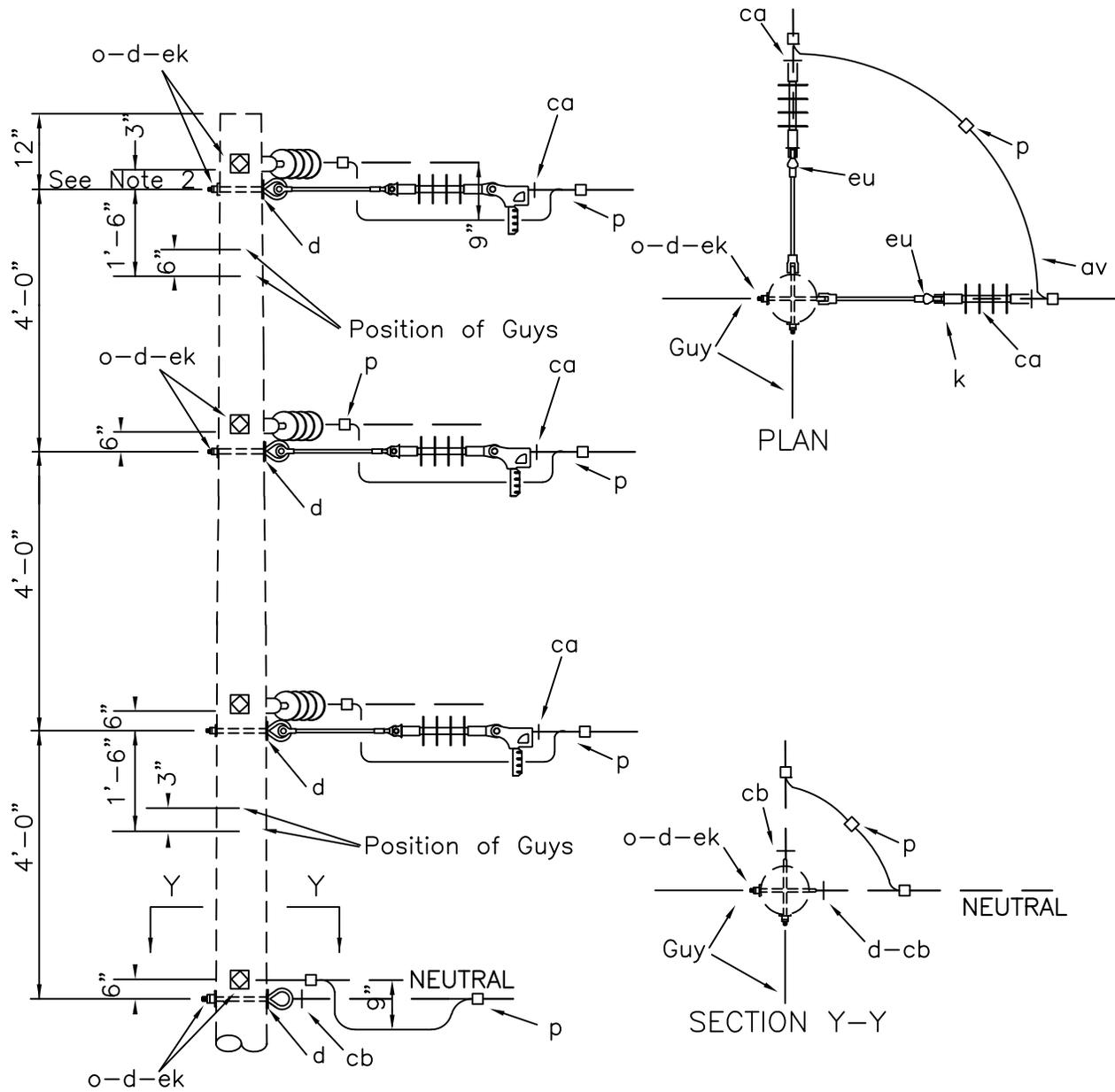
DESIGN LIMITS

Max. Transverse Load:
 5000 lbs. per conductor
 (10,000 lb M&E conductor)
 7500 lbs. per conductor
 (15,000 lb M&E conductor)
 Max. Line Angle:
 Lesser of 60° or as limited by
 transverse load
 Min. Line Angle:
 20° or as limited by transverse
 load
 *Quantity as Required

**VERTICAL CONSTRUCTION
SUSPENSION ANGLE
LARGE CONDUCTOR**

DEC.1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C3-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020



DESIGN LIMITS

Max. Longitudinal Load:
5000 lbs. per conductor

VERTICAL CONSTRUCTION
DEADEND ANGLE (DOUBLE)

APR. 1983

REVISED
NOV 2022

3-PHASE PRIMARY
12.47/7.2 kV

C4



APPROVED BY
MFJ

*Quantity as Required

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Separate by 6" (top position only) when angle equals 90°.
3. Item fi connector, M43-10 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
d	16	Washer, square, 3", curved	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	8	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
av	*	Jumpers, covered, Hendrix as required	-
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	6	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

Max. Longitudinal Load:
5000 lbs. per conductor

VERTICAL CONSTRUCTION
DEADEND ANGLE (DOUBLE)

*Quantity as Required

APR. 1983

REVISED
NOV 2022

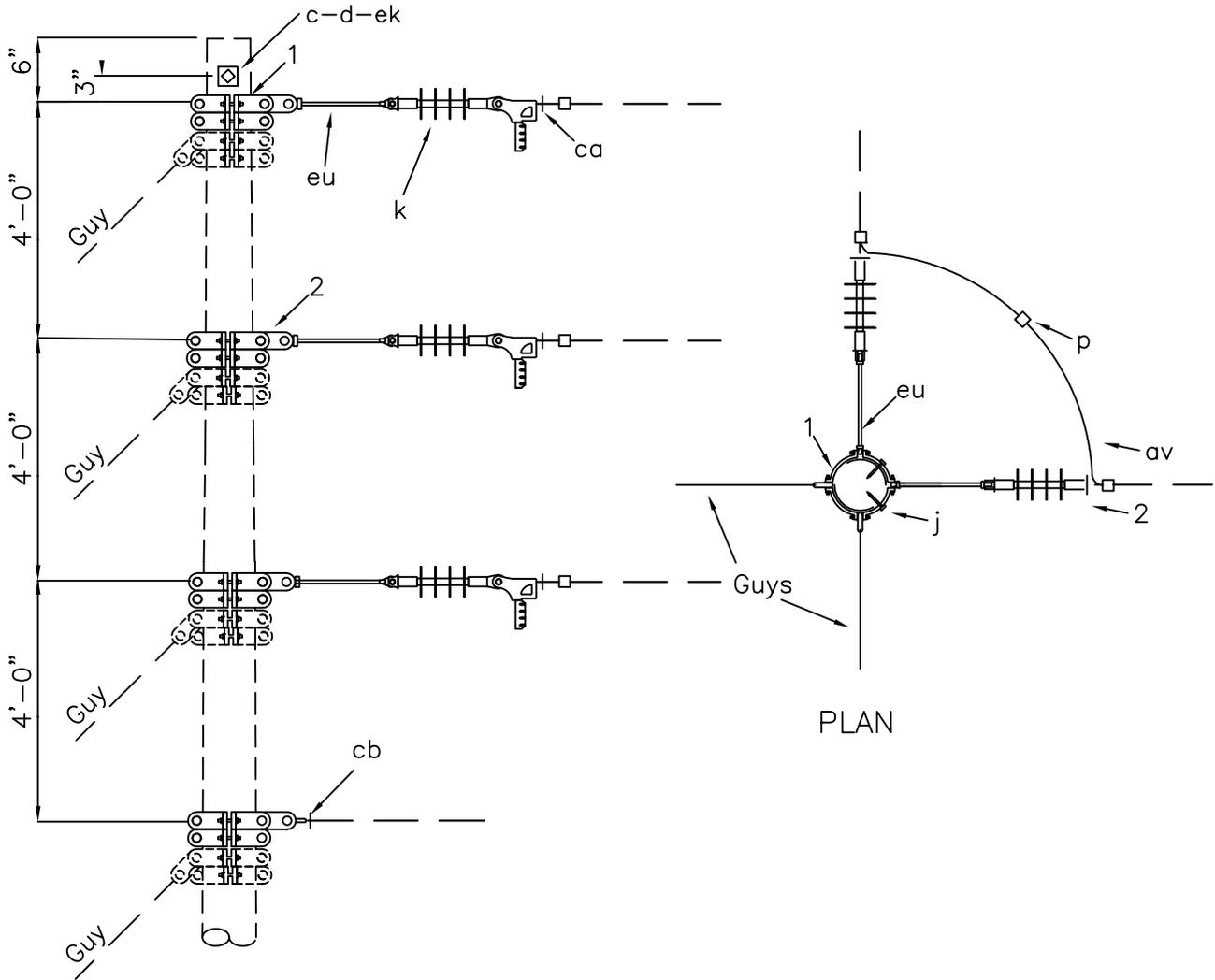


APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C4

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E conductor)
 7500 lbs. per conductor
 (15,000 lb M&E conductor)

*Quantity as Required

**VERTICAL CONSTRUCTION
 DEADEND ANGLE (DOUBLE) LARGE CONDUCTOR
 SHEET 1 OF 2**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C4-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. See drawing E9-3M for pole band guys.
3. For 477 ACSR Hawk 26/7 construction, lower neutral position 18"
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item p, connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	16	Screw, lag 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required	-
av	*	Jumpers, covered, as required	-
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	6	Link, extension, insulated, 12"	34276130
1	8	Band, pole (set)	47000000
2	8	Link, connecting (pair)	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

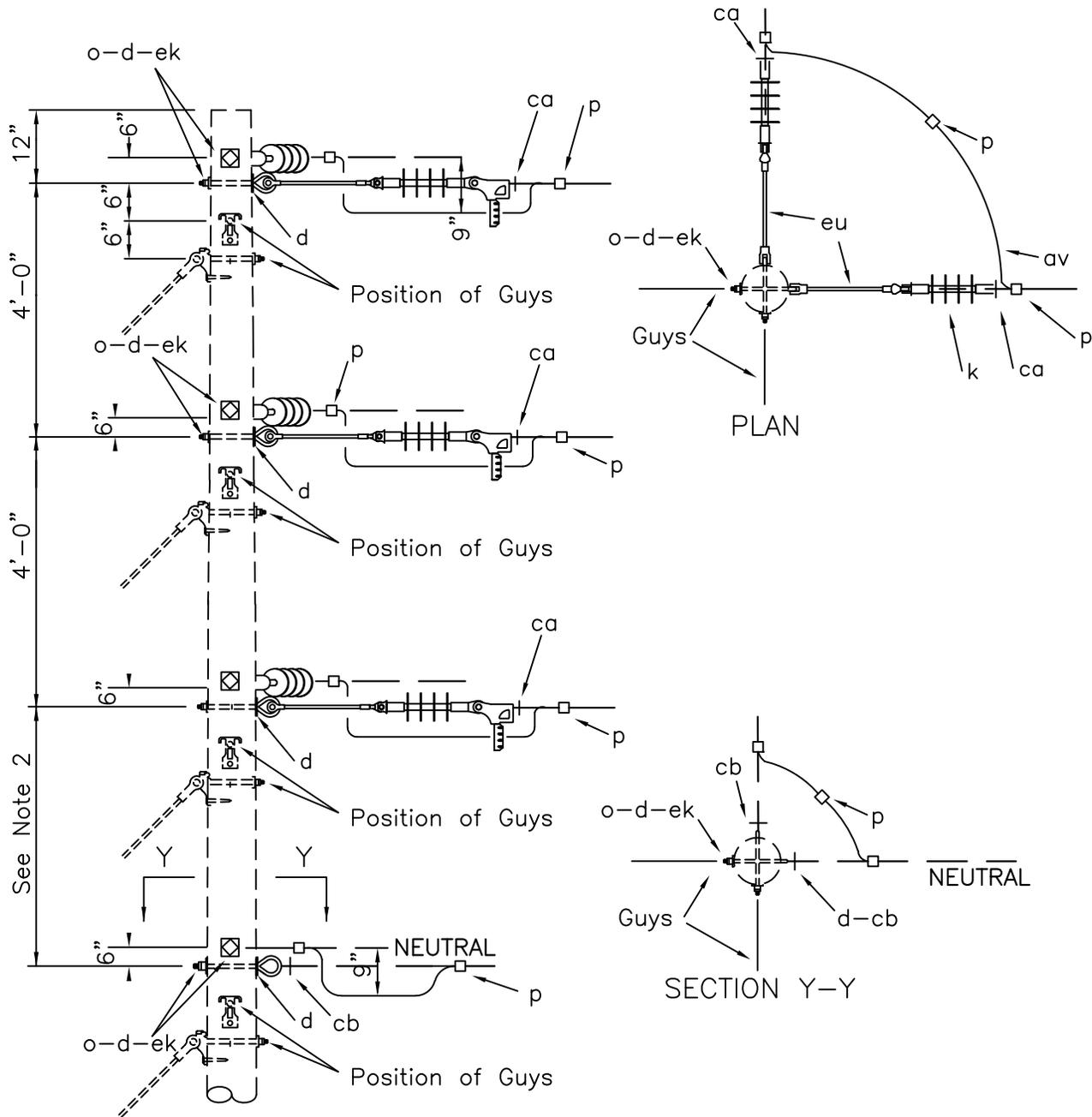
Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E conductor)
 7500 lbs. per conductor
 (15,000 lb M&E conductor)

*Quantity as Required

VERTICAL CONSTRUCTION DEADEND ANGLE (DOUBLE) LARGE CONDUCTOR SHEET 2 OF 2

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C4-2
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020



DESIGN LIMITS

Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E conductor)
 7500 lbs. per conductor
 (15,000 lb M&E conductor)

*Quantity as Required

**VERTICAL CONSTRUCTION
 DEADEND ANGLE (DOUBLE) LARGE CONDUCTOR
 NO POLE BANDS SHEET 1 OF 2**

DEC. 1985	REVISED JULY 2022	3-PHASE PRIMARY 12.47/7.2 kV	C4-2L
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. For 4/0 ACSR Penguin 6/1 construction, neutral position 4'-0".
For 477 ACSR Hawk 26/7 construction, neutral position 5'-6".
3. Item p, connector, M43-11 assembly, separately specified when required.
4. Add jumper support as required for angles less the 30 degrees

ITEM	QTY	MATERIAL	INVENTORY NO.
d	16	Washer, square, 3", curved	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	8	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
av	*	Jumpers, covered, as required	-
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	6	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

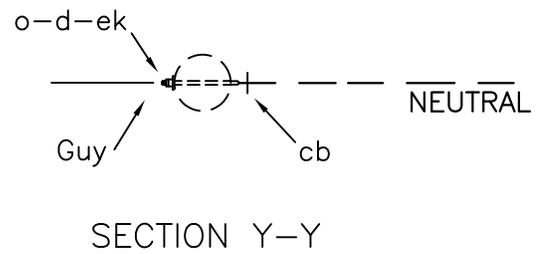
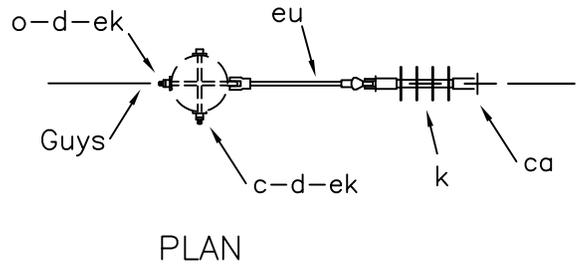
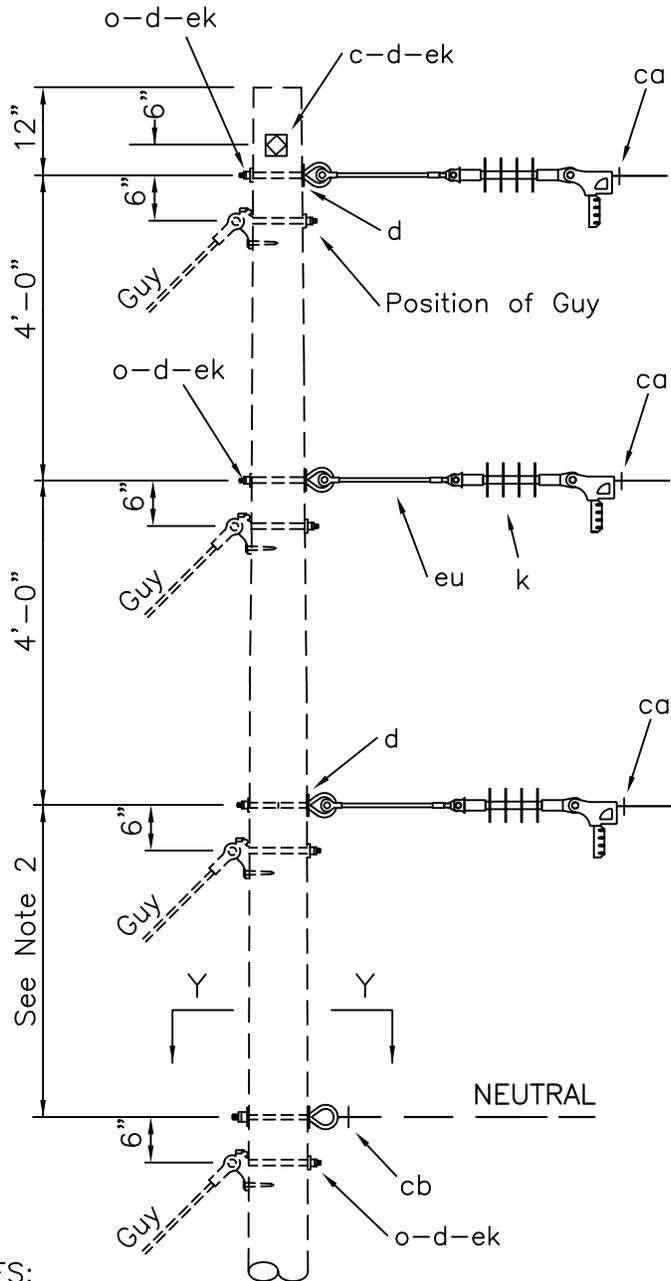
Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E conductor)
 7500 lbs. per conductor
 (15,000 lb M&E conductor)

*Quantity as Required

VERTICAL CONSTRUCTION
 DEADEND ANGLE (DOUBLE) LARGE CONDUCTOR
 NO POLE BANDS SHEET 2 OF 2

DEC. 1985	REVISED JULY 2022	3-PHASE PRIMARY 12.47/7.2 kV	C4-2L
			

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



NOTES:

- Items ca and cb are shown on assembly drawing M42-13.
- For 4/0 ACSR Penguin 6/1 construction, neutral position 4'-0".
For 477 ACSR Hawk 26/7 construction, neutral position 5"-6".

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	10	Washer, square, 3", curved	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
o	4	Bolt, eye, 5/8" x req'd. length	063615TT
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	3	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E insulators)
 7500 lbs. per conductor
 (15,000 lb M&E insulators)

*Quantity as Required

VERTICAL CONSTRUCTION
 DEADEND (SINGLE)
 LARGE CONDUCTOR NO POLE BANDS

DEC. 1985

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 JUN 2022

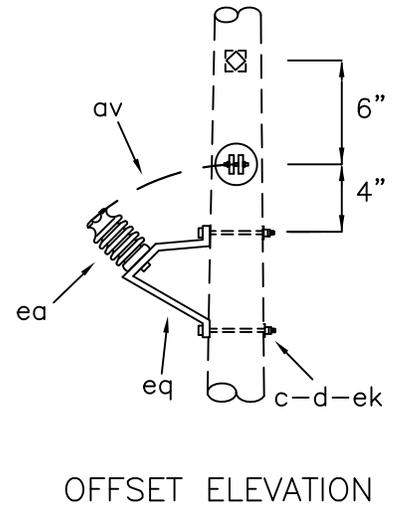
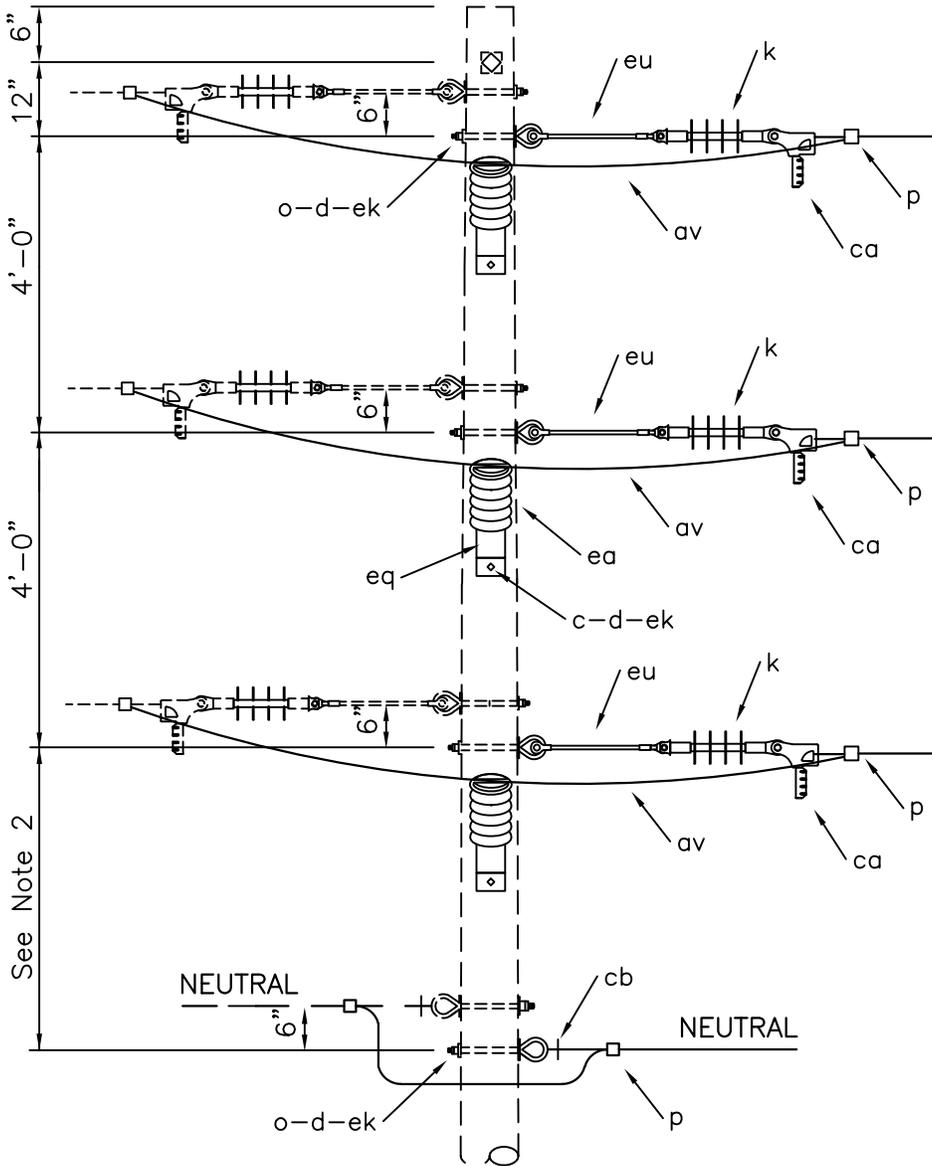
3-PHASE PRIMARY
 12.47/7.2 kV

C5-2L



APPROVED BY
 MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
ea	3	DT OH 365055	34251010
k	3	DT OH 365055	34281020



VERTICAL CONSTRUCTION
 DEADEND (SINGLE) LARGE CONDUCTOR
 NO POLE BANDS SHEET 1 OF 2

*Quantity as Required

DEC. 1985



REVISED
 JULY 2022

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3-PHASE PRIMARY
 12.47/7.2 kV

C5-3L

5.30.1

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 4/0 ACSR Penguin 6/1 construction, neutral position 4'-0".
For 477 ACSR Hawk 26/7 construction, neutral position 5'-6".
3. Item p, connector, M43-11 assembly, separately specified when required.

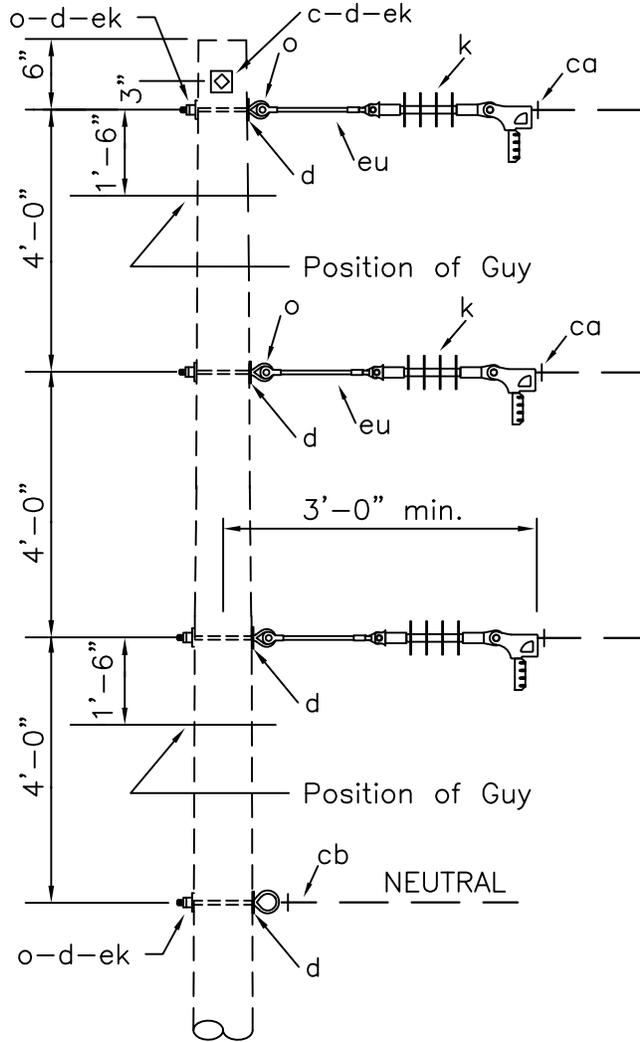
ITEM	QTY	MATERIAL	INVENTORY NO.
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	8	Washer, square, 3" curved	-
d	6	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
o	4	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
av	*	Jumpers, covered, as required	-
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ea	3	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd.	-
eq	3	Bracket, offset pole mount, 15"	07807600
eu	3	Link, extension, insulated, 12", C-TE	34276130
-	3	Stud, insulator, 1 1/4" x 3/4" complete w/ washers & machine nuts	34301000

VERTICAL CONSTRUCTION
DEADEND (SINGLE) LARGE CONDUCTOR
NO POLE BANDS SHEET 2 OF 2

*Quantity as Required

DEC. 1985	REVISED JULY 2022	3-PHASE PRIMARY 12.47/7.2 kV	C5-3L
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



NOTE:

1. Items ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	8	Washer, square, 3", curved	-
d	2	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
o	4	Bolt, eye, 5/8" x req'd. length	063615TT
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	3	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

Max. Longitudinal Load:
5000 lbs. per conductor

VERTICAL CONSTRUCTION
DEADEND (SINGLE)

*Quantity as Required

DEC. 1985

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NOV 2022

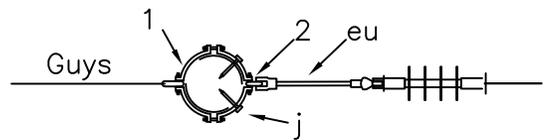
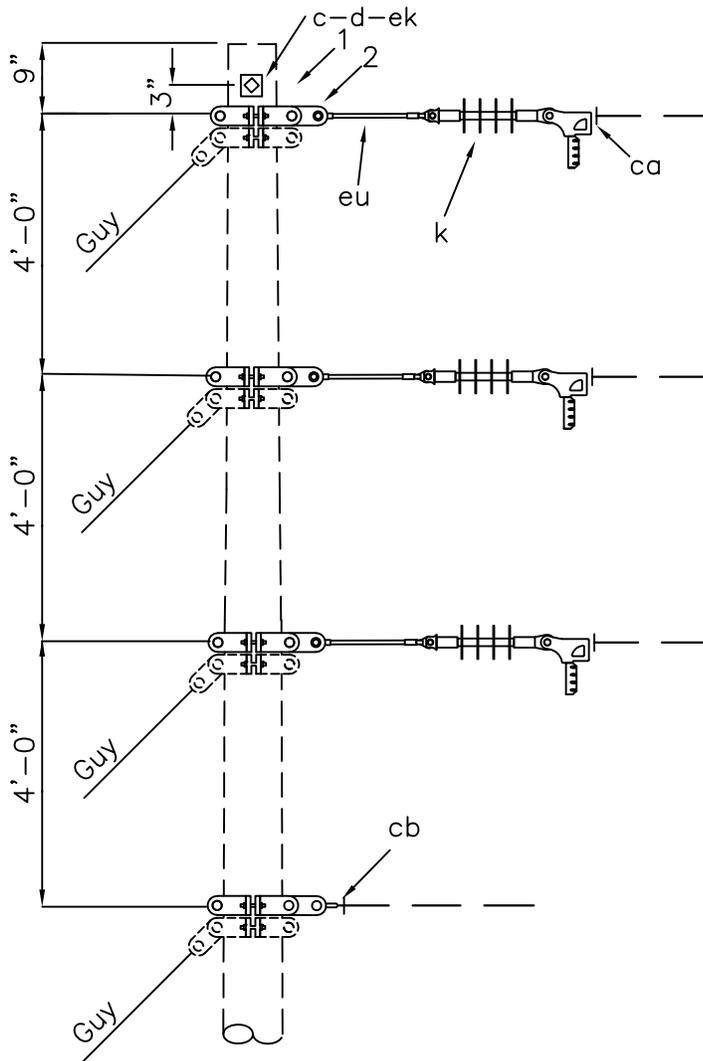
3-PHASE PRIMARY
12.47/7.2 kV

C5



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



**NOT FOR NEW
CONSTRUCTION**

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. See drawing E9-3M for pole band guys.
3. For 477 ACSR Hawk 26/7 construction, lower neutral position 18"
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	8	Screw, lag 1/2" x 2"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	3	Link, extension, insulated, 12"	34276130
1	4	Band, pole (set)	47000000
2	4	Link, connecting (pair)	47000200

DESIGN LIMITS

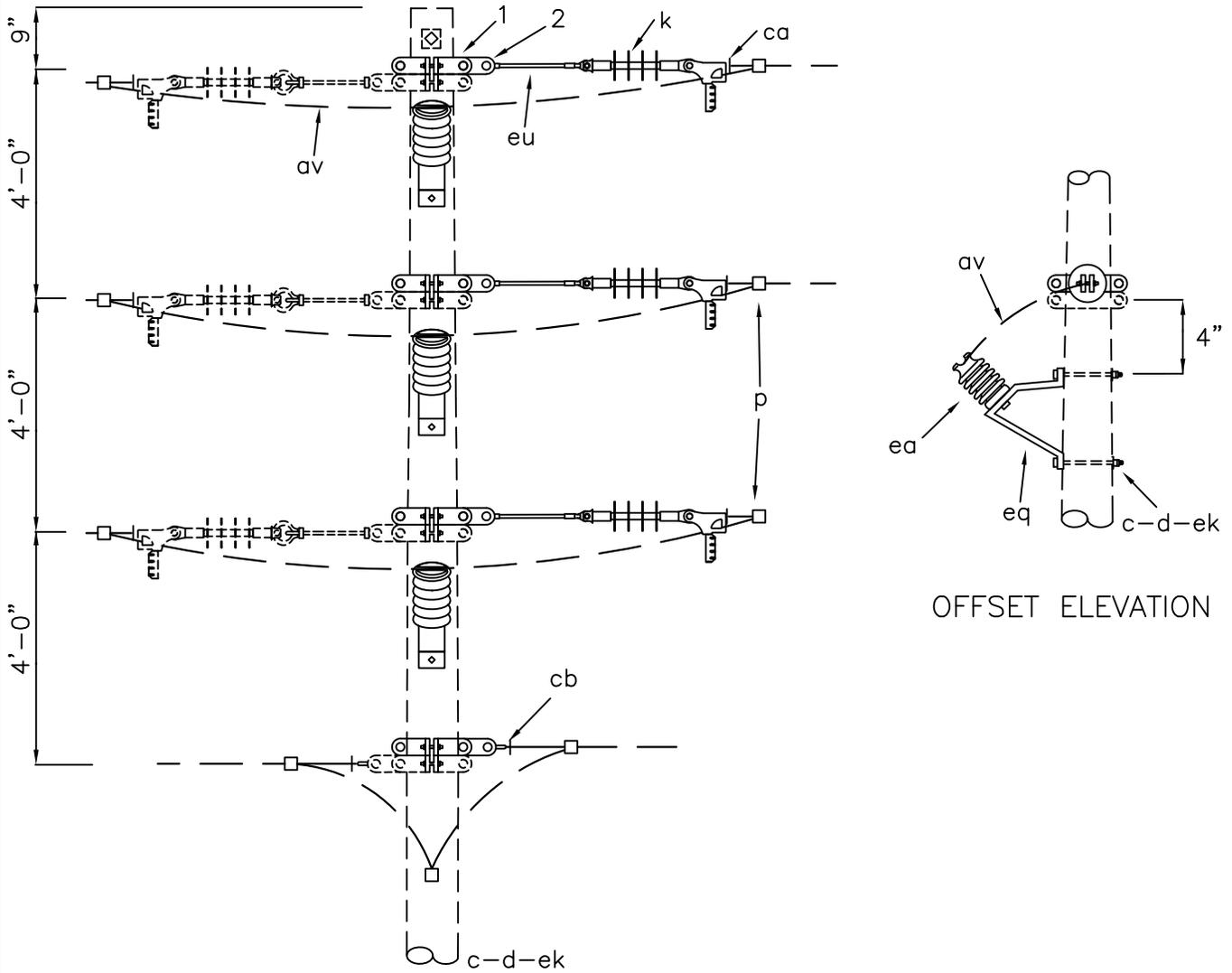
Max. Longitudinal Load:
 5000 lbs. per conductor
 (10,000 lb M&E insulators)
 7500 lbs. per conductor
 (15,000 lb M&E insulators)

*Quantity as Required

**VERTICAL CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C5-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	3	DT OH 365055	34251010
k	3	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

VERTICAL CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

DEC. 1985



REVISED
NOV 2022

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FMJ

3-PHASE PRIMARY
12.47/7.2 kV

C5-3

5.33.1

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18"
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item p, connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	6	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required, compression	-
j	8	Screw, lag 1/4" x 2"	-
av	*	Jumpers, covered, as required	-
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ea	3	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd.	-
eq	3	Bracket, offset pole mount, 15"	07807600
eu	3	Link, extension, insulated, 12", C-TE	34276130
1	4	Band, pole, set	47000000
2	4	Link, connecting, pair	47000200
-	3	Stud, insulator, 1 1/4" x 3/4" complete w/ washers & machine nuts	34301000

NOT FOR NEW CONSTRUCTION

VERTICAL CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR SHEET 2 OF 2

*Quantity as Required

DEC. 1985

REVISED
NOV 2022

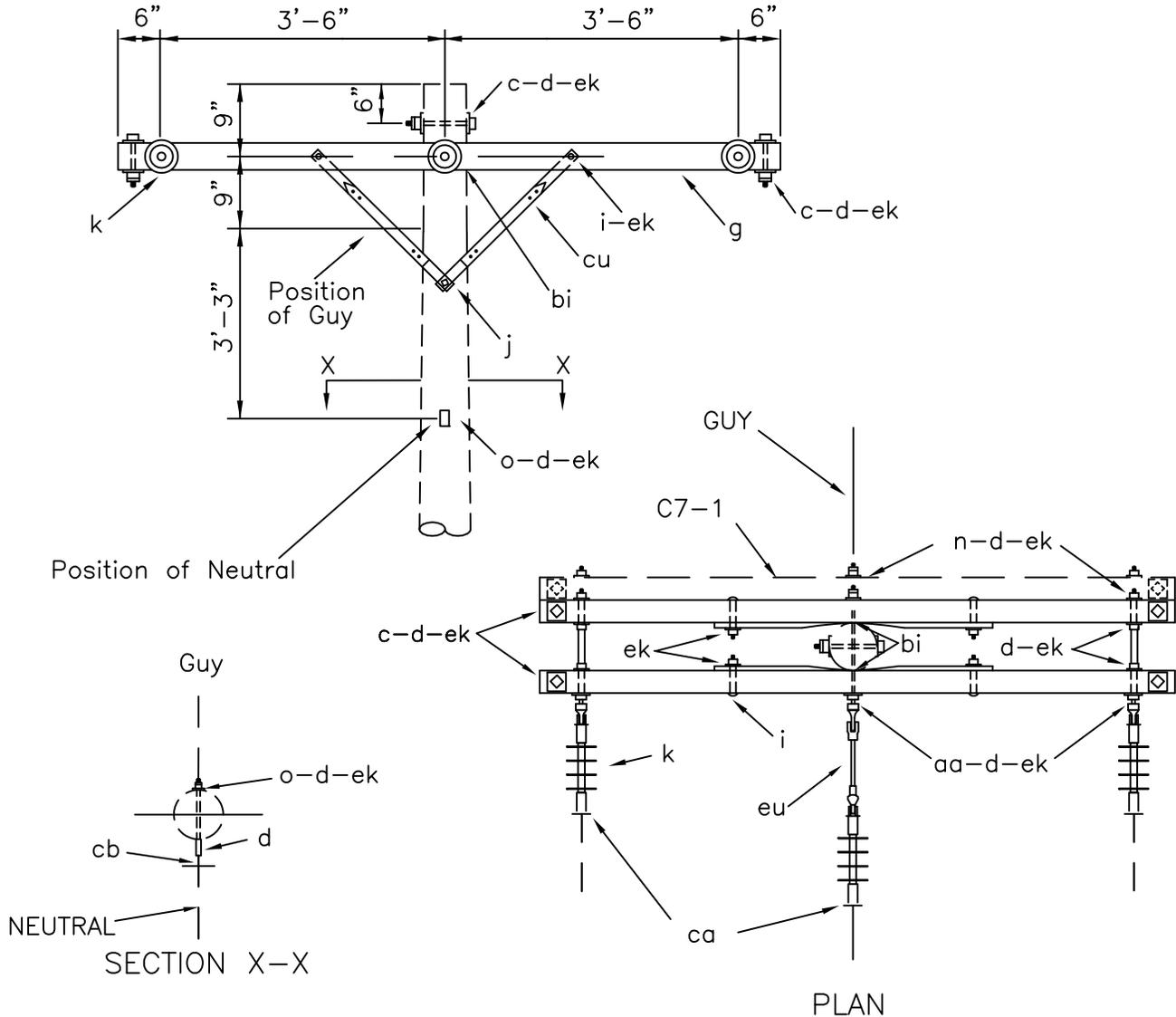


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3-PHASE PRIMARY
12.47/7.2 kV

C5-3

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
g	2	DT PC 364021	18290311	C7
g	3	DT PC 364021	18290311	C7-1
k	3	DT OH 365055	34281020	C7, C7-1



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load:
Reference Design Guide

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
SHEET 1 OF 2

APR. 1983

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NOV 2022

3-PHASE PRIMARY
12.47/7.2 kV

C7, C7-1

5.34.1

*Quantity as Required



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MFJ

NOTES:

1. See dwg. E5-3M for crossarm loading limitations
2. Designate as C7-1 for assembly with three crossarms.
3. Units ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
i	4	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
aa	2	Nut, eye, 5/8"	41904065
aa	1	Nut, eye, 3/4"	41904063
bi	2	Gain, Plate	46800260
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cm	1	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 28" span, Pair	07535128
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12", C-TE	34276130
s	1	Clevis, Secondary, Swinging, Bare, J6	12301201

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load:
Reference Design Guide

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)
SHEET 2 OF 2**

*Quantity as Required

APR. 1983

REVISED
NOV 2022

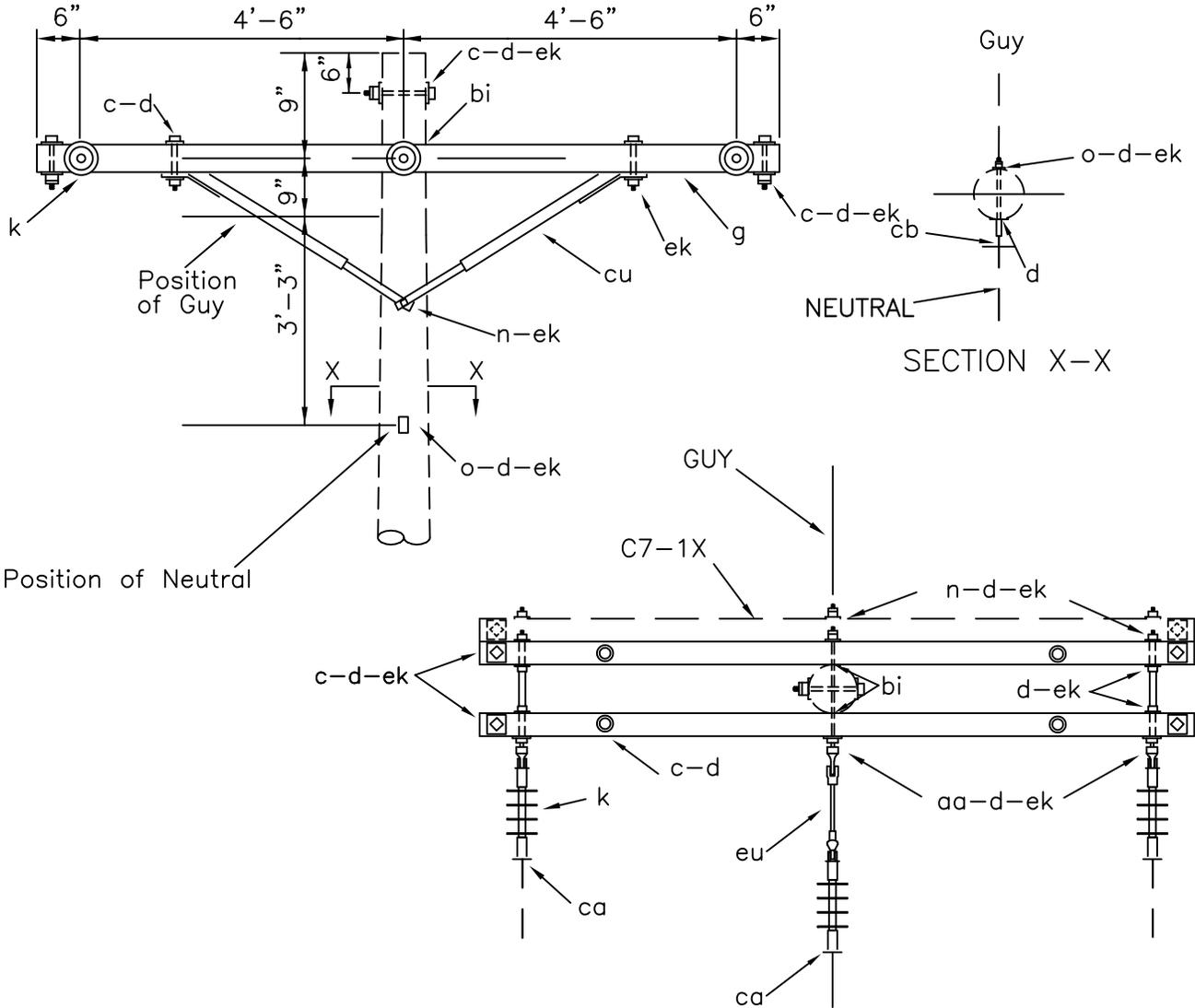


APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C7, C7-1

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
g	2	DT PC 364021	18290511	C7X
g	3	DT PC 364021	18290511	C7-1X
k	3	DT OH 365055	34281020	C7X, C7-1X



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load:
Reference Design Guide

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)
10' CROSSARMS SHEET 1 OF 2**

JULY 2014



REVISED
NOV 2022

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3-PHASE PRIMARY
12.47/7.2 kV

C7X, C7-1X

NOTES:

1. See drawing E5-3M for crossarm loading limitations.
2. Designate as C7-1X for assembly with three crossarms.
3. Unit ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
aa	2	Nut, eye, 5/8"	41904065
aa	1	Nut, eye, 3/4"	41904063
bi	2	Gain plate	46800260
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load:
Reference Design Guide

*Quantity as Required

CROSSARM CONSTRUCTION

DEADEND (SINGLE)

10' CROSSARMS SHEET 2 OF 2

JULY 2014

REVISED
NOV 2022

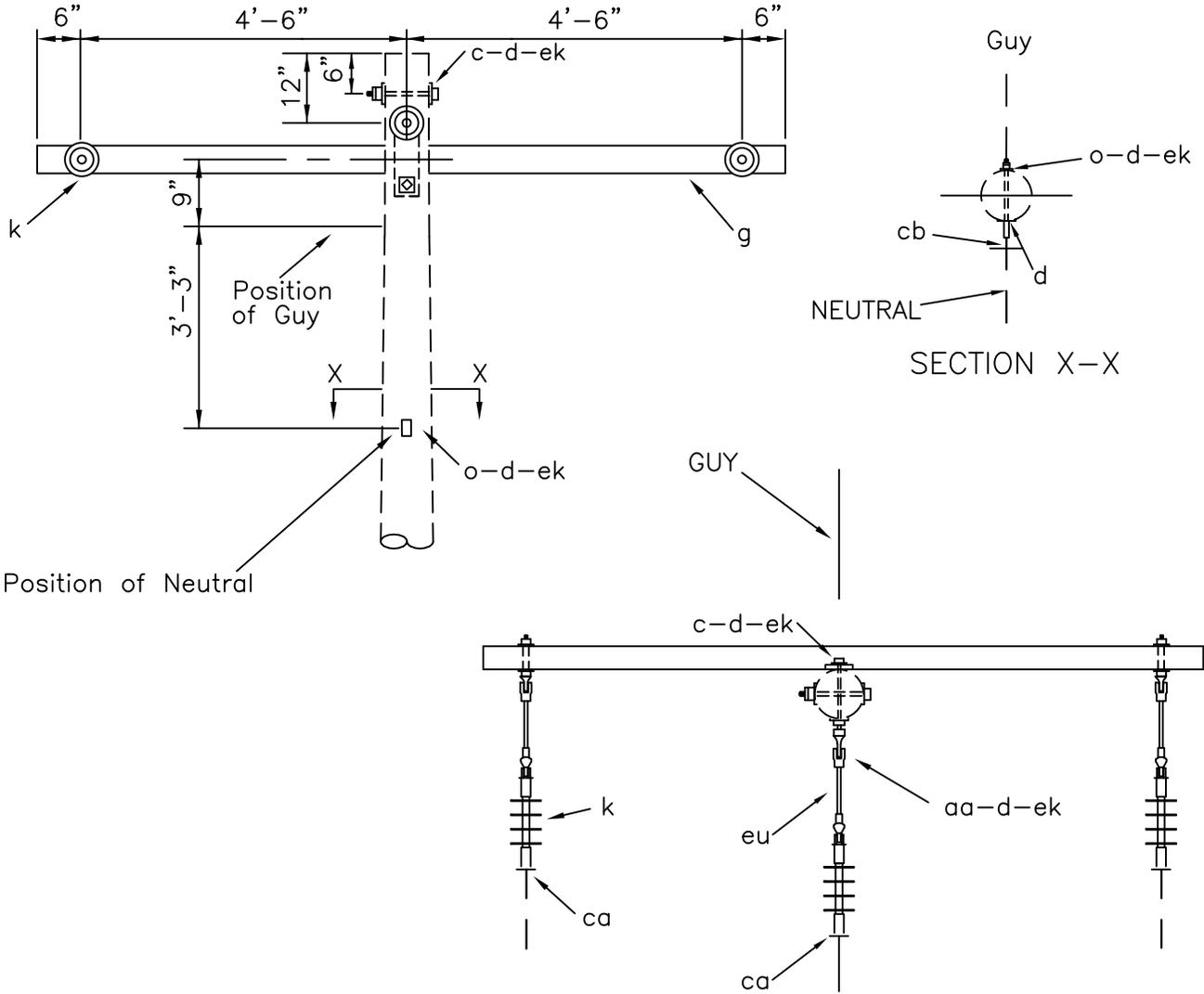


APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C7X, C7-1X

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18081207
k	3	DT OH 365055	34281020



DESIGN LIMITS

Max. Longitudinal Load:
Reference Design Guide

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
10' CROSSARMS SHEET 1 OF 2

JULY 2014



REVISED
NOV 2022

APPROVED BY
JDP

3-PHASE PRIMARY
12.47/7.2 kV

C7FX

*Quantity as Required

NOTES:

1. See manufacturer data for crossarm loading limitations.
2. Units ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063805TT
d	4	Washer, square, 3", curved	-
d	2	Washer, square, 2 1/4"	-
g	1	Crossarm, 10'-0", fiberglass, dead end, with hardware	18081207
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
aa	1	Nut, eye, 3/4"	41904063
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	3	Link, extension, insulated, 12", C-TE	34276130

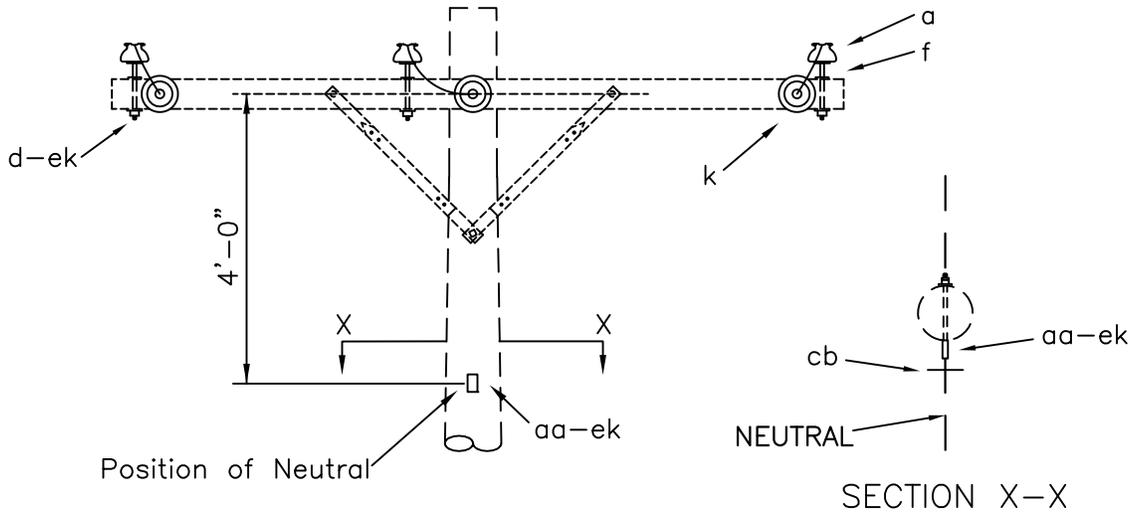
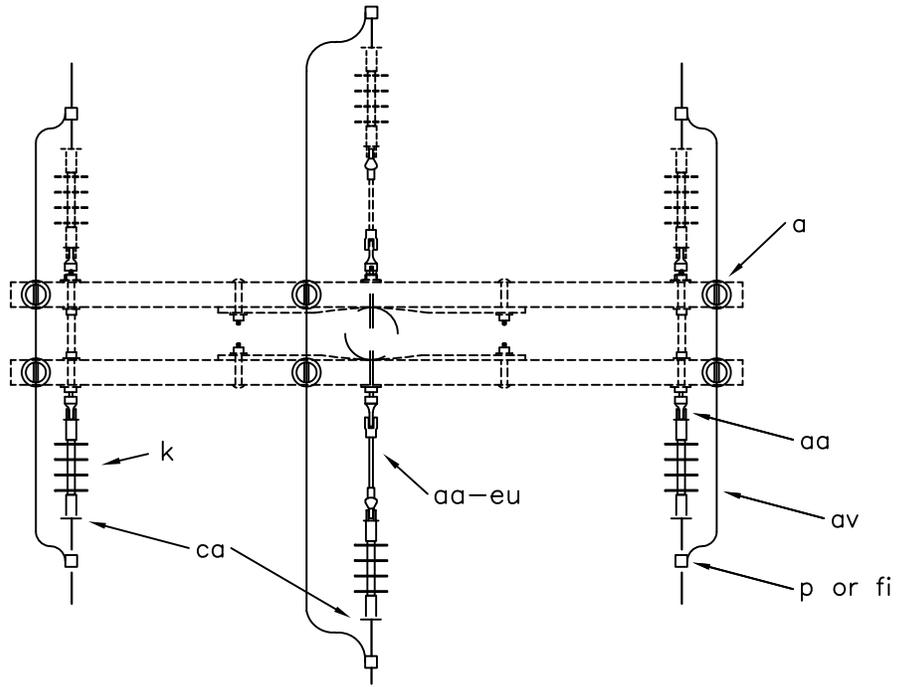
DESIGN LIMITS
 Max. Longitudinal Load:
 Per conductor per 10' crossarm:
 Grade B 443 lbs
 Grade C 735 lbs

CROSSARM CONSTRUCTION
 DEADEND (SINGLE)
 10' CROSSARMS SHEET 2 OF 2

*Quantity as Required

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C7FX
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
a	6	DT OH 365055	34223010
k	3	DT OH 365055	34281020



CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LESS CROSSARMS SHEET 1 OF 2

*Quantity as Required

DEC. 1985



REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C7LA

5.37.1

NOTES:

1. See dwg. E5-3M for crossarm loading limitations.
2. For use with existing crossarms. For existing 10' crossarms, substitute 3/4" eyenut for center phase tap.
3. Units ca and cb are shown on assembly drawings M42-13.
4. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
5. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
6. Item fi, connector, M43-10 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	6	Insulator, pin type, (12.47/7.2 kV)	34223010
d	6	Washer, square, 3"	-
f	6	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connections, as required, compression	-
aa	4	Nut, eye, 5/8"	41904065
av	*	Jumper, Covered, Hendrix as required	-
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washer, as req'd	-
eu	1	Link, extension, insulated, 12", C-TE	34276130

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LESS CROSSARMS SHEET 2 OF 2

DEC. 1985

REVISED
NOV 2022

3-PHASE PRIMARY
12.47/7.2 kV

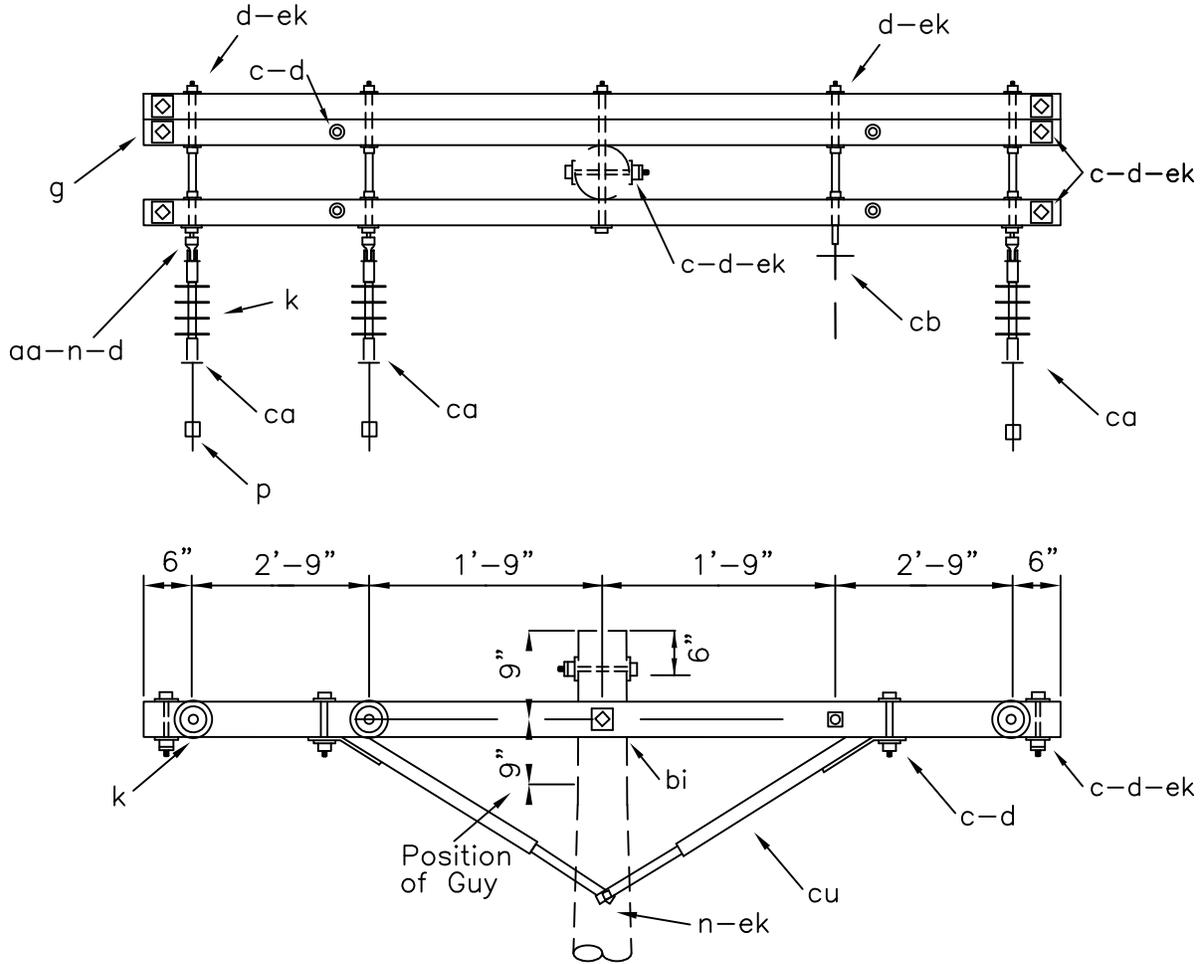
C7LA

*Quantity as Required



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
g	3	DT PC 364021	18290511
k	3	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	7	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	30	Washer, square, 2 1/4"	-
d	2	Washer, square, 3"	-
d	4	Washer, round, 1 3/8"	-
g	3	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
aa	4	Nut, eye, 5/8"	41904065
bi	2	Gain, Plate	46800260
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ee	4	Letters 2 'C', 2 'N' w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-

CROSSARM CONSTRUCTION DEADEND (SINGLE)

*Quantity as Required

DEC. 1992

REVISED
NOV 2022

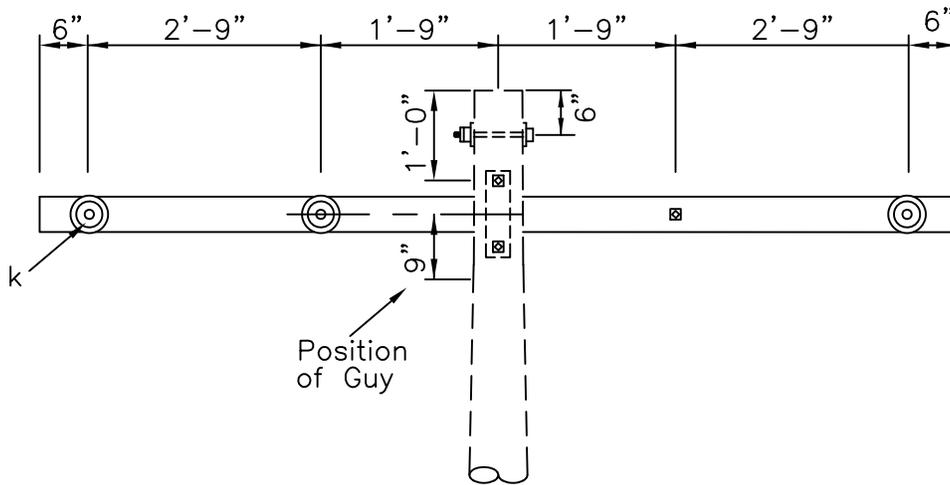
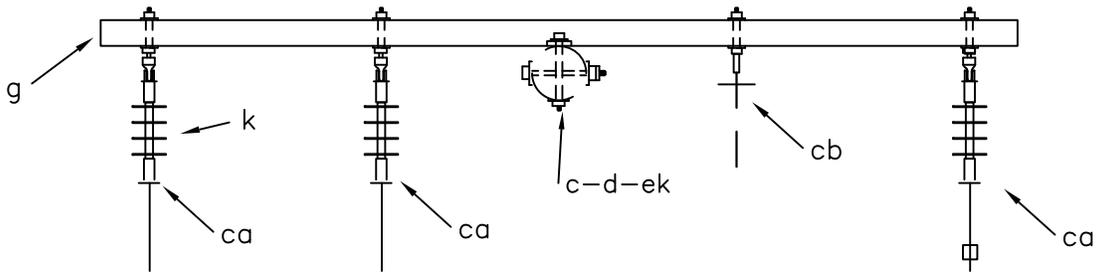
3-PHASE PRIMARY
12.47/7.2 kV

C7-1-9



APPROVED BY
MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18081207
k	3	DT OH 365055	34281020



NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
d	2	Washer, square, 3", curved	-
g	1	Crossarm, 10'-0", fiberglass, dead end, with hardware	18081207
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ee	*	Phase and device tags, complete	-
ek	*	Double coil spring washers, as req'd.	-

CROSSARM CONSTRUCTION
DEADEND (SINGLE)

*Quantity as Required

DEC. 1992

REVISED
NOV 2022

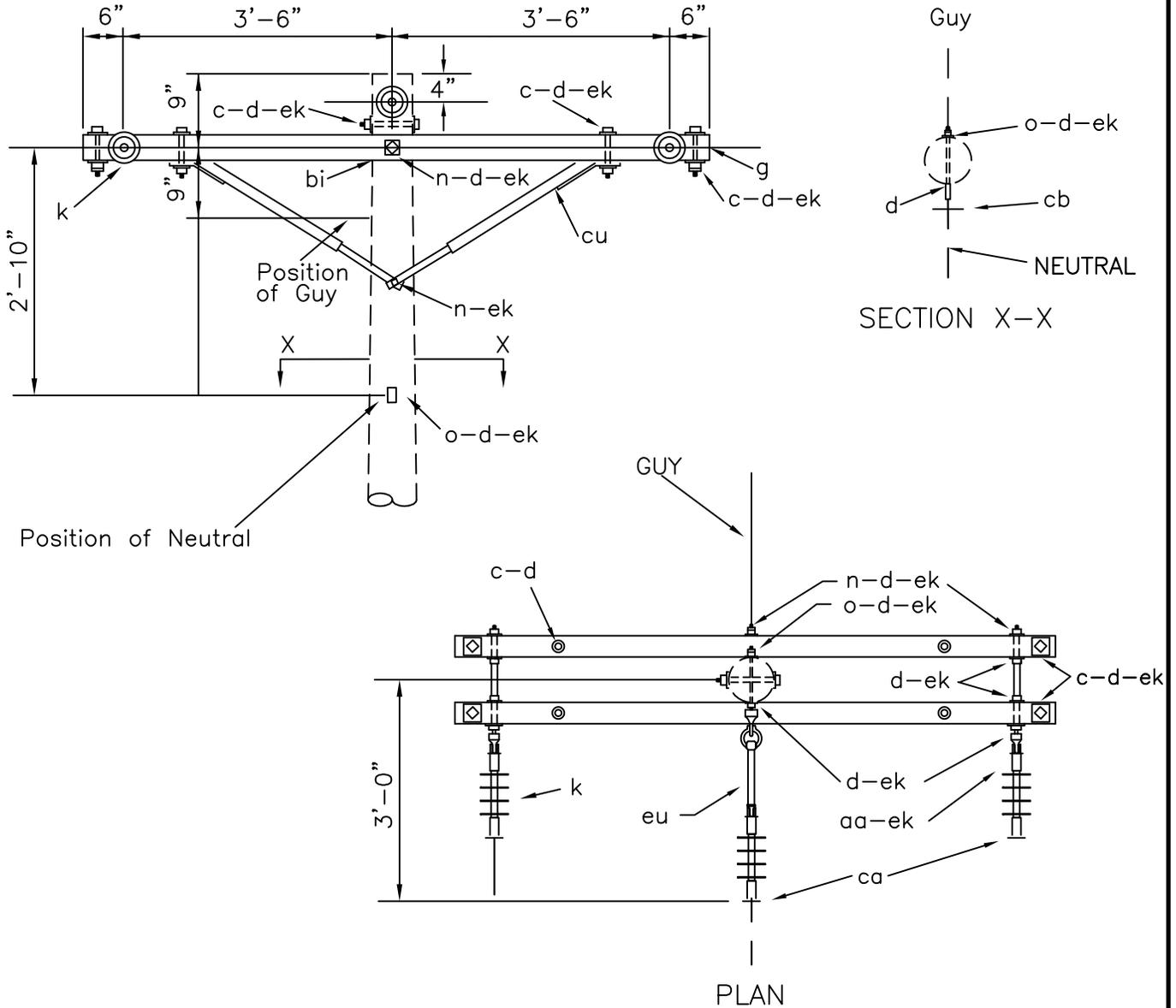
3-PHASE PRIMARY
12.47/7.2 kV

C7-1-9FX



APPROVED BY
JDP

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	3	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
SHEET 1 OF 2

*Quantity as Required

APR. 1983



REVISED
NOV 2022
APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C7-2

5.40.1

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For use when conversion to C8 is likely.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
d	4	Washer, square, 3", curved	-
d	2	Washer, square, 3"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
aa	2	Nut, eye, 5/8"	41904065
bi	2	Gain, plate	46800260
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

CROSSARM CONSTRUCTION
DEADEND (SINGLE)
SHEET 2 OF 2

*Quantity as Required

APR. 1983



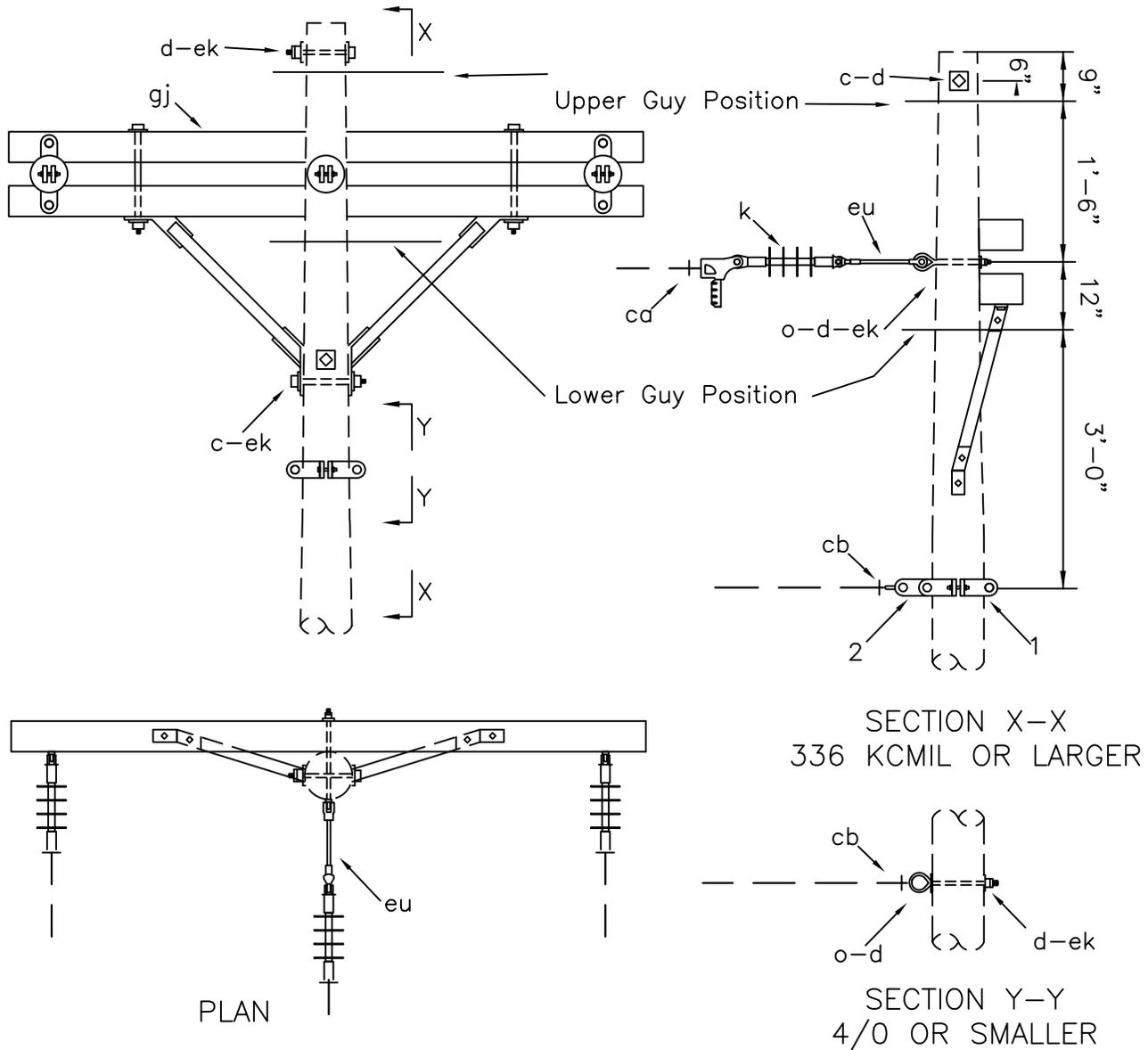
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APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C7-2

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
gj	1	DT PC 364021	18081204	C7-HBA
gj	1	DT PC 364021	18081207	C7-HBB
k	3	DT OH 365055	34281020	C7-HBA, C7-HBB



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load Per Conductor: Reference Design Guide

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR SHEET 1 OF 2**

*Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C7-HBA, C7-HBB
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18"
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. For design tensions greater than 5000 lbs, use 15000 lbs M&E insulators.

UNIT	ARM DIMENSIONS	CAT. NO.	INVENTORY NO.
C7-HBA	3 3/4" x 5 3/4" x 8'-0"	2890-B	18081204
C7-HBB	3 5/8" x 7 1/2" x 10'-0"	2892-B	18081207

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3", curved (for small neutral)	-
d	2	Washer, square, 2 1/4"	-
j	2	Screw, lag 1/2" x 2" (for large neutral)	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, eye, 5/8" x req'd. length (for small neutral)	063615TT
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12", C-TE	34276130
gj	1	Crossarm assembly, complete with mounting hardware	-
1	1	Band, pole, set	47000000
2	1	Link, connecting, pair	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load Per
Conductor: Reference Design
Guide

**CROSSARM CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR SHEET 2 OF 2**

DEC. 1985

REVISED
NOV 2022

3-PHASE PRIMARY

C7-HBA,



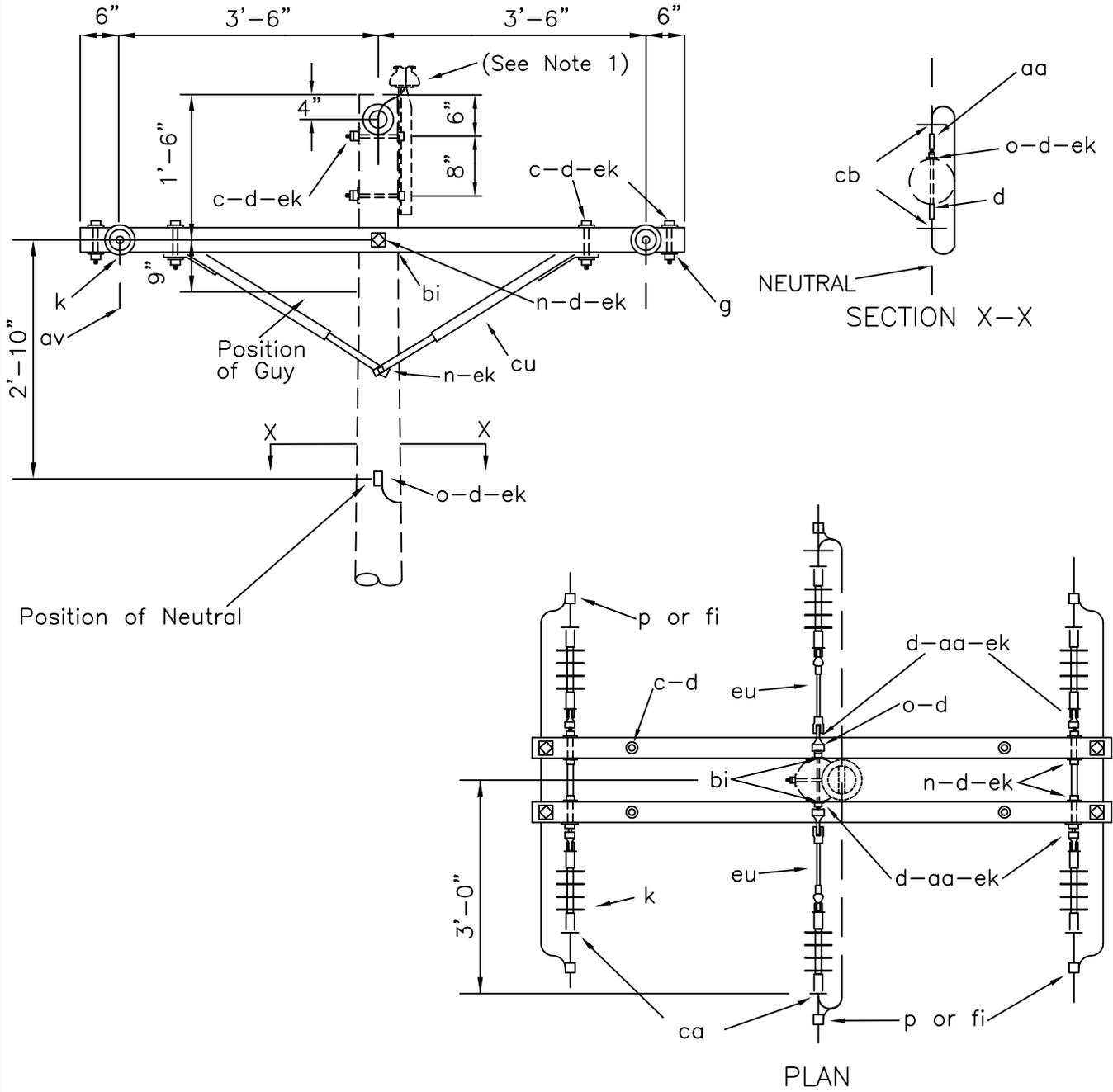
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MFJ

12.47/7.2 kV

C7-HBB

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Line Angle:
 5°
 Add .8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor
 *Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) SHEET 1 OF 2			
APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8
	APPROVED BY MFJ		

NOTES:

1. Jumper supports separately specified when required.
2. Unit ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly separately specified when required.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	4	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, Plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 2 OF 2

APR. 1983



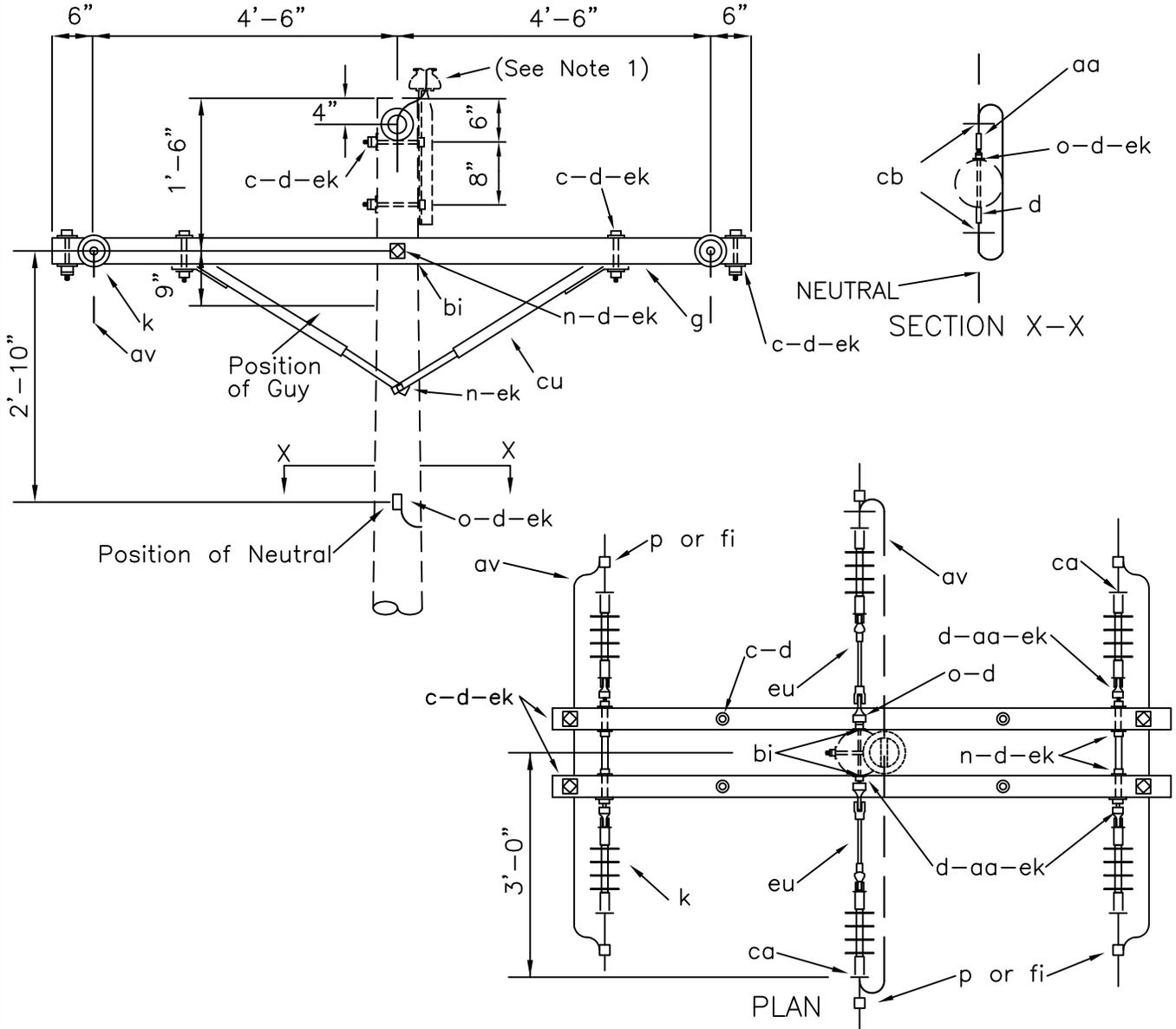
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NOV 2022

APPROVED BY
MPJ

3-PHASE PRIMARY
12.47/7.2 kV

C8

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 10' CROSSARMS SHEET 1 OF 2

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8X
	APPROVED BY MFJ		

NOTES:

1. Jumper supports separately specified when required. M5-2 shown.
2. Units ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	4	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION

DEADEND (DOUBLE)

10' CROSSARMS SHEET 2 OF 2

JULY 2014

REVISED
NOV 2022

3-PHASE PRIMARY

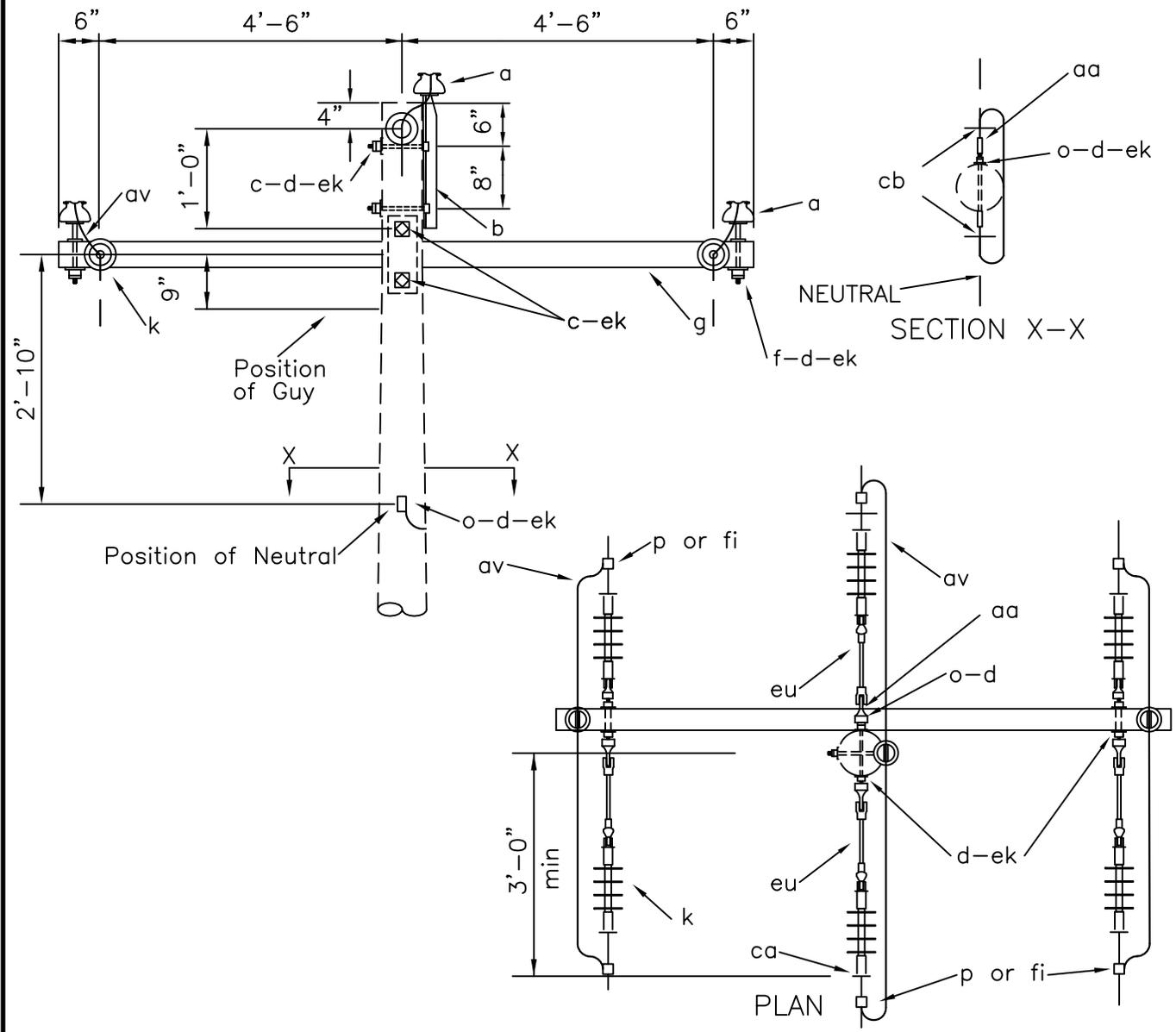
C8X



APPROVED BY
MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
a	3	DT OH 365055	34223010
g	1	DT PC 364021	18081207
k	6	DT OH 365055	34281020



DESIGN LIMITS
 Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 10' CROSSARMS SHEET 1 OF 2**

JULY 2014	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8FX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, connector, M43-11 assembly, separately specified when required.
5. When ordering crossarms, specify two position arm with hardware on both sides.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	3	Insulator, pin type, (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
d	6	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 10'-0", fiberglass, dead end	18081207
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
s	2	Clevis, J6	12301201
aa	2	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bo	6	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cm	2	Insulator, spool, 3"	34263010
ek	*	Double coil spring washers, as req'd.	-
eu	4	Link, extension, insulated, 12", C-TE	34276130

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (DOUBLE)

10' CROSSARMS SHEET 2 OF 2

JULY 2014

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NOV 2022

3-PHASE PRIMARY

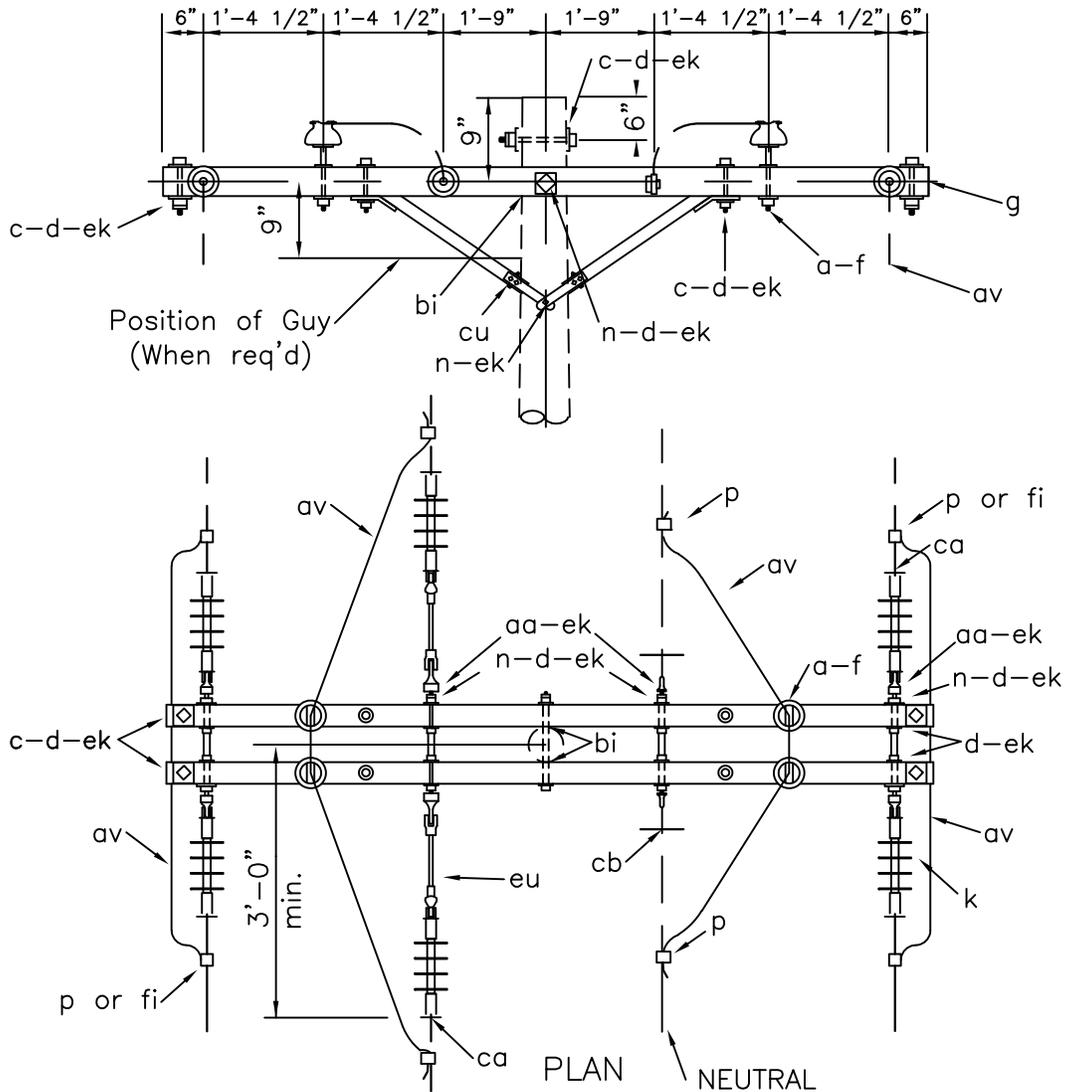
C8FX



APPROVED BY
MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5°
 Add .8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-1
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type, (12.47/7.2 kV)	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	26	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4" complete w/ washers & machine nuts	45413111
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18081207
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as required, compression	-
aa	8	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, Plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5°
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 2 OF 2**

APR. 1983



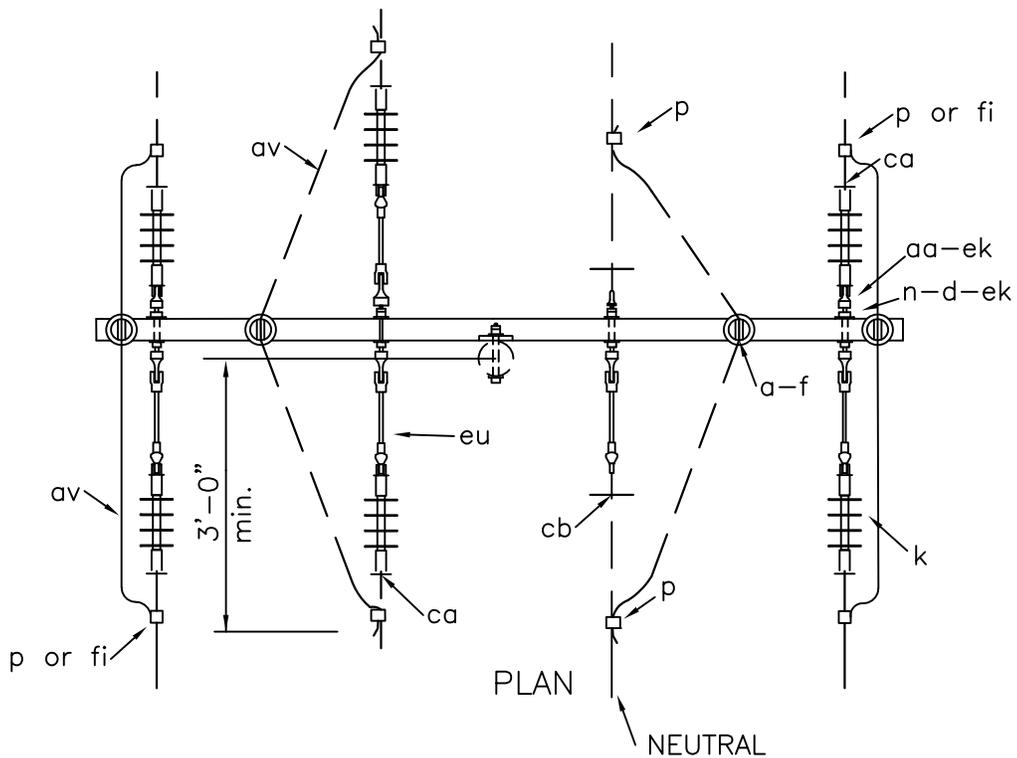
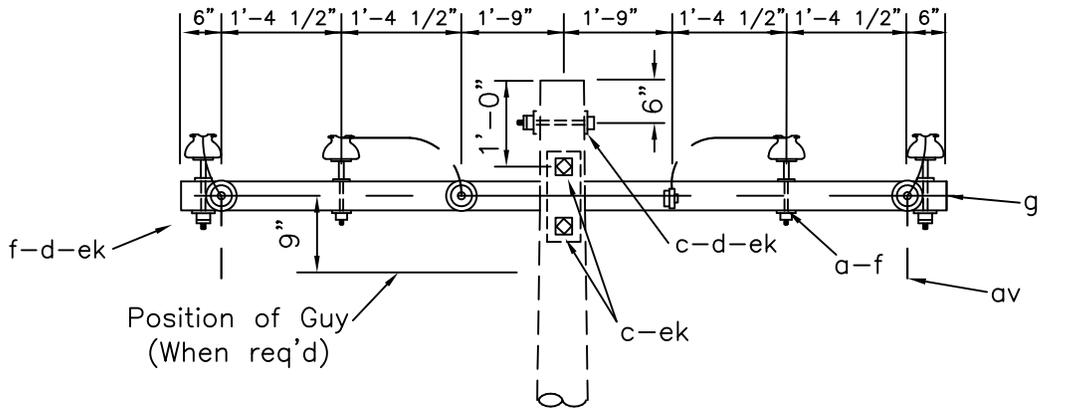
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NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C8-1

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	1	DT PC 364021	18081207
k	6	DT OH 365055	34281020



DESIGN LIMITS

Max. Line Angle:

5°
Add .8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 1 OF 2

APR. 1983



REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C8-1FX

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.
4. When ordering crossarm, specify four position crossarm with hardware on two sides.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type, (12.47/7.2 kV)	34223010
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	6	Washer, square, 2 1/4"	-
d	2	Washer, square, 3", curved	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 10'-0", fiberglass, dead end, with hardware	18081207
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required, compression	-
av	*	Jumpers, covered, Hendrix as required	-
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	5	Link, extension, insulated, 12"	34276130

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 2 OF 2

APR. 1983



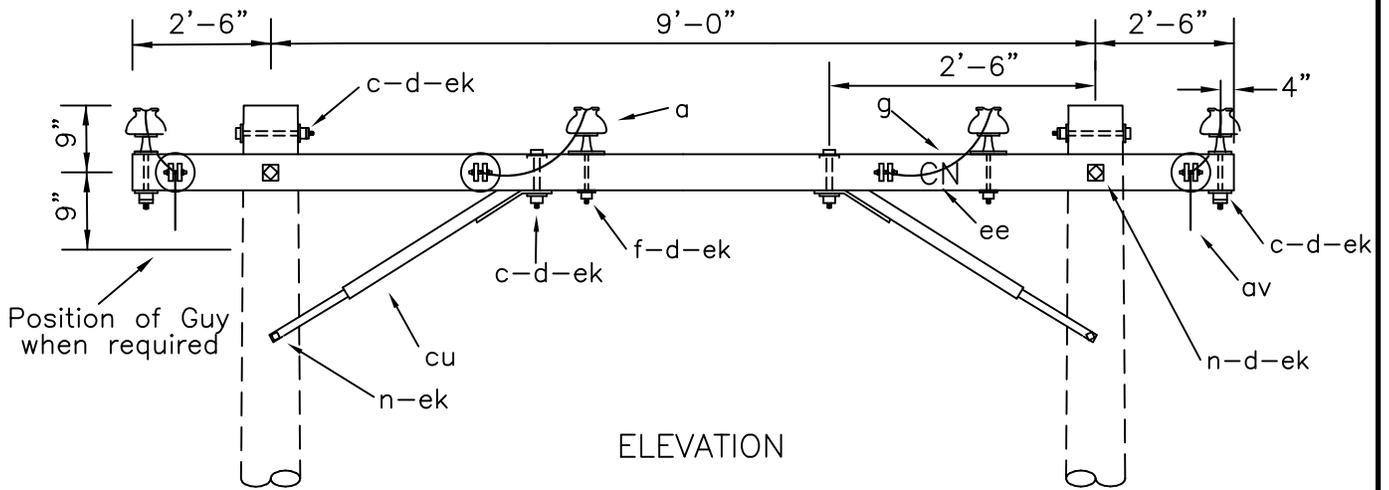
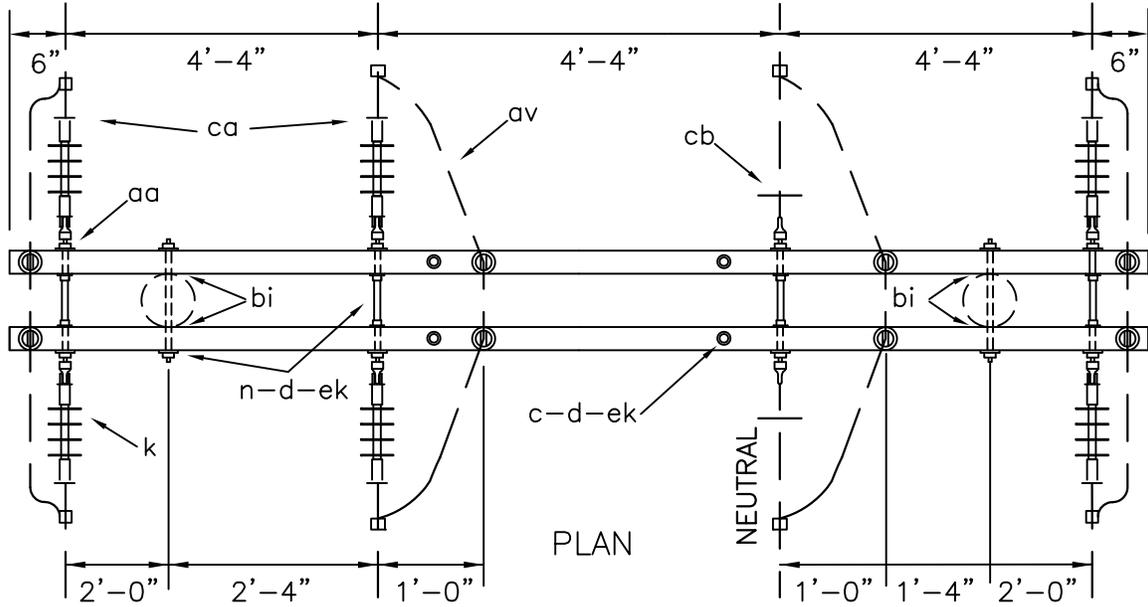
REVISED
NOV 2022

APPROVED BY
JDP

3-PHASE PRIMARY
12.47/7.2 kV

C8-1FX

ITEM	QTY	ASSET #	INVENTORY NO.
a	8	DT OH 365055	34223010
g	2	DT PC 364021	18290811
k	6	DT OH 365055	34281020



DESIGN LIMITS

Max. Unbalanced Load Per Conductor:
 Grade B 2800 lbs
 Grade C 4200 lbs
 Span Limited To 36.4' of Sag

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 2-POLE
 LONG SPAN ASSEMBLY SHEET 1 OF 2

DEC. 1985



REVISED
 NOV 2022

APPROVED BY
 MFJ

3-PHASE PRIMARY
 12.47/7.2 kV

C8-1RVR

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	8	Insulator, pin type, (12.47/7.2 kV)	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 3"	-
d	24	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	8	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	2	Crossarm, 4" x 6" x 14'-0"	18290811
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	2	Bolt, double arming, 3/4" x req'd. length	063306TT
n	6	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as required, compression	-
aa	8	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bi	4	Gain, Plate	46800260
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ee	4	Letters, 2 'C', 2 'N' w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Unbalanced Load Per Conductor:
 Grade B 2800 lbs
 Grade C 4200 lbs

Span Limited To 36.4' of Sag

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 2-POLE
 LONG SPAN ASSEMBLY SHEET 2 OF 2

DEC. 1985

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 NOV 2022

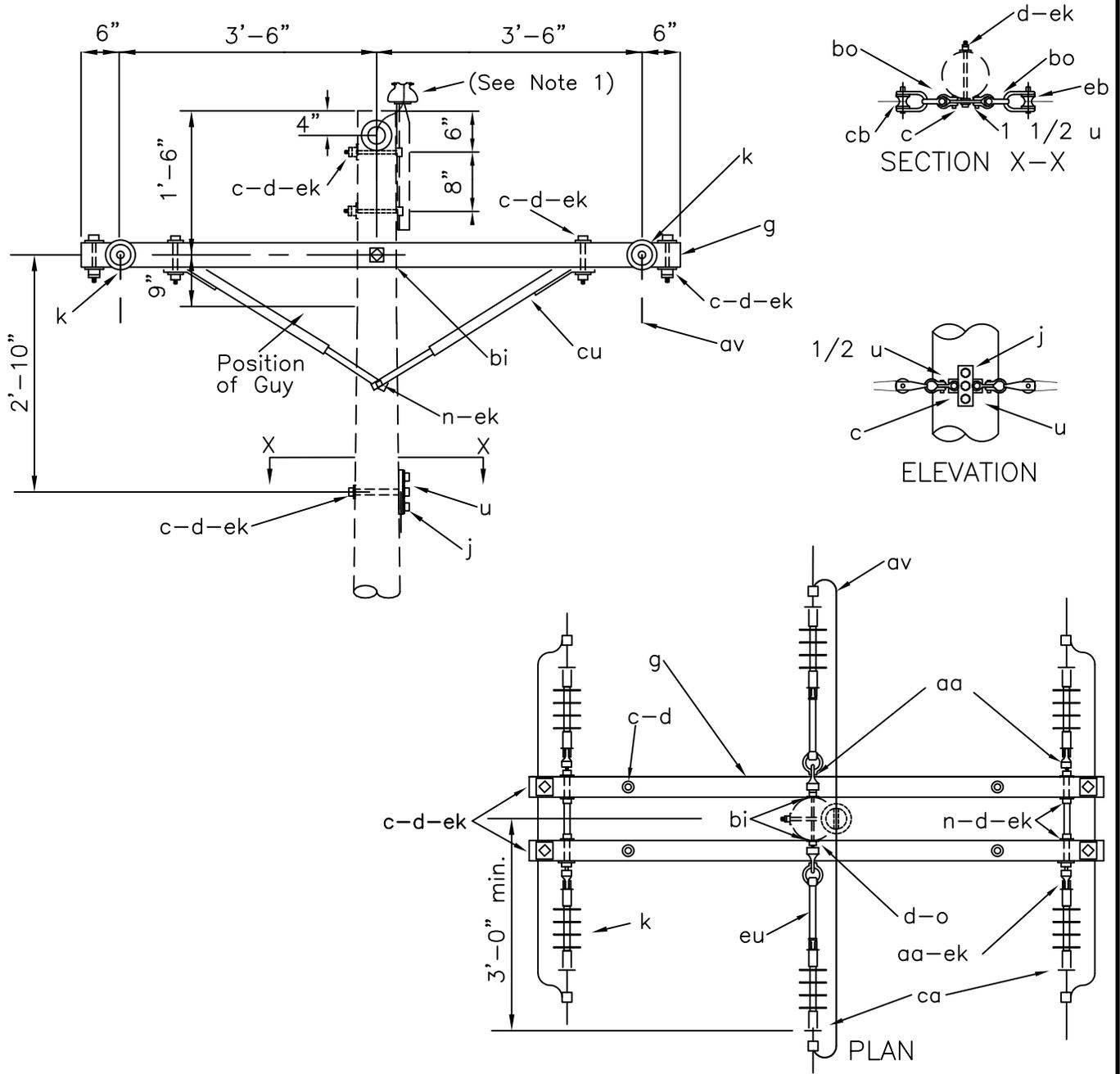
3-PHASE PRIMARY
 12.47/7.2 kV

C8-1RVR



APPROVED BY
 JDP

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C8-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

1. Jumper supports, separately specified when required.
2. Units ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²/₉ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	19	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
j	2	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
u	2	Clamp, guy, 6", heavy duty	11770005
aa	5	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
eu	2	Link, extension, insulated, 12", C-TE	34276130
ek	*	Double coil spring washers, as req'd.	-

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION

DEADEND (DOUBLE)

LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983

REVISED
NOV 2022

3-PHASE PRIMARY

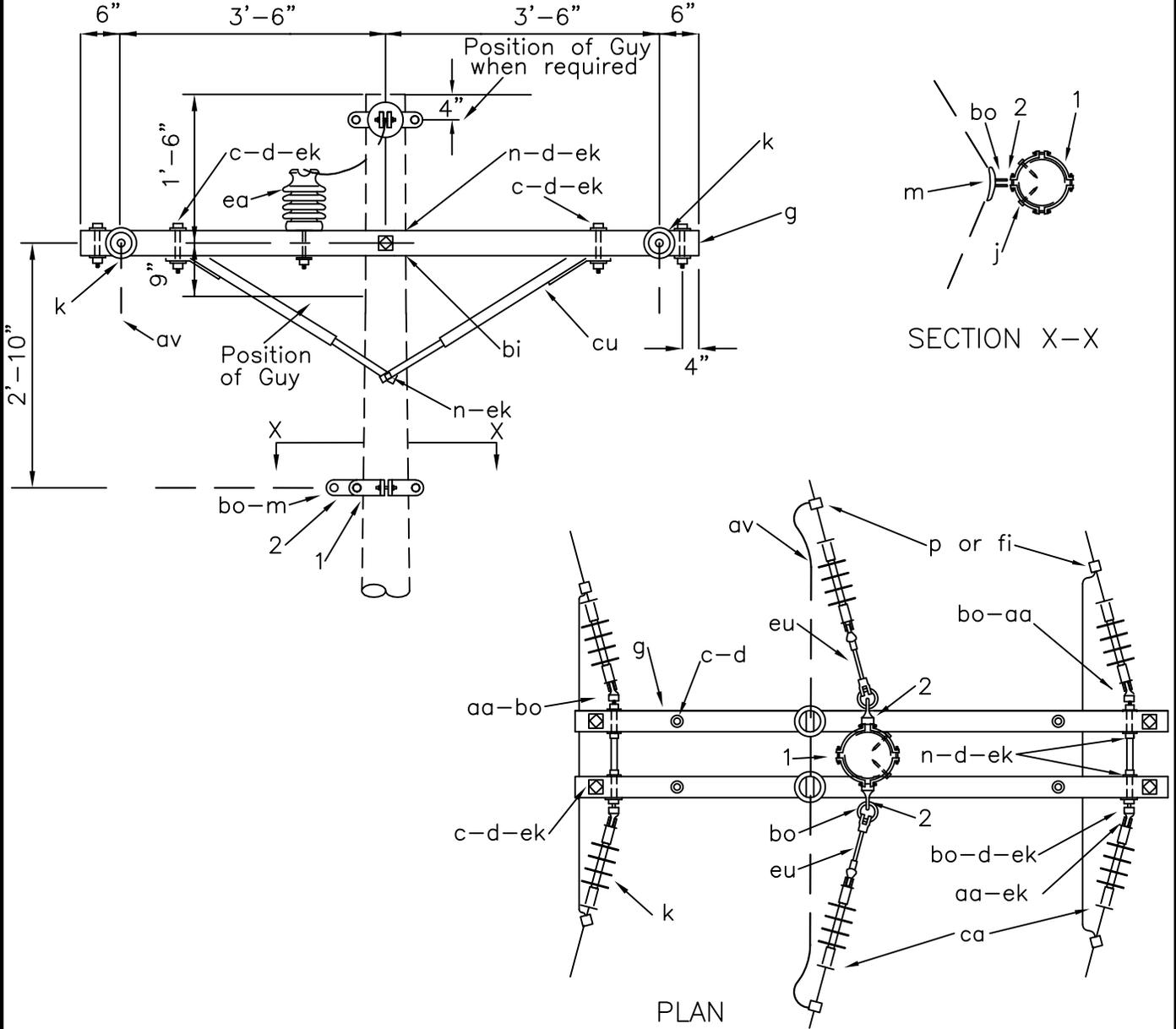
C8-2



APPROVED BY
MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 2500 lbs. per conductor
 Max. Line Angle:
 25°

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) LARGE CONDUCTOR
 SHEET 1 OF 2**

*Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2A
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. If transverse load exceeds 2500 lbs per conductor, use vertical construction.
2. Unit ca is shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	16	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
j	4	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
m	1	Clamp, suspension	11742033
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
n	1	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as required, compression	-
aa	4	Nut, eye, 3/4"	41904063
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, Plate	46800260
bo	7	Shackle, anchor, 3/4"	12302800
ca	6	Deadend assembly, primary	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ea	2	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
1	2	Band, pole, set	47000000
2	3	Link, connecting, pair	47000200
-	2	Stud, insulator, 7" x 3/4", complete w/ washers & machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 2500 lbs. per conductor
 Max. Line Angle:
 25°

CROSSARM CONSTRUCTION DEADEND (DOUBLE) LARGE CONDUCTOR SHEET 2 OF 2

*Quantity as Required

DEC. 1985



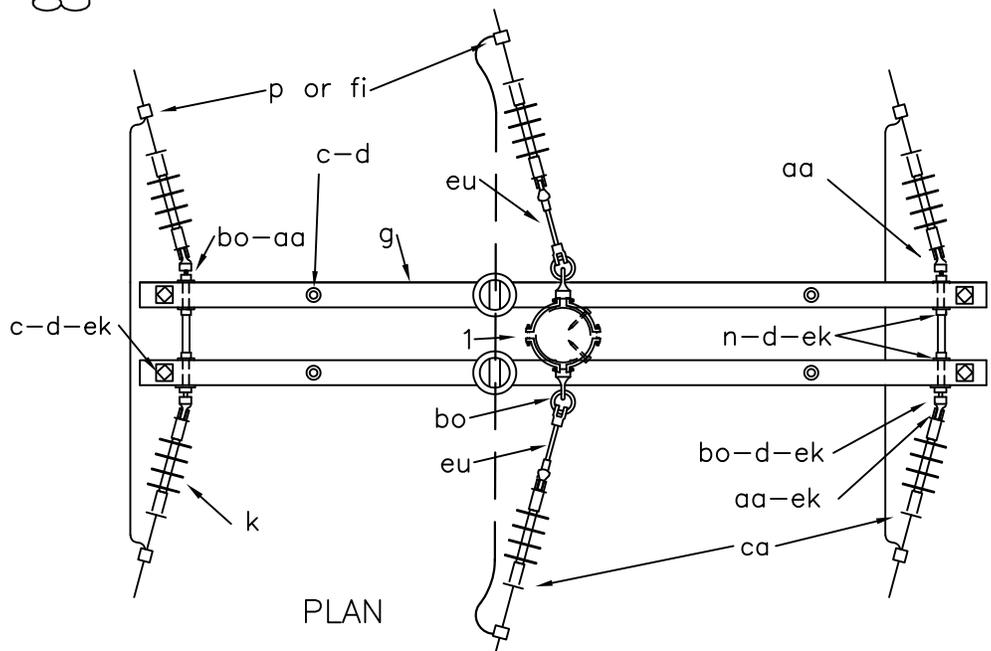
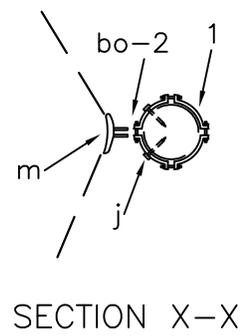
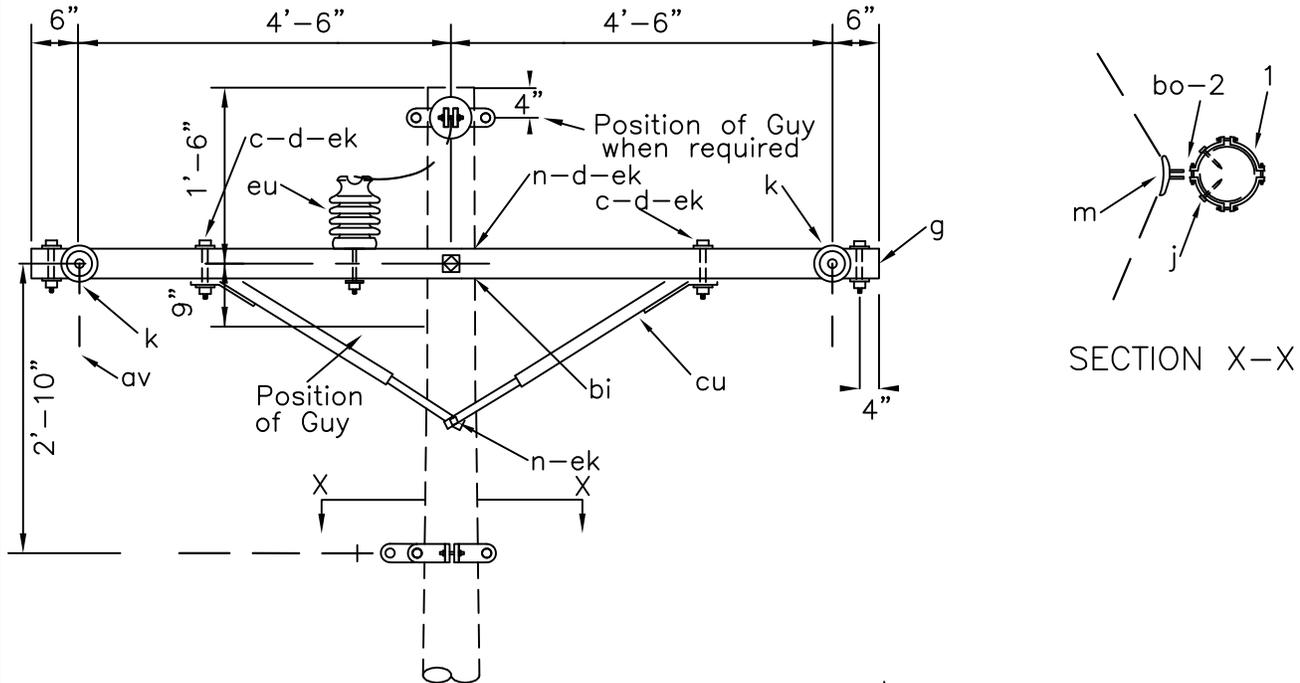
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 NOV 2022

APPROVED BY
 MFJ

3-PHASE PRIMARY
 12.47/7.2 kV

C8-2A

ITEM	QTY	ASSET #	INVENTORY NO.
ea	2	DT OH 365055	34251010
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 2500 lbs. per conductor
 Max. Line Angle:
 25°

*Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 10' CROSSARMS
 LARGE CONDUCTOR SHEET 1 OF 2

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2AX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. If transverse load exceeds 2500 lbs per conductor, use vertical construction.
2. Unit ca is shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	16	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
j	4	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
m	1	Clamp, suspension	11742033
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
n	1	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as required, compression	-
aa	4	Nut, eye, 3/4"	41904063
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, plate	46800260
bo	7	Shackle, anchor, 3/4"	12302800
ca	6	Deadend assembly, primary	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ea	2	Insulator, polymer post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
1	2	Band, pole, set	47000000
2	3	Link, connecting, pair	47000200
-	2	Stud, insulator, 7" x 3/4", complete w/ washers & machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 2500 lbs. per conductor
 Max. Line Angle:
 25°

CROSSARM CONSTRUCTION DEADEND (DOUBLE) 10' CROSSARMS LARGE CONDUCTOR SHEET 2 OF 2

*Quantity as Required

DEC. 1985



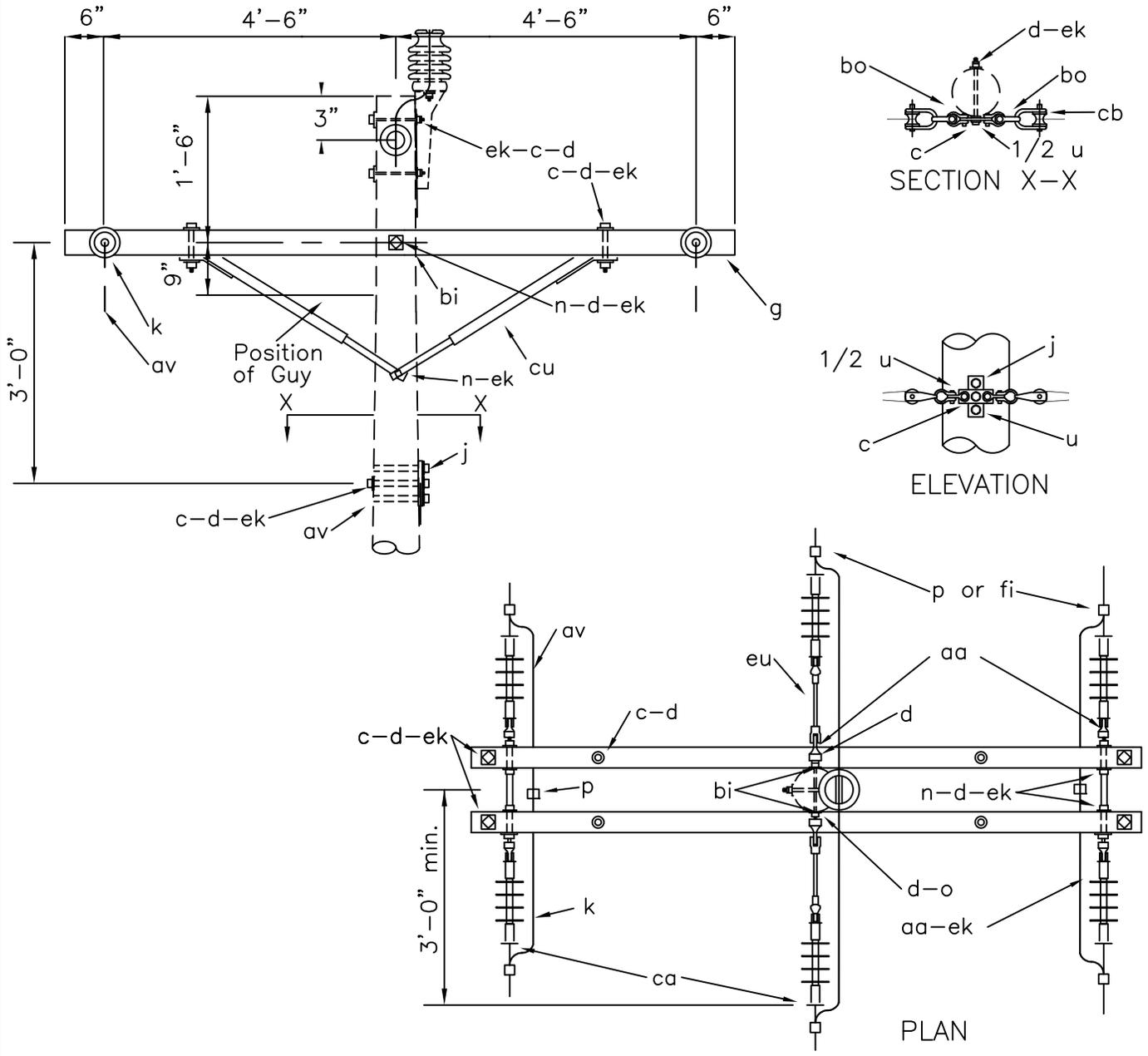
REVISED
 NOV 2022

APPROVED BY
 MFJ

3-PHASE PRIMARY
 12.47/7.2 kV

C8-2AX

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 10' CROSSARMS
 LARGE CONDUCTOR SHEET 1 OF 2**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2X
CORE ELECTRIC COOPERATIVE	APPROVED BY JMF		

NOTES:

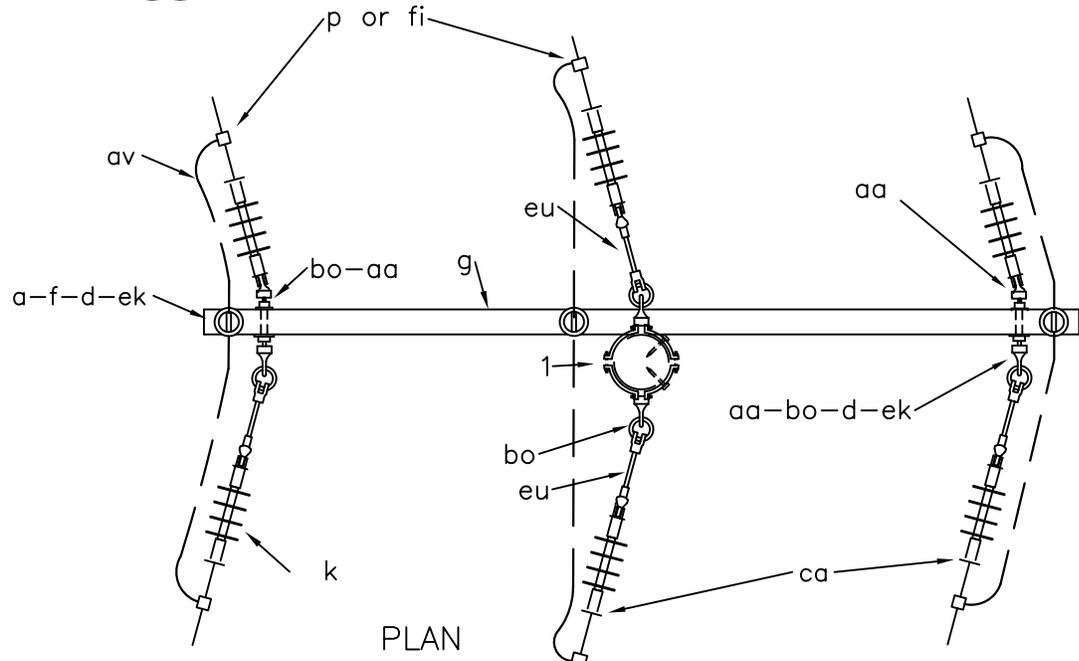
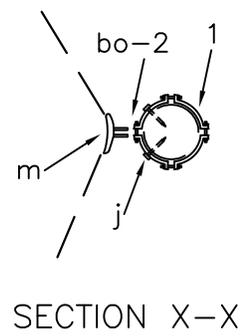
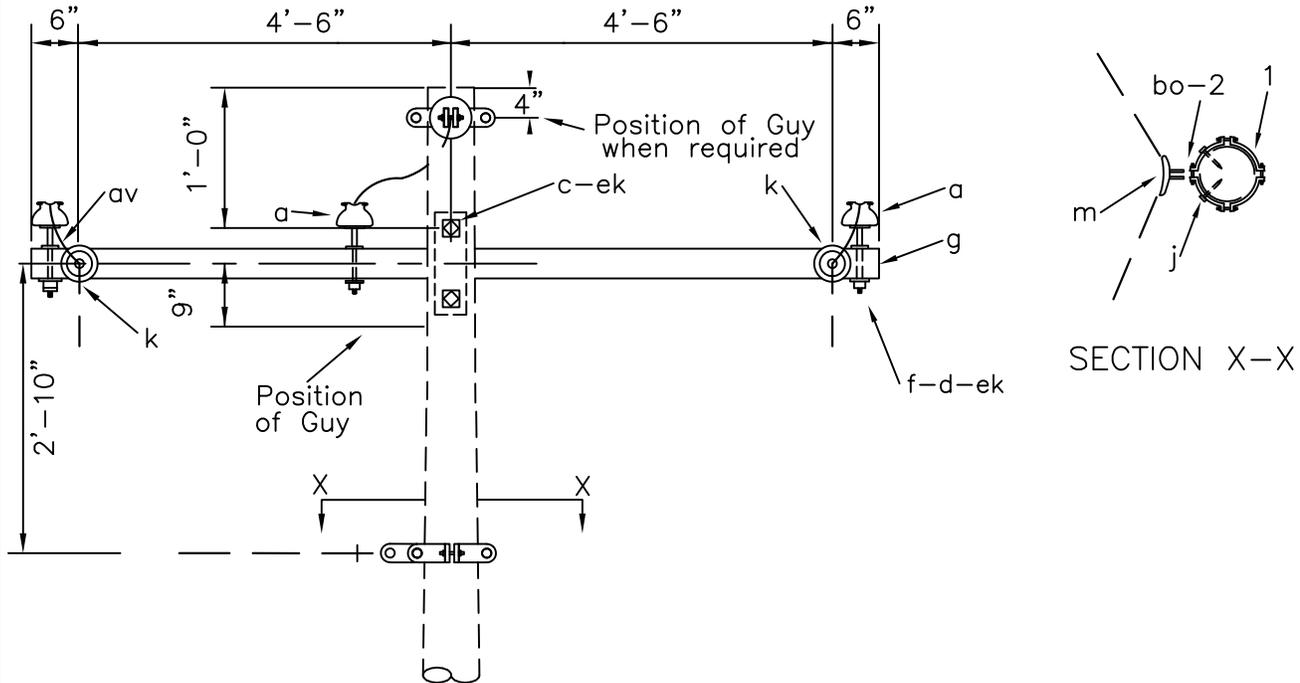
1. Jumper supports, separately specified when required.
2. Units ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	19	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
j	2	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	-
p	*	Connectors, as required, compression	-
s	2	Clevis, J6	12301201
u	2	Clamp, guy, 6", heavy duty	11770005
aa	5	Nut, eye	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, Plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cm	2	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

<p>DESIGN LIMITS</p> <p>Max. Line Angle: 5°</p> <p>Add .8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor</p> <p>*Quantity as Required</p>	<p>CROSSARM CONSTRUCTION</p> <p>DEADEND (DOUBLE) 10' CROSSARMS</p> <p>LARGE CONDUCTOR SHEET 2 OF 2</p>		
	<p>DEC. 1985</p> 	<p>REVISED NOV 2022</p> <p>APPROVED BY MFJ</p>	<p>3-PHASE PRIMARY</p> <p>12.47/7.2 kV</p>

ITEM	QTY	ASSET #	INVENTORY NO.
a	3	DT OH 365055	34223010
g	1	DT PC 364021	18081207
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 As recommended by MFG.
 Max. Line Angle:
 As recommended by MFG.
 *Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 10' CROSSARMS
 LARGE CONDUCTOR SHEET 1 OF 2

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2AFX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. If transverse load exceeds MFG's recommendation, use vertical construction.
2. Unit ca is shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	3	Insulator, pin type, (12.47/7.2 kV)	34223010
c	2	Bolt, machine, 3/4" x req'd length	063806TT
d	8	Washer, square, 3"	-
f	3	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 10'-0", fiberglass, deadend	18081207
j	4	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
m	1	Clamp, suspension	11742033
p	*	Connectors, as required, compression	-
aa	4	Nut, eye, 3/4"	41904063
av	*	Jumpers, covered, Hendrix as required	-
bo	7	Shackle, anchor, 3/4"	12302800
ca	6	Deadend assembly, primary	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	4	Link, extension, insulated, 12", C-TE	34276130
1	2	Band, pole, set	47000000
2	3	Link, connecting, pair	47000200

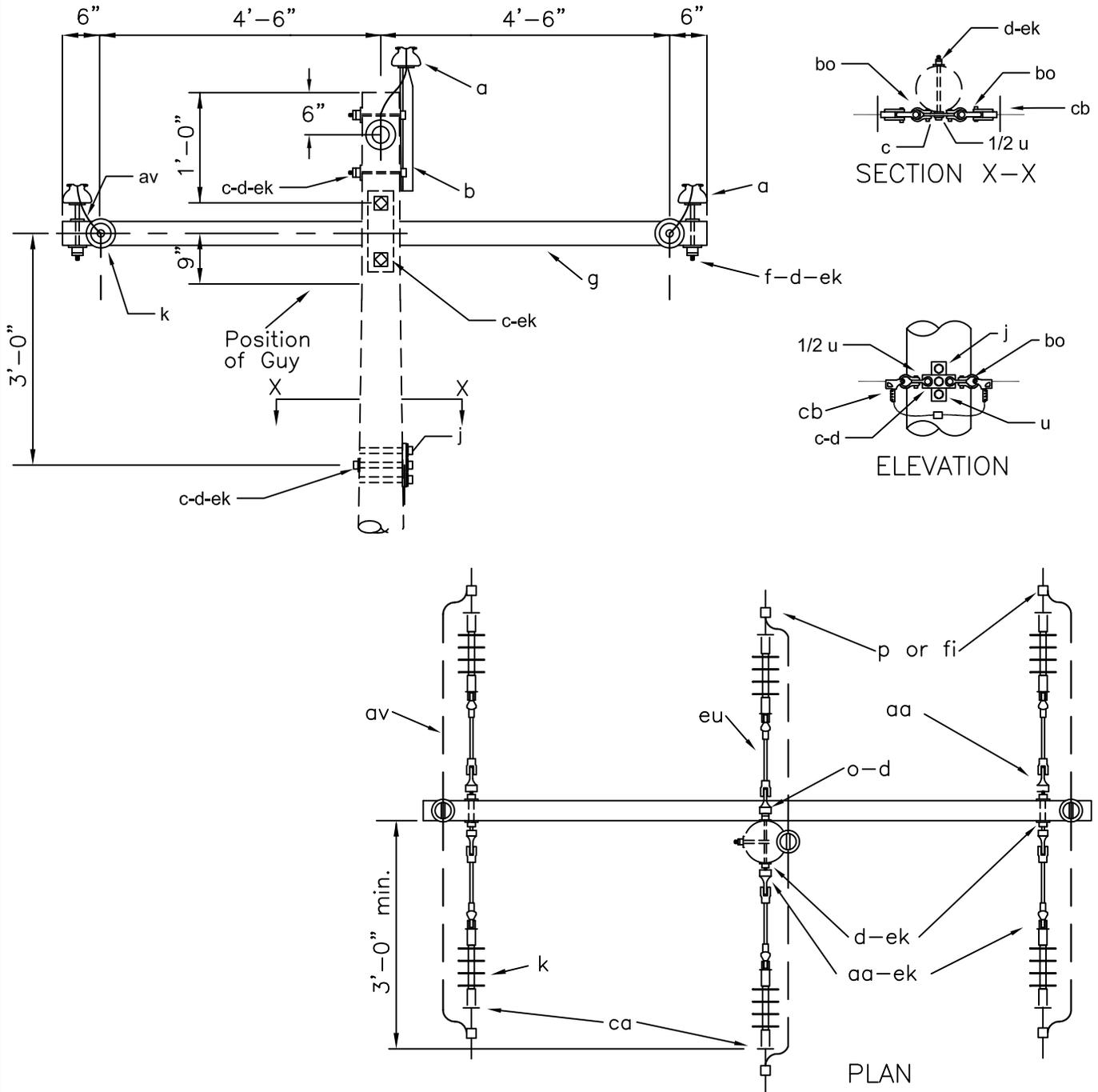
DESIGN LIMITS - Lesser of:
 Max. Transverse Load:
 2500 lbs. per conductor
 Max. Line Angle:
 25°

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 10' CROSSARMS
 LARGE CONDUCTOR SHEET 2 OF 2**

*Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2AFX
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
a	3	DT OH 365055	34223010
g	1	DT PC 364021	18081207
k	6	DT OH 365055	34281020



DESIGN LIMITS

Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 10' CROSSARMS
 LARGE CONDUCTOR SHEET 1 OF 2**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-2FX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	3	Insulator, pin type, (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	5	Washer, square, 3", curved	-
d	4	Washer, square, 2 1/4"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 10'-0", fiberglass, dead end	18081207
j	2	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
u	2	Clamp, guy, 6", heavy duty	11770005
aa	1	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bo	4	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	6	Link, extension, insulated, 12", C-TE	34276130

DESIGN LIMITS

Max. Line Angle:

5.
Add .8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION
DEADEND (DOUBLE) 10' CROSSARMS
LARGE CONDUCTOR SHEET 2 OF 2

DEC. 1985

REVISED
NOV 2022

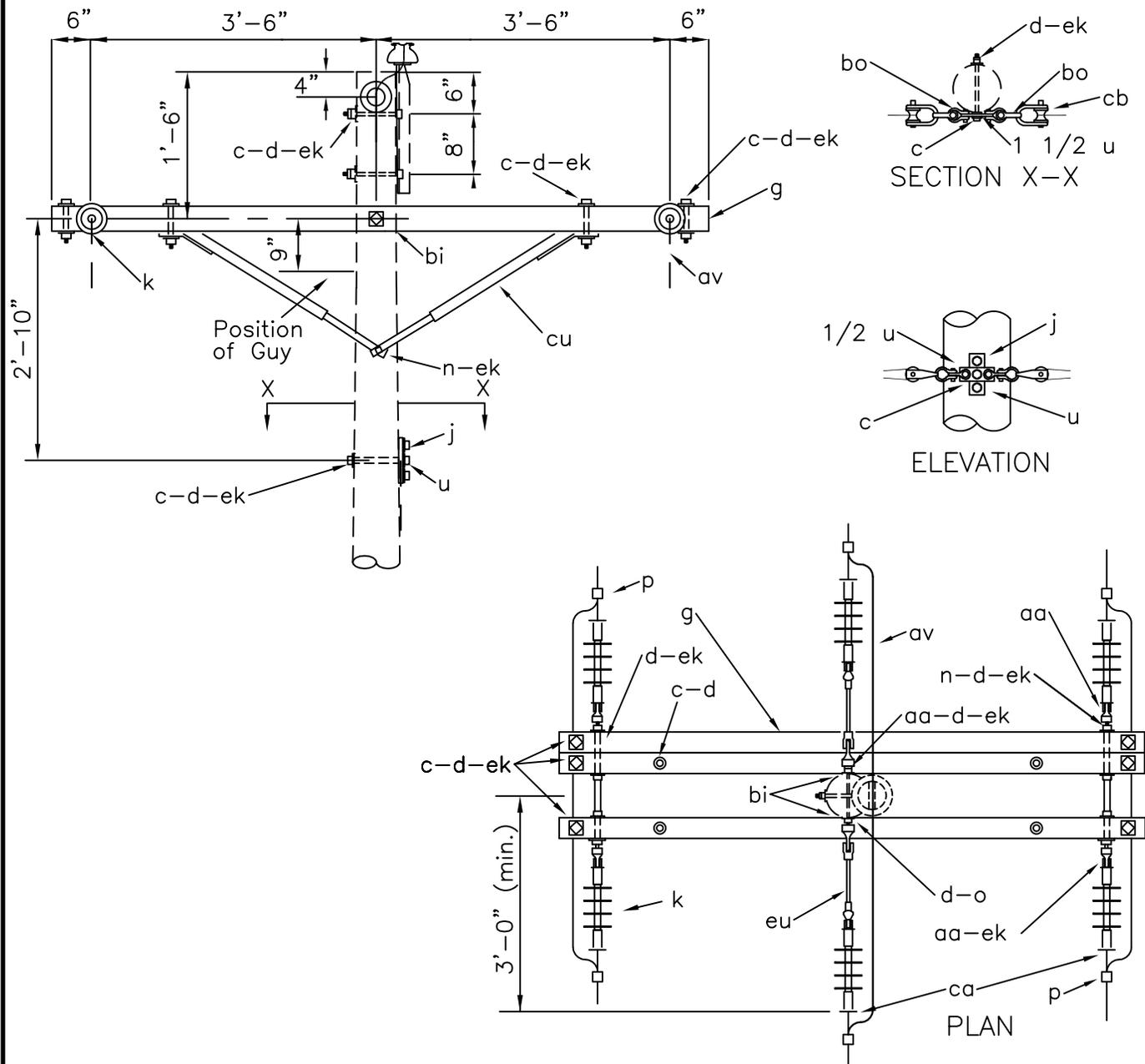


APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C8-2FX

ITEM	QTY	ASSET #	INVENTORY NO.
g	3	DT PC 364021	18290311
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) LARGE CONDUCTOR
 UNBALANCED LOADS SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-3
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Jumper supports, separately specified when required.
2. Units ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	8	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	23	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	3	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
j	2	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
s	2	Clevis, J6	12301201
u	2	Clamp, guy, 6", heavy duty	11770005
aa	5	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix covered, as required	-
bi	2	Gain, plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cm	2	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) LARGE CONDUCTOR UNBALANCED LOADS SHEET 2 OF 2

APR. 1983

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NOV 2022

3-PHASE PRIMARY

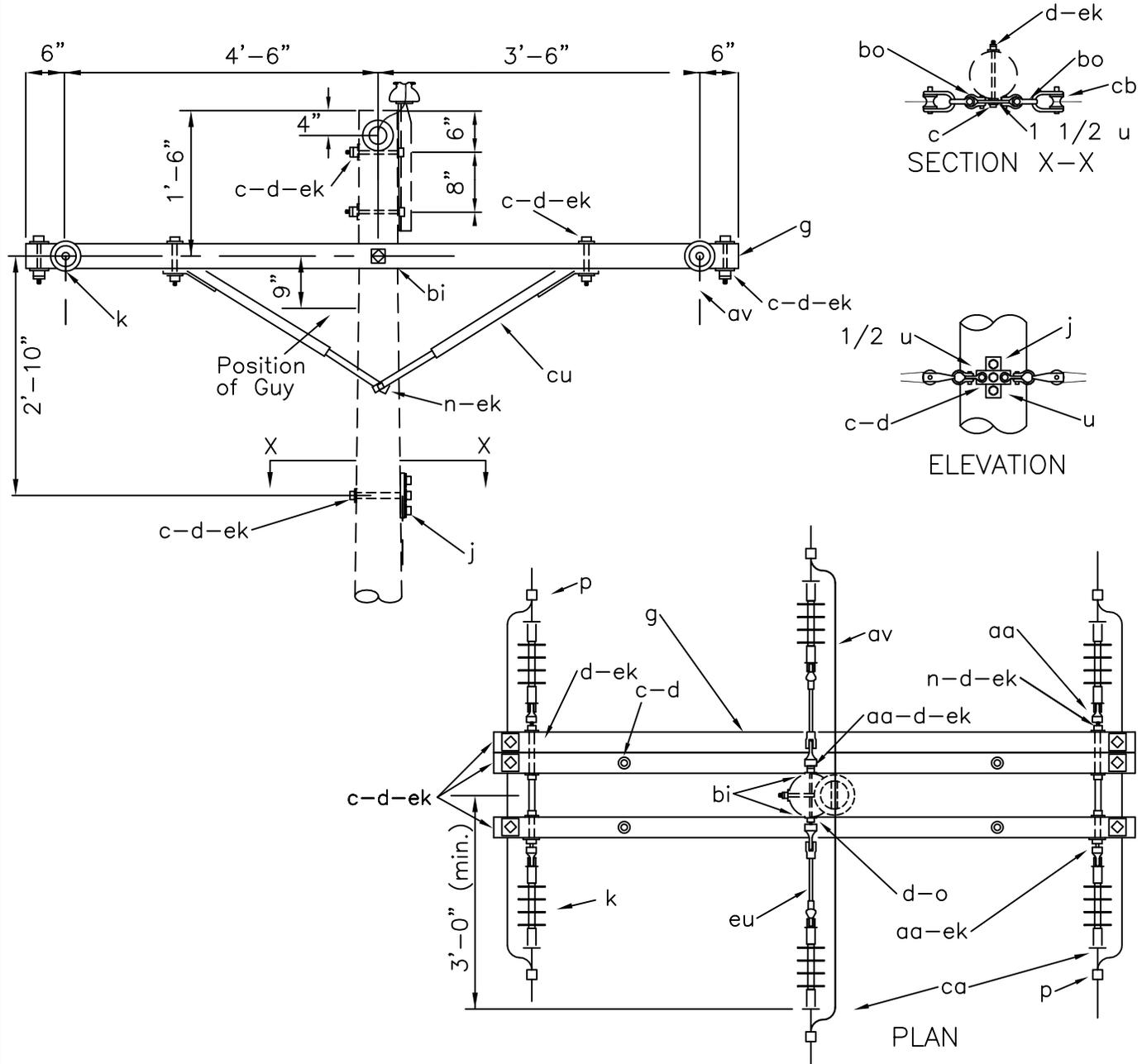
C8-3



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MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
g	3	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 LARGE CONDUCTOR UNBALANCED LOADS
 10' CROSSARMS SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-3X
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Jumper supports, separately specified when required.
2. Items ca and cb are shown on assembly drawing M42-13.
3. For 477 ACSR Hawk ²⁶/₈ construction, lower neutral position 18".
4. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
5. Item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	8	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
d	23	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	3	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
j	2	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
s	2	Clevis, J6	12301201
u	1 1/2	Clamp, guy, 6", heavy duty	-
aa	5	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, as required	-
bi	2	Gain, pole	-
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cm	2	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130

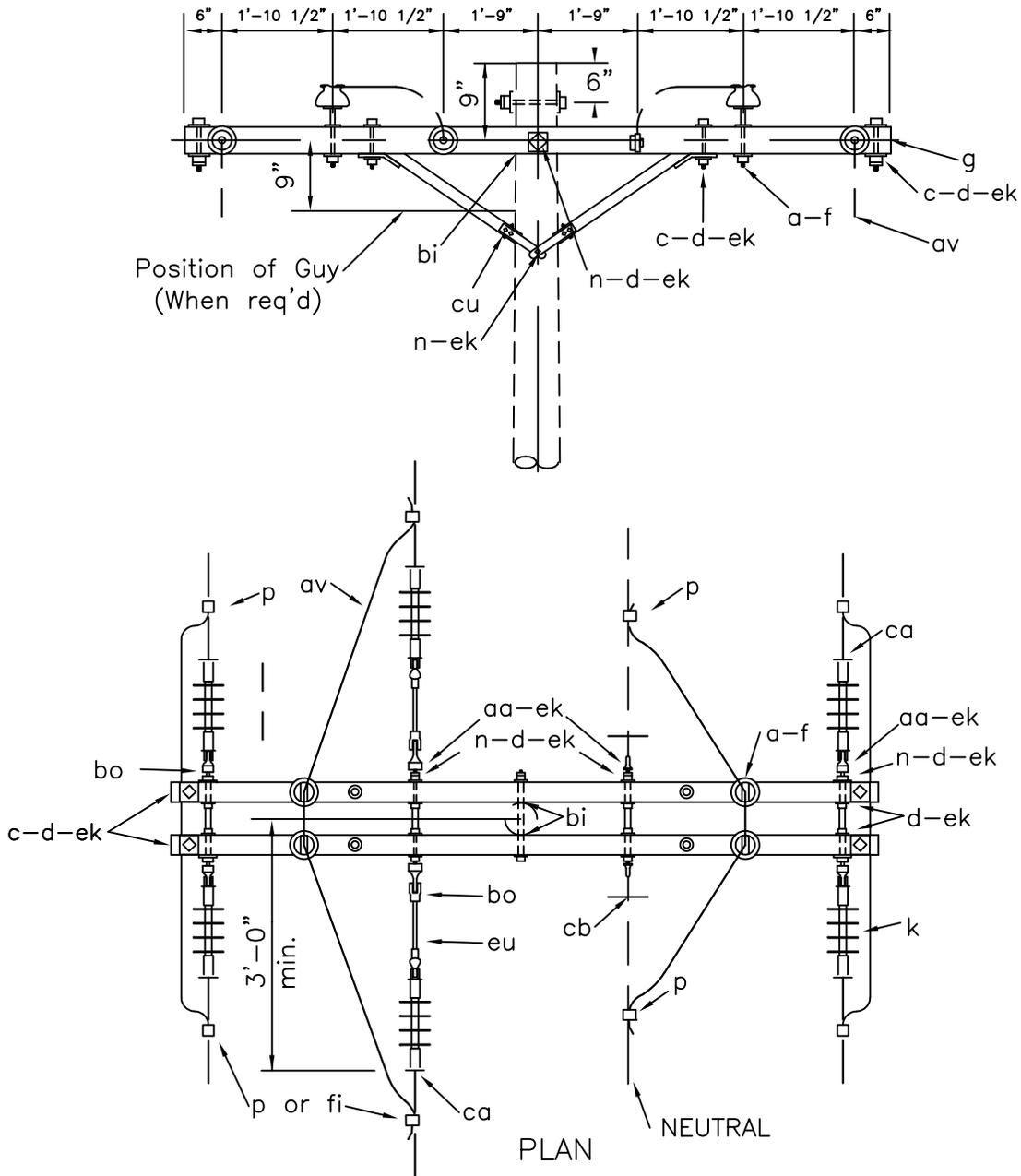
NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Line Angle:
⁵
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) LARGE CONDUCTOR UNBALANCED LOADS 10' CROSSARMS SHEET 2 OF 2			
APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C8-3X
	APPROVED BY MFJ	12.47/7.2 kV	

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	2	DT PC 364021	18290711
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) 12' CROSSARMS
 SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-4
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. Items ca and cb are shown on assembly drawing M42-13.
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type (12.47/7.2 kV)	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	26	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4," complete w/ washers & machine nuts	45413111
g	2	Crossarm, 3 5/8" x 4 3/4" x 12'-0"	18290711
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as required, compression	-
aa	8	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bi	2	Gain, Plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12"	34276130

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) 12' CROSSARMS SHEET 2 OF 2

APR. 1983



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NOV 2020

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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C8-4

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18"
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item p, connector, M3-11 assembly, separately specified when required.
5. For design tensions greater than 5000 lbs, use 15000 lb M&E insulators.

UNIT	ARM DIMENSIONS	CAT. NO.	INVENTORY NO.
C8-HBA	3 3/4" x 5 3/4" x 8'-0"	2890-B	18081204
C8-HBB	3 5/8" x 7 1/2" x 10'-0"	2892-B	18081207

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	2	Screw, lag 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required, compression	-
av	*	Jumpers, covered, Hendrix as required	-
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
gj	1	Crossarm assembly, complete w/ mounting hardware	AS NOTED
1	1	Band, pole (set)	47000000
2	2	Link, connecting (pair)	47000200
-	1	Stud, insulator, 1 3/4" x 3/4", complete w/ washers & machine nuts	34301000

NOT FOR NEW CONSTRUCTION

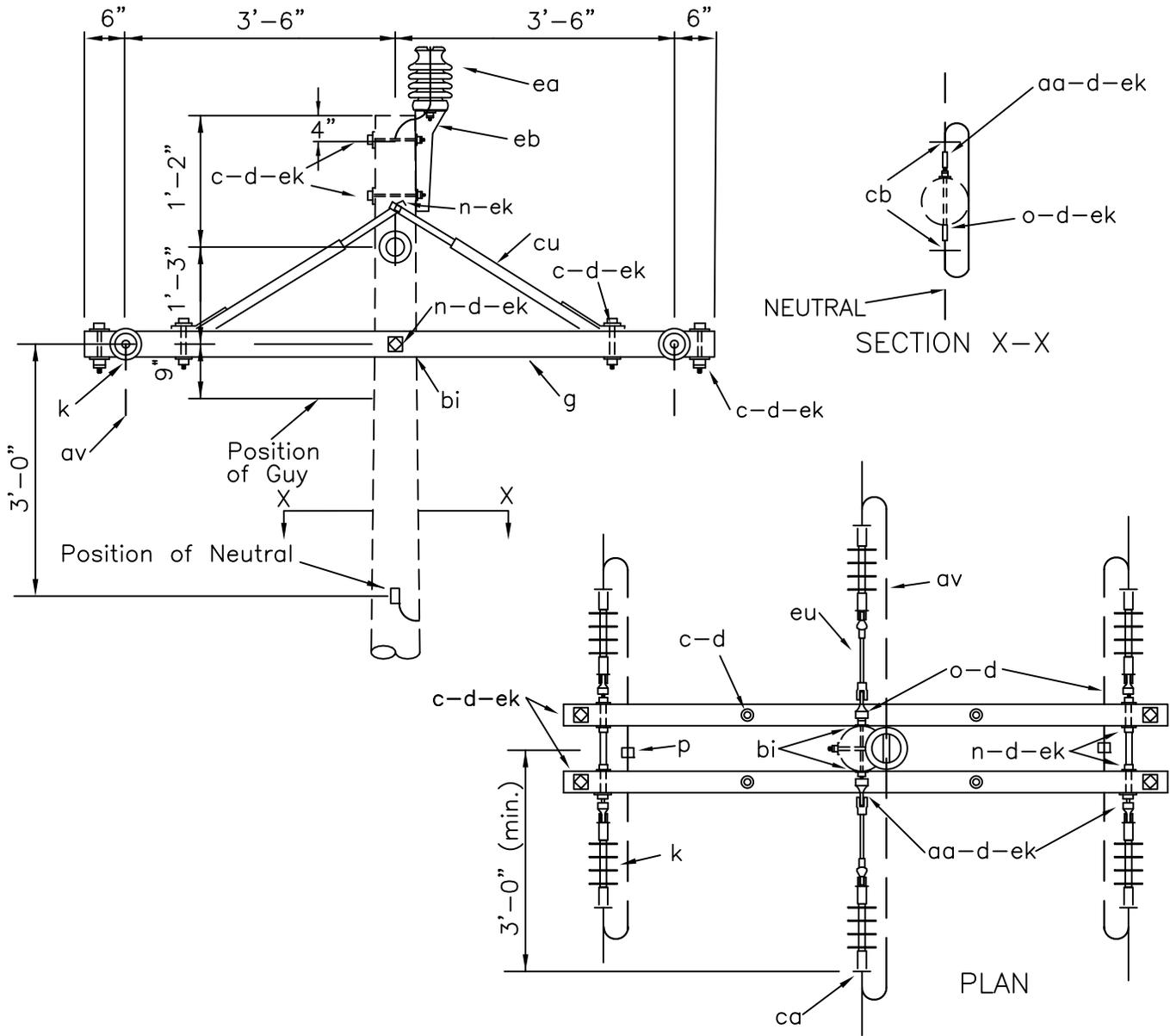
DESIGN LIMITS
 Max. Longitudinal Load Per Conductor:
 Refer to design guide

*Quantity as Required

**CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 LARGE CONDUCTOR SHEET 2 OF 2**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-HBA, C8-HBB
		APPROVED BY MFJ	

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34251010
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Line Angle:
 5°
 Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor
 *Quantity as Required

CROSSARM CONSTRUCTION
 DEADEND (DOUBLE)
 FOR FUTURE OCR'S SHEET 1 OF 2

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-IN
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk ²⁶/₈ construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M3-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	4	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required, compression	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bi	2	Gain plate	46800260
bo	6	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
-	1	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE)

FOR FUTURE OCR'S SHEET 2 OF 2

DEC. 1985

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NOV 2022

3-PHASE PRIMARY

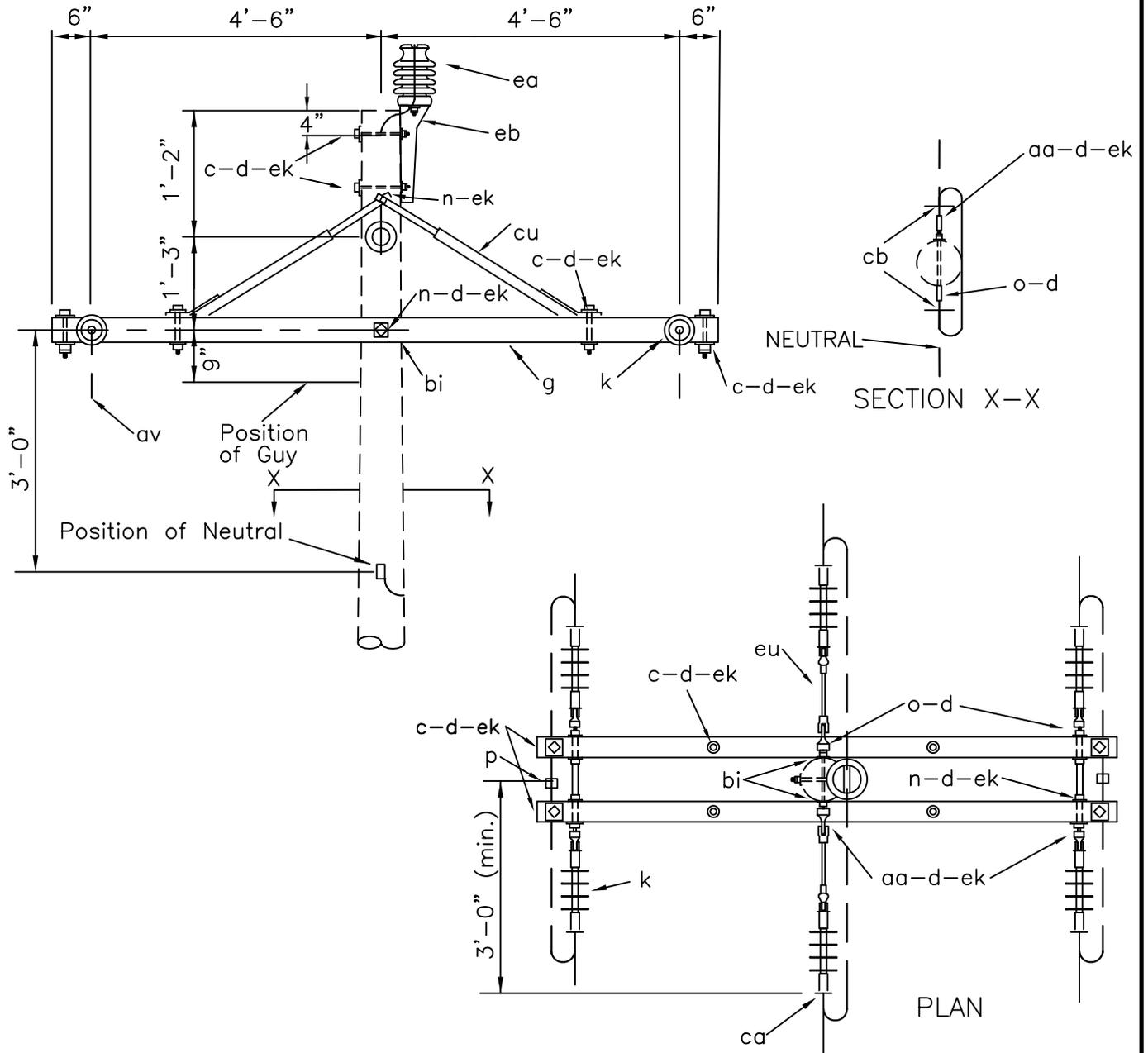
C8-IN



APPROVED BY
MFJ

12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34251010
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**CROSSARM CONSTRUCTION
DEADEND (DOUBLE) FOR FUTURE OCR'S
10' CROSSARMS SHEET 1 OF 2**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C8-INX
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk ²⁶/₈ construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M3-10 assembly, or item p, connector, M3-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 3"	-
d	4	Washer, square, 3", curved	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, covered, Hendrix as required	-
bi	2	Gain, Plate	46800260
bo	*	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd.	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
-	1	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Line Angle:

5.
Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

CROSSARM CONSTRUCTION DEADEND (DOUBLE) FOR FUTURE OCR'S 10' CROSSARMS SHEET 2 OF 2

DEC. 1985

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NOV 2022

3-PHASE PRIMARY

C8-INX



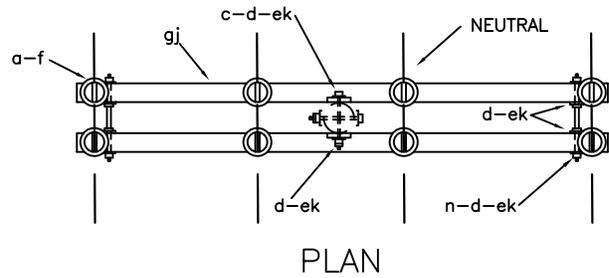
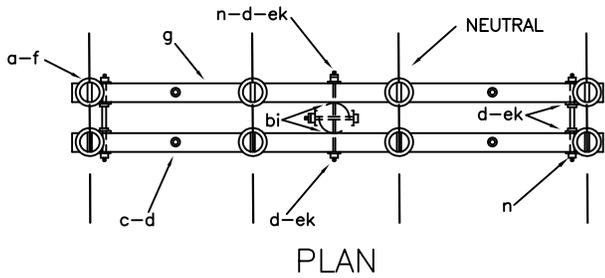
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12.47/7.2 kV

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	8	DT OH 365055	34223010	C9X, C9FX
g	2	DT PC 364021	18290511	C9X
gj	2	DT PC 364021	18290611	C9FX

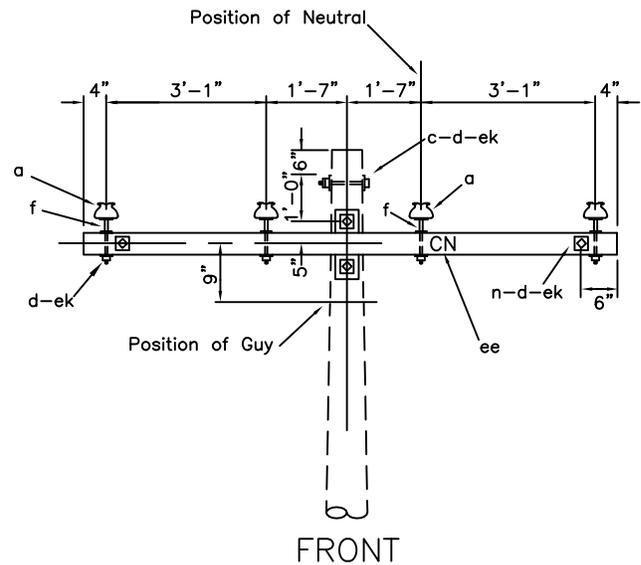
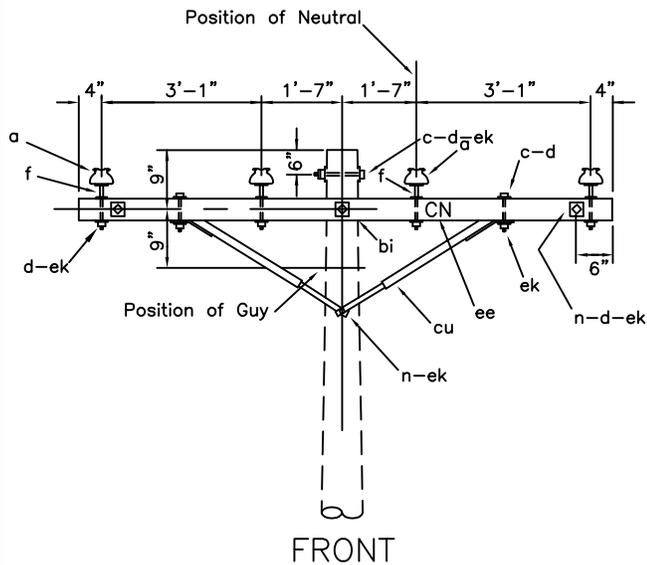
C9X

C9FX



PLAN

PLAN



FRONT

FRONT

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

10' CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C9X, C9FX
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	MATERIAL	CONFIGURATION:	C9X	C9FX
		INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	8	8
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2
d	Washer, square, 3"	-	2	-
d	Washer, square, 2 1/4"	-	10	10
d	Washer, round, 1 3/8"	-	4	-
f	Pin, crossarm, steel, 5/8" x 10 3/4", complete with washers and machine nuts.	45413111	8	8
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	3	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-
bi	Gain, Plate	46800260	2	-
cu	Brace, wood, 60", pair	07535168	2	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	*	*
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

10' CROSSARM CONSTRUCTION
DOUBLE LINE ARM
SHEET 2 OF 2

APR. 1983



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NOV 2022

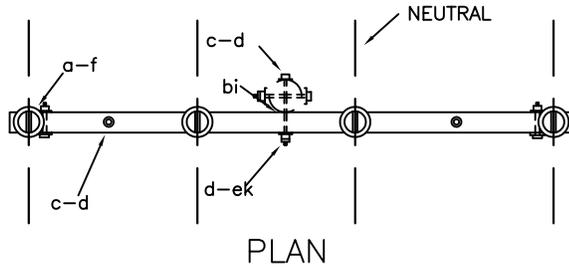
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3-PHASE PRIMARY
12.47/7.2 kV

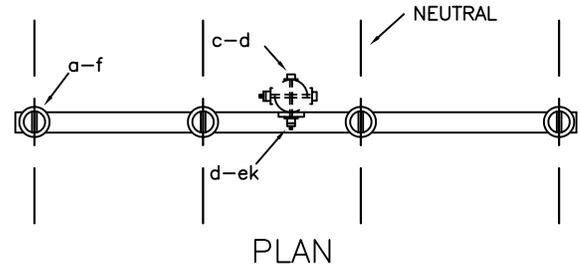
C9X, C9FX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
a	4	DT OH 365055	34223010	C9-1X, C9-1FX
g	1	DT PC 364021	18290511	C9-1X
gj	1	DT PC 364021	18290611	C9-1FX

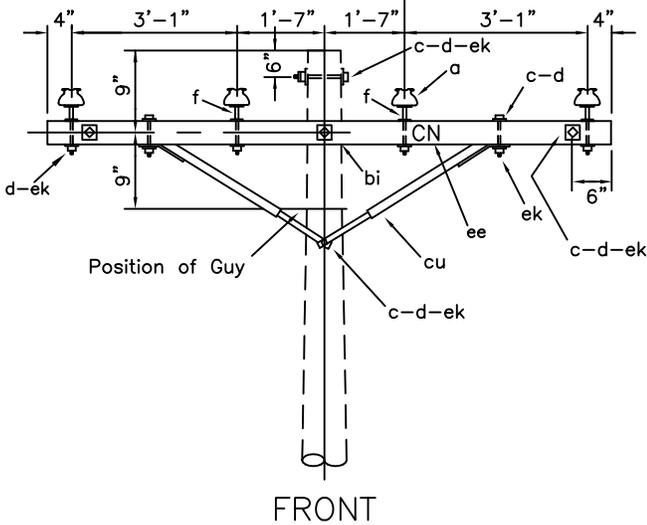
C9-1X



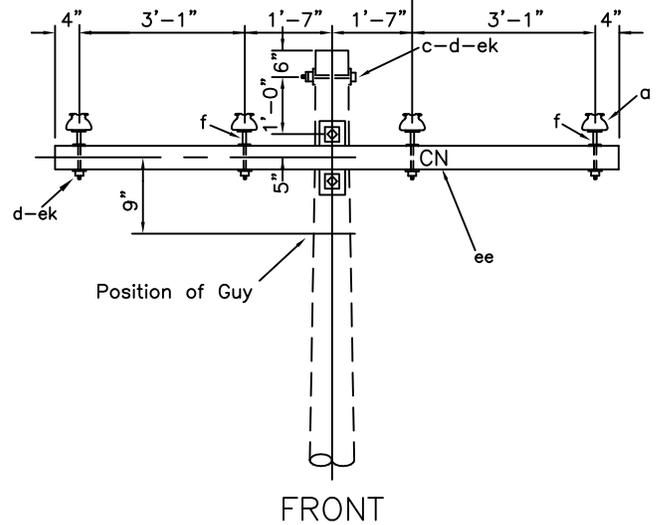
C9-1FX



Position of Neutral



Position of Neutral



DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

10' CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 1 OF 2

APR. 1983



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NOV 2022

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3-PHASE PRIMARY
12.47/7.2 kV

C9-1X, C9-1FX

5.61.1

		CONFIGURATION:	C9-1X	C9-1FX
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	4	4
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2
d	Washer, square, 3"	-	2	-
d	Washer, square, 3", curved	-	-	2
d	Washer, square, 2 1/4"	-	7	2
d	Washer, round, 1 3/8"	-	2	-
f	Pin, crossarm, steel, 5/8" x 10 3/4", complete with washers and machine nuts.	45413111	4	4
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-
bi	Gain plate	46800260	1	-
cu	Brace, wood, 60", pair	07535168	1	-
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	*	*
ek	Double coil spring washers, as req'd	-	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

10' CROSSARM CONSTRUCTION
SINGLE LINE ARM
SHEET 2 OF 2

APR. 1983



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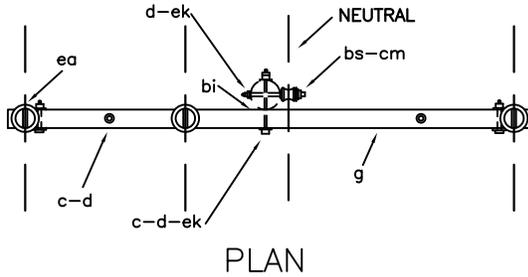
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3-PHASE PRIMARY
12.47/7.2 kV

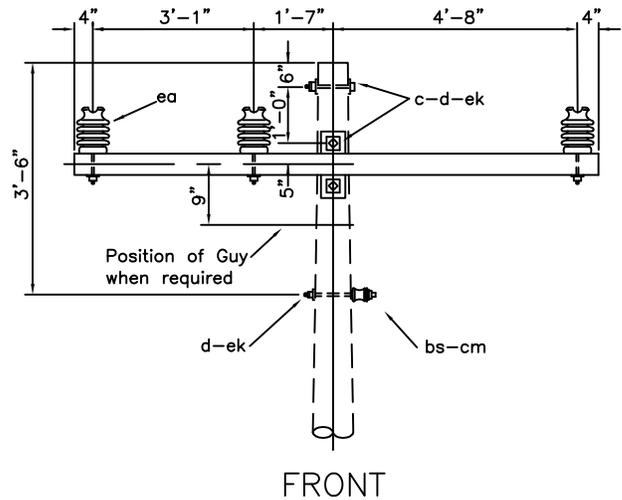
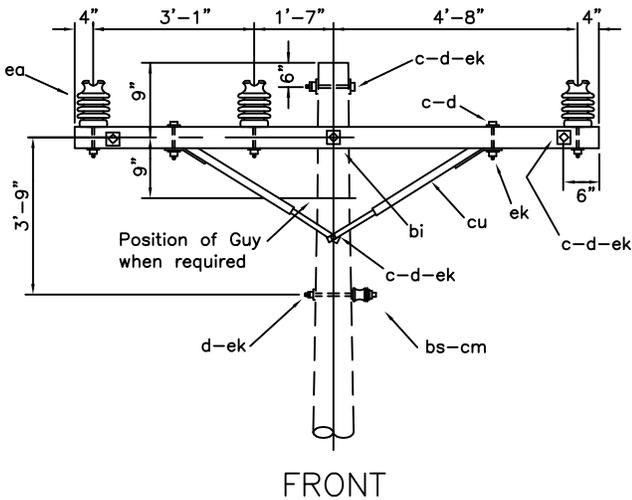
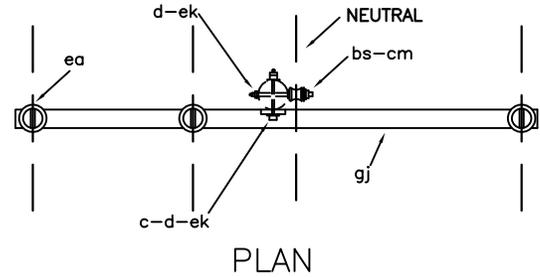
C9-1X, C9-1FX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	C9-1APLX, C9-1APFX
ea	3	DT OH 365055	34256200	C9-1APOLX, C9-1APOFX
g	1	DT PC 364021	18290511	C9-1APLX, C9-1APOLX
gj	1	DT PC 364021	18290611	C9-1APFX, C9-1APOFX

C9-1APLX, C9-1APOLX



C9-1APFX, C9-1APOFX



P is for Porcelain
 PO is for polymer
 F is for fiberglass Crossarm
 X is for 10' Crossarm

NOTES:

1. Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
 750 lbs. per conductor

Max. Line Angle:
 Lesser of 2° or as limited by
 transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
 SINGLE LINE ARM 10' CROSSARM
 LARGE CONDUCTOR SHEET 1 OF 2

DEC. 1985



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3-PHASE PRIMARY
 12.47/7.2 kV

C9-1APLX, C9-1APFX
 C9-1APOLX, C9-1APOFX

NOTES:

1. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C9-1APLX	C9-1APFX	C9-1APOLX	C9-1APOFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-	2	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2	1	2
d	Washer, square, 3"	-	2	2	2	2
d	Washer, square, 3", curved	-	-	2	-	2
d	Washer, square, 2 1/4"	-	8	3	8	3
d	Washer, round, 1 3/8"	-	2	-	2	-
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-	1	-
cm	Insulator, spool, 3"	34263010	1	1	1	1
ea	Insulator, porcelain, (12.47/7.2 kV)	34251010	3	3	-	-
ea	Insulator, polymer, vertical, (12.47/7.2 kV)	34256200	-	-	3	3
bi	Gain plate	46800260	1	-	1	-
bs	Bolt, single upset, 5/8" x req'd. length	063905TT	1	1	1	1
cu	Brace, wood, 60", pair	07535168	1	-	1	-
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1	-	1
-	Stud, insulator, 7" x 3/4" complete with washers and machine nuts	34302000	3	3	3	3
-	Clamp, Conductor	11742090	-	-	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM 10' CROSSARM
LARGE CONDUCTOR SHEET 2 OF 2

DEC. 1985



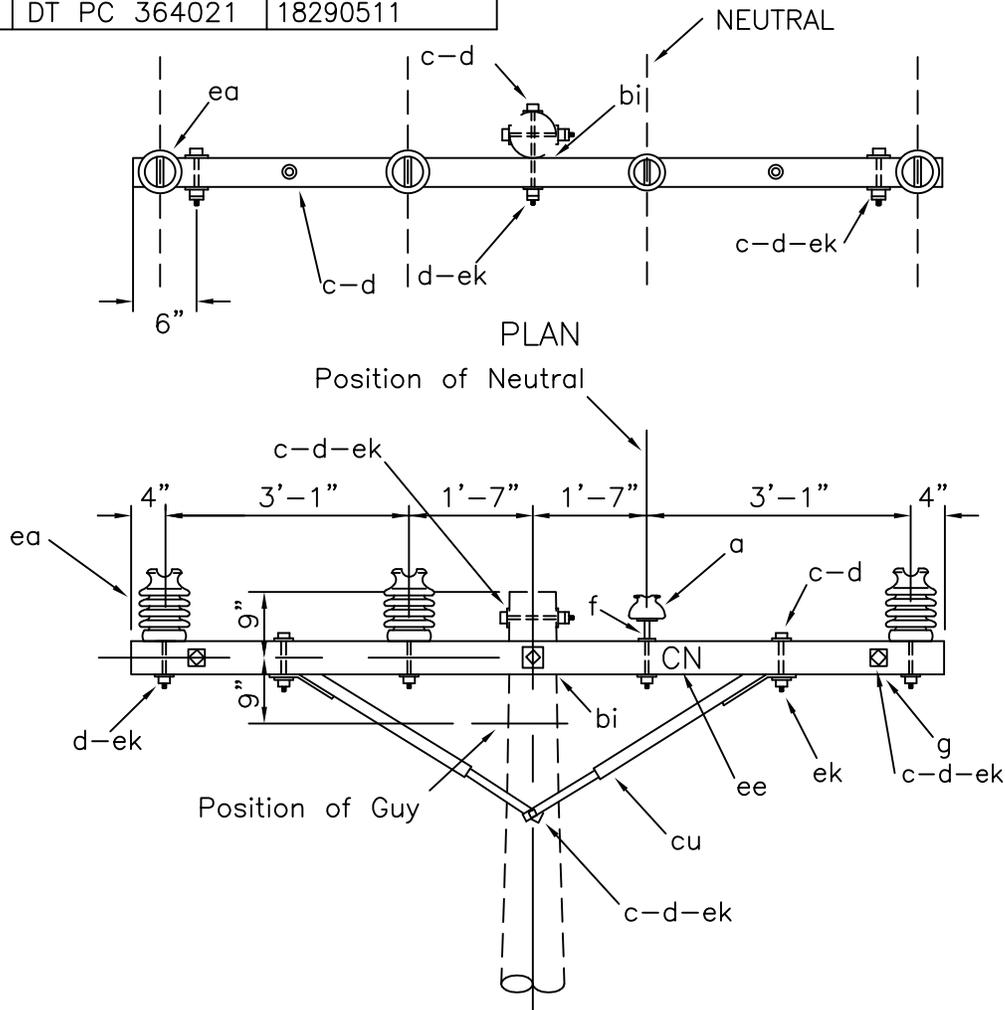
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3-PHASE PRIMARY
12.47/7.2 kV

C9-1APLX, C9-1APFX,
C9-1APOLX, C9-1APOFX

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
ea	3	DT OH 365055	34251010
g	1	DT PC 364021	18290511



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV) complete w/ washers & machine nuts	34223010
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	7	Washer, square, 2 1/4"	-
d	2	Washer, round, 1 3/8"	-
f	1	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	1	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
bi	1	Gain Plate	46800260
cu	1	Brace, wood, 60" span, pair	07535168
ea	3	Insulator, post type (12.47/7.2 kV)	34251010
ee	*	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-
-	3	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
5°

**CROSSARM CONSTRUCTION
SINGLE LINE ARM
LARGE CONDUCTOR**

APR. 1983



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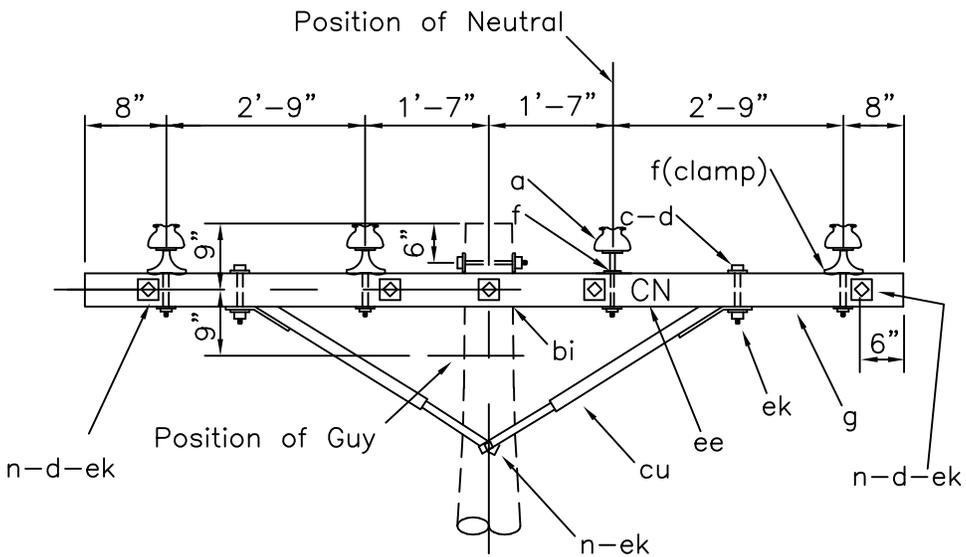
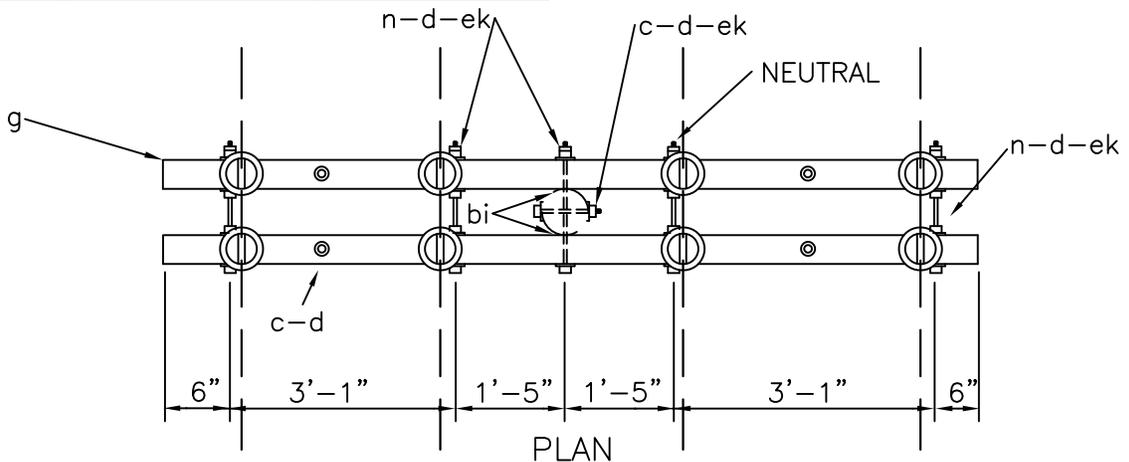
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3-PHASE PRIMARY
12.47/7.2 kV

C9-1PL

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
a	8	DT OH 365055	34223010
g	2	DT PC 364021	18290511



NOT FOR NEW CONSTRUCTION

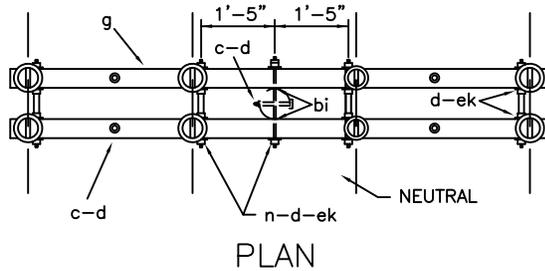
ITEM	QTY	MATERIAL	INVENTORY NO.
a	8	Insulator, pin type (12.47/7.2 kV)	34223010
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	18	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	2	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
f	6	Pin, crossarm, steel, clamp type	45411153
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
bi	2	Gain Plate	46800260
cu	2	Brace, wood, 60" span, pair	07535168
ee	*	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS Max. Transverse Load: 1000 lbs. per conductor Max. Line Angle: Lesser of 20° or as limited by transverse load	CROSSARM CONSTRUCTION DOUBLE LINE ARM LARGE CONDUCTOR		
	APR. 1983 	REVISED NOV 2022 APPROVED BY MFJ	3-PHASE PRIMARY 12.47/7.2 kV

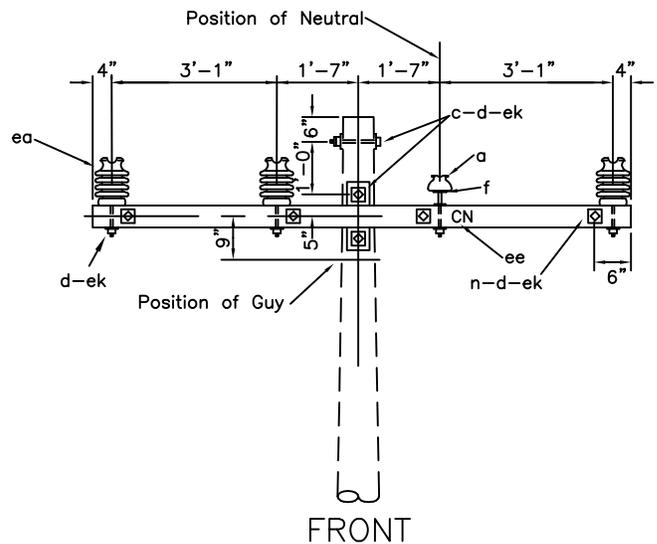
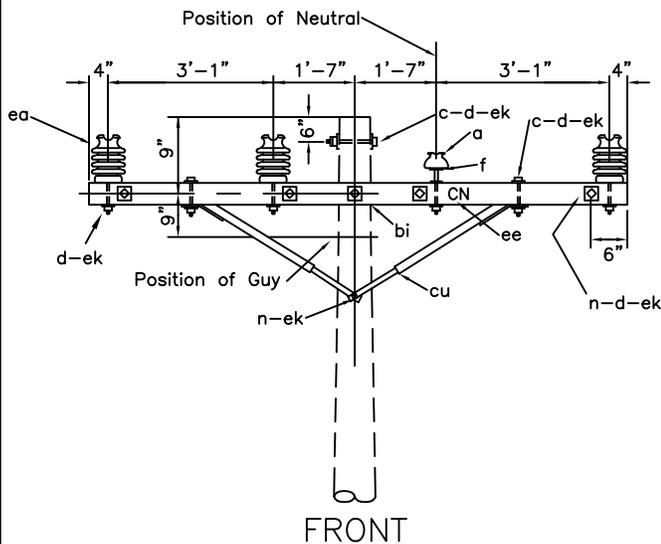
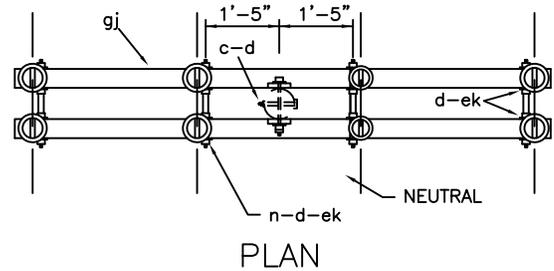
*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	6	DT OH 365055	34251010	C9-2PLX, C9-2PFX
ea	6	DT OH 365055	34256200	C9-2POLX, C9-2POFX
g	2	DT PC 364021	18290511	C9-2PLX, C9-2POLX
gj	2	DT PC 364021	18290611	C9-2PFX, C9-2POFX

C9-2PLX, C9-2POLX



C9-2PFX, C9-2POFX



NOTES:
1. Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor
Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
LARGE CONDUCTOR SHEET 1 OF 2

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C9-2PLX, C9-2PFX, C9-2POLX, C9-2POFX
	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

1. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION:	C9-2PLX	C9-2PFX	C9-2POLX	C9-2POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV) complete with washers and machine nuts	34223010	2	2	2	2
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	-	4	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1	1	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	-	2	-	2
d	Washer, square, 3"	-	2	-	2	-
d	Washer, square, 3", curved	-	-	2	-	2
d	Washer, square, 2 1/4"	-	18	18	18	18
d	Washer, round, 1 3/8"	-	4	-	4	-
f	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111	2	2	2	2
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	2	-	2	-
n	Bolt, double arming, 5/8" x req'd length	063305TT	5	4	5	4
n	Bolt, double arming, 3/4" x req'd length	063306TT	1	-	1	-
bi	Gain plate	46800260	2	-	2	-
cu	Brace, wood, 60", pair	07535168	2	-	2	-
ea	Insulator, porcelain	34251010	6	6	-	-
ea	Insulator, polymer, vertical	34256200	-	-	6	6
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	*	*	*	*
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	2	-	2
-	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	6	6	6	6
-	Clamp, Conductor	11742090	-	-	6	6

DESIGN LIMITS

Max. Transverse Load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



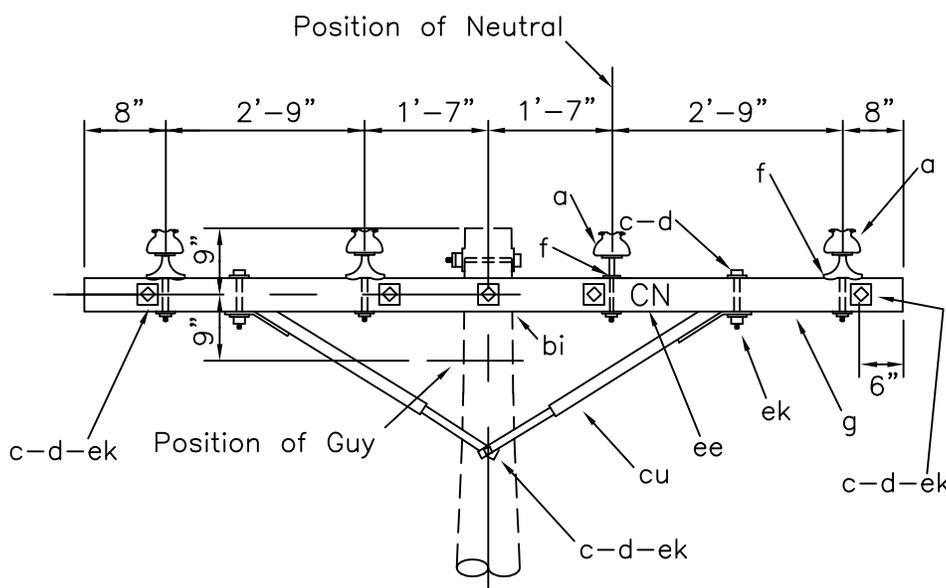
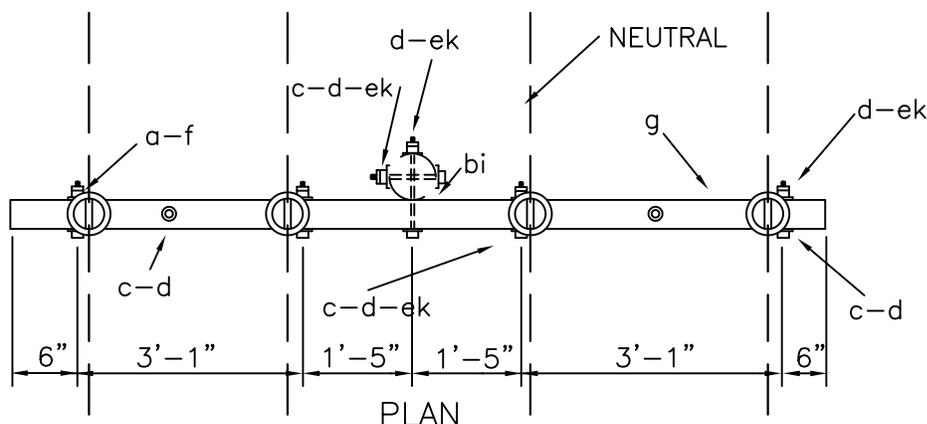
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3-PHASE PRIMARY
12.47/7.2 kV

C9-2PLX, C9-2PFX,
C9-2POLX, C9-2POFX

ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	1	DT PC 364021	18290511



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type (12.47/7.2 kV)	34223010
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	11	Washer, square, 2 1/4"	-
d	2	Washer, round, 1 3/8"	-
f	1	Pin crossarm steel 5/8" x 10 3/4", complete w/ washers & machine nuts	45413111
f	3	Pin, crossarm, steel, clamp type complete w/ washers & machine nuts	45411153
g	1	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
bi	1	Gain Plate	46800260
cu	1	Brace, wood, 60" span, pair	07535168
ee	*	Letters, 2 'C', 2 'N', w/ 1" nails	-
ek	*	Double coil spring washers, as req'd.	-

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

CROSSARM CONSTRUCTION
SINGLE LINE ARM
LARGE CONDUCTOR

APR. 1983



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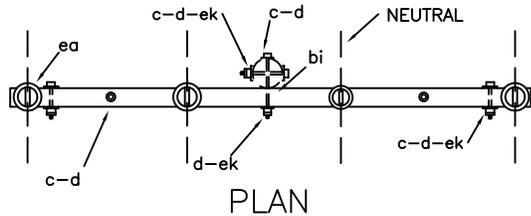
3-PHASE PRIMARY
12.47/7.2 kV

C9-3

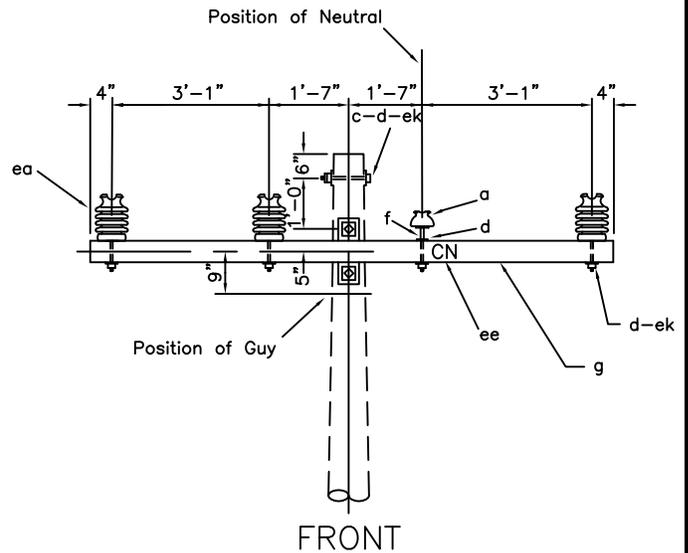
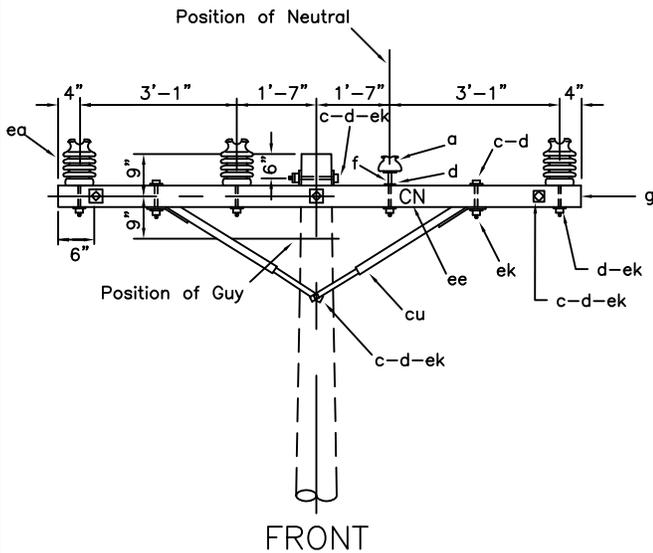
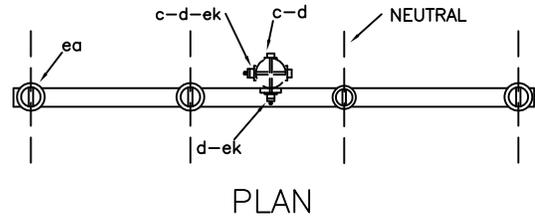
*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	C9-3PLX, C9-3PFX
ea	3	DT OH 365055	34256200	C9-3POLX, C9-3POFX
g	1	DT PC 364021	18290511	C9-3PLX, C9-3POLX
gj	1	DT PC 364021	18290611	C9-3PFX, C9-3POFX

C9-3PLX, C9-3POLX



C9-3PFX, C9-3POFX



NOTES:

1. Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
LARGE CONDUCTOR SHEET 1 OF 2

APR. 1983



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3-PHASE PRIMARY
12.47/7.2 kV

C9-3PLX, C9-3PFX,
C9-3POLX, C9-3POFX

NOTES:

- Image depicts porcelain type insulator, and wood crossarm.

ITEM	MATERIAL	CONFIGURATION:	C9-3PLX	C9-3PFX	C9-3POLX	C9-3POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
a	Insulator, pin type, (12.47/7.2 kV)	34223010	1	1	1	1
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	-	2	-
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2	1	2
d	Washer, square, 3"	-	2	2	2	2
d	Washer, square, 3", curved	-	-	2	-	2
d	Washer, square, 2 1/4"	-	7	2	7	2
d	Washer, round, 1 3/8"	-	2	-	2	-
f	Pin, crossarm, steel, 5/8" x 10 3/4", complete with washers and machine nuts	45413111	1	1	1	1
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	-	1	-
bi	Gain plate	46800260	1	-	1	-
cu	Brace, wood, 60", pair	07535168	1	-	1	-
ea	Insulator, porcelain	34251010	3	3	-	-
ea	Insulator, polymer, vertical	34256200	-	-	3	3
ee	Letters, 2 'C', 2 'N', w/ 1" nails	-	*	*	*	*
ek	Double coil spring washers, as req'd	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	1	-	1
-	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	3	3	3	3
-	Clamp, conductor	11742090	-	-	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



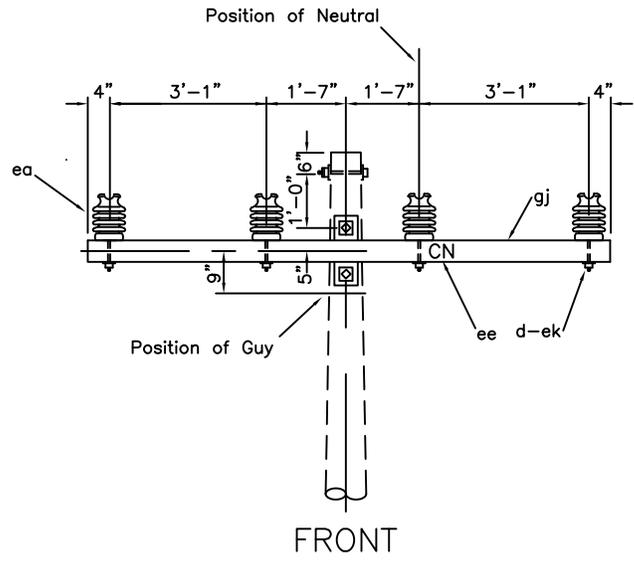
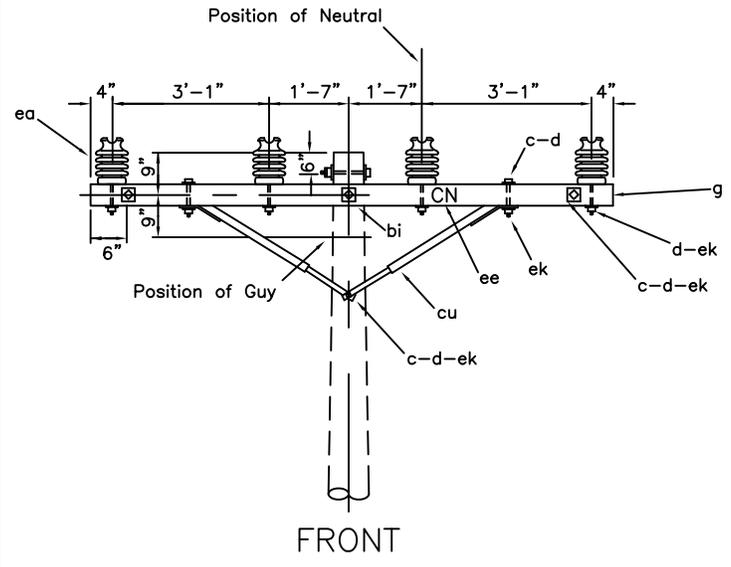
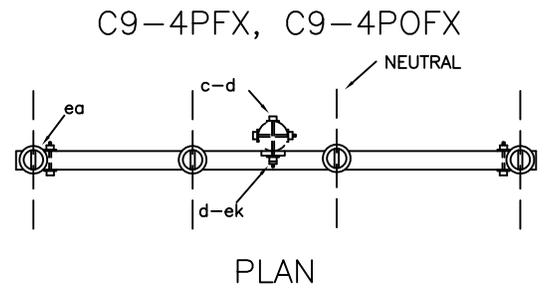
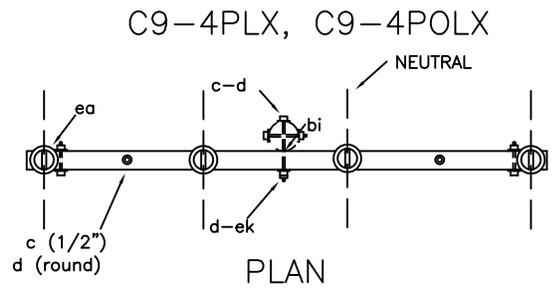
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3-PHASE PRIMARY
12.47/7.2 kV

C9-3PLX, C9-3PFX,
C9-3POLX, C9-3POFX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	4	DT OH 365055	34251010	C9-4PLX, C9-4PFX, C9-4POLX, C9-4POFX
ea	3	DT OH 365055	34256200	C9-4POLX, C9-4POFX
g	1	DT PC 364021	18290511	C9-4PLX, C9-4POLX
gj	1	DT PC 364021	18290611	C9-4PFX, C9-4POFX



NOTES:
 1. Image depicts porcelain type insulator.

DESIGN LIMITS
 Max. Transverse Load:
 750 lbs. per conductor
 Max. Line Angle:
 Lesser of 20° or as limited by
 transverse load
 *Quantity as Required

**CROSSARM CONSTRUCTION
 SINGLE LINE ARM
 LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	3-PHASE PRIMARY	C9-4PLX, C9-4PFX, C9-4POLX, C9-4POFX
	APPROVED BY MFJ	12.47/7.2 kV	

NOTES:

- Image depicts porcelain type insulator, and wood crossarm.

ITEM	MATERIAL	CONFIGURATION:	C9-4PLX	C9-4PFX	C9-4POLX	C9-4POFX
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	—	2	—
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	1	4	1
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	2	1	2
d	Washer, square, 3"	—	2	2	2	2
d	Washer, square, 3", curved	—	—	2	—	2
d	Washer, square, 2 1/4"	—	7	2	7	2
d	Washer, round, 1 3/8"	—	2	—	2	—
g	Crossarm, 3 5/8" x 4 5/8" x 10', wood	18290511	1	—	1	—
bi	Gain plate	46800260	1	—	1	—
cu	Brace, wood, 60", pair	07535168	1	—	1	—
ea	Insulator, porcelain	34251010	4	4	1	1
ea	Insulator, polymer, vertical	34256200	—	—	3	3
ee	Letters, 2 'C', 2 'N', w/ 1" nails	—	*	*	*	*
ek	Double coil spring washers, as req'd	—	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	—	1	—	1
—	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	4	4	4	4
—	Clamp, conductor	11742090	—	—	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
LARGE CONDUCTOR SHEET 2 OF 2

APR. 1983



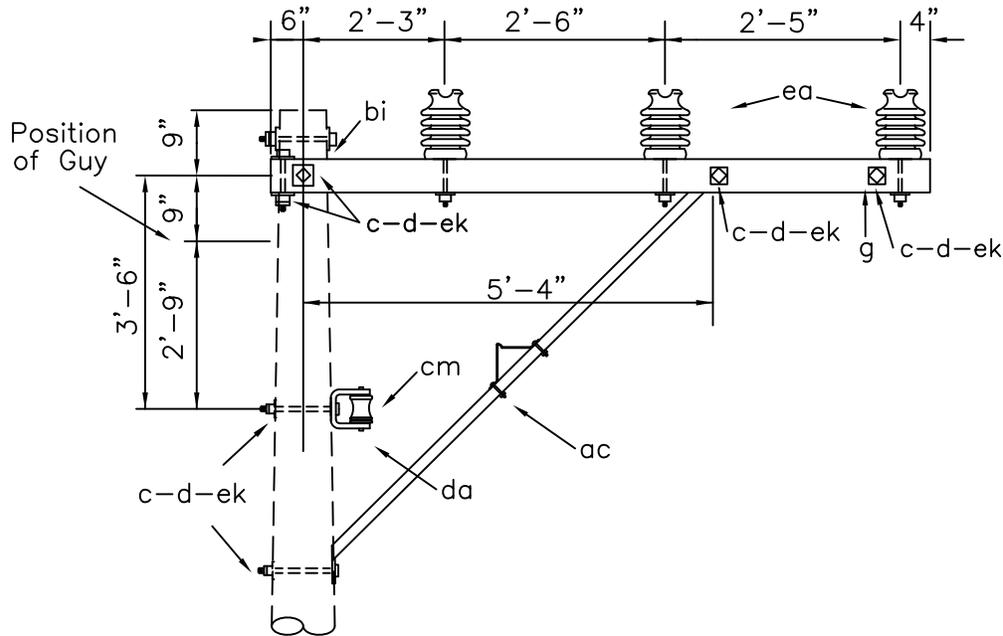
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3-PHASE PRIMARY
12.47/7.2 kV

C9-4PLX, C9-4PFX,
C9-4POLX, C9-4POFX

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
ea	3	DT OH 365055	34251010	C9AP
ea	6	DT OH 365055	34251010	C9AAP
g	1	DT PC 364021	18290311	C9AP
g	2	DT PC 364021	18290311	C9AAP



NOTES:

1. Specify C9AAP for assembly with 2 crossarms.
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. For C9AAP, install double arming bolts 6" and 48" from end of crossarms.

ITEM	MATERIAL	CONFIGURATION:		
		INVENTORY NO.	C9AP QTY	C9AAP QTY
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	4
c	Bolt, machine, 5/8" x req'd. length	063805TT	6	4
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	-
d	Washer, square, 3"	-	2	2
d	Washer, square, 2 1/4"	-	9	14
g	Crossarm, 3 5/8" x 4 5/8" x 8', wood	18290311	1	2
n	Bolt, double arming, 5/8" x req'd length	063305TT	-	2
n	Bolt, double arming, 3/4" x req'd length	063306TT	-	1
ac	Brace, alley arm, 7'	07535184	1	-
ac	Brace, alley arm, 7', reversed	07535184	-	2
bi	Gain Plate	46800260	1	2
cm	Insulator, spool, 3"	34263010	1	1
da	Clevis, Rigid, Bare	07804500	1	1
ea	Insulator, post type (12.47/7.2 kV)	34251010	3	6
ek	Double coil spring washers, as req'd	-	*	*
-	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	3	6

DESIGN LIMITS

Max. Transverse Load:
 C9AP 750 lbs.
 C9AAP 1500 lbs.

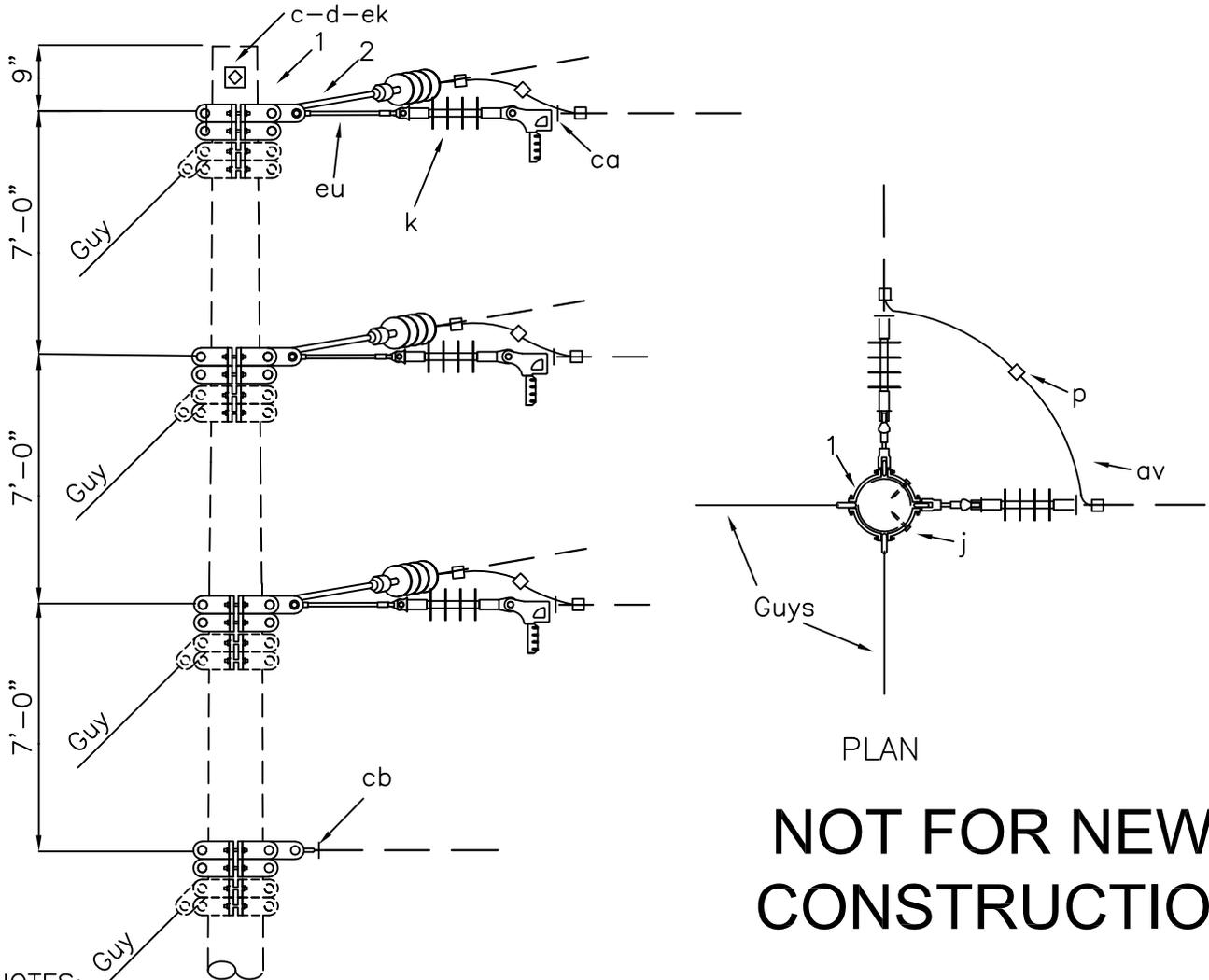
Max. Line Angle:
 Lesser of 20° or as limited by transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
 SIDE ARM

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	C9AP C9AAP
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34280143



NOT FOR NEW CONSTRUCTION

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. See drawing E9-3M for pole band guys.
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.
5. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".

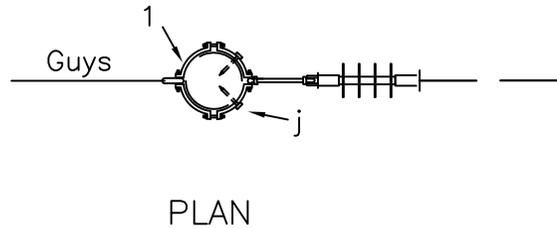
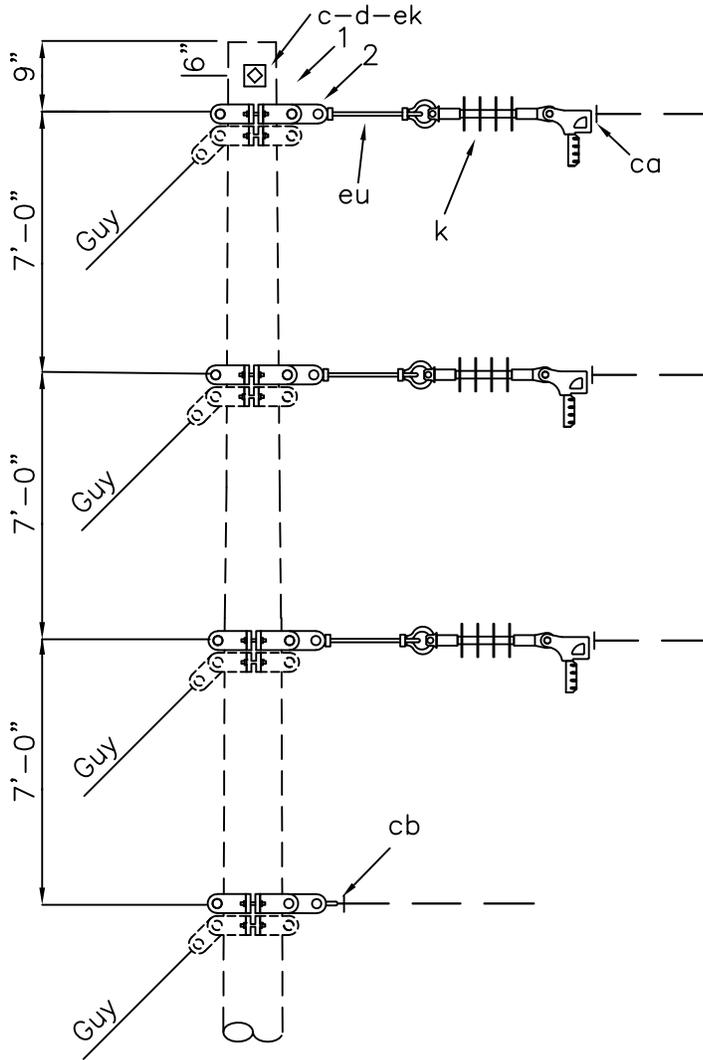
ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	16	Screw, lag, 1/2" x 4"	-
k	6	Insulator, suspension, epoxilator, 19.9kV	34280143
p	*	Connectors, as required	-
av	*	Jumpers, covered, Hendrix as required	-
ca	6	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
eu	6	Link, extension, insulated, 12", C-TE	34276130
1	8	Band, pole, set	47000000
2	8	Link, connecting, pair	47000200

VERTICAL CONSTRUCTION
DEADEND (DOUBLE)
LARGE CONDUCTOR

*Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 34.5/19.9 kV	ZC4-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34280143



**NOT FOR NEW
CONSTRUCTION**

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. See drawing E9-3M for pole band guys.
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic of anchor.
4. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	8	Screw, lag, 1/2" x 4"	-
k	3	Insulator, suspension, epoxilator, 19.9kV	34280143
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	3	Link, extension, insulated, 12", C-TE	34276130
1	4	Band, pole, set	47000000
2	4	Link, connecting, pair	47000200

VERTICAL CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR

*Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 34.5/19.9 kV	ZC5-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

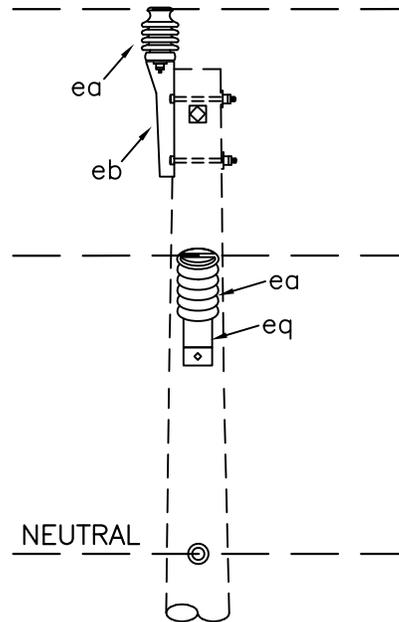
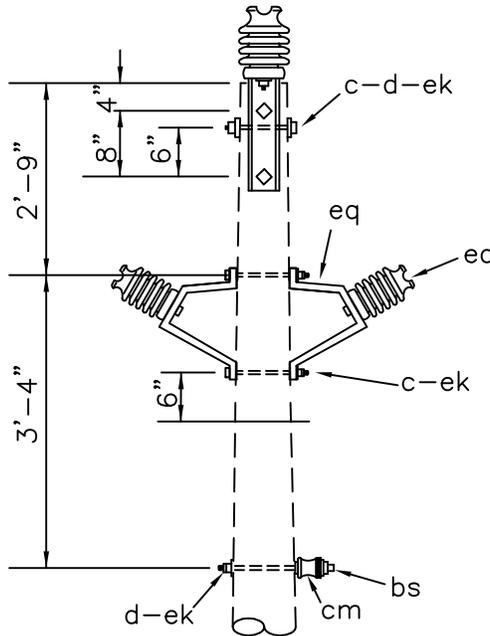


**THREE PHASE
NARROW PROFILE
CONSTRUCTION**

NARROW PROFILE CONSTRUCTION

PAGE	DRAWING	DESCRIPTION
6.01	CV-1 CV-1PO	Narrow Profile Construction Single Primary Support
6.02	CV-1Y CV-1YPO	Narrow Profile Construction Single Primary Support
6.03	CV-2 CV-2PO	Narrow Profile Construction Small Angle
6.04	CV-2Y CV-2YPO	Narrow Profile Construction Small Angle
6.05	CV-3Y CV-3YPO	Narrow Profile Construction Small Angle
6.06	CV-7HBA	Narrow Profile Construction Deadend (Single)

ITEM	QTY	ASSET #	INVENTORY NO.
CV-1	3	DT OH 365055	34251010
CV-1PO	1	DT OH 365055	34256200
CV-1PO	2	DT OH 365055	34256100



NOTES:

1. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION INVENTORY NO.	CV-1 QTY	CV-1PO QTY
c	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT	5	5
d	Washer, $2\frac{1}{4}$ " square	-	5	5
bs	Bolt, single upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
ea	Insulator Porcelain	34251010	3	-
ea	Insulator polymer vertical	34256200	-	1
ea	Insulator polymer horizontal	34256100	-	2
eb	Bracket, pole top	45612130	1	1
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	2	2
-	Stud, insulator, $1\frac{3}{4}$ " x $\frac{3}{4}$ " complete with washers & machine nuts	34301000	3	3
-	Clamp, conductor	11742090	-	3

DESIGN LIMITS

Max. Line Angle:
Lesser of 2° or as limited by transverse load

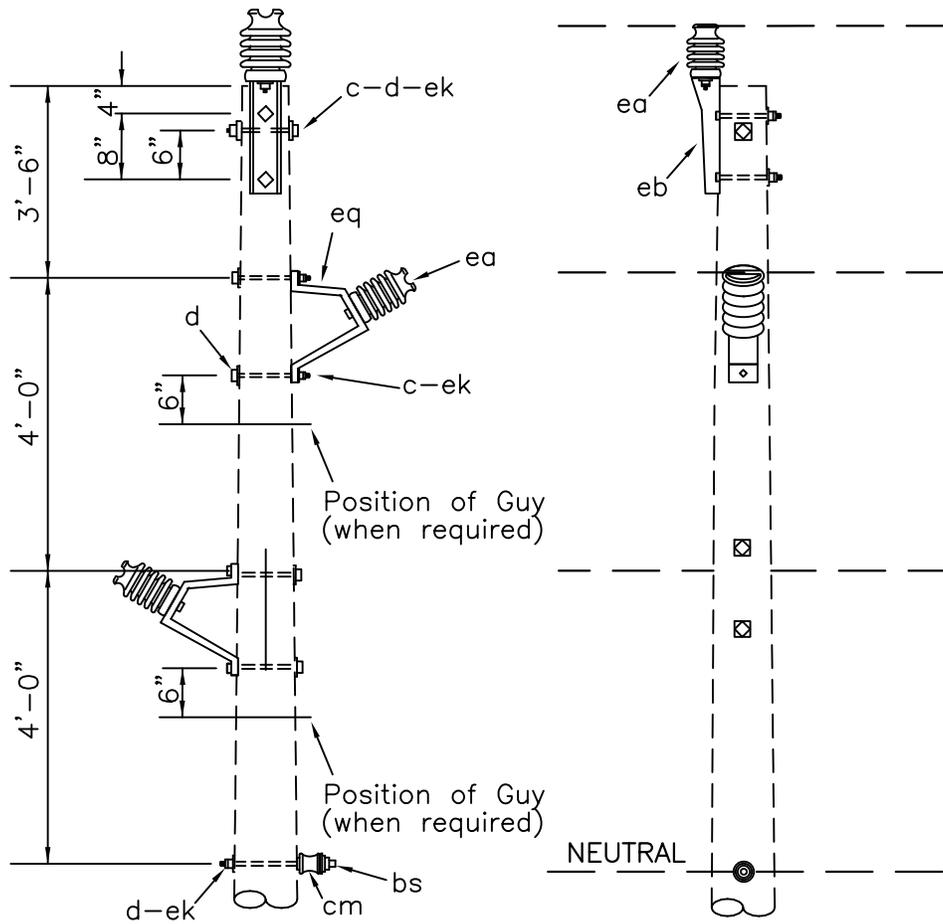
Max. transverse load:
Refer to Design Guide

*Quantity as Required

**NARROW PROFILE CONSTRUCTION
SINGLE PRIMARY SUPPORT**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	CV-1, CV-1PO
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
CV-1Y	3	DT OH 365055	34251010
CV-1YPO	2	DT OH 365055	34256100
CV-1YPO	1	DT OH 365055	34256200



NOTES:

1. Position of guy attachment dependent upon direction of conductor angle.
2. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION INVENTORY NO.	CV-1Y QTY	CV-1YPO QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	7	7
d	Washer, 2 1/4" square	-	9	9
bs	Bolt, single upset	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
ea	Insulator Porcelain	34251010	3	-
ea	Insulator polymer vertical	34256200	-	1
ea	Insulator polymer horizontal	34256100	-	2
eb	Bracket, pole top	45612130	1	1
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	2	2
-	Stud, insulator, 1 3/4" x 3/4" complete with washers & machine nuts	34301000	3	3
-	Clamp, conductor	11742090	-	3

DESIGN LIMITS

Max. Line Angle:
2°

NARROW PROFILE CONSTRUCTION
SINGLE PRIMARY SUPPORT

DEC. 1975



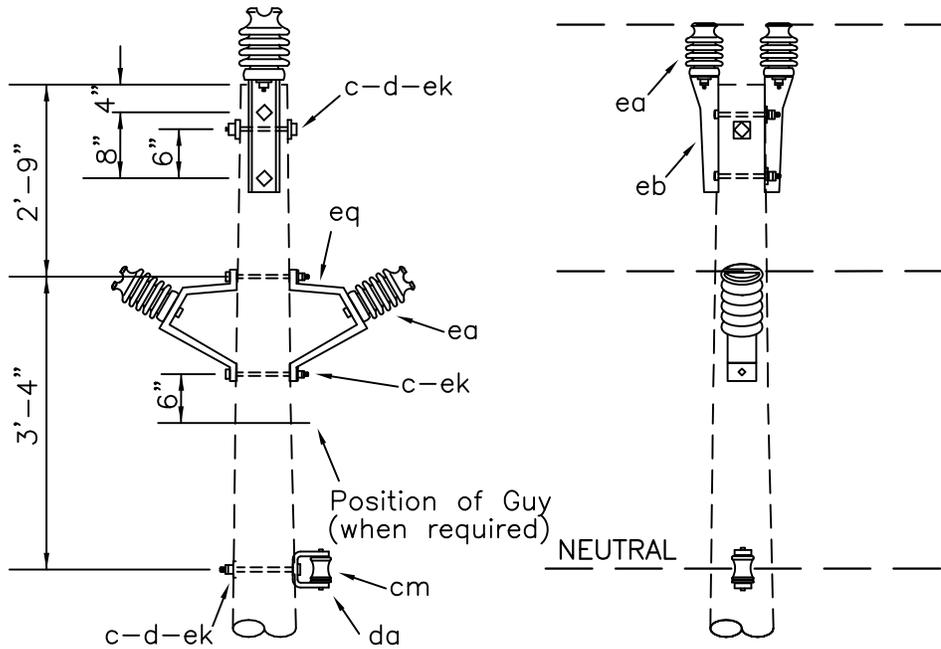
REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C-V1Y,
CV-1YPO

ITEM	QTY	ASSET #	INVENTORY NO.
CV-2	4	DT OH 365055	34251010
CV-2PO	2	DT OH 365055	34256100
CV-2PO	2	DT OH 365055	34256200



NOTES:

1. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION	CV-2	CV-2PO
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	6	6
d	Washer, 2 1/4" square	-	3	3
cm	Insulator, spool, 3"	34263010	1	1
da	Clevis, Rigid, Bare	07804500	1	1
ea	Insulator Porcelain	34251010	4	-
ea	Insulator polymer vertical	34256200	-	2
ea	Insulator polymer horizontal	34256100	-	2
eb	Bracket, pole top	45612130	2	2
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	2	2
-	Stud, insulator, 1 3/4" x 3/4" complete with washers & machine nuts	34301000	4	4
-	Clamp, conductor	11742090	-	4

DESIGN LIMITS

Max. Transverse Load:
800 lbs. per conductor

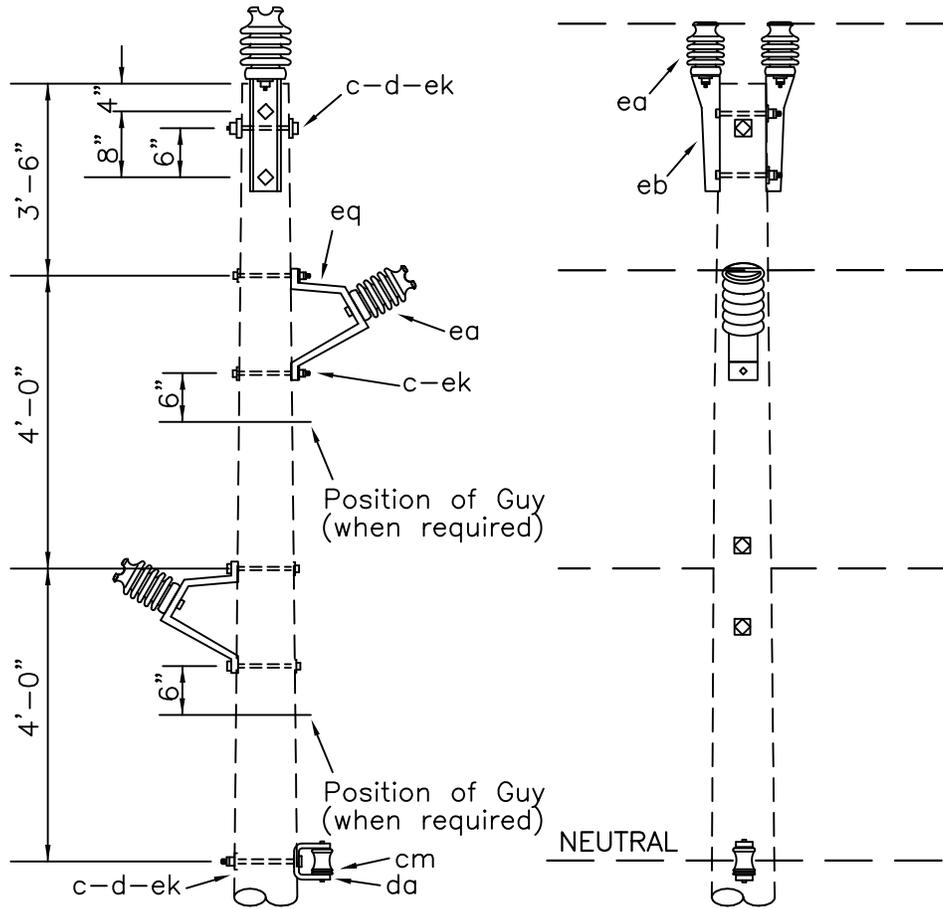
Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**NARROW PROFILE CONSTRUCTION
SMALL ANGLE**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	CV-2, CV-2PO
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
CV-2Y	4	DT OH 365055	34251010
CV-2YPO	2	DT OH 365055	34256100
CV-2YPO	2	DT OH 365055	34256200



NOTES:

1. Position of guy attachment dependent upon direction of conductor angle.
2. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION INVENTORY NO.	CV-2Y QTY	CV-2YPO QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	8	8
d	Washer, 2 1/4" square	-	7	7
cm	Insulator, spool, 3"	34263010	1	1
da	Clevis, Rigid, Bare	07804500	1	1
ea	Insulator Porcelain	34251010	4	-
ea	Insulator polymer vertical	34256200	-	2
ea	Insulator polymer horizontal	34256100	-	2
eb	Bracket, pole top	45612130	2	2
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	2	2
-	Stud, insulator, 1 3/4" x 3/4" complete with washers & machine nuts	34301000	4	4
-	Clamp, conductor	11742090	-	4

DESIGN LIMITS

Max. Line Angle:
Lesser of 20° or as limited by transverse load

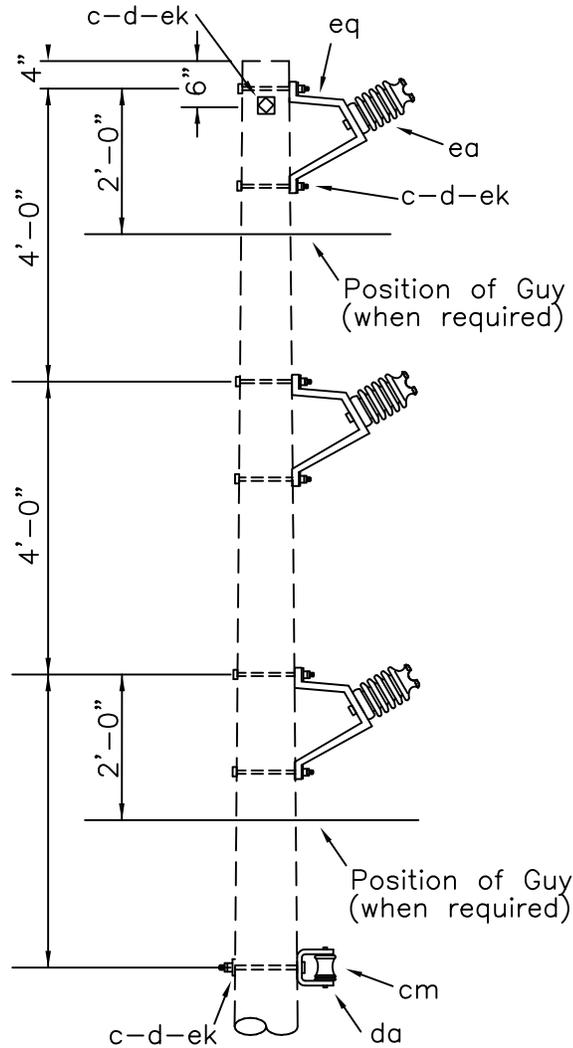
Max. Transverse Load:
800 lbs per conductor

*Quantity as Required

NARROW PROFILE CONSTRUCTION
SMALL ANGLE

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	CV-2Y, CV-2YPO
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
CV-3Y	3	DT OH 365055	34251010
CV-3YPO	3	DT OH 365055	34256100



NOTES:

1. Position of guy attachment dependent upon direction of conductor angle.
2. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION INVENTORY NO.	CV-3Y QTY	CV-3YPO QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	8	8
d	Washer, 2 1/4" square	-	9	9
cm	Insulator, spool, 3"	34263010	1	1
da	Clevis, Rigid, Bare	07804500	1	1
ea	Insulator Porcelain	34251010	3	-
ea	Insulator polymer horizontal	34256100	-	3
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	3	3
-	Stud, insulator, 1 3/4" x 3/4" complete with washers & machine nuts	34301000	3	3
-	Clamp, conductor	11742090	-	3

DESIGN LIMITS

Max. Transverse Load:
800 lbs. per conductor

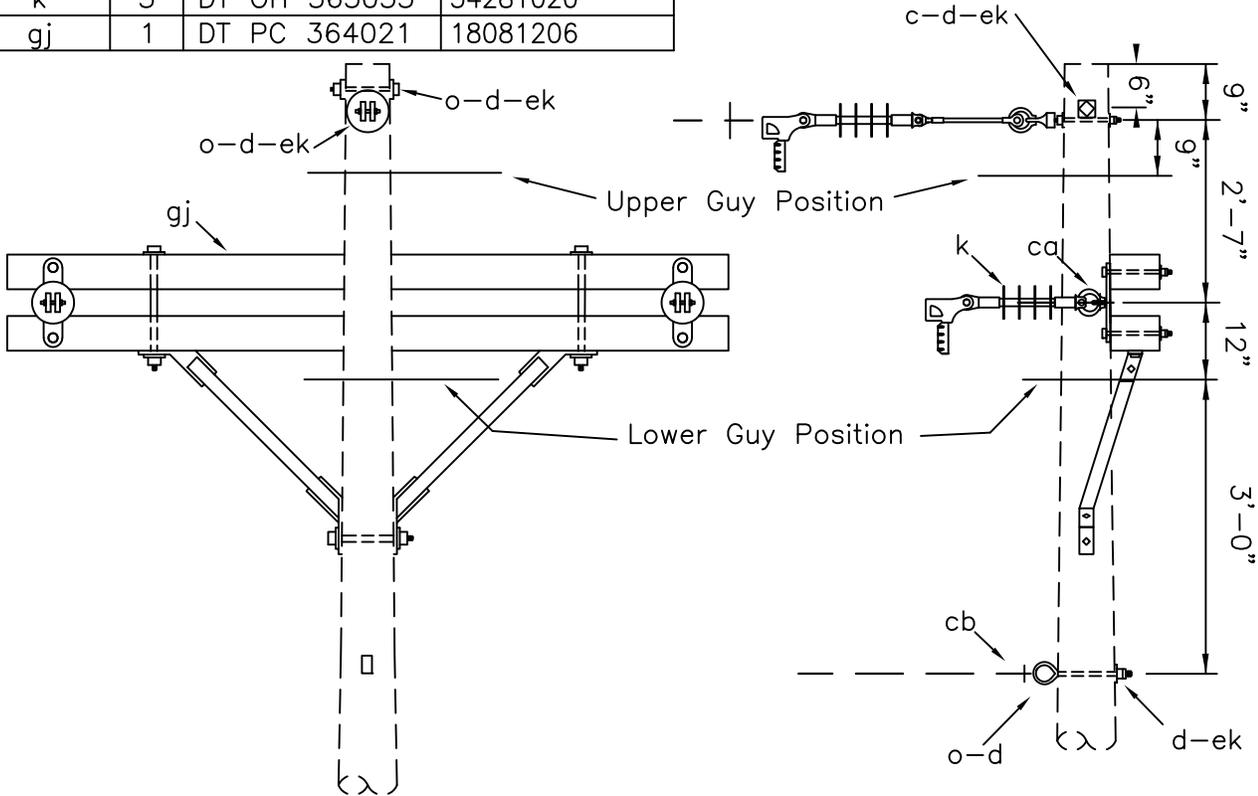
Max. Line Angle:
20° or as limited by transverse load

*Quantity as Required

**NARROW PROFILE CONSTRUCTION
SMALL ANGLE**

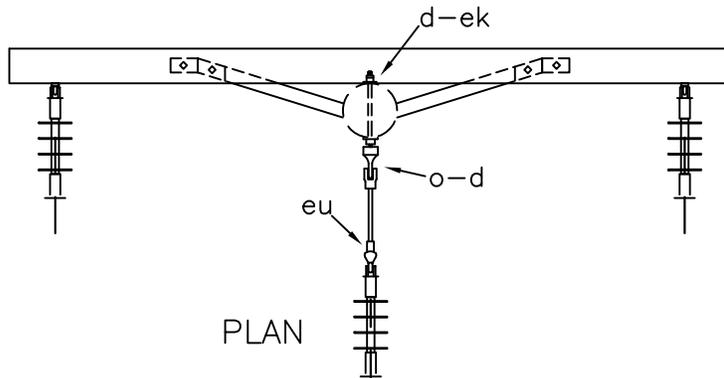
DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	CV-3Y, CV-3YPO
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020
gj	1	DT PC 364021	18081206



NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. For design tensions greater than 5000 lbs, use 15000 lb M&E insulators.



UNIT	ARM DIMENSIONS	CAT. NO.	INVENTORY NO.
CV-7HBA	3 3/4" x 5 3/4" x 6'-0"	2890-L	18081206

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 3", curved	-
d	2	Washer, 2 1/4" square	-
k	3	Insulators, suspension, epoxilator, 7.2kV	34281020
o	2	Bolt, eye, 5/8" x req'd. length	163615TT
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd.	-
eu	1	Link, extension, insulated, 12", C-TE	34276130
gj	1	Crossarm, assembly, complete with mounting hardware	18081206

DESIGN LIMITS

Max. Longitudinal Load Per Conductor:
 Grade B 3944 lbs
 Grade C 6546 lbs

**NARROW PROFILE CONSTRUCTION
 DEADEND (SINGLE)**

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	CV-7HBA
	APPROVED BY MFJ		

*Quantity as Required

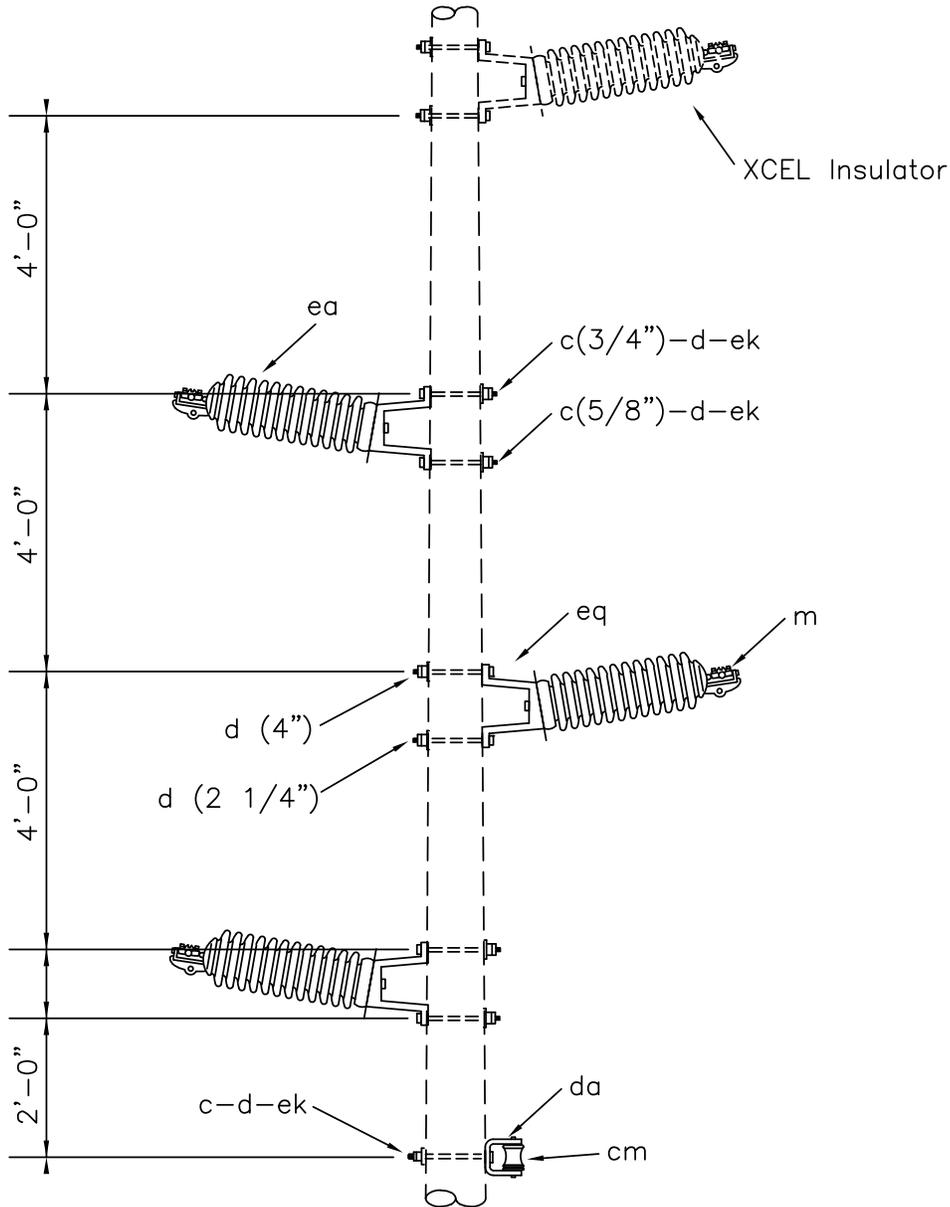


**THREE PHASE
TRANSMISSION UNDERBUILD
CONSTRUCTION**

TRANSMISSION UNDERBUILD

PAGE	DRAWING	DESCRIPTION
7.01	C1-69UB	Post Insulators Transmission Underbuild (69kV)
7.02	C9-1UB C9-1POUB	Crossarm Construction Single Line Arm Transmission Underbuild
7.03	C9-1XUB C9-1POXUB C9-1FXUB C9-1POFXUB	Crossarm Construction Single Line Arm Transmission Underbuild
7.04	C9-2UB C9-2POUB	Crossarm Construction Double Line Arm Transmission Underbuild

ITEM	QTY	ASSET #	INVENTORY NO.
ea	3	DT OH 365055	34243510



NOT FOR NEW CONSTRUCTION

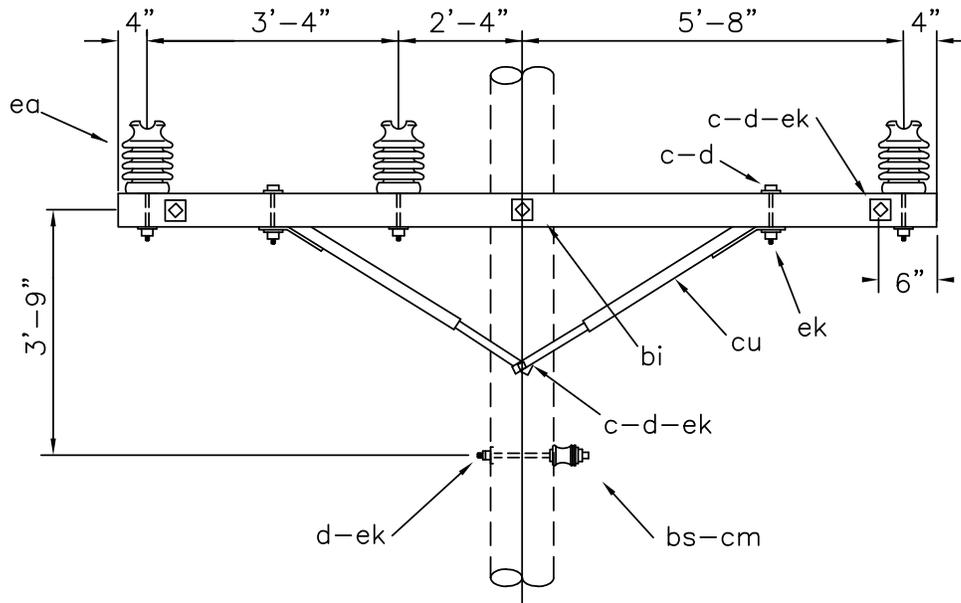
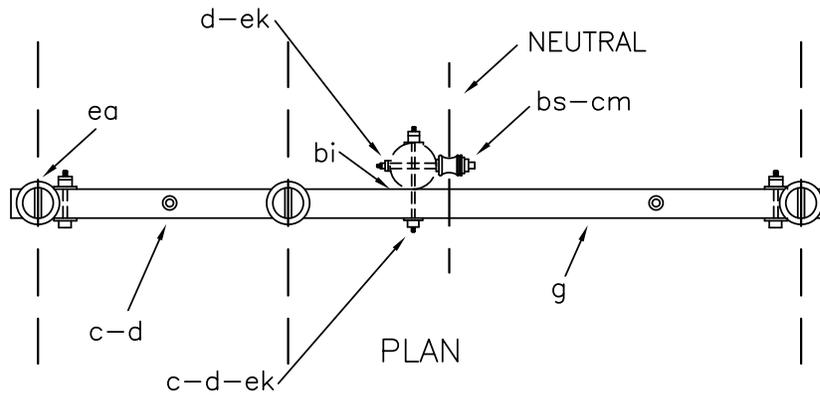
ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 3/4" x req'd. length	063806TT
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 4"	-
d	4	Washer, square, 2 1/4"	-
m	3	Clamp, conductor, trunnion suspension	-
cm	1	Spool, insulator, 3"	34263010
da	1	Clevis, Rigid, Bare	07804500
ea	3	Insulators, post type, clamp, horizontal (69 kV)	34243510
ek	*	Double coil spring washers, as req'd.	-
eq	3	Bracket, stand off, 15"	07807600
-	3	Stud, insulator, 1 3/4" x 3/4", complete with washers & machine nuts	34301000

POST INSULATORS
TRANSMISSION UNDERBUILD (69kV)

*Quantity as Required

AUG. 1976	REVISED NOV 2022	3-PHASE PRIMARY 69 kV	C1-69UB
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	DWG #
g	1	DT PC 364021	18290711	C9-1UB, C9-1POUB
ea	3	DT OH 365055	34251010	C9-1UB
-	3	DT OH 365055	34252000	C9-1POUB



NOTES:

- Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 1 OF 2

DEC. 1985



REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C9-1UB,
C9-1POUB

NOTES:

1. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION	C9-1UB	C9-1POUB
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	1
c	Bolt, machine, 5/8" x req'd. length	063805TT	3	3
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	2
d	Washer, square, 3"	-	1	1
d	Washer, square, 2 1/4"	-	6	6
d	Washer, square, 3", curved	-	1	1
d	Washer, round, 1 3/8"	-	2	2
g	Crossarm, 3 3/4" x 4 3/4" x 12'-0"	18290711	1	1
bi	Gain plate	46800260	1	1
bs	Bolt, single upset, 5/8" x req'd. length	063905TT	1	1
cm	Spool, insulator, 3"	34263010	1	1
cu	Brace, wood, 60" span, pair	07535168	1	1
ea	Insulator Porcelain	34251010	3	-
ea	Insulator polymer vertical	34256200	-	3
ek	Double coil spring washers, as req'd.	-	*	*
-	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	3	3
-	Clamp, conductor	11742090	-	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 2 OF 2

DEC. 1985



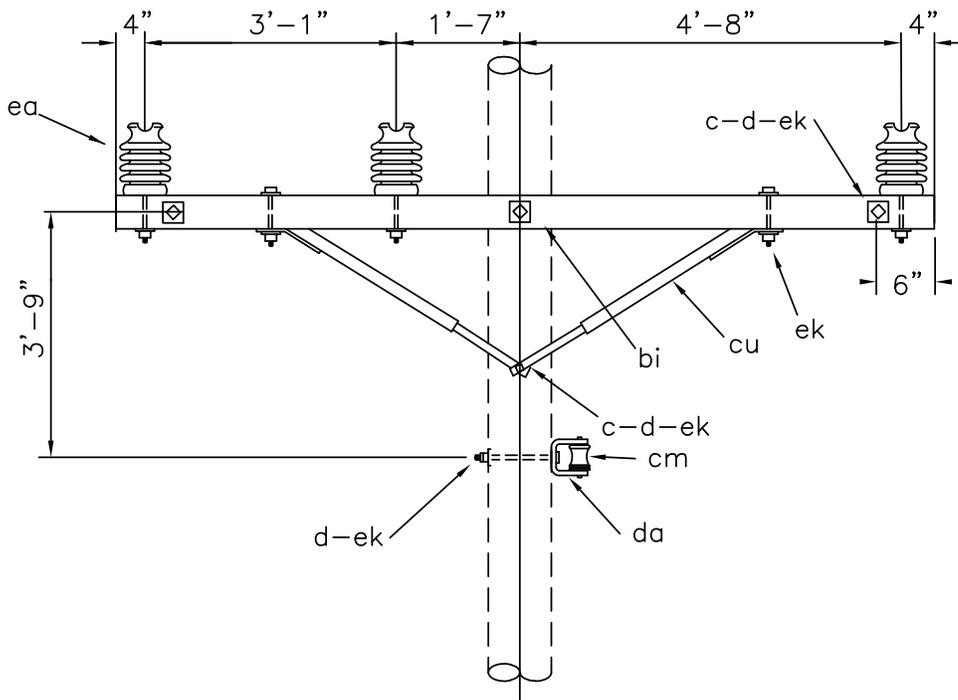
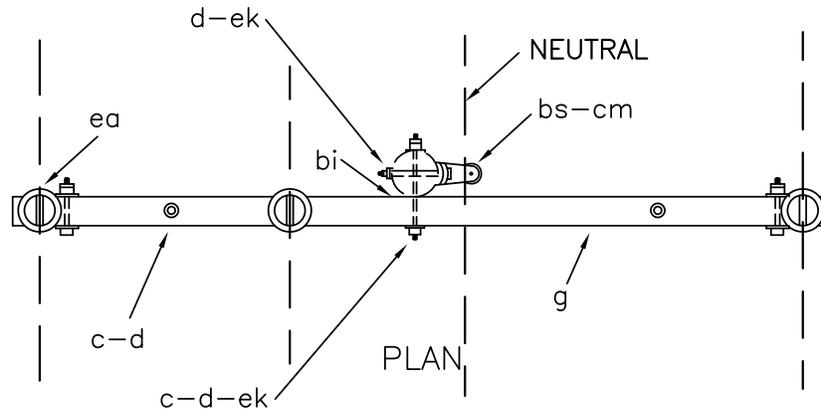
REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C9-1UB,
C9-1POUB

ITEM	QTY	ASSET #	INVENTORY NO.	DWG #
g	1	DT PC 364021	18290511	C9-1XUB, C9-1POXUB
ea	3	DT OH 365055	34251010	C9-1XUB, C9-1POXUB, C9-1FXUB, C9-1POFXUB
gj	1	DT PC 364021	18290611	C9-1FXUB, C9-1POFXUB



NOTES:

1. Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 1 OF 2

AUG. 1976



REVISED
NOV 2022

APPROVED BY
MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C9-1XUB, C9-1POXUB,
C9-1FXUB, C9-1POFXUB

NOTES:

1. Image depicts porcelain type insulator.

ITEM	MATERIAL	CONFIGURATION	C9-1XUB	C9-1POXUB	C9-1FXUB	C9-1POFXUB
		INVENTORY NO.	QTY	QTY	QTY	QTY
c	Bolt, machine, 3/4" x req'd. length	063806TT	1	1	2	2
c	Bolt, machine, 5/8" x req'd. length	063805TT	4	4	1	1
c	Bolt, machine, 1/2" x req'd. length	063804TT	2	2	-	-
d	Washer, square, 3"	-	1	1	-	-
d	Washer, square, 2 1/4"	-	6	6	4	4
d	Washer, square, 3", curved	-	1	1	2	2
d	Washer, round, 1 3/8"	-	2	2	-	-
g	Crossarm, 3 3/4" x 4 3/4" x 10', wood	18290511	1	1	-	-
bi	Gain plate	46800260	1	1	1	1
cm	Insulator, spool. 3"	34263010	1	1	1	1
cu	Brace, wood, 60" span, pair	07535168	1	1	-	-
da	Clevis, Rigid, Bare	07804500	1	1	1	1
ea	Insulator, post type (12.47/7.2kV), porcelain	34251010	3	-	3	-
ea	Insulator, post type (12.47/7.2kV), polymer	34256200	-	3	-	3
ek	Double coil spring washers, as req'd.	-	*	*	*	*
gj	Crossarm, 3 5/8" x 4 5/8" x 10', fiberglass, tangent	18290611	-	-	1	1
-	Stud, insulator, 7" x 3/4" complete with washers and machine nuts	34302000	3	3	3	3
-	Conductor clamp	11472090	-	-	3	3

DESIGN LIMITS

Max. Transverse Load:
750 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
SINGLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 2 OF 2

AUG. 1976



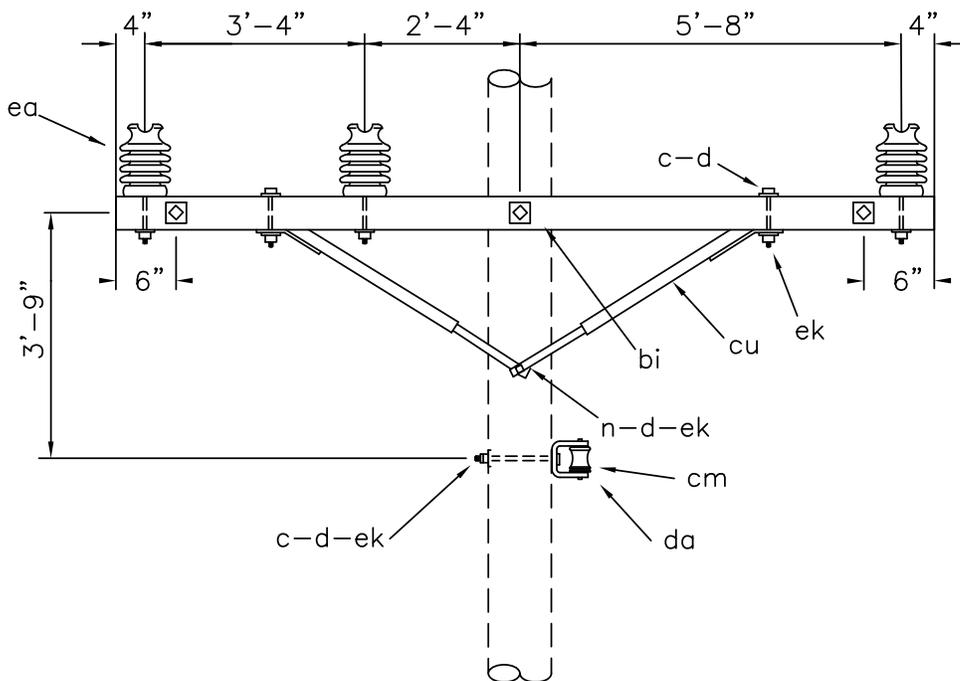
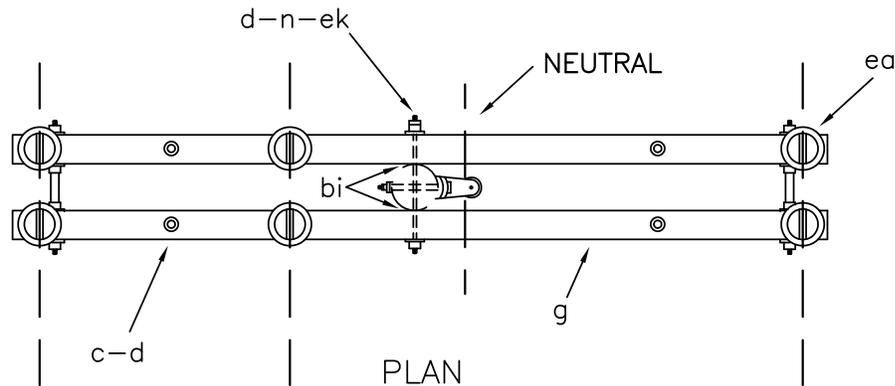
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MFJ

3-PHASE PRIMARY
12.47/7.2 kV

C9-1XUB, C9-1POXUB,
C9-1FXUB, C9-1POFXUB

ITEM	QTY	ASSET #	INVENTORY NO.	DWG #
g	2	DT PC 364021	18290711	C9-2UB, C9-2POUB
ea	6	DT OH 365055	34251010	C9-2UB
-	1	DT OH 365055	34256200	C9-2POUB



NOTES:

- Image depicts porcelain type insulator.

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 1 OF 2

DEC. 1985



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3-PHASE PRIMARY
12.47/7.2 kV

C9-2UB,
C9-2POUB

NOTES:

1. Image depicts porcelain type insulator.

		CONFIGURATION	C9-2UB	C9-2POUB
ITEM	MATERIAL	INVENTORY NO.	QTY	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	1	1
c	Bolt, machine, 1/2" x req'd. length	063804TT	4	4
d	Washer, square, 3"	-	2	2
d	Washer, square, 2 1/4"	-	9	9
d	Washer, round, 1 3/8"	-	4	4
g	Crossarm, 3 3/4" x 4 3/4" x 12'-0"	18290711	2	2
n	Bolt, double arming, 3/4" x req'd. length	063306TT	1	1
n	Bolt, double arming, 5/8" x req'd. length	063305TT	3	3
bi	Gain plate	46800260	2	2
cm	Insulator, spool, 3"	34263010	1	1
cu	Brace, wood, 60" span, pair	07535168	2	2
da	Clevis, Rigid, Bare	07804500	1	1
ea	Insulator Porcelain	34251010	6	-
ea	Insulator polymer vertical	34256200	-	6
ek	Double coil spring washers, as req'd.	-	*	*
-	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000	6	6
-	Clamp, conductor	34263010	-	6

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by transverse load

*Quantity as Required

CROSSARM CONSTRUCTION
DOUBLE LINE ARM
TRANSMISSION UNDERBUILD SHEET 2 OF 2

DEC. 1985



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3-PHASE PRIMARY
12.47/7.2 kV

C9-2UB,
C9-2POUB

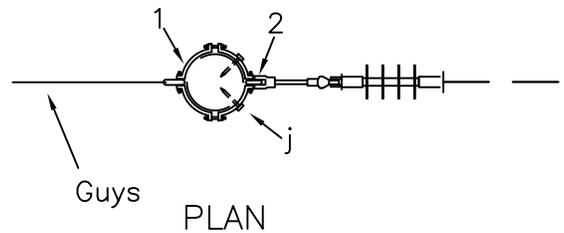
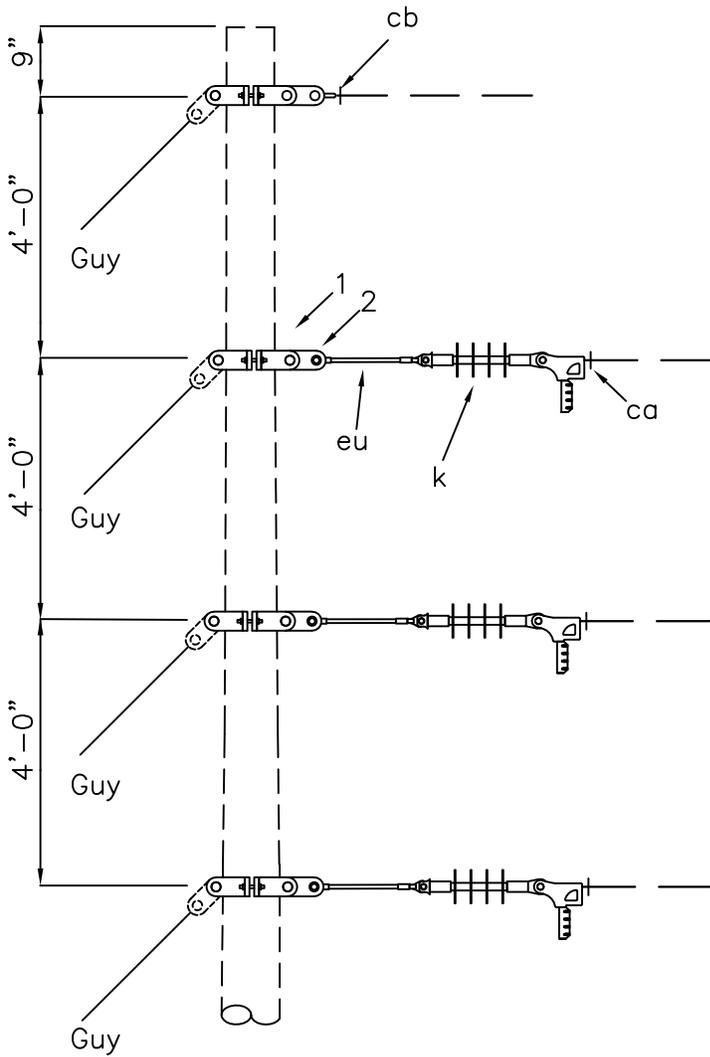


**THREE PHASE
CONSTRUCTION
OVERHEAD NEUTRAL**

THREE PHASE OVERHEAD NEUTRAL

PAGE	DRAWING	DESCRIPTION
8.01	OC5-2	Overhead Neutral Vertical Construction Deadend (Single) Large Conductor
8.02	OC5-3	Overhead Neutral Vertical Construction Deadend (Double) Large Conductor

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020



**NOT FOR NEW
CONSTRUCTION**

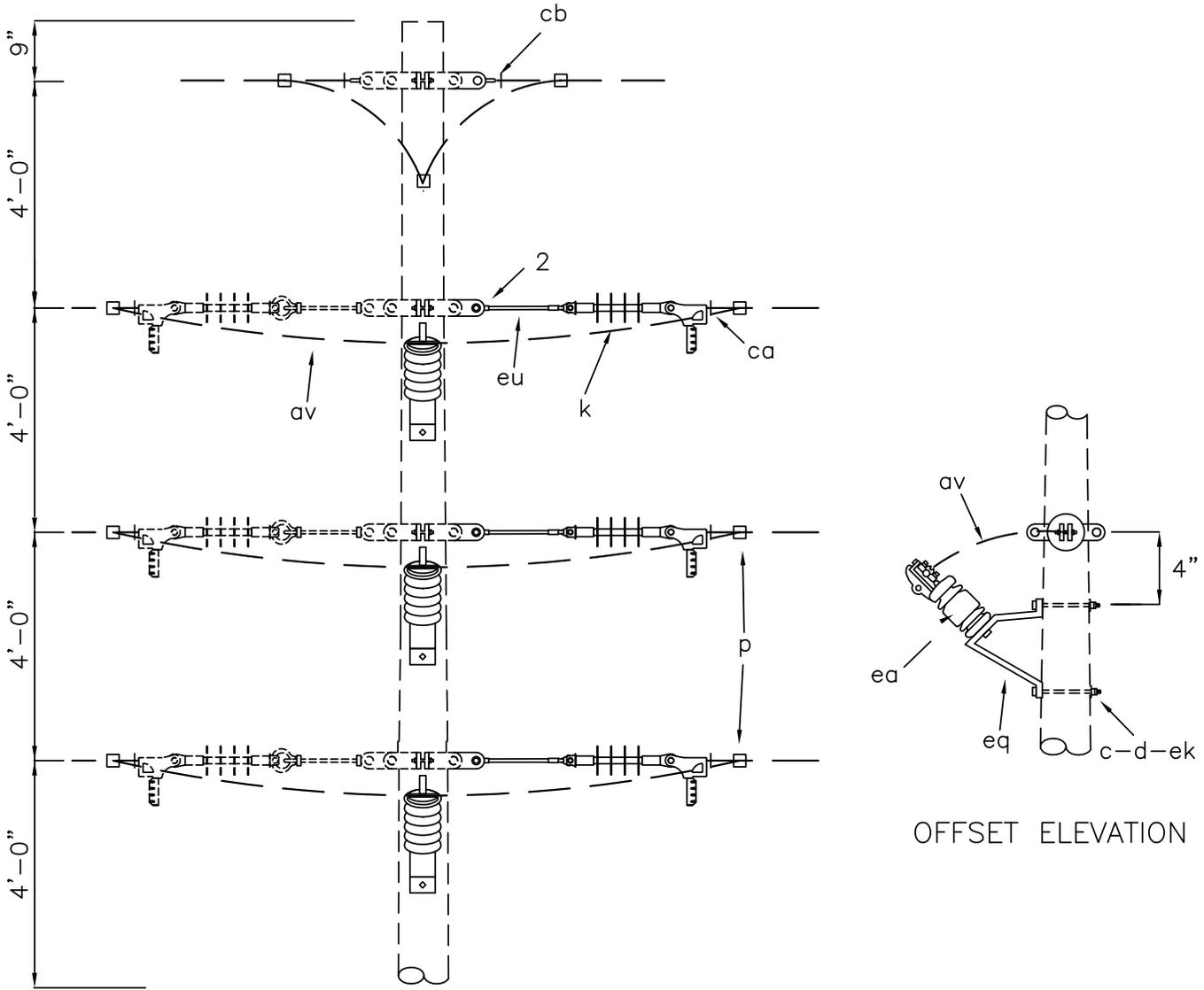
NOTE:
Items ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	8	Screw, lag, 1/2" x 4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
eu	3	Strain, fiberglass, 12", clevis eye, C-TE	34276130
1	4	Band, pole (set)	47000000
2	4	Link, connecting (pair)	47000200

OVERHEAD NEUTRAL
VERTICAL CONSTRUCTION
DEADEND (SINGLE)
LARGE CONDUCTOR

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	OC5-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020
ea	3	DT OH 365055	34256200



NOT FOR NEW CONSTRUCTION

OVERHEAD NEUTRAL
 VERTICAL CONSTRUCTION
 DEADEND (DOUBLE)
 LARGE CONDUCTOR SHEET 1 OF 2

* Quantity as Required

DEC. 1985	REVISED NOV 2022	3-PHASE PRIMARY 12.47/7.2 kV	OC5-3
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTE:

Items ca and cc are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	6	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
p	*	Connectors, as required	-
av	*	Jumpers, covered, Hendrix as required	-
ca	3	Deadend assembly, primary	117220XX
cb	1	Deadend assembly, neutral	117220XX
ea	3	Insulator, polymer post type horizontal (12.47/7.2 kV)	34256200
ek	*	Double coil spring washers, as req'd	-
eq	3	Bracket, offset pole mount, 15"	07807600
eu	3	Link, extension, insulated, 12", C-TE	34276130
1	4	Link, connecting (pair)	47000200

OVERHEAD NEUTRAL
VERTICAL CONSTRUCTION
DEADEND (DOUBLE)
LARGE CONDUCTOR SHEET 2 OF 2

* Quantity as Required

DEC. 1985

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3-PHASE PRIMARY
12.47/7.2 kV

OC5-3

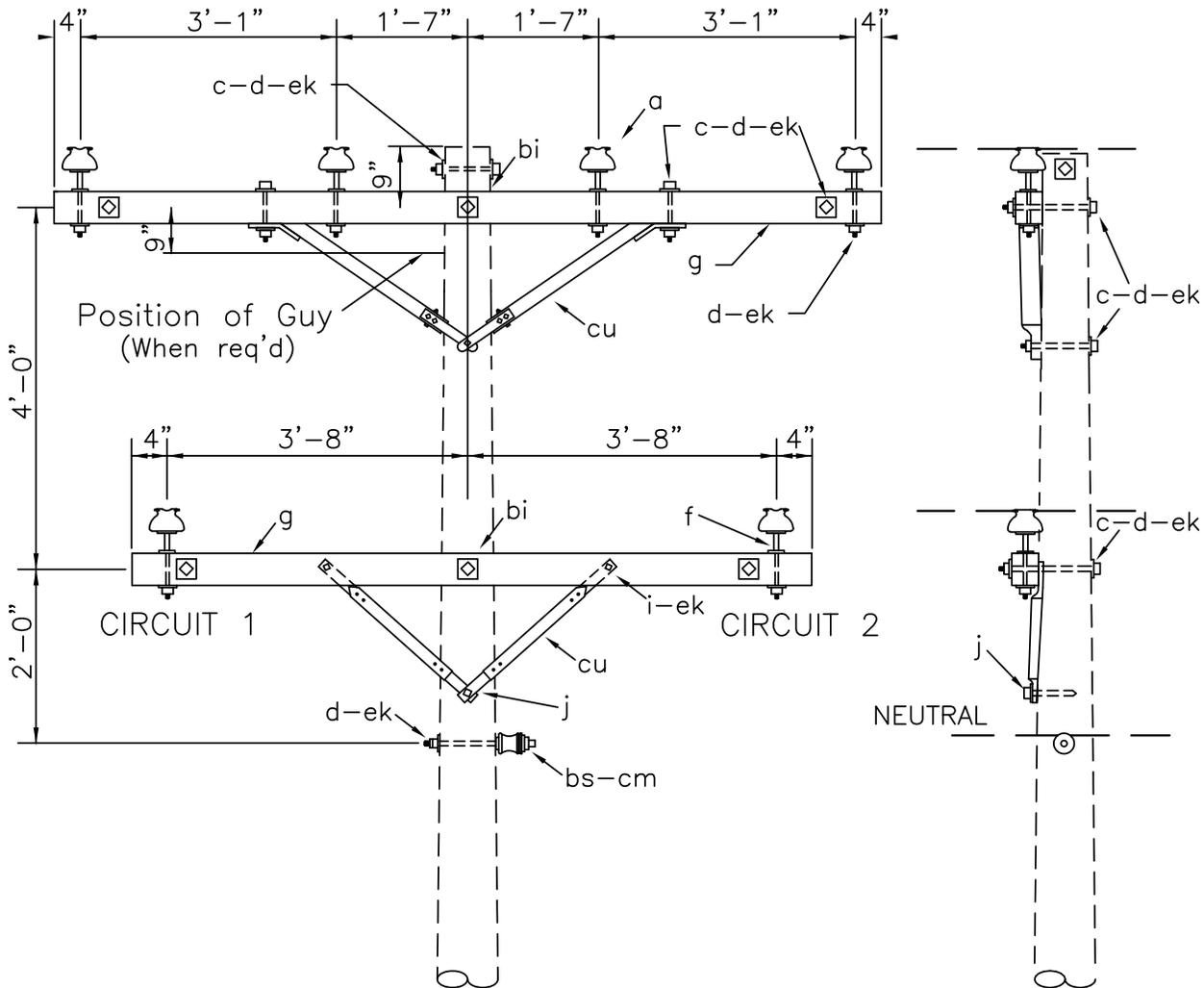


**THREE PHASE
DOUBLE CIRCUIT
CONSTRUCTION**

THREE PHASE DOUBLE CIRCUIT

PAGE	DRAWING	DESCRIPTION
9.01	DC-C1	Double Circuit Crossarm Construction Single Line Arm (Tangent) 2 Crossarm Type
9.02	DC-C1PL	Double Circuit Crossarm Construction Single Line Arm 3 Crossarm Type Large Conductor
9.03	DC-C1-1A	Double Circuit Crossarm Construction Double Line Arm (Tangent) 3 Crossarm Type
9.04	DC-C1-3PL	Double Circuit Crossarm Construction Double Line Arm 3 Crossarm Type Large Conductor
9.05	DC-C2	Double Circuit Crossarm Construction Double Line Arm (Tangent) 2 Crossarm Type
9.06	DC-C3-2	Double Circuit Vertical Construction Suspension Angle Large Conductor
9.07	DC-C4-2	Double Circuit Vertical Construction Deadend (Double) 3 Pole Type
9.08	DC-C8	Double Circuit Crossarm Construction Deadend (Double)
9.09	DCV-1 DCV-1PO	Double Circuit Narrow Profile Construction
9.10	DCV-2	Double Circuit Narrow Profile Construction Small Angle
9.11	DCV-3	Double Circuit Narrow Profile Construction Angle
9.12	DCV-3B	Double Circuit Narrow Profile Construction with Tap
9.13	DCV-C7HBA DCV-C7HBB	Double Circuit Crossarm Construction Deadend (Single) Large Conductor
9.14	DCV-C8	Double Circuit Crossarm Construction Deadend (Double)
9.15	DCV-C8HBA DCV-C8HBB	Double Circuit Crossarm Construction Deadend (Double) Large Conductor
9.16	ZDC1PL	Double Circuit Crossarm Construction Single Line Arm Large Conductor
9.17	ZDC2PL	Double Circuit Crossarm Construction Double Line Arm Large Conductor
9.18	ZDC3-2	Double Circuit Vertical Construction Suspension Angle Large Conductor
9.19	ZDC4-2	Double Circuit Vertical Construction Deadend (Double) 3 Pole Type Large Conductor
9.20	ZDCV-1	Double Circuit Narrow Profile Construction Large Conductor
9.21	ZDCV-2	Double Circuit Narrow Profile Construction Large Conductor
9.22	ZDCV-3	Double Circuit Narrow Profile Construction Large Conductor

ITEM	QTY	ASSET #	INVENTORY NO.
a	6	DT OH 365055	34223010
g	1	DT PC 364021	18290511
g	1	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
2°

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT) 2 CROSSARM TYPE
SHEET 1 OF 2**

APR. 1983



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JDP

DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1

ITEM	QTY	MATERIAL	INVENTORY NO.
a	6	Insulator, pin type	34223010
c	6	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
c	2	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	12	Washer, square, $2\frac{1}{4}$ "	-
d	3	Washer, square, 3"	-
d	1	Washer, square, curved, 3"	-
d	2	Washer, round, $1\frac{3}{8}$ "	-
f	6	Pin, crossarm, steel, $\frac{5}{8}$ " x $10\frac{3}{4}$ " complete w/washers & machine nuts	45413111
g	1	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x $10'-0"$	18290511
g	1	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x $8'-0"$	18290311
i	2	Bolt, carriage, $\frac{3}{8}$ " x $4\frac{1}{2}$ "	063103TT
j	1	Screw, lag, $\frac{1}{2}$ " x 4"	-
bi	2	Gain plate	46800260
bs	1	Bolt, single upset, $\frac{5}{8}$ " x req'd. length	063905TT
cm	1	Spool, insulator, 3"	34263010
cu	1	Brace, wood, 60" span, pair	07535168
cu	1	Brace, wood, 28", Pair	07535128
ek	*	Double coil spring washers, as req'd	-

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
500 lbs. per conductor

Max. Line Angle:
2°

*Quantity as Required

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
SINGLE LINE ARM (TANGENT) 2 CROSSARM TYPE
SHEET 2 OF 2

APR. 1983



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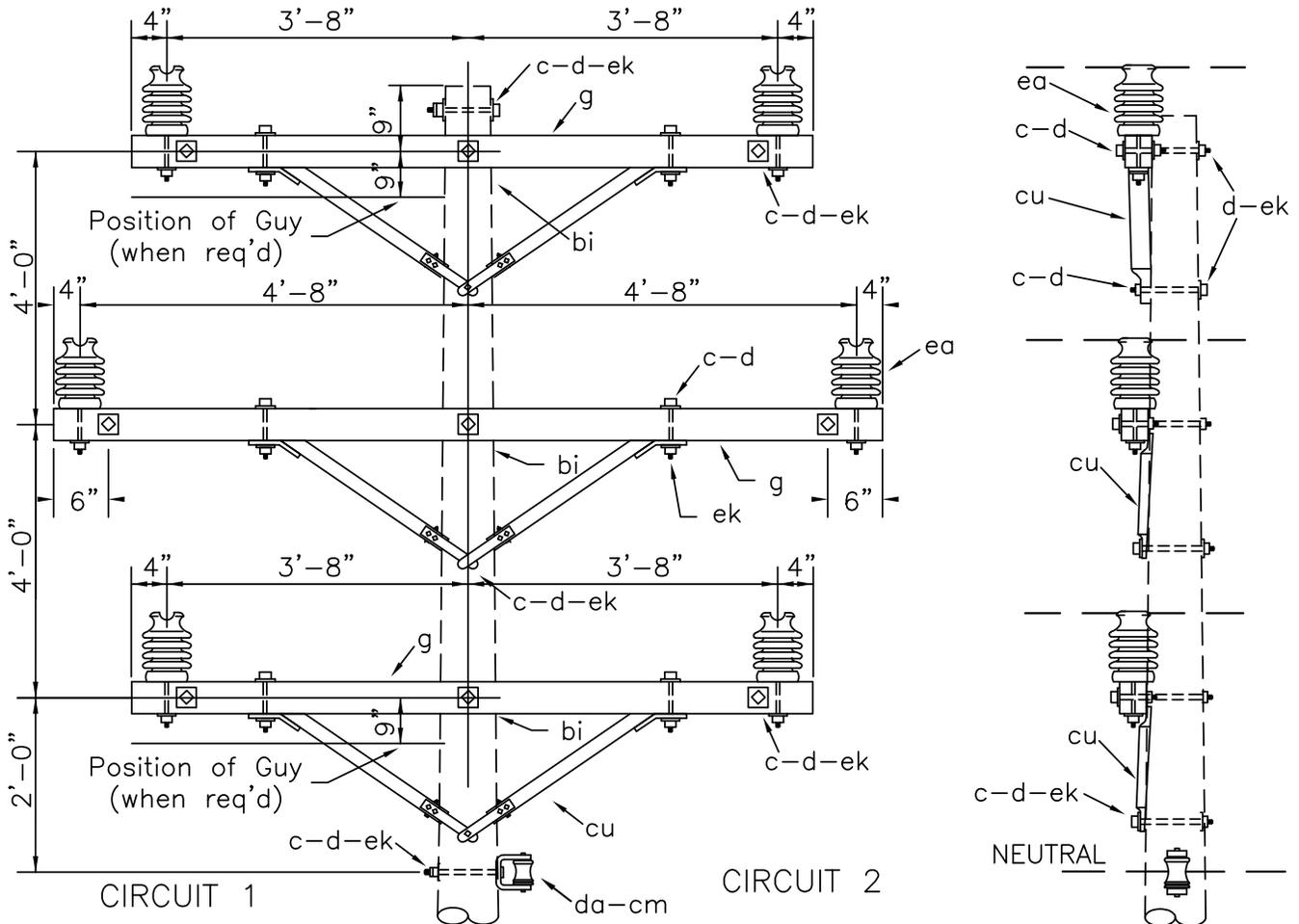
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1

9.01.2

ITEM	QTY	ASSET #	INVENTORY NO.
ea	6	DT OH 365055	34251010
g	1	DT PC 364021	18290511
g	2	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
Max. Line Angle:
5°

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
SINGLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

APR. 1983



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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1PL

9.02.1

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 3/4" x req'd. length	063806TT
c	11	Bolt, machine, 5/8" x req'd. length	063805TT
c	6	Bolt, machine, 1/2" x req'd. length	063804TT
d	4	Washer, square, 3"	-
d	2	Washer, square, curved, 3"	-
d	18	Washer, square, 2 1/4"	-
d	6	Washer, round, 1 3/8"	-
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
bi	3	Gain, plate	46800260
cm	1	Spool, insulator, 3"	34263010
cu	3	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ea	6	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd	-
-	6	Stud, insulator, 7" x 3/4", complete with washers and machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
Max. Line Angle:
5°

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
SINGLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 2 OF 2**

*Quantity as Required

APR. 1983



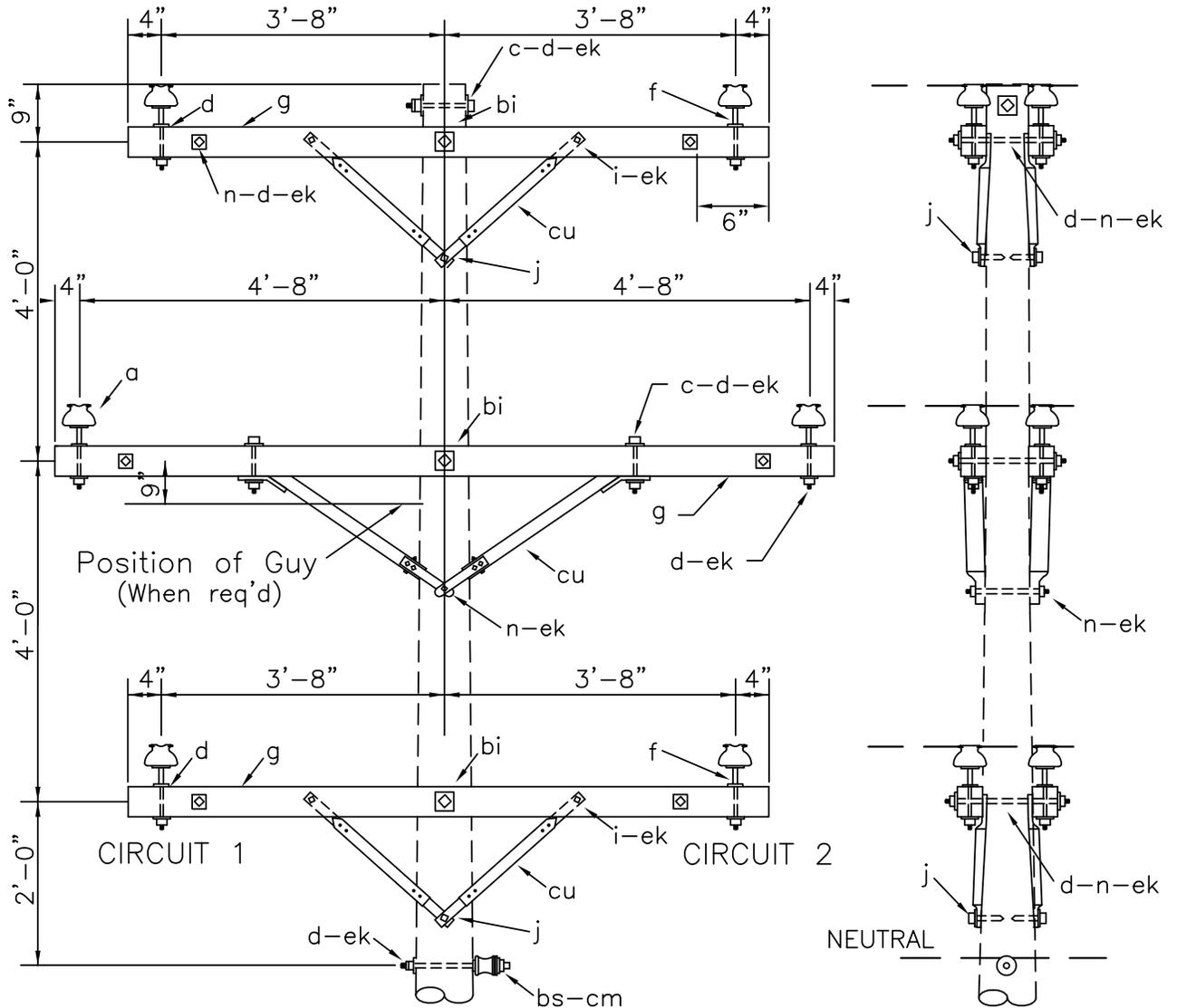
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1PL

ITEM	QTY	ASSET #	INVENTORY NO.
a	12	DT OH 365055	34223010
g	2	DT PC 364021	18290511
g	4	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
5° - Small Conductors
2° - Larger than 1/8"

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
3 CROSSARM TYPE SHEET 1 OF 2**

APR. 1983
REVISED SEPT 2022
APPROVED BY JDP
CORE
ELECTRIC COOPERATIVE

DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-1A

ITEM	QTY	MATERIAL	INVENTORY NO.
a	12	Insulator, pin type	34223010
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	27	Washer, square, 2 $\frac{1}{4}$ "	-
d	6	Washer, square, 3"	-
d	4	Washer, round, 1 $\frac{3}{8}$ "	-
f	12	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ " complete w/washers & machine nuts	45413111
g	2	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 10'-0"	18290511
g	4	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8'-0"	18290311
i	8	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT
j	4	Screw, lag, $\frac{1}{2}$ " x 4"	-
n	7	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
n	3	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
bi	6	Gain, plate	46800260
bs	1	Bolt, single upset, $\frac{5}{8}$ " x req'd length	063905TT
cm	1	Spool, insulator, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
cu	4	Brace, wood, 28", each	07535128
ek	*	Double coil spring washers, as req'd	-

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
5° - Small Conductors
2° - Larger than $\frac{1}{0}$

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
3 CROSSARM TYPE SHEET 2 OF 2**

APR. 1983



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NOV 2022

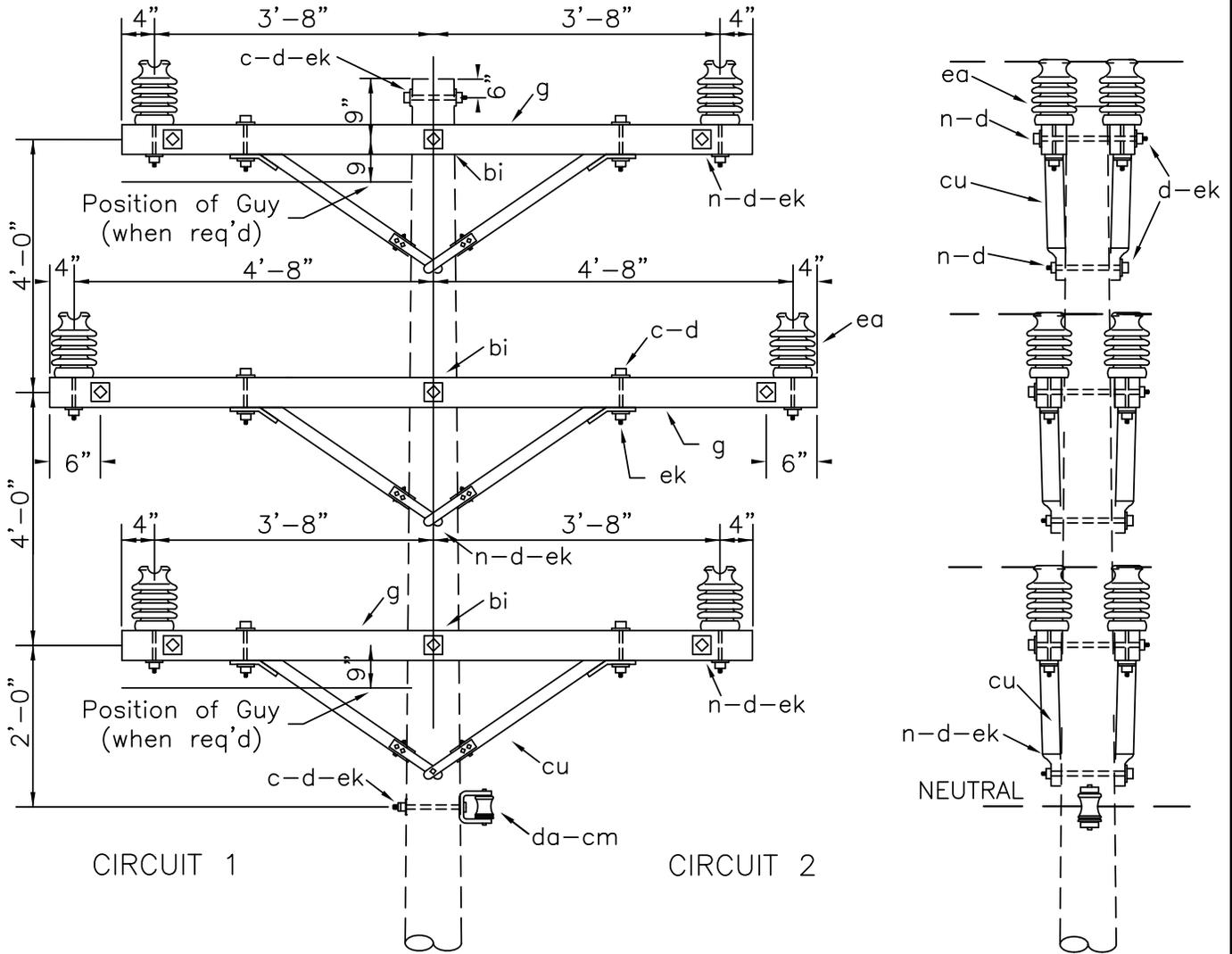
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-1A

9.03.2

ITEM	QTY	ASSET #	INVENTORY NO.
ea	12	DT OH 365055	34251010
g	2	DT PC 364021	18290511
g	4	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983



REVISED
NOV 2022

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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-3PL

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
c	12	Bolt, machine, 1/2" x req'd. length	063804TT
d	27	Washer, square, 2 1/4"	-
d	6	Washer, square, 3"	-
d	12	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
g	4	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
n	9	Bolt, double arming, 5/8" x req'd. length	063305TT
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
bi	6	Gain, plate	46800260
cm	1	Spool, insulator, 3"	34263010
cu	6	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ea	12	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd	-
-	12	Stud, insulator, 7" x 3/4" complete w/ washers and machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 2 OF 2**

APR. 1983



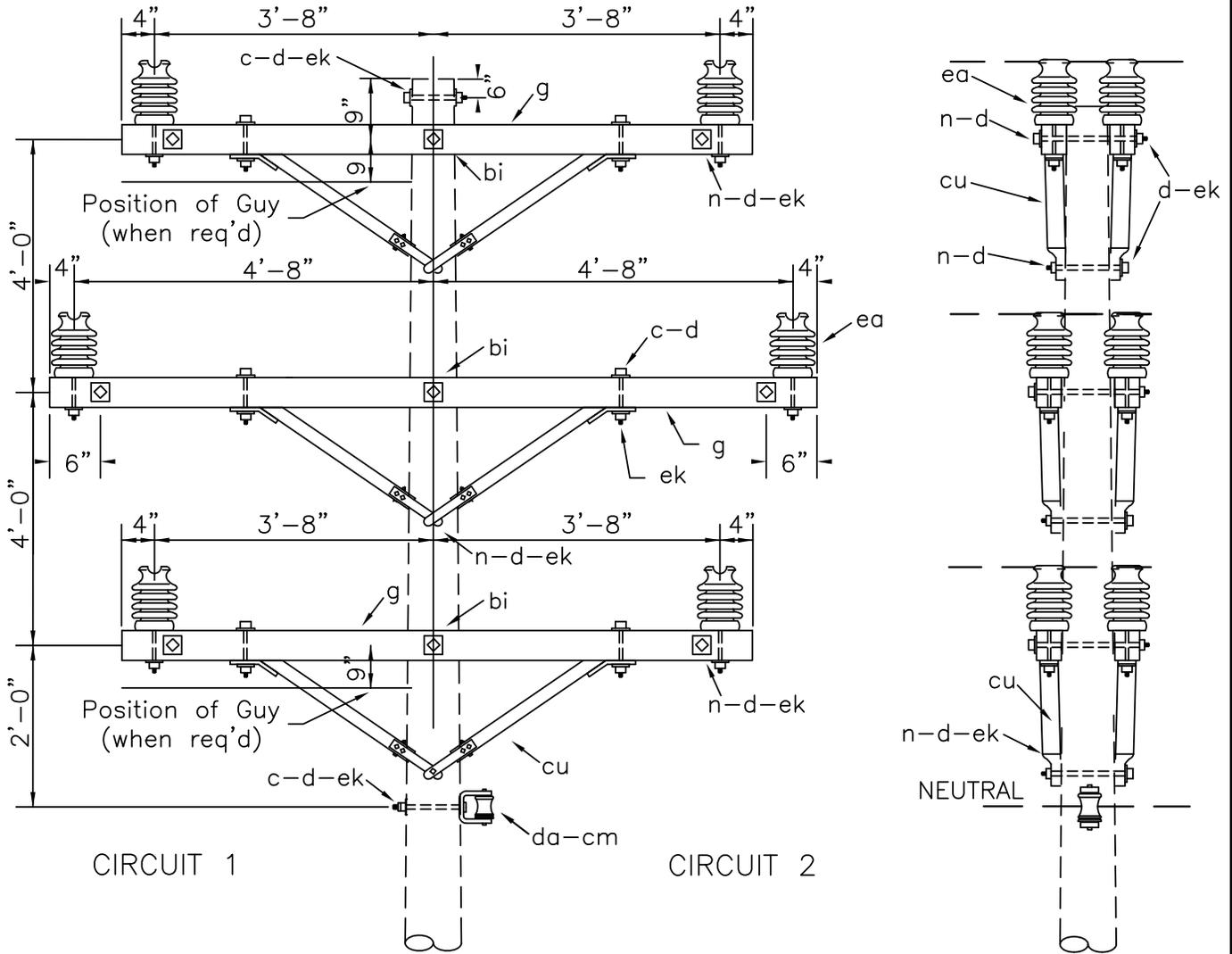
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-3PL

ITEM	QTY	ASSET #	INVENTORY NO.
ea	12	DT OH 365055	34251010
g	2	DT PC 364021	18290511
g	4	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 1 OF 2**

APR. 1983



REVISED
NOV 2022

APPROVED BY
JDP

DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-3PL

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
c	12	Bolt, machine, 1/2" x req'd. length	063804TT
d	27	Washer, square, 2 1/4"	-
d	6	Washer, square, 3"	-
d	12	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
g	4	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
n	9	Bolt, double arming, 5/8" x req'd. length	063305TT
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
bi	6	Gain, plate	46800260
cm	1	Spool, insulator, 3"	34263010
cu	6	Brace, wood, 60" span, pair	07535168
da	1	Clevis, Rigid, Bare	07804500
ea	12	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd	-
-	12	Stud, insulator, 7" x 3/4" complete w/ washers and machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse load:
1500 lbs. per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM 3 CROSSARM TYPE
LARGE CONDUCTOR SHEET 2 OF 2**

APR. 1983



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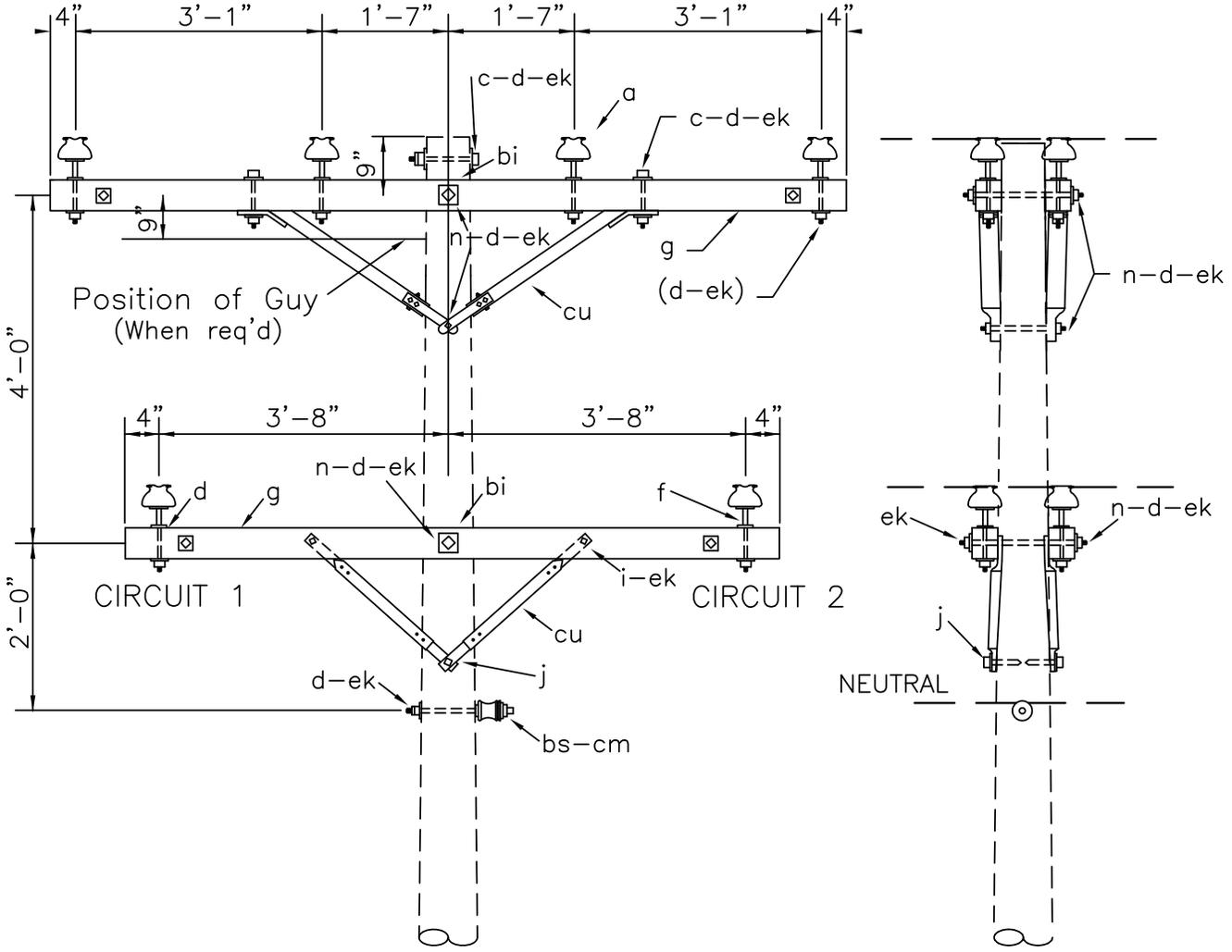
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C1-3PL

9.04.2

ITEM	QTY	ASSET #	INVENTORY NO.
a	12	DT OH 365055	34223010
g	2	DT PC 364021	18290511
g	2	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
5° - Small Conductors
2° - Larger than 1/8"

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
2 CROSSARM TYPE SHEET 1 OF 2**

APR. 1983	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DC-C2
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	MATERIAL	INVENTORY NO.
a	12	Insulator, pin type	34223010
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	4	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	19	Washer, square, 2 $\frac{1}{4}$ "	-
d	4	Washer, square, 3"	-
d	4	Washer, round, 1 $\frac{3}{8}$ "	-
f	12	Pin, crossarm, steel, $\frac{5}{8}$ " x 10 $\frac{3}{4}$ " complete w/ washers & machine nuts	45413111
g	2	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 10'-0"	18290511
g	2	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8'-0"	18290311
i	4	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT
j	2	Screw, lag, $\frac{1}{2}$ " x 4"	-
n	5	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
n	2	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
bi	4	Gain, plate	46800260
bs	1	Bolt, single upset, $\frac{5}{8}$ " x req'd length	063905TT
cm	1	Spool, insulator, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
cu	2	Brace, wood, 28", pair	07535128
ek	*	Double coil spring washers, as req'd	-

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Transverse Load:
1000 lbs. per conductor

Max. Line Angle:
5° - Small Conductors
2° - Larger than $\frac{1}{0}$

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM (TANGENT)
2 CROSSARM TYPE SHEET 2 OF 2**

APR. 1983



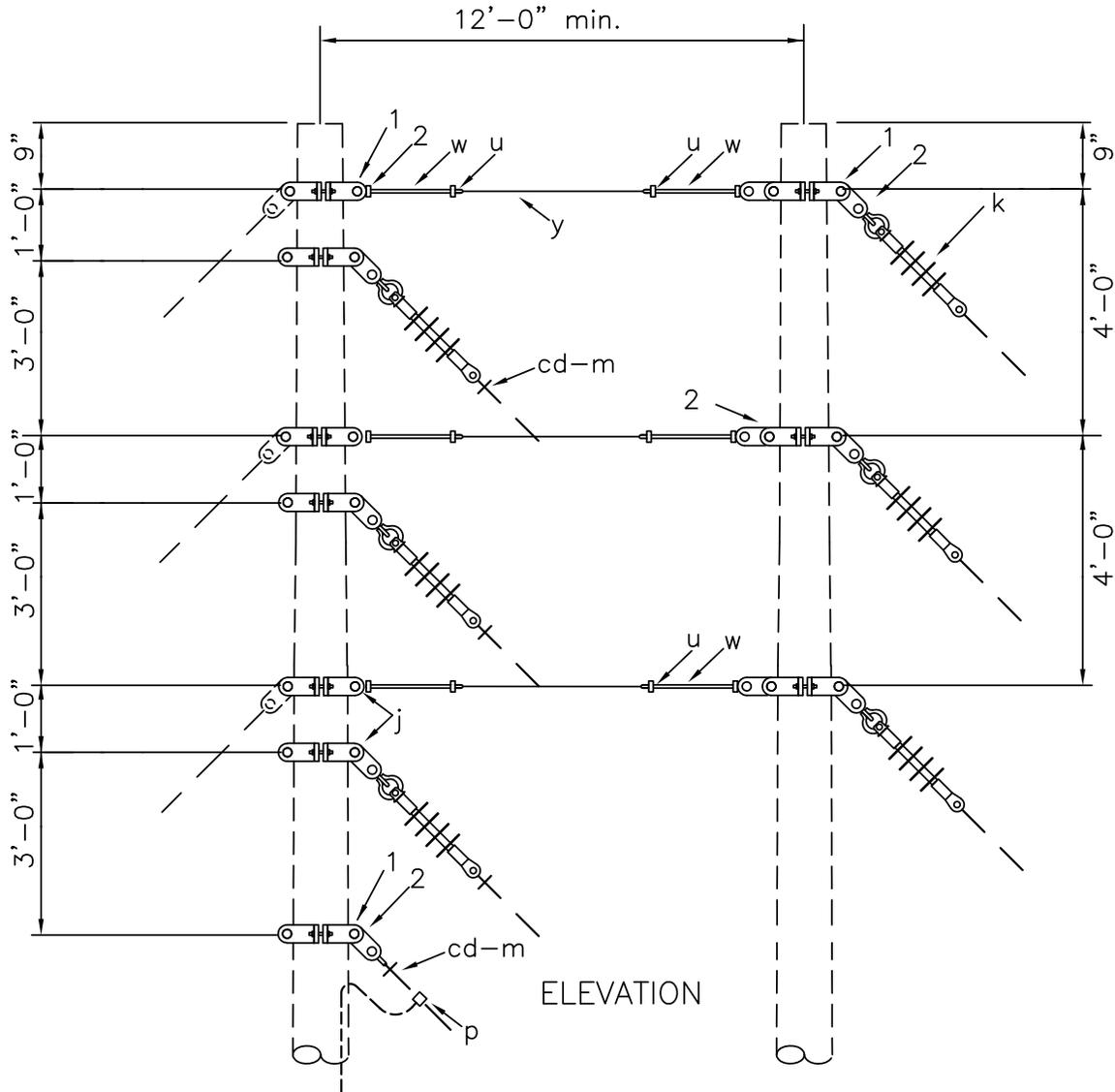
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MFJ

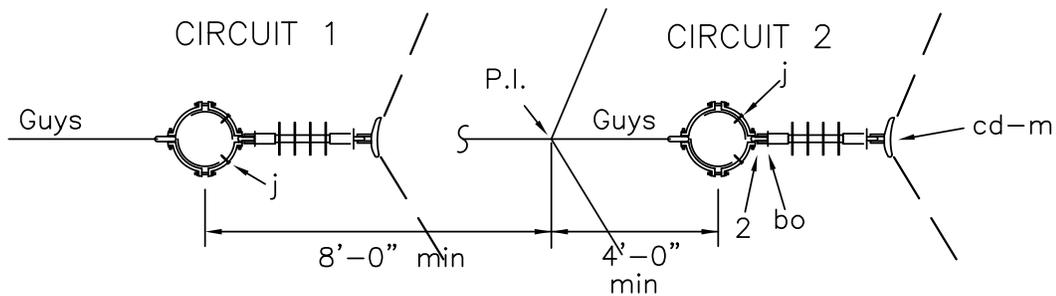
DOUBLE CIRCUIT
12.47/7.2 kV

DC-C2

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020



ELEVATION



PLAN

DESIGN LIMITS

Max. Transverse Load:
5000 lbs. per conductor

Max. Line Angle:
Lesser of 60° or as limited by
transverse load

*Quantity as Required

DOUBLE CIRCUIT VERTICAL CONSTRUCTION
SUSPENSION ANGLE LARGE CONDUCTOR
SHEET 1 OF 2

APR. 1983



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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C3-2

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.
4. Unit cd is shown on assembly drawing M41-10.
5. For transverse loads greater than 5000 lbs use 15000 lb M&E insulators.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	20	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
u	6	Deadend, guy, Preformed type	11770010
y	*	Guy wire, 10M AW, as req'd.	73801007
w	6	Strain, guy, fiberglass, 12", C-TE	34276130
m	6	Angle assembly cd, primary	11741035
m	1	Angle assembly cd, neutral	11741035
1	10	Band, pole (set) complete	47000000
2	13	Link, connecting (pair) complete	47000200

DESIGN LIMITS

Max. Transverse Load:
5000 lbs. per conductor

Max. Line Angle:
Lesser of 60° or as limited by
transverse load

*Quantity as Required

DOUBLE CIRCUIT VERTICAL CONSTRUCTION
SUSPENSION ANGLE LARGE CONDUCTOR
SHEET 2 OF 2

APR. 1983



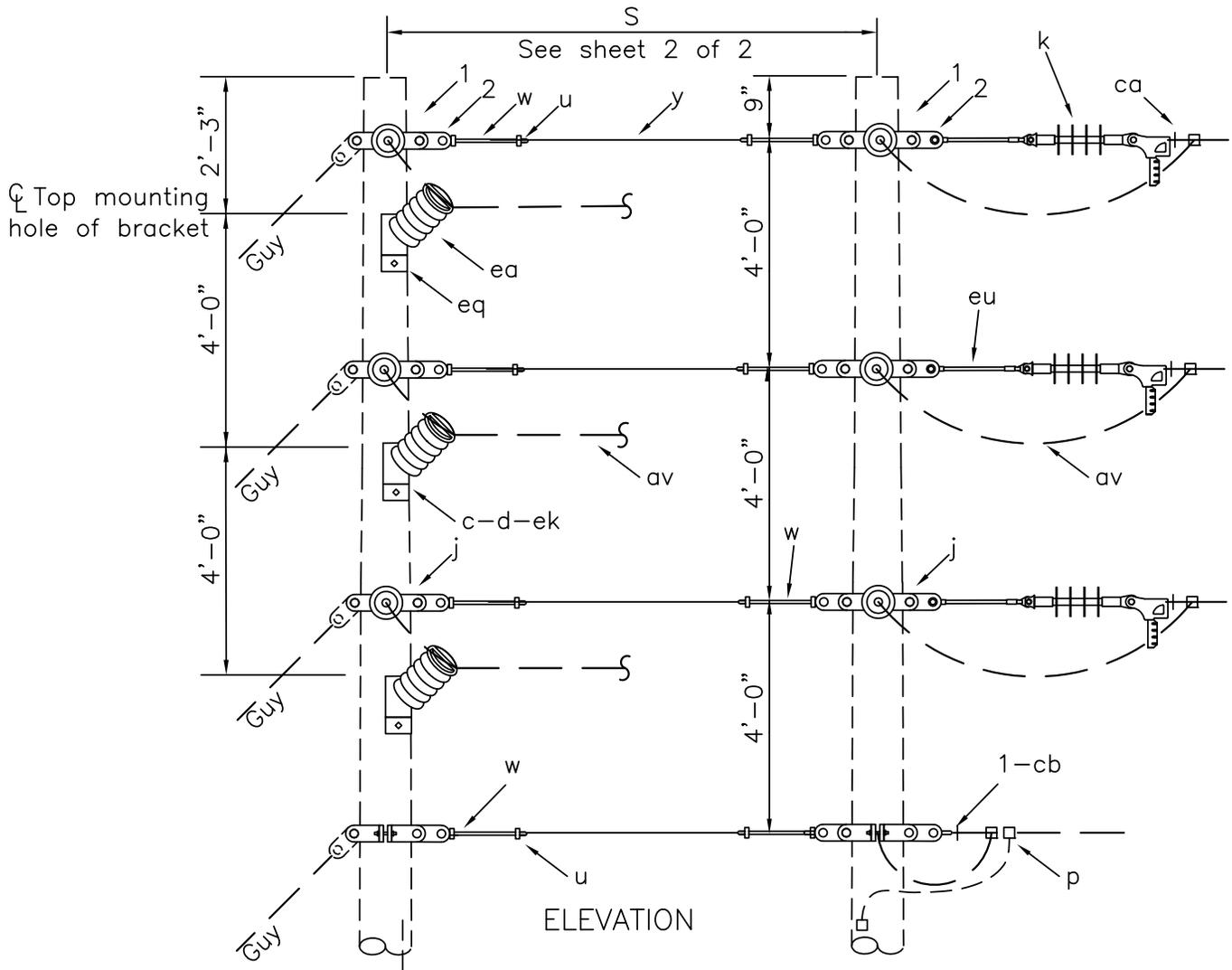
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C3-2

ITEM	QTY	ASSET #	INVENTORY NO.
k	12	DT OH 365055	34281020
ea	6	DT PC 365055	34251010



NOTE:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

DOUBLE CIRCUIT VERTICAL CONSTRUCTION
DEADEND (DOUBLE) 3 POLE TYPE
SHEET 1 OF 2

DEC. 1985

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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C4-2

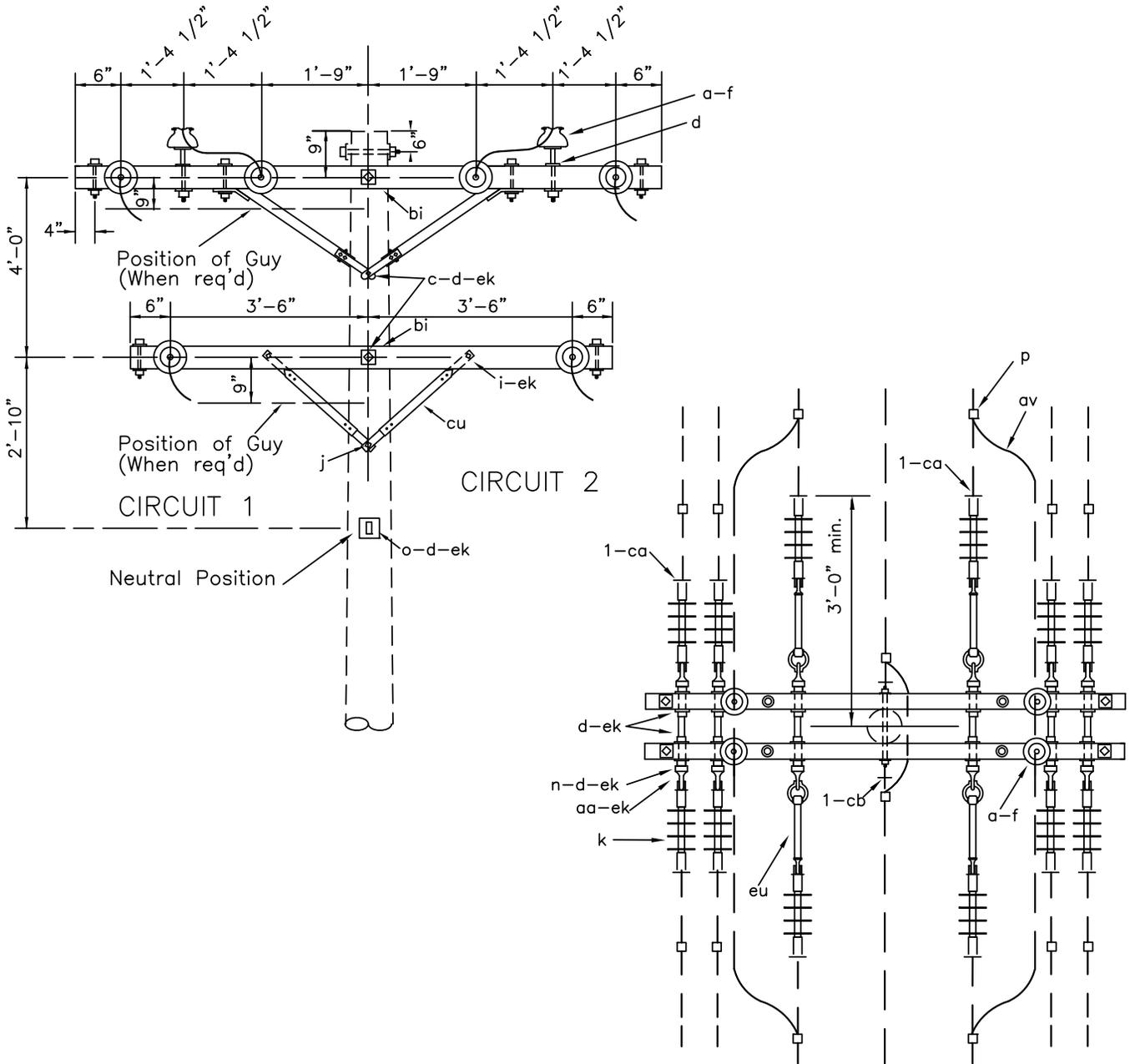
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*Quantity as Required



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ITEM	QTY	ASSET #	INVENTORY NO.
a	4	DT OH 365055	34223010
g	2	DT PC 364021	18081207
g	2	DT PC 364021	18081205
k	12	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 1 OF 2

*Quantity as Required

APR. 1983
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DOUBLE CIRCUIT
12.47/7.2 kV

DC-C8

9.08.1

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	4	Insulator, pin type	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	9	Bolt, machine, 5/8" x req'd. length	063805TT
d	42	Washer, square, 2 1/4"	-
d	4	Washer, square, 3"	-
d	2	Washer, square, curved, 3"	-
d	4	Washer, round, 1 3/8"	-
f	4	Pin, crossarm, steel, 1 5/8" x 10 3/4" complete w/washers & machine nuts	45413111
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18081207
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18081205
i	4	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	12	Insulator, suspension, epoxilator, 7.2kV	34281020
n	7	Bolt, double arming, 5/8" x req'd. length	063305TT
n	2	Bolt, double arming, 3/4" x req'd. length	063306TT
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as required	-
aa	13	Nut, eye 5/8"	41904065
av	*	Jumpers, insulated, Hendrix as required	-
bi	4	Gain, plate	46800260
bo	4	Shackle, anchor	12302800
1	12	Deadend assembly ca, primary	117220XX
1	2	Deadend assembly cb, neutral	117220XX
cu	2	Brace, wood, 60" span, pair	07535168
cu	2	Brace, wood, 28", pair	07535128
ek	*	Double coil spring washers, as req'd	-
eu	4	Link, extension, insulated, 12"	34276130

NOT FOR NEW CONSTRUCTION

DOUBLE CIRCUIT CROSSARM CONSTRUCTION DEADEND (DOUBLE) SHEET 2 OF 2

APR. 1983

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DOUBLE CIRCUIT
12.47/7.2 kV

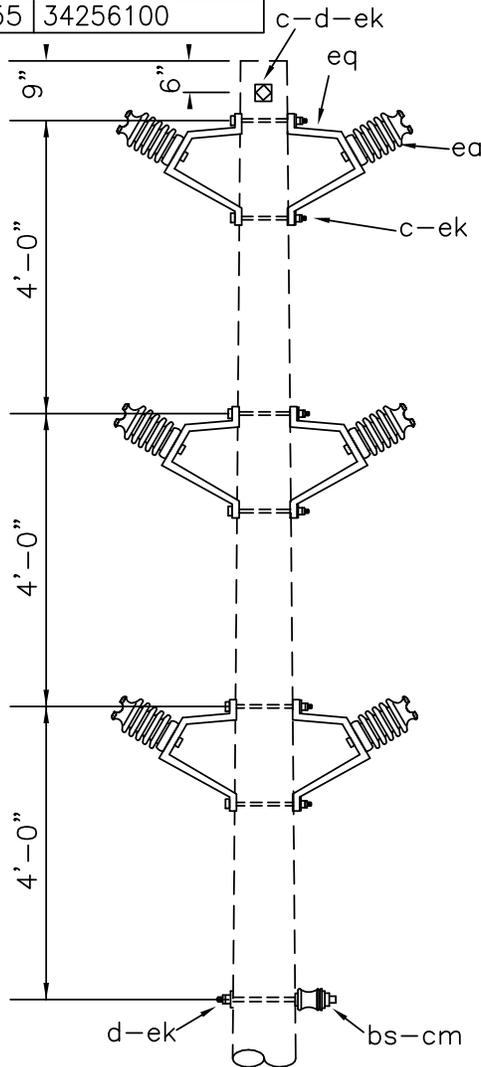
DC-C8

*Quantity as Required



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ITEM	QTY	ASSET #	INVENTORY NO.
DCV-1	6	DT OH 365055	34251010
DCV-1PO	6	DT OH 365055	34256100



NOTES:

- Image depicts porcelain type insulator.
- For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
- Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
- Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	MATERIAL	CONFIGURATION:	DCV-1	DCV-1PO
		INVENTORY NO.	QTY	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	7	7
d	Washer, square, 2 1/4"	-	3	3
m	Clamp, conductor	11742090	-	6
bs	Bolt, single upset, 5/8" x req'd. length	063905TT	1	1
cm	Insulator, spool, 3"	34263010	1	1
ea	Insulator, porcelain (12.47/kV)	34251010	6	-
ea	Insulator, polymer (12.47/kV) horizontal	34256100	-	6
ek	Double coil spring washers, as req'd	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	6	6
-	Stud, insulator, 1 3/4" x 3/4" complete with washers & machine nuts	34301000	6	6

DESIGN LIMITS

Max. Transverse Load:
800 lbs per conductor

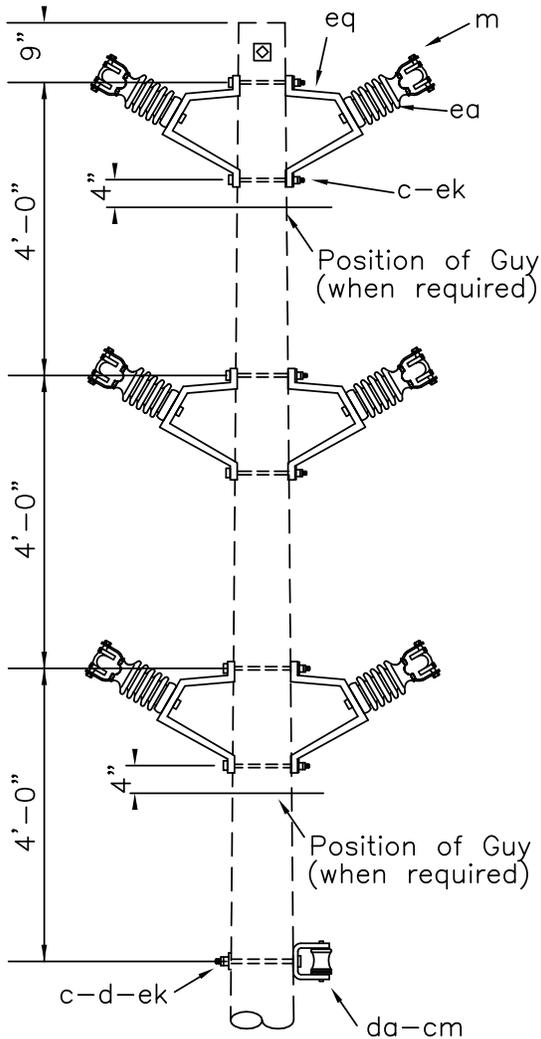
Max. Line Angle:
Lesser of 2° or as limited by
transverse load

*Quantity as Required

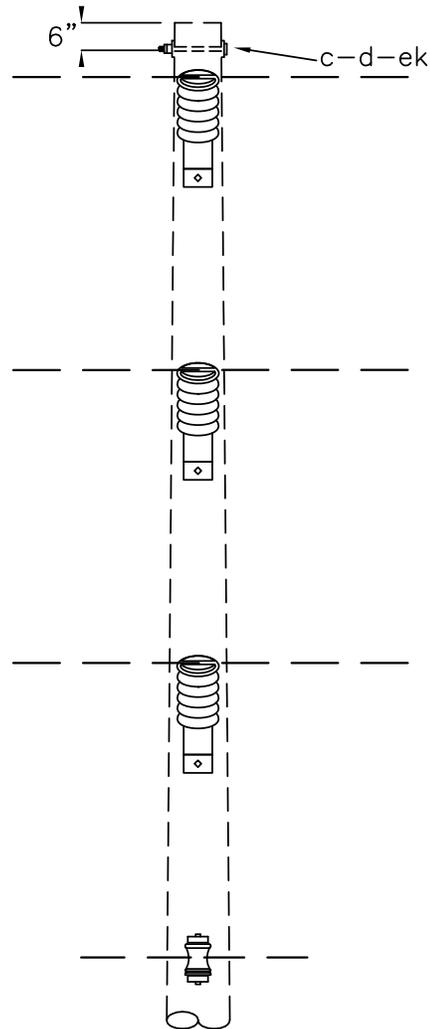
**DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION**

DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DCV-1, DCV-1PO
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
ea	6	DT OH 365055	34242020



ELEVATION



SIDE VIEW

NOTE:

1. For guying from top position, use minimum 1:1 guy lead & add M5-23-7.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	8	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 2 1/4"	-
m	6	Clamp, conductor	11742090
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, Rigid, Bare	07804500
ea	6	Insulator, porcelain, horizontal post	34242020
ek	*	Double coil spring washers, as req'd	-
eq	6	Bracket, offset pole mount, 15"	07807600
-	6	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

DESIGN LIMITS

Max. Transverse Load:
800 lbs per conductor

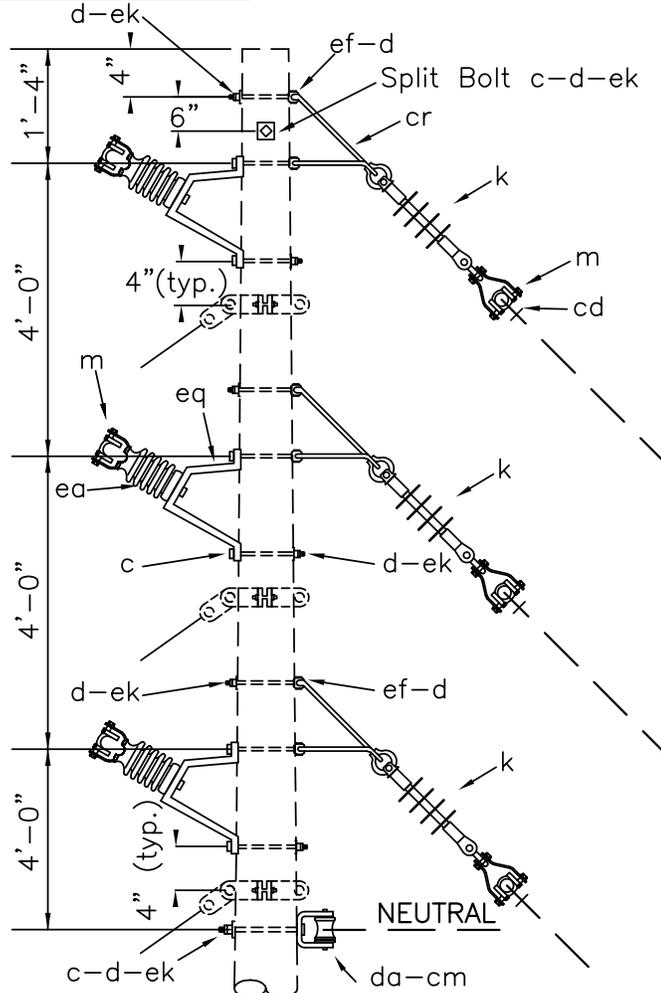
Max. Line Angle:
Lesser of 20° or as limited by
transverse load

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
SMALL ANGLE

*Quantity as Required

DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DCV-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020
ea	3	DT OH 365055	34256100



NOTE:

1. For top two guy positions, use minimum 1:1 guy lead & add M5-23-7 to each.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	15	Washer, square, 2 1/4"	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
m	3	Clamp, conductor	11742090
cd	3	Angle assembly, primary	11741035
cm	1	Insulator, spool, 3"	34263010
cr	3	Bracket, angle, suspension 5/8"	-
da	1	Clevis, Rigid, Bare	07804500
ea	3	Insulator, polymer post, horizontal	34256100
ef	6	Bolt, clevis, 5/8" x req'd. length	06320508
ek	*	Double coil spring washers, as req'd	-
eq	3	Bracket, offset pole mount, 15"	07807600
-	3	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

DESIGN LIMITS

Max. Transverse Load:
1200 per conductor

Max. Line Angle:
Lesser of 60° or limited by
transverse load

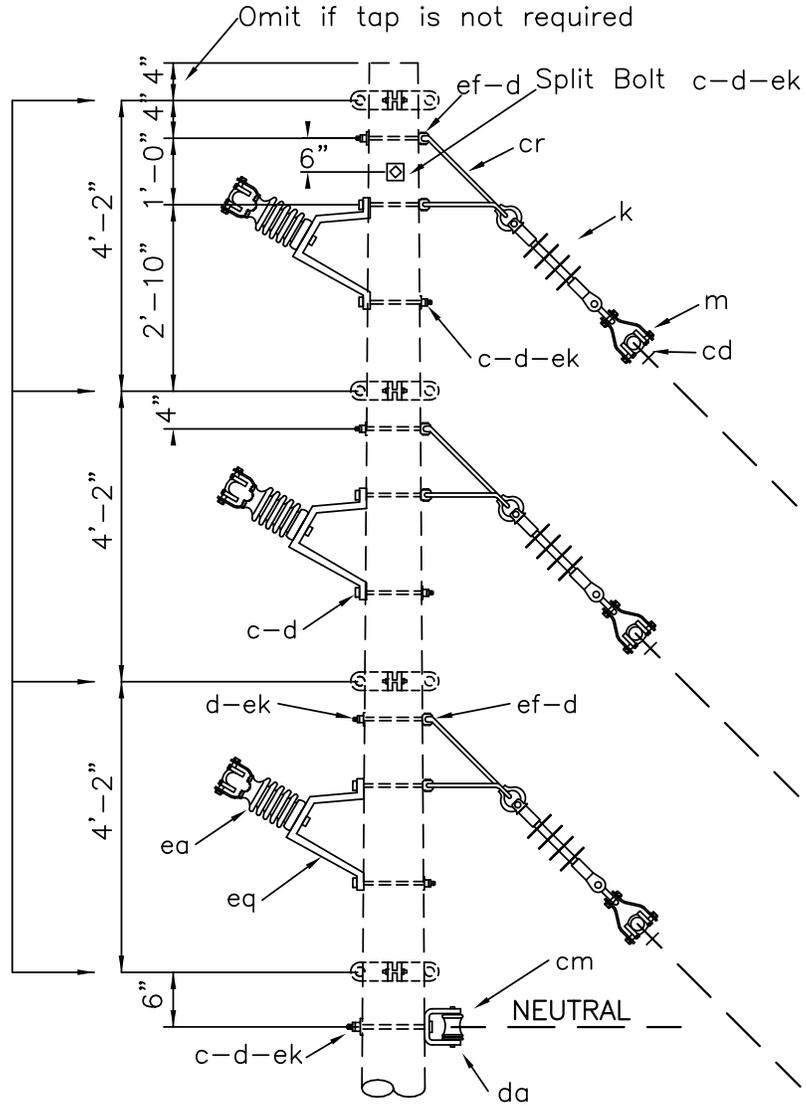
**DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
ANGLE**

*Quantity as Required

DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DCV-3
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34281020
ea	3	DT OH 365055	34256100

Position of tap assemblies or O.H. guys when required for tap on inside of angle.



DESIGN LIMITS

Max. Transverse Load:
1200 lbs per conductor

Max Line Angle:
Lesser of 60° or as limited by
transverse load

*Quantity as Required

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
WITH TAP SHEET 1 OF 2

DEC. 1985



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NOV 2022

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MFJ

DOUBLE CIRCUIT
12.47/7.2 kV

DCV-3B

NOTE:

1. For top two guy positions, use minimum 1:1 guy lead & add M5-23-7 to each.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18”.
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8” x req’d. length	063805TT
d	15	Washer, square, 2 1/4”	-
k	3	Insulator, suspension, epoxilator, 7.2kV	34281020
m	3	Clamp, conductor	11742090
cd	3	Angle assembly, primary	11741035
cm	1	Insulator, spool, 3”	34263010
cr	3	Bracket, angle, suspension 5/8”	-
da	1	Clevis, Rigid, Bare	07804500
ea	3	Insulator, polymer post type, horizontal	34256100
ef	6	Bolt, clevis, 5/8” x req’d. length	06320508
ek	*	Double coil spring washers, as req’d	-
eq	3	Bracket, offset pole mount, 15”	07807600
-	3	Stud, insulator, 1 3/4” x 3/4” complete w/ washers and machine nuts	34301000

DESIGN LIMITS

Max. Transverse Load:
1200 lbs per conductor

Max Line Angle:
Lesser of 60° or as limited by
transverse load

*Quantity as Required

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
WITH TAP SHEET 2 OF 2

DEC. 1985



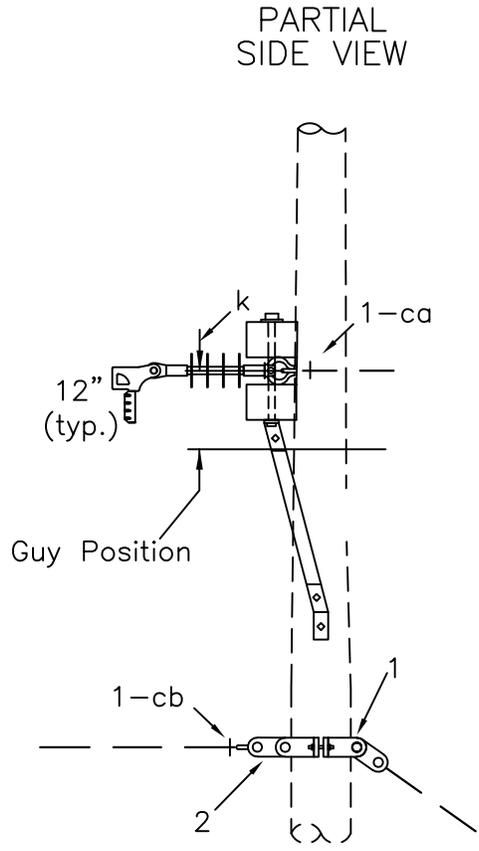
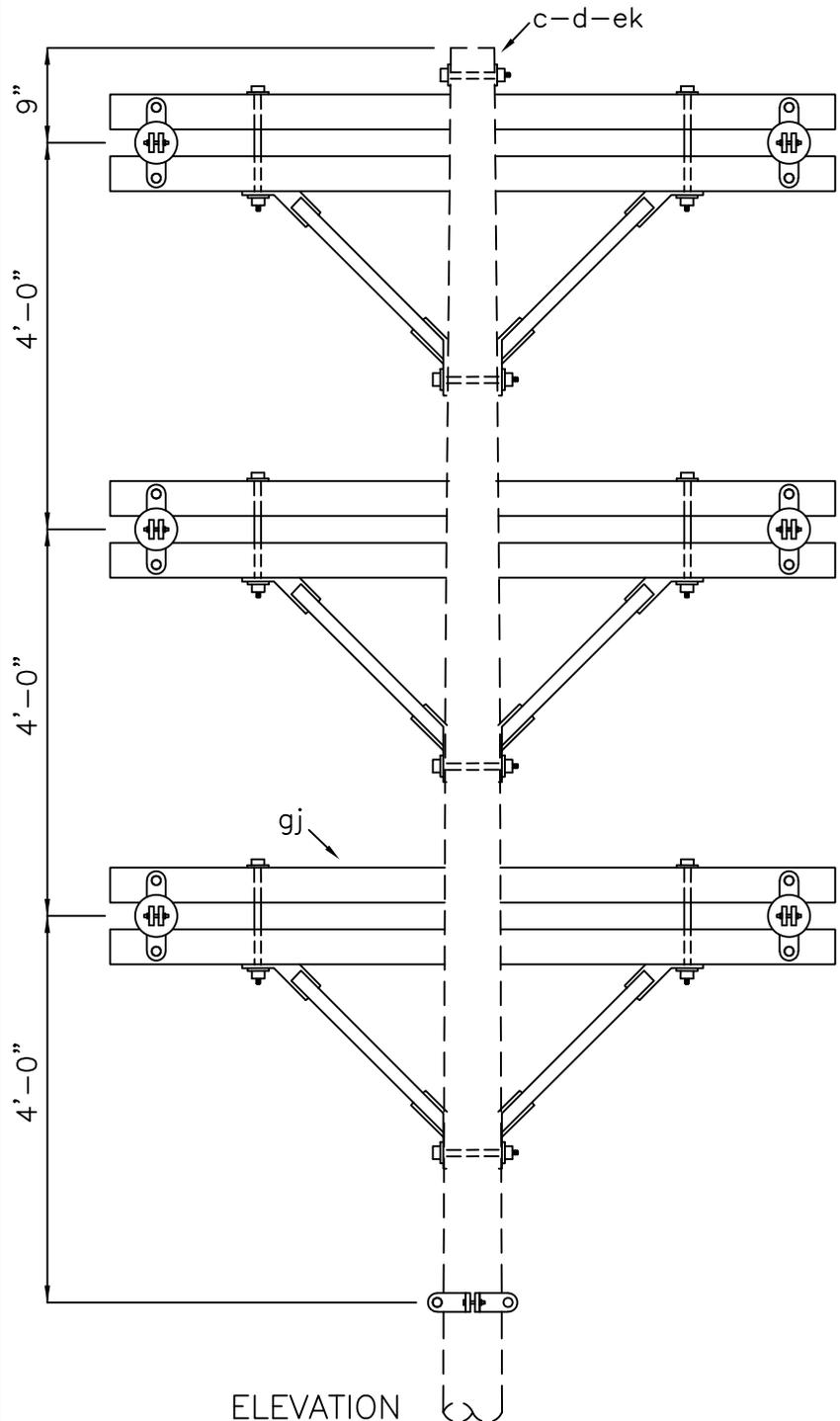
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DOUBLE CIRCUIT
12.47/7.2 kV

DCV-3B

ITEM	QTY	ASSET #	INVENTORY NO.
DCV-C7HBA	6	DT OH 365055	34281020
DCV-C7HBA	3	DT PC 364021	18081204
DCV-C7HBB	6	DT OH 365055	34281020
DCV-C7HBB	3	DT PC 364021	18081207



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Longitudinal Load Per Conductor:
 Refer to design guide
 *Quantity as Required

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
 DEADEND (SINGLE) LARGE CONDUCTOR
 SHEET 1 OF 2

DEC. 1985

REVISED NOV 2022
 APPROVED BY JDP

DOUBLE CIRCUIT
 12.47/7.2 kV

DCV-C7HBA
 DCV-C7HBB

NOTES:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. For design tension greater than 5000 lbs, use 15000 lb M&E insulators.

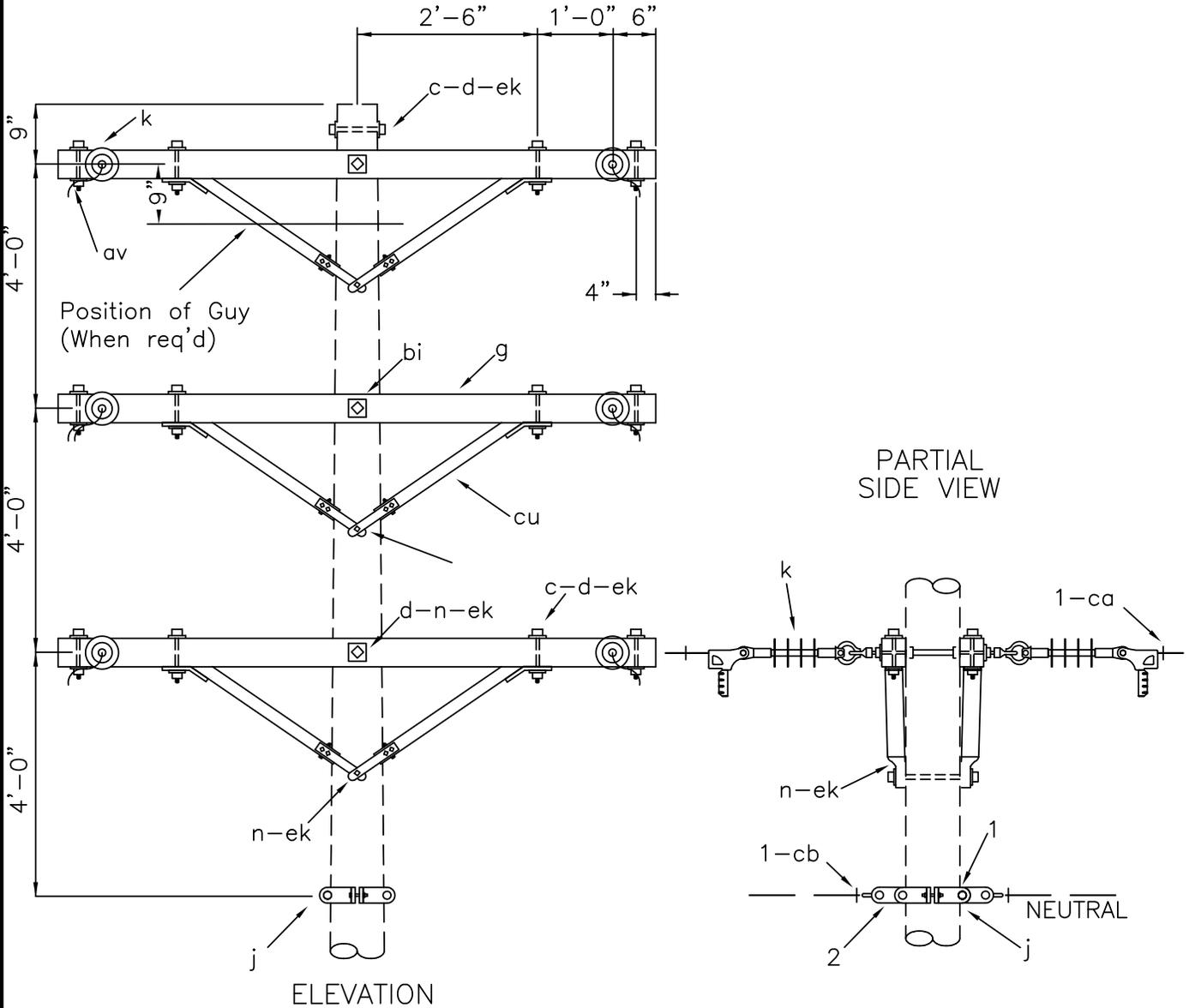
UNIT	ARM DIMENSIONS	QTY	CAT. NO.	INVENTORY NO.
DCV-C7HBA	3 3/4" x 5 3/4" x 8'-0"	3	2890-B	18081204
DCV-C7HBB	3 5/8" x 7 1/2" x 10'-0"	3	2892-B	18081207

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	2	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
1	6	Deadend assembly ca, primary	117220XX
1	1	Deadend assembly cb, neutral	117220XX
ek	*	Double coil spring washers, as req'd	-
gj	3	Crossarm assembly, complete with mounting hardware	-
1	1	Band, pole (set), complete	47000000
2	1	Link, connecting (pair), complete	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS		DOUBLE CIRCUIT CROSSARM CONSTRUCTION DEADEND (SINGLE) LARGE CONDUCTOR SHEET 2 OF 2			
Max. Longitudinal Load Per Conductor:					
	HBA	HBB			
Grade B	2957 lbs	3745 lbs			
Grade C	4908 lbs	6216 lbs			
*Quantity as Required		DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DCV-C7HBA DCV-C7HBB
			APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
g	6	DT PC 364021	18081205
k	12	DT OH 365055	34281020



NOT FOR NEW CONSTRUCTION

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 1 OF 2

*Quantity as Required

DEC. 1985
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DOUBLE CIRCUIT
12.47/7.2 kV

DCV-C8

9.14.1

NOTE:

1. Units ca and cb are shown on assembly drawing M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	13	Bolt, machine, 5/8" x req'd. length	063805TT
c	12	Bolt, machine, 1/2" x req'd. length	063804TT
d	50	Washer, square, 2 1/4"	-
d	6	Washer, square, 3"	-
d	12	Washer, round, 1 3/8"	-
g	6	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18081205
j	2	Screw, lag, 1/2" x 4"	-
k	12	Insulator, suspension, epoxilator, 7.2kV	34281020
n	9	Bolt, double arming, 5/8" x req'd. length	063305TT
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as required	-
aa	12	Nut, eye 5/8"	41904065
av	*	Jumpers, insulated, Hendrix as required	-
bi	6	Gain, plate	46800260
1	12	Deadend assembly, ca primary	117220XX
1	2	Deadend assembly, ca neutral	117220XX
cu	6	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd	-
1	1	Band, pole (set) complete	47000000
2	2	Link, connecting (pair) complete	47000200

NOT FOR NEW CONSTRUCTION

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DEADEND (DOUBLE)
SHEET 2 OF 2

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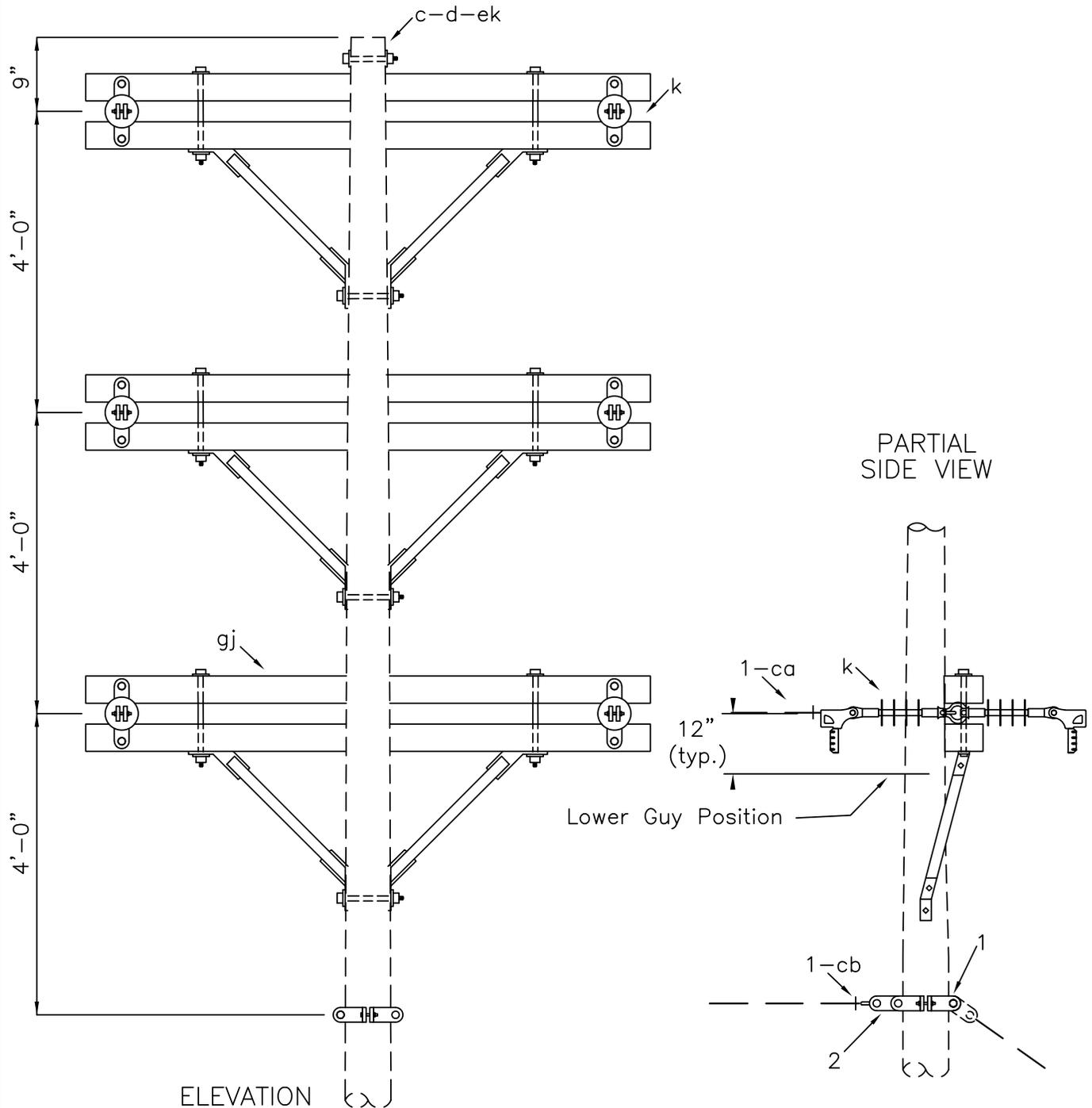
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DOUBLE CIRCUIT
12.47/7.2 kV

DCV-C8

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
DCV-C8HBA	12	DT OH 365055	34281020
DCV-C8HBA	1	DT PC 364021	18081204
DCV-C8HBB	12	DT OH 365055	34281020
DCV-C8HBB	1	DT PC 364021	18081207



ELEVATION (λ)

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS
 Max. Longitudinal Load Per Conductor:
 Refer to design guide

*Quantity as Required

**DOUBLE CIRCUIT CROSSARM CONSTRUCTION
 DEADEND (DOUBLE) LARGE CONDUCTOR
 SHEET 1 OF 2**

DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	DCV-C8HBA DCV-C8HBB
	APPROVED BY JDP		

NOTES:

1. Units ca and cb are shown on assembly drawings M42-13.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. For design tension greater than 5000 lbs, use 15000 lb M&E insulators.

UNIT	ARM DIMENSIONS	QTY	CAT. NO.	INVENTORY NO.
DCV-C8HBA	3 3/4" x 5 3/4" x 8'-0"	3	2890-B	18081204
DCV-C8HBB	3 5/8" x 7 1/2" x 10'-0"	3	2892-B	18081207

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
k	12	Insulator, suspension, epoxilator, 7.2kV	34281020
av	*	Jumpers, insulated, Hendrix as req'd	-
1	12	Deadend assembly ca, primary	117220XX
1	1	Deadend assembly cb, neutral	117220XX
ek	*	Double coil spring washers, as req'd	-
gj	3	Crossarm assembly complete with mounting hardware	-
1	1	Band, pole (set), complete	47000000
2	1	Link, connecting (pair), complete	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

Max. Longitudinal Load Per Conductor:
Refer to design guide

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DEADEND (DOUBLE) LARGE CONDUCTOR
SHEET 2 OF 2

*Quantity as Required

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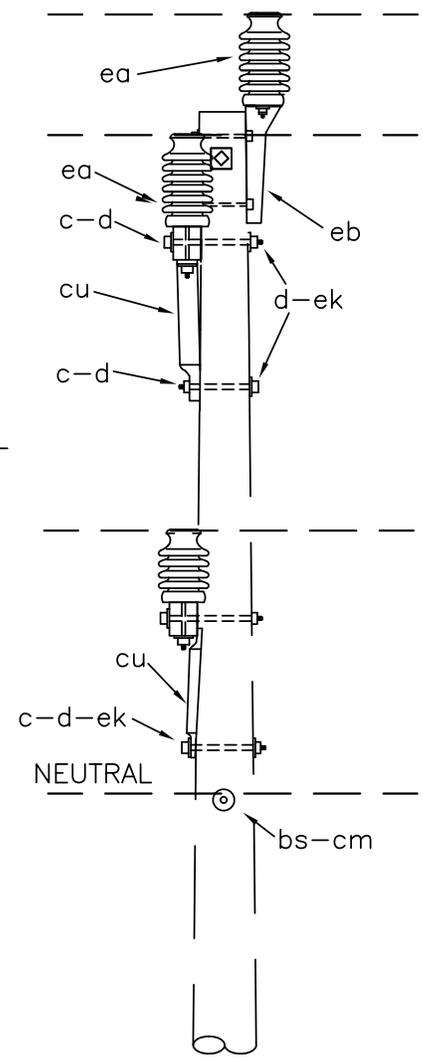
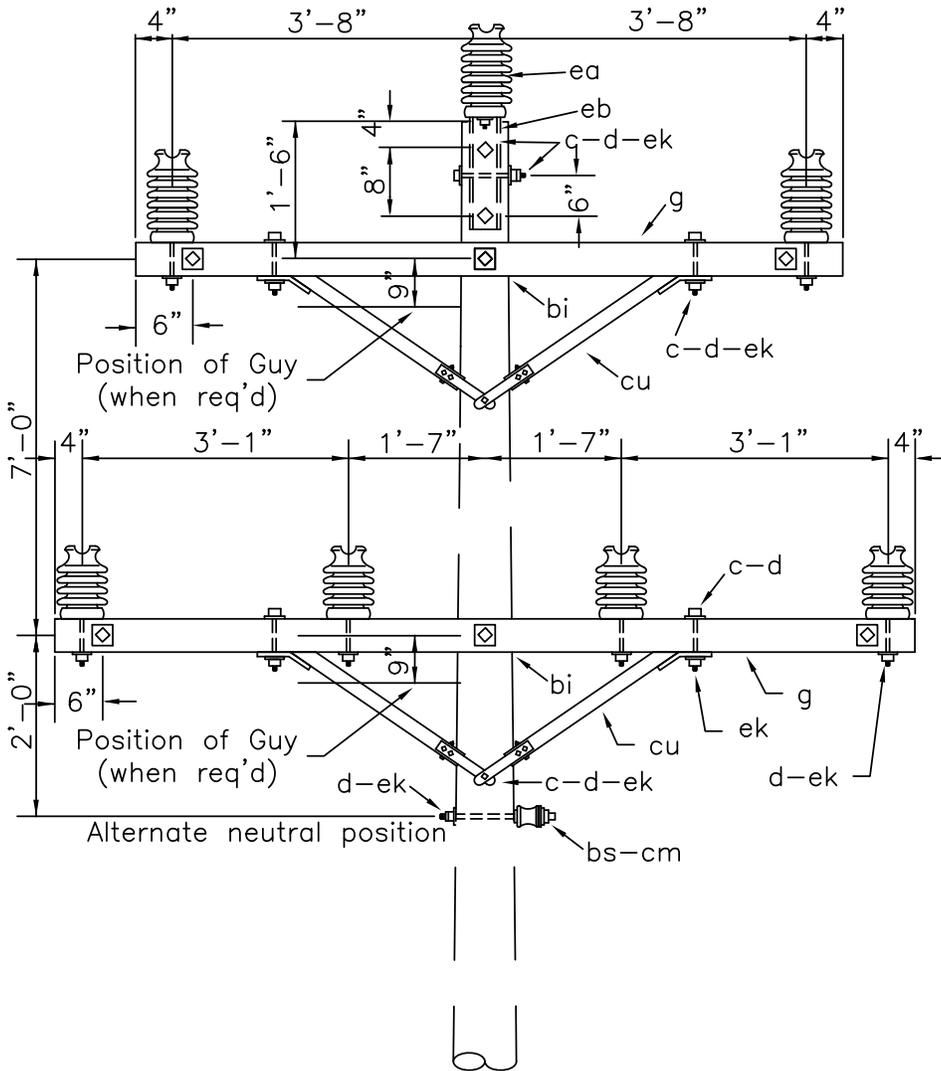


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DOUBLE CIRCUIT
12.47/7.2 kV

DCV-C8HBA
DCV-C8HBB

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290511
g	1	DT PC 364021	18290311
ea	3	DT OH 365055	34256200
ea	3	DT OH 365055	34243500



DOUBLE CIRCUIT CROSSARM CONSTRUCTION
 SINGLE LINE ARM LARGE CONDUCTOR
 SHEET 1 OF 2

*Quantity as Required

APR. 1983



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DOUBLE CIRCUIT
 34.5/19.9 kV OVER
 12.47/7.2 kV

ZDC1PL

NOTES:

1. For top guying positions add M5-23-7 as required.
2. This unit is for 34.5kV over 12.5kV construction with one conductor size (neutral size may be reduced).
3. *Adjust quantity for desired neutral position.
4. For 477 ACSR Hawk ²⁶/₈ construction, lower neutral positions 18".
5. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1*	Insulator, pin	34223010
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
c	9	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	3	Washer, square, 3"	-
d	1	Washer, square, 3", curved	-
d	15*	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	1*	Pin, crossarm, steel, 5/8" x 10 3/4", complete w/washers & machine nuts	45413111
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
g	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
bi	2	Gain, plate	46800260
bs	1*	Bolt, single upset, 5/8" x req'd. length	063905TT
cm	1*	Insulator, spool, 3"	34263010
cu	2	Brace, wood, 60" span, pair	07535168
ea	3	Insulator, polymer, vertical post type (34.5/19.9 kV)	34243500
ea	4	Insulator, polymer post type (12.47/7.2 kV) vertical	34256200
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd	-
-	6	Stud, insulator, 7" x 3/4" complete w/ washers & machine nuts	34302000
-	1	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
SINGLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

*Quantity as Required

APR. 1983



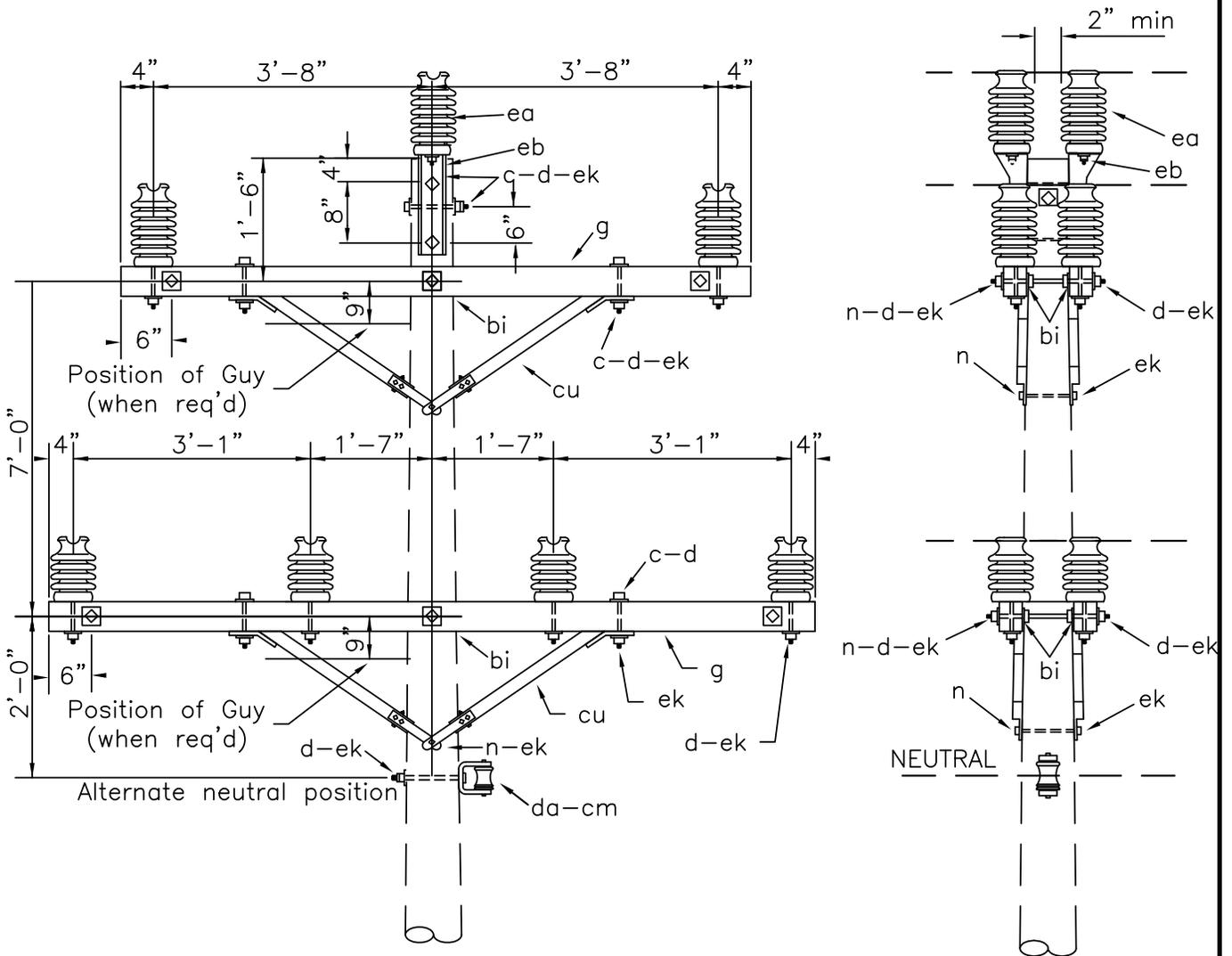
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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC1PL

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
g	2	DT PC 364021	18290311
ea	8	DT OH 365055	34256200
ea	6	DT OH 365055	34243500



DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 1 OF 2

*Quantity as Required

APR. 1983



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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC2PL

9.17.1

NOTES:

1. For top guying positions add M5-23-7 as required.
2. This unit is for 34.5kV over 12.5kV construction with one conductor size (neutral size may be reduced).
3. *Adjust quantity for desired neutral position.
4. For 477 ACSR Hawk ²⁶/₈ construction, lower neutral positions 18".
5. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	2*	Insulator, pin	34223010
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
c	8	Bolt, machine, 1/2" x req'd. length	063804TT
d	4	Washer, square, 3	-
d	19*	Washer, square, 2 1/4"	-
d	8	Washer, round, 1 3/8"	-
f	2*	Pin, crossarm, steel, 5/8" x 10 3/4", complete w/washers & machine nuts	45413111
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
n	2	Bolt, double arming, 3/4" x req'd length	063906TT
n	6	Bolt, double arming, 5/8" x req'd length	063905TT
bi	4	Gain, plate	46800260
cm	1	Insulator, spool, 3"	34263010
cu	4	Brace, wood, 60" span, pair	07535168
da	1*	Clevis, Rigid, Bare	07804500
ea	6	Insulator, polymer post type (34.5/19.9 kV) vertical	34243500
ea	8	Insulator, polymer post type (12.47/7.2 kV) vertical	34256200
eb	2	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd	-
-	12	Stud, insulator, 7" x 3/4" complete w/ washers & machine nuts	34302000
-	2	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

DOUBLE CIRCUIT CROSSARM CONSTRUCTION
DOUBLE LINE ARM LARGE CONDUCTOR
SHEET 2 OF 2

*Quantity as Required

APR. 1983



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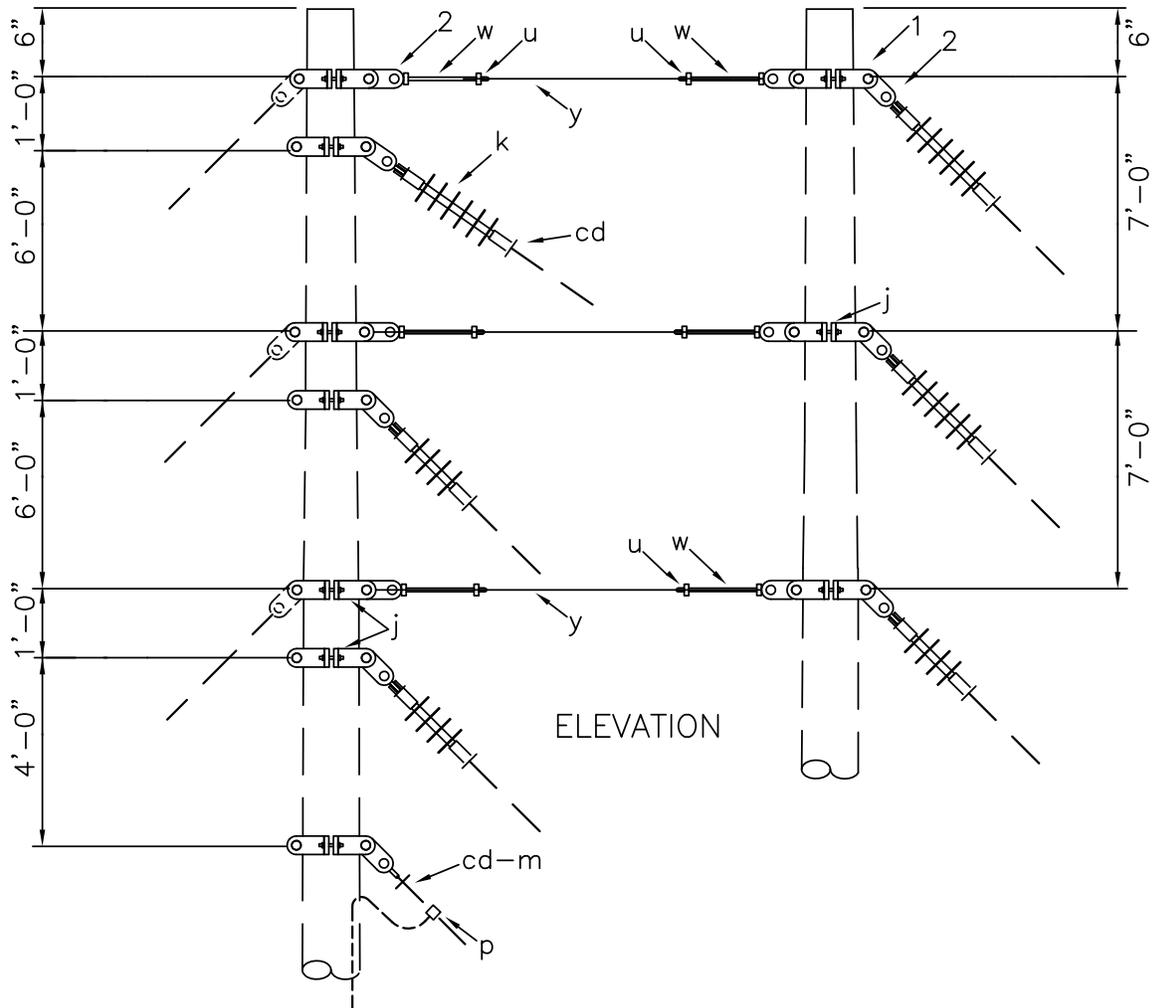
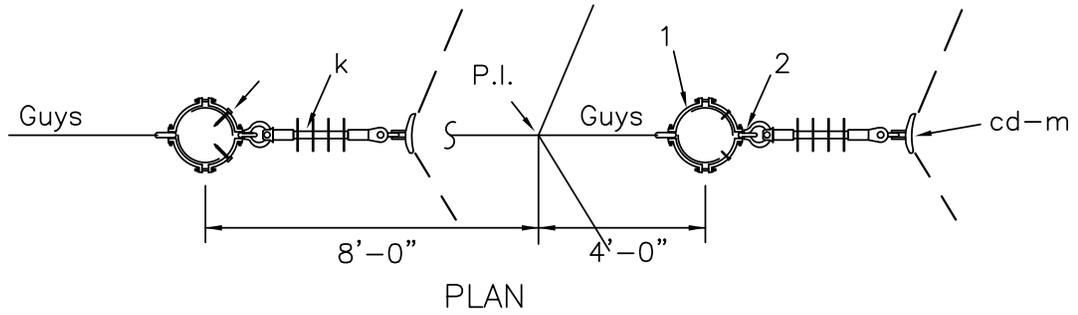
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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC2PL

9.17.2

ITEM	QTY	ASSET #	INVENTORY NO.
k	3	DT OH 365055	34280143
k	3	DT OH 365055	34281020



DOUBLE CIRCUIT VERTICAL CONSTRUCTION
SUSPENSION ANGLE LARGE CONDUCTOR
SHEET 1 OF 2

*Quantity as Required

APR. 1983



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JDP

DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC3-2

9.18.1

NOTES:

1. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
2. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
3. Item fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.
4. Unit cd is shown on assembly drawing M41-10.
5. For transverse loads greater than 5000 lbs use 15000 lb M&E insulators.
6. For top guying positions add M5-23-7 as required.
7. This unit is for 34.5kV over 12.5kV construction with one conductor size (neutral size may be reduced).

ITEM	QTY	MATERIAL	INVENTORY NO.
j	20	Screw, lag, 1/2" x 2"	-
k	3	Insulator, suspension, 19.9kV	34280143
k	3	Insulator, suspension, 7.2kV	34281020
u	6	Deadend, guy	11770010
w	6	Strain, guy, fiberglass, C-TE	34276630
y	*	Guy wire, 10M AW, as req'd.	73801007
m	6	Angle assembly cd, primary	11741035
m	1	Angle assembly cd, neutral	11741035
1	10	Band, pole (set)	47000000
2	13	Link, connecting	47000200

DOUBLE CIRCUIT VERTICAL CONSTRUCTION
SUSPENSION ANGLE LARGE CONDUCTOR
SHEET 2 OF 2

*Quantity as Required

APR. 1983



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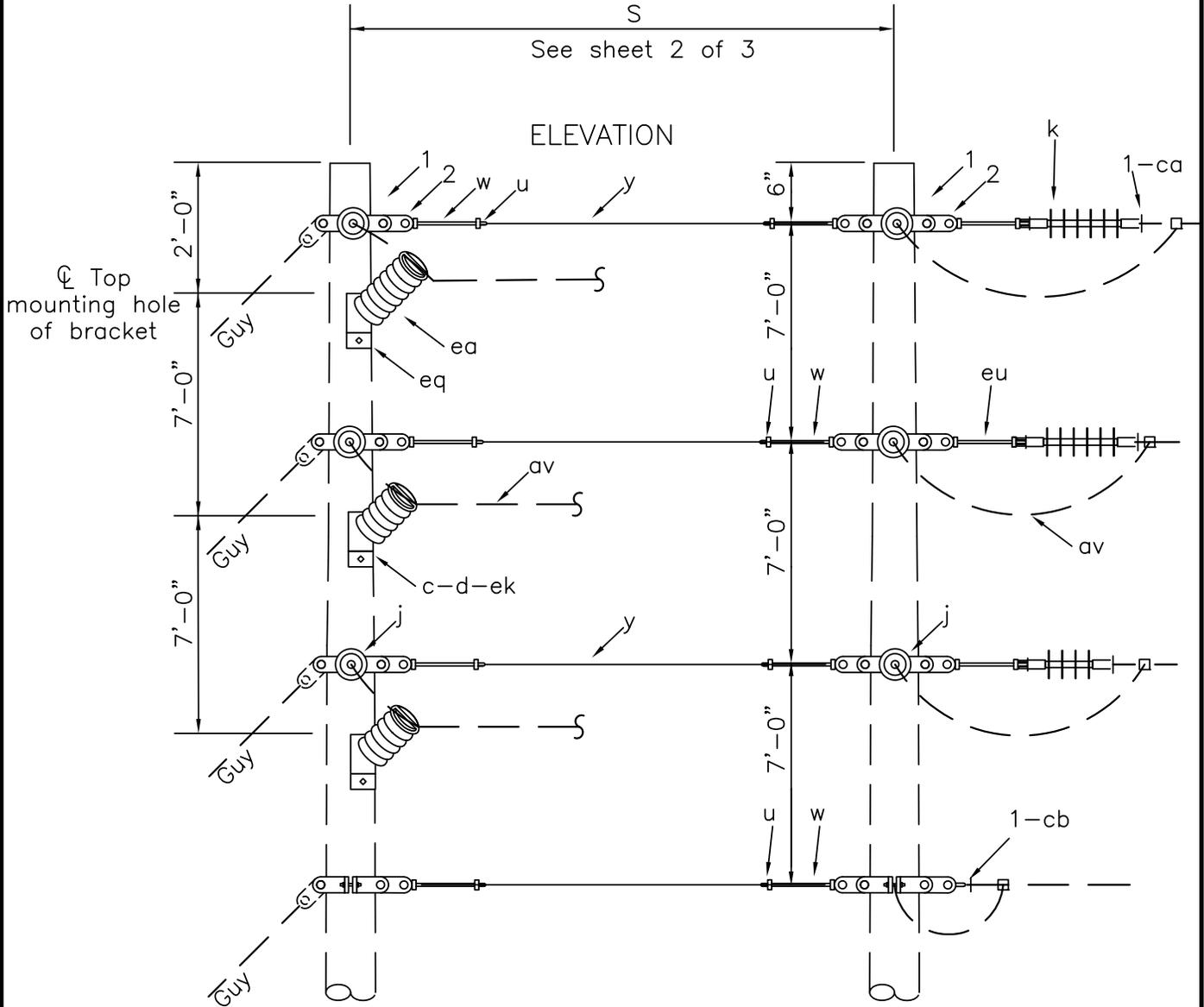
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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC3-2

9.18.2

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34280143
k	6	DT OH 365055	34281020
ea	2	DT OH 365055	34243500
ea	4	DT OH 365055	34256100



DOUBLE CIRCUIT VERTICAL CONSTRUCTION
DEADEND (DOUBLE) 3 POLE TYPE
LARGE CONDUCTOR SHEET 1 OF 3

*Quantity as Required

APR. 1983



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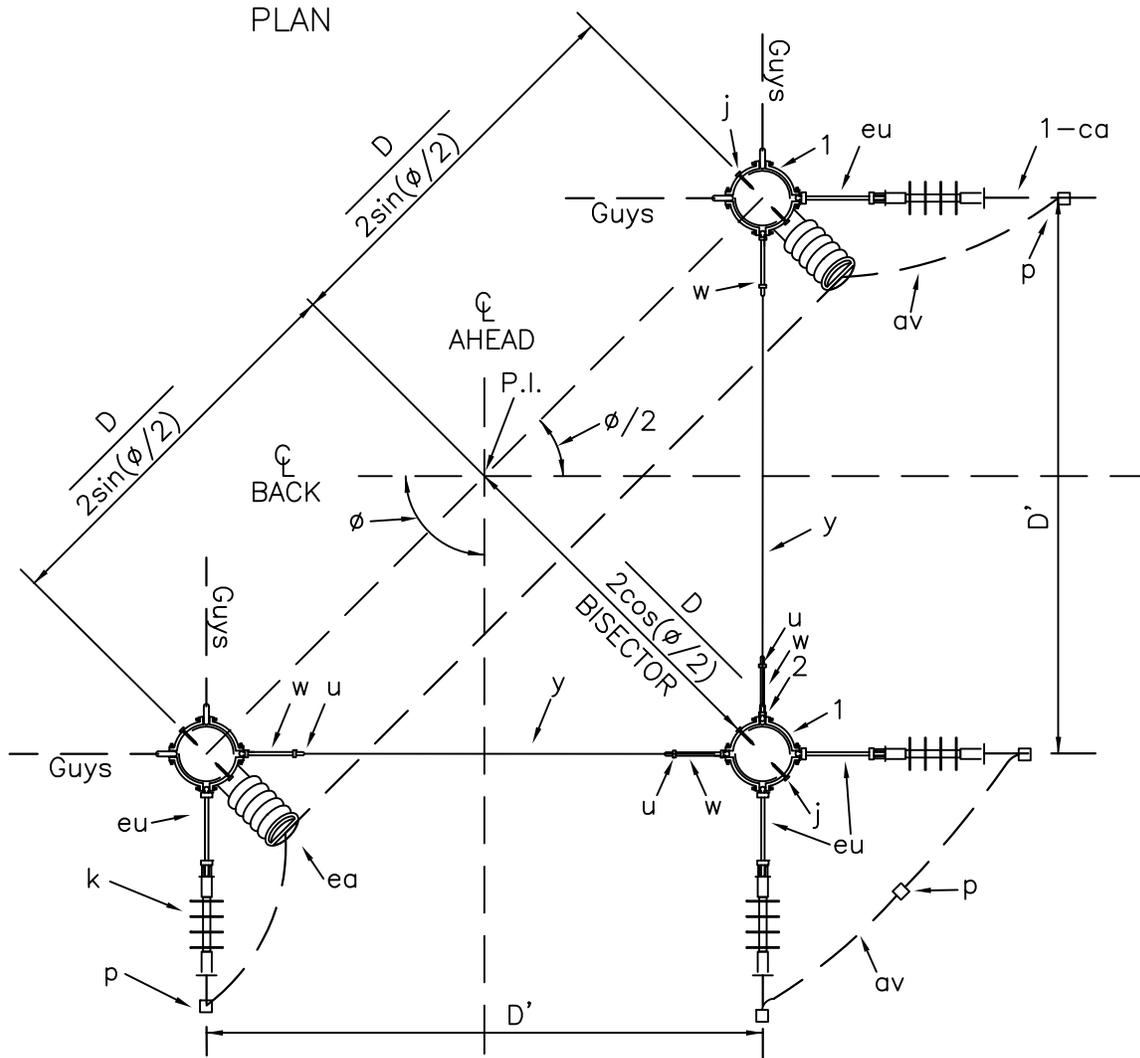
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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC4-2

9.19.1

S=Distance along span guys between poles and must be 12' or more for $S(\cos(\phi-90))=D$



DOUBLE CIRCUIT VERTICAL CONSTRUCTION
DEADEND (DOUBLE) 3 POLE TYPE
LARGE CONDUCTOR SHEET 2 OF 3

APR. 1983

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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDC4-2

9.19.2

*Quantity as Required



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JDP

NOTES:

1. For top guying positions add M5-23-7 as required.
2. Units ca and cb are shown on assembly drawing M42-13
3. See sheet 2 of 3 for plan drawing,
4. This unit is for 34.5kV over 12.5kV construction with one conductor size (neutral size may be reduced).
5. For 477 ACSR Hawk ²⁶/₇ construction, lower neutral positions 18".
6. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
7. Unit fi, connector M43-10 assembly, or item p, connector M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	12	Bolt, machine, 5/8" x req'd. length	063805TT
d	12	Washer, square, 2 1/4"	-
j	24	Screw, lag, 1/2" x 2"	-
k	6	Insulator, suspension, 19.9kV	34280143
k	6	Insulator, suspension, 7.2kV	34281020
p	*	Connectors, as required	-
u	16	Deadend, guy, pressure type	11770010
w	16	Strain, fiberglass, 36", C-TE	34276630
y	*	Guy wire, 10M AW, as req'd.	73801007
av	*	Jumpers, insulated, Hendrix as required	-
1	12	Deadend assembly ca, primary	117220XX
1	2	Deadend assembly cb, neutral	117220XX
ea	2	Insulator, polymer post (34.5/19.9 kV) horizontal	34243500
ea	4	Insulator, polymer post (12.47/7.2 kV) horizontal	34251010
ek	*	Double coil spring washers, as req'd	-
eq	6	Bracket, offset pole mount, 15"	07807600
eu	12	Link, extension, insulated, 12" C-TE	34276130
1	12	Band, pole (set), complete	47000000
2	30	Link, connecting, complete	47000200
-	6	Stud, insulator, 1 3/4" x 3/4" complete w/ washers & machine nuts	34301000

DOUBLE CIRCUIT VERTICAL CONSTRUCTION
DEADEND (DOUBLE) 3 POLE TYPE
LARGE CONDUCTOR SHEET 3 OF 3

APR. 1983

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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

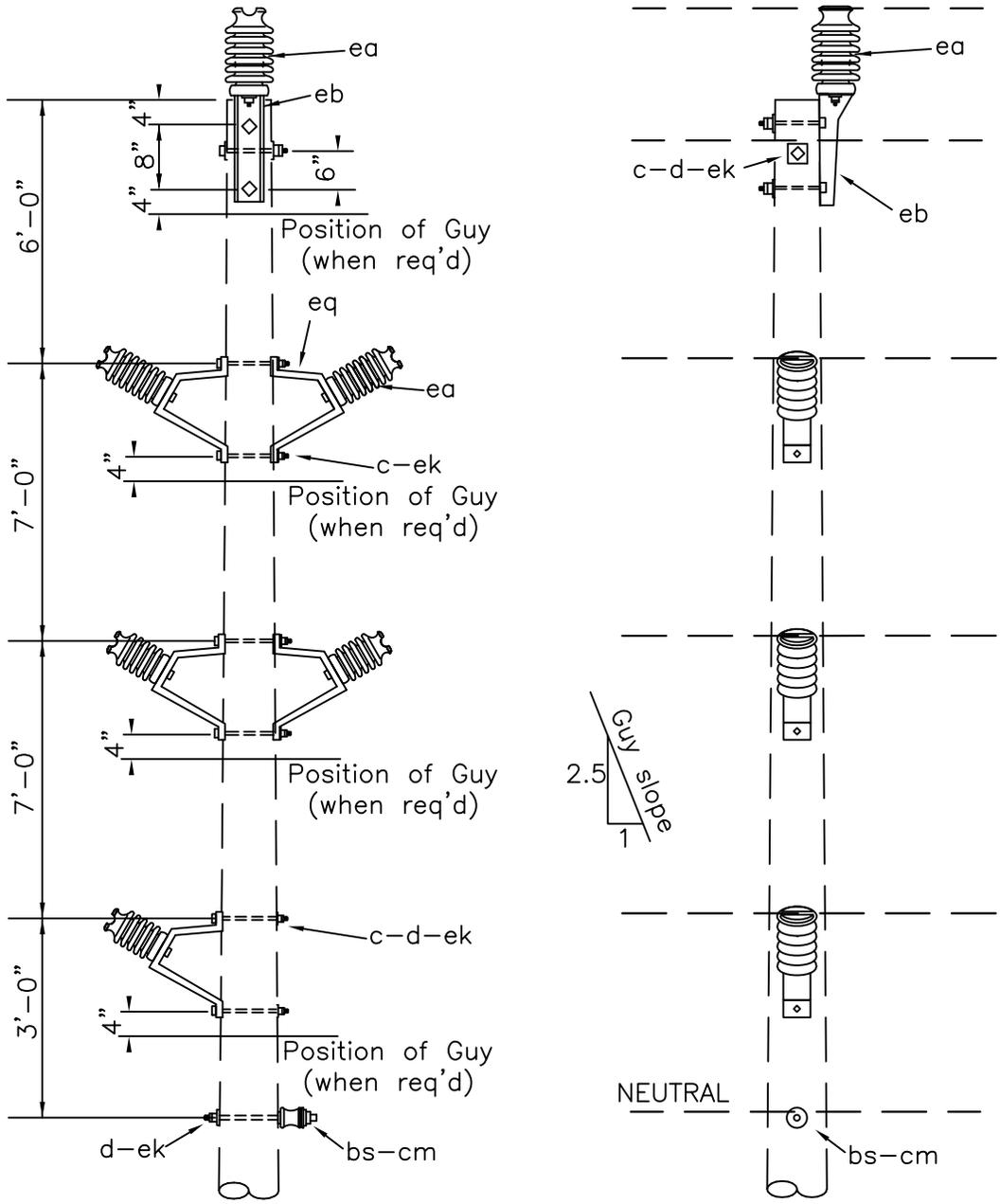
ZDC4-2

*Quantity as Required



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ITEM	QTY	ASSET #	INVENTORY NO.
ea	3	DT OH 365055	34256100
ea	1	DT OH 365055	34243500
ea	2	DT OH 365055	-



DOUBLE CIRCUIT
 NARROW PROFILE CONSTRUCTION
 LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

APR. 1983



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DOUBLE CIRCUIT
 34.5/19.9 kV OVER
 12.47/7.2 kV

ZDCV-1

9.20.1

NOTES:

1. For top two guying positions use minimum 2.5:1 guy slope. Add M5-23-7.
2. This unit is for 34.5kV over 12.5kV construction with one conductor size. (Neutral size may be reduced.)
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Unit fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	9	Bolt, machine, 5/8" x req'd. length	063805TT
d	7	Washer, square, 2 1/4"	-
bs	1	Bolt, single upset, 5/8" x req'd. length	063905TT
cm	1	Insulator, spool, 3"	34263010
ea	1	Insulator, polymer, post (34.5/19.9 kV) vertical	34243500
ea	3	Insulator, polymer post (12.47/7.2 kV) horizontal	34256100
ea	2	Insulator, polymer post 35 kV horizontal	-
eb	1	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd	-
eq	5	Bracket, offset pole mount, 15"	07807600
-	6	Studs, insulator, 1 3/4" x 3/4", complete w/ washers & machine nuts	34301000

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
LARGE CONDUCTOR SHEET 2 OF 2

*Quantity as Required

APR. 1983



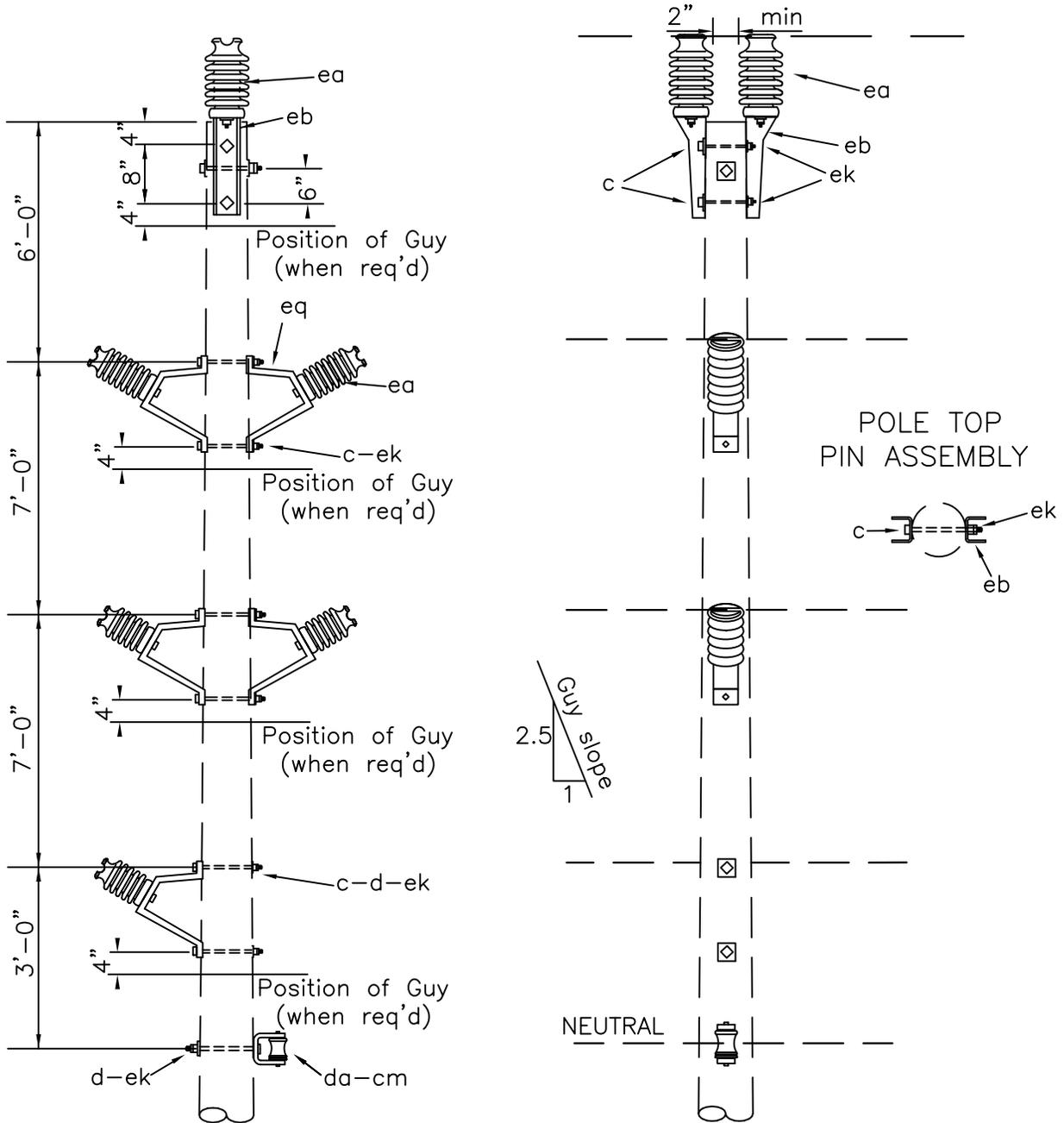
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MFJ

DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDCV-1

ITEM	QTY	ASSET #	INVENTORY NO.
ea	3	DT OH 365055	34256100
ea	4	DT OH 365055	34243500



DOUBLE CIRCUIT
 NARROW PROFILE CONSTRUCTION
 LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

APR. 1983	REVISED NOV 2022	DOUBLE CIRCUIT 34.5/19.9 kV OVER 12.47/7.2 kV	ZDCV-2
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. For top two guying positions use minimum 2.5:1 guy slope. Add M5-23-7.
2. This unit is for 34.5kV over 12.5kV construction with one conductor size. (Neutral size may be reduced.)
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Unit fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	10	Bolt, machine, 5/8" x req'd. length	063805TT
d	5	Washer, square, 2 1/4"	-
cm	1	Insulator, spool, 3"	34263010
da	1	Clevis, Rigid, Bare	07804500
ea	2	Insulator, post (34.5/19.9 kV) vertical	34243500
ea	3	Insulator, polymer post (12.47/7.2 kV) horizontal	34256100
ea	2	Insulator, polymer post 35 kV horizontal	-
eb	2	Bracket, pole top	45612130
ek	*	Double coil spring washers, as req'd	-
eq	5	Bracket, offset pole mount, 15"	07807600
-	7	Studs, insulator, 1 3/4" x 3/4", complete w/ washers & machine nuts	34301000

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION
LARGE CONDUCTOR SHEET 2 OF 2

*Quantity as Required

APR. 1983



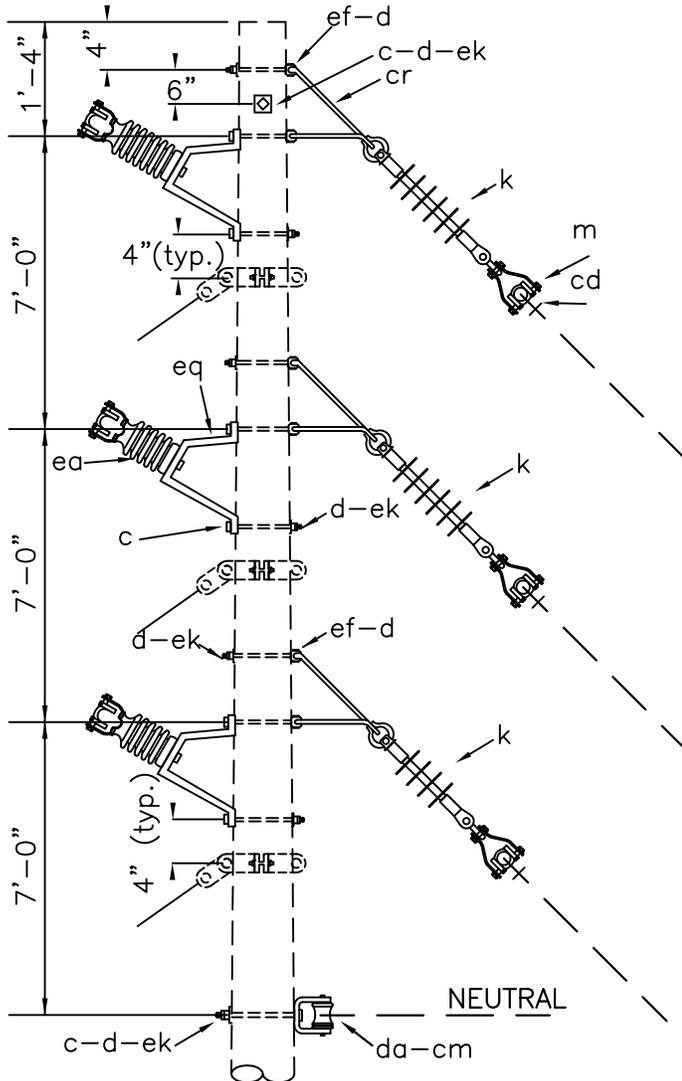
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MFJ

DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDCV-2

ITEM	QTY	ASSET #	INVENTORY NO.
k	2	DT OH 365055	34280143
k	1	DT OH 365055	34281020
ea	2	DT OH 365055	34256200
ea	1	DT OH 365055	34243500



DOUBLE CIRCUIT
 NARROW PROFILE CONSTRUCTION ANGLE
 SHEET 1 OF 2

*Quantity as Required



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 MFJ

DOUBLE CIRCUIT
 34.5/19.9 kV OVER
 12.47/7.2 kV

ZDCV-3

NOTES:

1. For top two guy positions, use minimum 1:1 guy lead & add M5-23-7 to each.
2. Items cd and ce are shown on assembly drawings M41-10.
3. See drawing E9-3M for pole band guys.
2. For 477 ACSR Hawk 26/7 construction, lower neutral position 18".
3. Include guy strain insulator (see drawing M5-23-12) for all guying on 477 ACSR construction to protect against galvanic corrosion of anchor.
4. Unit fi, connector, M43-10 assembly, or item p, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	15	Washer, square, 2 1/4"	-
k	2	Insulator, suspension, epoxilator, 35kV	34280143
k	1	Insulator, suspension, epoxilator, 15kV	34281020
m	3	Clamp, conductor	11742033
cd	3	Angle assembly, primary	11741035
cm	1	Spool, insulator, 3"	34263010
cr	3	Bracket, angle, suspension 5/8"	-
da	1	Clevis, Rigid, Bare	07804500
ea	1	Insulator, polymer post, 35kV, horizontal	34243510
ea	2	Insulator, polymer post, horizontal	34256100
ef	6	Bolt, clevis, 5/8" x req'd. length	06320508
ek	*	Double coil spring washers, as req'd	-
eq	3	Bracket, offset pole mount, 15"	07807600
-	3	Stud, insulator, 1 3/4" x 3/4", complete w/ washers & machine nut	34301000

DOUBLE CIRCUIT
NARROW PROFILE CONSTRUCTION ANGLE
SHEET 2 OF 2

*Quantity as Required



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DOUBLE CIRCUIT
34.5/19.9 kV OVER
12.47/7.2 kV

ZDCV-3

9.22.2

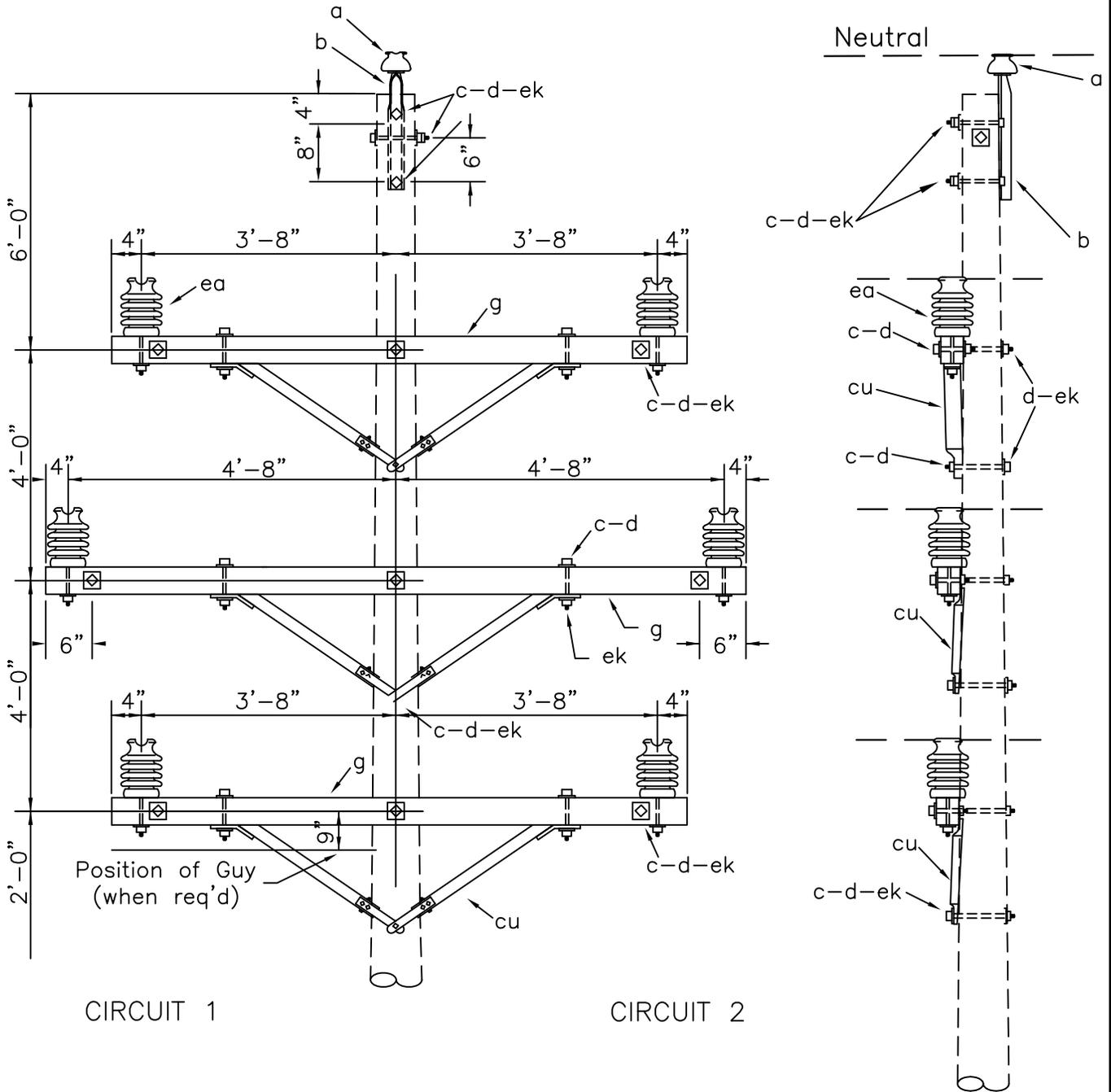


**THREE PHASE
DOUBLE CIRCUIT
OVERHEAD NEUTRAL
CONSTRUCTION**

DOUBLE CIRCUIT OVERHEAD NEUTRAL

PAGE	DRAWING	DESCRIPTION
10.01	ODC-C1	Double Circuit Overhead Neutral Crossarm Construction Single Line Arm
10.02	ODC-C1V	Double Circuit Overhead Neutral Crossarm Construction Suspension Insulators
10.03	ODC-C7HBA	Double Circuit Overhead Neutral Crossarm Construction Deadend (Single) Large Conductor
10.04	ODC-C8	Double Circuit Overhead Neutral Crossarm Construction Deadend (Double) Large Conductor
10.05	ODC-C8HBA	Double Circuit Overhead Neutral Crossarm Construction Deadend (Double) Large Conductor
10.06	ODCV-1 ODCV-1PO	Double Circuit Overhead Neutral Narrow Profile Constuction

UNIT	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
g	2	DT PC 364021	18290311
g	1	DT PC 364021	18290511
ea	6	DT PC 365055	34251010



NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION SINGLE LINE ARM
SHEET 1 OF 2

DEC. 1985

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NOV 2022

DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C1

10.01.1



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*Quantity as Required

UNIT	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	12	Bolt, machine, 5/8" x req'd. length	063805TT
c	6	Bolt, machine, 1/2" x req'd. length	063804TT
c	3	Bolt, machine, 3/4" x req'd. length	063806TT
d	3	Washer, square, 3"	-
d	3	Washer, square, curved, 3"	-
d	19	Washer, square, 2 1/4"	-
d	6	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
cu	3	Brace, wood, 60" span	07535168
ea	6	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd	-
-	6	Stud, insulator, 7"x 3/4", complete with washers and machine nuts	34302000

NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION SINGLE LINE ARM
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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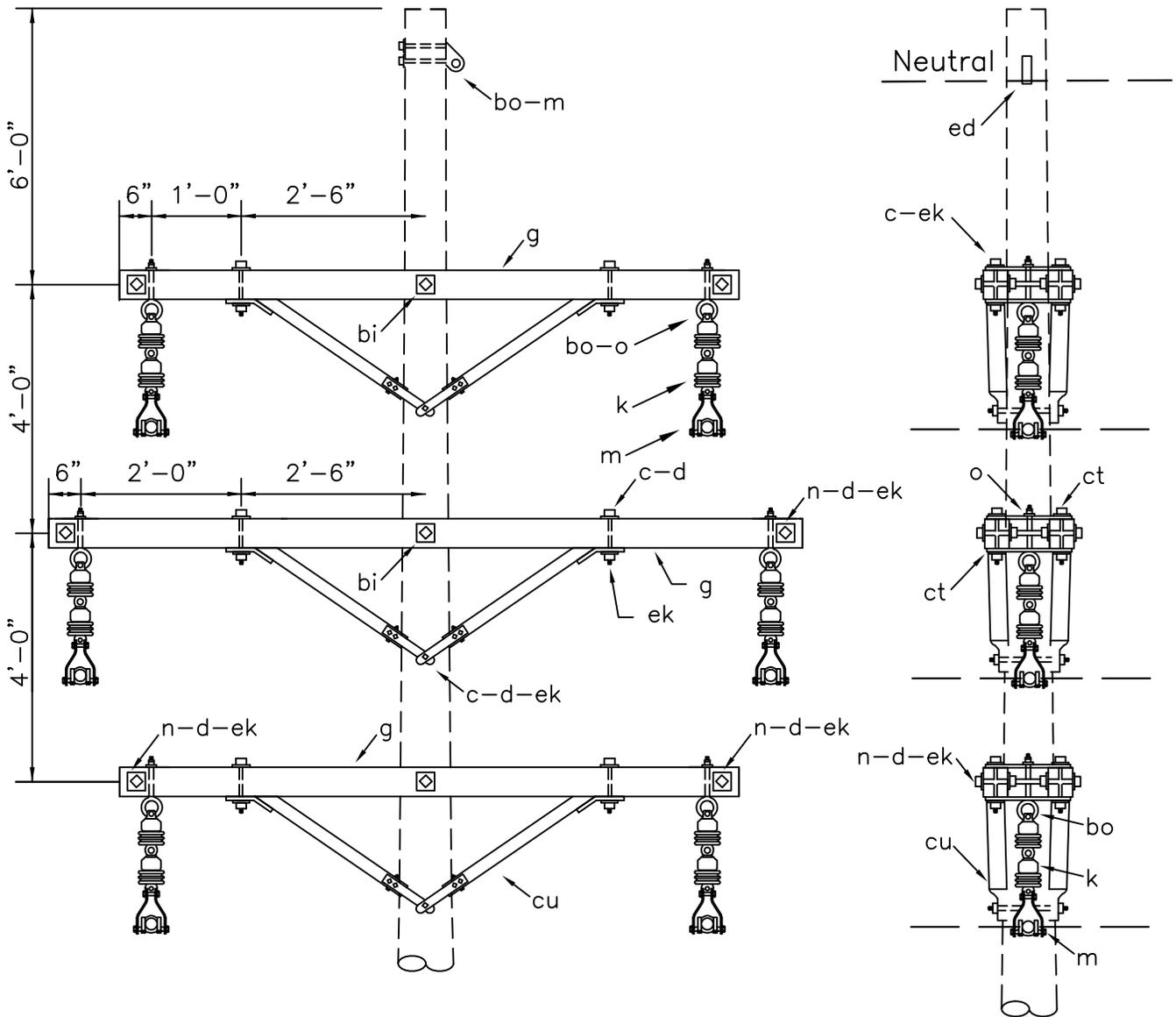
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DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C1

10.01.2

UNIT	QTY	ASSET #	INVENTORY NO.
g	4	DT PC 364021	18290311
g	2	DT PC 364021	18280511
k	12	DT OH 365055	-



NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION
SUSPENSION INSULATORS SHEET 1 OF 2

*Quantity as Required

APR. 1975



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DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C1V

10.02.1

UNIT	QTY	MATERIAL	INVENTORY NO.
c	12	Bolt, machine, 5/8" x req'd. length	063805TT
c	12	Bolt, machine, 1/2" x req'd. length	063804TT
d	24	Washer, square, 2 1/4"	-
d	6	Washer, square, 3"	-
d	12	Washer, round, 1 3/8"	-
g	4	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
k	12	Insulator, Bells	-
m	7	Clamp, suspension shoe	11741036
n	9	Bolt, double arming, 5/8" x req'd. length	063305TT
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
o	6	Bolt, eye, 5/8" x req'd. length	063615TT
o	6	Bolt, shoulder eye, 5/8" x req'd. length	063635TT
bi	6	Gain, plate	46800260
bo	7	Shackle, anchor	12302800
cu	6	Brace, wood, 60" span pair	07535168
ek	*	Double coil spring washers, as req'd	-
ct	12	Double arming plate 1/2" x 4" x 24"	46800200
ed	1	Support, shield wire	-
-	6	Hook, Ball	31501000

NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION
SUSPENSION INSULATORS SHEET 2 OF 2

*Quantity as Required

APR. 1975



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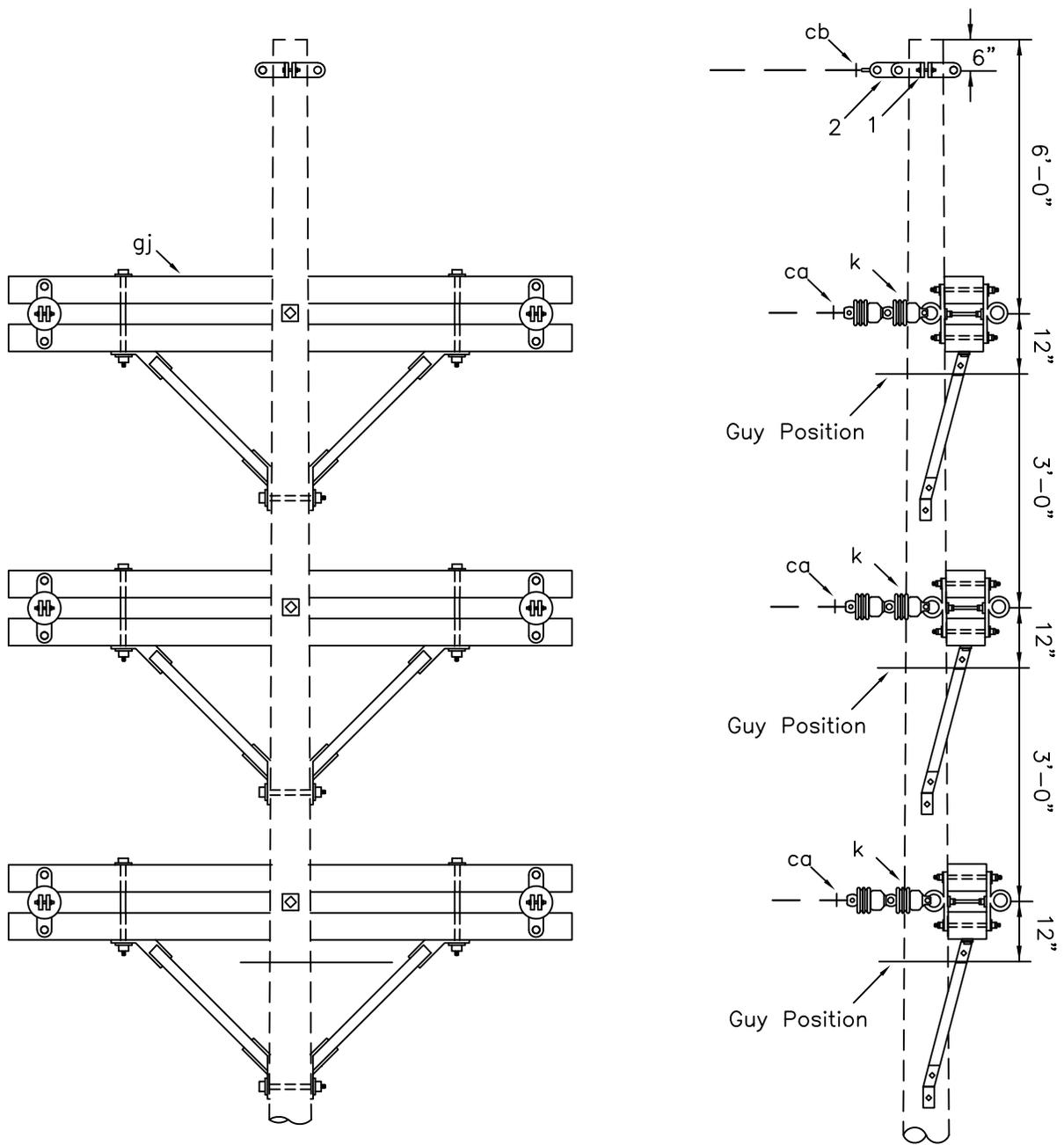
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MFJ

DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C1V

10.02.2

UNIT	QTY	ASSET #	INVENTORY NO.
k	12	DT OH 365055	-
gj	3	DT PC 364021	18081204



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

- 1) Use 15,000 lb. M&E insulators with 795 kcmil conductor.
- 2) Use 10,000 lb. M&E insulators with 477 kcmil and smaller conductor.

*Quantity as Required

DOUBLE-CIRCUIT OVERHEAD NEUTRAL CROSSARM CONSTRUCTION DEADEND (SINGLE) LARGE CONDUCTOR SHEET 1 OF 2

DEC. 1985	REVISED NOV 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ

DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C7HBA 10.03.1

UNIT	QTY	MATERIAL	INVENTORY NO.
k	12	Insulator, Bells	—
ca	6	Deadend assembly, primary	117220XX
cc	1	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd	—
gj	3	Crossarm assembly 3 ³ / ₄ " x 7 ³ / ₄ " x 8'-0", complete with mounting mounting hardware	18081204
1	1	Band, pole (set), complete	47000000
2	1	Link, connecting (pair), complete	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

- 1) Use 15,000 lb. M&E insulators with 795 kcmil conductor.
- 2) Use 10,000 lb. M&E insulators with 477 kcmil and smaller conductor.

**DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION DEADEND (SINGLE)
LARGE CONDUCTOR SHEET 2 OF 2**

DEC. 1985

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DOUBLE CIRCUIT
12.47/7.2 kV

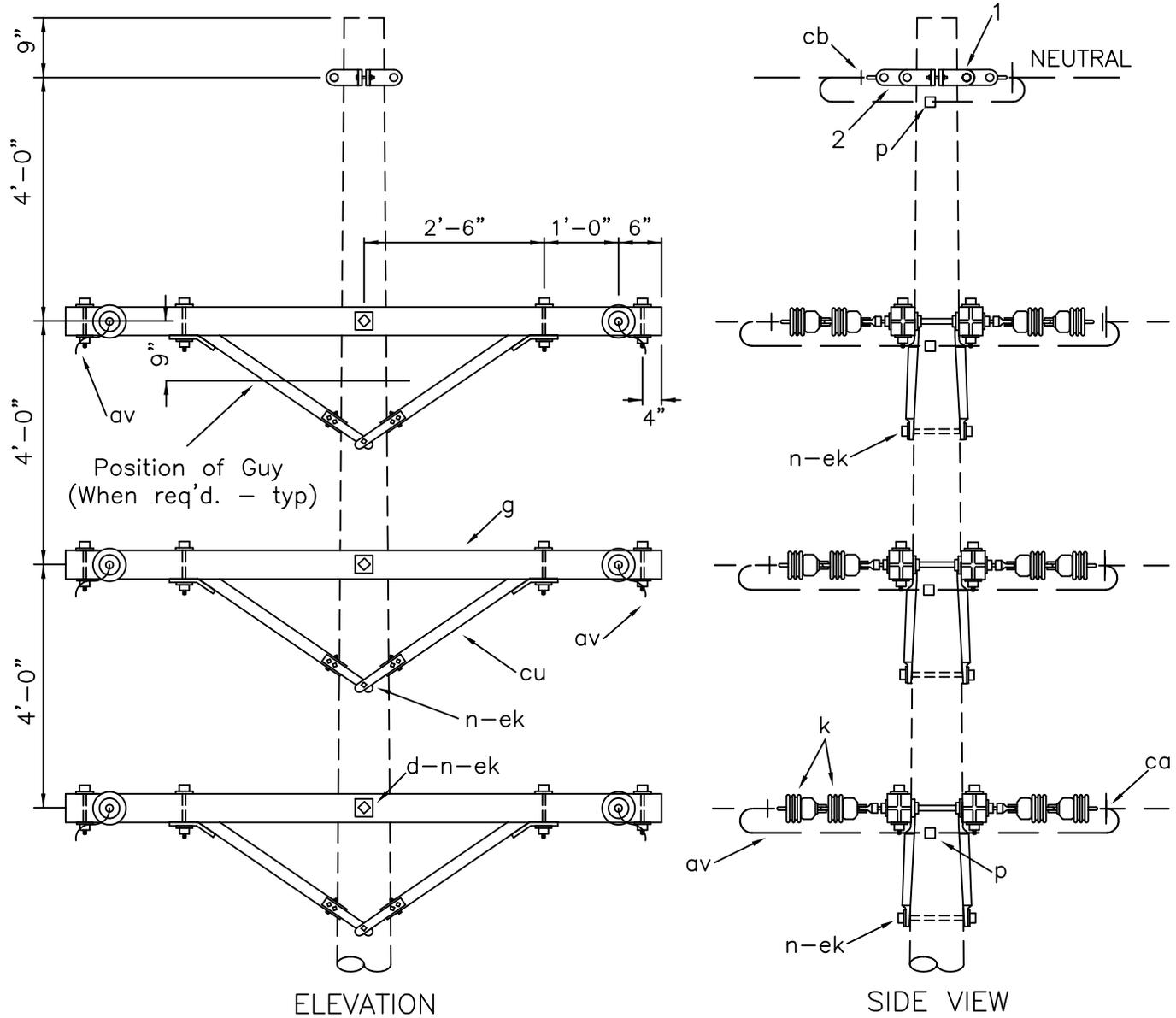
ODC-C7HBA



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*Quantity as Required

UNIT	QTY	ASSET #	INVENTORY NO.
k	24	DT OH 365055	-
g	6	DT PC 364021	18290311



NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
 CROSSARM CONSTRUCTION DEADEND (DOUBLE)
 LARGE CONDUCTOR SHEET 1 OF 2

*Quantity as Required

DEC. 1985



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DOUBLE CIRCUIT
 12.47/7.2 kV

ODC-C8

10.04.1

UNIT	QTY	MATERIAL	INVENTORY NO.
c	12	Bolt, machine, 1/2" x req'd. length	063804TT
c	12	Bolt, machine, 5/8" x req'd. length	063805TT
d	48	Washer, square, 2 1/4"	-
d	6	Washer, square, 3"	-
d	12	Washer, round, 1 3/8"	-
g	6	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	24	Insulator, Bells	-
n	9	Bolt, double arming, 5/8" x req'd. length	063305TT
n	3	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as required	-
aa	12	Nut, eye, 5/8"	41904065
av	*	Jumpers, insulated, Hendrix as required	-
ca	12	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
cu	6	Brace, wood, 60" span	07535168
ek	*	Double coil spring washers, as req'd	-
1	1	Band, pole (set), complete	47000000
2	2	Link, connecting (pair), complete	47000200

NOT FOR NEW CONSTRUCTION

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION DEADEND (DOUBLE)
LARGE CONDUCTOR SHEET 2 OF 2

DEC. 1985

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DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C8

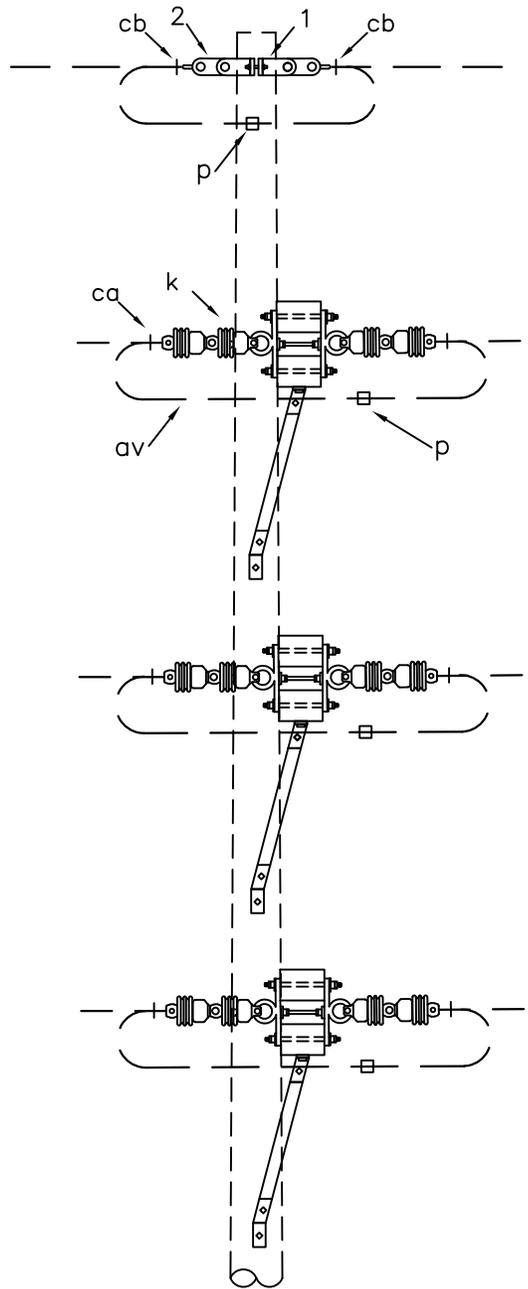
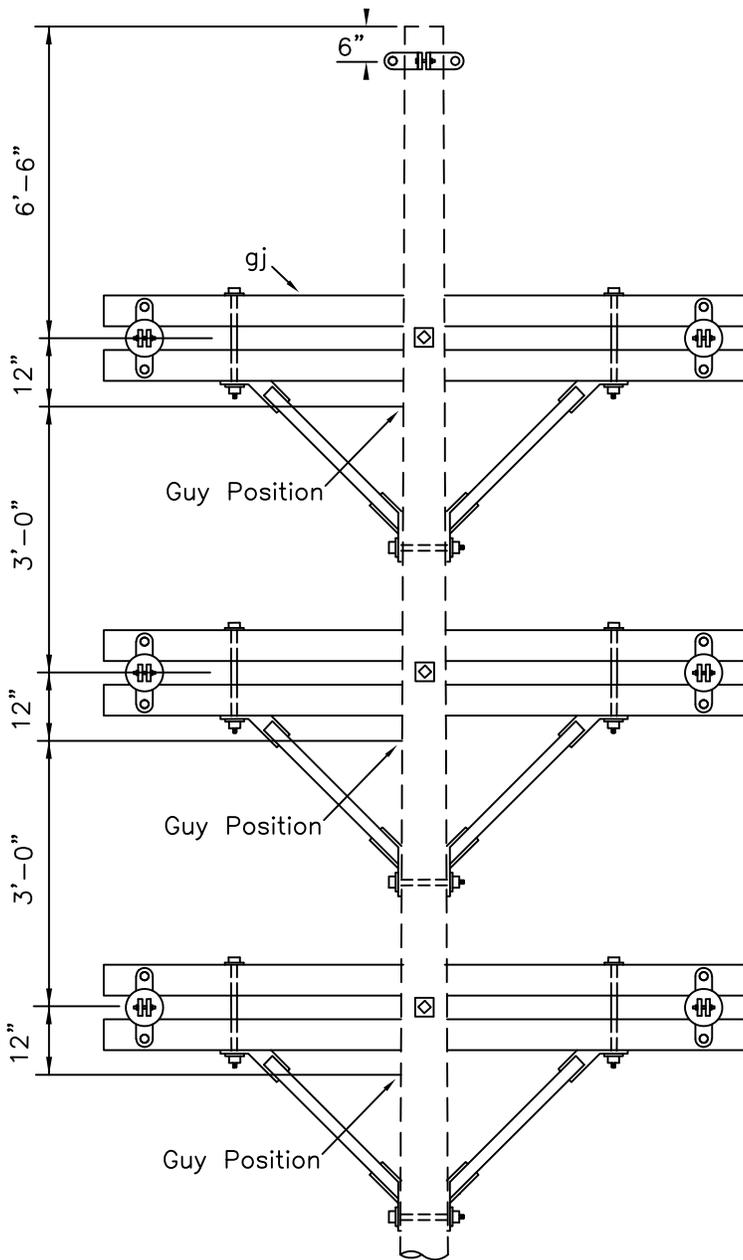
*Quantity as Required



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MFJ

10.04.2

UNIT	QTY	ASSET #	INVENTORY NO.
k	24	DT OH 365055	-
gj	3	DT PC 364021	18081204



NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

- 1) Use 15,000 lb. M&E insulators with 795 kcmil conductor.
- 2) Use 10,000 lb. M&E insulators with 477 kcmil and smaller conductor.

*Quantity as Required

**DOUBLE-CIRCUIT OVERHEAD NEUTRAL CROSSARM CONSTRUCTION DEADEND (DOUBLE)
LARGE CONDUCTOR SHEET 1 OF 2**

DEC. 1985



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NOV 2022

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DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C8HBA

10.05.1

UNIT	QTY	MATERIAL	INVENTORY NO.
k	12	Insulator, Bells	—
p	*	Connectors, as required	—
av	*	Jumpers, insulated, Hendrix as required	—
ca	12	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd	—
gj	3	Crossarm assembly, complete with mounting hardware	18081204
1	1	Band, pole (set), complete	47000000
2	2	Link, connecting (pair), complete	47000200

NOT FOR NEW CONSTRUCTION

DESIGN LIMITS

- 1) Use 15,000 lb. M&E insulators with 795 kcmil conductor.
- 2) Use 10,000 lb. M&E insulators with 477 kcmil and smaller conductor.

**DOUBLE-CIRCUIT OVERHEAD NEUTRAL
CROSSARM CONSTRUCTION DEADEND (DOUBLE)
LARGE CONDUCTOR SHEET 2 OF 2**

*Quantity as Required

DEC. 1985

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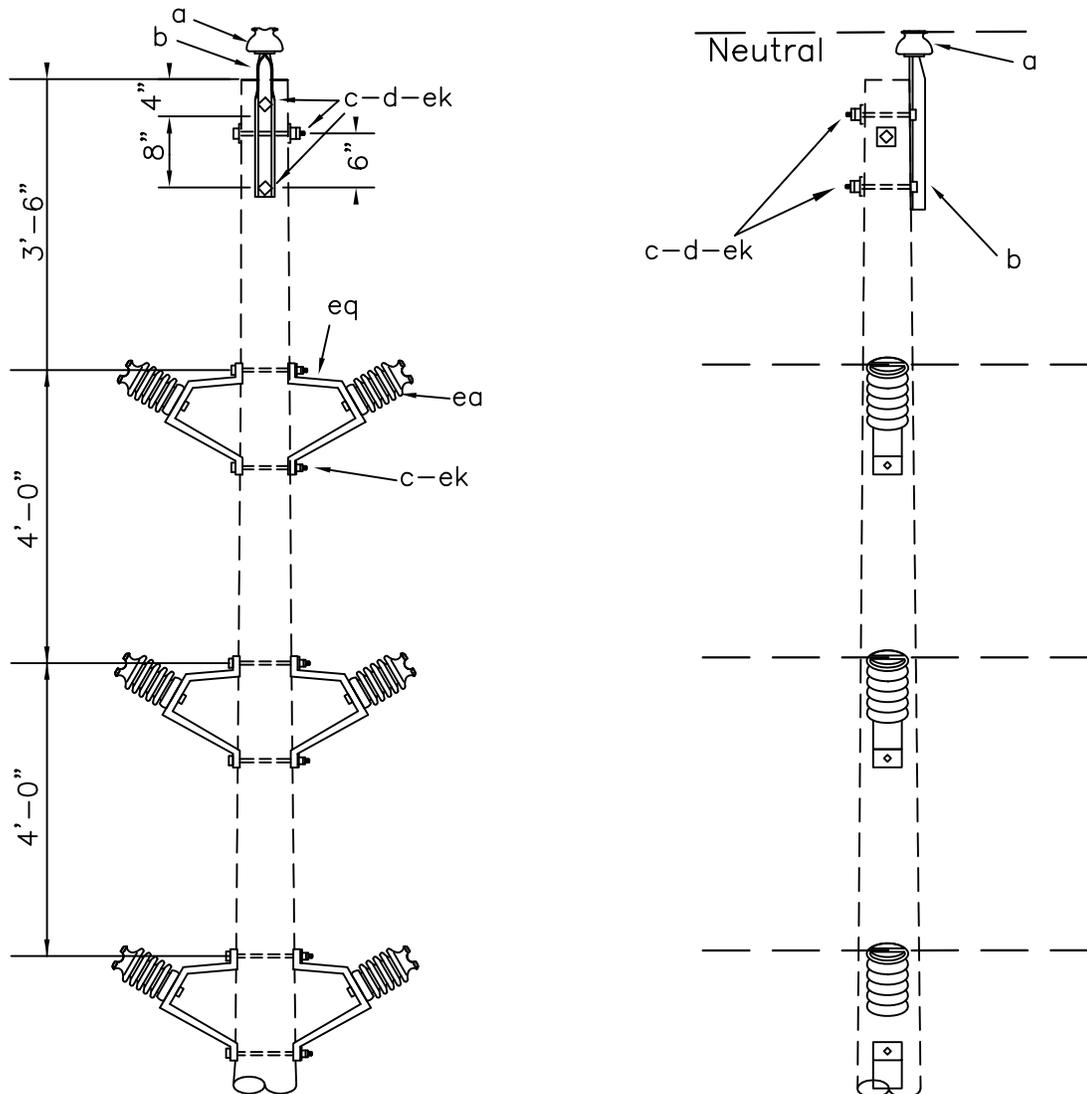
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DOUBLE CIRCUIT
12.47/7.2 kV

ODC-C8HBA

10.05.2

UNIT	QTY	ASSET #	INVENTORY NO.	UNIT	QTY	ASSET #	INVENTORY NO.
ODCV-1	1	DT OH 365055	34223010	ODCV-1PO	1	DT OH 365055	34223010
ODCV-1	6	DT OH 365055	34251010	ODCV-1PO	6	DT OH 365055	34256100



NOTES:

1. Image depicts porcelain type insulator.

UNIT	MATERIAL	CONFIGURATION INVENTORY NO.	ODCV-1 QTY	ODCV-1PO QTY
a	Insulator, pin type (12.47/7.2 kV)	34223010	1	1
b	Pin, pole top, 20"	45612120	1	1
c	Bolt, machine, 5/8" x req'd. length	063805TT	9	9
d	Washer, 2 1/4" square	-	4	4
ea	Insulator Porcelain	34251010	6	-
ea	Insulator polymer horizontal	34256100	-	6
ek	Double coil spring washers, as req'd.	-	*	*
eq	Bracket, offset pole mount, 15"	07807600	6	6
-	Stud, insulator, 1 3/4" x 3/4", complete with washers and machine nuts	34301000	6	6
-	Clamp, conductor	11742090	-	6

DESIGN LIMITS

Max. Transverse Load:
500 lbs per conductor

Max. Line Angle:
Lesser of 20° or as limited by
transverse load

*Quantity as Required

DOUBLE-CIRCUIT OVERHEAD NEUTRAL
NARROW PROFILE CONSTRUCTION

DEC. 1985	REVISED NOV 2022	DOUBLE CIRCUIT 12.47/7.2 kV	ODCV-1, ODCV-1PO
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

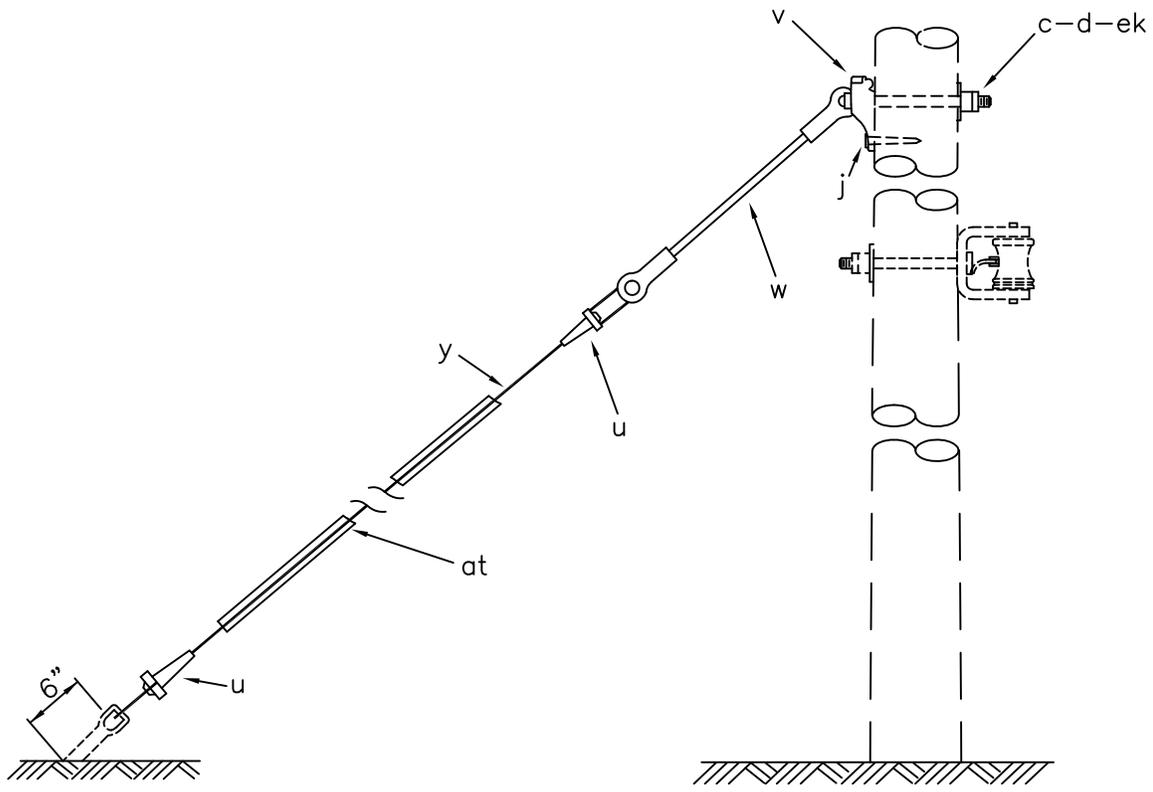


GUYING ASSEMBLIES

GUYING ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
11.01	E1-3	Single Down Guy Through Bolt Type
11.02	E1-3H	Sidewalk Guy
11.03	E2-3	Single Overhead Guy Through Bolt Type
11.04	E3-10	Guy Marker
11.05	E3-11	Cattle Guy Guard (Post)
11.06	E3-12	Cattle Guy Guard (Rail)
11.07	E4-3M	Single Overhead Guy with Pole Bands
11.08	E5-3M	Overhead Guy with Pole Bands Deadend Crossarm Construction
11.09	E6-3	Double Down Guy Through Bolt Type
11.10	E9-3	Single Down Guy for Existing Pole Band
11.11	E9-3M	Single Down Guy with Pole Band
11.12	E9-4M	Single Down Guy 20.000 LBS
11.13	E13-1	Single Loop Guy for Existing Pole Band
11.14	E13-2	Single Loop Guy with Pole Band
11.15	E13-3	Single Loop Guy 20.000 LBS

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Lag screw should be used when any guy attachment has provision for it.
2. See guide drawings M30-1 and M30-2.
3. See drawing E3-10 for guy marker.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	1	Washer, curved, 4"	-
j	1	Screw, lag, 1/2" x 4"	-
u	2	Deadend, Automatic type	11770010
v	1	Guy attachment, plate, 10M AW rated	02150500
w	1	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
y	65	Guy wire, 10M AW, req'd. length	73801007
at	1	Guy marker 8'	29300855
ek	*	Double coil spring washers, as req'd	-

Rating: 10,000 lbs.

SINGLE DOWN GUY
THROUGH BOLT TYPE

*Quantity as Required

APR. 1983



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NOV 2022

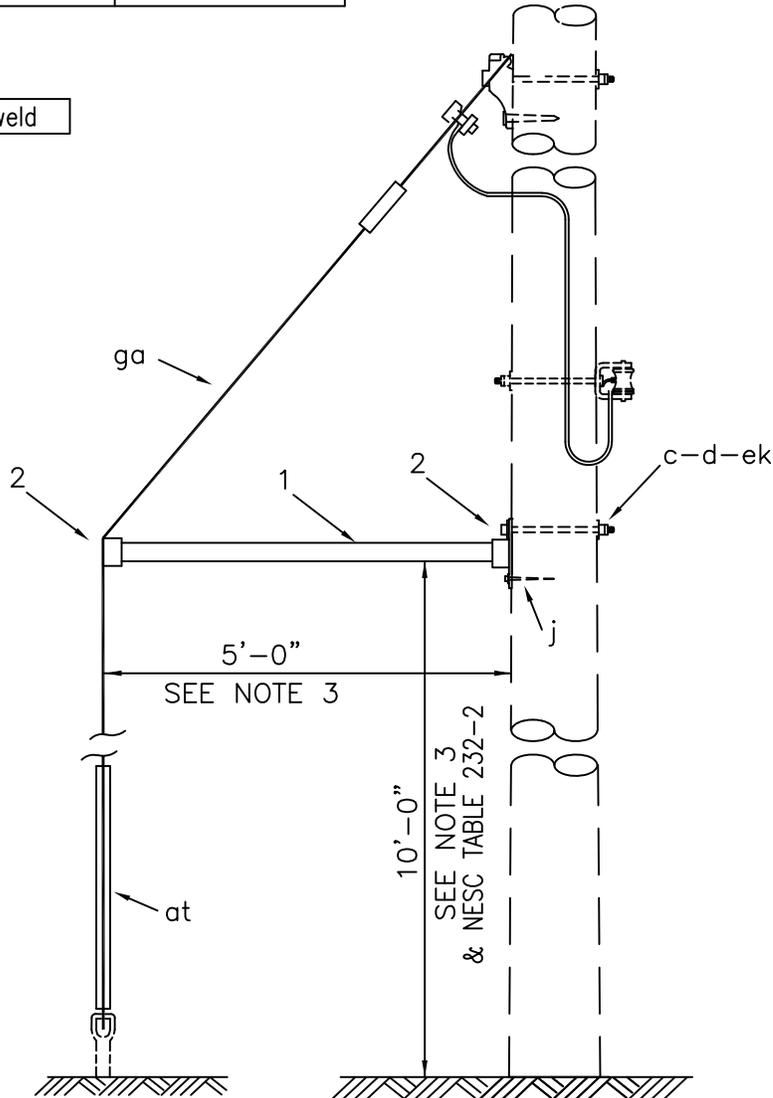
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GUYING ASSEMBLIES
12.47/7.2 kV

E1-3

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E1-3H 10M Alumoweld



NOT FOR NEW CONSTRUCTION

NOTES:

1. Use limited to retirement and to those areas where pedestrian traffic must be accommodated.
2. Standard guy lead and column loading tables are not applicable to this unit.
3. Dimensions may be varied to suit conditions.
4. See drawing E1-2 & E1-3 for guy assembly (ga).
5. See drawing E3-10 for guy marker.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	1	Washer, square, 2 1/4"	-
j	1	Screw, lag, 1/2" x 4"	-
at	1	Guy marker 8'	29300855
ek	*	Double coil spring washers, as req'd	-
y	1	Guy wire, 10M AW	73801007
1	1	Standard pipe, 2", length as req'd.	-
2	1	Pole plate and clamp assembly	02101000
ga	1	Guy Assy = T4	02100800

SIDEWALK GUY ASSEMBLY

*Quantity as Required

DEC. 1985



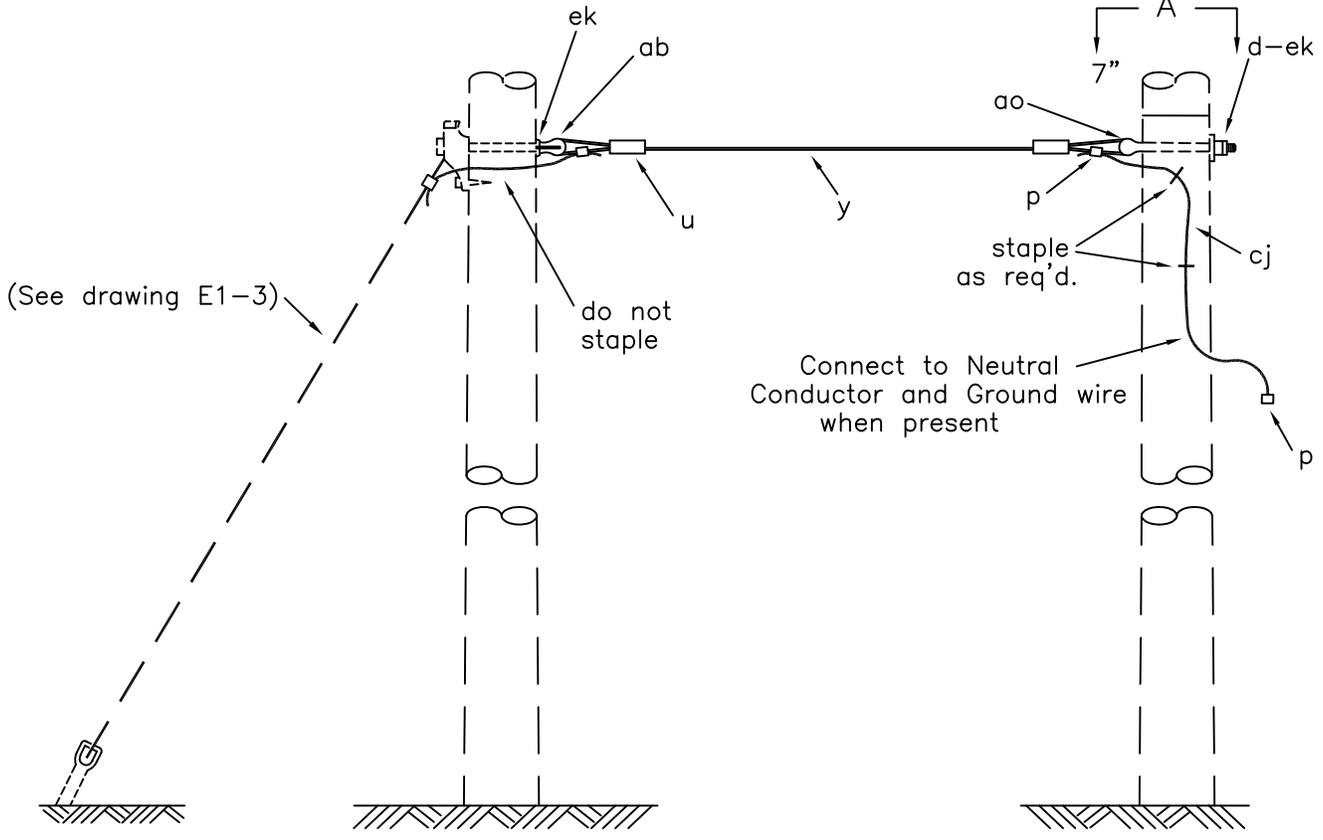
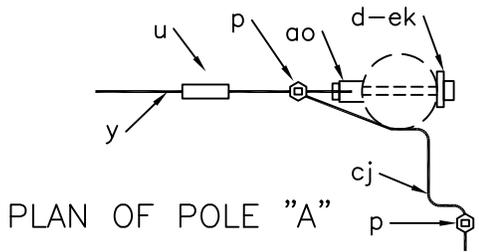
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GUYING ASSEMBLIES
12.47/7.2 kV

E1-3H

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOT FOR NEW CONSTRUCTION

NOTES:

1. Formed type grips may be used only with suitable attachments (item v) as recommended by grip manufacturer.
2. Assembly requires 3/4" bolt on down guy assembly attachment.

UNIT	QTY	MATERIAL	INVENTORY NO.
d	1	Washer, square, curved, 4"	-
p	*	Connectors, guy bond, as required	-
u	2	Deadend for guy strand, preformed type	11770010
y	*	Guy wire, 10M alumoweld strand, as req'd	73801007
ab	1	Nut, thimble eye, 3/4"	41904060
ao	1	Bolt, thimble-eye, 3/4" x 14" Cut to length	06364508
cj	*	Jumpers (stranded 6SDcu or equiv.), as req'd.	-
ek	*	Double coil spring washers, as req'd	-

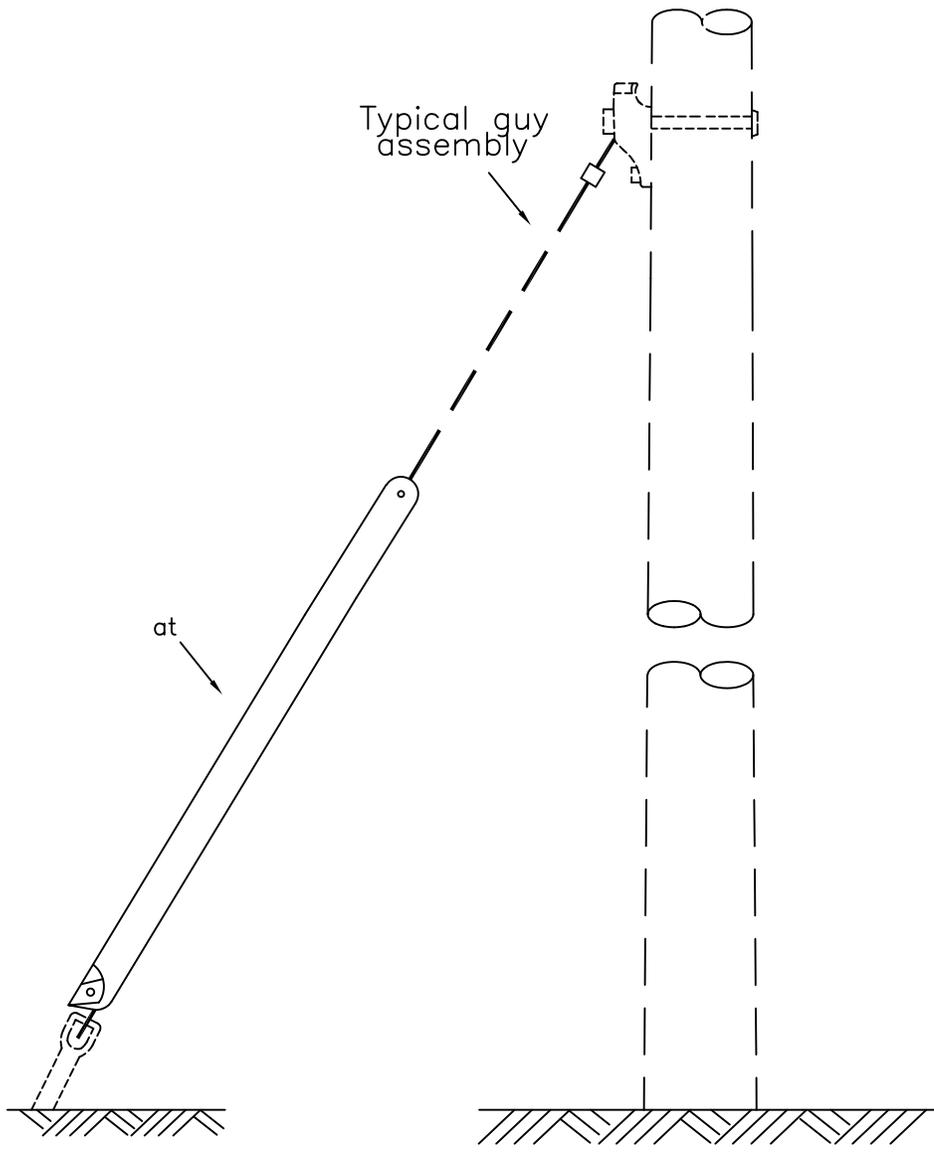
Rating: 10,000 lbs.

SINGLE OVERHEAD GUY THROUGH BOLT TYPE

*Quantity as Required

DEC. 1983	REVISED NOV 2022	GUYING ASSEMBLIES	E2-3
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ	12.47/7.2 kV	

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-



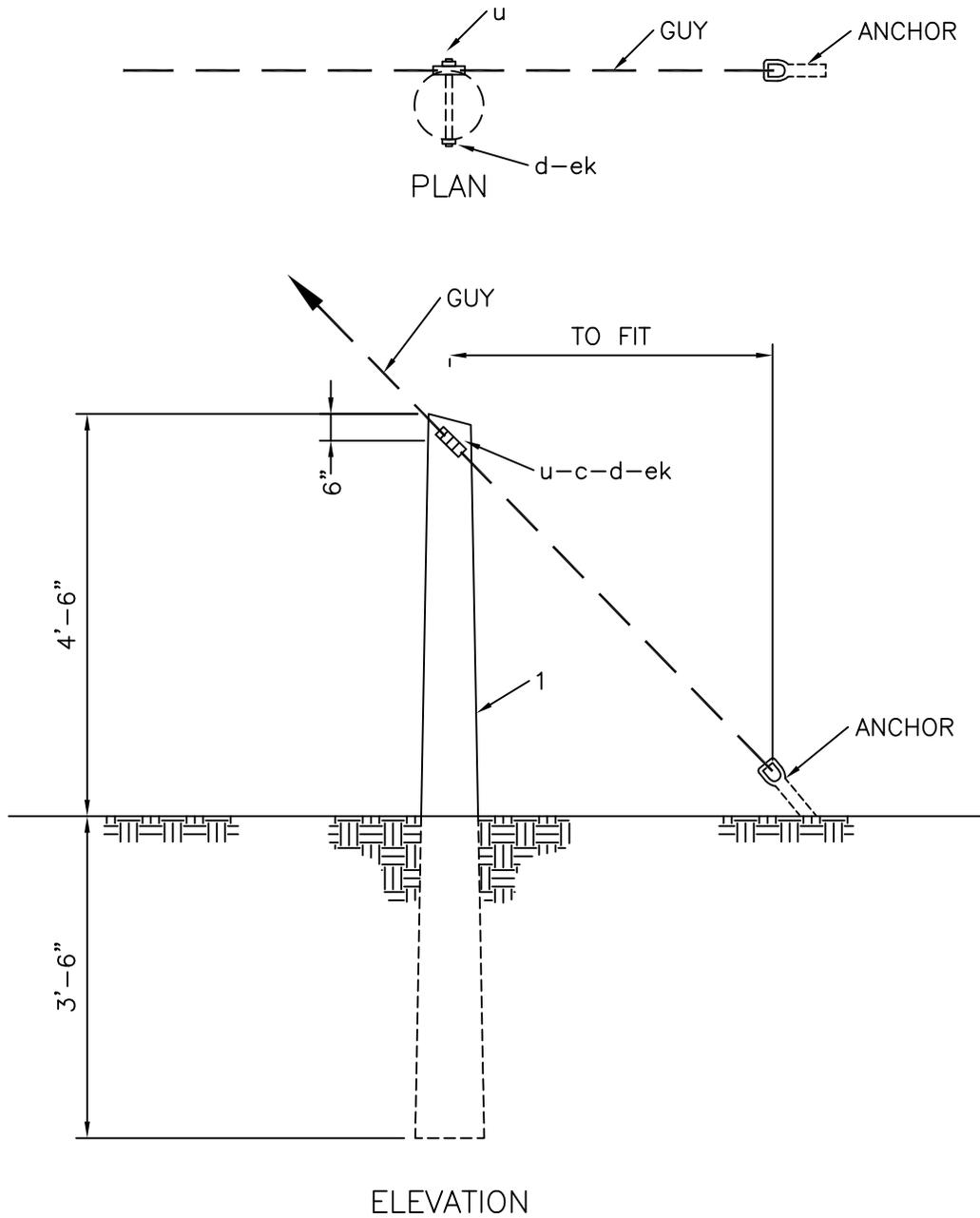
NOTES:

1. Markers should be installed on all new guy wires. Add to existing guy wires where appropriate and as required by NESC 217C.
2. Markers are not intended to provide physical protection.
3. Guying assembly separately specified.

UNIT	QTY	MATERIAL	INVENTORY NO.
at	1	Guy marker, 8' length (min.)	29300855

*Quantity as Required		GUY MARKER	
		DEC. 1983	REVISED NOV 2022
			APPROVED BY JDP
		GUYING ASSEMBLIES 12.47/7.2 kV	E3-10

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Guying assembly separately specified.
2. For use in areas where protection of guy wire is required.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	1	Washer, square, 2 1/4"	-
u	1	Clamp, 3 bolt	11770005
ek	*	Double coil spring washers, as req'd	-
1	1	Post, full pressure treated, 8'-0" x 5" top	-

CATTLE GUY GUARD
(POST)

*Quantity as Required

DEC. 1985



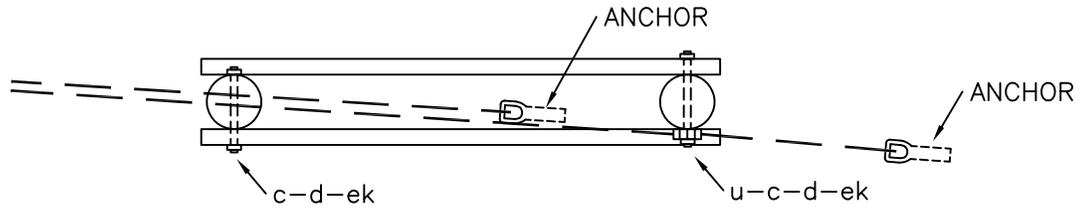
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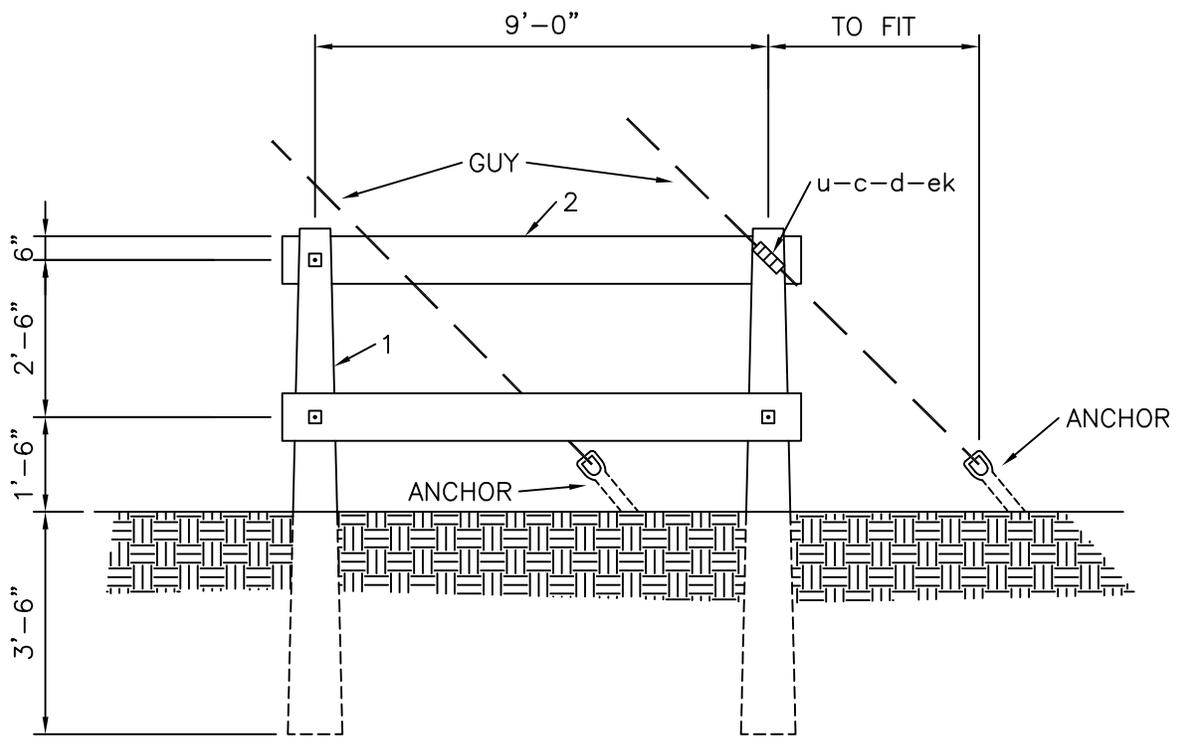
GUYING ASSEMBLIES
12.47/7.2 kV

E3-11

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-



PLAN



ELEVATION

NOTES:

1. Specify guy and anchor assemblies separately.
2. For use in areas where protection of multiple guy wires are required.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	7	Washer, square, 2 1/4"	-
u	1	Clamp, 3 bolt	11770005
ek	*	Double coil spring washers, as req'd	-
1	2	Post, full pressure treated, 8'-0" x 5" top	-
2	2	Timber, full pressure treated, 2" x 6" x 10'-0"	-

CATTLE GUY GUARD
(RAIL)

*Quantity as Required

DEC. 1985



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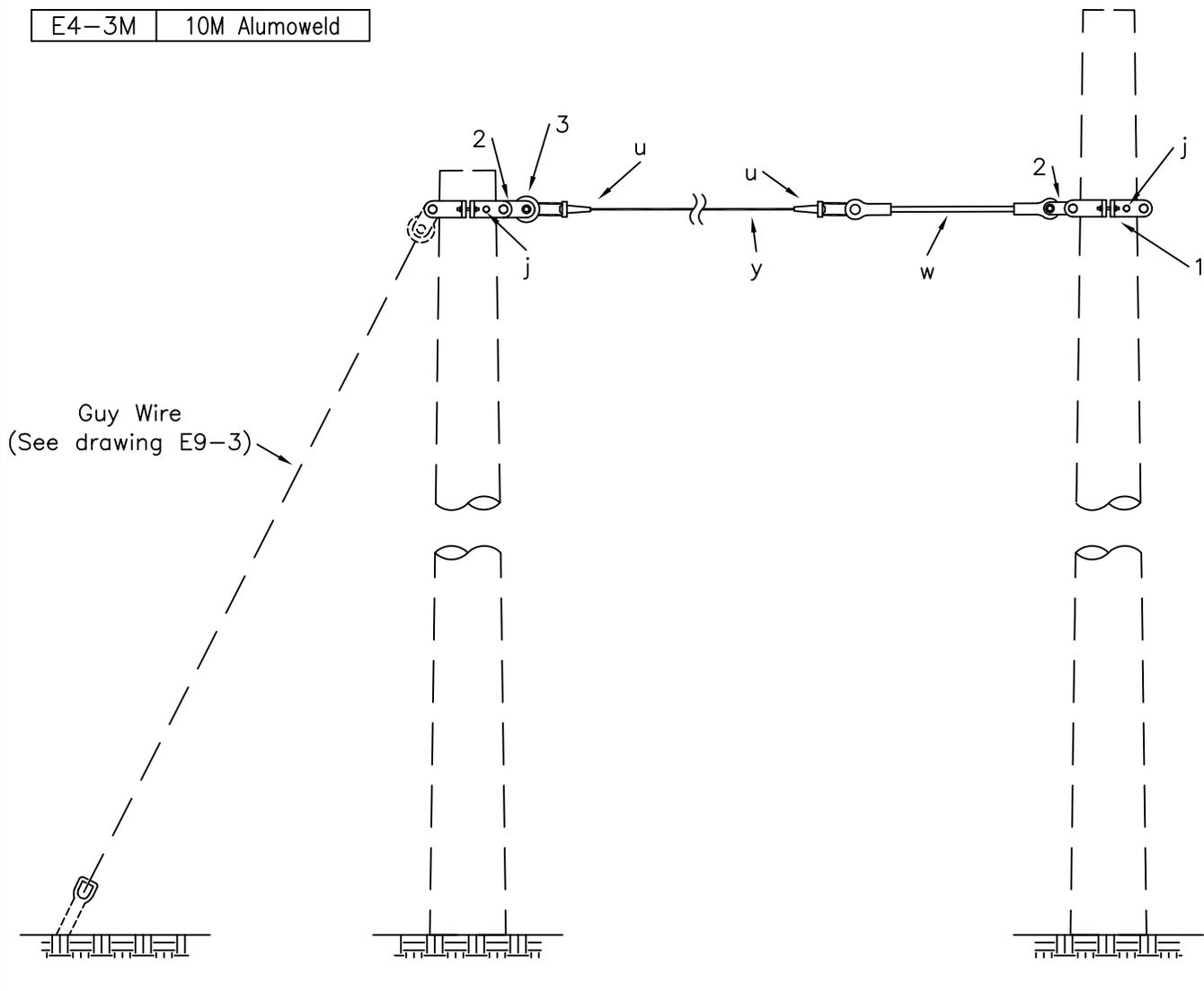
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GUYING ASSEMBLIES
12.47/7.2 kV

E3-12

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E4-3M | 10M Alumoweld



- NOTES:
1. For use with guy assembly E9-3.
 2. Specify down guy and anchor assemblies separately.

UNIT	QTY	MATERIAL	INVENTORY NO.
j	4	Screw, lag, 1/2" x 4" min.	-
u	2	Deadend, guy, Automatic type	11770010
y	65	Guy wire, 10M AW x length as req'd.	73801007
w	1	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
1	2	Band, pole (set), complete	47000000
2	2	Link, connecting (pair), complete	47000200
3	2	Roller, guy, single, complete	-

SINGLE OVERHEAD GUY WITH POLE BANDS

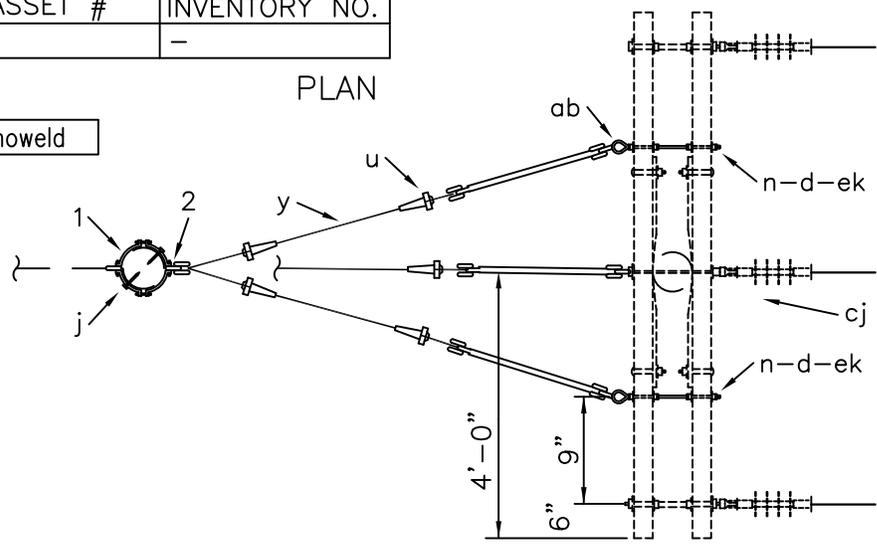
*Quantity as Required

DEC. 1985	REVISED NOV 2022	GUYING ASSEMBLIES 12.47/7.2 kV	E4-3M
	APPROVED BY MFJ		

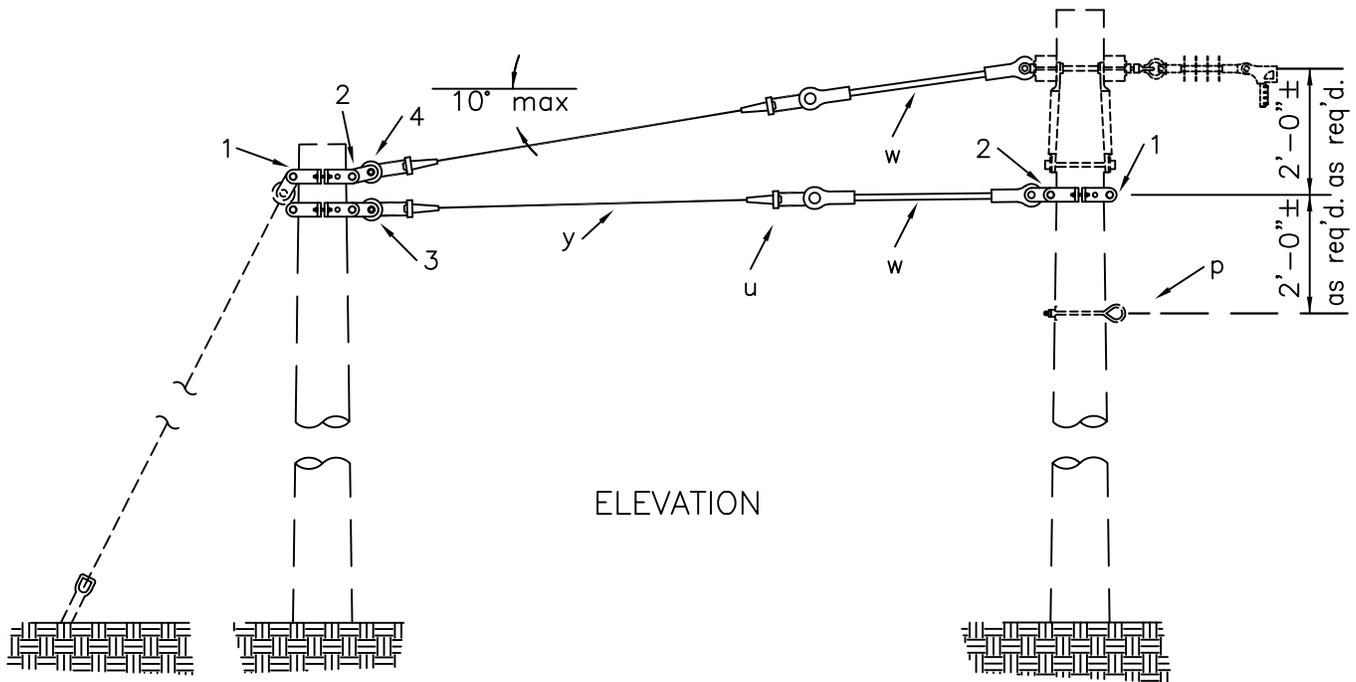
UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

PLAN

E5-3M 10M Alumoweld



ELEVATION



UNIT	QTY	MATERIAL	INVENTORY NO.
d	8	Washer, square, 2 1/4"	-
j	6	Screw, lag, 1/2" x 2" min.	-
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as req'd.	-
u	6	Deadend, guy, 10M AW, Automatic type	11770010
y	195	Guy wire, 10M AW length as req'd.	73801007
w	3	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
ab	2	Nut, thimble type eye, 5/8"	-
cj	*	Jumper, 6SDcu stranded or equiv. as req'd.	-
ek	*	Double coil spring washers, as req'd	-
1	3	Band, pole (set), complete	47000000
2	3	Link, connecting (pair), complete	47000200
3	2	Roller, guy (single), complete	-
4	1	Roller, guy (double), complete	-

OVERHEAD GUY WITH POLE BANDS
DEADEND CROSSARM CONSTRUCTION

*Quantity as Required

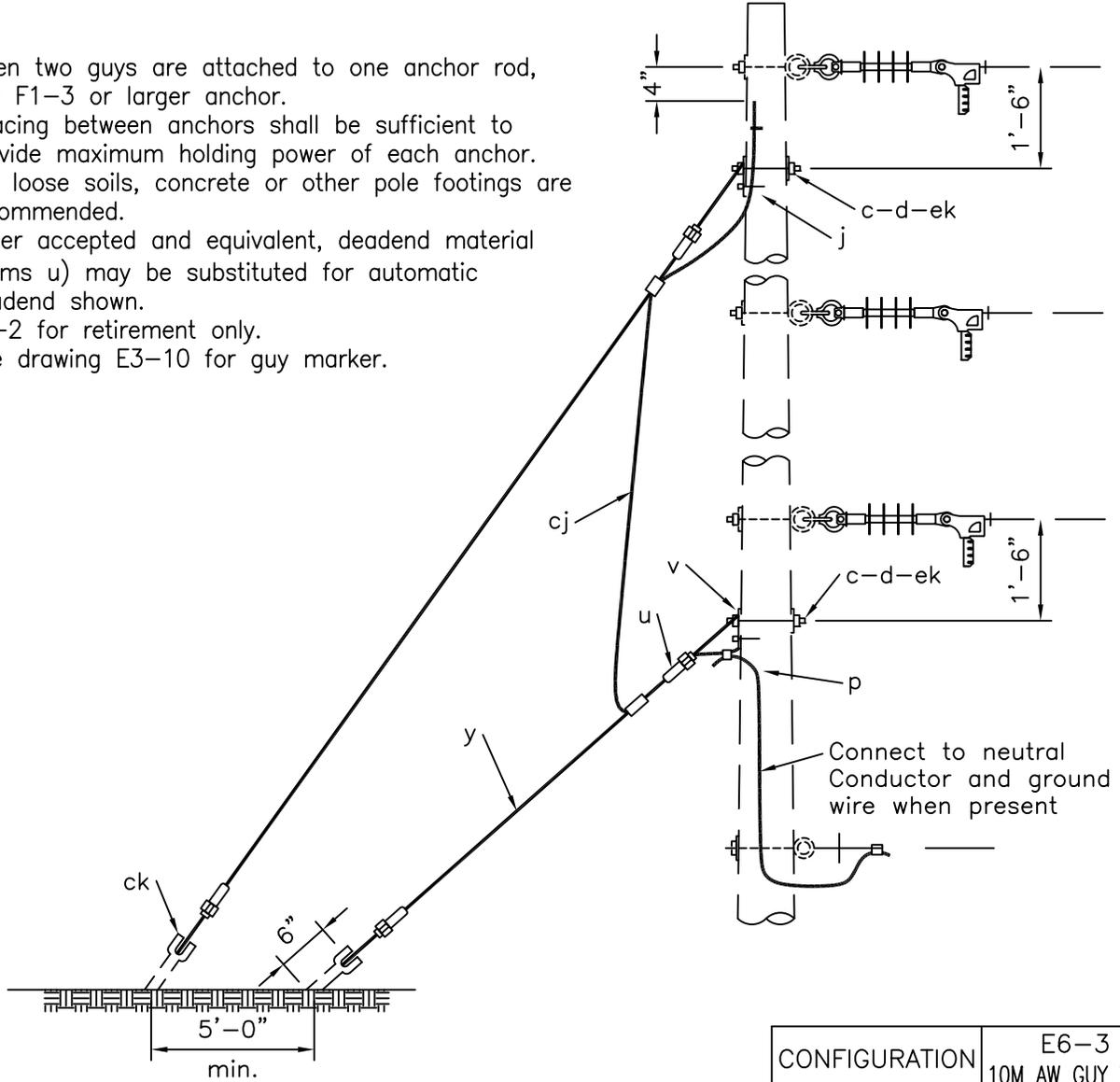
DEC. 1985	REVISED NOV 2022	GUYING ASSEMBLIES 12.47/7.2 kV	E5-3M
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

NOT FOR NEW CONSTRUCTION

NOTES:

1. When two guys are attached to one anchor rod, use F1-3 or larger anchor.
2. Spacing between anchors shall be sufficient to provide maximum holding power of each anchor.
3. For loose soils, concrete or other pole footings are recommended.
4. Other accepted and equivalent, deadend material (items u) may be substituted for automatic deadend shown.
5. E6-2 for retirement only.
6. See drawing E3-10 for guy marker.



UNIT	MATERIAL	INVENTORY NO.	QTY
c	Bolt, machine, 5/8" x req'd. length	063805TT	2
d	Washer, curved, 4"	-	2
d	Washer, square, 2 1/4"	-	-
j	Screw, lag 1/2" x 4"	-	2
p	Connectors, as req'd.	-	*
u	Deadend, guy, 10M AW	11770010	4
v	Guy attachment, Mall. Iron, Heavy Duty	02150500	2
y	Guy wire, 7-strand, length as req'd.	73801007	40
cj	Jumpers, #4 stranded Al. alloy or equiv. as req'd.	-	*
ck	Clamp, guy bond, as req'd.	11711110	2
ek	Double coil spring washers, as req'd	-	*

DOUBLE DOWN GUY THROUGH BOLT TYPE

APR. 1983



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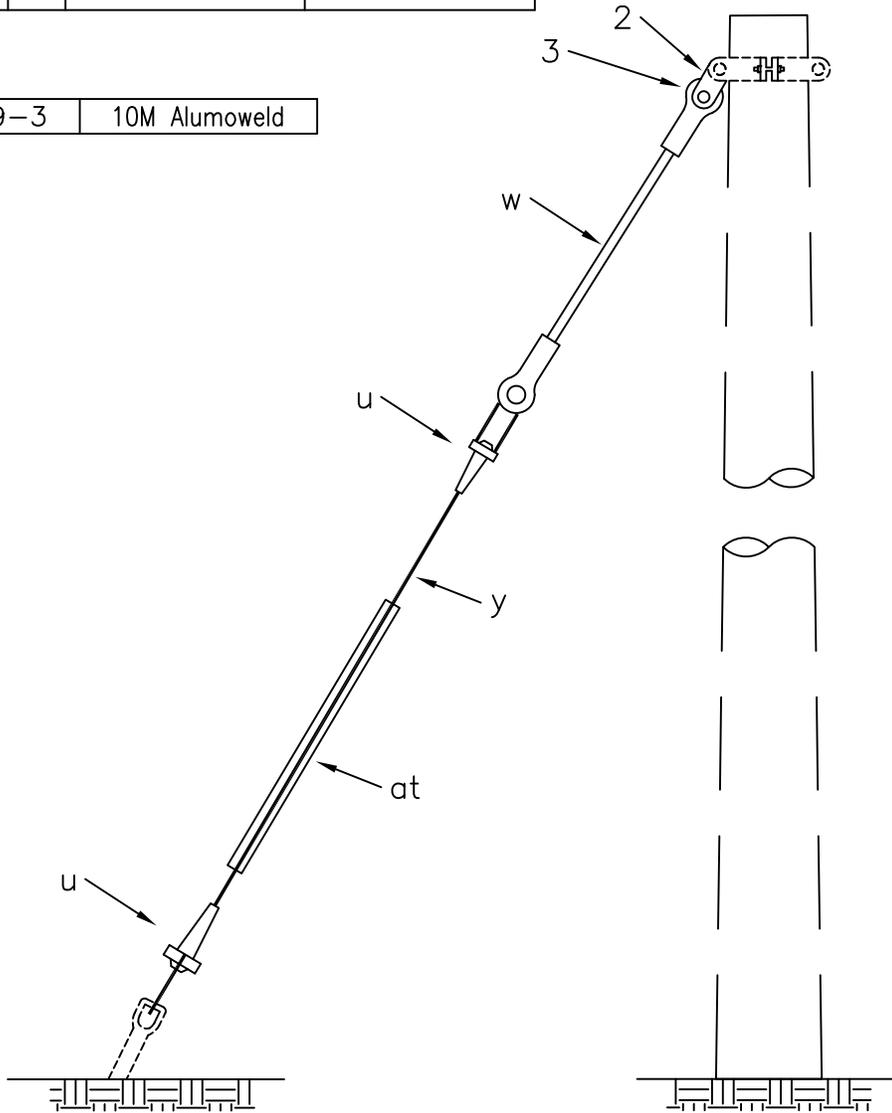
GUYING ASSEMBLIES
12.47/7.2 kV

E6-3

*Quantity as Required

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E9-3 10M Alumoweld



NOTE:

1. For use with existing pole band.
2. E9-2 for retirement only.
3. See drawing E3-10 for guy marker.
4. Refer to E6, E7, and E8 style drawings for framing and grounding guidelines.

UNIT	QTY	MATERIAL	INVENTORY NO.
u	2	Deadend, Guy. Automatic type	11770010
w	1	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
y	65	Guy wire, 10M AW x length as req'd.	73801007
at	1	Guy marker	29300855
2	1	Link, connecting (pair), complete	47000200
3	1	Roller, guy (single), complete	-

SINGLE DOWN GUY
FOR EXISTING POLE BAND

*Quantity as Required

DEC. 1985



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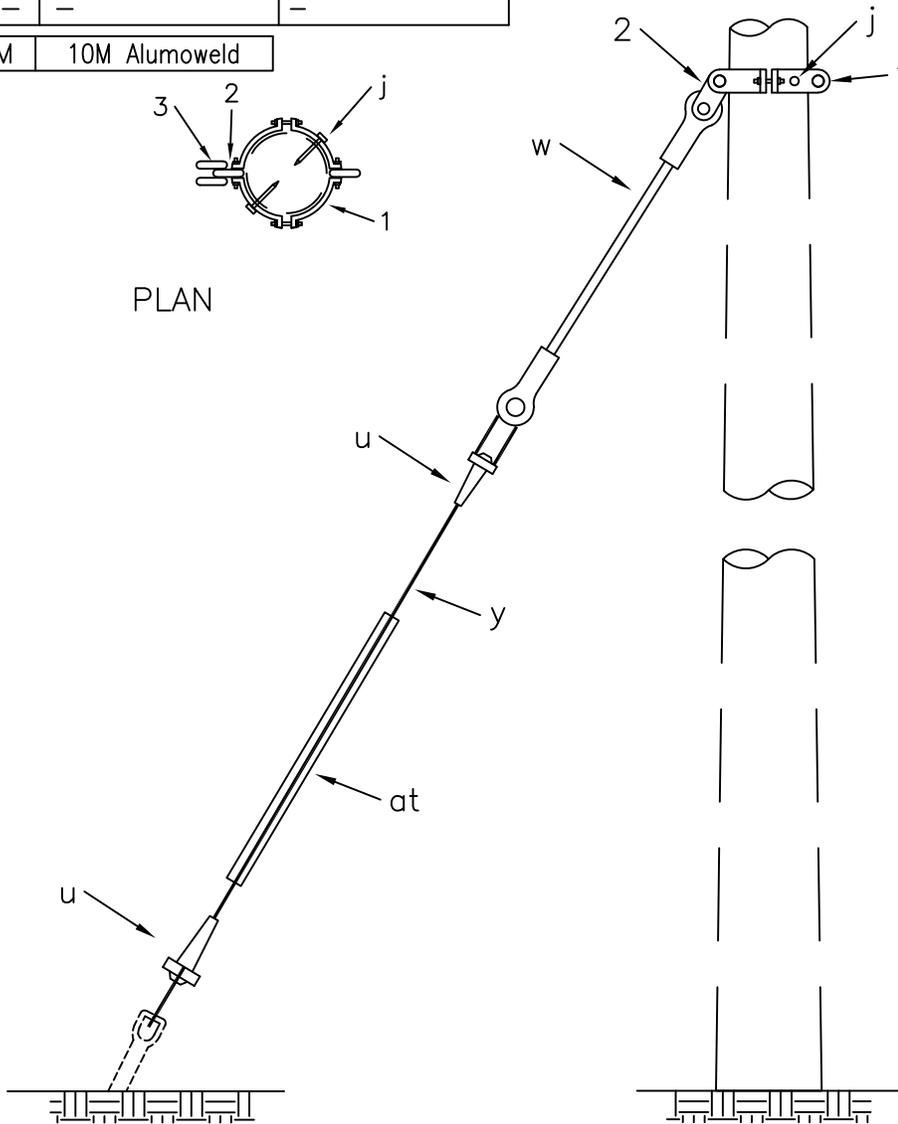
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GUYING ASSEMBLIES
12.47/7.2 kV

E9-3

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E9-3M 10M Alumoweld



NOT FOR NEW CONSTRUCTION

NOTES:

1. See drawing E3-10 for guy marker.

UNIT	QTY	MATERIAL	INVENTORY NO.
j	2	Screw, lag, 1/2" x 4" min	-
u	2	Deadend, guy, 10M AW, Automatic type	11770010
w	1	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
y	65	Guy wire, 10M AW x length as req'd.	73801007
at	1	Guy marker	29300855
1	1	Band, pole (set), complete	47000000
2	1	Link, connecting (pair), complete	47000200
3	1	Roller, guy (single), complete	-

SINGLE DOWN GUY WITH POLE BAND

DEC. 1985



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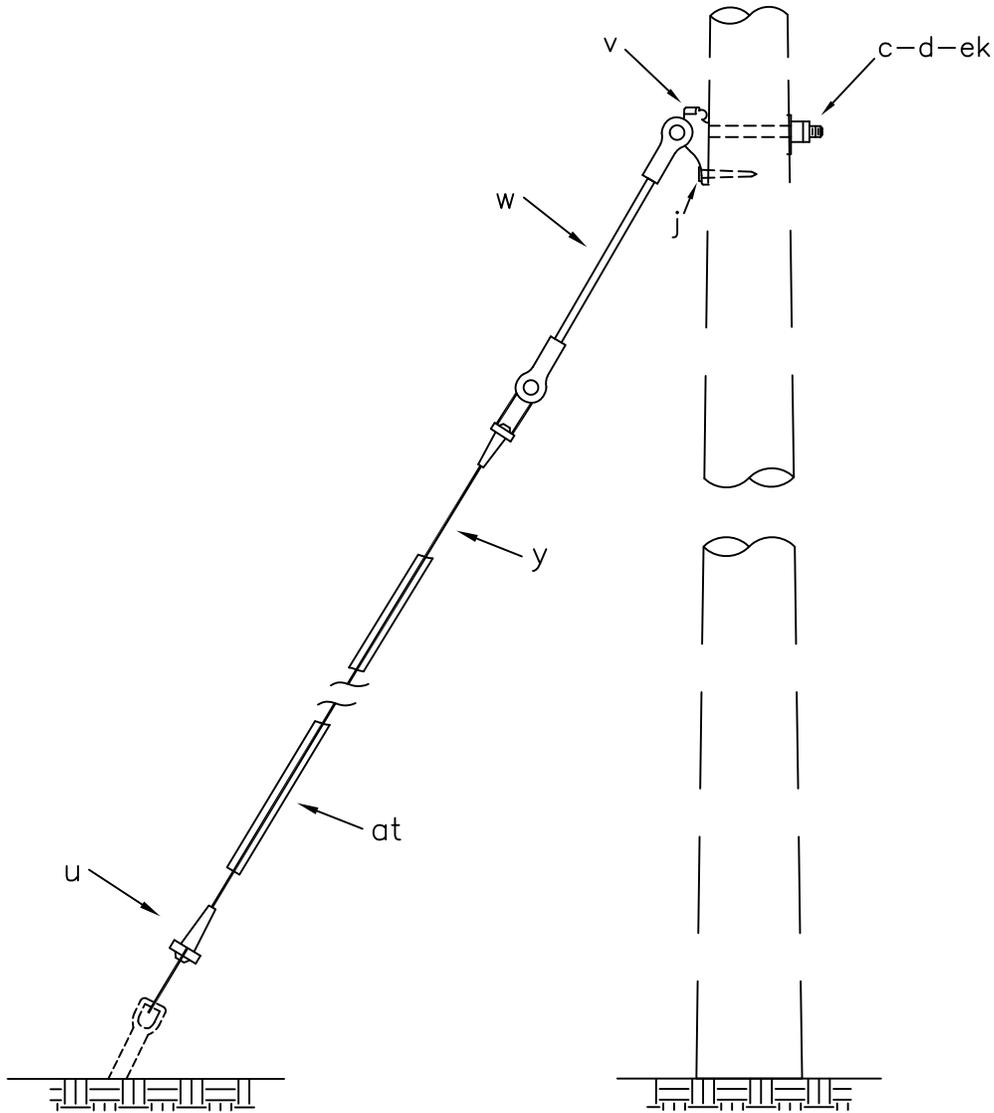
GUYING ASSEMBLIES
12.47/7.2 kV

E9-3M

*Quantity as Required

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E9-4M 20M Alumoweld



NOTES:

1. See drawing E3-10 for guy marker.
2. Intended for use with F1-4S or F1-4P

UNIT	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	1	Washer, curved, 4"	-
j	1	Screw, lag, 1/2" x 4"	-
u	2	Deadend, guy, 20M AW, Automatic type	11770020
v	1	Guy attachment, Plate, 20M AW rated	02150500
w	1	78" Strain guy, fiberglass, C-TE, 20,000lb	34276735
y	65	Guy wire, 20M AW x length as req'd.	73801020
at	1	Guy marker	29300855
ek	*	Double coil spring washers, as req'd	-

SINGLE DOWN GUY
20,000 lb.

*Quantity as Required

JAN. 2020



REVISED
MAY 2022

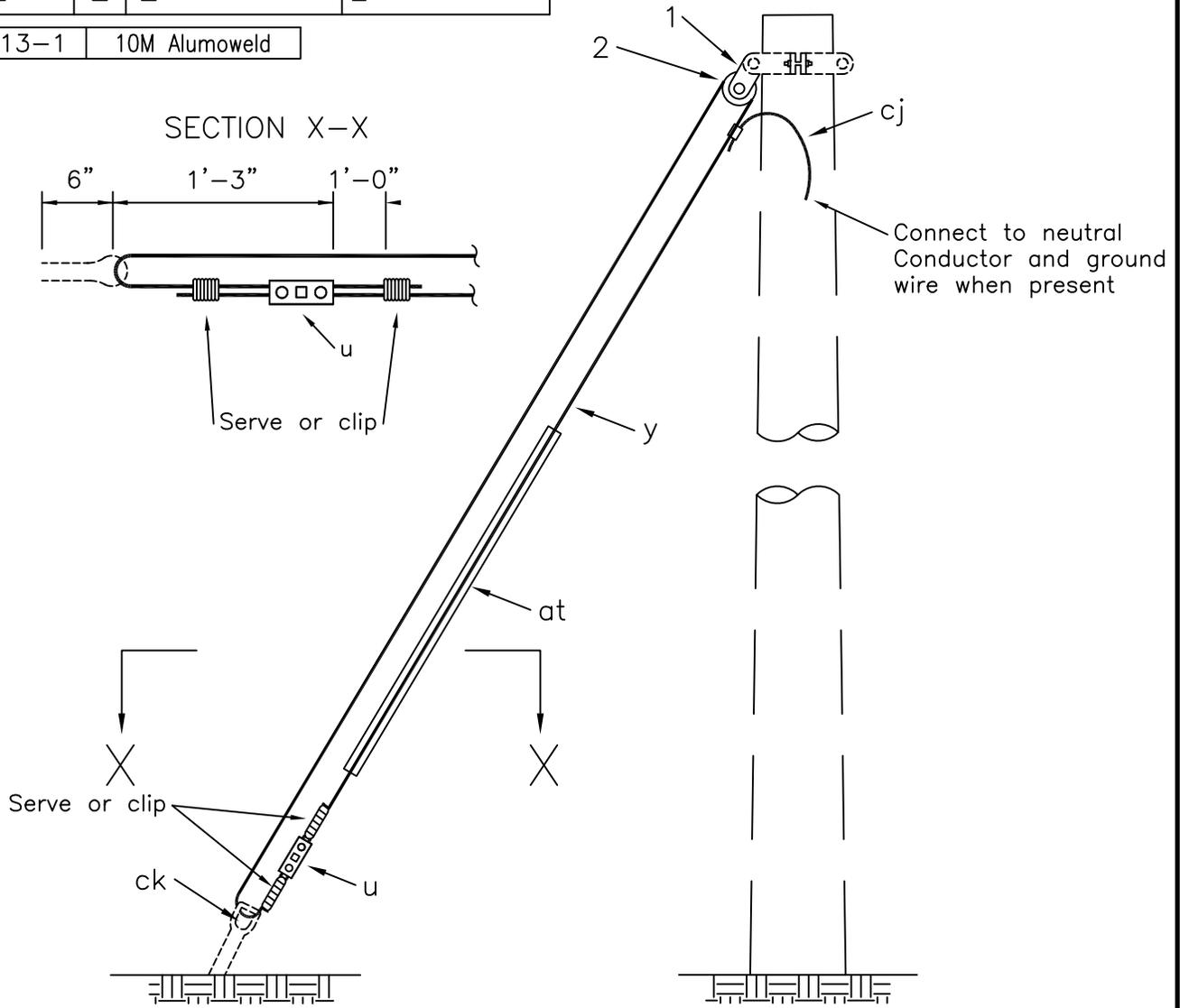
APPROVED BY
MFJ

GUYING ASSEMBLIES
12.47/7.2 kV

E9-4M

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E13-1 10M Alumoweld



NOT FOR NEW CONSTRUCTION

NOTE:

1. For use with existing pole band.
2. If two guy clamps are used space 6" apart
3. See drawing E3-10 for guy marker.

UNIT	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, as req'd.	-
u	1	3 Bolt clamp (heavy duty)	11770010
y	40	Guy wire, 10M AW strand x length as req'd.	73801007
cj	*	Jumper, #4 stranded AL alloy or equiv. as req'd.	-
ck	1	Clamp, guy bond	11711110
2	1	Link, connecting (pair), complete	47000200
3	1	Roller, guy (single), complete	-
at	1	Guy marker	29300855

SINGLE LOOP GUY FOR EXISTING POLE BAND

DEC. 1985



REVISED
NOV 2022

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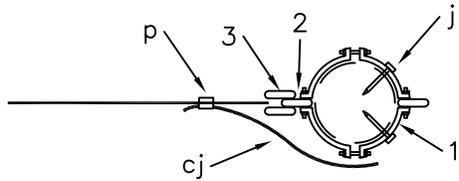
GUYING ASSEMBLIES
12.47/7.2 kV

E13-1

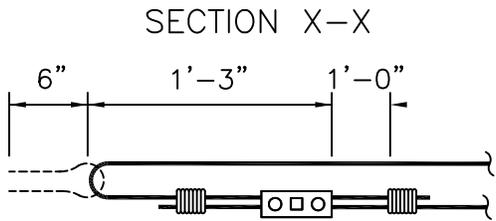
*Quantity as Required

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

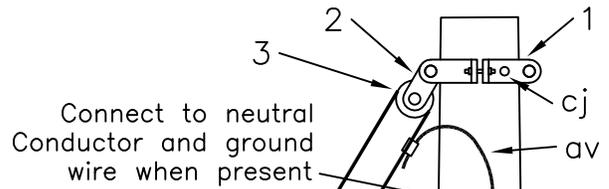
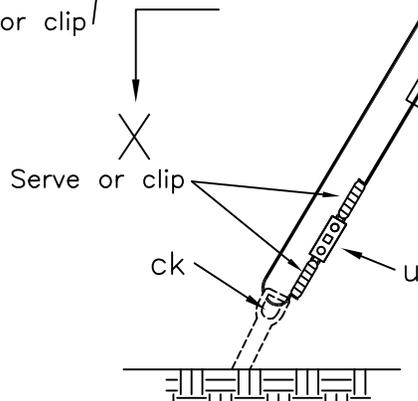
E13-2 10M Alumowled



PLAN



SECTION X-X



NOT FOR NEW CONSTRUCTION

NOTE:

1. If two guy clamps are used space 6" apart
2. See drawing E3-10 for guy marker.

UNIT	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, as req'd.	-
j	2	Screw, lag, 1/2" x 4" min	-
u	1	3-Bolt clamp (heavy duty)	11770010
y	40	Guy wire, 10M AW x length as req'd.	73801007
cj	*	Jumper, #6 stranded as or equiv. as req'd.	-
ck	1	Clamp, anchor rod bond	11711110
1	1	Band, pole (set), complete	47000000
2	1	Link, connecting (pair), complete	-
3	1	Roller, guy (single), complete	-
at	1	Guy marker	29300855

SINGLE LOOP GUY WITH POLE BAND

*Quantity as Required

DEC. 1985



REVISED NOV 2022

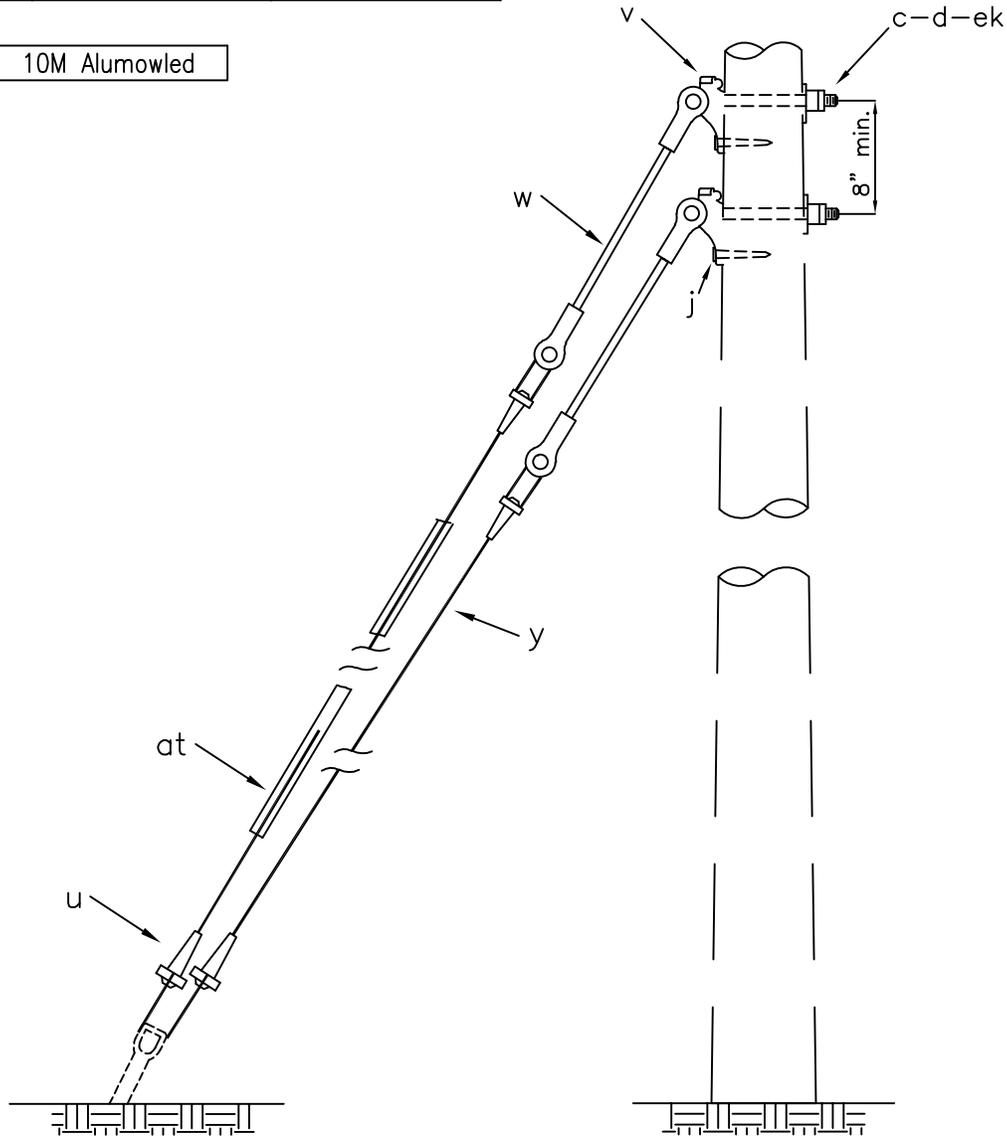
APPROVED BY MFJ

GUYING ASSEMBLIES
12.47/7.2 kV

E13-2

UNIT	QTY	ASSET #	INVENTORY NO.
-	-	-	-

E13-3 10M Alumowled



NOTE:

1. Lag screw should be used when any guy attachment has provision for it.
2. See drawing E3-10 for guy marker.
3. Intended for use with F1-4S or F1-4P

UNIT	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, curved, 4"	-
j	2	Screw, lag, 1/2" x 4"	-
u	4	Deadend, guy, 10M AW, Automatic type	11770010
v	2	Guy attachment, Plate, 10M AW rated	02150500
w	2	78" Strain guy, fiberglass, C-TE, 10,000lb	34276730
y	130	Guy wire, 10M AW x length as req'd.	73801007
at	1	Guy marker 8'	29300855
ek	*	Double coil spring washers, as req'd	-

DOUBLE GUY
20,000 lb.

JAN. 2020

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FEB 2022

GUYING ASSEMBLIES
12.47/7.2 kV

E13-3

*Quantity as Required



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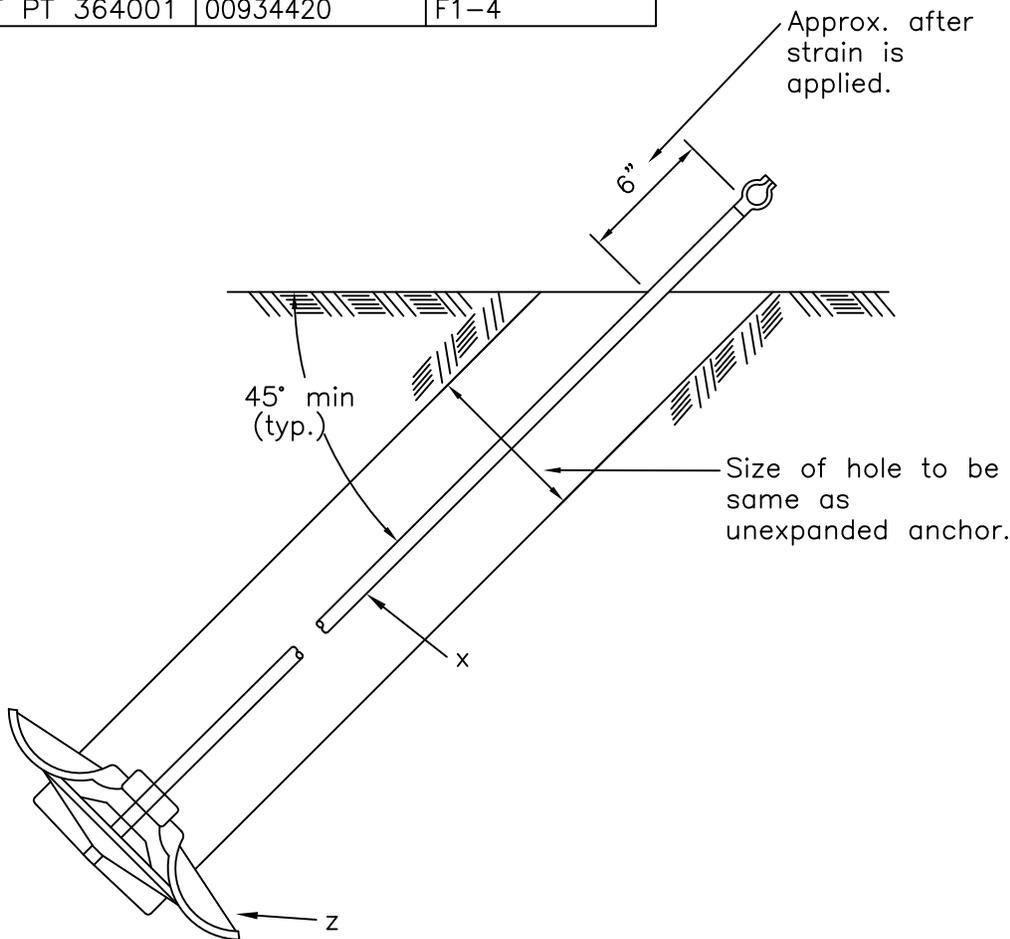


ANCHOR ASSEMBLIES

ANCHOR ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
12.01	F1-3 F1-4	Expanding Anchor Assemblies
12.02	F1-3S F1-4S	Screw Anchor Assemblies
12.03	F1-3P F1-4P	Plate Anchor Assemblies
12.04	F5-1 Rock F5-3 Rock	Rock Anchor Assemblies
12.05	F15 F20 F25 F30 F35 F40	Crushed Rock Backfill (CDOT Class 5 Requirements)
12.06	F15X F20X F25X F30X F35X F40X	Crushed Rock Backfill (CDOT Class 6 Requirements)
12.07	FCB	Chemical Pole Setting Backfill (Foam)

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
x	1	DT PT 364001	53624308	F1-3
x	1	DT PT 364001	53628518	F1-4
z	1	DT PT 364001	00934410	F1-3
z	1	DT PT 364001	00934420	F1-4



NOTE:

1. Projection of anchor rods above earth may be increased to a maximum of 12" in cultivated fields or other locations where necessary to prevent burying of the rod eye.
2. 8-way, galvanized or asphalt painted anchors are acceptable.

ASSEMBLY UNIT:	F1-3	F1-4
*RATING (POUNDS):	10,000	20,000

ITEM	MATERIAL	QTY.	QTY.	INVENTORY NO.
x	Rod, anchor, twin eye 3/4" x 8'-0"	1	-	53624308
x	Rod, anchor, triple eye 1" x 8'-0"	-	1	53628518
z	Anchor, expanding, 8"	1	-	00934410
z	Anchor, expanding, 12"	-	1	00934420

EXPANDING ANCHOR ASSEMBLIES

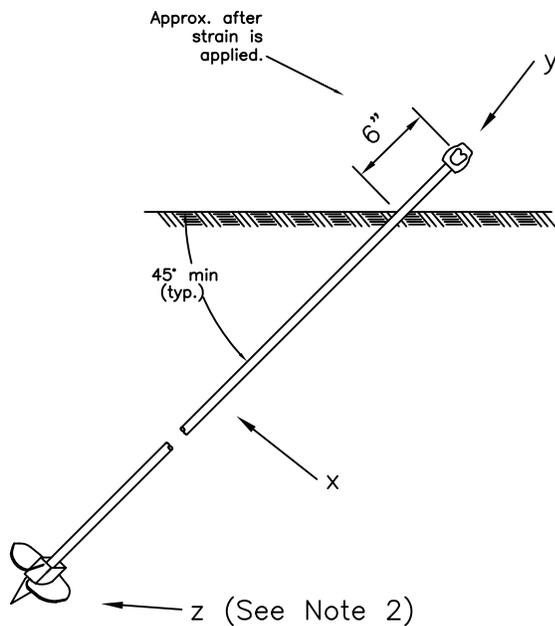
*Rating is designated holding power in ordinary class 5 soil.

APR. 1983	REVISED NOV 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ

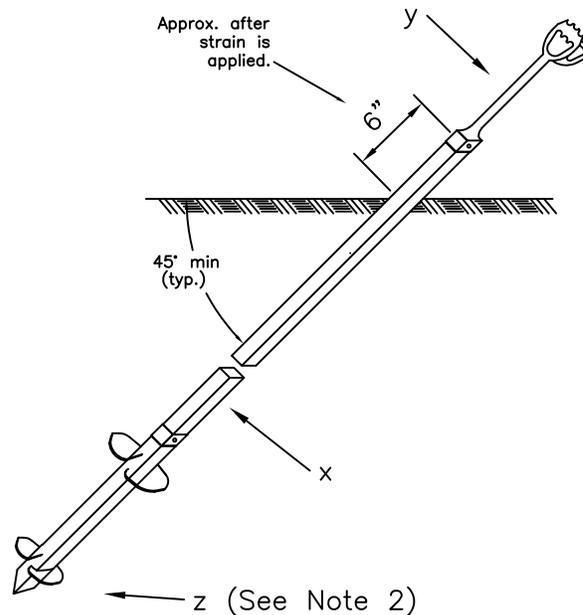
ANCHOR ASSEMBLIES
12.47/7.2 kV

F1-3
F1-4

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
x	1	DT PT 364001	53637570	F1-3S
x	1	DT PT 364001	53637585	F1-4S
z	1	DT PT 364001	00951010	F1-3S
z	1	DT PT 364001	00951020	F1-4S



F1-3S



F1-4S

NOTE:

1. Projection of anchor rods above earth may be increased to a maximum of 12" in cultivated fields or other locations where necessary to prevent burying of the rod eye.
2. For F1-3S use single 10" helix. For F1-4S, use double 10'&12 helices anchor
3. Single rod shown. Quantity as required, for F1-4S.
4. Shear pin or approved equal torque tool required for F1-4S anchor installations.
5. Required torque to achieve indicated rating shall be as recommended by mfg.
6. Both units included anchor rod adapters, end fittings and extensions as required.

ASSEMBLY UNIT:	F1-3S	F1-4S
RATING (POUNDS):	10,000	20,000

ITEM	MATERIAL	QTY.	QTY.	INVENTORY NO.
x	Rod, anchor, 1" x 7'-0"	1	-	53637570
x	Rod, square anchor, 1-1/2" SQ. x 5'-0"	-	1	53637585
y	Rod, Adapter, Twin Eye, 1"	1	-	53637580
y	Rod, Adapter, Triple Eye with Pulling Eye	-	1	53637590
z	Anchor, 1-10" helix	1	-	00951010
z	Anchor, double helix, 10"&12"	-	1	00951020

SCREW ANCHOR ASSEMBLIES

Rating is designated holding power in ordinary class 6 soil

APR. 1983



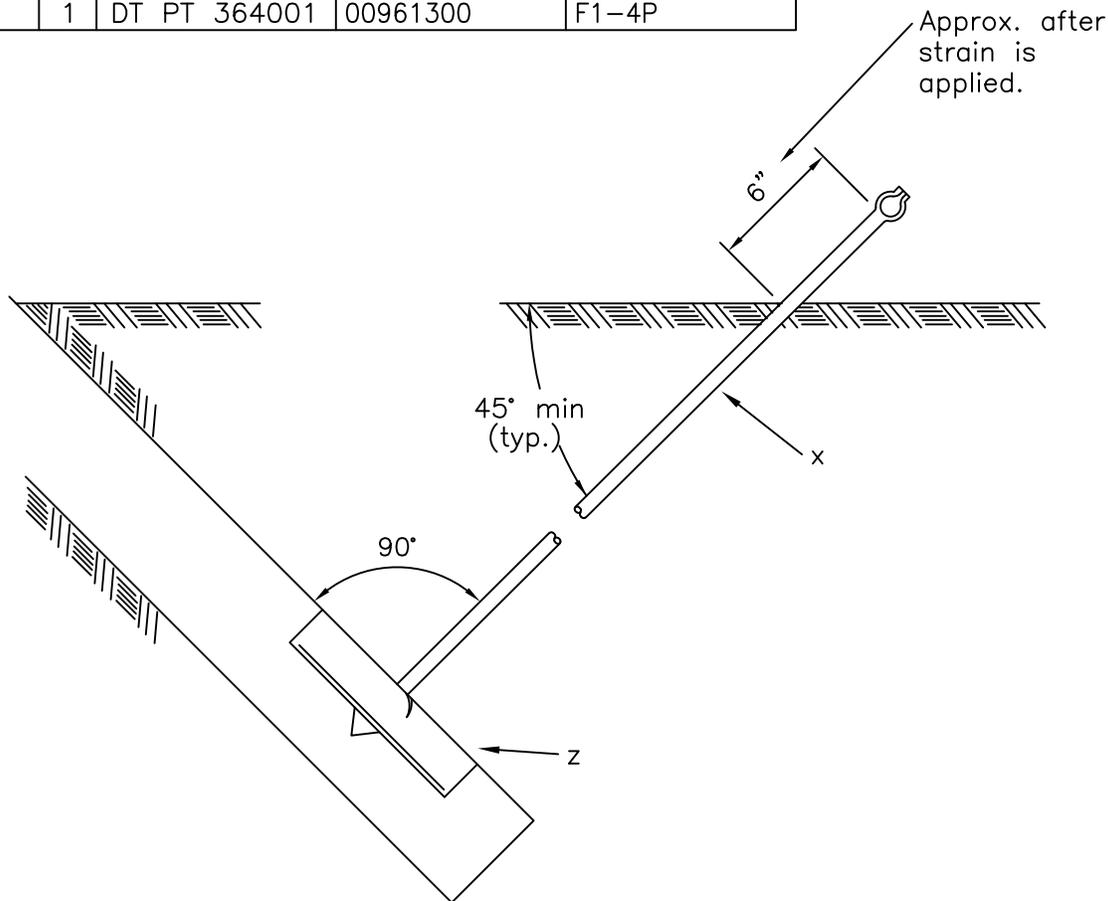
REVISED NOV 2022

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ANCHOR ASSEMBLIES
12.47/7.2 kV

F1-3S
F1-4S

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
x	1	DT PT 364001	53624308	F1-3P
x	1	DT PT 364001	53628518	F1-4P
z	1	DT PT 364001	00961302	F1-3P
z	1	DT PT 364001	00961300	F1-4P



NOTE:

1. Projection of anchor rods above earth may be increased to a maximum of 12" in cultivated fields or other locations where necessary to prevent burying of the rod eye.
2. Galvanized or asphalt painted anchors are acceptable.

ASSEMBLY UNIT:	F1-3P	F1-4P
RATING (POUNDS):	10,000	20,000

ITEM	MATERIAL	QTY.	QTY.	INVENTORY NO.
x	Rod, anchor, twin eye 3/4" x 8'-0"	1	-	53624308
x	Rod, anchor, triple eye 1" x 8'-0"	-	1	53628518
z	Anchor, Plate, 16"	1	-	00961302
z	Anchor, Plate, 24"	-	1	00961300

PLATE ANCHOR ASSEMBLIES

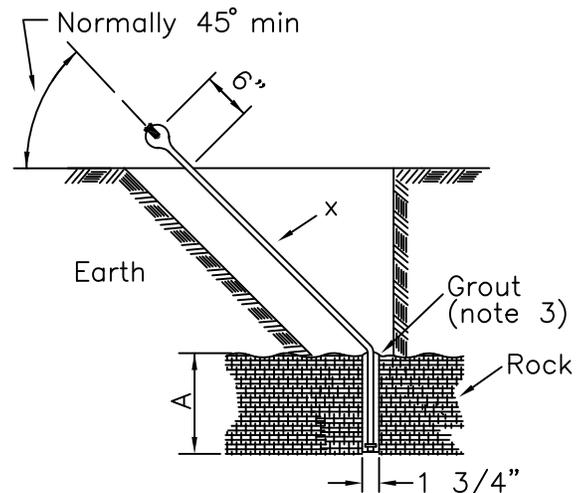
Rating is designated holding power in ordinary class 5 soil

APR. 1983	REVISED NOV 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ

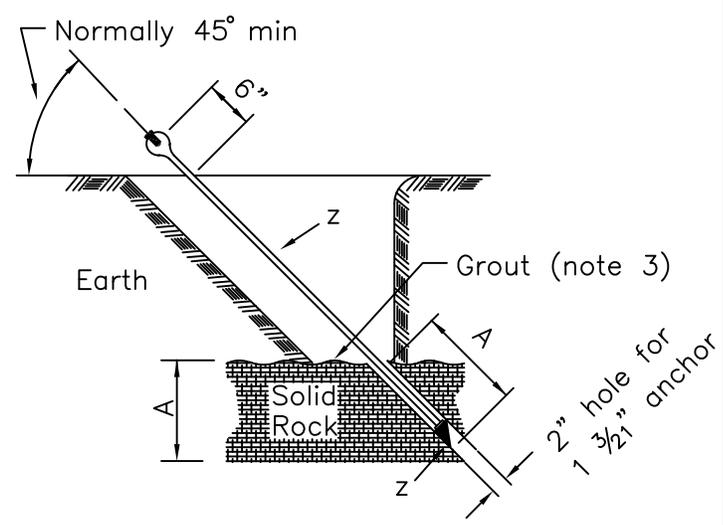
ANCHOR ASSEMBLIES
12.47/7.2 kV

F1-3P,
F1-4P

ITEM	QTY	ASSET #	INVENTORY NO.	UNIT #
x	1	DT PT 364001	53624308	F5-1 Rock
z	1	DT PT 364001	00961220	F5-3 Rock



A = 18" min. for solid rock,
30" min. for stratified rock
F5-1



F5-3

NOTES:

1. F5-3 ROCK anchor is CORE's standard anchor to be used.
2. Unless pull tested to 50% of required rating, only one guy shall be attached to a rock anchor. Otherwise where more than one guy is required, space anchors 2 feet minimum apart and, where practical, install in direct line with pole.
3. Do not anchor to any boulder measuring less than 2.5 cubic yards.
4. Grout into place using anker-tite grout manufactured by concrete products inc., wooland, ca, or approved equal.
5. A = 18" min. for solid rock, 30" min. for stratified rock

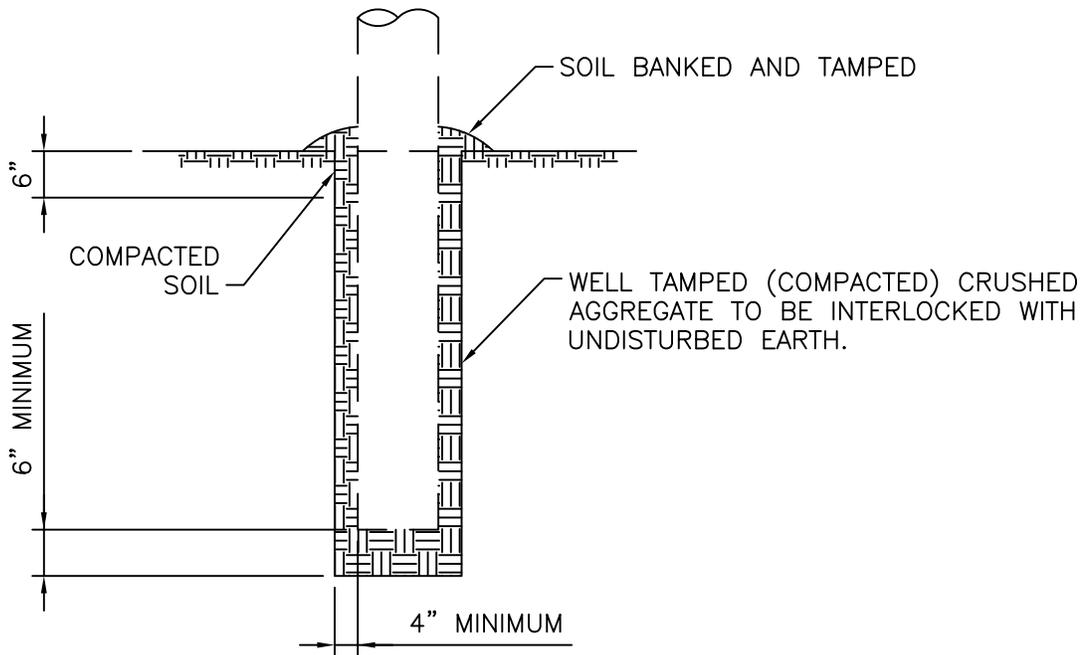
		ASSEMBLY UNIT:		
ITEM	MATERIAL	F5-1	F5-3	INVENTORY NO.
x	Rod, anchor, twin eye 3/4" x required length	1	-	53624308
z	Anchor, expanding rock type, 1 3/4" dia., Triple Eye	-	1	00961220
-	Grout (Anker-TiTe, o.e.)	*	*	-

ROCK ANCHOR ASSEMBLIES

*Quantity as Required	APR. 1983	REVISED NOV 2022	ANCHOR ASSEMBLIES 12.47/7.2 kV	F5-1 Rock, F5-3 Rock
		APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

NOT FOR NEW CONSTRUCTION



ELEVATION

NOTES:

1. The specification for aggregate given below is minimum. In areas where smaller fines can be procured at reasonable cost it is recommended that engineer so specify.
2. The aggregate shall be well mixed in stock pile so that materials distributed to individual poles shall essentially conform to specifications.
3. Crushed rock backfill unit for poles – units F15, F20, F25, F30, F35, F40: The unit denotes pole setting in special rock backfill, hole shall be augured to a depth 6" greater than specified setting depth. Diameter of auger shall be as designated by unit specified: F15 denotes 1.5' diameter, F20=2', F25=2.5', F30=3', F35=3.5', F40=4.0'. The 6" excess depth shall be backfilled with well compacted crushed rock. After the pole is placed in the hole is shall be backfilled with crushed rock placed in successive 6" layers with each layer thoroughly compacted. All materials and labor shall be furnished by the bidder.

SIZE OF GRAVEL OR CRUSHED STONE	SIZE OF MESH IN INCHES
100% by weight to pass 1" screen	1.00
60% to 90% by weight to pass 1/2" screen	0.500
40% to 60% by weight to pass No. 4 screen	0.187
25% to 50% by weight to pass No. 8 screen	0.0937
20% to 40% by weight to pass No. 16 screen	0.0469
15% to 30% by weight to pass No. 40 screen	0.0165

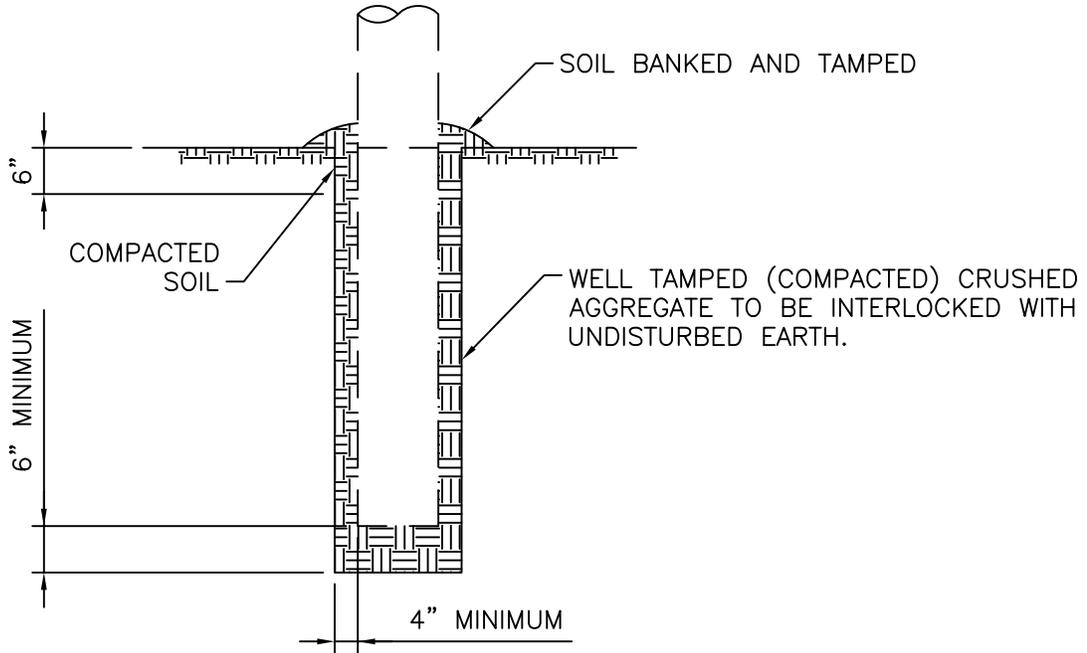
The F15 thru F40 special backfill shall be specified by engineer where replacement of earth removed from hole will not provide adequate pole stability.

CRUSHED ROCK BACKFILL

DEC. 1985	REVISED NOV 2022	ANCHOR ASSEMBLIES 12.47/7.2 kV	F15 THRU F40
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

X-Designation is for CDOT



ELEVATION

NOTES:

1. The specification for aggregate given below is minimum.
2. The aggregate shall be well mixed in stock pile so that materials distributed to individual poles shall essentially conform to specifications.
3. Crushed rock backfill unit for poles – units F15X, F20X, F25X, F30X, F35X, F40X: The unit denotes pole setting in special rock backfill, hole shall be augured to a depth 6” greater than specified setting depth. Diameter of auger shall be as designated by unit specified: F15X denotes 1.5’ diameter, F20X=2’, F25X=2.5’, F30X=3’, F35X=3.5’, F40X=4.0’. The 6” excess depth shall be backfilled with well compacted crushed rock. After the pole is placed in the hole is shall be backfilled with crushed rock placed in successive 6” layers with each layer thoroughly compacted. All materials and labor shall be furnished by the bidder.
4. The specification for aggregate given below is minimum. The crushed aggregate shall meet CDOT class V base course gradation requirements. River rock, natural gravel, or other non-angular material is not acceptable. A sample shall be submitted for review prior to construction.

CLASSIFICATION FOR AGGREGATE BACKFILL

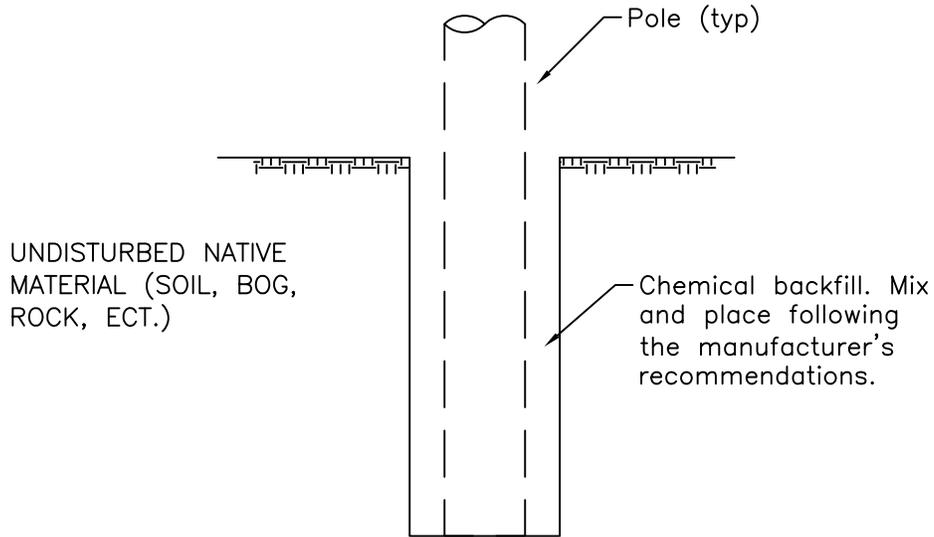
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES	
	LIQUID LIMIT NOT GREATER THAN 30	
	CLASS 5	CLASS 6
37.5mm (2”)	100	-
25mm (1”)	95-100	100
19mm (3/4”)	-	95
4.75mm (#4)	30-70	30-65
2.36mm (#8)	-	25-55
75um (#200)	3-15	3-12

The F15X thru F40X special backfill shall be specified by engineer where replacement of earth removed from hole will not provide adequate pole stability.

CRUSHED ROCK BACKFILL
(CDOT CLASS 5 AND 6 REQUIREMENTS)

DEC. 1985	REVISED NOV 2022	ANCHOR ASSEMBLIES 12.47/7.2 kV	F15X THRU F40X
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Specify unit when backfilling with native material is impractical or would contribute to structure instability due to weak soil bearing characteristics relative to anticipated pole moments, such as an unguyed pole used for a slack span take off.

MATERIAL	Quantity as Required
Poly-Ground, o.e.	

		CHEMICAL POLE SETTING BACKFILL (FOAM)	
		MAR. 2016	REVISED NOV 2022
			APPROVED BY SWB
		ANCHOR ASSEMBLIES 12.47/7.2 kV	FCB

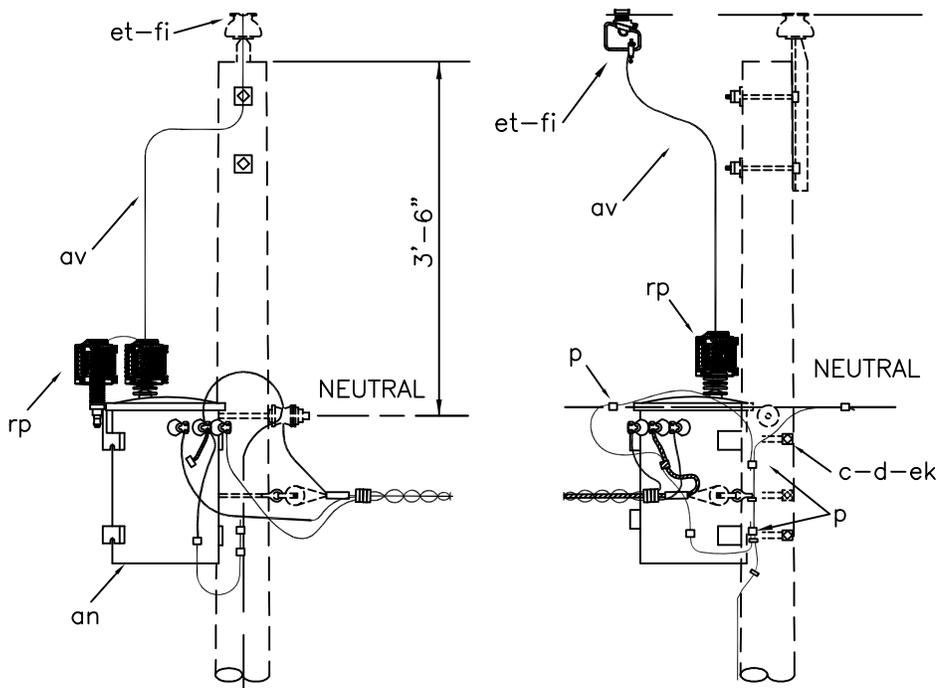
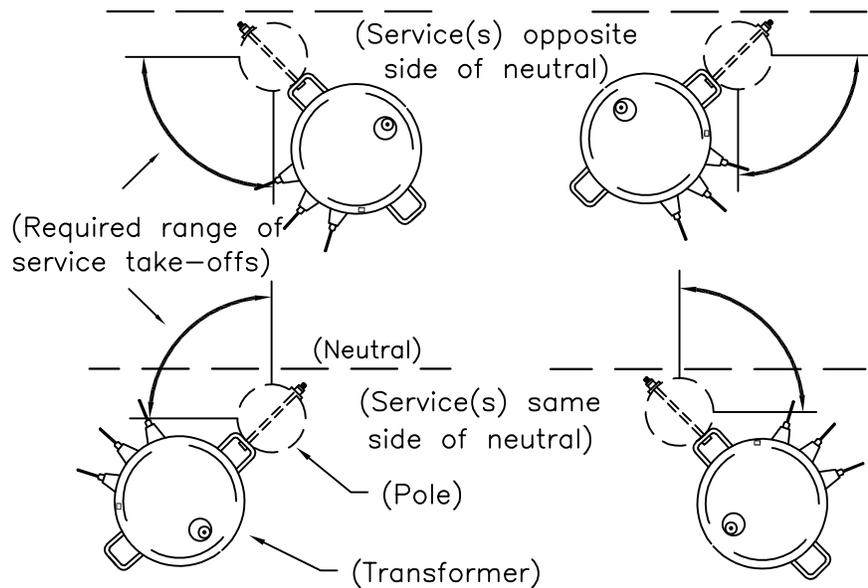


TRANSFORMER ASSEMBLIES

TRANSFORMER ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
13.01	G105-	CSP Transformer Single-Phase 120/240V Tangent Pole
13.02	G106-	CSP Transformer Single-Phase 120/240V Deadend Pole
13.03	G136-	CSP Transformer Single-Phase 120/240V Three Phase Circuit
13.04	G210-	Two-Phase Transformer Bank Open-Wye Primary Open-Delta Secondary 4-Wire 120/240V
13.05	G310-	Three-Phase Transformer Bank Ungrounded-Wye Primary, Center-Tap Grounded Delta Secondary 4-Wire 120/240V (208V Wild Leg)
13.06	G311-	Three-Phase Transformer Bank Ungrounded-Wye Primary, Corner Grounded Delta Secondary 3-Wire 240/480V
13.07	G312-	Three-Phase Transformer Bank Grounded-Wye Primary, Grounded-Wye Secondary 4-Wire 120/208V
13.08	G313-	Three-Phase Transformer Bank Grounded-Wye Primary, Grounded-Wye Secondary 4-Wire 277/480V

UNIT	QTY	ASSET #	INVENTORY NO.	UNIT	QTY	ASSET #	INVENTORY NO.
G105-10	1	DT OV 368036	36810010	G105-37.5	1	DT OV 368042	36810013
G105-15	1	DT OV 368038	36810011	G105-50	1	DT OV 368045	36810014
G105-25	1	DT OV 368040	36810012	G105-75	1	DT OV 368047	36810015



**75kVA (ONLY) NOT FOR
NEW CONSTRUCTION**

**Designate transformer kVA size:
 DT OV 10kVA CSP 36810005-368036
 DT OV 15kVA CSP 36810010-368036
 DT OV 25kVA CSP 36810011-368038
 DT OV 37.5kVA CSP 36810012-368040
 DT OV 50kVA CSP 36810013-368042
 DT OV 75kVA CSP 36810014-368045
 CSP 36810015-368047

*Quantity as Required

**CSP TRANSFORMER
SINGLE-PHASE 120/240V TANGENT POLE
SHEET 1 OF 2**

APRIL 1983



REVISED
NOV 2022

APPROVED BY
MFJ

TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G105-

13.01.1

NOTES:

1. Install transformer on quadrant on opposite side of pole from primary neutral when possible. Bottom of transformer lid should be at same height as primary neutral.
2. When necessary to install transformer on same side as primary neutral, top of lid should be 3" below neutral.
3. Normal position of service takeoff is midway between transformer hanging brackets. When service drop is in same quadrant as transformer, lower service attachment 4" below transformer.
4. Do not disconnect transformer neutral without first disconnecting primary.
5. Stirrup, shear bolt wedge type (M9-2) is preferred method of connecting to primary conductor.
6. All jumpers and live parts shall be covered to protect wildlife.
7. All grounds shall be looped. Use compression connectors.
8. Where more than three services exist, bring Hendrix cable down from the spade and connect additional service with parallel groove clamp with plastic cover.
9. Cover secondary conductor ends with moisture seal (Minimum bending radius is six times the overall cable diameter.)
10. Eye bolt terminals shall be torqued in accordance with the following:
 - Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
 - Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	2	Washer, square, 2 $\frac{1}{4}$ "	-
p	*	Connectors, compression type, as req'd	-
al	*	Staples, ground wire	-
an	1	Transformer, 12.47 kV, self protected	**
av	*	Jumpers, covered, Hendrix as req'd	-
cj	*	Ground wire, #6cu, o.e.	-
et	1	Stirrup, Shear Bolt Wedge Type	540000XX
fi	1	Clamp, Hot Line, Mini, Bronze	11413900
rp	2	Wildlife Bushing Guard, Small	25001006

75kVA (ONLY) NOT FOR NEW CONSTRUCTION

**Designate transformer kVA size:

DT OV 10kVA CSP 36810005-368036
 DT OV 15kVA CSP 36810010-368036
 DT OV 25kVA CSP 36810011-368038
 DT OV 37.5kVA CSP 36810012-368040
 DT OV 50kVA CSP 36810013-368042
 DT OV 75kVA CSP 36810014-368045
 CSP 36810015-368047

CSP TRANSFORMER SINGLE-PHASE 120/240V TANGENT POLE SHEET 2 OF 2

*Quantity as Required

APRIL 1983



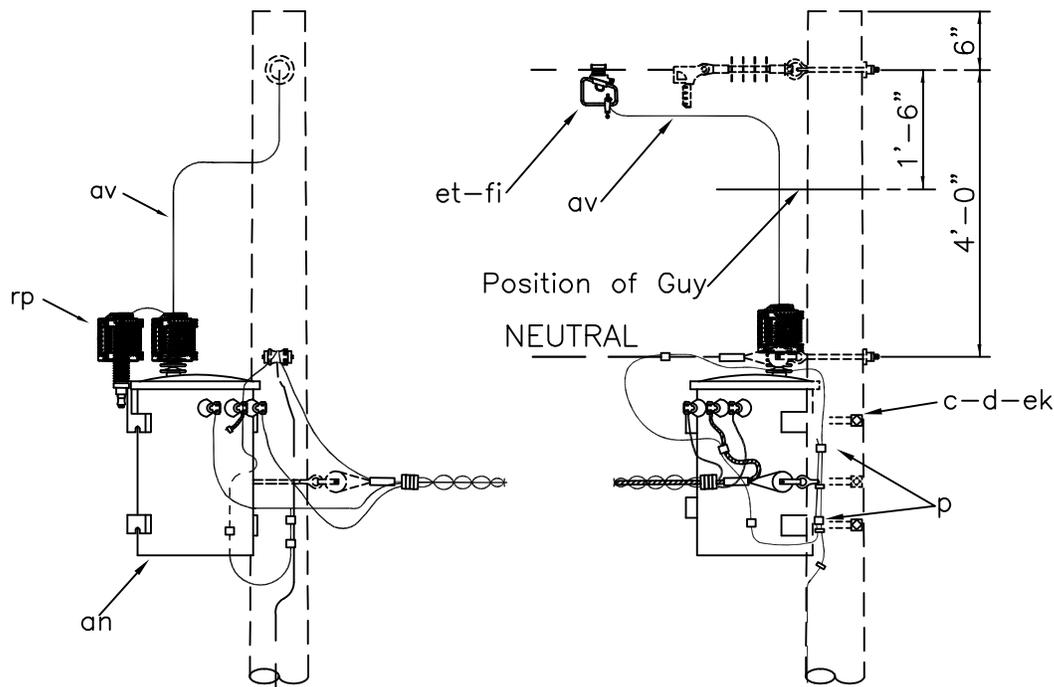
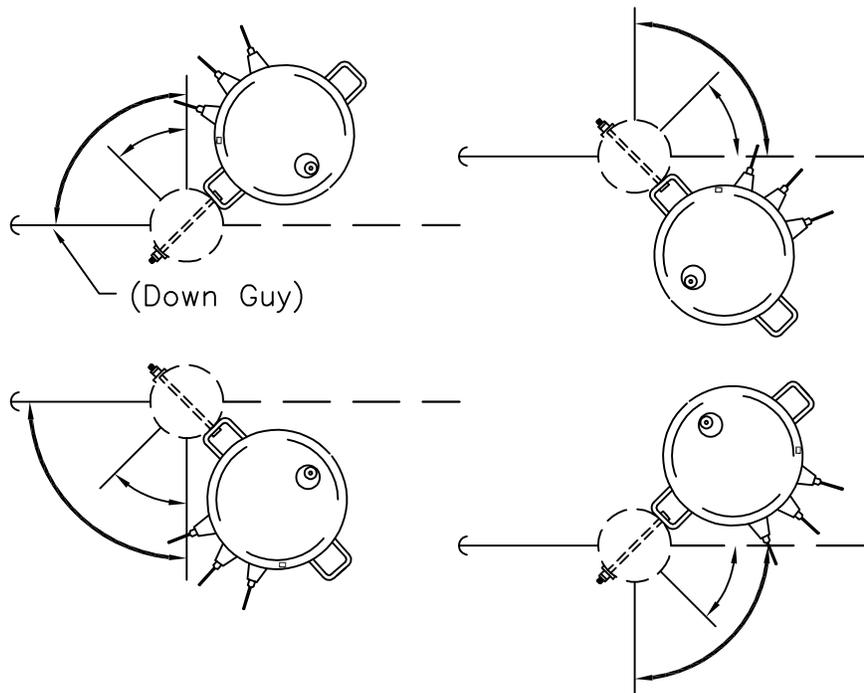
REVISED
NOV 2022

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MFJ

TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G105-

UNIT	QTY	ASSET #	INVENTORY NO.	UNIT	QTY	ASSET #	INVENTORY NO.
G106-10	1	DT OV 368036	36810010	G106-37.5	1	DT OV 368042	36810013
G106-15	1	DT OV 368038	36810011	G106-50	1	DT OV 368045	36810014
G106-25	1	DT OV 368040	36810012	G106-75	1	DT OV 368047	36810015



75kVA (ONLY) NOT FOR NEW CONSTRUCTION

**Designate transformer kVA size:
 DT OV 10kVA CSP 36810005-368036
 DT OV 15kVA CSP 36810010-368036
 DT OV 25kVA CSP 36810011-368038
 DT OV 37.5kVA CSP 36810012-368040
 DT OV 50kVA CSP 36810013-368042
 DT OV 75kVA CSP 36810014-368045
 CSP 36810015-368047

*Quantity as Required

CSP TRANSFORMER
 SINGLE-PHASE 120/240V DEADEND POLE
 SHEET 1 OF 2

APRIL 1983

REVISED
 NOV 2022

TRANSFORMER ASSEMBLIES
 12.47/7.2 kV

G106-



APPROVED BY
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NOTES:

1. Normal position of service takeoff is midway between transformer hanging brackets. When service drop is in same quadrant as transformer, lower service attachment 4" below transformer.
2. Do not disconnect transformer neutral without first disconnecting primary.
3. Stirrup, shear bolt wedge type (M9-2) is preferred method of connecting to primary conductor.
4. All jumpers and live parts shall be covered to protect wildlife.
5. All grounds shall be looped. Use compression connectors.
6. Where more than three services exist, bring Hendrix cable down from the spade and connect additional service with parallel groove clamp with plastic cover.
7. Cover secondary conductor ends with moisture seal (Minimum bending radius is six times the overall cable diameter.)
8. Eye bolt terminals shall be torqued in accordance with the following:
 - Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
 - Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	2	Washer, square, 2 $\frac{1}{4}$ "	-
p	*	Connectors, compression type, as req'd	-
al	*	Staples, ground wire	-
an	1	Transformer, 12.47 kV, self protected	**
av	*	Jumpers, covered, Hendrix as req'd	-
cj	*	Ground wire, #6cu, o.e.	-
et	1	Stirrup, Shear Bolt Wedge Type	540000XX
fi	1	Clamp, Hot Line, Mini, Bronze	11413900
rp	2	Wildlife Bushing Guard, Small	25001006

**75kVA (ONLY) NOT FOR
NEW CONSTRUCTION**

**Designate transformer kVA size:
 DT OV 10kVA CSP 36810005-368036
 DT OV 15kVA CSP 36810010-368036
 DT OV 25kVA CSP 36810011-368038
 DT OV 37.5kVA CSP 36810012-368040
 DT OV 50kVA CSP 36810013-368042
 DT OV 75kVA CSP 36810014-368045
 CSP 36810015-368047

**CSP TRANSFORMER
 SINGLE-PHASE 120/240V DEADEND POLE
 SHEET 2 OF 2**

*Quantity as Required

APRIL 1983



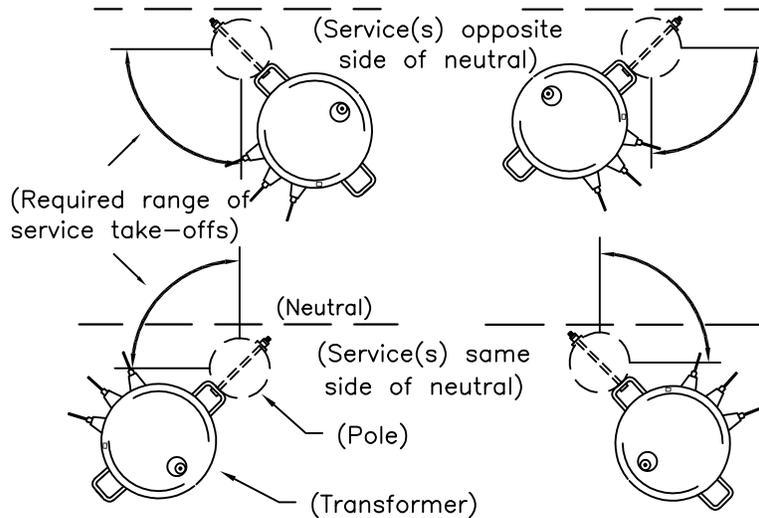
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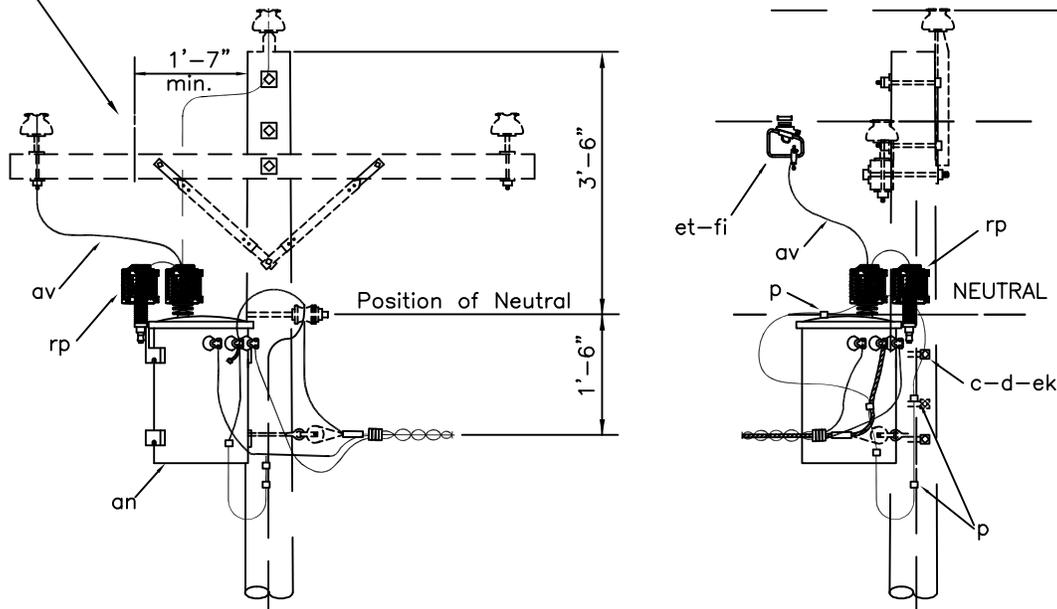
TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G106-

UNIT	QTY	ASSET #	INVENTORY NO.	UNIT	QTY	ASSET #	INVENTORY NO.
G136-10	1	DT OV 368036	36810010	G136-37.5	1	DT OV 368042	36810013
G136-15	1	DT OV 368038	36810011	G136-50	1	DT OV 368045	36810014
G136-25	1	DT OV 368040	36810012	G136-75	1	DT OV 368047	36810015



Position of separately specified jumper support when required



75kVA (ONLY) NOT FOR NEW CONSTRUCTION

**Designate transformer kVA size:	
DT OV 10kVA	CSP 36810005-368036
DT OV 15kVA	CSP 36810010-368036
DT OV 25kVA	CSP 36810011-368038
DT OV 37.5kVA	CSP 36810012-368040
DT OV 50kVA	CSP 36810013-368042
DT OV 75kVA	CSP 36810014-368045
	CSP 36810015-368047
*Quantity as Required	

**CSP TRANSFORMER
SINGLE-PHASE 120/240V
THREE-PHASE CIRCUIT SHEET 1 OF 2**

APRIL 1983

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TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G136-

13.03.1



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NOTES:

1. Install transformer on quadrant on opposite side of pole from primary neutral when possible. Bottom of transformer lid should be at same height as primary neutral.
2. When necessary to install transformer on same side as primary neutral, top of lid should be 3" below neutral.
3. Normal position of service takeoff is midway between transformer hanging brackets. When service drop is in same quadrant as transformer, lower service attachment 4" below transformer.
4. Do not disconnect transformer neutral without first disconnecting primary.
5. Stirrup, shear bolt wedge type (M9-2) is preferred method of connecting to primary conductor.
6. All jumpers and live parts shall be covered to protect wildlife.
7. All grounds shall be looped. Use compression connectors.
8. Where more than three services exist, bring Hendrix cable down from the spade and connect additional service with parallel groove clamp with plastic cover.
9. Cover secondary conductor ends with moisture seal (Minimum bending radius is six times the overall cable diameter.)
10. Eye bolt terminals shall be torqued in accordance with the following:
 - Eye bolt size $\frac{3}{8}$ " torque range 14-16 lbs.
 - Eye bolt size $\frac{1}{2}$ " torque range 32-35 lbs.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	2	Washer, square, 2 $\frac{1}{4}$ "	-
p	*	Connectors, compression type, as req'd	-
al	*	Staples, ground wire	-
an	1	Transformer, 12.47 kV, self protected	**
av	*	Jumpers, covered, Hendrix as req'd	-
cj	*	Ground wire, #6cu, o.e.	-
et	1	Stirrup, Shear Bolt Wedge Type	540000XX
fi	1	Clamp, Hot Line, Mini, Bronze	11413900
rp	2	Wildlife Bushing Guard, Small	25001006

**75kVA (ONLY) NOT FOR
NEW CONSTRUCTION**

**Designate transformer kVA size:
 DT OV 10kVA CSP 36810005-368036
 DT OV 15kVA CSP 36810010-368036
 DT OV 25kVA CSP 36810011-368038
 DT OV 37.5kVA CSP 36810012-368040
 DT OV 50kVA CSP 36810013-368042
 DT OV 75kVA CSP 36810014-368045
 CSP 36810015-368047

*Quantity as Required

**CSP TRANSFORMER
SINGLE-PHASE 120/240V
THREE-PHASE CIRCUIT SHEET 2 OF 2**

APRIL 1983



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TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G136-

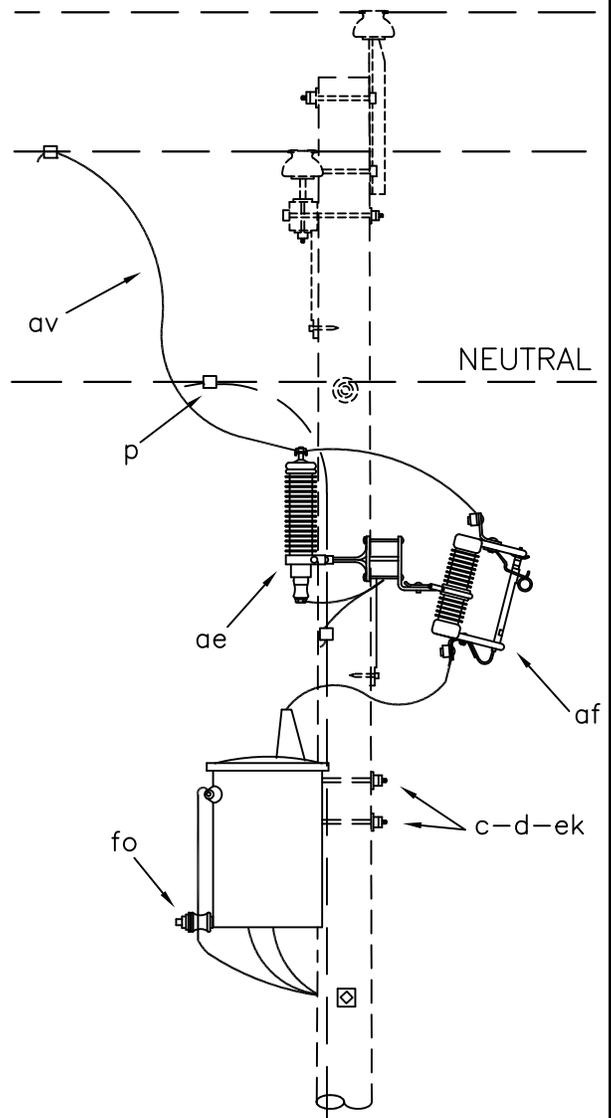
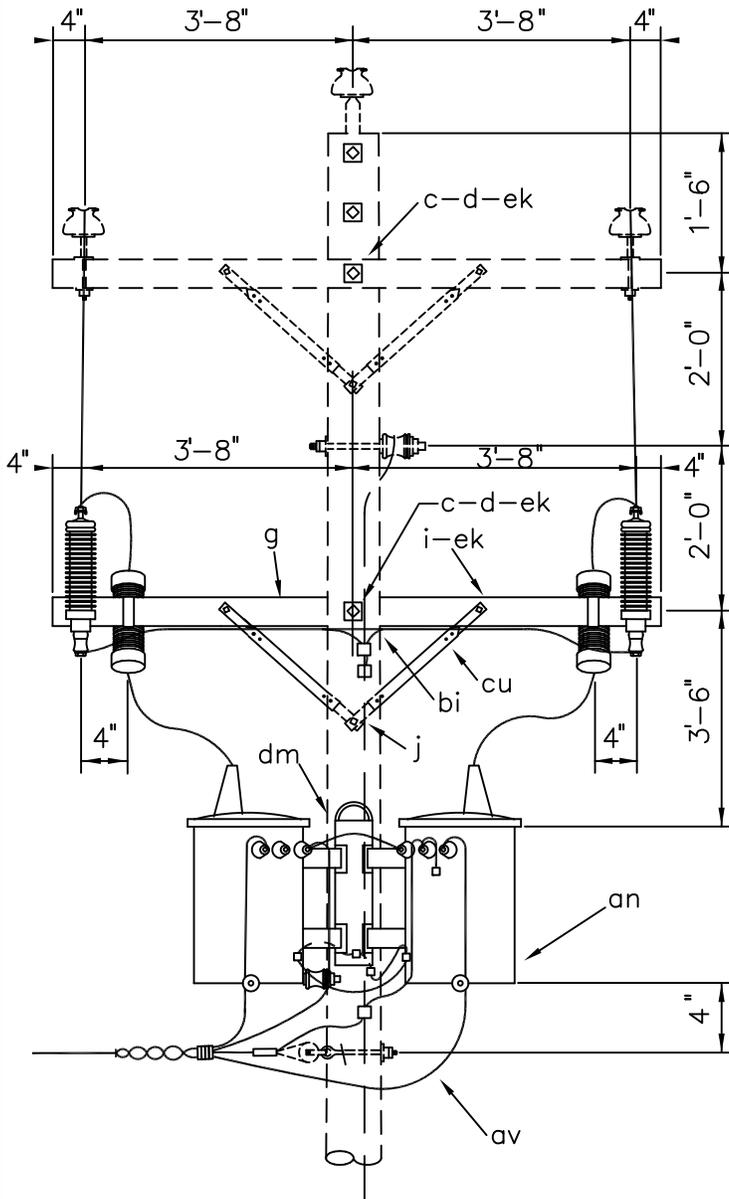
APPLICATION: Used to supply large single-phase, 120/240 volt loads with small amount of three phase loads. Also used when only two phases of primary are available or during emergencies when one unit of a four-wire, wye-delta bank is disabled.

One-bushing or two-bushing transformers may be used. Usually transformers of different KVA sizes are used.

BANK RATING: This bank has only 86.6% of the rating of the two units making up the three-phase bank and only 57.7% of the three-phase rating of a closed delta-delta bank of three transformers. Thus, it is relatively inefficient where three-phase loads predominate.

Eye bolt terminals shall be torqued in accordance with the following torque requirements.

- Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
- Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.



NOT FOR NEW CONSTRUCTION

**Designate transformer kVA size:

DT OV 10kVA	CSP 36810021-368036
DT OV 15kVA	CSP 36810022-368038
DT OV 25kVA	CSP 36810023-368040
DT OV 37.5kVA	CSP 36810024-368042
DT OV 50kVA	CSP 36810025-368045
DT OV 75kVA	CSP 36810026-368047
DT OV 100kVA	CSP 36810027-368049
DT OV 167kVA	CSP 36101128-368049
DT OV 250kVA	CSP 36810029-368049

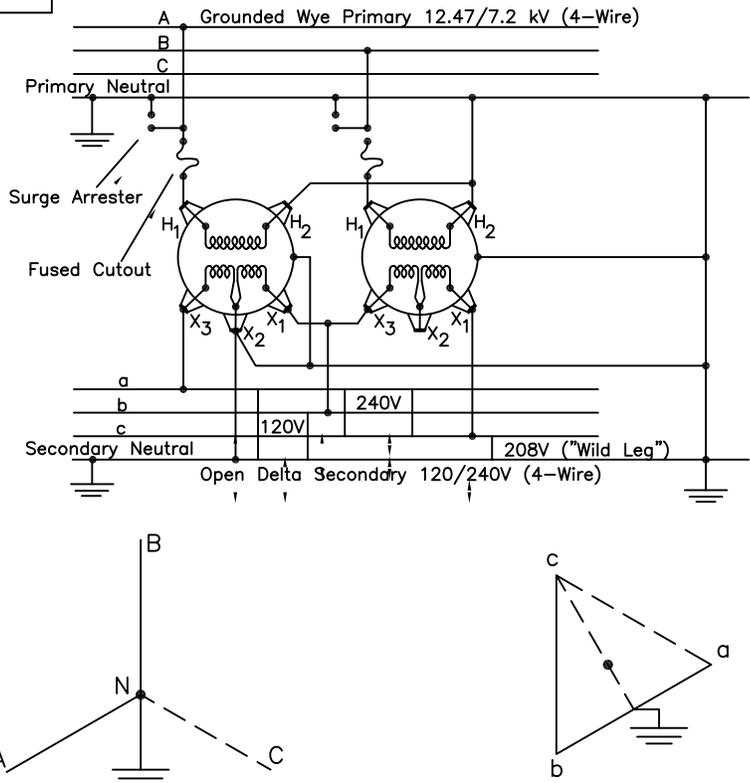
*Quantity as Required

TWO-PHASE TRANSFORMER BANK
OPEN-WYE PRIMARY OPEN-DELTA SECONDARY
4-WIRE 120/240V (208V WILD LEG)
SHEET 1 OF 2

APRIL 1983	REVISED NOV 2022	TRANSFORMER ASSEMBLIES 12.47/7.2 kV	G210-
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	G210-37.5	2	DT OV 368042	36810024
ae	2	DT OH 365001	01520991	G210-50	2	DT OV 368045	36810025
af	2	DT OH 365049	18312111	G210-75	2	DT OV 368047	36810026
dm	1	DT LT 368010	31002161	G210-100	2	DT OV 368049	36810027
G210-10	2	DT OV 368036	36810021	G210-167	2	DT OV 368049	36810028
G210-15	2	DT OV 368038	36810022	G210-250	2	DT OV 368049	36810029
G210-25	2	DT OV 368040	36810023				

**NOT FOR NEW
CONSTRUCTION**



ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	4	Washer, square, 2 $\frac{1}{4}$ "	-
g	1	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{1}{4}$ " x 8'-0"	18290311
i	2	Bolt, carriage, $\frac{3}{8}$ " x 4 $\frac{1}{2}$ "	063103TT
j	1	Screw, lag, $\frac{1}{2}$ " x 4"	-
p	*	Connectors, compression type, as req'd	-
ae	2	Arrestor, surge (9kV)	01520991
af	2	Cutout, dist. open (15kV)	18312111
al	*	Staples, ground wire	-
an	2	Transformer, 12.47 kV, conventional	**
ap	2	Clamp, hot line	-
av	*	Jumpers, bare, stranded, as req'd	-
av	*	Jumpers, covered, as req'd	-
bi	1	Gain plate	-
cu	2	Brace, 28"	07535128
dm	1	Bracket, transformer, cluster, bolted	31002161
ek	*	Double coil spring washer, as req'd	-
fo	2	Bracket, transformer, insulated	-

**Designate transformer kVA size:
 DT OV 10kVA CONV 36810021-368036
 DT OV 15kVA CONV 36810022-368038
 DT OV 25kVA CONV 36810023-368040
 DT OV 37.5kVA CONV 36810024-368042
 DT OV 50kVA CONV 36810025-368045
 DT OV 75kVA CONV 36810026-368047
 DT OV 100kVA CONV 36810027-368049
 DT OV 167kVA CONV 36101128-368049
 DT OV 250kVA CONV 36810029-368049
 *Quantity as Required

**TWO-PHASE TRANSFORMER BANK
 OPEN-WYE PRIMARY OPEN-DELTA SECONDARY
 4-WIRE 120/240V (208V WILD LEG)
 SHEET 2 OF 2**

APRIL 1983	REVISED NOV 2022	TRANSFORMER ASSEMBLIES 12.47/7.2 kV	G210-
	APPROVED BY JDP		

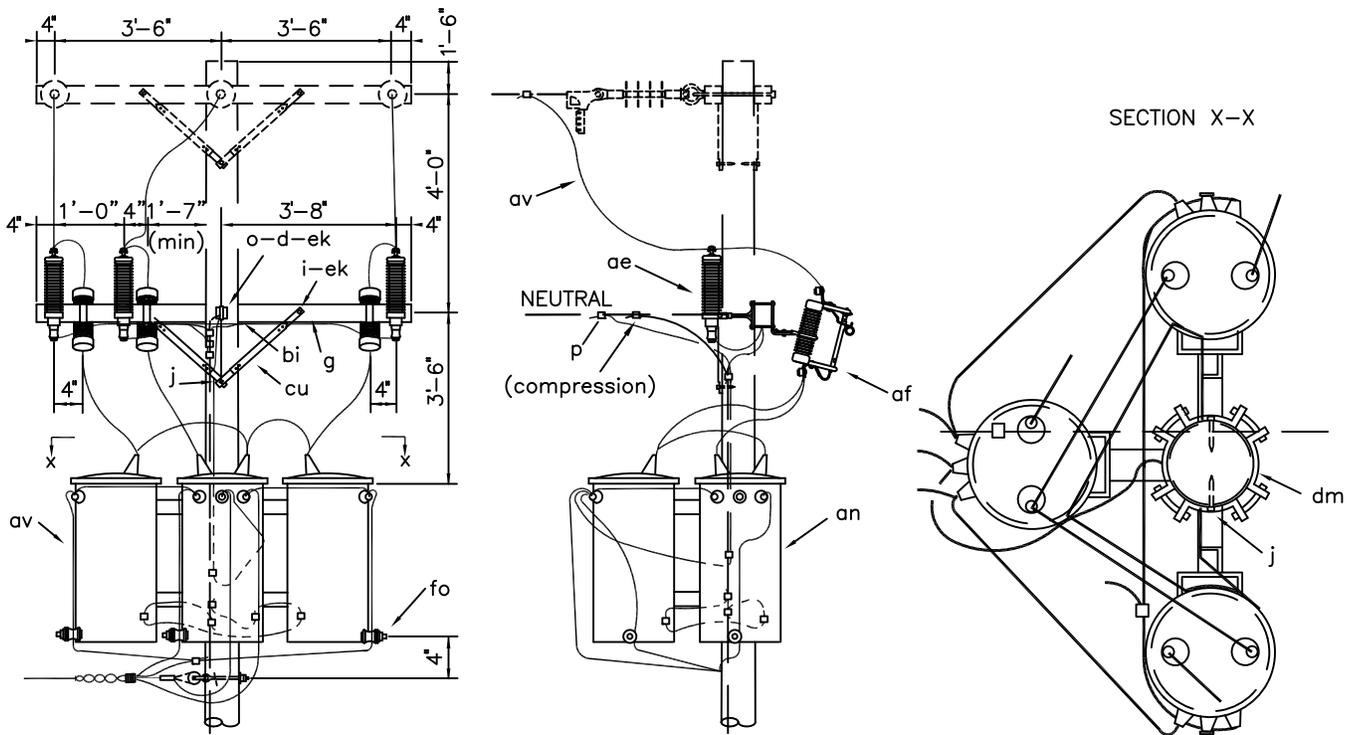
APPLICATION: Used to supply three-phase, 240 volt loads with small amounts of 120/240 volt single-phase loads. No excessive circulating currents with banked transformers of unequal impedance and ratio. No problem from 3rd harmonic over voltage or telephone interference.

CAUTION: Only ground one secondary neutral bushing of the three transformers. Connecting the high-voltage neutral to the system neutral may cause the transformer bank to burn out. Largest transformer capacity should not be more than 2 times the smallest transformer kVA. Three phase motor loads require independent three phase protection.

BANK RATING: The center tapped transformer carries 2/3 of the 120/240 volt single-phase load; each of the three units carry 1/3 of the 240 volt three-phase load.

Eye bolt terminals shall be torqued in accordance with the following:

- Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
- Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.



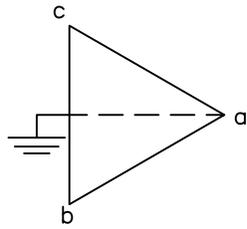
NOT FOR NEW CONSTRUCTION

Designate transformer kVA size:		
DT OV 10kVA	CONV	36810021-368036
DT OV 15kVA	CONV	36810022-368038
DT OV 25kVA	CONV	36810023-368040
DT OV 37.5kVA	CONV	36810024-368042
DT OV 50kVA	CONV	36810025-368045
DT OV 75kVA	CONV	36810026-368047
DT OV 100kVA	CONV	36810027-368049
DT OV 167kVA	CONV	36810028-368049
DT OV 250kVA	CONV	36810029-368049
*Quantity as Required		

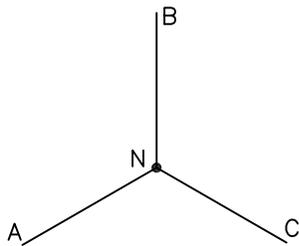
THREE-PHASE TRANSFORMER BANK
 UNGROUNDED-WYE PRI, CENTER-TAP GROUNDED DELTA SEC
 4 WIRE 120/240V (208V WILD LEG)
 SHEET 1 OF 2

APRIL 1983	REVISED NOV 2022	TRANSFORMER ASSEMBLIES	G310-
	APPROVED BY JDP	12.47/7.2 kV	

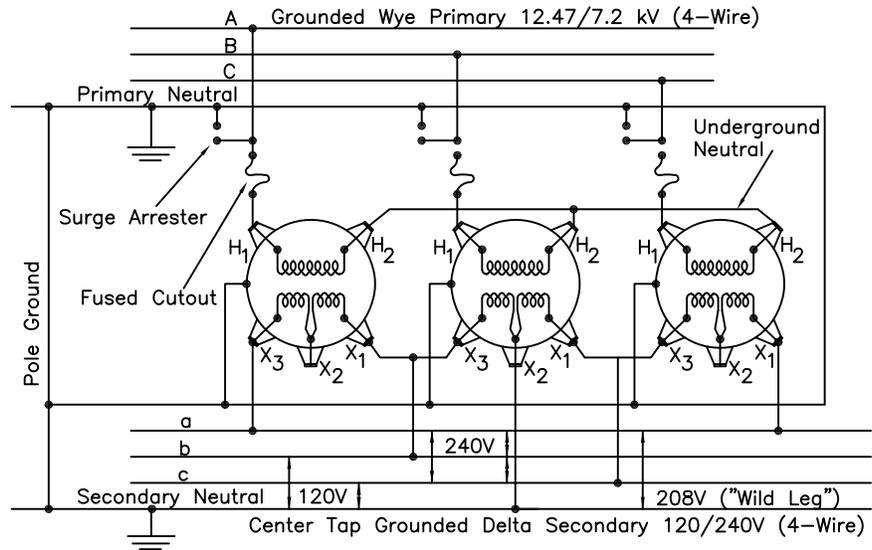
ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	G310-37.5	3	DT OV 368042	36810024
ae	3	DT OH 365001	01520991	G310-50	3	DT OV 368045	36810025
af	3	DT OH 365049	18312111	G310-75	3	DT OV 368047	36810026
dm	1	DT LT 368010	31001461	G310-100	3	DT OV 368049	36810027
G310-10	3	DT OV 368036	36810021	G310-167	3	DT OV 368049	36810028
G310-15	3	DT OV 368038	36810022	G310-250	3	DT OV 368049	36810029
G310-25	3	DT OV 368040	36810023				



Displacement polarity



210° Angular additive



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
d	2	Washer, square, 2 1/4"	-
g	1	Crossarm, 3 5/8" x 4 1/4" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	*	Screw, lag, 1/2" x 4", as req'd	-
o	1	Bolt, eye, 5/8" x req'd length	063605TT
p	*	Connectors, as req'd	-
p	*	Connectors, compression type, as req'd	-
ae	3	Arrestor, surge (9kV)	01520991
af	3	Cutout, dist. open (15kV)	18312111
al	*	Staples, ground wire	-
an	3	Transformer, 12.47 kV, conventional	**
ap	3	Clamp, hot line	114139XX
av	*	Jumpers, bare, stranded, as req'd	-
av	*	Jumpers, covered, as req'd	-
bi	1	Gain plate	-
cj	*	Ground wire, 6AWG, CU, SD	-
cu	2	Brace, 28"	07535128
dm	1	Bracket, xfmr cluster, banded, w/adaptor plates as req'd	31001461
ek	*	Double coil spring washer, as req'd	-
fo	3	Bracket, transformer, insulated	-

**Designate transformer kVA size:
DT OV 10kVA CONV 36810021-368036
DT OV 15kVA CONV 36810022-368038
DT OV 25kVA CONV 36810023-368040
DT OV 37.5kVA CONV 36810024-368042
DT OV 50kVA CONV 36810025-368045
DT OV 75kVA CONV 36810026-368047
DT OV 100kVA CONV 36810027-368049
DT OV 167kVA CONV 36810028-368049
DT OV 250kVA CONV 36810029-368049
*Quantity as Required

THREE-PHASE TRANSFORMER BANK
UNGROUND-WYE PRI, CENTER-TAP GROUNDED DELTA SEC
4 WIRE 120/240V (208V WILD LEG)
SHEET 2 OF 2

APRIL 1983

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NOV 2022

TRANSFORMER ASSEMBLIES

G310-



APPROVED BY
JDP

12.47/7.2 kV

APPLICATION: Used to supply three-phase (only), 240 or 480 volt power loads.

BANK RATING: The maximum safe kVA rating of the bank is three times the kVA rating of the smallest transformer.

NOTES: All tanks to be grounded.

One-half of the below voltages apply when a 240 volt transformers are used.

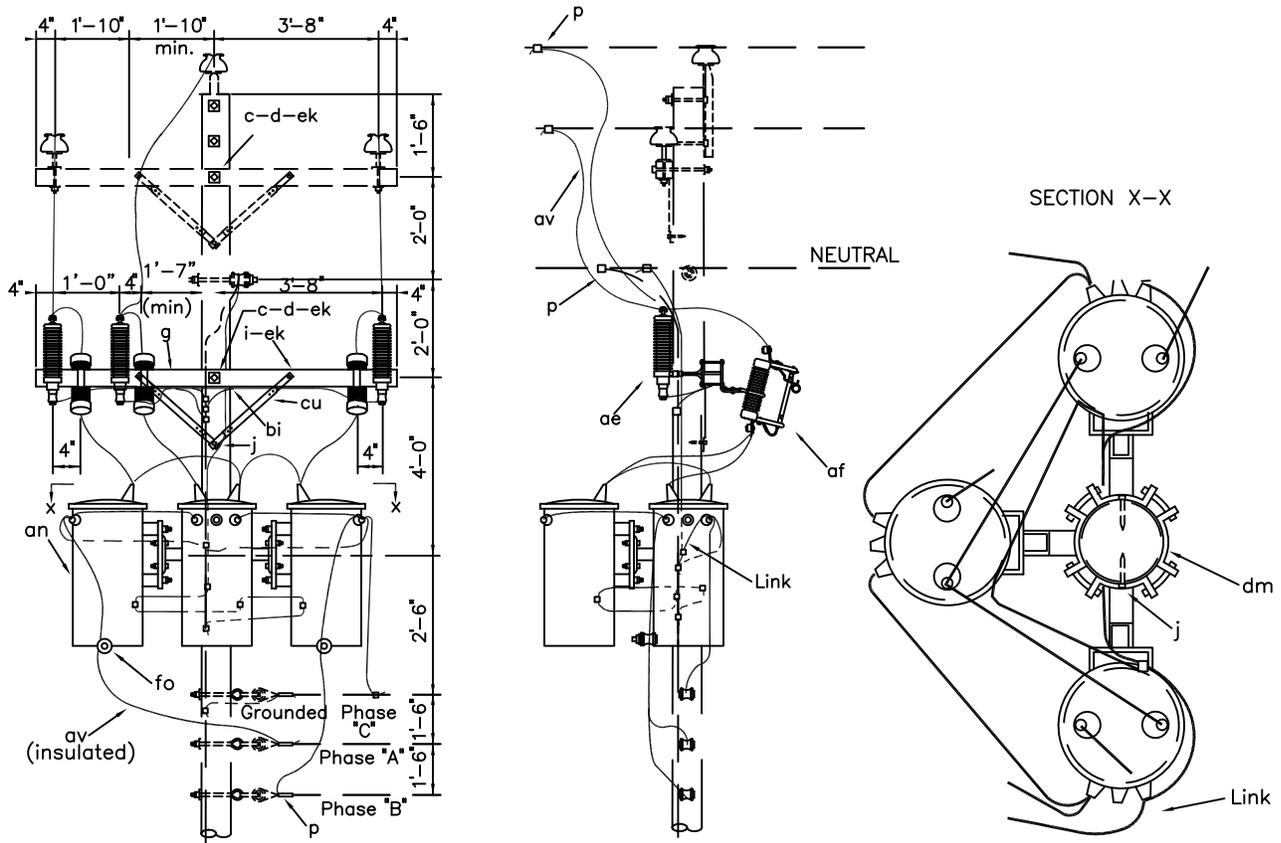
Disconnect all secondary neutrals from tank and do not ground secondary bushings.

Do not ground bank on primary side. (If grounded, the bank would be a grounding bank for the entire circuit.)

The grounding secondary wire is a current carrying phase wire operating at ground potential and must be identified throughout the circuit run. It is not a neutral.

Eye bolt terminals shall be torqued in accordance with the following:

- Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
- Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.

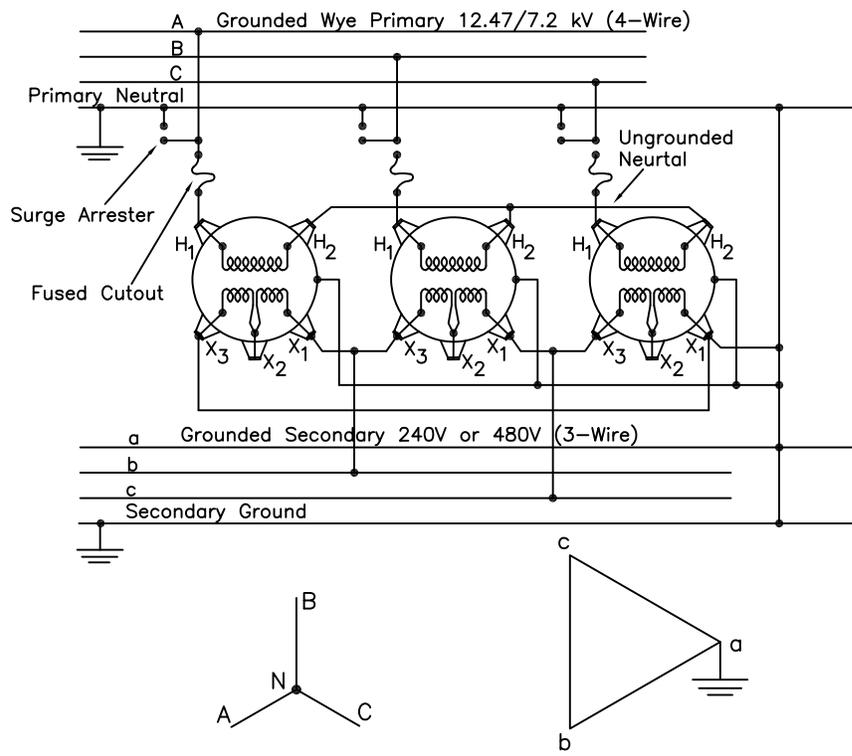


Designate transformer kVA size:	
DT OV 10kVA CONV	36810040-368036
DT OV 15kVA CONV	36810041-368038
DT OV 25kVA CONV	36810042-368040
DT OV 37.5kVA CONV	36810043-368042
DT OV 50kVA CONV	36810044-368045
DT OV 75kVA CONV	36810045-368047
DT OV 100kVA CONV	36810046-368049
*Quantity as Required	

**THREE-PHASE TRANSFORMER BANK
UNGROUND-WYE PRI, CORNER GROUNDED DELTA SEC
3-WIRE 240 OR 480V SHEET 1 OF 2**

APRIL 1983	REVISED NOV 2022	TRANSFORMER ASSEMBLIES 12.47/7.2 kV	G311-
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	G311-25	3	DT OV 368040	36810042
ae	3	DT OH 365001	01520991	G311-37.5	3	DT OV 368042	36810043
af	3	DT OH 365049	18312111	G311-50	3	DT OV 368045	36810044
dm	1	DT LT 368010	31001461	G311-75	3	DT OV 368047	36810045
G311-10	3	DT OV 368036	36810040	G311-100	3	DT OV 368049	36810046
G311-15	3	DT OV 368038	36810041				



ITEM	QTY	MATERIAL	INVENTORY NO.
d	2	Washer, square, 2 1/4"	-
g	1	Crossarm, 3 5/8" x 4 1/4" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	*	Screw, lag, 1/2" x 4", as req'd	-
c	1	Bolt, machine, 5/8" x req'd length	063805TT
p	3	Connectors, M9-1 assembly	-
p	*	Connectors, compression type, as req'd	-
ae	3	Arrestor, surge (9kV)	01520991
af	3	Cutout, dist. open (15kV)	18312111
al	3	Clamp, hot line	-
an	3	Transformer, 12.47 kV, conventional	**
ap	3	Clamp, hot line	114139XX
av	*	Jumpers, bare, stranded, as req'd	-
av	*	Jumpers, covered, as req'd	-
bi	1	Gain plate	-
cj	*	Ground wire, 6AWG, CU, SD	-
cu	2	Brace, 28"	07535128
dm	1	Bracket, xfmr cluster, banded, w/adaptor plates as req'd	31001461
ek	*	Double coil spring washer, as req'd	-
fo	3	Bracket, transformer, insulated	-

**Designate transformer kVA size:
DT OV 10kVA CONV 36810010-368036
DT OV 15kVA CONV 36810011-368038
DT OV 25kVA CONV 36810012-368040
DT OV 37.5kVA CONV 36810013-368042
DT OV 50kVA CONV 36810014-368045
DT OV 75kVA CONV 36810015-368047
DT OV 100kVA CONV 36810027-368049
*Quantity as Required

THREE-PHASE TRANSFORMER BANK
UNGROUND-WYE PRI, CORNER GROUNDED DELTA SEC
3-WIRE 240 OR 480V SHEET 2 OF 2

APRIL 1983	REVISED NOV 2022	TRANSFORMER ASSEMBLIES	
	APPROVED BY JDP	12.47/7.2 kV	G311-

APPLICATION: Used to supply 120/208 volt single-phase and 208 volt, three-phase power loads.

Reconnect secondary windings of transformers as shown.
Matched (impedance and kVA) transformers are usually used.

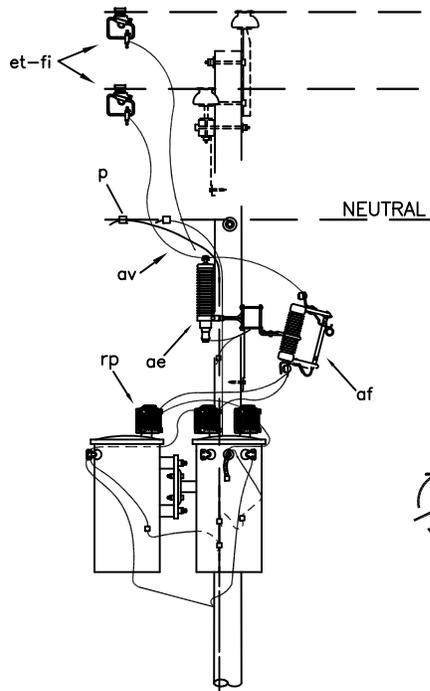
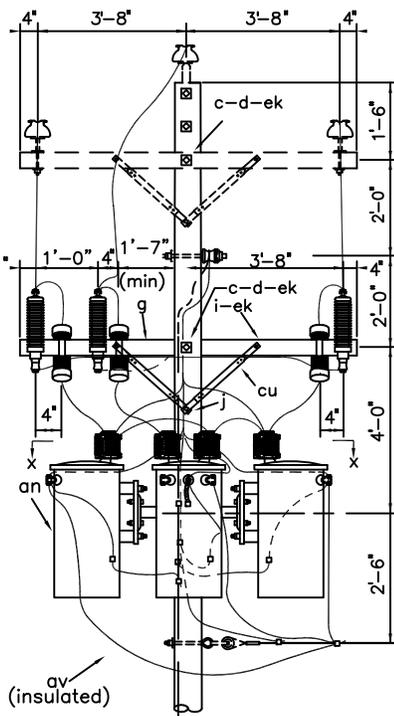
BANK RATING: Each unit will supply 1/3 of the three-phase load and all of the single-phase load connected to it.

CAUTION: The primary and secondary neutrals must be firmly tied together and grounded or else excessive secondary voltages may develop.

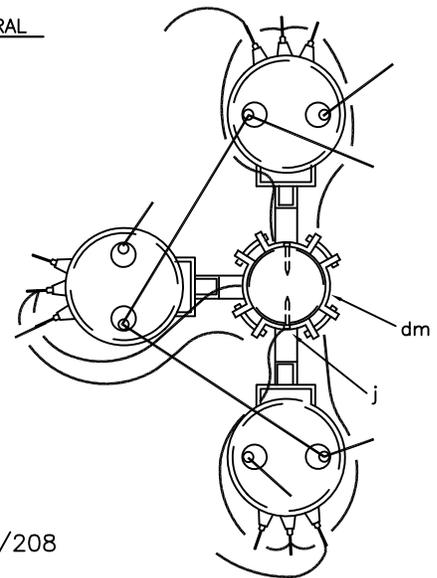
Arresters may be tank mounted to improve discharge rate.

Eye bolt terminals shall be torqued in accordance with the following:

- Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
- Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.



SECTION X-X



*Rewire 120/240 transformers to 120/208

1, 75, 100, 167 and 250kVA (ONLY)
NOT FOR NEW CONSTRUCTION

Designate transformer kVA size:

DT OV 1kVA	CONV 36810020-368036
DT OV 10kVA	CONV 36810021-368036
DT OV 15kVA	CONV 36810022-368038
DT OV 25kVA	CONV 36810023-368040
DT OV 37.5kVA	CONV 36810024-368042
DT OV 50kVA	CONV 36810025-368045
DT OV 75kVA	CONV 36810026-368047
DT OV 100kVA	CONV 36810027-368049
DT OV 167kVA	CONV 36810028-368049
DT OV 250kVA	CONV 36810029-368049

*Quantity as Required

THREE-PHASE TRANSFORMER BANK
GROUNDED WYE PRI GROUNDED WYE SEC
4 WIRE 120/208V
SHEET 1 OF 2

APRIL 1983



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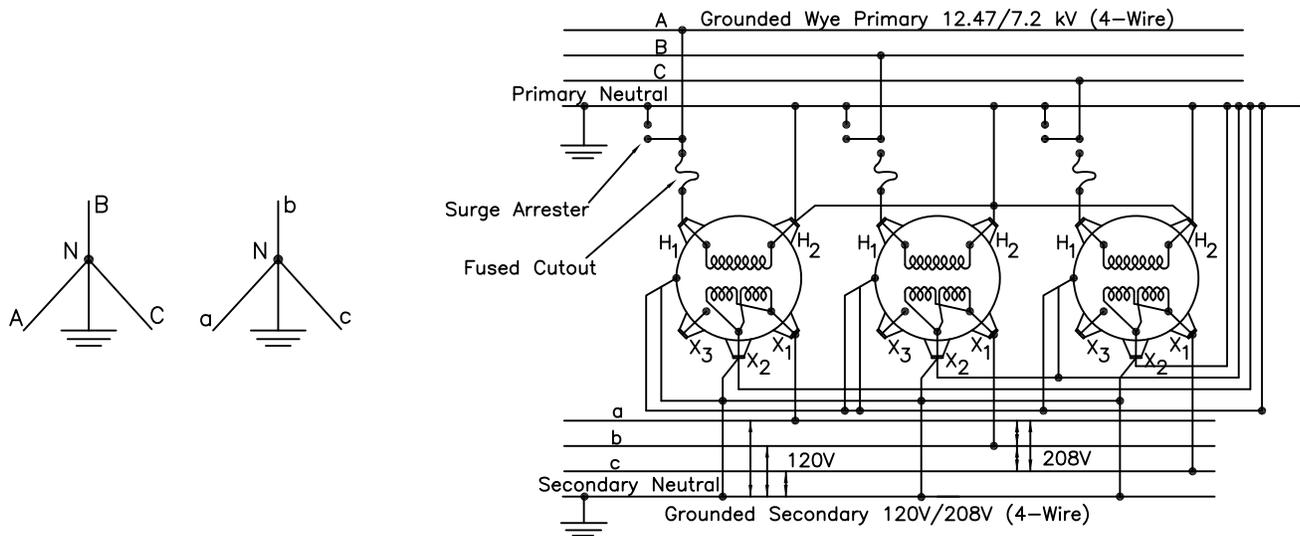
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TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G312-

13.07.1

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	G312-25	3	DT OV 368040	36810023
ae	3	DT OH 365001	01520991	G312-37.5	3	DT OV 368042	36810024
af	3	DT OH 365049	18312111	G312-50	3	DT OV 368045	36810025
dm	1	DT LT 368010	31001461	G312-75	3	DT OV 368047	36810026
G312-1	3	DT OV 368036	36810020	G312-100	3	DT OV 368049	36810027
G312-10	3	DT OV 368036	36810021	G312-167	3	DT OV 368049	36810028
G312-15	3	DT OV 368038	36810022	G312-250	3	DT OV 368049	36810029



1, 75, 100, 167 and 250kVA (ONLY) NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd length	063805TT
d	2	Washer, square, 2 1/4"	-
g	1	Crossarm, 3 5/8" x 4 1/4" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	*	Screw, lag, 1/2" x 4", as req'd	-
p	*	Connectors, compression type, as req'd	-
ae	3	Arrestor, surge (9kV)	01520991
af	3	Cutout, dist. open (15kV)	18312111
ai	*	Staples, ground wire	-
an	3	Transformer, 12.47 kV, conventional	**
av	*	Jumpers, bare, stranded, as req'd	-
av	*	Jumpers, covered, Hendrix as req'd	-
cj	*	Ground wire, 6AWG, CU, SD	-
cu	1	Brace, 28", pair	07535128
dm	1	Bracket, xfmr cluster, banded, w/adaptor plates as req'd	31001461
ek	*	Double coil spring washer, as req'd	-
et	3	Stirrup, Shear Bolt Wedge Type	540000XX
fi	3	Clamp, Hot Line, Mini, Bronze	11413900
rp	6	Wildlife Bushing Guard, Small	25001006

**Designate transformer kVA size:
DT OV 1kVA CONV 36810020-368036
DT OV 10kVA CONV 36810021-368036
DT OV 15kVA CONV 36810022-368038
DT OV 25kVA CONV 36810023-368040
DT OV 37.5kVA CONV 36810024-368042
DT OV 50kVA CONV 36810025-368045
DT OV 75kVA CONV 36810026-368047
DT OV 100kVA CONV 36810027-368049
DT OV 167kVA CONV 36810028-368049
DT OV 250kVA CONV 36810029-368049

*Quantity as Required

THREE-PHASE TRANSFORMER BANK
GROUNDED WYE PRI GROUNDED WYE SEC
4 WIRE 120/208V
SHEET 2 OF 2

APRIL 1983



REVISED
NOV 2022

APPROVED BY
MFJ

TRANSFORMER ASSEMBLIES
12.47/7.2 kV

G312-

13.07.2

APPLICATION: Used to supply 277/480 volt three-phase power loads.

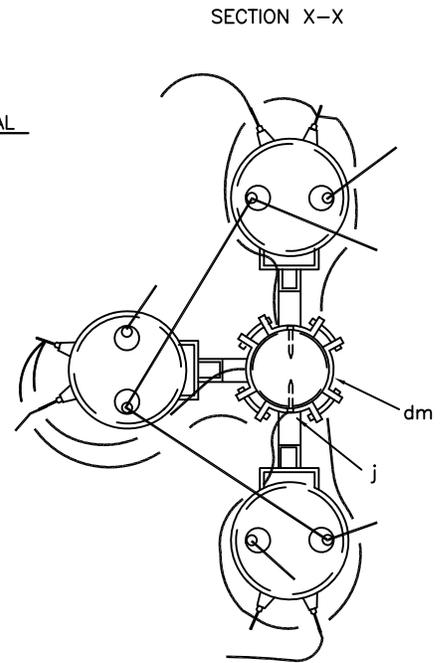
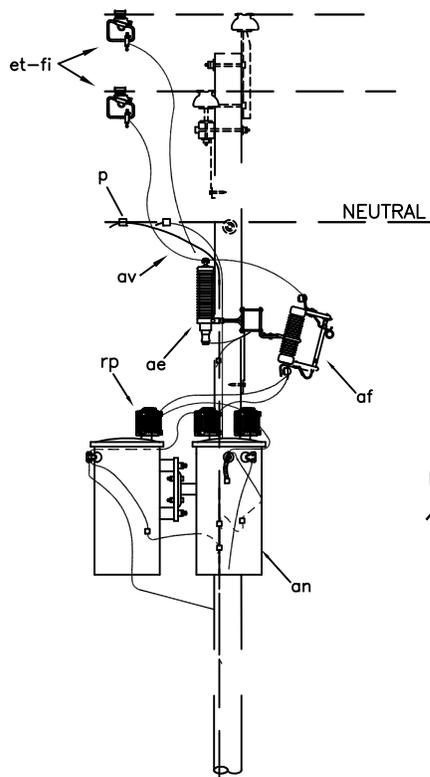
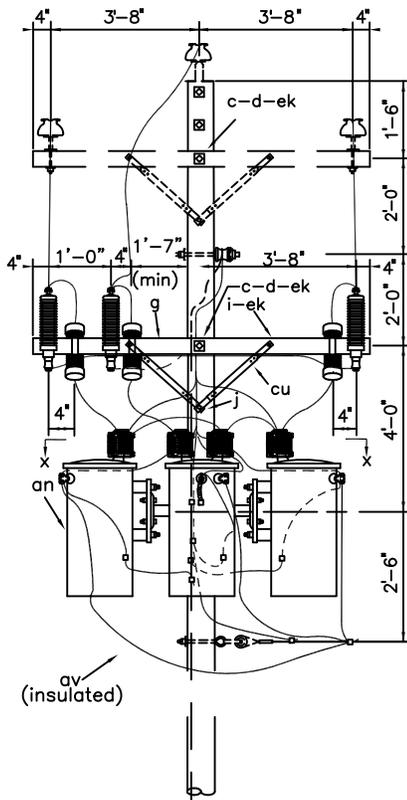
Matched (impedance and kVA) transformers are usually used.

BANK RATING: Each unit will supply 1/3 of the three-phase load and all of the single-phase load connected to it.

CAUTION: The primary and secondary neutrals must be firmly tied together and grounded or else excessive secondary voltages may develop.

Eye bolt terminals shall be torqued in accordance with the following:

- Eye bolt size $\frac{3}{8}$ torque range 14-16 lbs.
- Eye bolt size $\frac{1}{2}$ torque range 32-35 lbs.



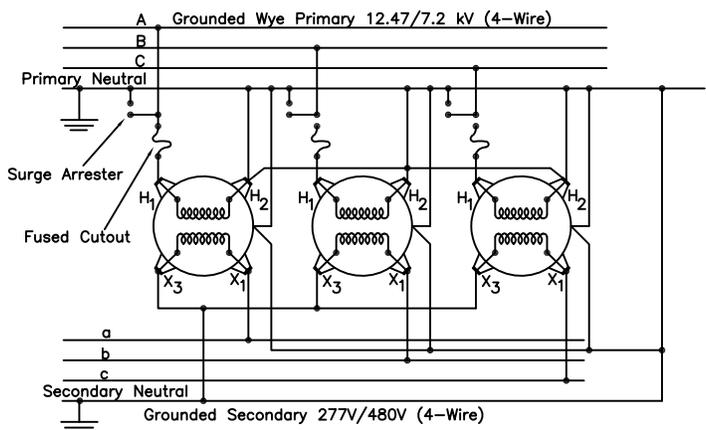
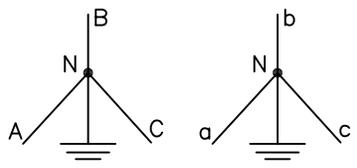
75, 100 and 250kVA (ONLY)
NOT FOR NEW CONSTRUCTION

Designate transformer kVA size:	
DT OV 10kVA CONV	36810050-368036
DT OV 15kVA CONV	36810051-368038
DT OV 25kVA CONV	36810052-368040
DT OV 37.5kVA CONV	36810053-368042
DT OV 50kVA CONV	36810054-368045
DT OV 75kVA CONV	36810055-368047
DT OV 100kVA CONV	36810056-368049
DT OV 250kVA CONV	36810057-368049
*Quantity as Required	

THREE-PHASE TRANSFORMER BANK
GROUNDWED WYE PRI GROUNDWED WYE SEC
4 WIRE 277/480V SHEET 1 OF 2

JAN 2018	REVISED NOV 2022	TRANSFORMER ASSEMBLIES 12.47/7.2 kV	G313-
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	G315-25	3	DT OV 368040	36810052
ae	3	DT OH 365001	01520991	G315-37.5	3	DT OV 368042	36810053
af	3	DT OH 365049	18312111	G315-50	3	DT OV 368045	36810054
dm	1	DT LT 368010	31001461	G315-75	3	DT OV 368047	36810055
G315-10	3	DT OV 368036	36810050	G315-100	3	DT OV 368049	36810056
G315-15	3	DT OV 368038	36810051	G315-250	3	DT OV 368049	36810057



75, 100 and 250kVA (ONLY) NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd length	063805TT
d	2	Washer, square, 2 1/4"	-
g	1	Crossarm, 3 5/8" x 4 1/4" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	*	Screw, lag, 1/2" x 4", as req'd	-
p	*	Connectors, compression type, as req'd	-
ae	3	Arrestor, surge (9kV)	01520991
af	3	Cutout, dist. open (15kV)	18312111
al	*	Staples, ground wire	-
an	3	Transformer, 12.47 kV, conventional	**
av	*	Jumpers, bare, stranded, as req'd	-
av	*	Jumpers, covered, Hendrix as req'd	-
cj	*	Ground wire, 6AWG CU SD	-
cu	1	Brace, 28", pair	07535128
dm	1	Bracket, xfmr cluster w/adaptor plates as req'd	31001461
ek	*	Double coil spring washer, as req'd	-
et	3	Stirrup, Shear Bolt Wedge Type	540000XX
fi	3	Clamp, Hot Line, Mini, Bronze	11413900
rp	6	Wildlife Bushing Guard, Small	25001006

**Designate transformer kVA size:
DT OV 10kVA CONV 36810050-368036
DT OV 15kVA CONV 36810051-368038
DT OV 25kVA CONV 36810052-368040
DT OV 37.5kVA CONV 36810053-368042
DT OV 50kVA CONV 36810054-368045
DT OV 75kVA CONV 36810055-368047
DT OV 100kVA CONV 36810056-368049
DT OV 250kVA CONV 36810057-368049
*Quantity as Required

**THREE-PHASE TRANSFORMER BANK
GROUNDING WYE PRI GROUNDING WYE SEC
4 WIRE 277/480V SHEET 2 OF 2**

JAN 2018	REVISED NOV 2022	TRANSFORMER ASSEMBLIES 12.47/7.2 kV	G313-
	APPROVED BY MFJ		



SECONDARY & SERVICE ASSEMBLIES

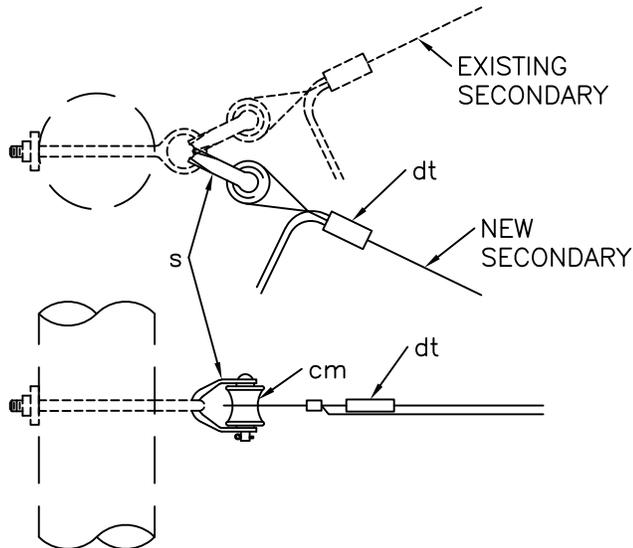
SECONDARY & SERVICE ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
14.01	J1 J2	Large Service Assemblies
14.02	J6	Large Service Assemblies
14.03	J8 J10	Large Service Assemblies
14.04	Q2TE Q3TE	Secondary Connectors
14.05	Q4TE	Secondary Connectors
14.06	TL35 TL50	TL Connectors
14.07	HNDX1 HNDX4	HENDRIX Cable
14.08	PGC	Parallel Groove Connectors

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

J1

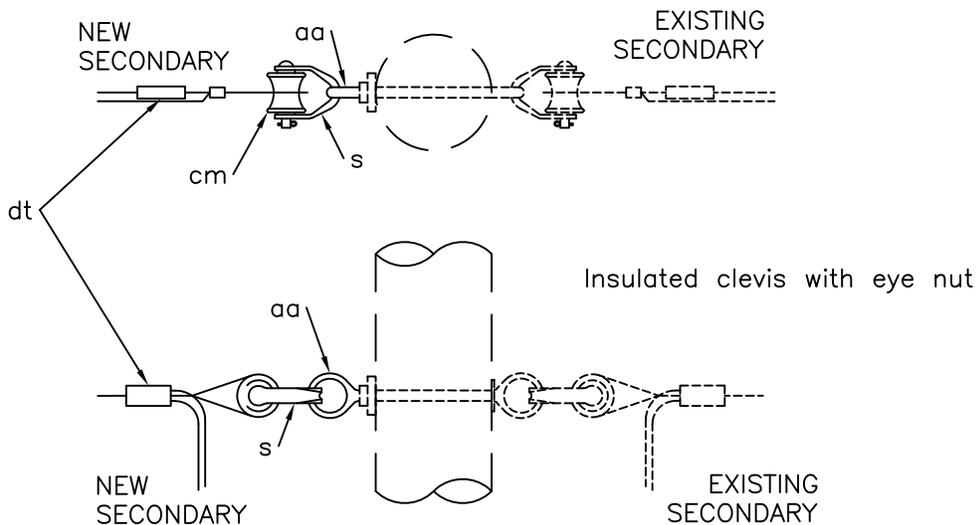
Insulated clevis only to existing eye nut or eye bolt



ITEM	QTY	MATERIAL	INVENTORY NO.
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
dt	1	Clamp, wedge, deadend	117800TT
s	1	Clevis, secondary, swinging, bare	12301201

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

J2



ITEM	QTY	MATERIAL	INVENTORY NO.
s	1	Clevis, secondary, swing, bare	12301201
aa	1	Nut, eye, 5/8"	41904065
dt	1	Clamp, wedge, deadend	117800TT
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
ek	*	Locknuts or spring washers, as required	-

LARGE SERVICE ASSEMBLIES

Units J1 and J2 may be used as deadend or angle supports

DEC. 1985

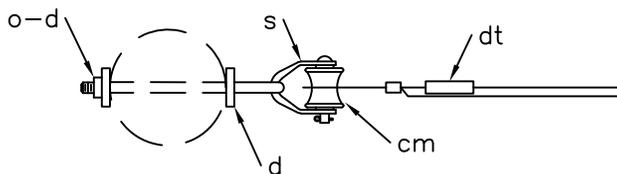
 REVISED NOV 2022
 APPROVED BY JDP

SECONDARY ASSEMBLIES
 12.47/7.2 kV

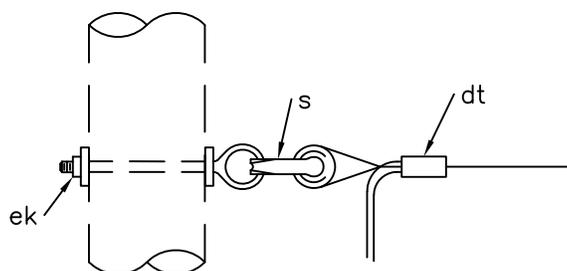
J1, J2

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

J6



Insulated clevis with eye bolt



ITEM	QTY	MATERIAL	INVENTORY NO.
d	2	Washer, square, 2 1/4"	-
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
s	1	Clevis, secondary, swinging, bare	12301201
dt	1	Clamp, wedge, deadend	117800TT
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
ek	*	Locknuts or spring washers, as required	-

LARGE SERVICE ASSEMBLIES

Unit J3 may be used as deadend or angle support

DEC. 1983



REVISED NOV 2022

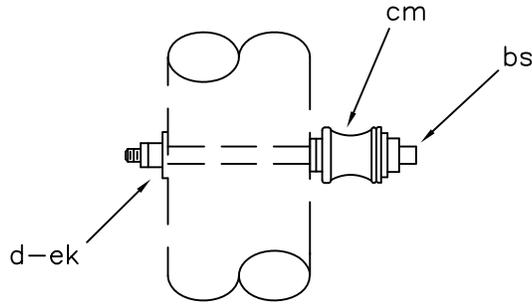
APPROVED BY JDP

SECONDARY ASSEMBLIES
12.47/7.2 kV

J6

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

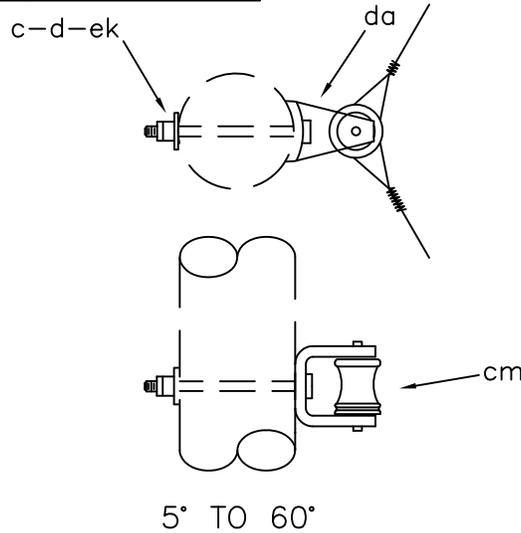
J8



ITEM	QTY	MATERIAL	INVENTORY NO.
d	1	Washer, square, 2 1/4"	-
bs	1	Bolt, single upset, 5/8" x req'd. length	063905TT
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
ek	*	Locknuts or spring washers, as required	-

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

J10



ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x required length	063805TT
d	1	Washer, square, 2 1/4"	-
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
da	1	Clevis, rigid, bare	07804500
ek	*	Locknuts or spring washers, as required	-

LARGE SERVICES ASSEMBLIES

DEC. 1983



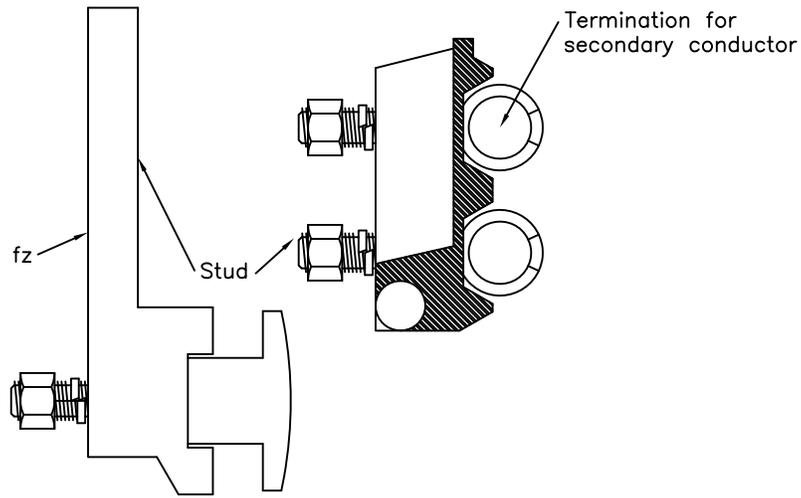
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MFJ

SECONDARY ASSEMBLIES
12.47/7.2 kV

J8, J10

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

Q2TE

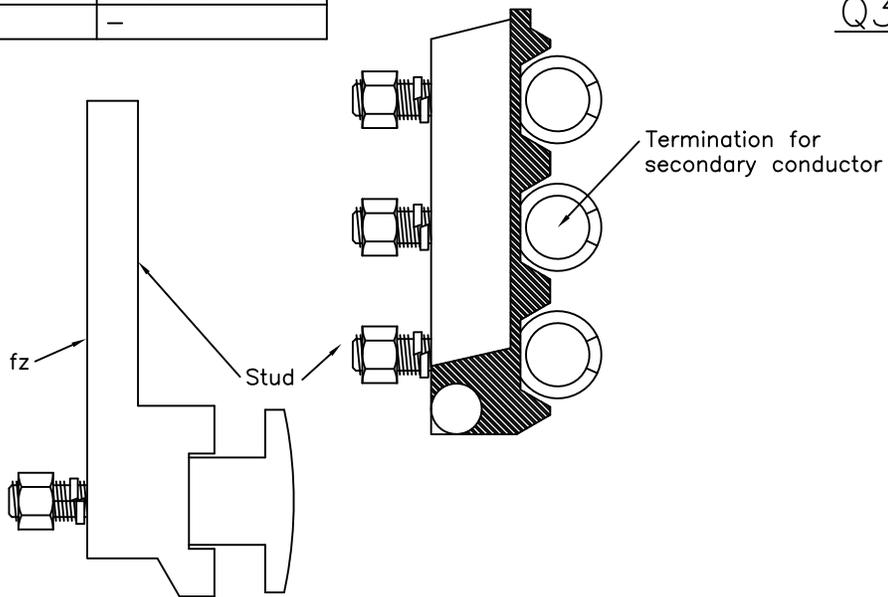


NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
fz	1	Conn.Q2TE	17842000

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

Q3TE



NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
fz	1	Conn.Q3TE	17841000

NOTES:

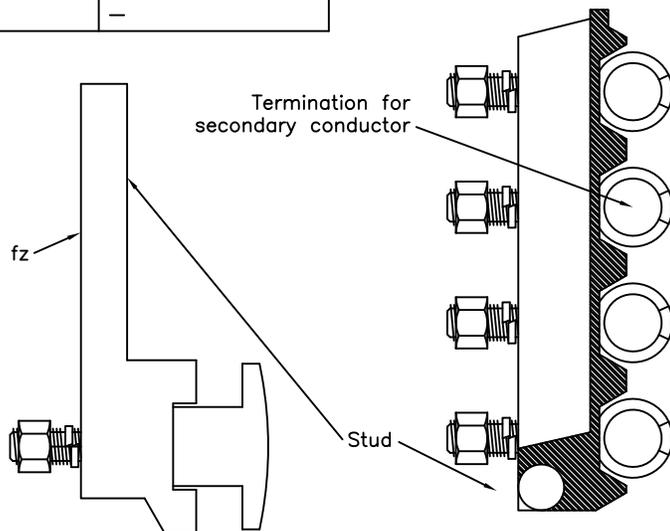
1. Multi-secondary service connections should be made by utilizing the Q2TE, Q3TE or Q4TE (shown) connectors as required.
2. Cover conductor ends with moisture seal and/or dress conductor ends downward to prevent entry of moisture.

SECONDARY CONNECTOR

APRIL 2005	REVISED NOV 2022	SECONDARY ASSEMBLIES	Q2TE, Q3TE,
	APPROVED BY MFJ	12.47/7.2 kV	

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

Q4TE

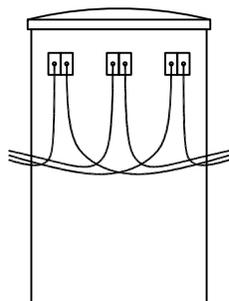


NOT FOR NEW CONSTRUCTION

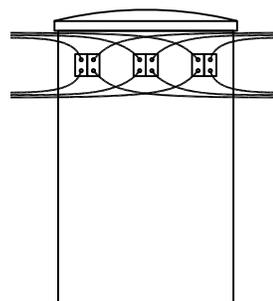
ITEM	QTY	MATERIAL	INVENTORY NO.
fz	1	Conn.Q4TE	17843000

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

Preferred Method



Alternative Method



Guide for training secondary conductors

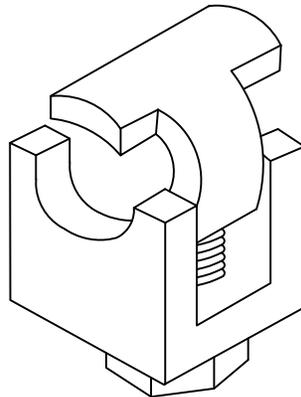
NOTES:

1. Multi-secondary service connections should be made by utilizing the Q2TE, Q3TE or Q4TE (shown) connectors as required.
2. Cover conductor ends with moisture seal and/or dress conductor ends downward to prevent entry of moisture.

SECONDARY CONNECTOR

APRIL 2005	REVISED NOV 2022	SECONDARY ASSEMBLIES	Q4TE
	APPROVED BY MFJ	12.47/7.2 kV	

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. TRANSFORMERS THAT HAVE A TL SECONDARY BUSHING REQUIRES HENDRIX CABLE TO BE ATTACHED TO THE TL CONNECTOR. EACH SERVICE WILL THEN BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.
2. TRANSFORMERS THAT HAVE A SPADE STYLE SECONDARY BUSHING REQUIRE THE THE FIRST THREE SERVICES TO BE ATTACHED TO THE SPADE WITH TL CONNECTORS. ANY ADDITIONAL SERVICES WILL REQUIRE A LENGTH OF HENDRIX TO BE BROUGHT DOWN FROM A FOURTH TL CONNECTOR BEYOND THE TRANSFORMER, AND EACH SERVICE WILL NEED TO BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.

ITEM	MATERIAL	QTY	QTY	INVENTORY NO.
-	Connector, TL35 Tap	1	-	17831500
-	Connector, TL50 Tap	-	1	17832000

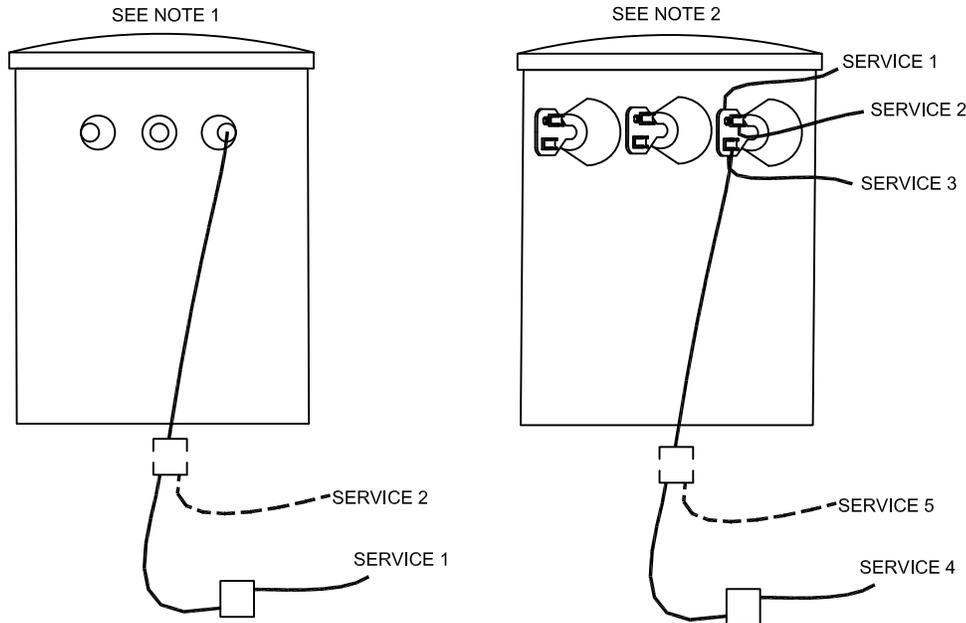
NOTES:

1. Cover conductor ends with moisture seal and/or dress conductor ends downward to prevent entry of moisture.

SECONDARY TL CONNECTOR

DEC 2020	REVISED NOV 2022	SECONDARY ASSEMBLIES 12.47/7.2 kV	TL35, TL50
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



HENDRIX CABLE SIZE PER TRANSFORMER

Transformer Size	Hendrix Wire Size	Respective Ampacity
<= 10 kVA	#6 CU STR	~83A - 165A
15 kVA	#4 CU STR	~125A - 218A
25 kVA	#2 CU STR	~210A - 293A
37.5 kVA	1/0 CU STR	~315A - 391A
50 kVA	4/0 CU STR	~416A - 600A

NOTES:

- TRANSFORMERS THAT HAVE A TL SECONDARY BUSHING REQUIRES HENDRIX CABLE TO BE ATTACHED TO THE TL CONNECTOR. EACH SERVICE WILL THEN BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.
- TRANSFORMERS THAT HAVE A SPADE STYLE SECONDARY BUSHING REQUIRE THE THE FIRST THREE SERVICES TO BE ATTACHED TO THE SPADE WITH TL CONNECTORS. ANY ADDITIONAL SERVICES WILL REQUIRE A LENGTH OF HENDRIX TO BE BROUGHT DOWN FROM A FOURTH TL CONNECTOR BEYOND THE TRANSFORMER, AND EACH SERVICE WILL NEED TO BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.
- ALUMINUM CONDUCTOR SHALL BE PLACED IN TOP GROOVE ABOVE COPPER CONDUCTOR.
- MINIMUM RECOMMENDED LENGTH: ALL SERVICES SHALL BE CONNECTED TO HENDRIX BELOW THE TRANSFORMER TANK
- FIRST SERVICE HAS NO HENDRIX WIRE

ITEM	QTY	MATERIAL	INVENTORY NO.
-	1	Hendrix Cable, #6, STR. CU	15610505
-	1	Hendrix Cable, #4, STR. CU	15620301
-	1	Hendrix Cable, #2, STR. CU	15620205
-	1	Hendrix Cable, 1/0, STR. CU	15620210
-	1	Hendrix Cable, 4/0, STR. CU	15620215

NOTES:

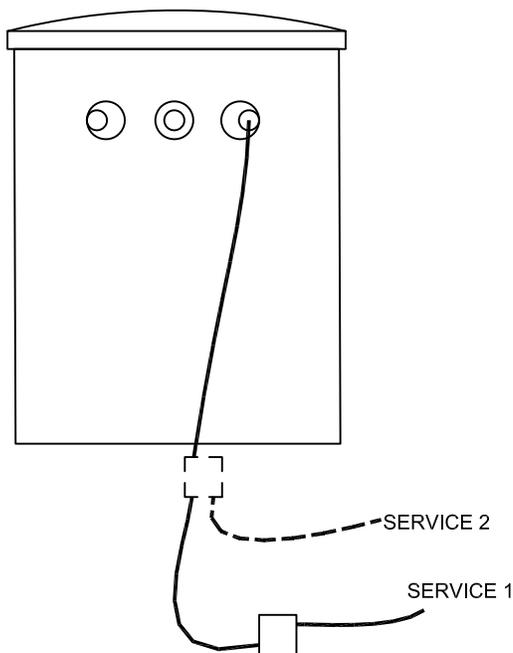
- Cover conductor ends with moisture seal and/or dress conductor ends downward to prevent entry of moisture.

Hendrix Cable

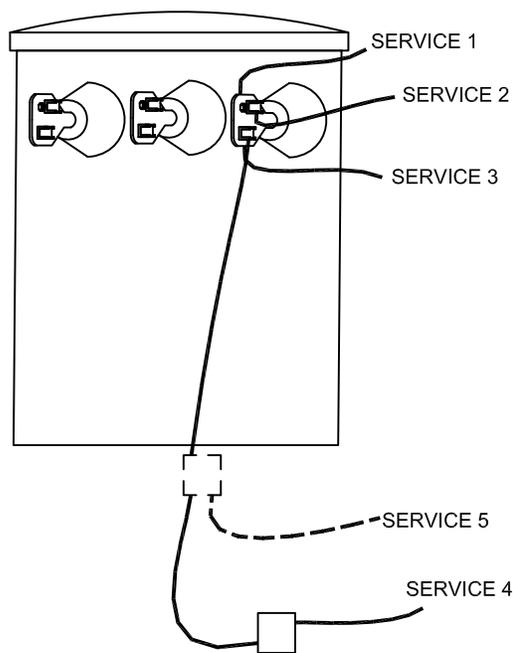
DEC. 2020	REVISED NOV 2022	SECONDARY ASSEMBLIES	HNDX6, HNDX4
	APPROVED BY MFJ	12.47/7.2 kV	HNDX2, HNDX10, HNDX40

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

SEE NOTE 3

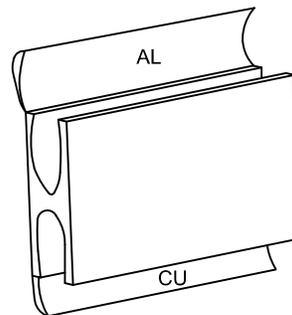


SEE NOTE 4



Hendrix to Service Wire Compression

PGC1	1/0 CU - #6 AL DUP	17010150
PGC2	1/0 CU - 1/0 AL TPX	17010300
PGC3	4/0 CU - 4/0 AL TPX	17010350
PGC4	4/0 CU - 1/0 AL TPX	17010250
PGC5	4/0 CU - 350 AL TPX	17010400
PGC6	4/0 CU - 500 AL TPX	17010450



NOTES:

1. ALL PARALLEL GROOVE CONNECTOR AU'S WILL INCLUDE PLASTIC COVER.
2. ALUMINUM CONDUCTOR SHALL BE PLACED IN TOP GROOVE ABOVE COPPER CONDUCTOR.
3. TRANSFORMERS THAT HAVE A TL SECONDARY BUSHING REQUIRES HENDRIX CABLE TO BE ATTACHED TO THE TL CONNECTOR. EACH SERVICE WILL THEN BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.
4. TRANSFORMERS THAT HAVE A SPADE STYLE SECONDARY BUSHING REQUIRE THE THE FIRST THREE SERVICES TO BE ATTACHED TO THE SPADE WITH TL CONNECTORS. ANY ADDITIONAL SERVICES WILL REQUIRE A LENGTH OF HENDRIX TO BE BROUGHT DOWN FROM A FOURTH TL CONNECTOR BEYOND THE TRANSFORMER, AND EACH SERVICE WILL NEED TO BE ATTACHED TO THE HENDRIX CABLE WITH A PARALLEL GROOVE CONNECTOR AND A PLASTIC COVER.

ITEM	QTY	MATERIAL	INVENTORY NO.
-	1	Connector, Parallel Groove	170100TT
-	1	Plastic Cover	17853417

Parallel Groove Connector Crimp and Cover

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SECONDARY ASSEMBLIES
12.47/7.2 kV

PGC

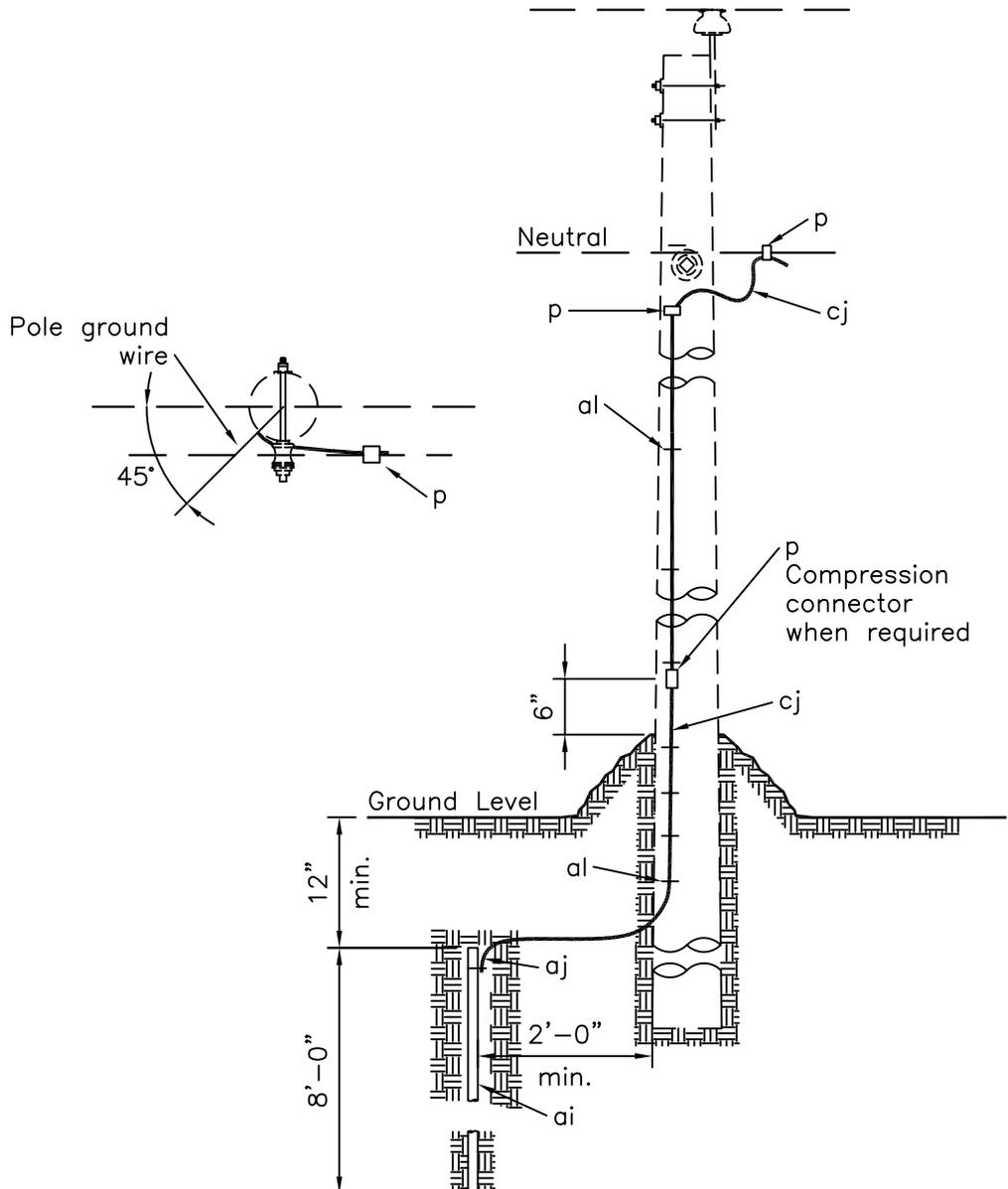


GROUNDING ASSEMBLIES

GROUNDING ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
15.01	M2-11	Ground Rod Type
15.02	M2-12	Butt Plate Type
15.03	M2-15	Ground Rod Type for Sectionalizing Air Break Switch
15.04	M2-15A	Platform Type for Sectionalizing Air Break Switch
15.05	M2-16	Typical Switch Grounding
15.06	M2-17	Typical Motor Operated Switch Grounding
15.07	M2-18	Circuit Switcher or Circuit Breaker Cabinet Grounding
15.08	M2-19	Typical Substation Voltage Regulator Grounding
15.09	M2-20	Fiberglass Crossarm Grounding

ITEM	QTY	ASSET #	INVENTORY NO.
ai	1	DT OH 365051	53828508



NOTES:

1. Ground wire to be located on same side as Neutral Conductor and in quadrant opposite climbing space or pole top pin.
2. Staples on ground wire shall be 2' apart, except for a distance of 8' above ground and 8' from top of pole where they shall be 6" apart.
3. Ground wire to clear all hardware by 2" min. and shall be stapled to maintain this position.
4. For use with V and 3-phase assemblies refer to guide drawings M30-1 and M30-2.

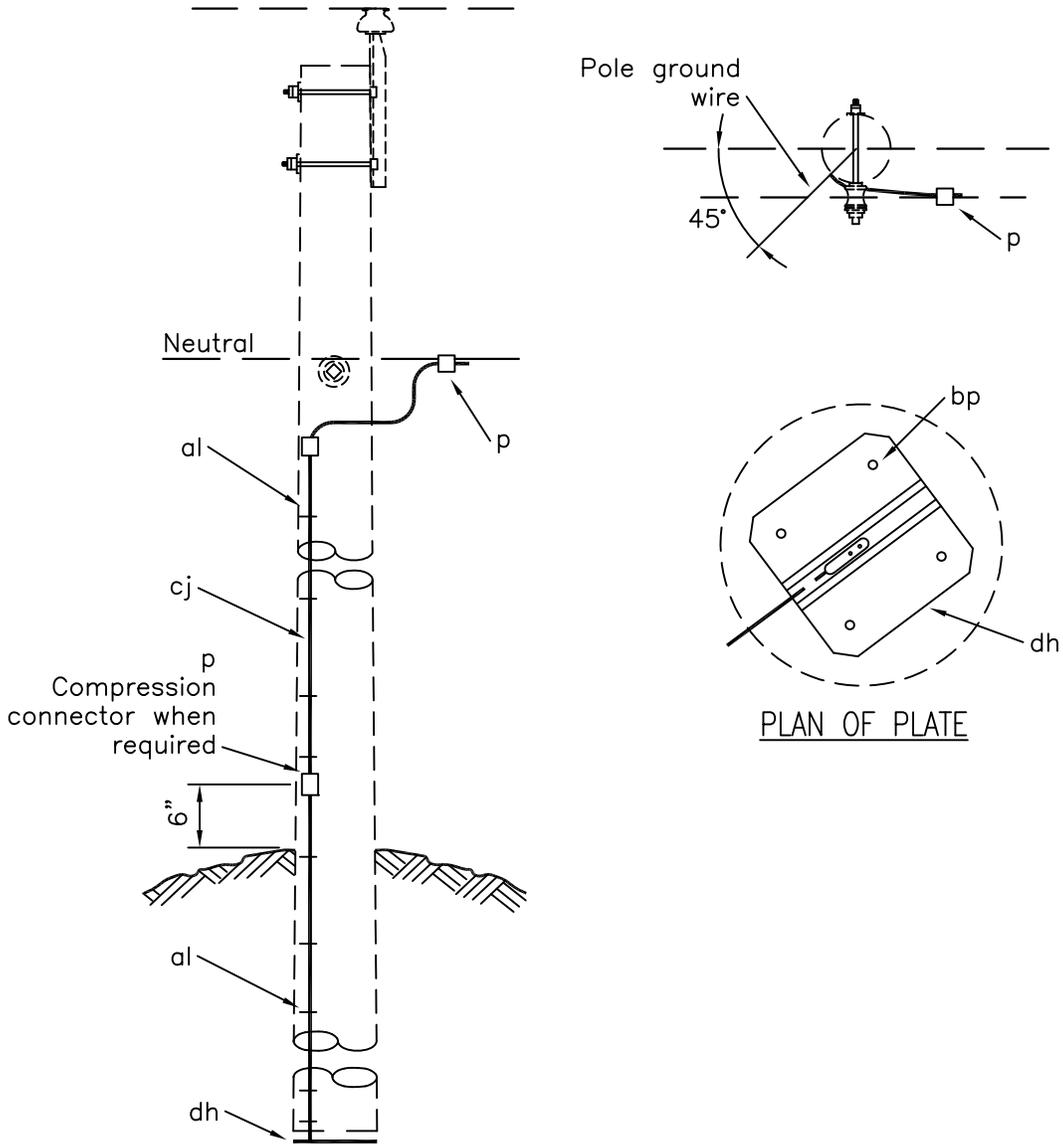
ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, compression, as req'd.	-
ai	1	Rod, ground, 5/8" minimum diameter, copperclad	53828508
aj	1	Clamp, ground rod wire	11311000
al	*	Staples, ground wire (copper or steel), as req'd.	-
cj	*	Ground wire, min.#6 copper or equiv.	15610501

GROUND ROD TYPE

*Quantity as Required

APRIL 1983	REVISED NOV 2022	GROUNDING ASSEMBLIES 12.47/7.2 kV	M2-11
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
dh	1	DT OH 365051	46800424



NOTES:

1. Ground wire to be located on same side as Neutral Conductor and in quadrant opposite climbing space or pole top pin.
2. Staples on ground wire shall be 2' apart, except for a distance of 8' above ground and 8' from top of pole where they shall be 6" apart.
3. Ground wire to clear all hardware by 2" min. and shall be stapled to maintain this position.
4. For use with V and 3-phase assemblies refer to guide drawings M30-1 and M30-2.

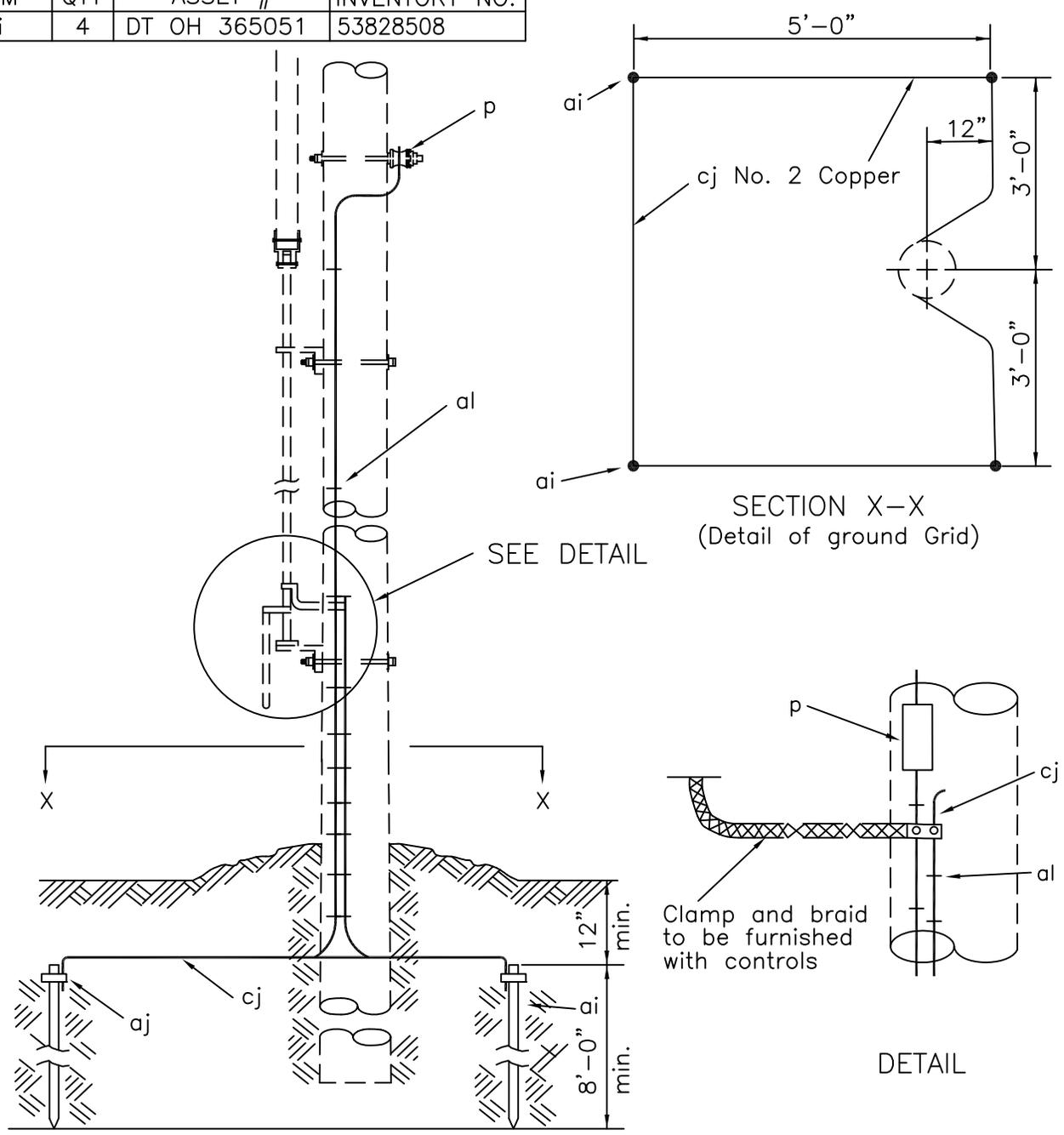
ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, compression, as req'd.	-
al	*	Staples, ground wire (copper or steel), as req'd.	-
bp	4	Nails, galvanized, 1"	-
cj	*	Ground wire, min. #6 copper or equiv.	15610501
dh	1	Grounding plate, butt type, copper	46800424

BUTT PLATE TYPE

*Quantity as Required

APRIL 1983	REVISED NOV 2022	GROUNDING ASSEMBLIES 12.47/7.2 kV	M2-12
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
ai	4	DT OH 365051	53828508



NOT FOR NEW CONSTRUCTION

NOTES:

1. Staples on ground wire shall be 2' apart, except for a distance of 8' above ground and 8' from neutral where they shall be 6" apart.
2. Wear rubber gloves when operating switch.

ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, compression, as req'd.	-
ai	4	Rod, ground, 5/8" minimum diameter, copperclad	53828508
aj	4	Clamp, ground rod wire	11311000
al	*	Staples, ground wire (copper or steel), as req'd.	-
cj	*	Ground wire, 2 copper stranded	15620200

GROUND ROD TYPE FOR SECTIONALIZING AIR BREAK SWITCH

APRIL 1983



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NOV 2022

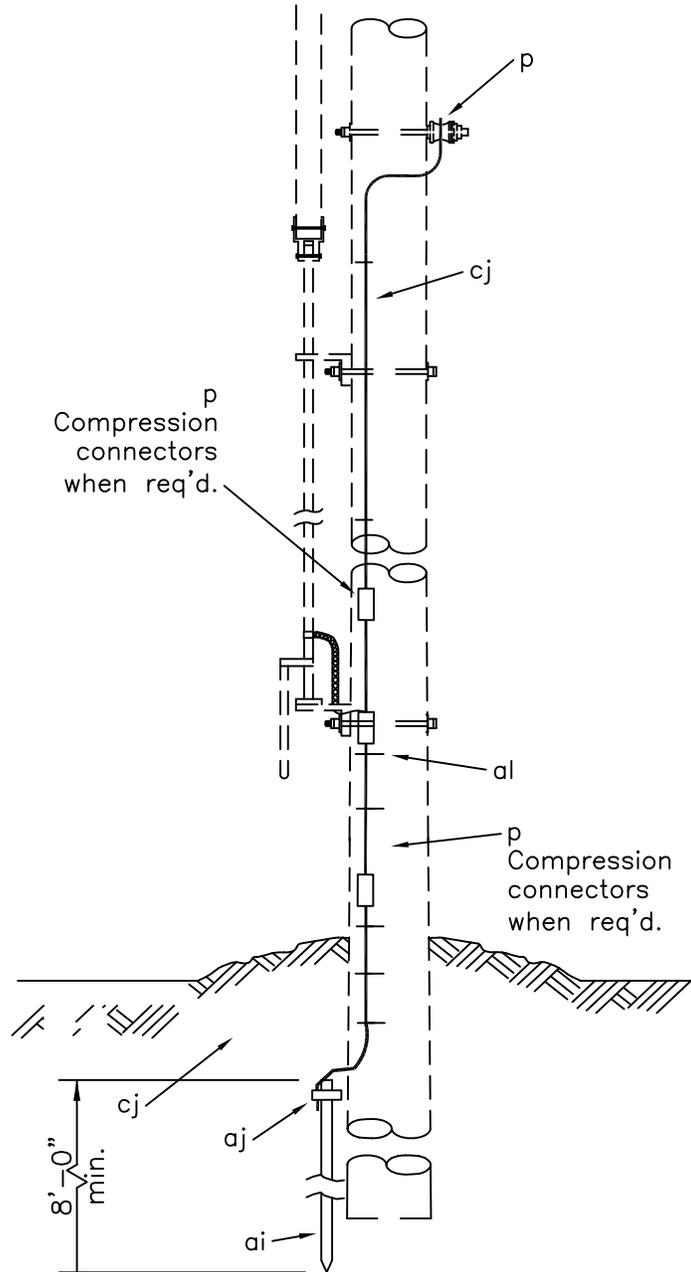
APPROVED BY
JDP

GROUNDING ASSEMBLIES
12.47/7.2 kV

M2-15

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
ai	1	DT OH 365051	53828508



NOTES:

1. Staples on ground wire shall be 2' apart, except for a distance of 8' above ground and 8' from neutral where they shall be 6" apart.
2. Wear rubber gloves when operating switch.

ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, compression, as req'd.	-
ai	1	Rod, ground, 5/8" minimum diameter	53828508
aj	1	Clamp, ground rod wire, galv.	11311000
al	*	Staples, ground wire (copper or steel), as req'd.	-
cj	*	Ground wire, #2 copper or equiv.	15620200
dp	2	Grounding connector and lockwasher	-
	1	Platform, grounding plate, galv. iron	-

PLATFORM TYPE
FOR SECTIONALIZING AIR BREAK SWITCH

APRIL 1983



REVISED
NOV 2022

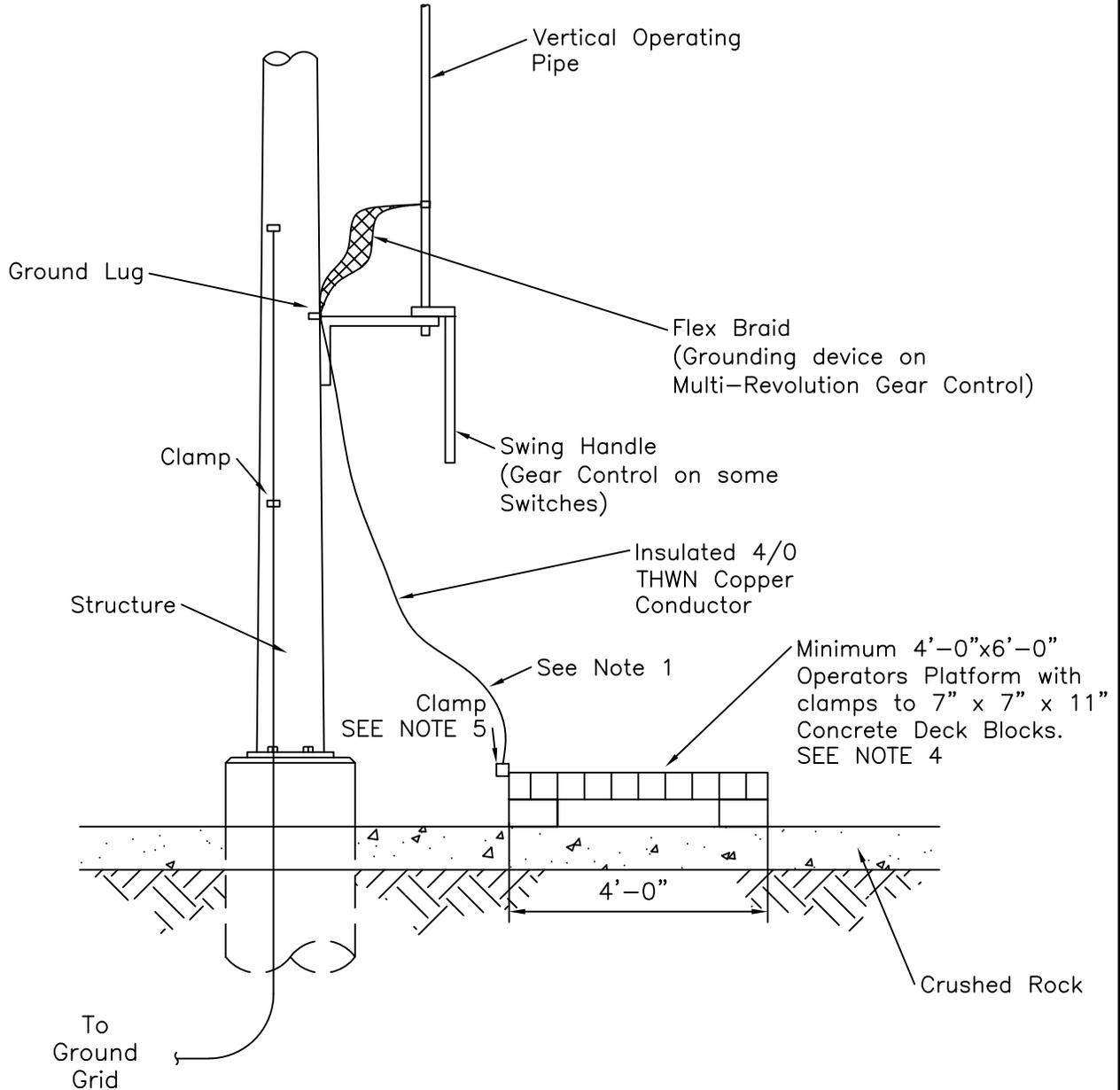
APPROVED BY
JDP

GROUNDING ASSEMBLIES
12.47/7.2 kV

M2-15A

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



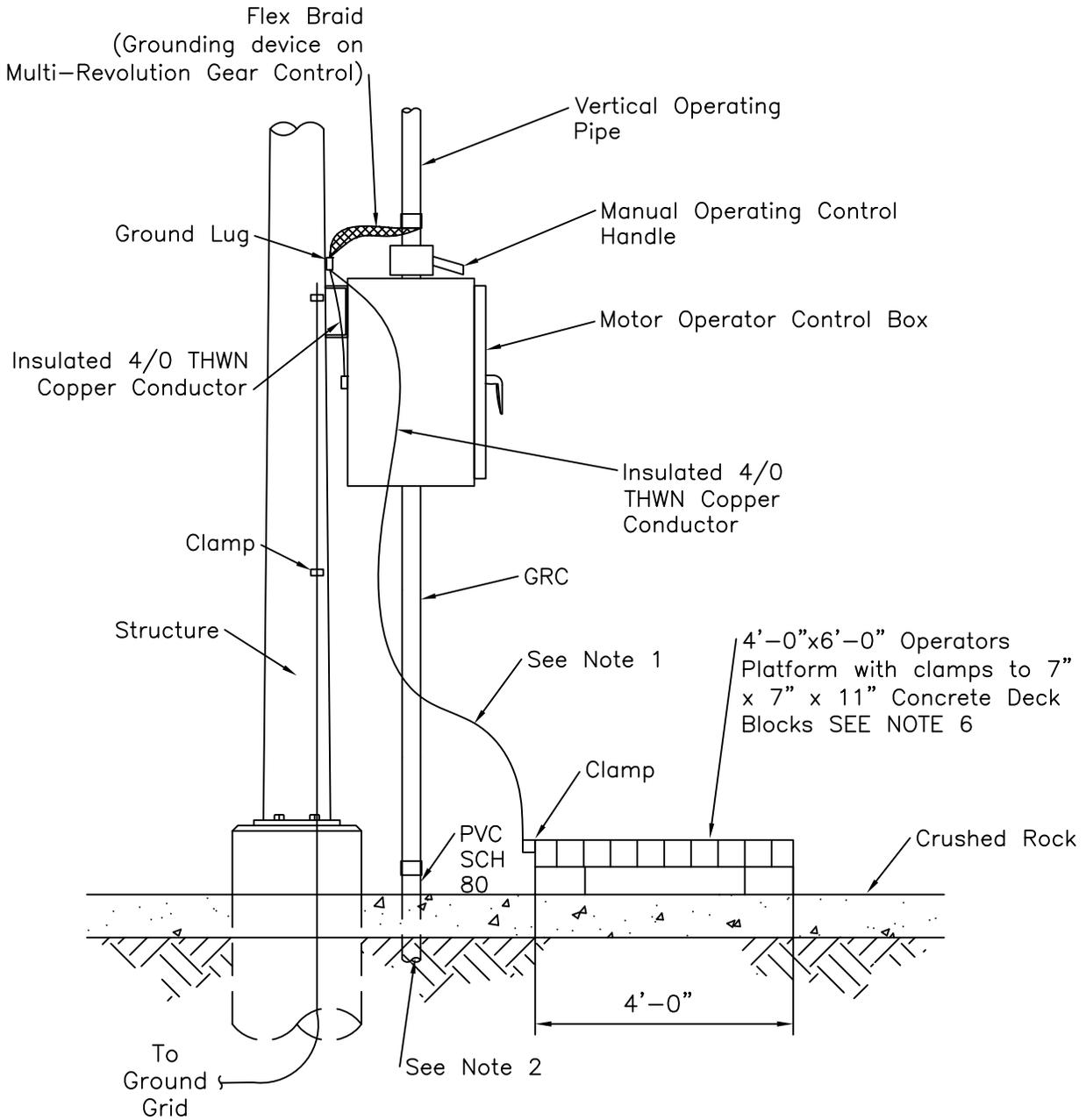
NOTES:

1. This conductor has to be installed above grade for visual inspection during routine substation maintenance.
2. Resistance between platform and switch handles shall be 1000 $\mu\Omega$ s or less.
3. Bottom of finished platform shall be 6" above crushed rock.
4. Additional grounding platforms may be required. An operator must be able to operate the switch without stepping off the platform.
5. If multiple grounding platforms are required they need to be bonded to each other only.
6. If platform clamp is galvanized, the clamp will need to be scraped to get coating off before wire is installed.

TYPICAL SWITCH GROUNDING

SEPT 2019	REVISED NOV 2022	GROUNDING ASSEMBLIES 230,115,44,34.5kV 12.47/7.2 kV	M2-16
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. This conductor has to be installed above grade for visual inspection during routine substation maintenance.
2. For new installations, PVC Sch 80 shall be installed 6" above grade.
3. Resistance between platform and gear control box shall be 1000 $\mu\Omega$ s or less.
4. Bottom of finished platform shall be 6" above crushed rock.
5. Vertical Operating Pipe and Control Box Grounded Separately, for manual use.
6. Additional grounding platforms may be required. An operator must be able to operate the switch without stepping off the platform.
7. If multiple grounding platforms are required they need to be bonded to each other only.
8. If platform clamp is galvanized, the clamp will need to be scraped to get coating off before wire is installed.

TYPICAL MOTOR OPERATED SWITCH GROUNDING

NOV 2019



REVISED NOV 2022

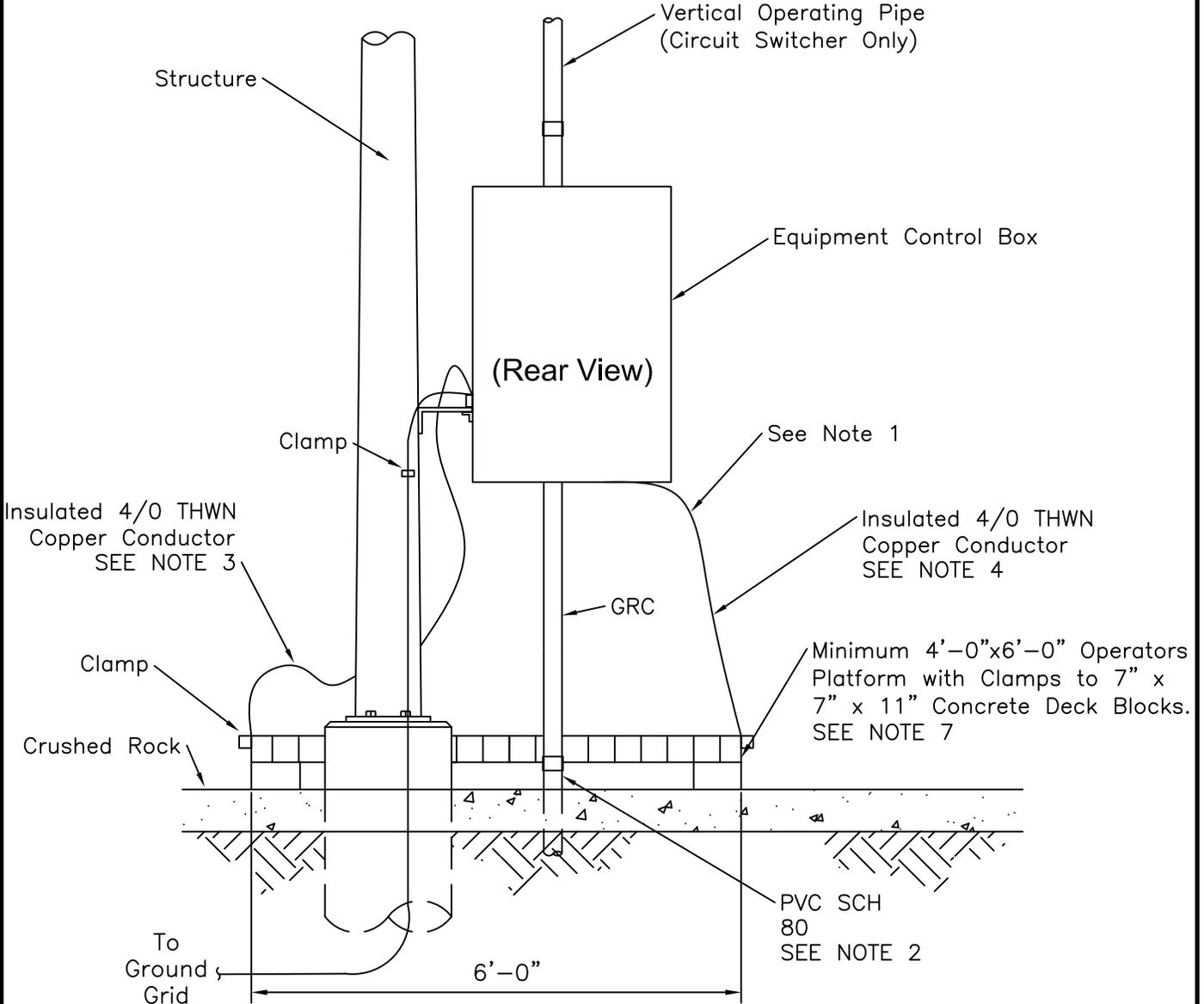
APPROVED BY MFJ

GROUNDING ASSEMBLIES

230,115,44,34.5,
12.47/7.2 kV

M2-17

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. This conductor has to be installed above grade for visual inspection during routine substation maintenance.
2. For new installations, PVC Sch. 80 shall be installed 6" above grade.
3. Platform Grounding Location for Circuit Switcher. If this ground wire is installed, do not install Note 4 ground wire.
4. Platform Grounding Location for Circuit Breaker. If this ground wire is installed, do not install Note 3 ground wire.
5. Resistance between platform and equipment control box shall be 1000 $\mu\Omega$ s or less.
6. Bottom of finished platform shall be 6" above crushed rock.
7. Additional grounding platforms may be required. An operators must be able to operate the switch without stepping off the platform.
8. If multiple grounding platforms are required they need to be bonded to each other only.
9. If platform clamp is galvanized, the clamp will need to be scraped to get coating off before wire is installed.

CIRCUIT SWITCHER OR CIRCUIT BREAKER CABINET GROUNDING

DEC 2019



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NOV 2022

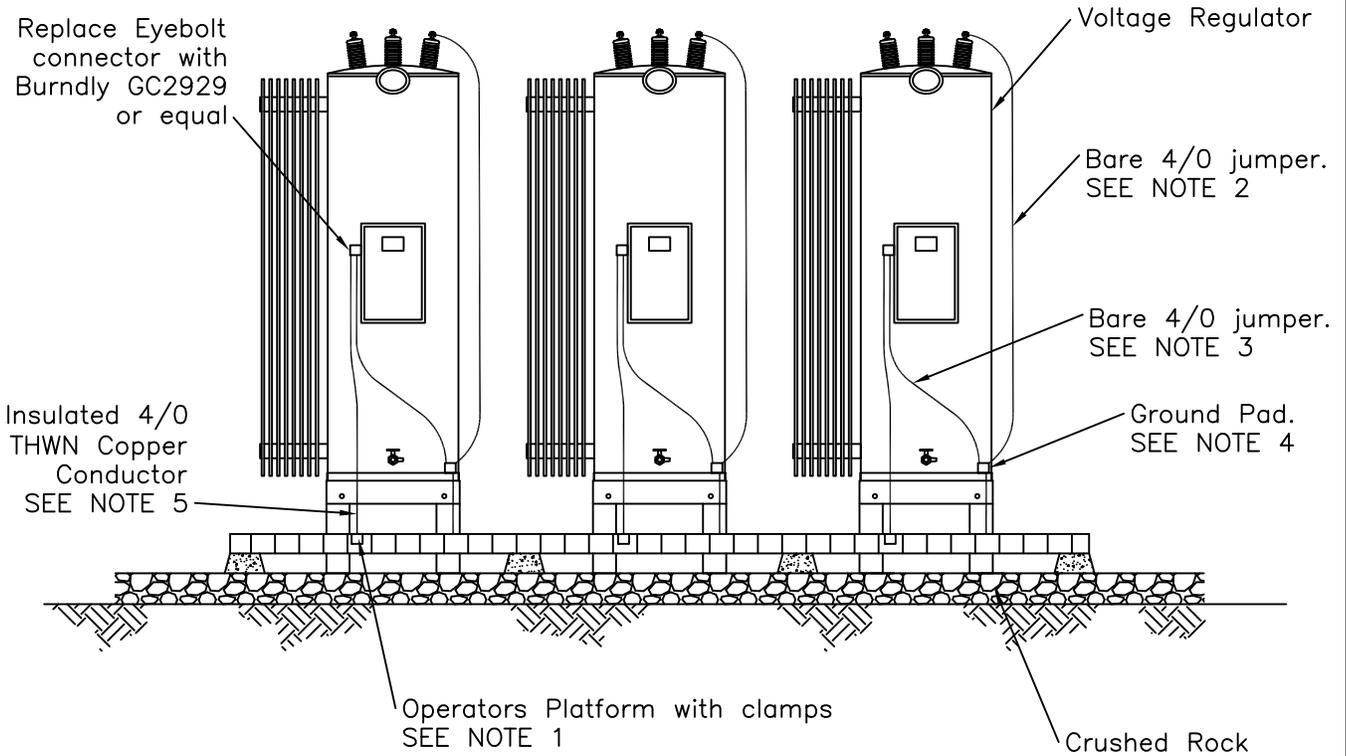
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GROUNDING ASSEMBLIES

230,115,44,34.5,
12.47/7.2 kV

M2-18

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



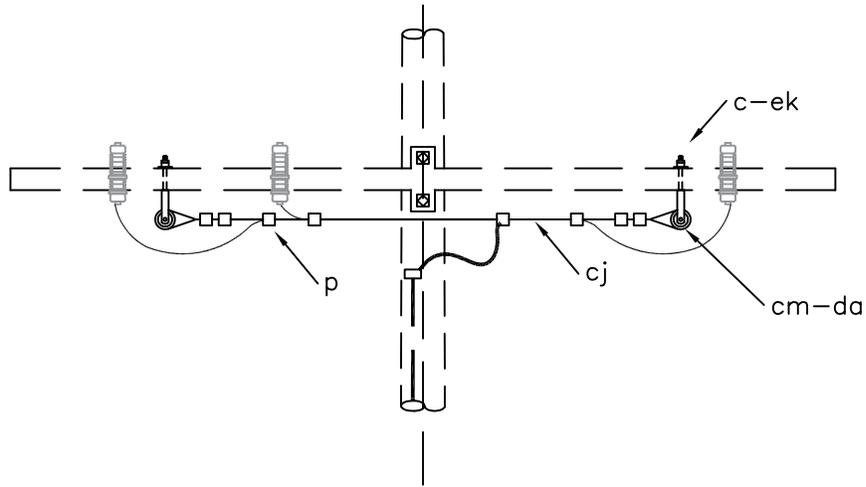
NOTES:

1. If three individual operator platforms are connected together, ensure 4/0 insulated bonding jumper is installed between each section. If the operator platform is one continuous piece, these jumpers are not required.
2. Add bare 4/0 jumper from the SL bushing to ground pad.
3. Add bare 4/0 jumper from new Burndly GC connector to new Burndly GB connector.
4. Add new Burndly GB29 or equal. OR Replace existing GB29 with Burndly GC2929.
5. This conductor has to be installed above grade for visual inspection during routine substation maintenance.
6. Resistance between platform and voltage regulator shall be 1000 $\mu\Omega$ s or less.
7. Finished platform shall be 6" above crushed rock.
8. If platform clamp is galvanized, the clamp will need to be scraped to get coating off before wire is installed.

TYPICAL SUBSTATION VOLTAGE
REGULATOR GROUNDING

MAY 2020	REVISED NOV 2022	GROUNDING ASSEMBLIES 230,115,44,34.5kV 12.47/7.2 kV	M2-19
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Fiberglass crossarms to be used in place of or substituted for wooden crossarms.
2. Factory drilled holes per CORE M19 type 05.
3. Center holes reserved for ground wire spools.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
p	9	Connectors, compression, #6 CU C Crimp	17030600
cm	2	Insulator, spool, 3"	34263010
cj	*	Ground wire, #6 copper or equiv.	15610501
da	2	Bracket, Clevis, Fbgls Crossarm Gnd	07804510
ek	*	Double coil spring washers, as req'd.	-

FIBERGLASS CROSSARM GROUNDING

APR. 1983

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NOV 2022

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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M2-20

*Quantity as Required



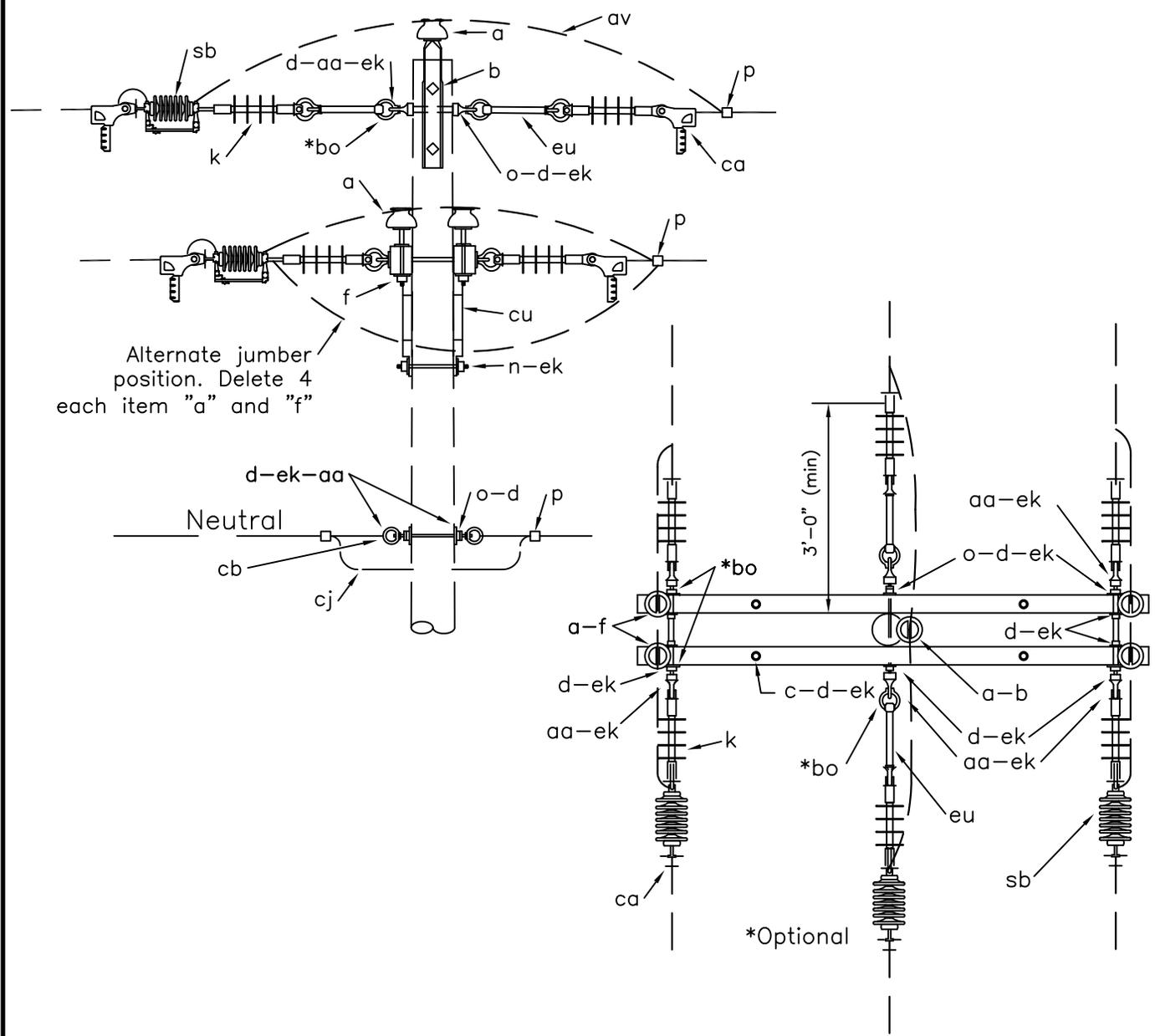


SWITCHING ASSEMBLIES

SWITCH ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
16.01	M3-3B	Line Tension Switches
16.02	M3-4A	Sectionalizing Fuse & Arrestor for Single-Phase Tap
16.03	M3-15H	Gang Operated Air Break (GOAB) Switch (Horizontal)
16.04	M3-15HR	Gang Operated Air Break (GOAB) Switch (Horizontal)
16.05	M3-15V	Gang Operated Air Break (GOAB) Switch (Vertical)
16.06	M3-16	Three-Phase Deadend (Double) with Disconnect Switches
16.07	M3-16I	Three-Phase Deadend (Double) with Interrupter Disconnect Switches
16.08	M3-16X	Three-Phase Disconnect Switches
16.09	M3-16XI	Three-Phase Interrupter Disconnect Switches
16.10	M3-17	Three-Phase Deadend (Double) with Disconnect Switches Inverted Braces
16.11	M3-17I	Three-Phase Deadend (Double) with Interrupter Disconnect Switches Inverted Braces
16.12	M3-18	Single-Phase Disconnect Switch
16.13	M3-31	Line Tension Switch 15kV-600 Amp
16.14	M3-DC-C7	Three-Phase Double Circuit Vertical Gang Operated Switch Pole

ITEM	QTY	ASSET #	INVENTORY NO.
a	5	DT OH 365055	34223010
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020
sb	3	DT OH 365075	65218600



NOT FOR NEW CONSTRUCTION

LINE TENSION SWITCHES
SHEET 1 OF 2

* Quantity as Required

APR. 1983	REVISED NOV 2022	SWITCHING ASSEMBLIES 12.47/7.2 kV	M3-3B
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. Minimum conductor size is 4/0.
2. Specify that extension links are to be supplied with switches.
3. Items ca and cb are shown on assembly drawing M42-13.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	5	Insulator, pin type	34223010
b	1	Pin, pole top, 20"	45612120
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	4	Washer, square, curved, 3"	-
d	10	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
f	4	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
o	2	Bolt, eye, 5/8"x req'd. length	063615TT
p	*	Connectors, compression, as req'd.	-
p	6	Connectors, compression, M43-11 assembly	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, stranded, sized, as req'd.	-
av	*	Jumpers, stranded, insulated, as req'd.	-
bo	2	Shackle, anchor	12302800
ca	6	Deadend assembly, primary	117220XX
cc	2	Deadend assembly, neutral	117220XX
cu	2	Brace, wood, 60", pair	07535168
eu	3	Extension links	34276130
ek	*	Double coil spring washers, as req'd	-
sb	3	Switch, line tension	65218600

NOT FOR NEW CONSTRUCTION

LINE TENSION SWITCHES
SHEET 2 OF 2

APR. 1983

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SWITCHING ASSEMBLIES

M3-3B

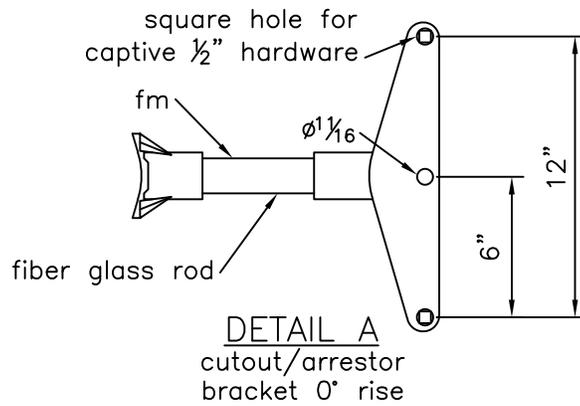
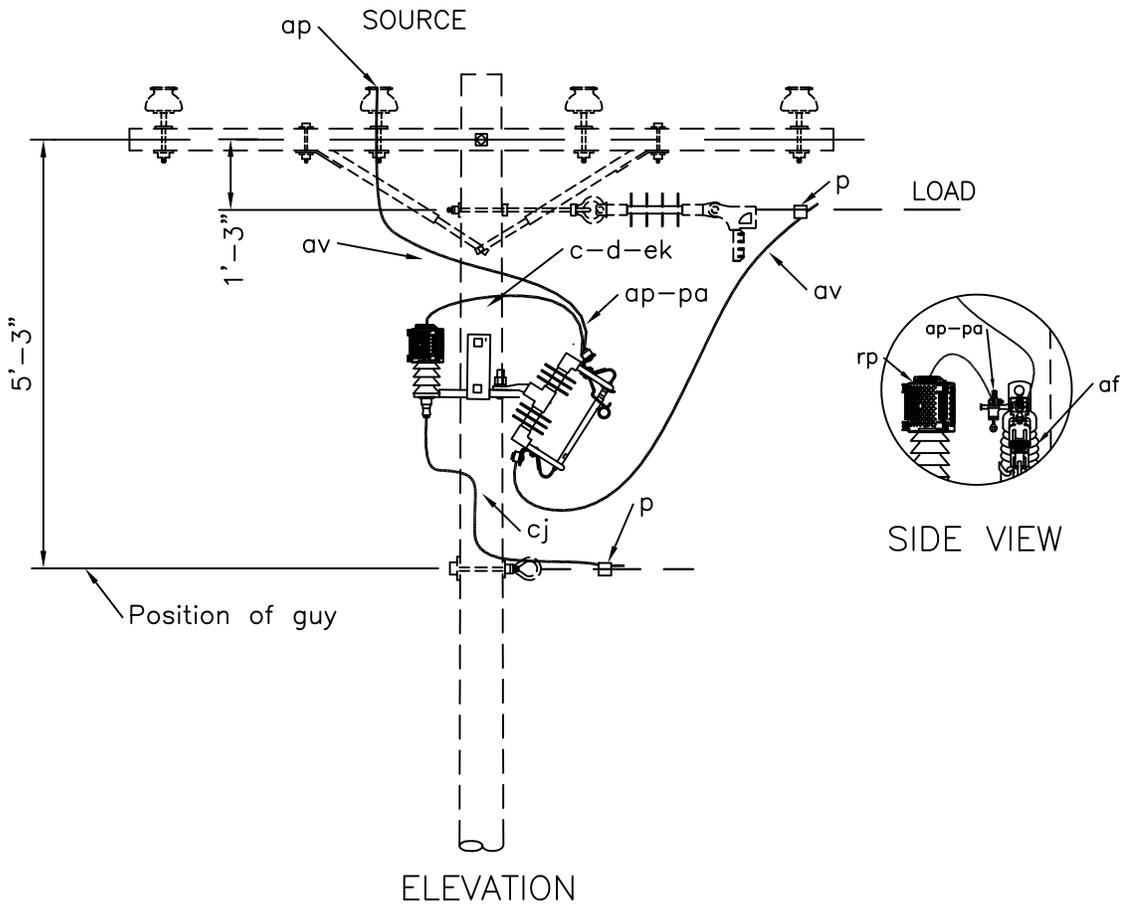


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MFJ

12.47/7.2 kV

* Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
ae	1	DT LA 368001	01520991
af	1	DT OH 365049	18312111



SECTIONALIZING FUSE & ARRESTER
FOR SINGLE-PHASE TAP
SHEET 1 OF 2

DEC. 1985



REVISED
DEC 2022

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MFJ

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-4A

16.02.1

NOTES:

1. Arrester to have Dedicated Jumper to Source.
2. If arresters are existing, additional arrester is not needed.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, Square, Curved, 3"	-
p	*	Connector, as req'd.	-
ae	1	Lightning arrester	01520991
af	1	Cutout, fused	18312111
al	*	Staples, ground wire	-
ap	2	Hot Line Clamp	114139XX
av	*	Jumpers, Hendrix covered as req'd.	-
cj	*	Ground wire, #6cu	15610501
ee	1	Phase and device tags w/ nails	-
ek	*	Double coil spring washers, as req'd.	-
fm	1	Bracket, combination, 18" insulated	07803500
rp	1	Wildlife Bushing Guard, Small	25001006
pa	1	Connector, Arrester	17040100

SECTIONALIZING FUSE & ARRESTER
FOR SINGLE-PHASE TAP
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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DEC 2022

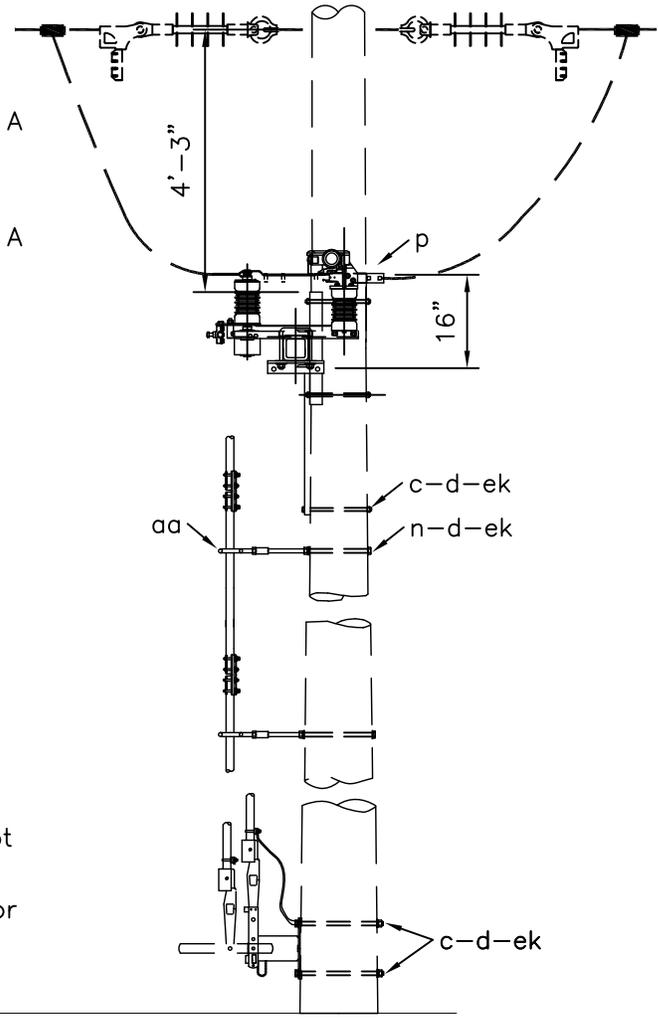
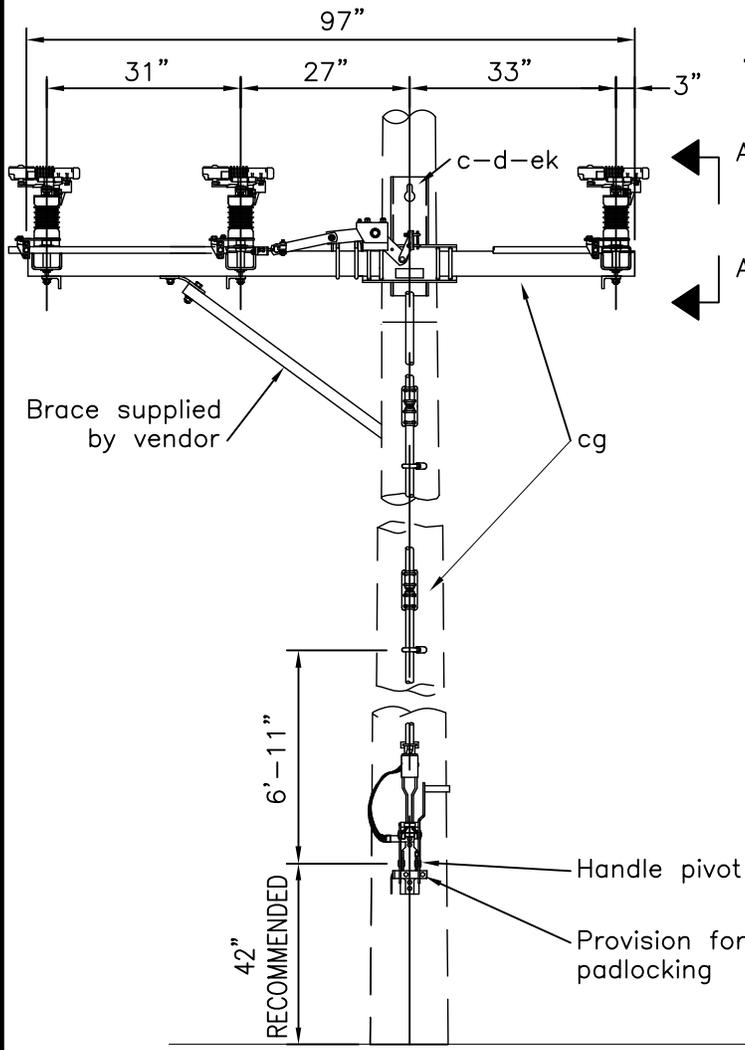
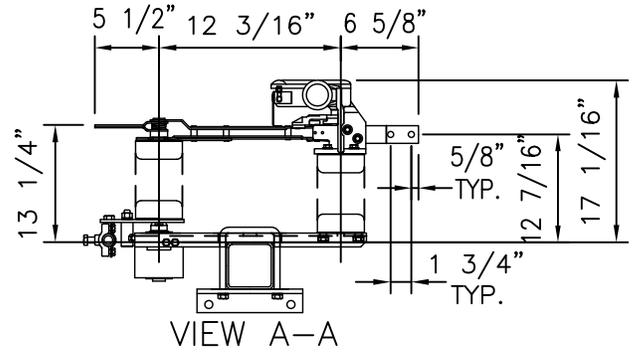
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MISC. ASSEMBLIES
12.47/7.2 kV

M3-4A

16.02.2

ITEM	QTY	ASSET #	INVENTORY NO.
cg	1	DT OH 365050	65446050



NOT FOR NEW CONSTRUCTION

Requires minimum Class 3 pole.
System Improvement Department approval required.

GANG OPERATED AIR BREAK (GOAB) SWITCH (HORIZONTAL) SHEET 1 OF 2

DEC. 2001	REVISED NOV 2022	SWITCHING ASSEMBLIES 12.47/7.2 kV	M3-15H
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

NOTES:

1. Dimensions and configurations may vary depending on switch manufacturer.
2. Crossarm brace supplied by vendor.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	*	Washer, square, 2 1/4"	-
d	2	Washer, square, curved, 3"	-
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
p	6	Connectors (Paddles), as req'd.	-
aa	6	Nut, eye, 5/8"	41904065
av	*	Jumpers, Hendrix stranded, sized, as req'd.	-
cg	1	Switch assembly (Gang) with controls and mounting hardware.	65446000

NOT FOR NEW CONSTRUCTION

Requires minimum Class 3 pole.
System Improvement Department approval required.

**GANG OPERATED AIR BREAK (GOAB) SWITCH
(HORIZONTAL)
SHEET 2 OF 2**

DEC. 2001

REVISED
NOV 2022

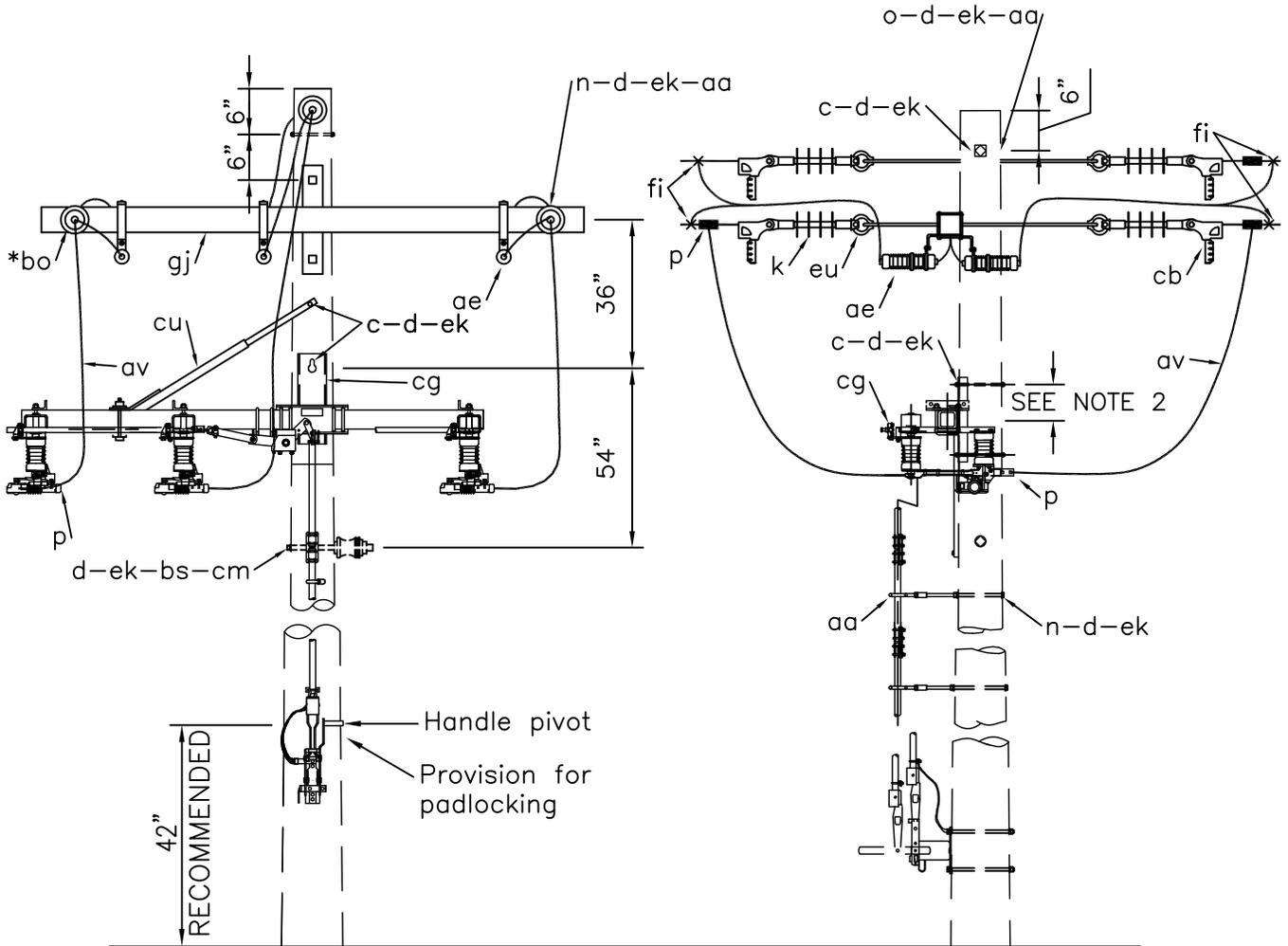
SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-15H



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MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365073	34281020
ae	6	DT OH 365001	01520991
cg	1	DT OH 365050	65446040
gj	1	DT OH 364026	18081207



Requires minimum 40-3 pole.
 System Improvement Department approval required.

GANG OPERATED AIR BREAK (GOAB) SWITCH (HORIZONTAL) SHEET 1 OF 2

*Quantity as Required

SEPT. 2018

REVISED
MAY 2022

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-15HR



APPROVED BY
MFJ

NOTES:

1. Airbreak switch with inverted brace for raptor protection. Brace supplied by vendor.
2. Dimensions and configurations may vary depending on switch manufacturer.
3. Requires M2-15A, separately specified.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd length	063806TT
c	3	Bolt, machine, 5/8" x req'd length	063805TT
c	1	Bolt, machine, 1/2" x req'd length	063804TT
d	12	Washer, square, 2 1/4"	-
d	1	Washer, round, 1 3/8"	-
d	4	Washer, square, curved, 3"	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
gj	1	Crossarm, 3 3/4" x 4 3/4" x 10'-0" fiberglass	18081207
n	4	Bolt, double arming, 5/8" x req'd length	063305TT
o	1	Bolt, eye, 5/8" x req'd length	063615TT
p	*	Connectors, as req'd.	-
p	6	Connector, T-Tap, bolted	170700XX
p	12	Connector, terminal, 2-hole NEMA	170900XX
aa	1	Nut, eye, 5/8"	41904065
ae	6	Arresters, Surge	01520991
al	*	Staples, ground wire	-
cb	6	Clamp, deadend, primary	117220XX
av	*	Jumpers, Hendrix stranded, insulated, sized, as req'd.	-
bo	6	Anchor, Shackle	12302800
bs	1	Bolt, single, upset	063905TT
cg	1	Switch assembly (gang) with controls & mounting hardware	65446040
cj	*	Ground wire, #6cu	15610501
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
ek	*	Double coil spring washers, as req'd	-
eu	6	Link, extension, insulated 12", C-TE	34276130
fi	6	Clam, Hot Line	114139XX
cu	1	Brace, Wood, 60" Span, Pair	07535168

Requires minimum 40-3 pole.

System Improvement Department approval required.

*Quantity as Required

GANG OPERATED AIR BREAK (GOAB) SWITCH
(HORIZONTAL) SHEET 2 OF 2

SEPT. 2018



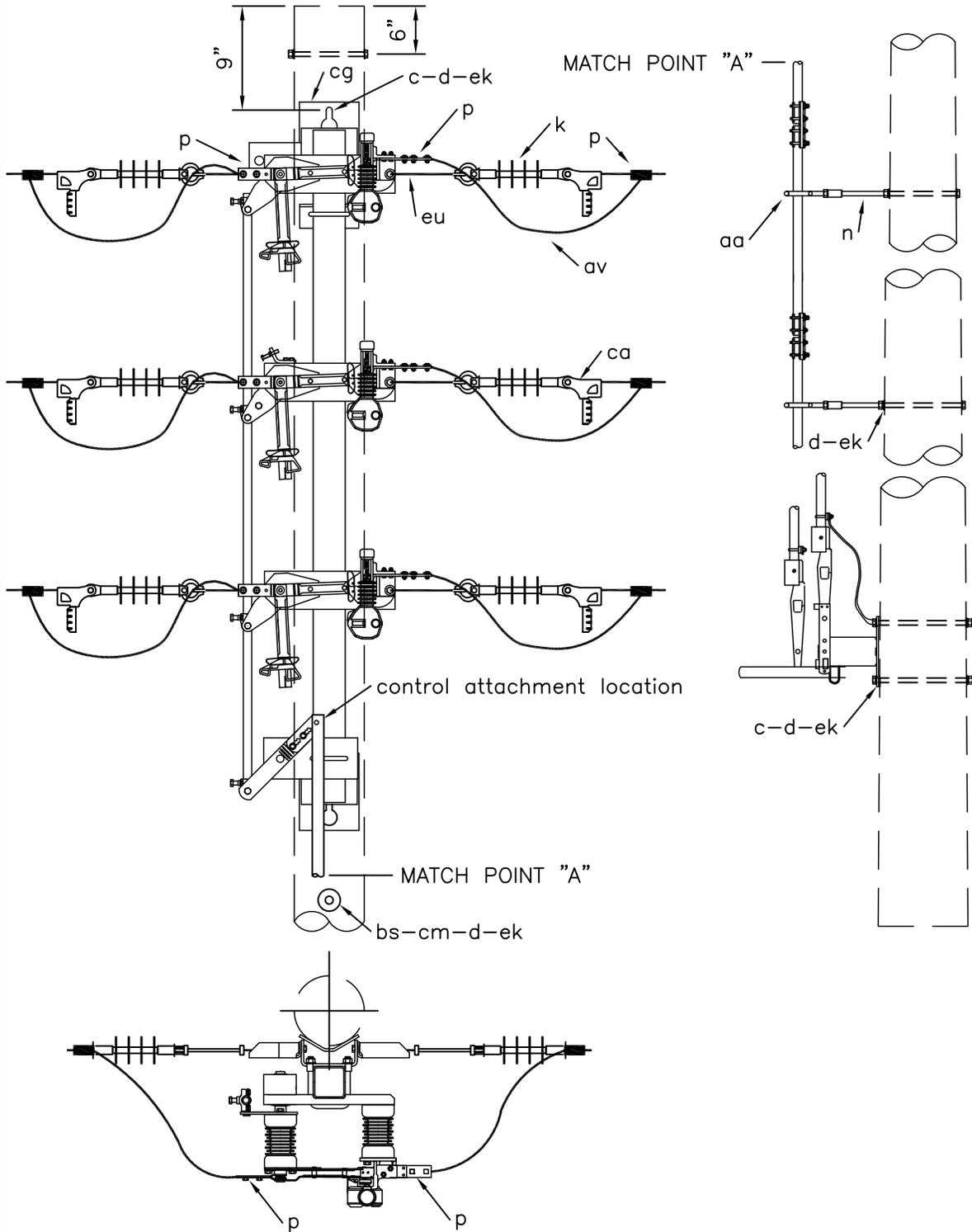
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SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-15HR

ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020
ae	6	DT OH 365001	01520991
cg	1	DT OH 365050	65446000



Requires minimum 45' Class 3 pole.

System Improvement Department approval required.

*Quantity as Required

GANG OPERATED AIR BREAK (GOAB) SWITCH (VERTICAL) SHEET 1 OF 2

DEC. 2011



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NOV 2022

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SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-15V

NOTES:

1. When adding to a double-circuit (switches mounted on opposite sides of pole), include six (6) stand-off brackets (16" min.)
2. Specify lighting arrestors separately. See drawing M5-6B.
3. Dimensions and configurations may vary depending on switch manufacturer.
4. Item fi connector, M43-10B assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	*	Washer, square, 2 1/4"	-
d	2	Washer, square, curved, 3"	-
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
aa	6	Nut, eye, 5/8"	41904065
bs	1	Bolt, single upset, 5/8"	063905TT
cm	1	Insulator, spool, 3", ANSI 53-2	34263010
ca	6	Deadend assembly, primary	117220XX
ek	*	Double coil spring washers, as req'd	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	6	Connectors (Paddles), as req'd, 2-hole NEMA	170900XX
al	*	Staples, ground wire	-
cg	1	Switch assembly (Gang) Vertical with controls and mounting hardware.	65446000
av	*	Jumpers, Hendrix stranded, insulated, sized, as req'd.	-
cj	*	Ground wire, #6cu	15610501
eu	6	Link, extension, insulated, 12", C-TE	34276130

Requires minimum 45' Class 3 pole.

System Improvement Department approval required.

*Quantity as Required

GANG OPERATED AIR BREAK (GOAB) SWITCH
(VERTICAL) SHEET 1 OF 2

DEC. 2011



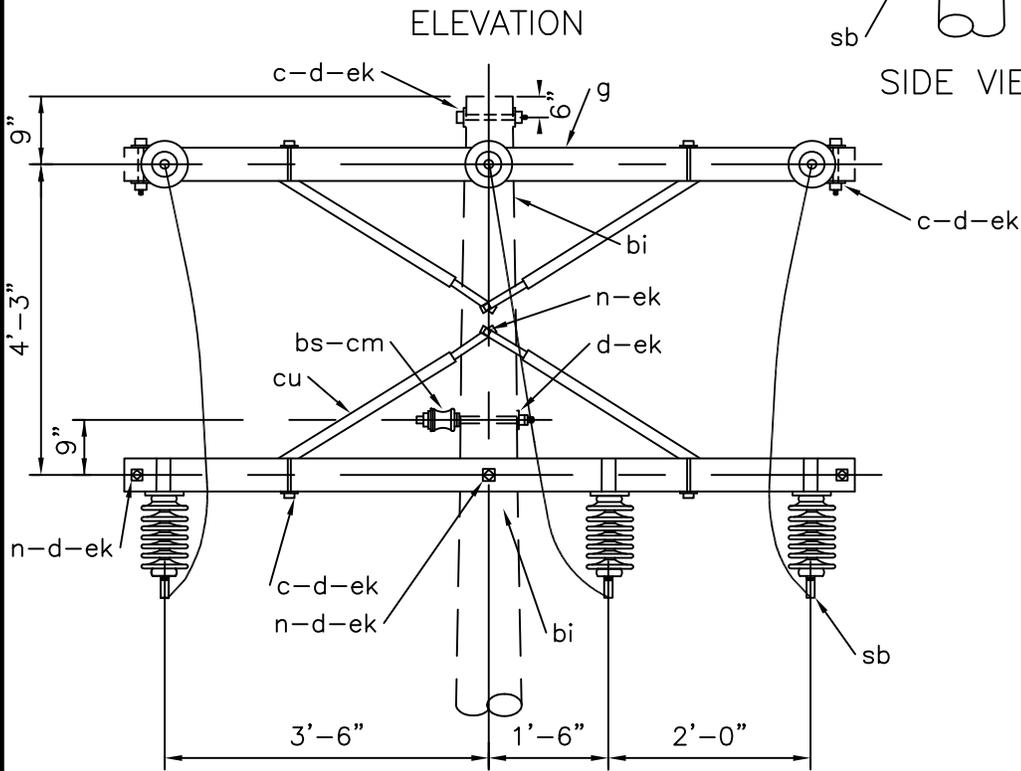
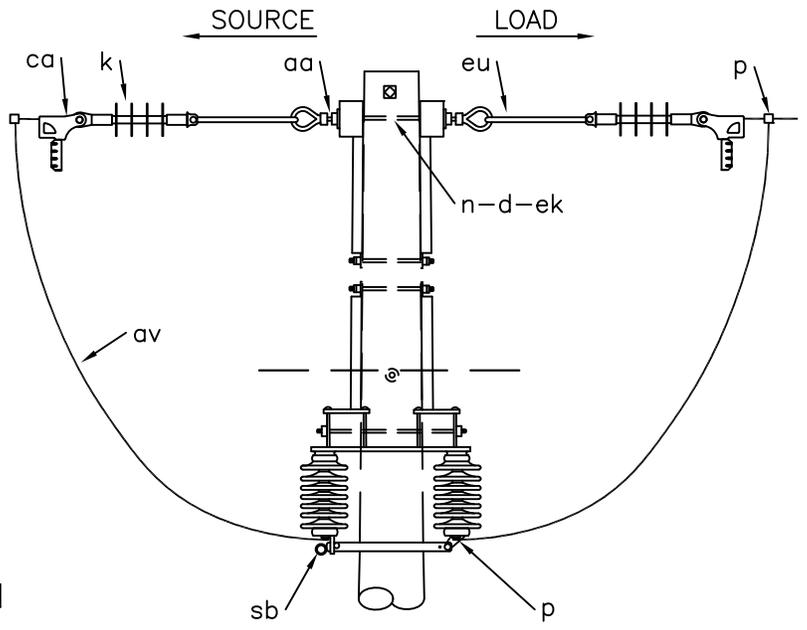
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MFJ

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-15V

ITEM	QTY	ASSET #	INVENTORY NO.
g	4	DT PC 364021	18290311
k	6	DT OH 365055	34281020
sb	3	DT LT 368006	65219401



NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH DISCONNECT SWITCHES SHEET 1 OF 2

*Quantity as Required

DEC. 1985



REVISED NOV 2022

APPROVED BY JDP

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-16

16.06.1

NOTE:

- Item fi connector, M43-10 assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	8	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	4	Washer, square, 3"	-
d	19	Washer, square, 2 $\frac{1}{4}$ "	-
d	8	Washer, round, 1 $\frac{3}{8}$ ", $\frac{9}{16}$ " hole	-
g	4	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	2	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
n	6	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
p	*	Connectors, as req'd.	-
aa	2	Nut, eye, $\frac{3}{4}$ "	41904063
aa	4	Nut, eye, $\frac{5}{8}$ "	41904065
av	*	Jumpers, stranded, covered, sized, as req'd.	-
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, 3" spool, ANSI 53-2	34263010
cu	4	Brace, crossarm, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd	-
bi	4	Gain, pole, 4"x4", spurs, pole side	-
sb	3	Switch, disconnect	65219401
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH
DISCONNECT SWITCHES SHEET 2 OF 2

DEC. 1985



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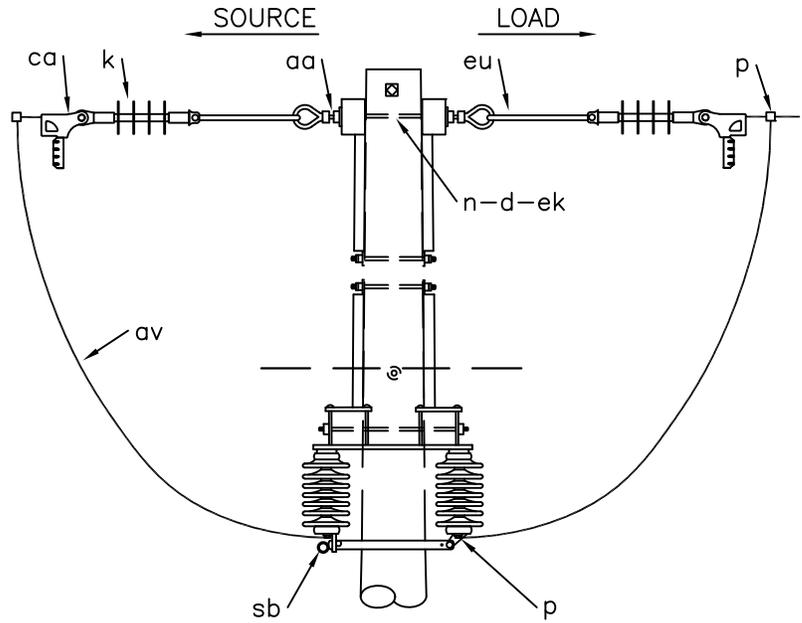
SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-16

*Quantity as Required

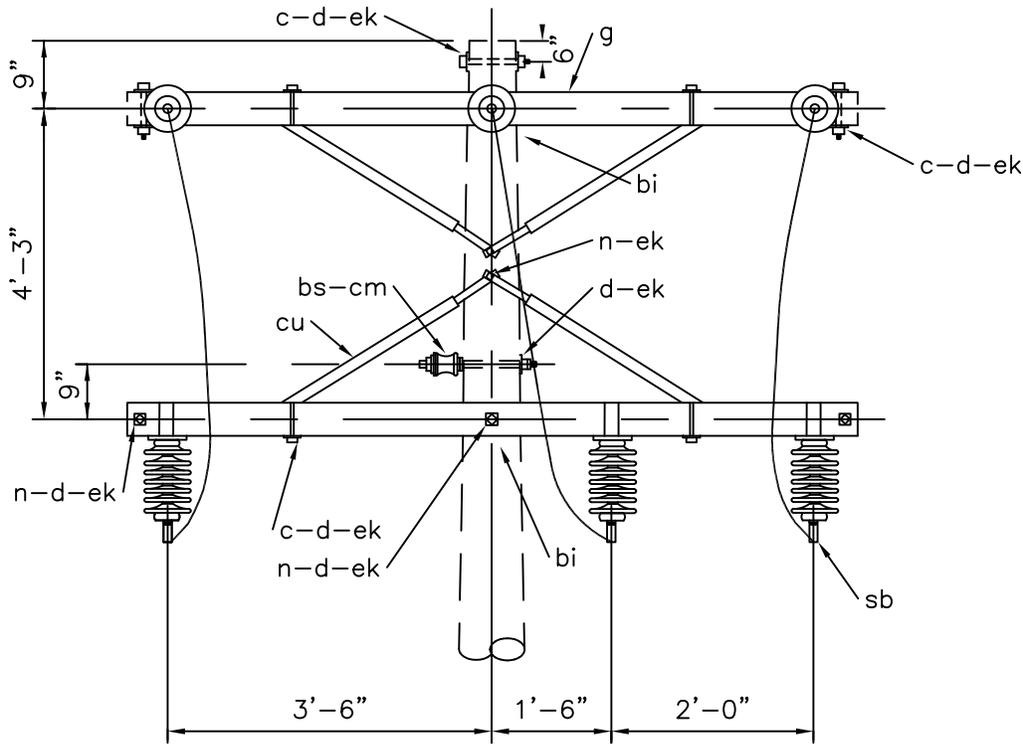
16.06.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	4	DT PC 364021	18290311
k	6	DT OH 365055	34281020
sb	3	DT LT 365075	65219402



ELEVATION

SIDE VIEW



NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH INTERRUPTER DISCONNECT SWITCHES
SHEET 1 OF 2

*Quantity as Required

DEC. 1985



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JDP

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-16I

16.07.1

NOTE:

- Item fi connector, M43-10 assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	8	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	4	Washer, square, 3"	-
d	19	Washer, square, 2 $\frac{1}{4}$ "	-
d	8	Washer, round, 1 $\frac{3}{8}$ ", $\frac{9}{16}$ " hole	-
g	4	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	2	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
n	6	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
p	*	Connectors, as req'd.	-
aa	2	Nut, eye, $\frac{3}{4}$ "	41904063
aa	4	Nut, eye, $\frac{5}{8}$ "	41904065
av	*	Jumpers, stranded, covered, sized, as req'd.	-
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, 3" spool, ANSI 53-2	34263010
cu	4	Brace, crossarm, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd	-
bi	4	Gain, pole, 4"x4", spurs, pole side	-
sb	3	Switch, disconnect, interrupter type	65219402
eu	2	Link, extension, insulated, 12", C-TE	34276130

NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH
INTERRUPTER DISCONNECT SWITCHES
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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NOV 2022

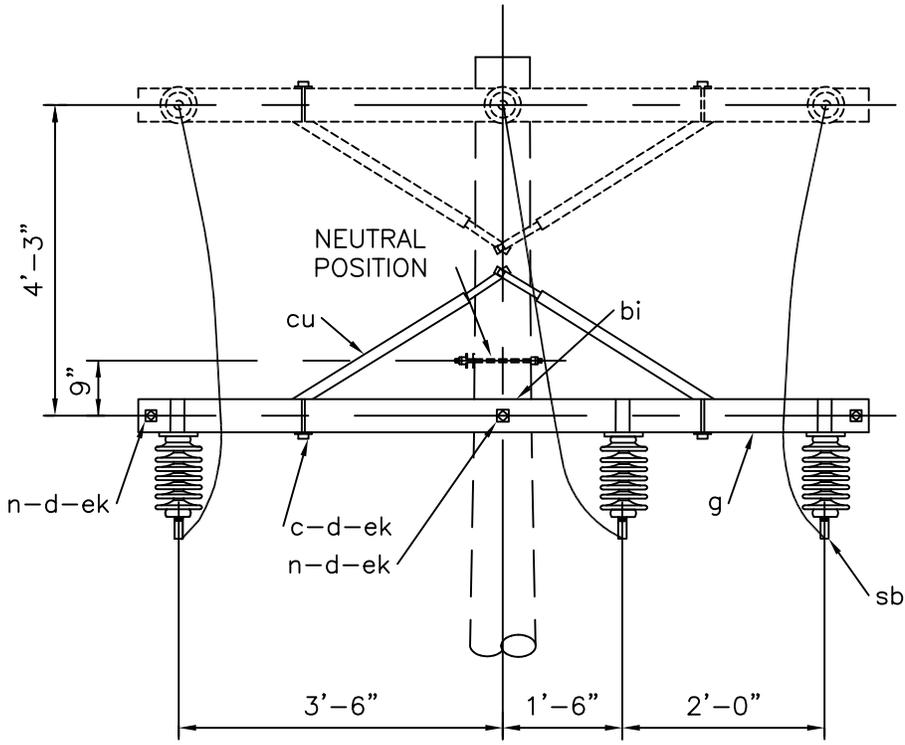
APPROVED BY
JDP

SWITCHING ASSEMBLIES
12.47/7.2 kV

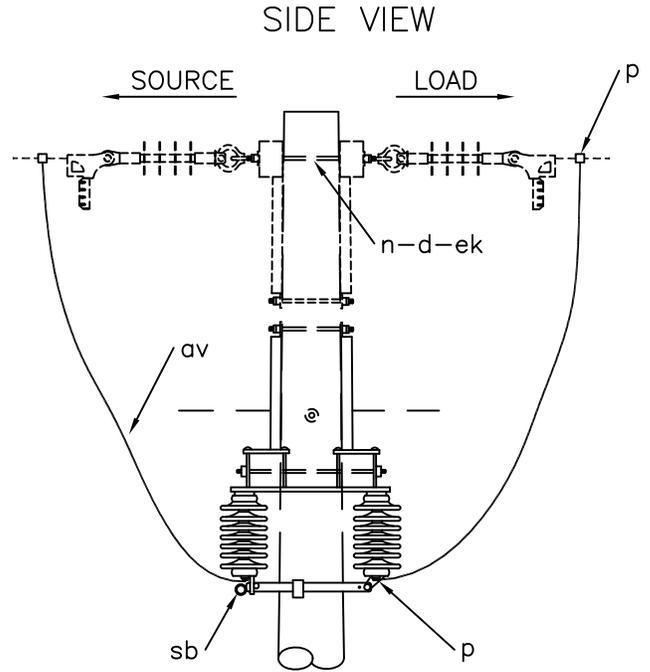
M3-16I

16.07.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
sb	3	DT LT 368006	65219401



ELEVATION



SIDE VIEW

NOT FOR NEW CONSTRUCTION

3-PHASE DISCONNECT SWITCHES
SHEET 1 OF 2

*Quantity as Required

DEC. 1985	REVISED NOV 2022	SWITCHING ASSEMBLIES 12.47/7.2 kV	M3-16X
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTE:

- Item fi connector, M43-10 assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	8	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
p	6	Connectors, as req'd.	-
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
sb	3	Switch, disconnect	65219401
ek	*	Double coil spring washers, as req'd	-
bi	2	Gain, pole, 4"x4", spurs, pole side	-

3-PHASE DISCONNECT SWITCHES
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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NOV 2022

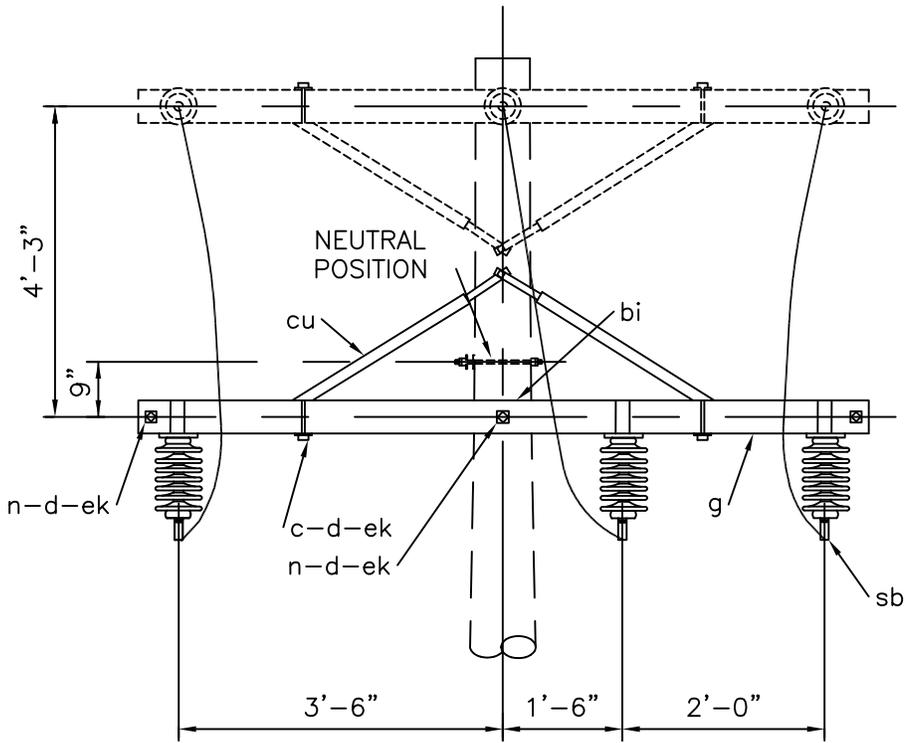
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SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-16X

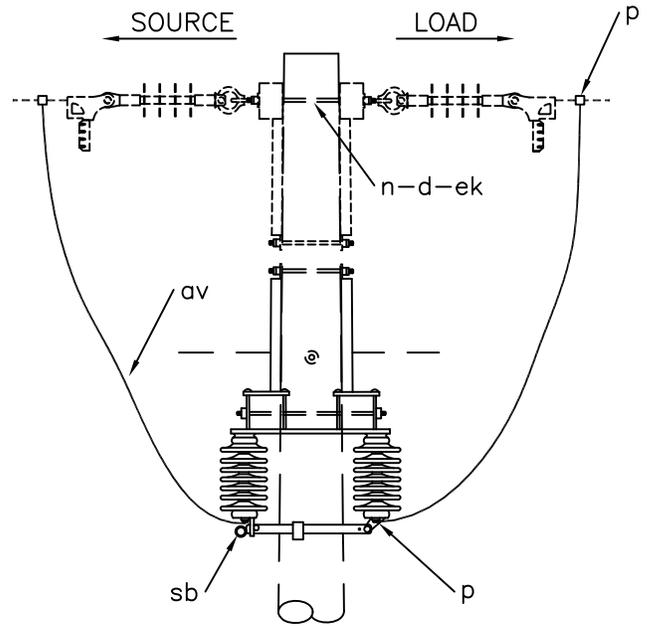
16.08.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
sb	3	DT LT 365055	65219402



ELEVATION

SIDE VIEW



NOT FOR NEW CONSTRUCTION

3-PHASE INTERRUPTER DISCONNECT SWITCHES
SHEET 1 OF 2

*Quantity as Required

DEC. 1985



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NOV 2022

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JDP

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-16XI

16.09.1

NOTE:

- Item fi connector, M43-10 assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	8	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as req'd.	-
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
sb	3	Switch, disconnect, interrupter type	65219402
ek	*	Double coil spring washers, as req'd	-
bi	2	Gain, pole, 4"x4", spurs, pole side	-

NOT FOR NEW CONSTRUCTION

3-PHASE INTERRUPTER DISCONNECT SWITCHES
SHEET 2 OF 2

DEC. 1985



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NOV 2022

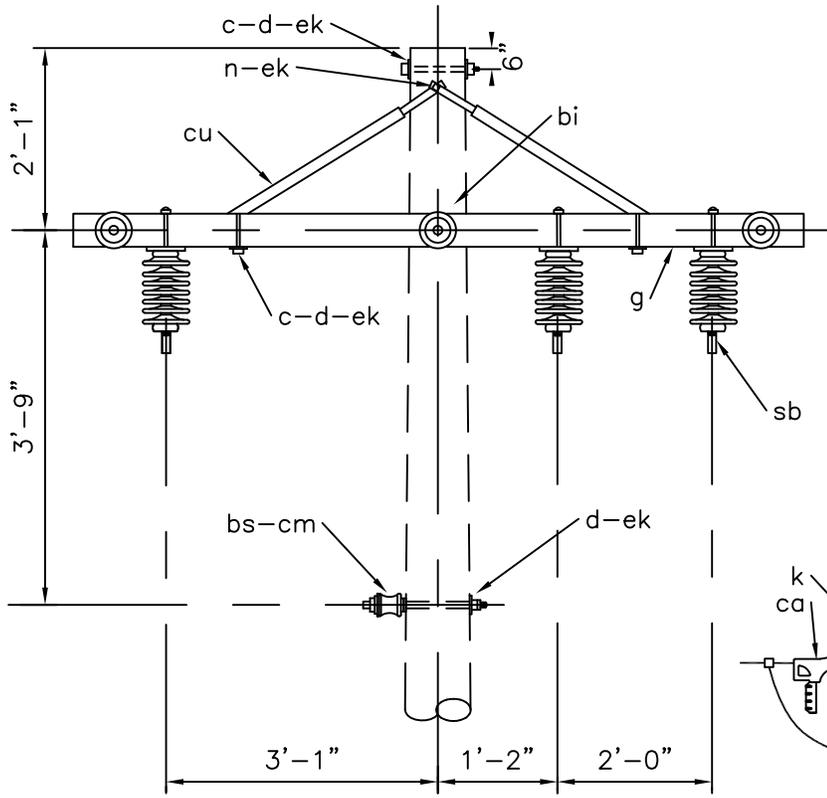
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SWITCHING ASSEMBLIES
12.47/7.2 kV

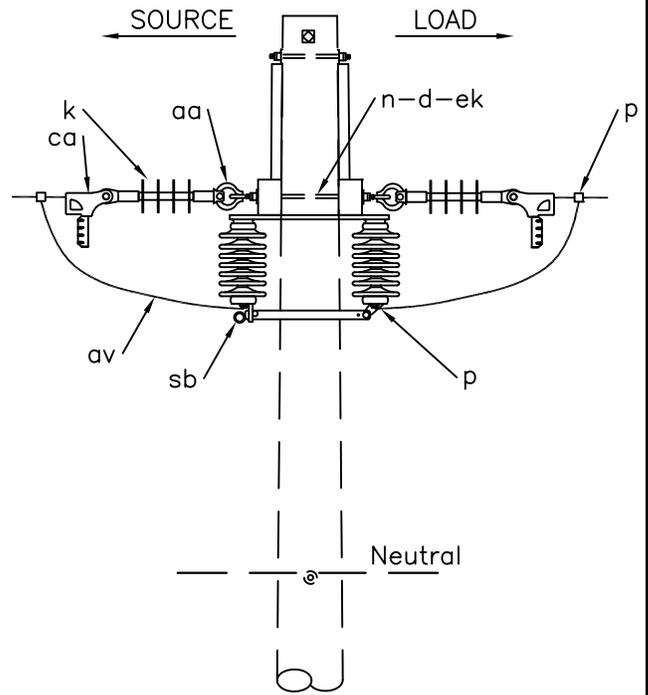
M3-16XI

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	6	DT PC 365055	34281020
sb	3	DT LT 368006	65219401



ELEVATION



SIDE VIEW

NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH
DISCONNECT SWITCHES INVERTED BRACES
SHEET 1 OF 2

*Quantity as Required

DEC. 1985



REVISED
NOV 2022

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JDP

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-17

16.10.1

NOTE:

- Item fi connector, M43-10B assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	11	Washer, square, 2 1/4"	-
d	4	Washer, round, 1 3/8"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as req'd.	-
aa	2	Nut, eye, 3/4"	41904063
aa	4	Nut, eye, 5/8"	41904065
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
bs	1	Bolt, single upset, 5/8" x req'd. length	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, 3" spool, ANSI 53-2	34263010
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
sb	3	Switch, disconnect	65219401
ek	*	Double coil spring washers, as req'd	-
bi	2	Gain, pole, 4"x4", spurs, pole side	46800260

NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH
DISCONNECT SWITCHES INVERTED BRACES
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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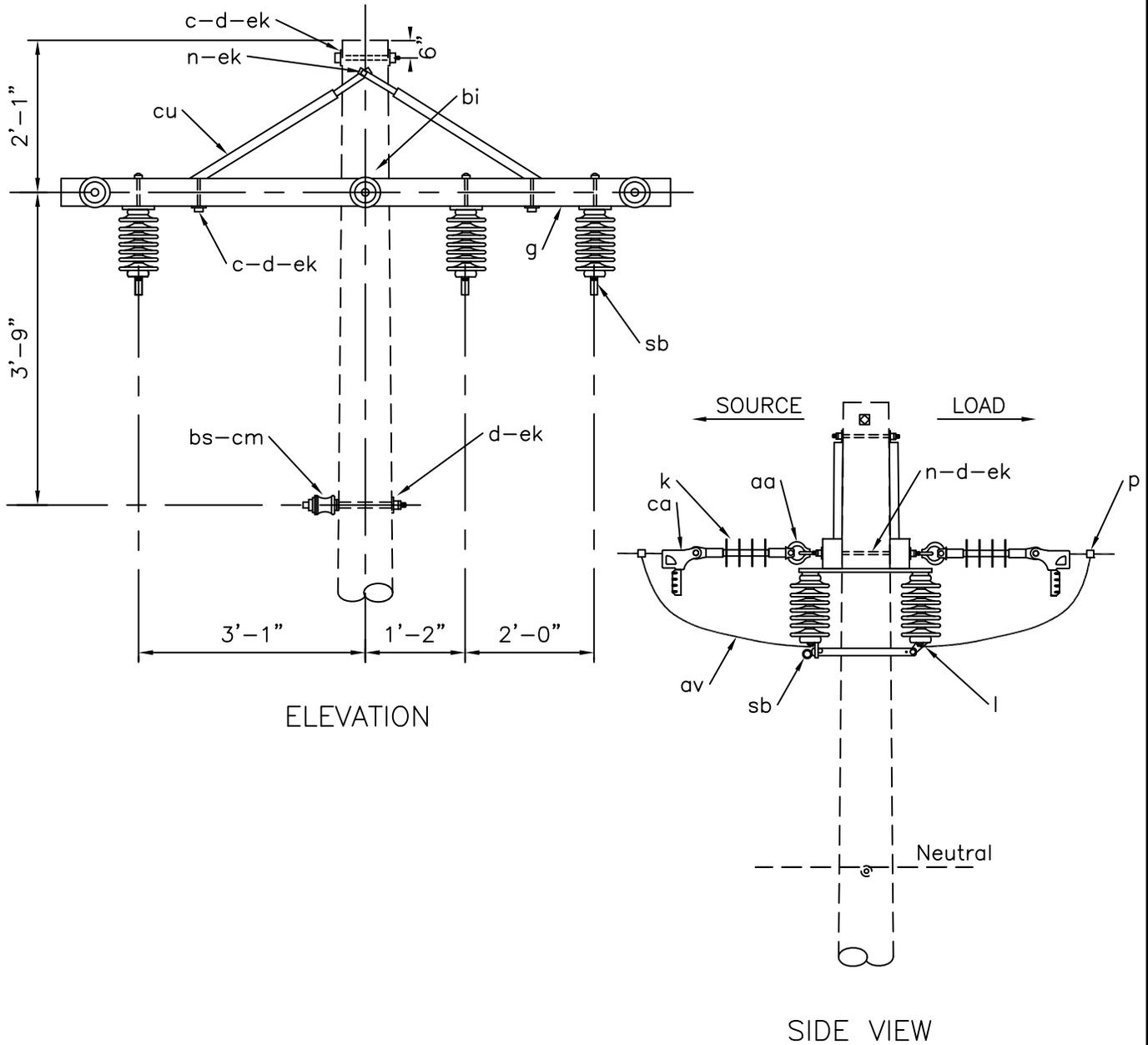
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SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-17

16.10.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	6	DT PC 365055	34281020
sb	3	DT LT 365075	65219402



NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH INTERRUPTER DISCONNECT SWITCHES
INVERTED BRACES SHEET 1 OF 2

*Quantity as Required

DEC. 1985

REVISED
NOV 2022

SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-171

16.11.1



APPROVED BY
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NOTE:

- Item fi connector, M43-10 assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	4	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	2	Washer, square, 3"	-
d	11	Washer, square, 2 $\frac{1}{4}$ "	-
d	4	Washer, round, 1 $\frac{3}{8}$ "	-
g	2	Crossarm, 3 $\frac{5}{8}$ " x 4 $\frac{5}{8}$ " x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
p	6	Terminal, compression pad, 2-hole NEMA	170900XX
n	1	Bolt, double arming, $\frac{3}{4}$ " x req'd. length	063306TT
n	3	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
p	*	Connectors, as req'd.	-
aa	2	Nut, eye, $\frac{3}{4}$ "	41904063
aa	4	Nut, eye, $\frac{5}{8}$ "	41904065
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, 3" spool, ANSI 53-2	34263010
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
sb	3	Switch, disconnect, interrupter type	65219402
ek	*	Double coil spring washers, as req'd	-
bi	2	Gain, pole, 4"x4", spurs, pole side	-

NOT FOR NEW CONSTRUCTION

3-PHASE DEADEND (DOUBLE) WITH
INTERRUPTER DISCONNECT SWITCHES
INVERTED BRACES SHEET 2 OF 2

*Quantity as Required

DEC. 1985



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NOV 2022

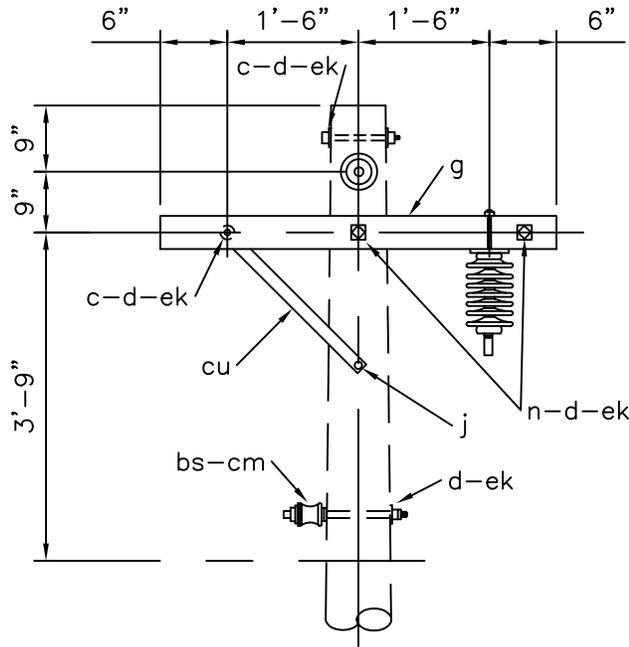
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SWITCHING ASSEMBLIES
12.47/7.2 kV

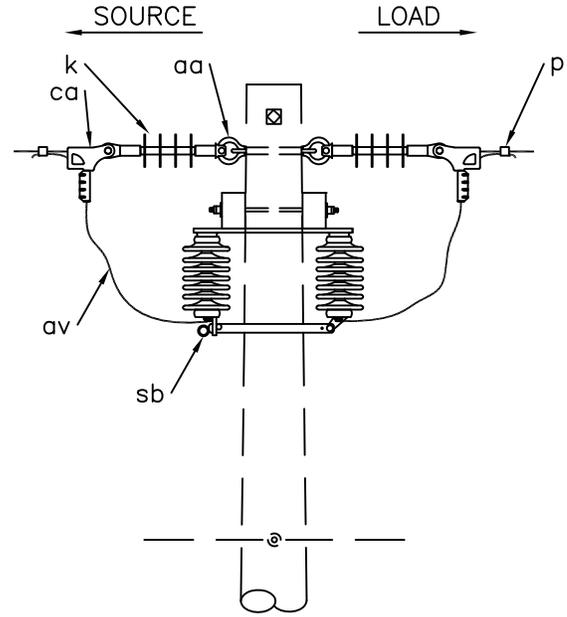
M3-17I

16.11.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311
k	2	DT OH 365055	34281020
sb	1	DT LT 368006	65219401



ELEVATION



SIDE VIEW

NOT FOR NEW CONSTRUCTION

NOTE:

- Item fi connector, M43-10B assembly, or item p connector, M43-11 assembly, separately specified when required.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	3	Washer, square, 3"	-
d	1	Washer, square, 3", curved	-
d	7	Washer, square, 2 1/4"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 4'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag	-
k	2	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
o	1	Eyebolt 5/8" x req'd length	063615TT
p	*	Connectors, as req'd.	-
aa	1	Nut, eye, 5/8"	41904165
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
bs	1	Bolt, single upset, 5/8" x req'd. length	063905TT
ca	2	Deadend assembly, primary	117220XX
cm	1	Insulator, 3" spool, ANSI 53-2	34263010
cu	1	Brace, wood, 28", Pair	07535128
sb	1	Switch, disconnect	65219401
ek	*	Double coil spring washers, as req'd	-

1-PHASE DISCONNECT SWITCH

*Quantity as Required

DEC. 1985



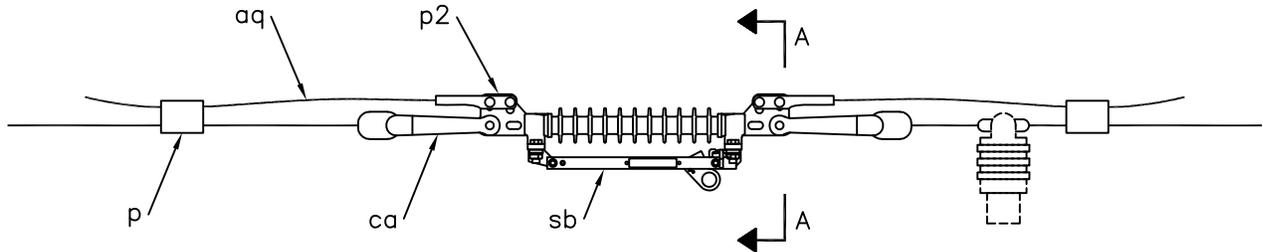
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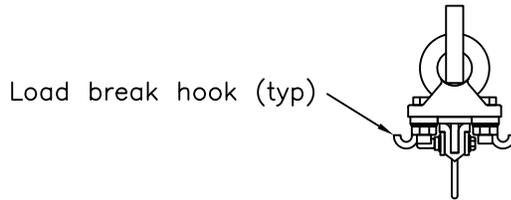
SWITCHING ASSEMBLIES
12.47/7.2 kV

M3-18

ITEM	QTY	ASSET #	INVENTORY NO.
sb	1	DT OH 365075	65218600



PLAN



SECTION A-A

NOT FOR NEW CONSTRUCTION

ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connector, as req'd	-
p	2	Terminal pad, 2-hole NEMA	170900XX
av	*	Jumper lead, copper, insulated, size as req'd	-
ca	2	Deadend assembly, primary	117220XX
sb	1	Switch, line tension	65218600

LINE TENSION SWITCH 15kV-600 AMP

DEC. 1985

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RECLOSER ASSEMBLIES

M3-31

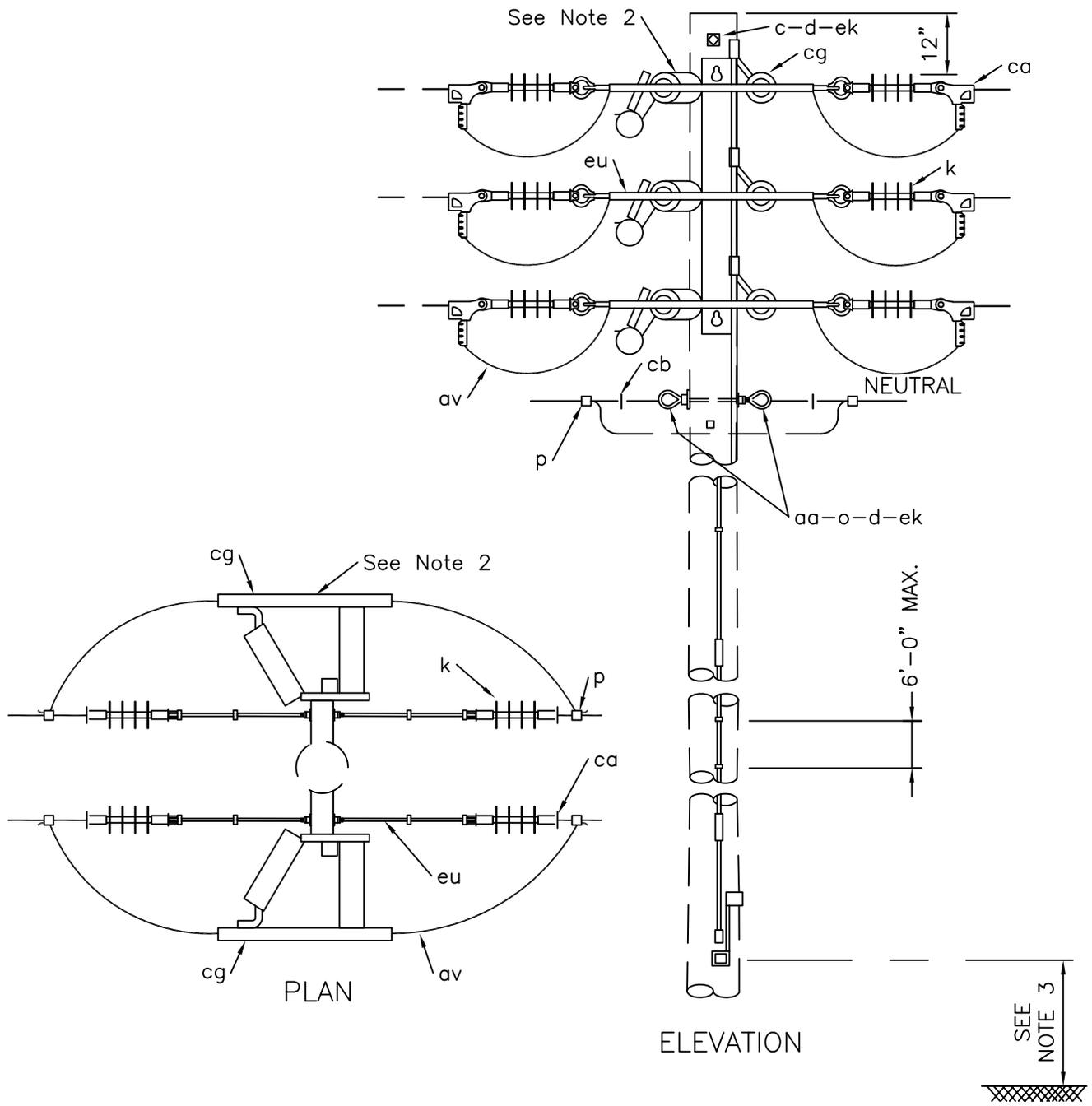


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12.47/7.2 kV

*Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
k	12	DT OH 365055	34281020
cg	2	DT OH 365050	65446000



NOT FOR NEW CONSTRUCTION

3-PHASE DOUBLE CIRCUIT VERTICAL
 GANG-OPERATED SWITCH POLE
 SHEET 1 OF 2

*Quantity as Required

DEC. 1985

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 NOV 2022

SWITCHING ASSEMBLIES

M3-DC-C7

16.14.1



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12.47/7.2 kV

NOTE:

1. Item fi connector, M43-10B assembly, or item p connector, M43-11 assembly, separately specified when required.
2. The switches shall be A.B. Chance #D7PS2BLE, O.E. with A.B. Chance #C8011381, O.E. lightning arrester mounts. Switch assemblies are to be mounted on an A.B. Chance #SA250 banded cluster mount bracket, or equal.
3. The control handle assembly will be mounted on an A.B. Chance #215 banded cluster mount bracket, or equal, so that at the lowest point of travel the operating handle is 8'± above ground.

ITEM	QTY	MATERIAL	INVENTORY NO.
d	*	Washer, square, 2 ¼"	-
d	2	Washer, square, curved, 3"	-
k	12	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
n	*	Bolt, double arming, 5/8" x req'd. length	063305TT
p	*	Connectors, as req'd.	-
aa	*	Nut, eye, 5/8"	41904065
av	*	Jumpers, stranded, insulated, sized, as req'd.	-
ca	12	Deadend assembly, primary	117220XX
cb	2	Deadend assembly, neutral	117220XX
eu	6	Link, extension, insulated	34276130
cg	2	Switch, air, 3 pole, group operated, complete w/ controls & hardware	65446000

NOT FOR NEW CONSTRUCTION

3-PHASE DOUBLE CIRCUIT VERTICAL
GANG-OPERATED SWITCH POLE
SHEET 2 OF 2

DEC. 1985

REVISED
NOV 2022

SWITCHING ASSEMBLIES

M3-DC-C7

16.14.2

*Quantity as Required



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12.47/7.2 kV

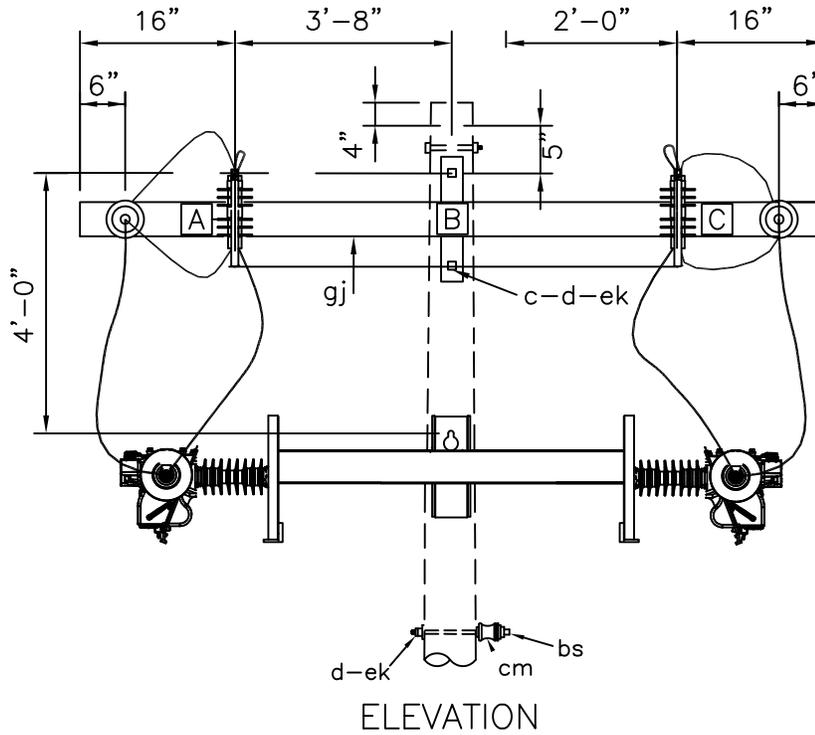


RECLOSERS

RECLOSER ASSEMBLIES

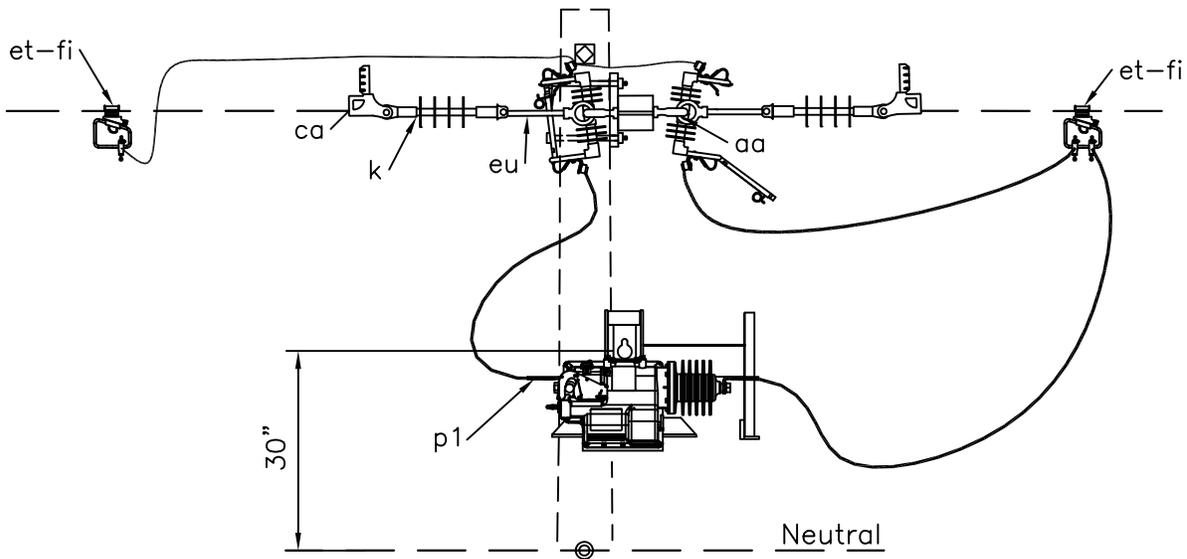
PAGE	DRAWING	DESCRIPTION
17.01	M3-19VT	Versa-Tech Electronic Recloser V-Phase
17.02	M3-20VT	Versa-Tech Electronic Recloser Three-Phase
17.03	M3-21VT	Versa-Tech Electronic Recloser V-Phase
17.04	M3-22VT	Versa-Tech Electronic Recloser Three-Phase
17.05	M3-23B	Single-Phase Oil Circuit Recloser with Pole Mounted Cutout By-Pass
17.06	M3-23N	Single-Phase Electronic Controlled Vacuum Reclosers (NOVA)
17.07	M3-23TSB	Trip Saver, Electronic Recloser, Single-Phase
17.08	M3-23VT	Versa-Tech Electronic Recloser Single-Phase
17.09	M3-24VT M3-25VT	Versa-Tech Electronic Recloser Three-Phase
17.10	M3-26VT M3-27VT	Versa-Tech Electronic Recloser Three-Phase
17.11	M3-28VT M3-29VT	Versa-Tech Electronic Recloser Three-Phase
17.12	M3-25	Three Sectionalizing Oil Circuit Reclosers with By-Pass Switches
17.13	M3-25A	Three Sectionalizing Oil Circuit Reclosers with By-Pass Switches
17.14	M3-25B	Three-Phase Deadend (Double) with By-Passed Reclosers
17.15	M3-25C	Three-Phase Deadend (Double) with By-Passed Reclosers (Solid Blade)
17.16	M3-25N	Three Electronic Controlled Vacuum Reclosers (NOVA)
17.17	M3-30	Three-Phase Oil Circuit Reclosers with By-Pass Switches
17.18	M3-30V	Three-Phase Electronic Controlled Vacuum Reclosers (VIPER) with By-Pass Switches

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
k	4	DT OH 365055	34281020	be	2	DT RE 365089	36560001
gj	1	DT PC 364021	18081207	sb	4	DT OH 368006	18312111



ELEVATION

← Source Load →



SIDE VIEW

DESIGN LIMITS

Minimum 40-4 Pole

Add 4 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
V-PHASE 1/0 ACSR
SHEET 1 OF 2

SEPT. 2020

REVISED
NOV 2022

RECLOSER ASSEMBLIES

M3-19VT



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MFJ

12.47/7.2 kV

NOTES:

1. For additional clearance, neutral can be lowered if ground clearance permits.
2. Do not ground recloser or switch bases.
3. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
4. Fiberglass arms from CORE pre approved vendors only.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
d	2	Washer, sq. 2 $\frac{1}{4}$ "	-
d	2	Washer, Sq., Curved, 3", $\frac{3}{4}$ " Hardware	-
d	4	Washer, Sq., Curved, 3", $\frac{5}{8}$ " Hardware	-
k	4	Insulator, suspension, epoxilator, 7.2kV	34281020
p1	4	Terminal, disconnectable, 2-hole NEMA	17091000
al	*	Staple, ground wire	-
av	*	Jumpers, covered, 10kV, stranded, as req'd.	-
be	2	Electronic Recloser, Versa-Tech®	36560001
bs	1	Bolt, single upset	063905TT
ca	4	Deadend assembly, primary	117220XX
cm	1	Insulator, spool, 3"	34263010
cj	*	Ground wire #6cu, neutral only	-
ee	*	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
et	4	Stirrup, Shear Bolt Wedge Type	54001000
eu	4	Link, extension, insulated, 12" C-TE	34276130
fd	1	Bracket, Versa-Tech, Pole Mounted	07800800
fi	6	Clamp, Hot Line, Mini, Bronze	11413900
gj	1	Crossarm, 10'-0", Deadend, Fiberglass	18081207
sb	4	Cutout, 7.2kV	18312111
	4	Solid Blade	18391000

DESIGN LIMITS

Minimum 40-4 Pole

Add 4 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

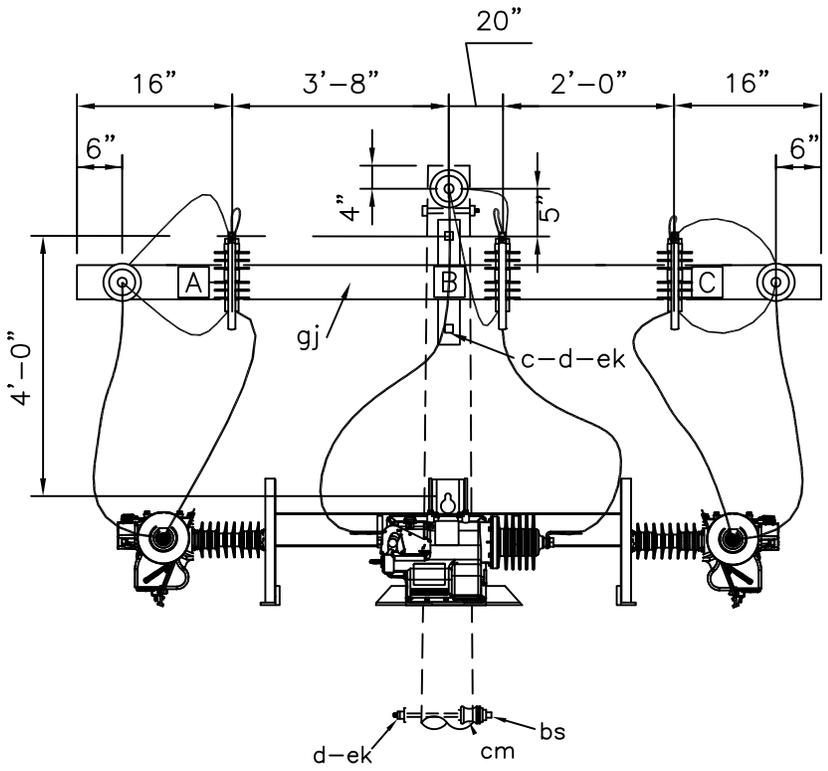
VERSA-TECH® ELECTRONIC RECLOSER
V-PHASE 1/0 ACSR
SHEET 2 OF 2

Sept. 2020	REVISED NOV 2022
	APPROVED BY MFJ

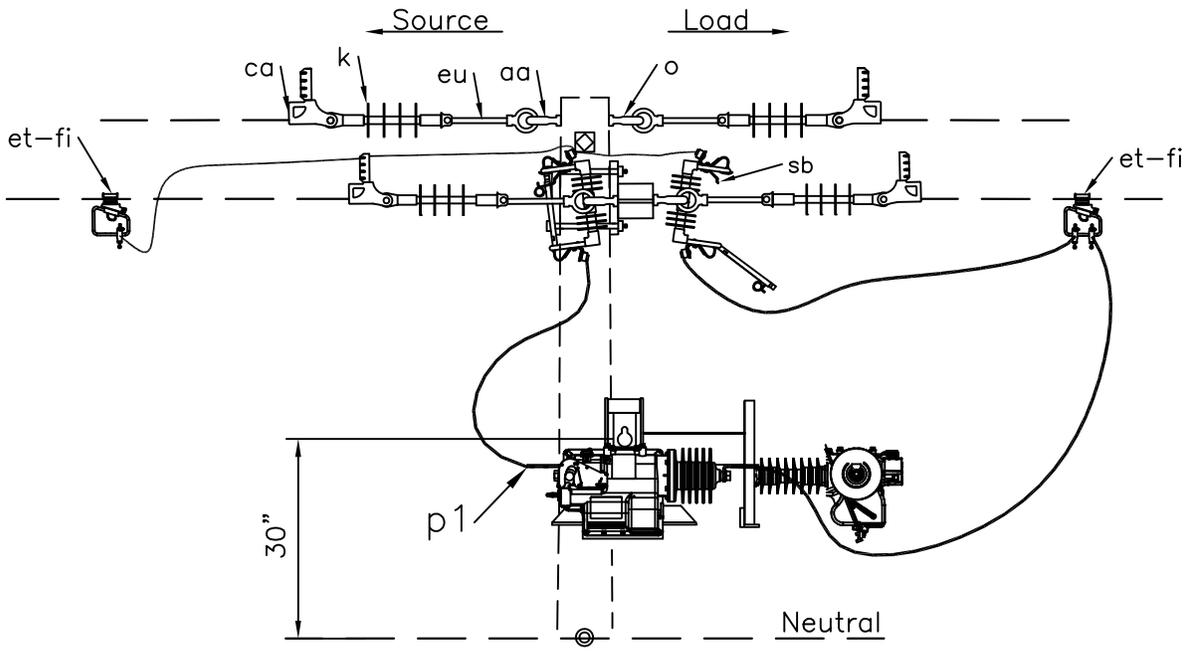
RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-19VT

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020	be	3	DT RE 365089	36560001
gj	1	DT PC 364021	18081207	sb	6	DT OH 368006	18312111



ELEVATION



SIDE VIEW

DESIGN LIMITS

Minimum 40-4 Pole
 Add 6 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
 THREE-PHASE 1/0 ACSR
 SHEET 1 OF 2

SEPT. 2020

REVISED NOV 2022

RECLOSER ASSEMBLIES

M3-20VT



APPROVED BY MFJ

12.47/7.2 kV

17.02.1

NOTES:

1. For additional clearance, neutral can be lowered if ground clearance permits.
2. Do not ground recloser or switch bases.
3. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
4. Fiberglass arms from CORE pre approved vendors only.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063804TT
d	2	Washer, sq. 2 $\frac{1}{4}$ "	-
d	2	Washer, Sq., Curved, 3", $\frac{3}{4}$ " Hardware	-
d	4	Washer, Sq., Curved, 3", $\frac{5}{8}$ " Hardware	-
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, Eye, $\frac{5}{8}$ " x req'd. length	063615TT
p	*	Connectors, as req'd.	-
p1	6	Terminal, disconnectable, 2-hole NEMA	17091000
aa	1	Nut, eye, $\frac{5}{8}$ "	41904065
al	*	Staple, ground wire	-
av	*	Jumpers, covered, 10kV, stranded, as req'd.	-
be	3	Electronic Recloser, Versa-Tech®	36560001
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, spool, 3"	34263010
cj	*	Ground wire #6cu, neutral only	-
ee	*	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
et	6	Stirrup, Shear Bolt Wedge Type	54001000
eu	6	Link, extension, insulated, 12" C-TE	34276130
fd	1	Bracket, Versa-Tech, Pole Mounted	07800800
fi	9	Clamp, Hot Line, Mini, Bronze	11413900
gj	1	Crossarm, 10'-0", Deadend, Fiberglass	18081207
sb	6	Cutout, 7.2kV	18312111
	6	Solid Blade	18391000

DESIGN LIMITS

Minimum 40-4 Pole

Add 6 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE 1/0 ACSR
SHEET 2 OF 2

Sept. 2020



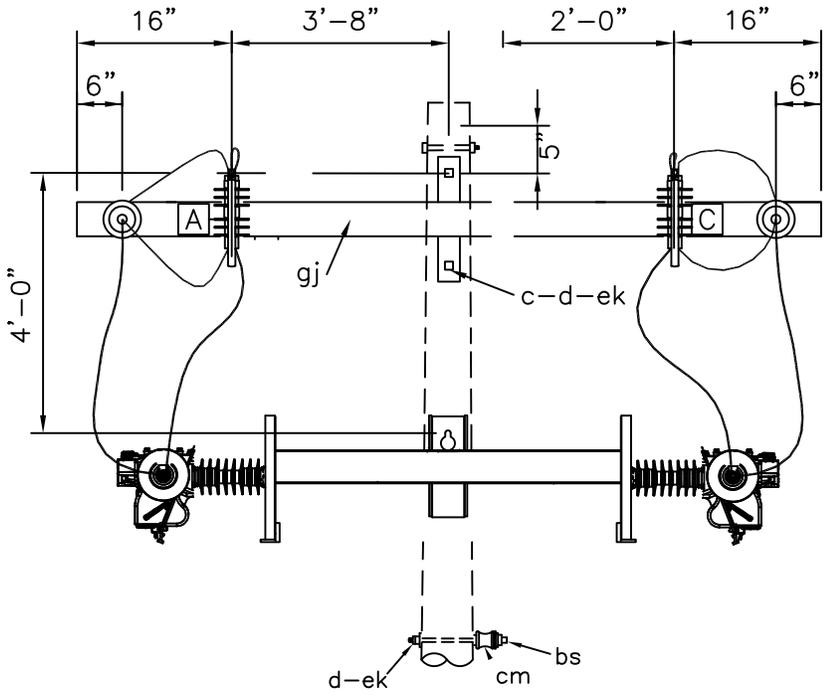
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RECLOSER ASSEMBLIES
12.47/7.2 kV

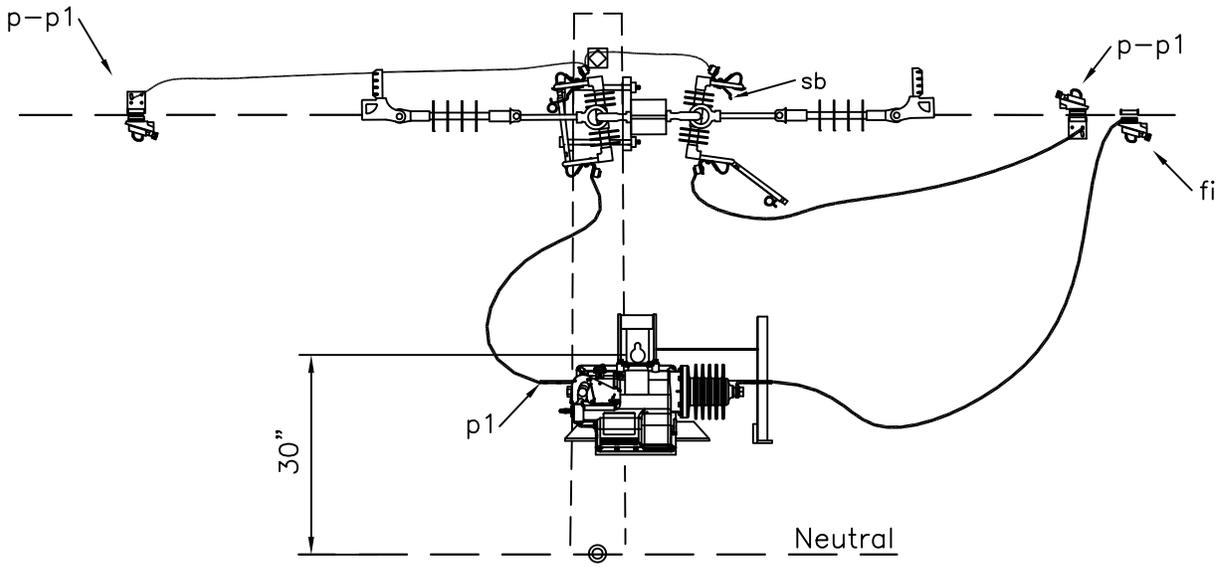
M3-20VT

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
k	4	DT OH 365073	34281020	be	2	DT RE 365089	36560001
gj	1	DT PC 364021	18081207	sb	2	DT OH 368006	65216202



ELEVATION

← Source Load →



SIDE VIEW

DESIGN LIMITS

Minimum 40-4 Pole

Add 4 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

**VERSA-TECH® ELECTRONIC RECLOSER
V-PHASE LARGE CONDUCTOR
SHEET 1 OF 2**

SEPT. 2020

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AUG 2022

RECLOSER ASSEMBLIES

M3-21VT



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12.47/7.2 kV

NOTES:

1. Large conductor consists of construction with 4/0 ACSR or 477 ACSR.
2. For additional clearance, neutral can be lowered if ground clearance permits.
3. Do not ground recloser or switch bases.
4. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Fiberglass arms from CORE pre approved vendors only.
6. For 477 ACSR Hawk ²⁶ construction, lower neutral position 18"

UNIT	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063804TT
d	2	Washer, sq. 2 $\frac{1}{4}$ "	-
d	2	Washer, Sq., Curved, 3", $\frac{3}{4}$ " Hardware	-
d	4	Washer, Sq., Curved, 3", $\frac{5}{8}$ " Hardware	-
k	4	Insulator, suspension, epoxilator, 7.2kV	34281020
p	4	Connectors Tap Wedge Pad	5400480T
p1	18	Terminal, disconnectable, 2-hole NEMA	170900AA
al	*	Staple, ground wire	-
av	*	Jumpers, covered, 10kV, stranded, as req'd.	-
be	2	Electronic Recloser, Versa-Tech®	36560001
bs	1	Bolt, single upset	063905TT
ca	4	Deadend assembly, primary	11722033
cm	1	Insulator, spool, 3"	34263010
cj	*	Ground wire #6cu, neutral only	-
ee	*	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
eu	4	Link, extension, insulated, 12" C-TE	34276130
fd	1	Bracket, Versa-Tech, Pole Mounted	07800800
fi	4	Connector Tap Wedge	5400481T
gj	1	Crossarm, 10'-0", Deadend, Fiberglass	18081207
sb	4	Disconnect Switch, 600A, Single Insulator	65216202

DESIGN LIMITS

Minimum 40-4 Pole

Add 4 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

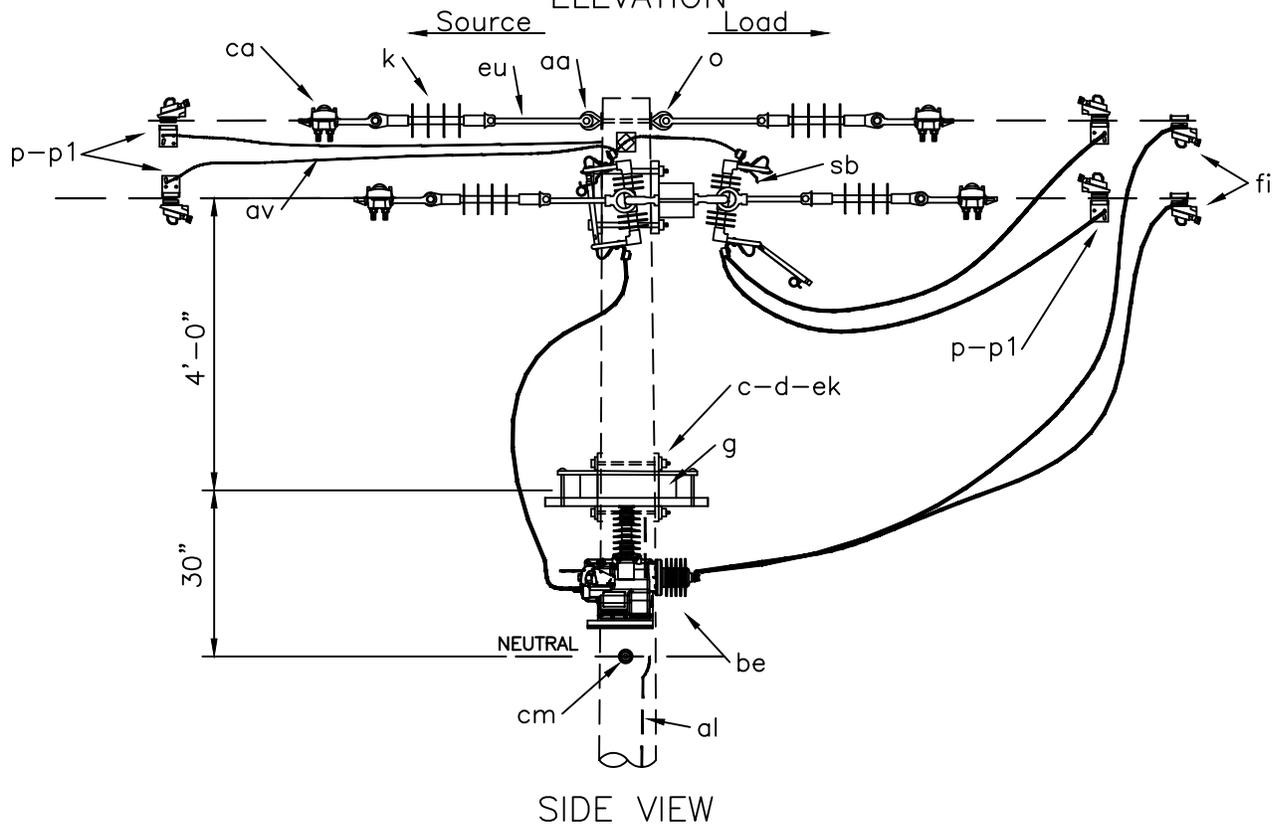
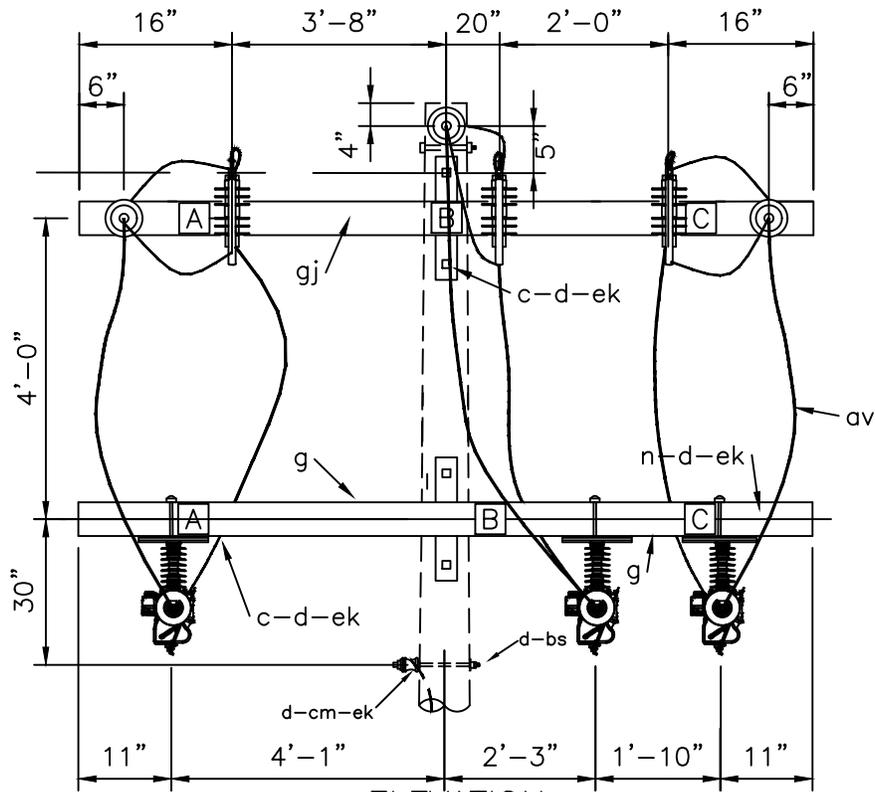
VERSA-TECH® ELECTRONIC RECLOSER
V-PHASE LARGE CONDUCTOR
SHEET 2 OF 2

Sept. 2020	REVISED AUG 2022
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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-21VT

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365073	34281020	be	3	DT RE 365089	36560000
g	2	DT PC 364021	18081207	sb	6	DT OH 368006	65216202
gj	1	DT PC 364021	18290611				



DESIGN LIMITS
 Minimum 40-4 Pole
 *Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
 THREE-PHASE LARGE CONDUCTOR
 SHEET 1 OF 2

AUG. 2024

REVISED
 SEP 2024

RECLOSER ASSEMBLIES
 12.47/7.2 kV

M3-22VT

17.04.1



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NOTES:

1. Large conductor consists of construction with 4/0 ACSR or 477 ACSR.
2. For additional clearance, neutral can be lowered if ground clearance permits.
3. Do not ground recloser or switch bases.
4. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Fiberglass arms from CORE pre approved vendors only.

UNIT	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	4	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063804TT
d	2	Washer, Sq., Curved, 3", $\frac{3}{4}$ " Hardware	-
d	5	Washer, Sq., Curved, 3", $\frac{5}{8}$ " Hardware	-
g	2	Crossarm, 10'-0", Tangent, Fiberglass	18290611
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
o	1	Bolt, Eye, $\frac{5}{8}$ " x req'd. length	063615TT
p	6	Connectors Tap Wedge Pad	5400480T
p1	27	Terminal, disconnectable, 2-hole NEMA	170900AA
aa	1	Nut, eye, $\frac{5}{8}$ "	41904065
al	*	Staple, ground wire	-
av	*	Jumpers, covered, stranded, as req'd.	-
be	3	Electronic Recloser, Versa-Tech®	36560000
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	11722033
cm	1	Insulator, spool, 3"	34263010
cj	*	Ground wire #6cu, neutral only	-
ee	*	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
eu	6	Link, extension, insulated, 12" C-TE	34276130
fi	6	Connector Tap Wedge	5400481T
gj	1	Crossarm, 10'-0", Deadend, Fiberglass	18081207
sb	6	Disconnect Switch, 600A, Single Insulator	65216202

DESIGN LIMITS
Minimum 40-4 Pole

*Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE LARGE CONDUCTOR
SHEET 2 OF 2

Sept. 2020



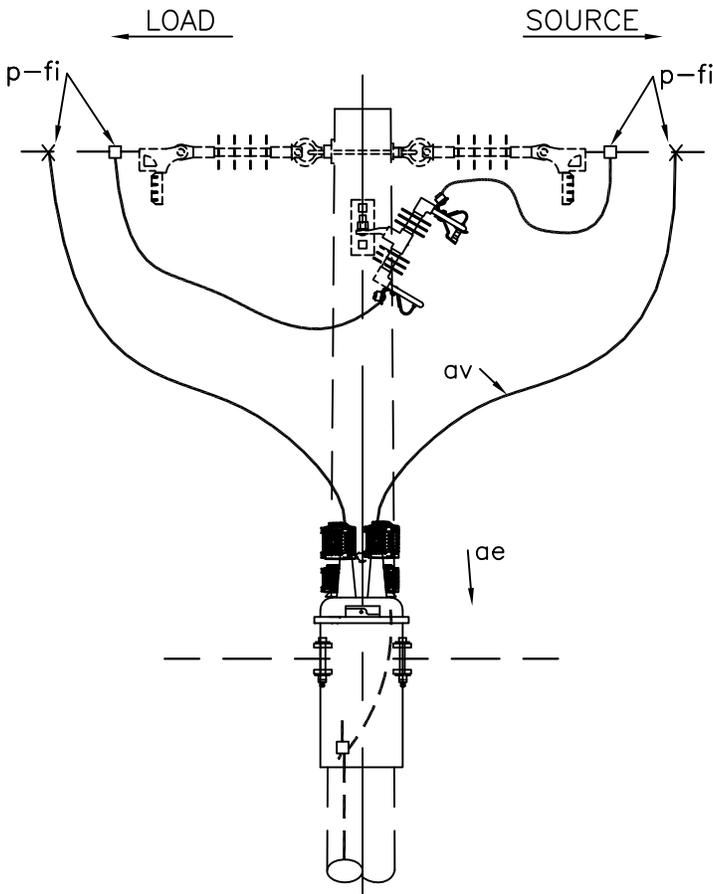
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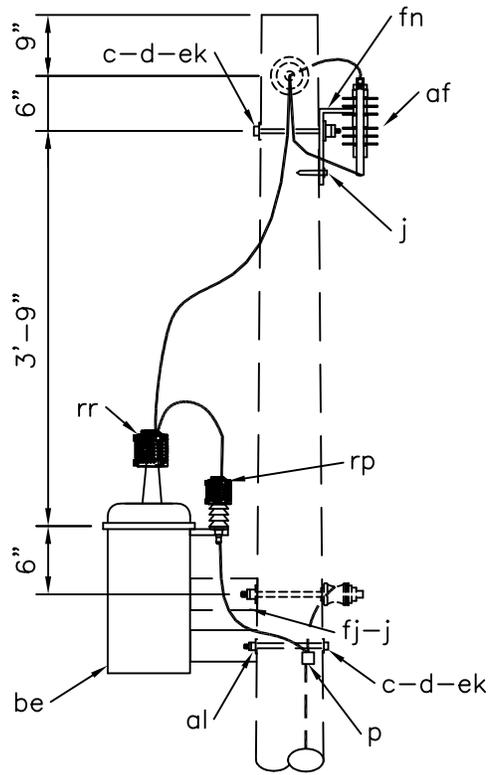
RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-22VT

ITEM	QTY	ASSET #	INVENTORY NO.
ae	2	DT OH 365001	01520991
af	1	DT OH 365049	18312111
	1	DT MR 365049	18391000
be	1	DT MR 365062	365000AA



ELEVATION



SIDE VIEW

SINGLE-PHASE OIL CIRCUIT RECLOSER
WITH POLE MOUNTED CUTOUT BY-PASS
SHEET 1 OF 2

*Quantity as Required

DEC. 1985



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JDP

RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-23B

17.05.1

NOTES:

1. This unit may be used with an A6 primary unit.
2. The recloser terminal bushing connected directly to the coil should be connected to the source.
3. Each recloser tank shall have two connections to ground.
4. Recloser operating handle shall face source side.
5. Item fi is shown on drawing M43-10.
6. Drawing is equivalent to M3-10 with M3-4A.
7. Hang solid blade in cutout.
8. Do not ground cutout bracket.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
j	1	Screw, lag, 1/2" x 4"	-
p	*	Connectors, as req'd.	-
ae	2	Lightning arrester, gapless	01520991
af	1	Cutout	18312111
al	*	Staples, ground wire	-
cj	*	Ground wire, #6cu	15610501
av	*	Jumpers, stranded, covered, as req'd.	-
be	1	Recloser, hydraulic	365000AA
ek	*	Double coil spring washers, as req'd	-
fj	**	Bracket, single recloser mounting	31000000
fi	4	Connector, M43-10 or M43-10 assembly	114139XX
fn	1	Cutout "L" bracket	07802701
ee	1	Phase and device tags with nails	-
-	1	Solid Blade	18391000
rp	2	Wildlife Bushing Guard, Small	25001006
rr	2	Wildlife Bushing Guard, Large	25001012

** 1 Required for type H,
2 required for all others

1-PHASE OIL CIRCUIT RECLOSERS WITH
POLE MOUNTED CUTOUT BY-PASS
SHEET 2 OF 2

*Quantity as Required

DEC. 1985

REVISED
NOV 2022

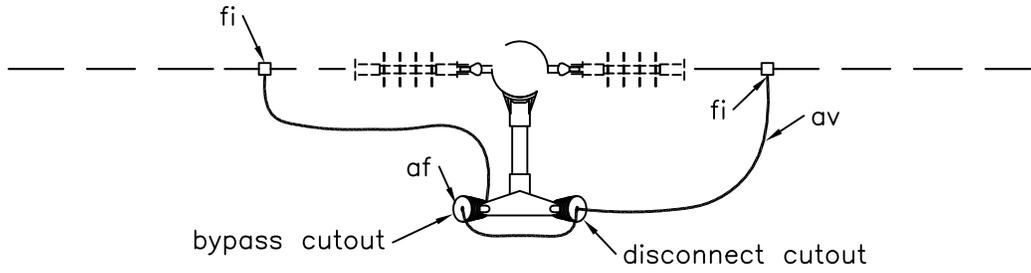
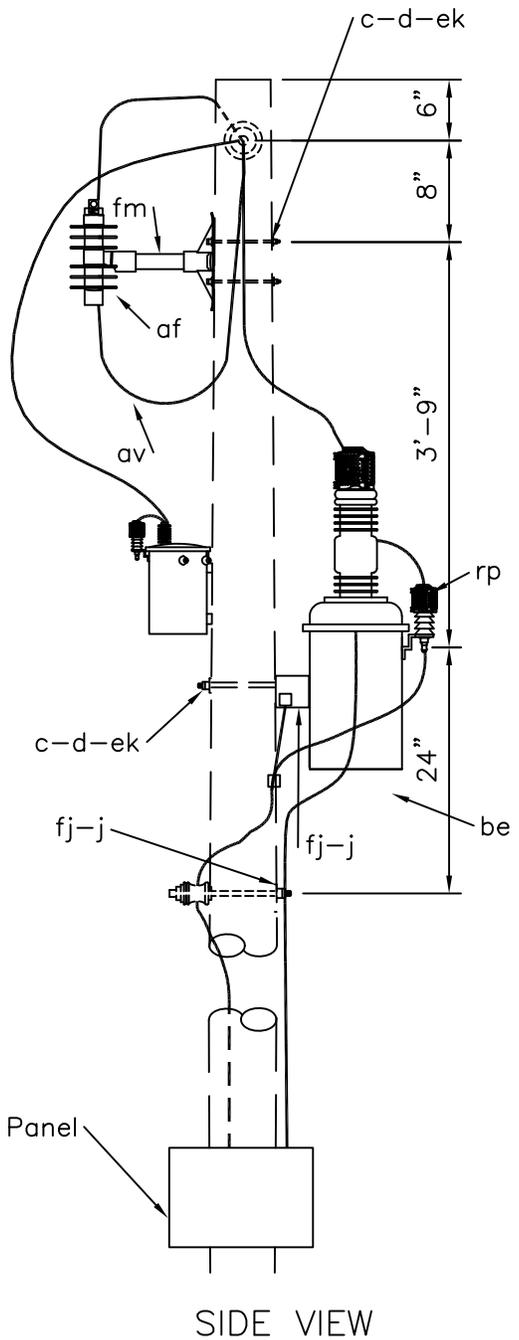
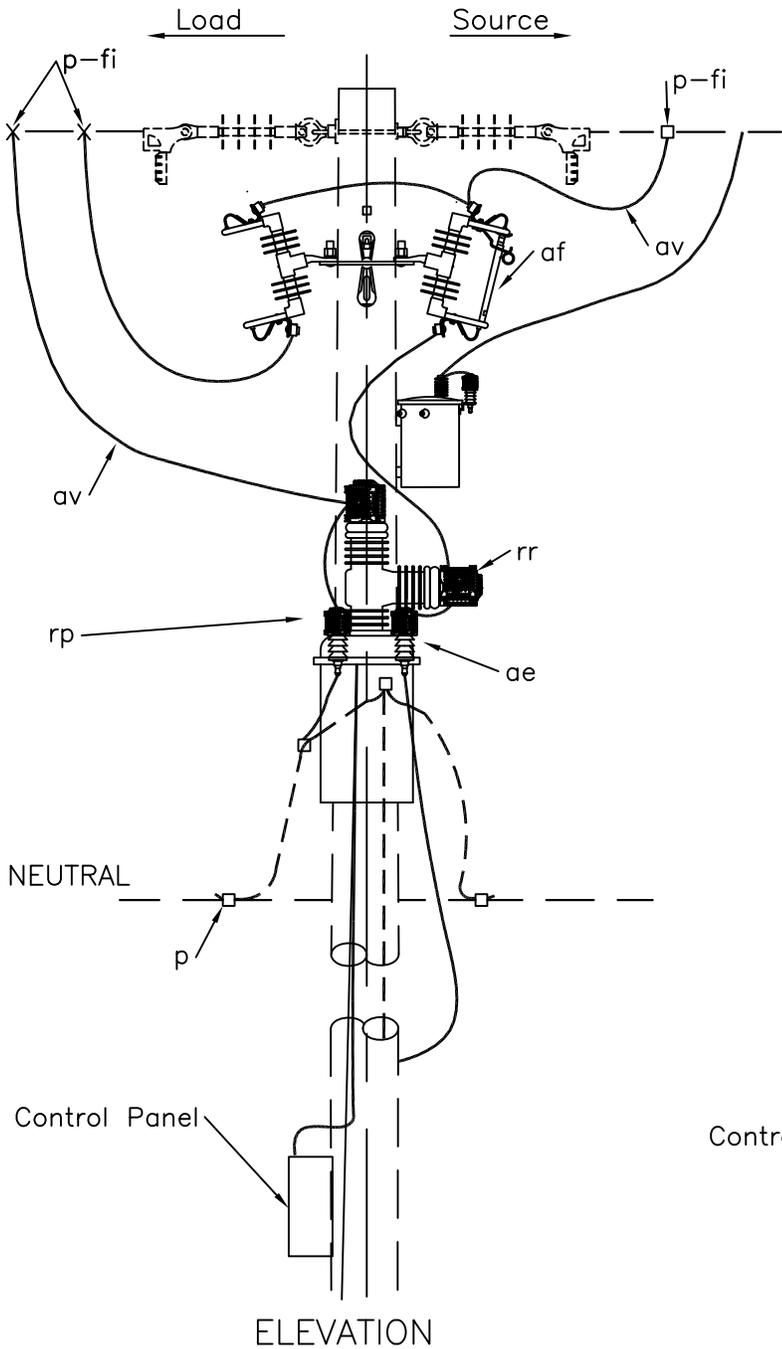


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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-23B

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
ae	2	DT OH 365001	01520991	fj	2	DT MR 368010	36100000
af	2	DT OH 365049	18312111	-	2	DT OH 365049	18391000
be	1	DT MR 365081	36550012				



**SINGLE-PHASE ELECTRONIC CONTROLLED
VACUUM RECLOSER (NOVA)
SHEET 1 OF 2**

*Quantity as Required

NOV. 2017

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NOV 2022

RECLOSER ASSEMBLIES

M3-23N



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JDP

12.47/7.2 kV

17.06.1

NOTES:

1. The recloser tank shall have two connections to ground.
2. Install 3T fuse link in transformer cutout
3. Mark control cables with colored tape to identify phase
4. Either a tap rod or stirrup will need to be ordered along with this unit depending on conductor size.
5. See drawing M52-CM for control panel mounting guide.
6. Requires minimum 40-4 pole.
7. Hang solid blades in cutout.
8. Do not ground cutout bracket

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 2 1/4"	-
p	*	Connectors, as req'd.	-
ae	2	Surge arrester, gapless	01520991
af	1	Cutout	18312111
av	*	#cu Jumpers, stranded, covered, as req'd.	15620200
be	1	Recloser, vacuum, with electronic control	36550012
fj	2	Bracket, single recloser mounting	31000000
ek	*	Double coil spring washers, as req'd	-
ee	1	Phase and device tags w/ nails	-
fi	3	Connector, M43-10 or M43-10A assembly	114139XX
fm	1	Bracket, cutout (M3-27B)	07803500
-	2	Solid Blade	18391000
an	1	Transformer conventional 0.5 kva	18391000
rp	4	Wildlife Bushing Guard, Small	25001006
rr	2	Wildlife Bushing Guard, Large	25001012
sb	3	Disconnect, M43-10 or M43-10A assembly	25001006

SINGLE-PHASE ELECTRONIC CONTROLLED
VACUUM RECLOSER (NOVA)
SHEET 2 OF 2

*Quantity as Required

NOV. 2017



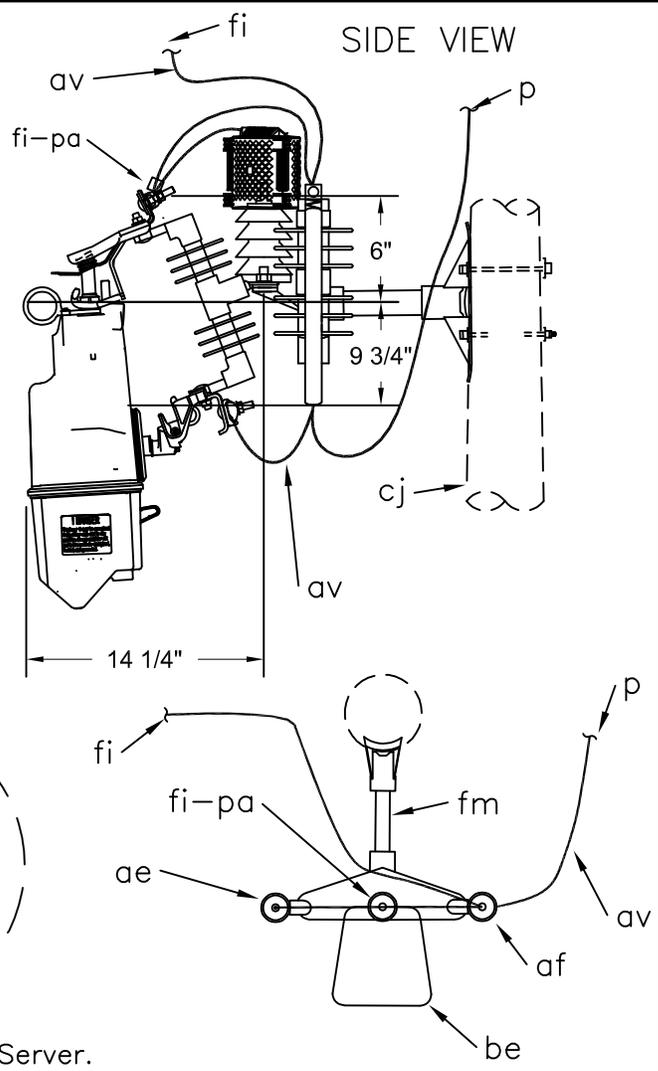
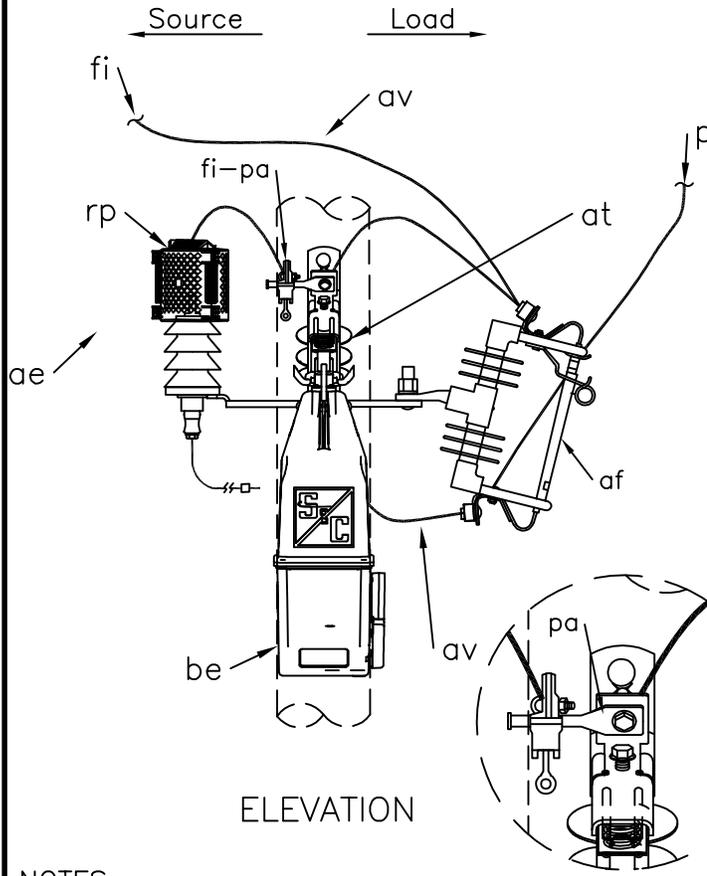
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NOV 2022

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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-23N

ITEM	QTY	ASSET #	INVENTORY NO.
ae	1	DT OH 365001	01520991
af	1	DT OH 365049	18312111
be	1	DT RE 365088	36560002



NOTES:

1. Arrester to have Dedicated Jumper to Trip Server.
2. If arresters are existing, additional arrester is not needed.
3. Continuous jumper from source phase to Trip Saver.
4. Use S&C Cutout for Tripsaver only.
5. Arrester connector to be installed on face side of Trip Saver cutout.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Machine bolt, 5/8" x required length	063805TT
d	2	Washer, Square, Curved, 3"	
p	*	Connector, as req'd	-
rp	1	Wildlife Bushing Guard, Small	25001006
ae	1	Lightning arrester, gapless	01520991
af	1	Cutout	18312111
at	1	S&C Cutout	36560005
al	*	Staples, ground wire	-
av	*	Jumpers, stranded, covered, as req'd	-
cj	*	Ground wire, #6 cu	15610501
be	1	Electronic recloser, Trip Saver®	36560002
ek	*	Double coil spring washer	-
fm	1	Equipment bracket M5-27B assembly	07803500
fi	2	Connector, Hot Line, Bronze	114139XX
ee	1	Phase and device tags w/ nails	-
pa	1	Connector, Arrester	17040100

TRIP SAVER® ELECTRONIC RECLOSER
SINGLE-PHASE

MAR. 2018

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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-23TSB

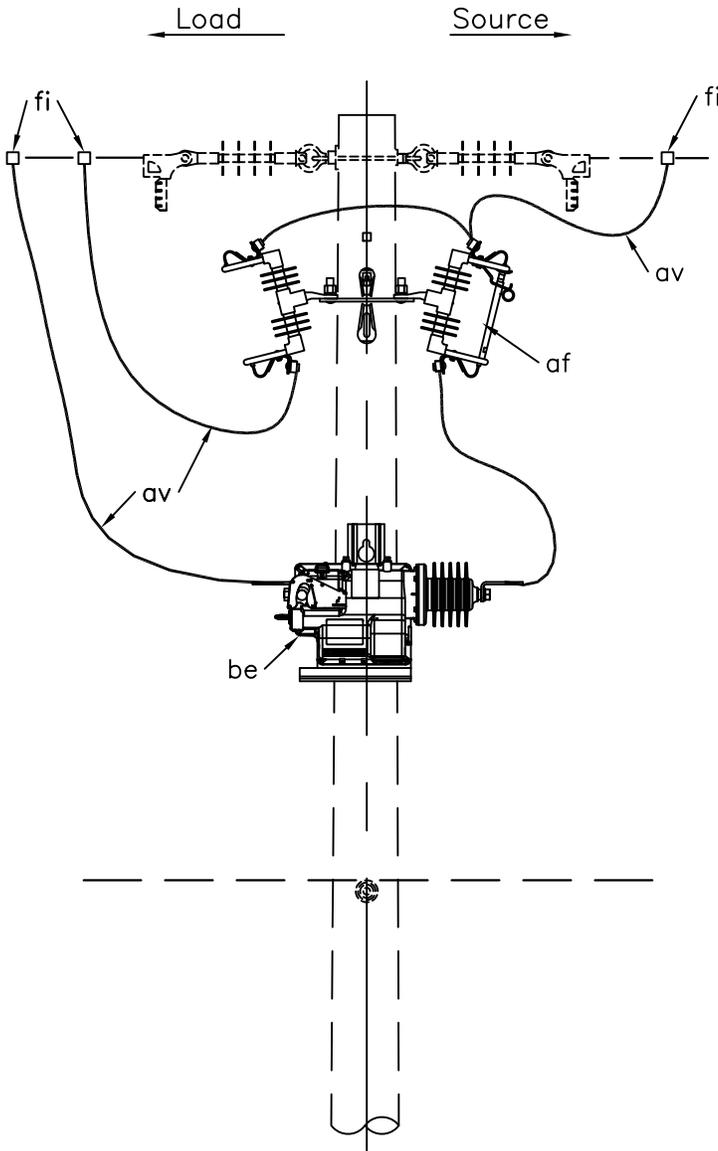
17.07

*Quantity as Required

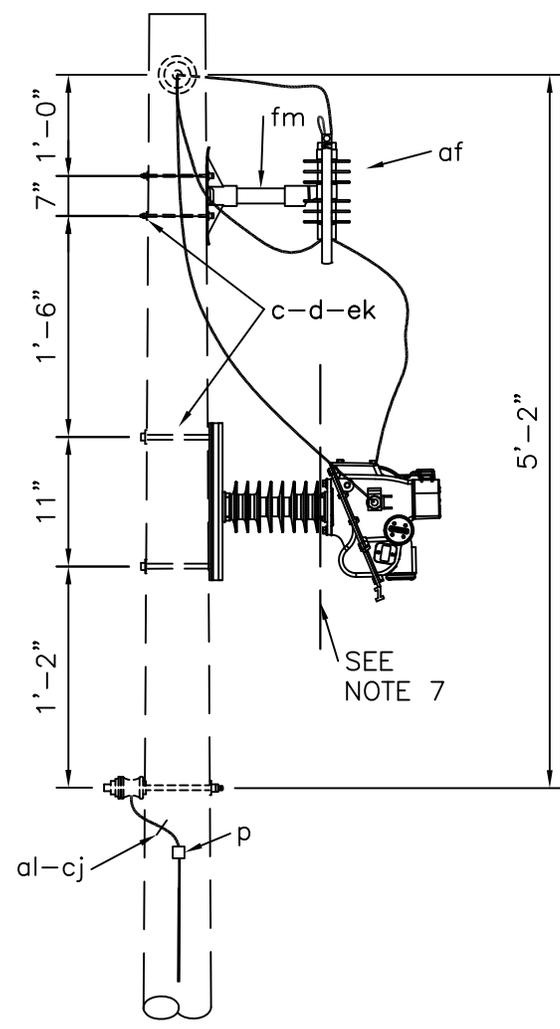


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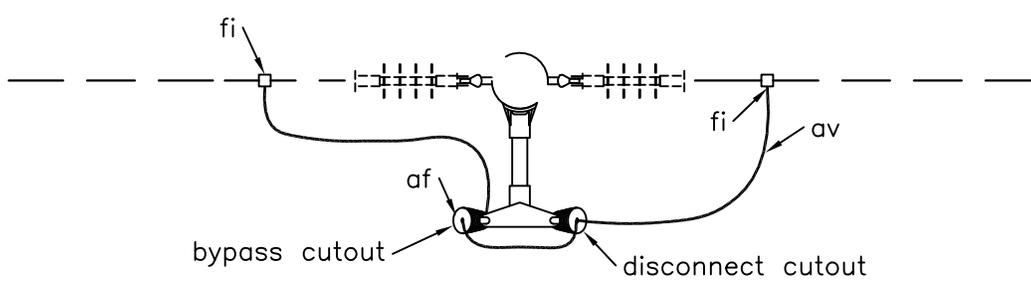
ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
af	2	DT OH 365049	18312111	-	2	DT OH 365049	18391000
be	1	DT RE 365089	36560001				



ELEVATION



SIDE VIEW



VERSA-TECH® ELECTRONIC RECLOSER
SINGLE-PHASE
SHEET 1 OF 2

MAR. 2018

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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-23VT

*Quantity as Required



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17.08.1

NOTES:

1. Hang solid blades in cutouts.
2. Do not ground cutout brackets or recloser bracket.
3. The live tank recloser is bi-directional. Frame bypass cutout on the load side and the disconnect cutout on the source side of the pole.
4. Separately specified arrestors shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Remove pole ground wire above neutral.
6. Lower neutral as required.
7. Raptor protection M5-2SG, set on Versa-Tech as required

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 2 1/4"	-
p	*	Connectors, as req'd.	-
af	2	Cutout	18312111
al	*	Staples, ground wire	-
cj	*	Ground wire, #6cu	-
av	*	Jumpers, stranded, covered, as req'd.	-
be	1	Electronic Recloser, Versa-Tech®	36560001
ee	*	Phase and device tags w/ nails	-
ek	*	Double coil spring washers, as req'd	-
fi	3	Connector, M43-10 or M43-10A assembly	114139XX
fm	1	Bracket, cutout M5-27B assembly	07803500
-	2	Solid blade	18391000

VERSA-TECH® ELECTRONIC RECLOSER
SINGLE-PHASE
SHEET 2 OF 2

*Quantity as Required

MAR. 2018



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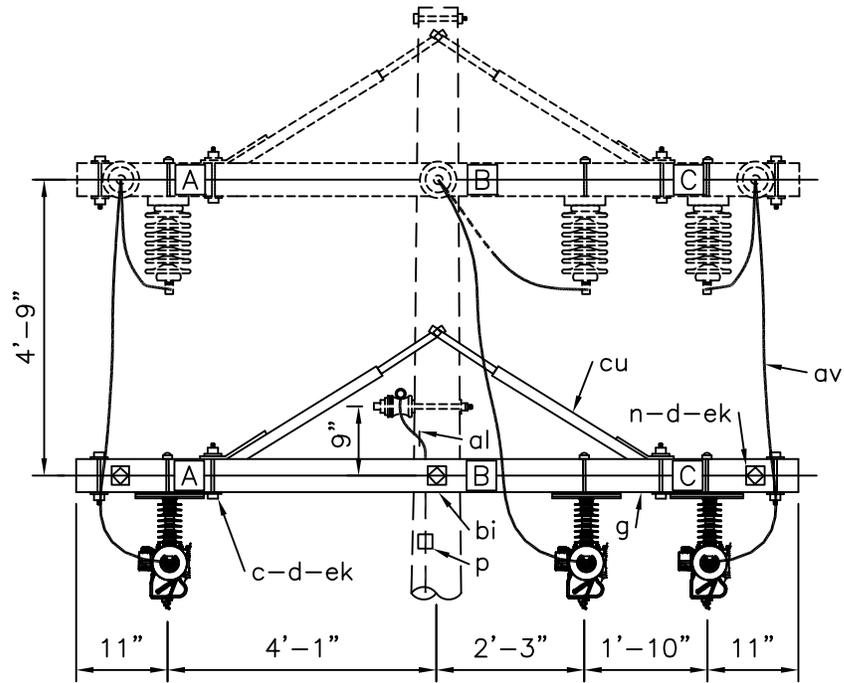
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RECLOSER ASSEMBLIES
12.47/7.2 kV

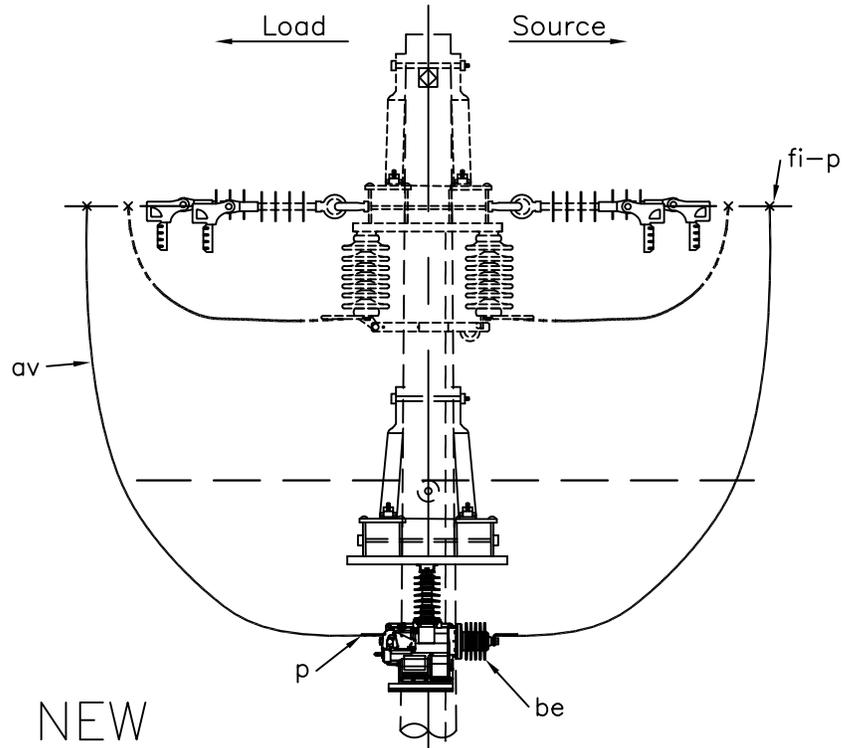
M3-23VT

17.08.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
be	3	DT RE 365089	36560000



ELEVATION



SIDE VIEW

NOT FOR NEW
CONSTRUCTION

DESIGN LIMITS
Minimum 40-4 Pole

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE
SHEET 1 OF 2

*Quantity as Required

MAR. 2018



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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-24VT
M3-25VT

NOTES:

1. For V-phase installations omit recloser and related items on center phase. Designate as assembly M3-24VT.
2. For additional clearance, neutral can be lowered if ground clearance permits.
3. Do not ground recloser bases.
4. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Remove pole ground wire above neutral.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	10	Bolt, machine, 5/8" x req'd length	063805TT
c	4	Bolt, machine, 1/2" x req'd length	063804TT
d	4	Washer, round, 1 3/8"	-
d	16	Washer, square, 2 1/4"	-
d	2	Washer, sq. flat, 3"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0", wood	18290511
n	3	Bolt, double arming, 5/8" x req'd length	063305TT
n	1	Bolt, double arming, 3/4" x req'd length	063306TT
p	*	Connectors, as req'd.	-
p	6	Disconnect terminal, 2-hole NEMA, M43-11 assembly	170900XX
p	6	Tee tap connector, M43-11 assembly	170700XX
al	*	Staple, ground wire	-
av	*	Jumpers, covered, stranded, as req'd.	-
be	3	Electronic Recloser, Versa-Tech®	36560000
bi	2	Gain pole 4 x 4, pole side spurs	46800260
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
ee	1	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
fi	*	Clamp, Hot Line	114139XX

NOT FOR NEW
CONSTRUCTION

DESIGN LIMITS
Minimum 40-4 Pole

VERSA-TECH® ELECTRONIC RECLOSER
THREE PHASE
SHEET 2 OF 2

*Quantity as Required

MAR. 2018



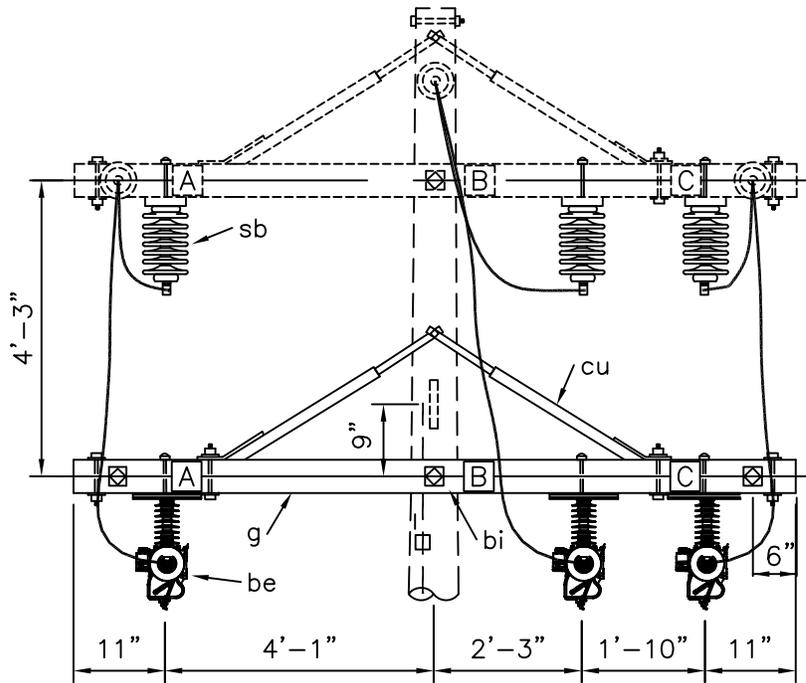
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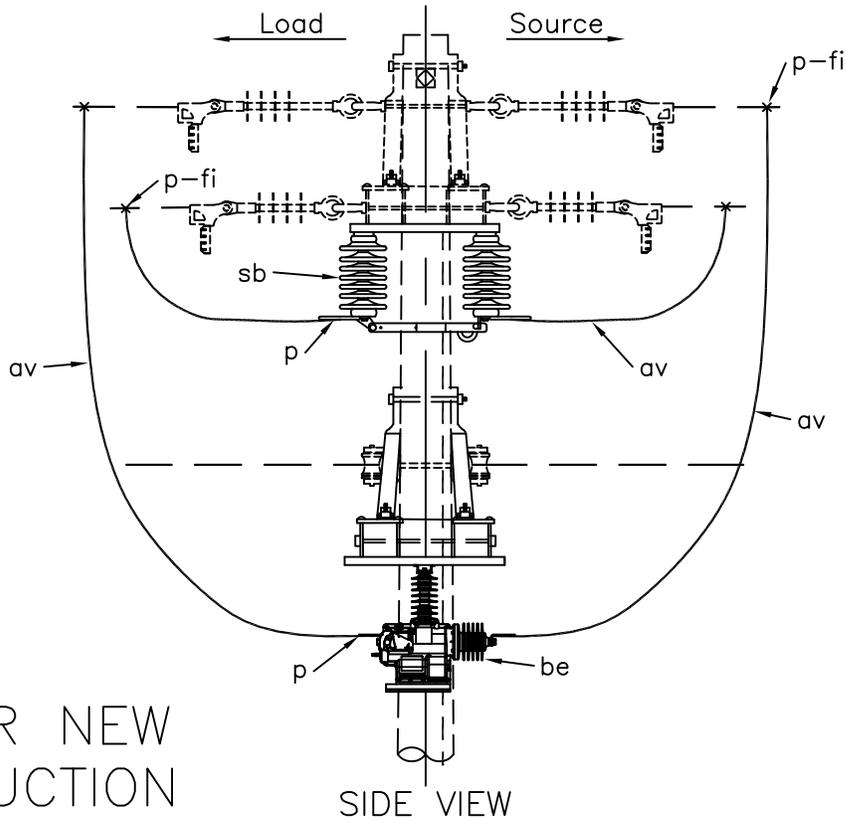
RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-24VT
M3-25VT

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511	sb	3	DT OH 365025	65514000
be	3	DT RE 365089	36560000				



ELEVATION



NOT FOR NEW
CONSTRUCTION

DESIGN LIMITS
Minimum 40-4 Pole

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE
SHEET 1 OF 2

*Quantity as Required

MAR. 2018



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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-26VT
M3-27VT

NOTES:

1. For V-phase installations omit recloser and related items on center phase. Designate as assembly M3-26VT.
2. For additional clearance, neutral can be lowered if ground clearance permits.
3. Do not ground recloser or switch bases.
4. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Remove pole ground wire above neutral.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	10	Bolt, machine, 5/8" x req'd length	063805TT
c	4	Bolt, machine, 1/2" x req'd length	063804TT
d	4	Washer, round, 1 3/8"	-
d	22	Washer, square, 2 1/4"	-
d	2	Washer, sq. flat, 3" x 3"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0", wood	18290511
n	3	Bolt, double arming, 5/8" x req'd length	063305TT
n	1	Bolt, double arming, 3/4" x req'd length	063306TT
p	*	Connectors, as req'd.	-
p	6	Disconnect terminal, 2-hole NEMA, M43-11 assembly	170900XX
p	6	Tee tap connector, M43-11 assembly	170700XX
al	*	Staple, ground wire	-
av	*	Jumpers, covered, stranded, as req'd.	-
be	3	Electronic Recloser, Versa-Tech®	36560000
bi	2	Gain pole 4 x 4, spurs, pole side	46800260
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
ee	1	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
fi	*	Clamp, Hot Line	114139XX
sb	3	Switch, hook operated disconnect	65514000

NOT FOR NEW
CONSTRUCTION

DESIGN LIMITS
Minimum 40-4 Pole

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE
SHEET 2 OF 2

*Quantity as Required

MAR. 2018



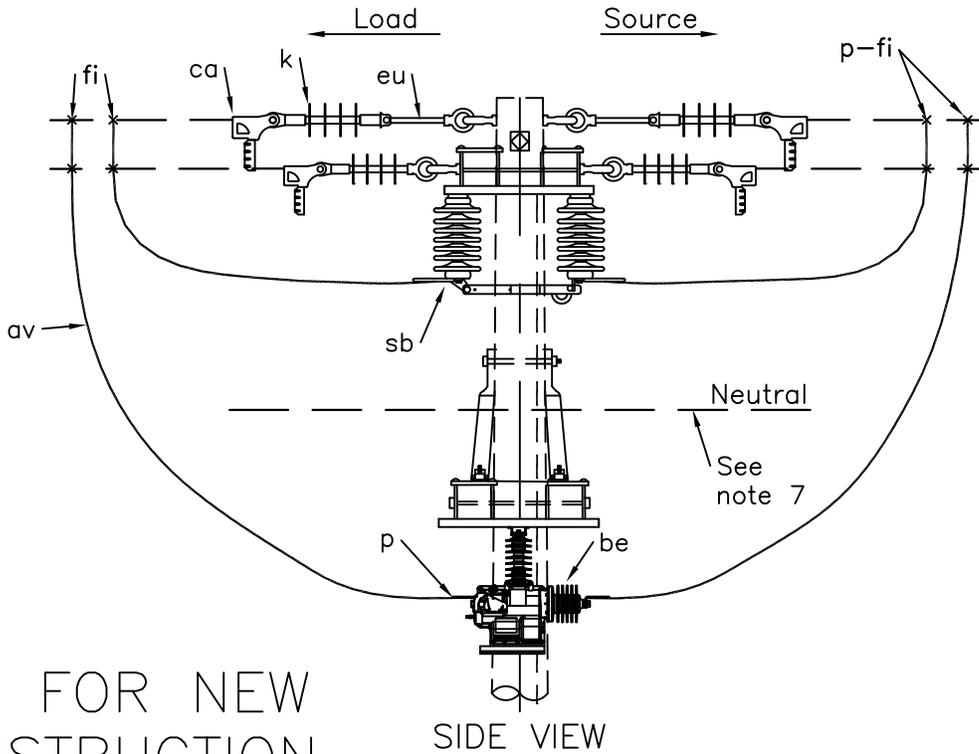
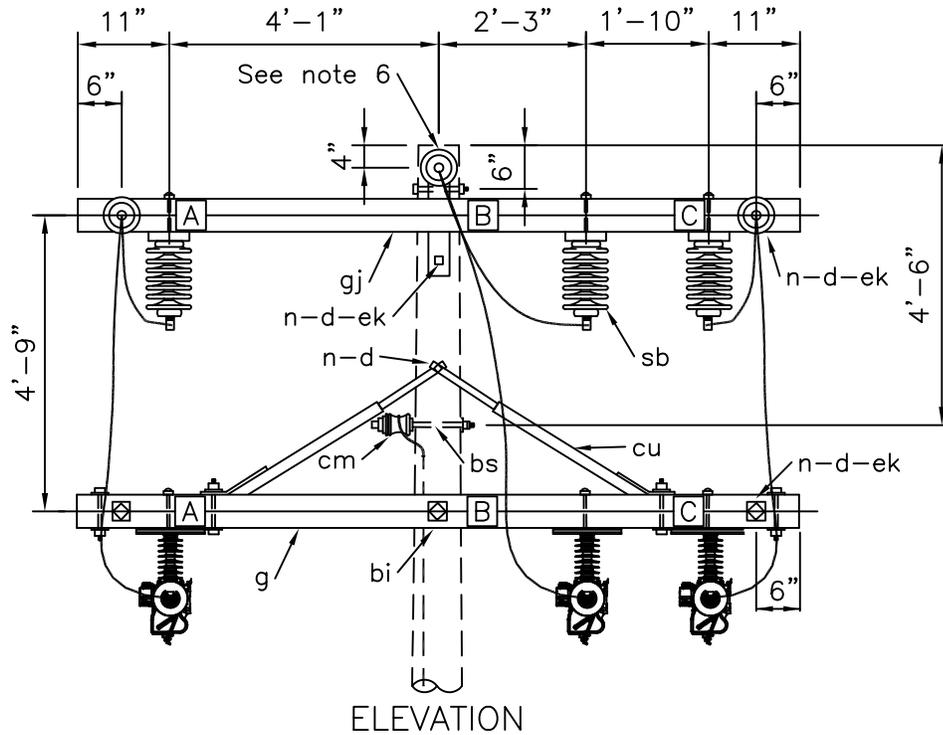
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NOV 2022

APPROVED BY
MFJ

RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-26VT
M3-27VT

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
k	6	DT OH 365055	34281020	be	3	DT RE 365089	36560000
g	2	DT PC 364021	18290511	sb	3	DT OH 365025	65216201
gj	2	DT PC 364021	18290611				



NOT FOR NEW
CONSTRUCTION

DESIGN LIMITS

Minimum 40-4 Pole

Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor

*Quantity as Required

VERSA-TECH® ELECTRONIC RECLOSER
THREE-PHASE
SHEET 1 OF 2

MAR. 2018



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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-28VT
M3-29VT

NOTES:

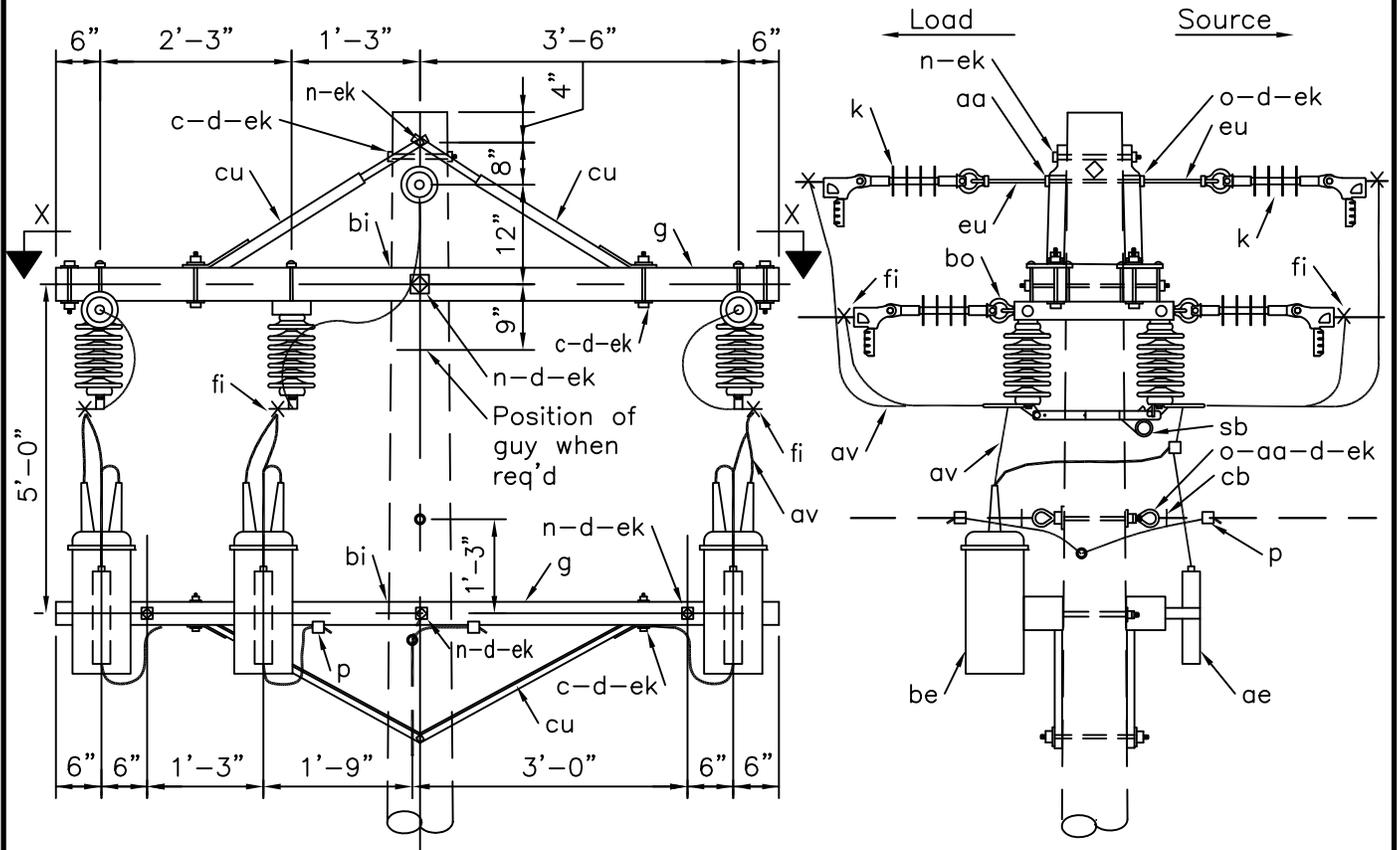
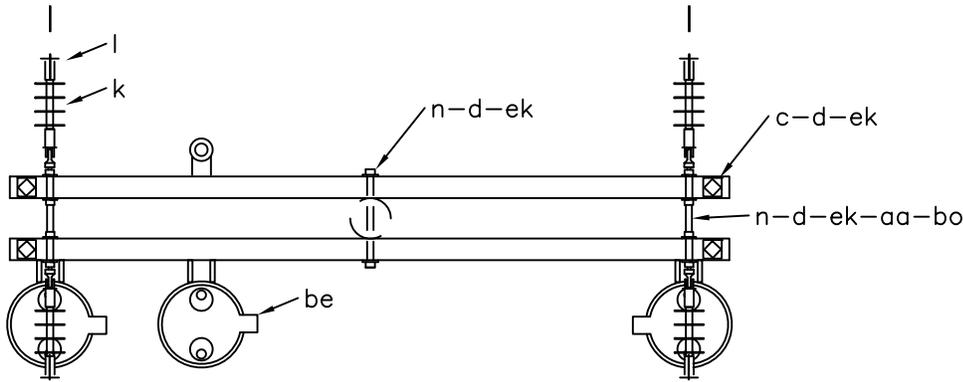
1. For V-phase installations omit recloser and related items on center phase. Designate as assembly M3-28VT.
2. For additional clearance, neutral can be lowered if ground clearance permits.
3. Do not ground recloser or switch bases.
4. Separately specified arresters shall be installed on structures adjacent to the Versa-Tech structure as required.
5. Fiberglass arms from CORE pre approved vendors only.
6. Center phase mounts to top bolt hole of fiberglass crossarm mounting bracket.
7. For 477 ACSR Hawk ²⁶/₆ construction, lower neutral position 18"

UNIT	QTY	MATERIAL	INVENTORY NO.
c	11	Bolt, machine, 5/8" x req'd. length	063805TT
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
d	4	Washer, round, 1 3/8"	-
d	33	Washer, sq. 2 1/4"	-
d	4	Washer, sq. flat, 3"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0", wood	18290511
gj	2	Crossarm, 10'-0", tangent, fiberglass, complete w/ mounting hardware	18290611
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	5	Bolt, double arming, 5/8" x req'd. length	063305TT
n	2	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as req'd.	-
p	12	Disconnect terminal, 2-hole NEMA, M43-11 assembly	170900XX
p	6	Tee tap connector, M43-11 assembly	170700XX
aa	2	Nut, eye, 3/4"	41904063
aa	4	Nut, eye, 5/8"	41904065
al	*	Staple, ground wire	-
av	*	Jumpers, covered, 10kV, stranded, as req'd.	-
be	3	Electronic Recloser, Versa-Tech®	36560000
bi	2	Gain plate 4 x 4, spurs, pole side	46800260
bo	6	Shackle, anchor	12302800
bs	1	Bolt, single upset	063905TT
ca	6	Deadend assembly, primary	117220XX
cm	1	Insulator, spool, 3"	34263010
cj	*	Ground wire #6cu, neutral only	-
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
ee	1	Phase and device tags, w/ nails	-
ek	*	Double coil spring washers, as req'd	-
eu	2	Link, extension, insulated, 12" C-TE	34276130
fi	*	Clamp, Hot Line	114139XX
sb	3	Switch, hook operated disconnect	65216201

NOT FOR NEW CONSTRUCTION

<p>DESIGN LIMITS</p> <p>Minimum 40-4 Pole</p> <p>Add 8 item bo, shackle, anchor to increase max. line angle to lesser of 15° or transverse load of 800 lbs per conductor</p> <p>*Quantity as Required</p>	<p>VERSA-TECH® ELECTRONIC RECLOSER</p> <p>THREE-PHASE</p> <p>SHEET 2 OF 2</p>		
	<p>MAR. 2018</p> 	<p>REVISED NOV 2022</p> <p>APPROVED BY MFJ</p>	<p>RECLOSER ASSEMBLIES</p> <p>12.47/7.2 kV</p>

ITEM	QTY	ASSET #	INVENTORY NO.
g	4	DT PC 364021	18290311
k	6	DT OH 365055	34281020
ae	3	DT OH 365001	01520991
be	3	DT MR 365062	365000AA
sb	3	DT OH 365025	65514000



NOT FOR NEW CONSTRUCTION

THREE SECTIONALIZING OIL CIRCUIT
 RECLOSERS WITH BY-PASS SWITCHES
 SHEET 1 OF 2

*Quantity as Required

APR. 1983



REVISED
 NOV 2022

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 JDP

RECLOSER ASSEMBLIES
 12.47/7.2 kV

M3-25

17.12.1

NOTES:

1. The recloser terminal bushing connected directly to the coil should be connected to the source.
2. Each recloser tank shall have two separate connections to ground.
3. See drawing M42-13 for assemblies ca and cb.
4. Recloser operating handle shall face source side.
5. Item fi is shown on drawing M43-10.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	8	Bolt, machine, 1/2" x req'd. length	063804TT
c	9	Bolt, machine, 5/8" x req'd. length	063805TT
d	8	Washer, round, 1 3/8"	-
d	26	Washer, square, 2 1/4"	-
d	4	Washer, square, 3"	-
g	4	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
l	6	Deadend, assembly ca, primary	117220XX
n	6	Bolt, double arming, 5/8" x req'd. length	063305TT
n	2	Bolt, double arming, 3/4" x req'd. length	063306TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd.	-
aa	2	Nut eye, 5/8"	41904065
ae	3	Surge arrester, gapless	01520991
av	*	Jumpers, stranded, covered, as req'd.	-
be	3	Recloser, oil circuit (12.47 kV)	365000AA
bi	4	Gain, pole, 4"x4", spurs, pole side	-
bo	4	Shackle, anchor	12302800
cb	2	Deadend assembly, neutral	117220XX
cu	4	Brace, crossarm, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
fi	12	Connector, M43-10 assembly	114139XX
sb	3	Switch, hook operated disconnect	65514000

NOT FOR NEW CONSTRUCTION

THREE SECTIONALIZING OIL CIRCUIT
RECLOSERS WITH BY-PASS SWITCHES
SHEET 2 OF 2

APR. 1983

REVISED
NOV 2022

RECLOSER ASSEMBLIES

M3-25

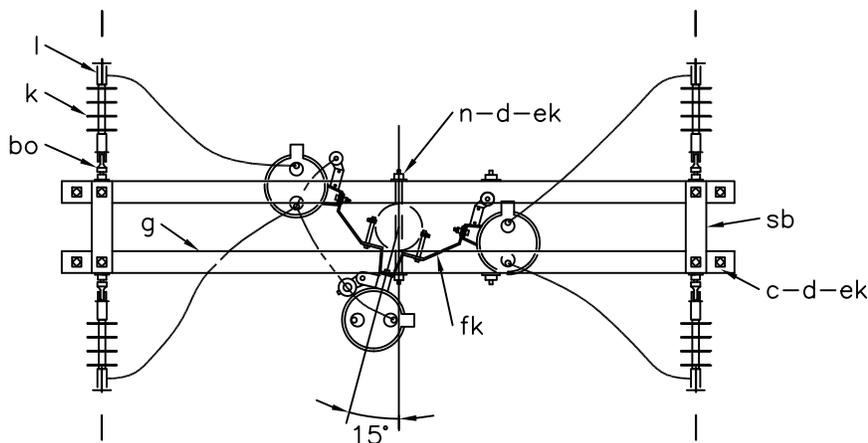


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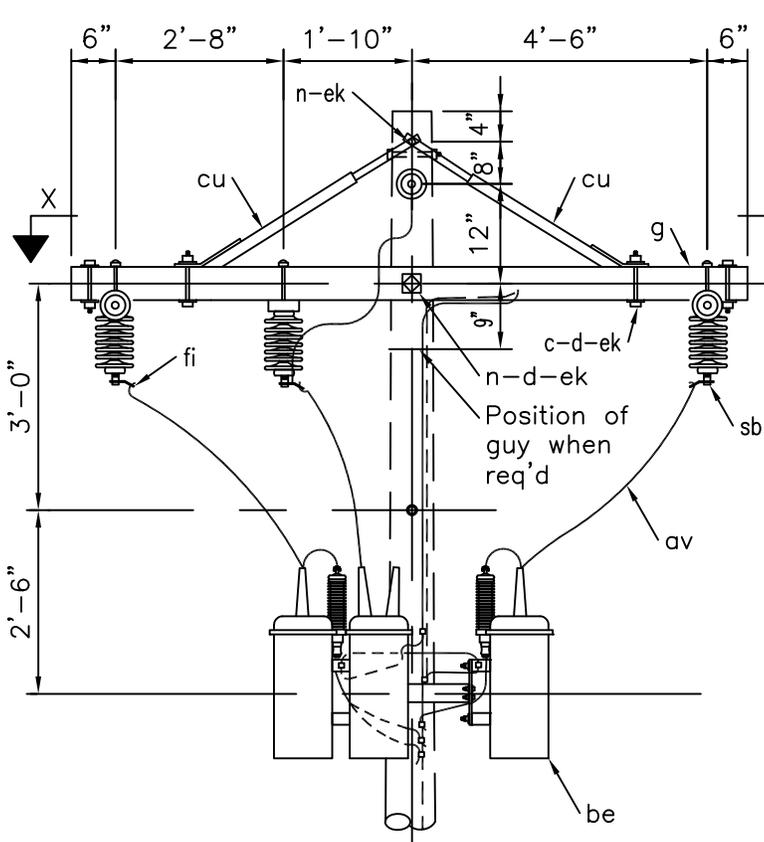
12.47/7.2 kV

*Quantity as Required

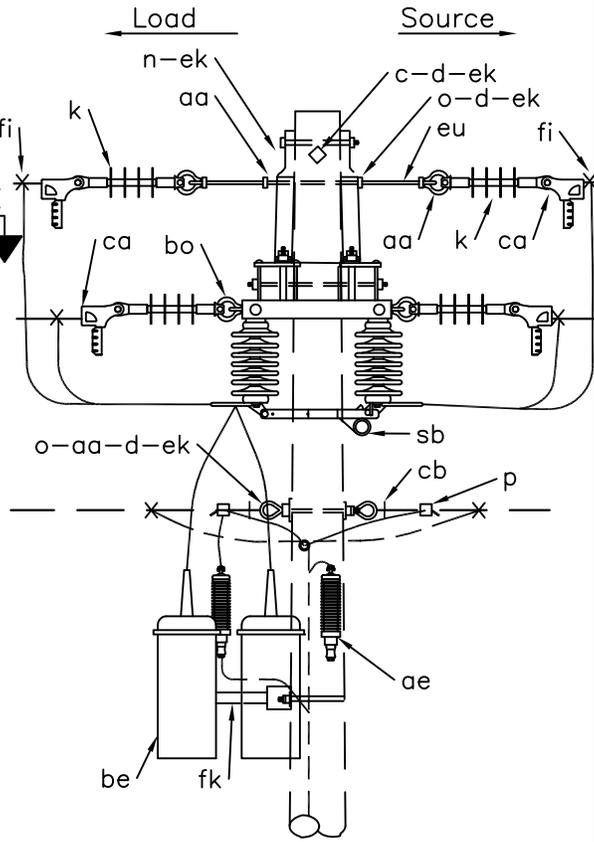
ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511	be	3	DT RE 365062	365000AA
k	6	DT OH 365055	34281020	fk	1	DT LT 368010	31001400
ae	3	DT OH 365001	01520991	sb	3	DT OH 365025	65514000



SECTION X-X



ELEVATION



SIDE VIEW

NOT FOR NEW CONSTRUCTION

THREE SECTIONALIZING OIL CIRCUIT
 RECLOSERS WITH BY-PASS SWITCHES
 SHEET 1 OF 2

*Quantity as Required
 **1 req'd for Type H, 2 req'd for all other types

APR. 1983	REVISED NOV 2022	RECLOSER ASSEMBLIES	M3-25A
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP	12.47/7.2 kV	

NOTES:

1. The recloser terminal bushing connected directly to the coil should be connected to the source.
2. Each recloser tank shall have two separate connections to ground.
3. See drawing M42-13 for assembly cb.
4. Recloser operating handle shall face source side.
5. Item fi is shown on drawing M43-10.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	5	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, round, 1 3/8"	-
d	10	Washer, square, 2 1/4"	-
d	2	Washer, square, 3"	-
d	4	Washer, square, curved, 3"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
l	6	Clamp, deadend, assembly ca	117220XX
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd.	-
aa	2	Nut eye, 5/8"	41904065
ae	3	Surge arrester, gapless	01520991
av	*	Jumpers, stranded, covered, as req'd.	-
be	3	Recloser, oil circuit (12.47 kV)	365000AA
bo	4	Shackle, anchor	12302800
cc	2	Deadend assembly, neutral	117220XX
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
fk	**	Bracket, cluster type, complete w/ mounting hardware	31001400
ek	*	Double coil spring washers, as req'd	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
fi	12	Connector, M43-10 assembly	114139XX
sb	3	Switch, recloser by-pass	65514000

NOT FOR NEW CONSTRUCTION

THREE SECTIONALIZING OIL CIRCUIT
RECLOSERS WITH BY-PASS SWITCHES
SHEET 2 OF 2

*Quantity as Required
**1 req'd for Type H, 2 req'd for all other types

APR. 1983



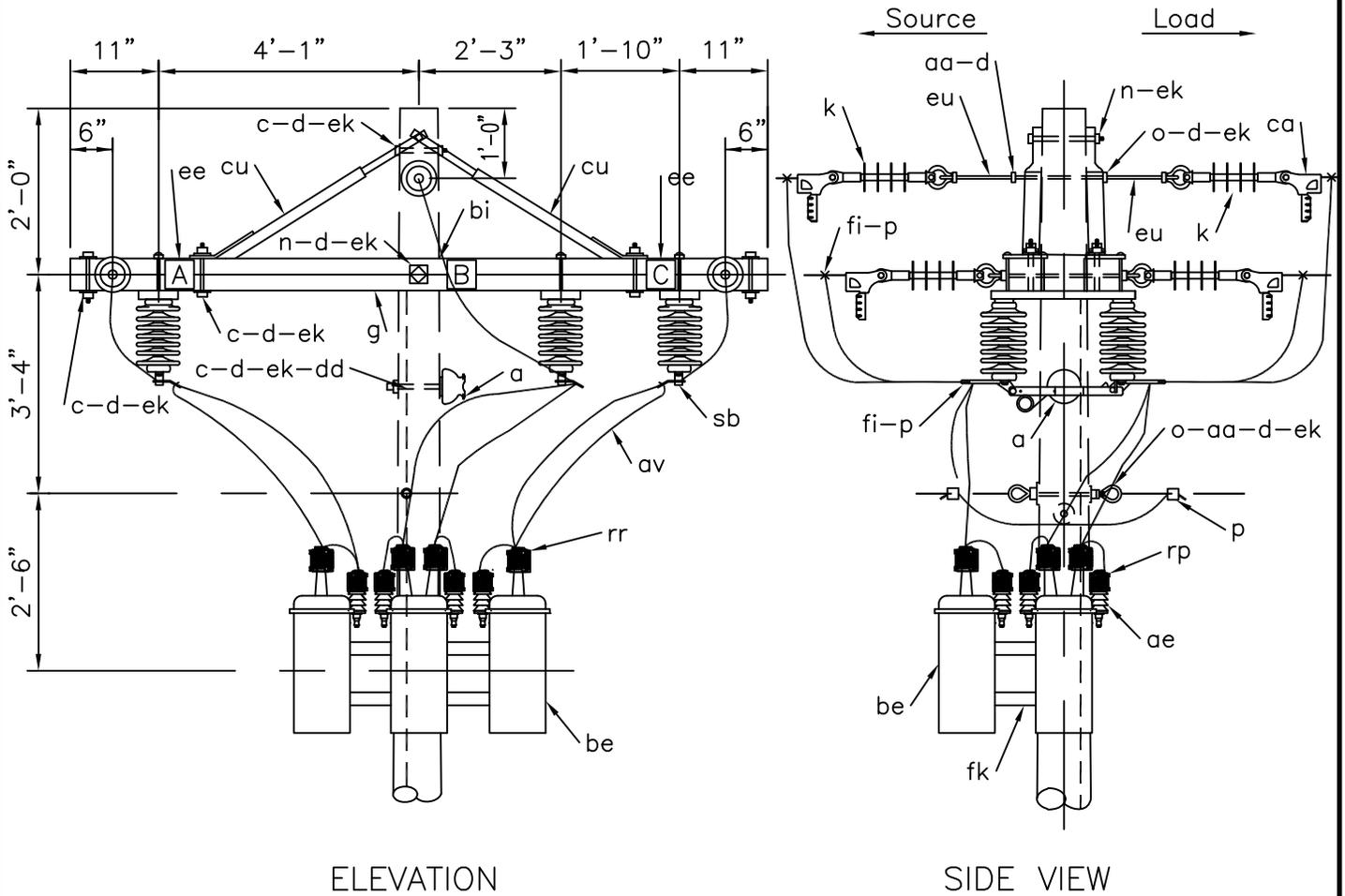
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JDP

RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-25A

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020
ae	6	DT OH 365001	01520991
be	3	DT MR 365062	365000AA
fk	**	DT LT 368010	31001400
sb	3	DT OH 365025	65514000



THREE-PHASE DEADEND (DOUBLE) WITH
BYPASSED RECLOSERS
SHEET 1 OF 2

*Quantity as Required
**1 req'd for type H, 2 req'd for all other types

DEC. 1985



REVISED
NOV 2022

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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-25B

17.14.1

NOTES:

1. The recloser terminal bushing connected directly to the coil should be connected to the source.
2. Each recloser tank shall have two separate connections to ground.
3. See drawing M42-13 for assemblies ca and cb.
4. Recloser operating handle shall face source side.
5. Item fi is shown on drawing M43-10.
6. 40-4 minimum pole
7. To be used with 4/0 ACSR and larger primary conductor.

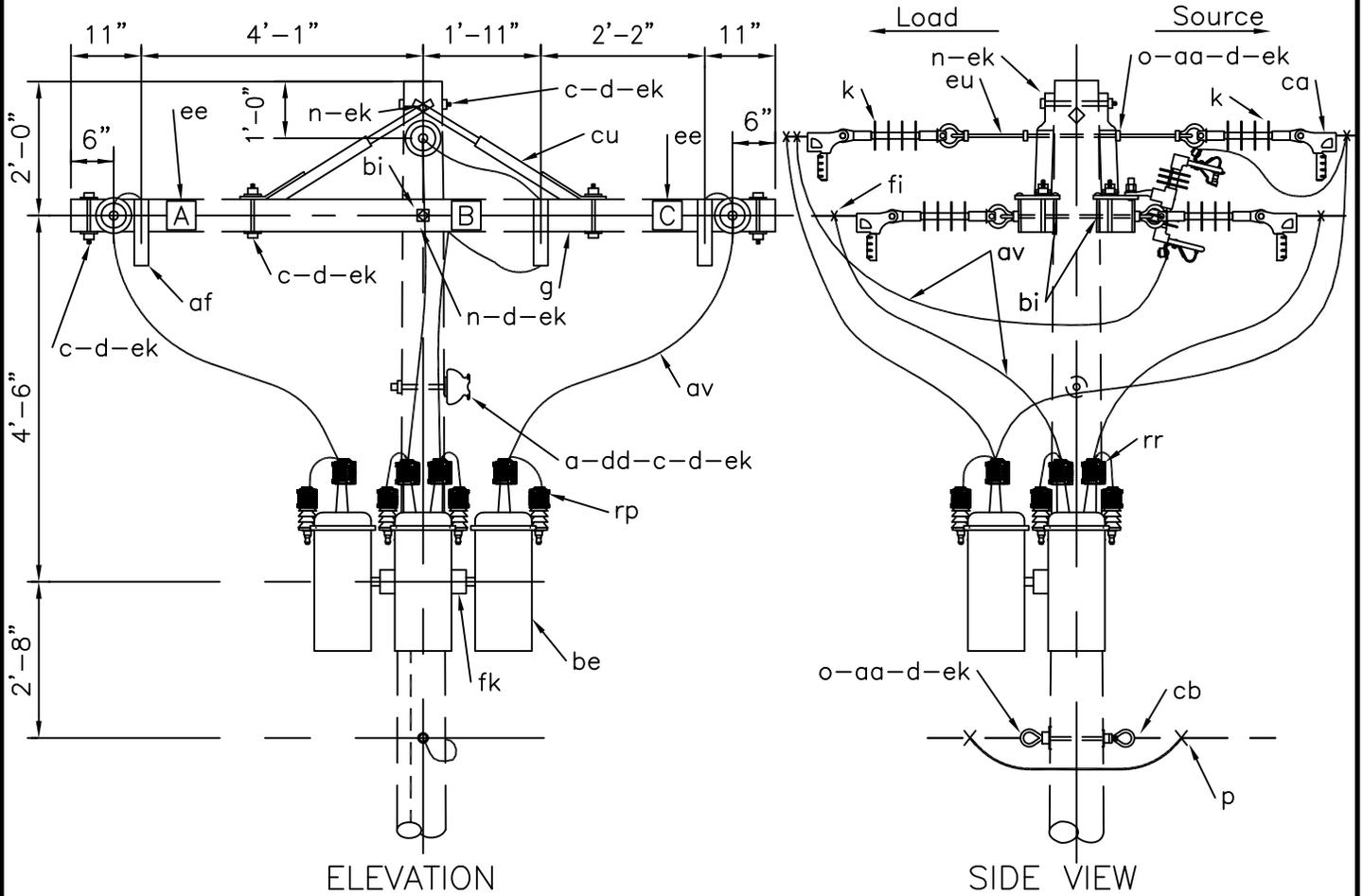
ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, round, 1 3/8", 9/16" hole	-
d	12	Washer, square, 2 1/4"	-
d	2	Washer, square, 3"	-
d	4	Washer, square, curved, 3"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063616TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd.	-
fi	12	Connector, M43-10 assembly	114139XX
aa	6	Nut eye, 5/8"	41904065
ae	6	Surge arrester, gapless	01520991
av	*	Jumpers, stranded, 10kV, as req'd.	-
be	3	Recloser, oil circuit (12.47 kV)	365000AA
bi	2	Gain, pole, 4"x4", spurs, pole side	-
ca	6	Deadend assembly, primary	117220XX
cc	2	Deadend assembly, neutral	117220XX
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
dd	1	Insulator, adaptor	-
fk	**	Bracket, cluster type, complete with mounting hardware	31001400
ek	*	Double coil spring washers, as req'd	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
sb	3	Switch, hook operated disconnect	65514000
ee	*	Phase and device tags with nails	-
rp	6	Wildlife Bushing Guard, Small	25001006
rr	6	Wildlife Bushing Guard, Large	25001012

THREE-PHASE DEADEND (DOUBLE) WITH
BYPASSED RECLOSERS
SHEET 2 OF 2

*Quantity as Required
**1 req'd for type H, 2 req'd for all other types

DEC. 1985	REVISED NOV 2022	RECLOSER ASSEMBLIES 12.47/7.2 kV	M3-25B
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
g	2	DT PC 364021	18290511
k	6	DT OH 365055	34281020
ae	6	DT OH 365001	01520991
be	3	DT MR 365062	365000AA
fk	**	DT LT 368010	31001400
af	3	DT OH 365049	18312111
-	3	DT MR 365049	18391000



Requires min 40-4 pole

THREE-PHASE DEADEND (DOUBLE) WITH
BYPASSED RECLOSERS (SOLID BLADE)
SHEET 1 OF 2

*Quantity as Required
**1 req'd for type H, 2 req'd
for all other types

DEC. 1985

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NOV 2022

RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-25C



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NOTES:

1. Alignment of recloser may be offset to clear jumpers.
2. Reclosers to be loop grounded.
3. Solid blades to be removed and attached on pole when cutouts are left open.
4. Attach OCR jumpers with hot line clamps. Item fi is shown on drawing M43-10.
5. Recloser operating handle shall face source side.
6. Drawing is equivalent to M3-12A with three (3) M3-4A and C8INX.
7. To be used with 1/0 ASCR and smaller primary conductor.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin	34223010
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	6	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, round, 1 3/8"	-
d	2	Washer, square, 3"	-
d	12	Washer, square, 2 1/4"	-
d	4	Washer, square, curved, 3"	-
g	2	Crossarm, 3 3/4" x 4 3/4" x 10'-0"	18290511
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
n	3	Bolt, double arming, 5/8" x req'd. length	063305TT
o	2	Bolt, eye, 5/8" x req'd. length	063615TT
p	*	Connectors, as req'd.	-
aa	6	Nut eye, 5/8"	41904065
al	*	Staples, ground wire	-
ae	6	Surge arrester (mount on recloser tanks), gapless	01520991
af	3	Cutout	18312111
av	*	Jumpers, stranded, covered, as req'd.	-
be	3	Recloser, oil circuit (12.47 kV)	365000AA
ca	6	Deadend assembly, primary	117200XX
cb	2	Deadend assembly, neutral	117200XX
cu	2	Brace, crossarm, wood, 60" span, pair	07535168
dd	1	Insulator, adaptor	-
fk	**	Bracket, cluster type	31001400
ek	*	Double coil spring washers, as req'd	-
eu	2	Link, extension, insulated, 12", C-TE	34276130
fi	12	Connector, M43-10 assembly	114139XX
bi	2	Gain, pole, 4"x4", spurs, pole side	-
cj	*	Ground wire, min. 6AWG CU SD	72500601
ee	*	Phase and device tags w/ nails	-
-	1	Solid blade	18391000
rp	6	Wildlife Bushing Guard, Small	25001006
rr	6	Wildlife Bushing Guard, Large	25001012

Requires min 40-4 pole

*Quantity as Required
 **1 req'd for type H, 2 req'd for all other types

THREE-PHASE DEADEND (DOUBLE) WITH
 BYPASSED RECLOSERS (SOLID BLADE)
 SHEET 2 OF 2

DEC. 1985



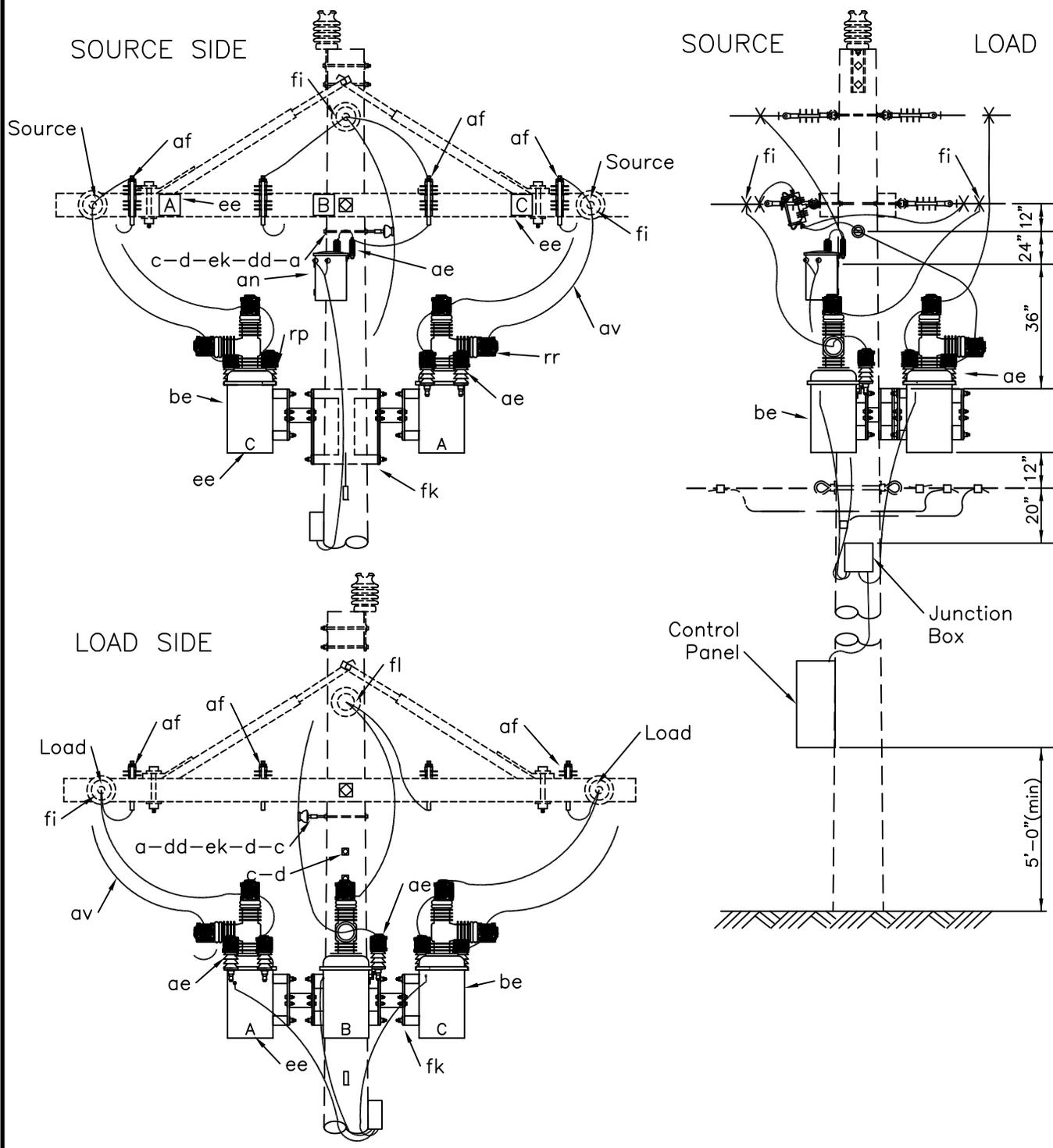
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RECLOSER ASSEMBLIES
 12.47/7.2 kV

M3-25C

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010
ae	7	DT OH 365001	01520991
af	4	DT OH 365049	18312111
an	1	DT OV 368032	36810020
be	3	DT RE 365082	36550011
fk	1	DT LT 368010	31001461



DESIGN LIMITS

Requires 40-4 pole (min).

THREE ELECTRONIC CONTROLLED
VACUUM RECLOSERS (NOVA)
SHEET 1 OF 2

*Quantity as Required

DEC. 2013



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RECLOSER ASSEMBLIES
12.47/7.2 kV

M3-25N

17.16.1

NOTES:

1. Each recloser tank shall have two separate connections to ground.
2. Install 3T fuse link in transformer cutout. Install solid blades in bypass cutouts
3. Mark control cables with colored tape to identify phase.
4. See drawing C8-INX for crossarm construction.
5. Item fi is shown on drawing M43-10.
6. See drawing M52-CM for control panel mounting guide.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 2 1/4"	-
p	*	Connectors, as required	-
ae	7	Surge arrestor, gapless	01520991
af	4	Cutout (See note 2)	18312111
an	1	Transformer, conventional, 0.5 kVA	36810020
av	*	#2cu Jumpers, stranded, covered, as req'd.	15620200
be	3	Recloser, vacuum, with electronic controller	36550011
dd	1	Insulator, adaptor	-
fk	2	Bracket, cluster type w/ mounting hardware	31001461
ee	*	Phase and device tags, complete	-
ek	*	Double coil spring washers, as req'd	-
fi	13	Connector, M43-10 or M43-10A assembly	114139XX
rp	6	Wildlife Bushing Guard, Small	25001006
rr	6	Wildlife Bushing Guard, Large	25001012

DESIGN LIMITS

Requires 40-4 pole (min).

THREE ELECTRONIC CONTROLLED
VACUUM RECLOSERS (NOVA)
SHEET 2 OF 2

*Quantity as Required

DEC. 2013

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RECLOSER ASSEMBLIES

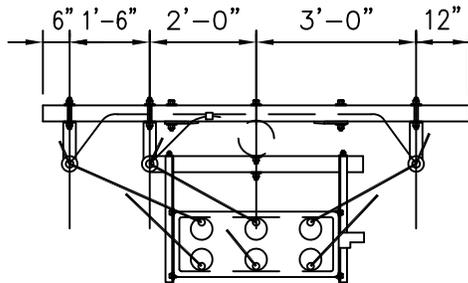
M3-25N



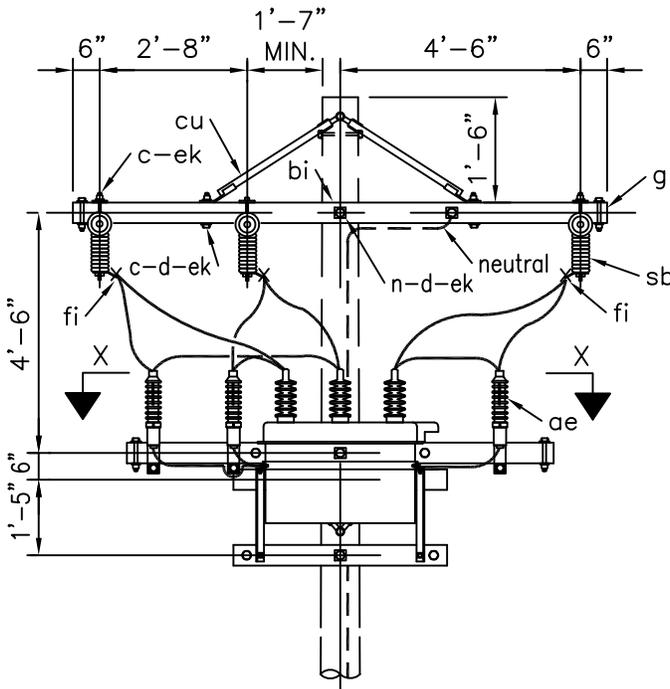
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12.47/7.2 kV

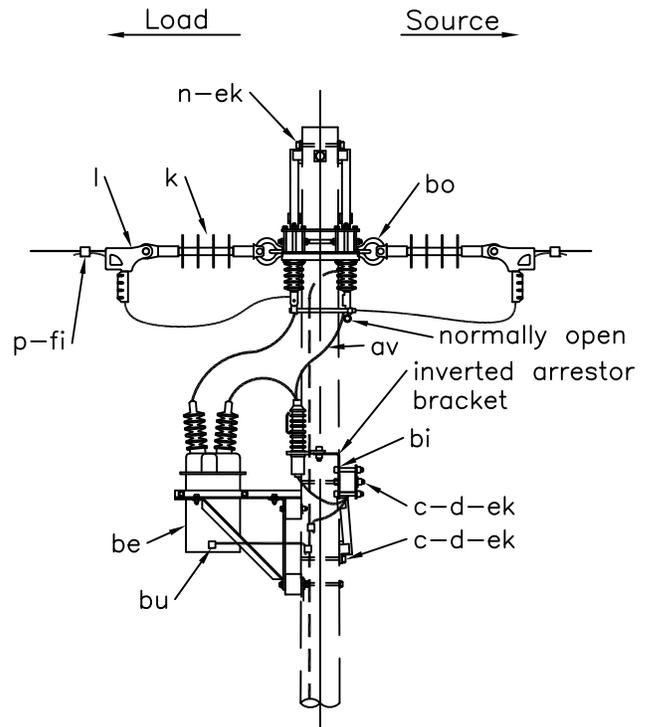
ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
g	2	DT PC 364021	18290311
k	6	DT OH 365055	34281020
ae	3	DT OH 365001	01520991
be	1	DT RE 365062	365000AA
sb	3	DT OH 365025	65514000



SECTION X-X



ELEVATION



SIDE VIEW

NOT FOR NEW CONSTRUCTION

* Quantity as Required
 ** Specify this item to be furnished by recloser manufacturer.

THREE-PHASE OIL CIRCUIT RECLOSER WITH BY-PASS SWITCHES
 SHEET 1 OF 2

APR. 1983



REVISED NOV 2022

APPROVED BY JDP

RECLOSER ASSEMBLIES
 12.47/7.2 kV

M3-30

17.17.1

NOTES:

1. See drawing M42-13 for assemblies ca and cb.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	4	Bolt, machine, 1/2" x req'd. length	063804TT
c	8	Bolt, machine, 5/8" x req'd. length	063805TT
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
d	4	Washer, round, 1 3/8", 9/16" hole	-
d	19	Washer, sq. 2 1/4"	-
d	3	Washer, square, 3"	-
d	1	Washer, square, curved, 3"	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18390511
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
k	6	Insulator, suspension, epoxilator, 7.2kV	34281020
l	6	Clamp, deadend, assembly ca, primary	117220XX
n	2	Bolt, double arming, 5/8" x req'd. length	063305TT
n	1	Bolt, double arming, 3/4" x req'd. length	063306TT
p	*	Connectors, as req'd.	-
aa	2	Nut eye, 5/8"	41904065
ae	3	Surge arrester, gapless	01520991
av	*	Jumpers, stranded, as req'd.	-
be	1	Recloser, oil circuit (12.47 kV) 3-phase	365000AA
**	1	Mounting bracket for 3-phase recloser, complete w/ hardware	-
bi	2	Gain, pole, 4"x4", spurs, pole side	-
bo	6	Shackle, anchor	12302800
bu	1	Connector, solderless	-
cu	3	Brace, crossarm, wood, 60" span	07535168
ek	*	Double coil spring washers, as req'd	-
fi	6	Connector, M43-10 or M43-10A assembly	114139XX
sb	3	Switch, hook operated disconnect	65514000
1	2	Clamp, deadend assembly cb, neutral	-

NOT FOR NEW CONSTRUCTION

* Quantity as Required
 ** Specify this item to be furnished by recloser manufacturer.

**THREE-PHASE OIL CIRCUIT RECLOSER WITH
 BY-PASS SWITCHES
 SHEET 2 OF 2**

APR. 1983



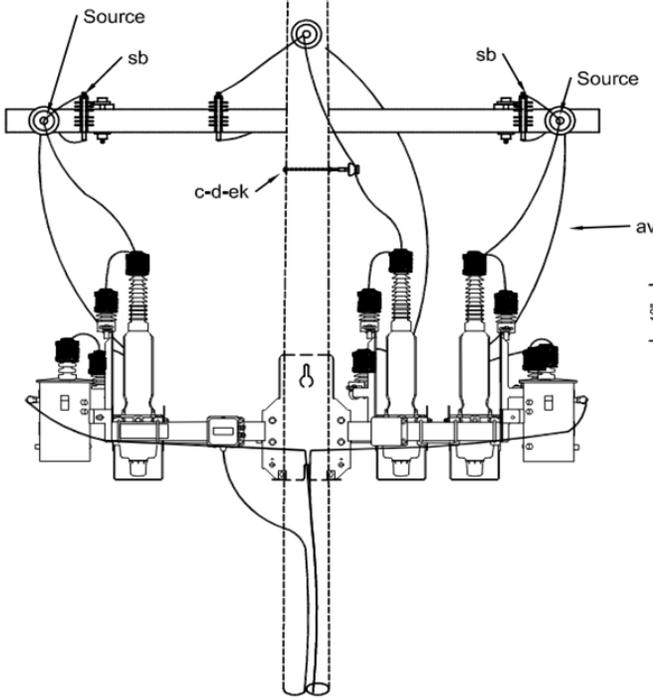
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NOV 2022

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JDP

RECLOSER ASSEMBLIES
12.47/7.2 kV

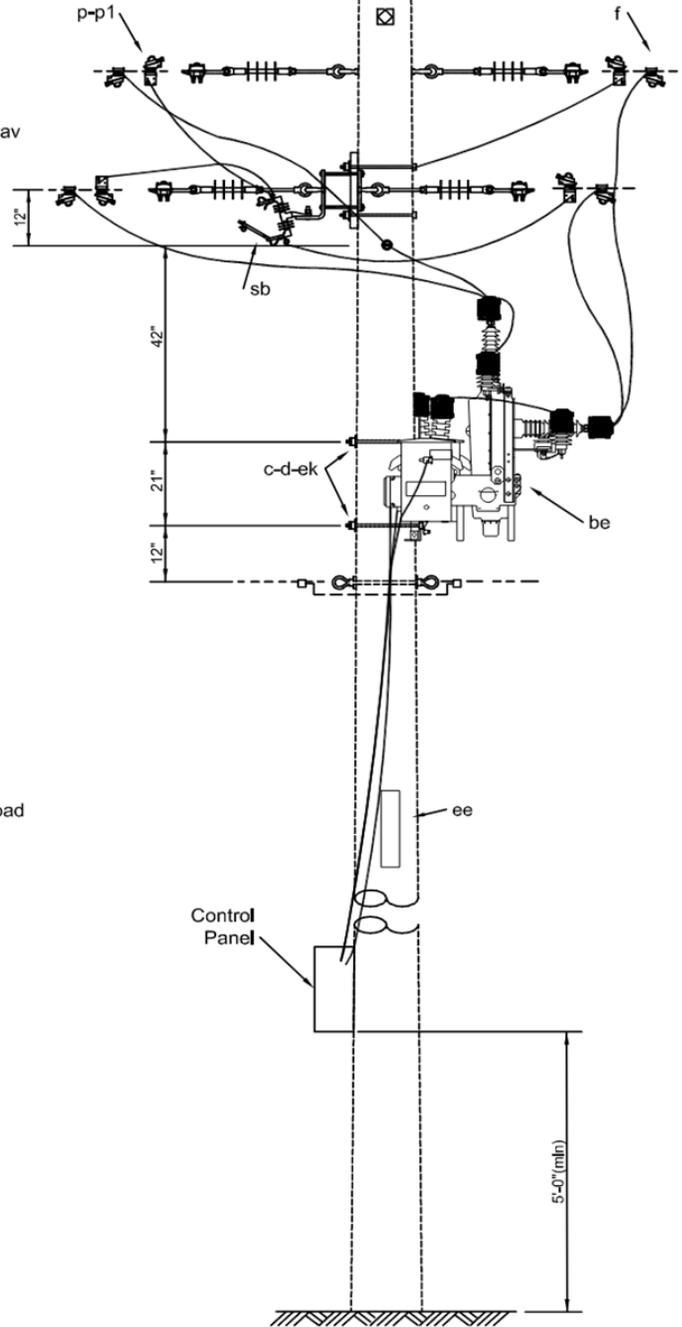
M3-30

SOURCE SIDE

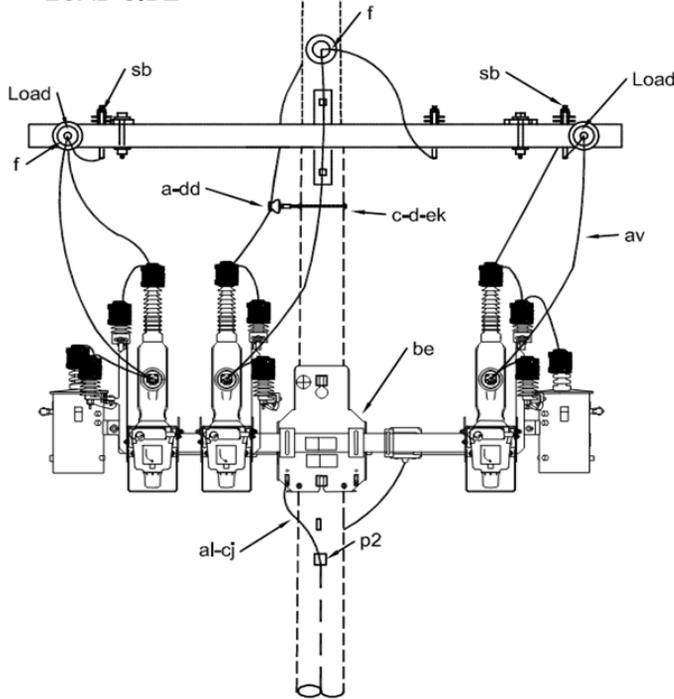


SOURCE

LOAD



LOAD SIDE



DESIGN LIMITS

Requires 40-4 pole (min).

3-PHASE ELECTRONIC CONTROLLED VACUUM RECLOSER (VIPER) WITH BY-PASS SWITCHES SHEET 1 OF 2

*Quantity as Required

NOV 2024



REVISED NOV 2025

APPROVED BY WET

RECLOSER ASSEMBLIES 12.47/7.2 KV

M3-30V

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	365055	34223010
be	1	365082	36540010
sb	3	368006	65216202

NOTES:

1. See drawing C8-2FX for crossarm construction.
2. Control Panel mounted at min. 5'-0", Control cable must be protected with armor or flex conduit to prevent vandalism.
3. M2-11 ground required with this unit.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
c	3	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, Sq., Curved, 3", 5/8" Hardware	-
f	6	Wedge Tap Connector	5400481T
p	6	Wedge Pad Tap Connector	5400480T
al	*	Staples, ground wire	-
av	*	Jumpers, covered, stranded, as req'd.	-
be	1	3-PHASE Recloser, vacuum, with electronic controller (VIPER)	36540010
cj	5	Ground wire, min. #6 copper or equiv.	15610501
dd	1	Adapter, insulator	34303000
ee	1	Phase and device tags, complete	-
ek	*	Double coil spring washers, as req'd	-
sb	3	Disconnect Switch, 600A, Single Insulator	65216202
p1	12	Terminal, disconnectable, 2-hole NEMA	170900AA
p2	1	Connector, compression, copper C-Frame	17030600

DESIGN LIMITS
Requires 40-4 pole (min).

*Quantity as Required

**3-PHASE ELECTRONIC CONTROLLED VACUUM
RECLOSER (VIPER) WITH BY-PASS SWITCHES
SHEET 2 OF 2**

NOV 2024	REVISED NOV 2025	RECLOSER ASSEMBLIES 12.47/7.2 kV	M3-30V
		APPROVED BY WET	



MISCELLANEOUS ASSEMBLIES

MISCELLANEOUS ASSEMBLIES

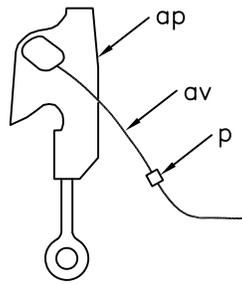
PAGE	DRAWING	DESCRIPTION
18.01	M5-1 M5-2	Miscellaneous Primary Assemblies
18.02	M5-2R	Raptor Protection Perch Guards
18.03	M5-2EC	Raptor Protection Perch Guard Spikes 36"
18.04	M5-2S	Raptor Protection Perch Guard Spikes 48"
18.05	M5-SG	Raptor Protection Bushing
18.06	M5-W M5-WL	Raptor Protection Bushing
18.07	M5-4 M5-5	Miscellaneous Primary Assemblies
18.08	M5-6 M5-6B	Lightning Arrestors
18.09	M5-6C	Lightning Arrestors
18.10	M5-7 M5-7B	Miscellaneous Primary Assemblies
18.11	M5-9 M5-9S	Cutouts & Arrestors
18.12	M5-13	Crossarm Braces
18.13	M5-14 M5-14F	Crossarms
18.14	M5-14FDE	Deadend Crossarms
18.15	M5-16 M5-16F	Crossarms
18.16	M5-16FDE	Deadend Crossarms
18.17	M5-17 M5-18	Miscellaneous Assemblies
18.18	M5-19 M5-21	Miscellaneous Assemblies
18.19	M5-FCI	Miscellaneous Assemblies
18.20	M5-23	Strain Insulator (Fiberglass) Insulated Down Guy
18.21	M5-24	Suspension Insulator
18.22	M5-25B	Neutral Assembly Deadend (Double) Butterfly Type
18.23	M5-27B M5-27C	Lightning Arrestor Mounting Brackets
18.24	M5-28 M5-29	Miscellaneous Primary Assemblies
18.25	M5-30	Miscellaneous Primary Assemblies
18.26	M5-AFS-4/0,477	Air Flow Spoiler
18.27	M9-1	Stirrup Hot Line Clamp
18.28	M9-2	Shear Bolt Wedge Style Stirrup

MISCELLANEOUS ASSEMBLIES

PAGE	DRAWING	DESCRIPTION
18.29	M9-1A M9-1B M9-1T	Tap Rod & Armor Rod
18.30	M26-5 M26-5LED M26-5LO	Security Light Installation Guide (Unmetered)
18.31	M43-10	Hot Line Connector with Stirrup
18.32	M43-10A	Hot Line Connector with Tap Rod
18.33	M43-10B	Hot Line Connector with Wedge Stirrup
18.34	M43-11	Tap Assembly Guide (Large Conductor)
18.35	UMS-FUSE	Overhead Fuse Chart

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

M5-1



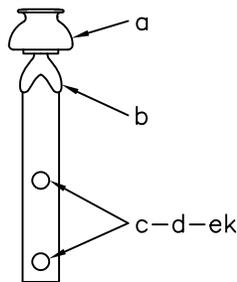
NOTES:

1. Use Anti-Rotational hot line stirrup and connectors for copper weld conductor.
2. Use bronze hot line clamp to connect jumpers to conductors, if the conductor is ACSR use Tap Rod

ITEM	QTY	MATERIAL	INVENTORY NO.
p	1	Connector, as req'd.	-
ap	1	Clamp, hot line	114139XX
av	*	Jumpers, covered, as req'd.	-

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010

M5-2



ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
b	1	Pin, pole top, 20"	45612120
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
ek	*	Double coil spring washers, as req'd	-

MISCELLANEOUS PRIMARY ASSEMBLIES

*Quantity as Required

APR. 1983



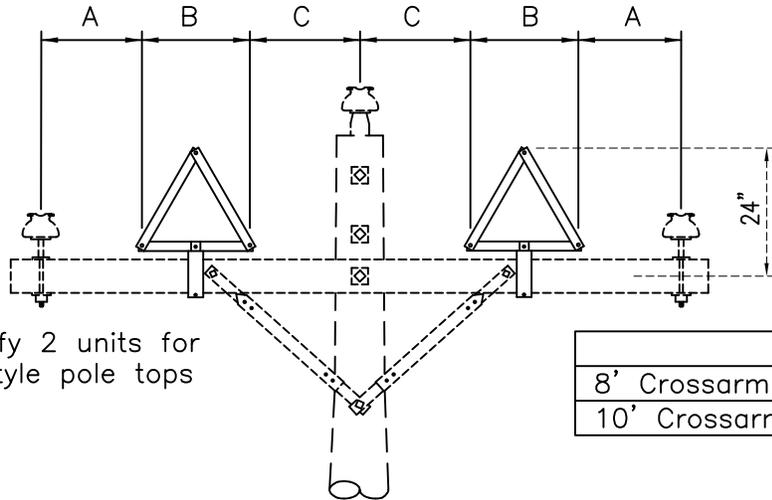
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MISC. ASSEMBLIES
12.47/7.2 kV

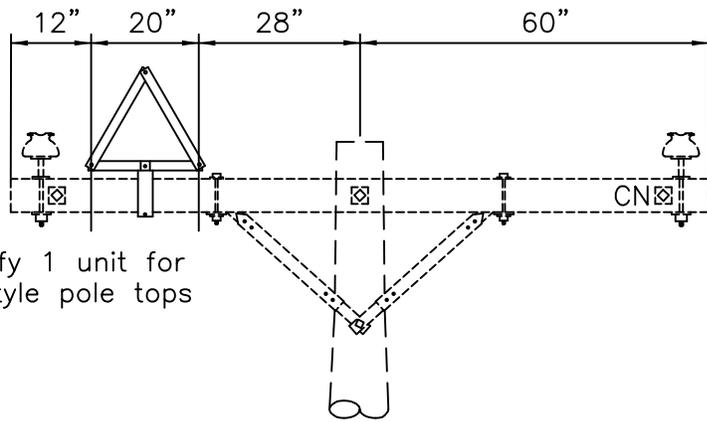
M5-1,
M5-2

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

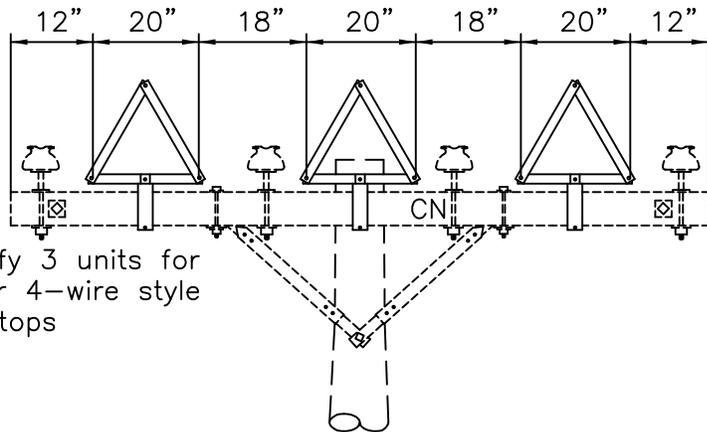


Specify 2 units for C1 style pole tops

	A	B	C
8' Crossarm	14"	20"	14"
10' Crossarm	20"	20"	20"



Specify 1 unit for A9 style pole tops



Specify 3 units for C9 or 4-wire style pole tops

ITEM	QTY	MATERIAL	INVENTORY NO.
rp	1	Bird guard, fiberglass HB # B2571-A-24-20, o.e.	25001020

RAPTOR PROTECTION PERCH GUARDS

AUG. 1999

REVISED NOV 2022

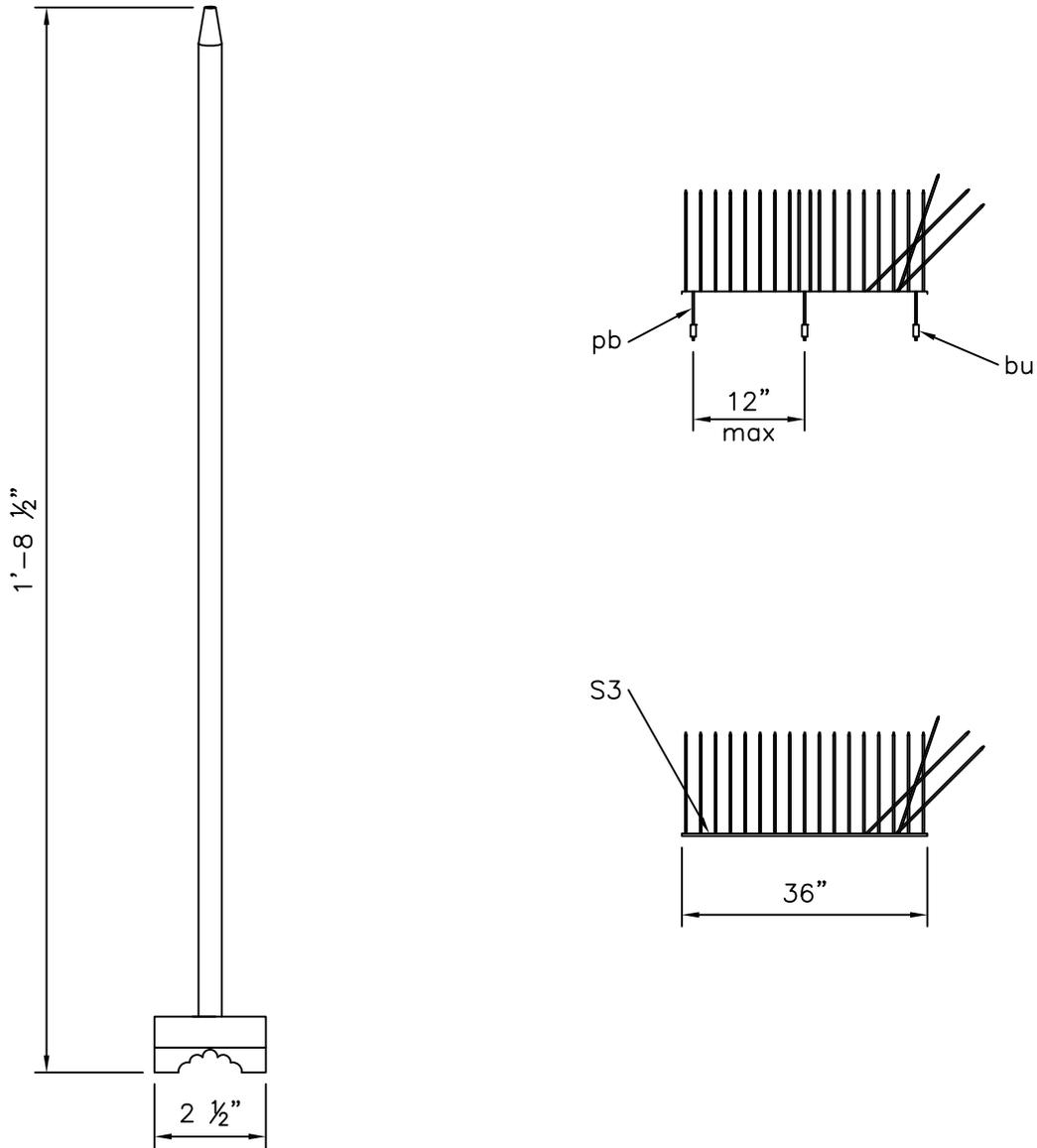
MISC. ASSEMBLIES
12.47/7.2 kV

M5-2R



APPROVED BY
MFG

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



END PROFILE WITH
MULTI-SIDED ARM BASE

NOTES:

1. Spike strips can be cut to length in the field.
2. Buckles are issued in lots of 50.
3. 12" spacing max. between bands.
4. Banding is issued on reels, each with 97ft of strap.
5. Attach spike strip to crossarm with 3/4" polymer band.

ITEM	QTY	MATERIAL	INVENTORY NO.
bu	*	Buckles for banding	-
S3	1	Spike strip, 36", with end cap	25001036
pb	*	Smart polymer banding	-

RAPTOR PROTECTION
PERCH GUARD SPIKES 36"

*Quantity as Required

NOV. 2017



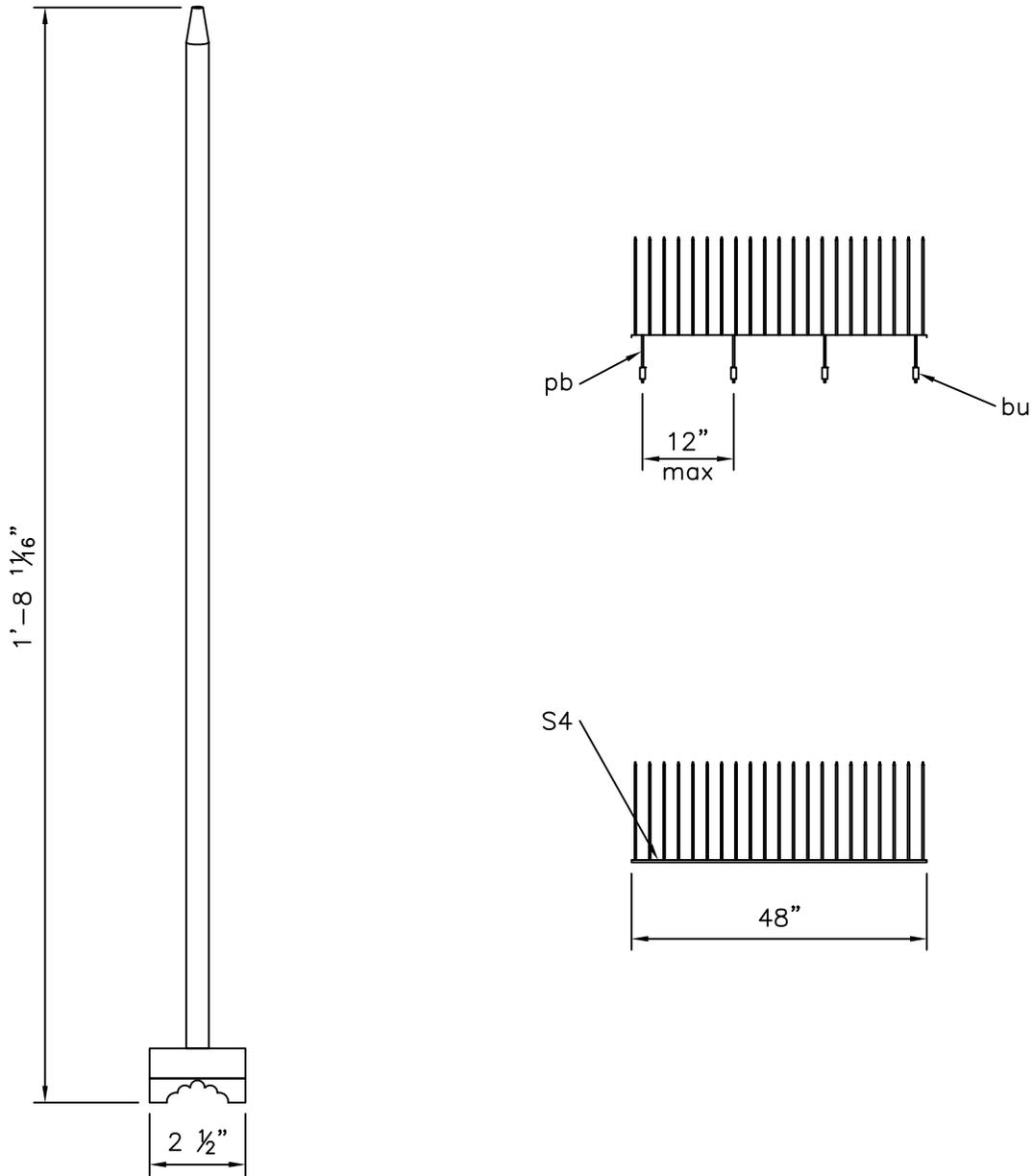
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JDP

MISC. ASSEMBLIES
12.47/7.2 kV

M5-2EC

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



END PROFILE WITH
MULTI-SIDED ARM BASE

NOTES:

1. Spike strips can be cut to length in the field.
2. Buckles are issued in lots of 50.
3. 12" spacing max. between bands.
4. Banding is issued on reels, each with 97ft of strap.
5. Attach spike strip to crossarm with 3/4" polymer band.

ITEM	QTY	MATERIAL	INVENTORY NO.
bu	*	Buckles for banding	-
S4	1	Spike strip, 48", without end cap	25001048
pb	*	Smart polymer banding	-

RAPTOR PROTECTION
PERCH GUARD SPIKES 48"

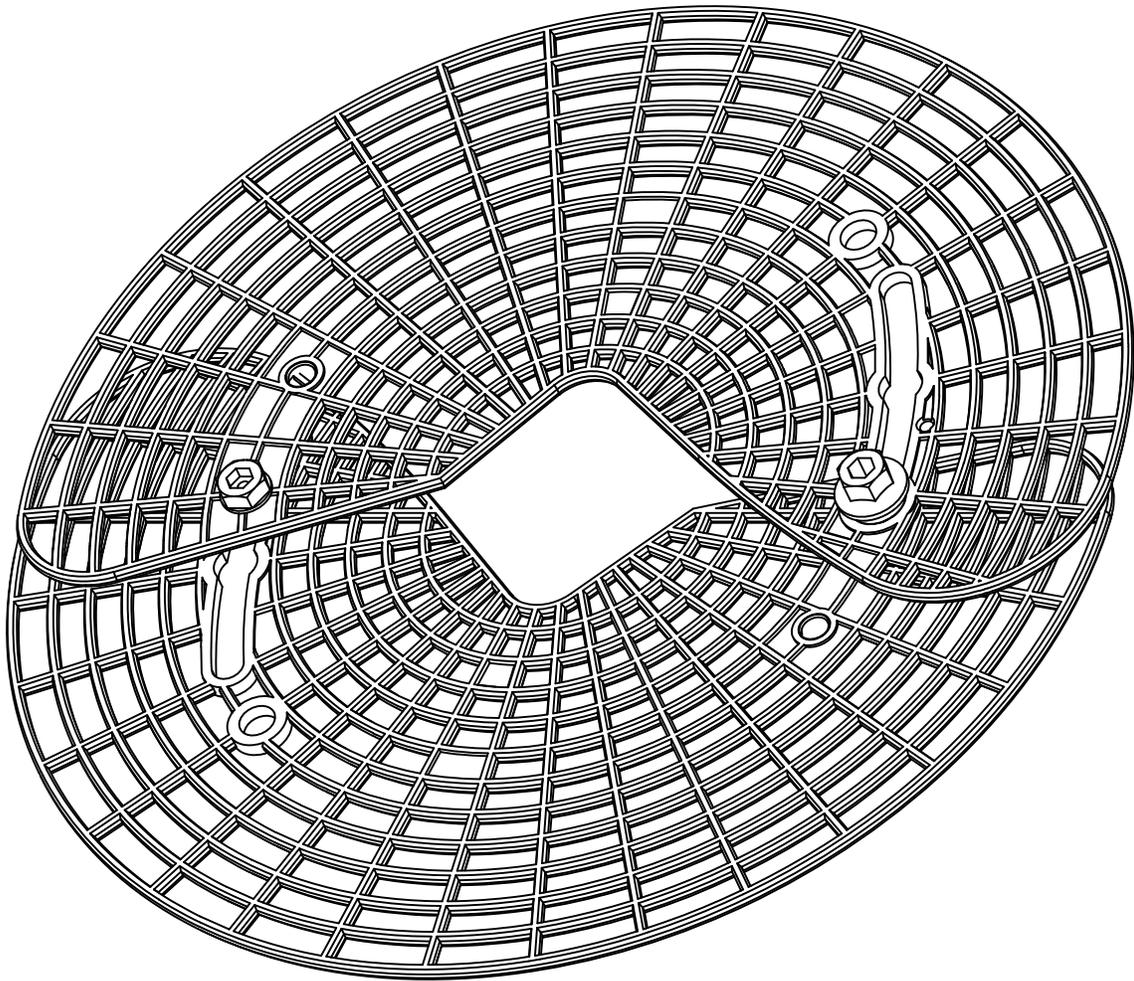
*Quantity as Required

NOV. 2017	REVISED NOV 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP

MISC. ASSEMBLIES
12.47/7.2 kV

M5-2S

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



ITEM	QTY	MATERIAL	INVENTORY NO.
-	1	Squirrel Guard	25001050

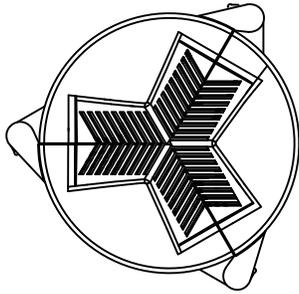
MISCELLANEOUS ASSEMBLIES

*Quantity as Required

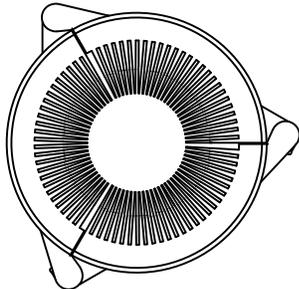
JAN 2018	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-SG
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

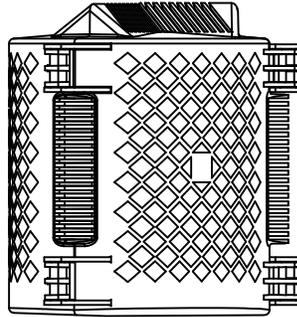
M5-W



Top View



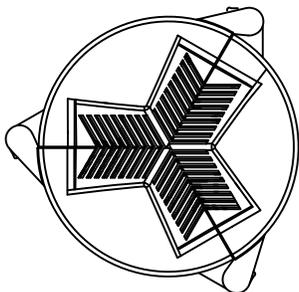
Bottom View



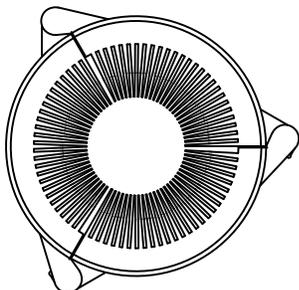
ITEM	QTY	MATERIAL	INVENTORY NO.
-	1	Wildlife Bushing Guard, Small	25001006

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

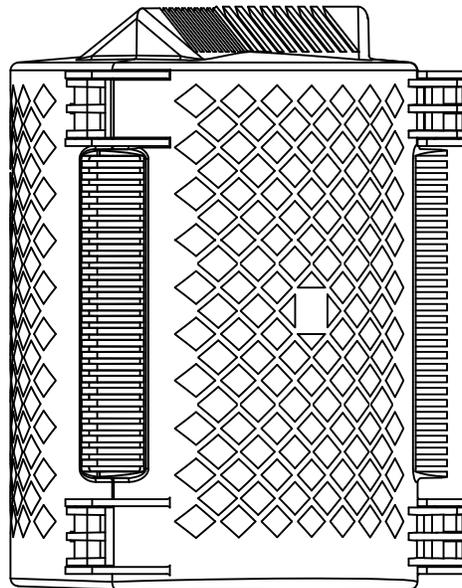
M5-WL



Top View



Bottom View



ITEM	QTY	MATERIAL	INVENTORY NO.
-	1	Wildlife Bushing Guard, Large	25001012

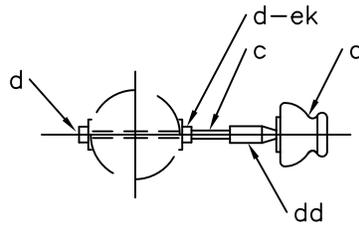
MISCELLANEOUS ASSEMBLIES

*Quantity as Required

JAN 2018	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-W M5-WL
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010

M5-4



PLAN

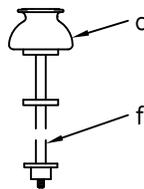
NOTES:

- Item "c", 5/8" machine bolt x req'd length, may be substituted with item "n", 5/8" double arming bolt x req'd length, if item "c" is not long enough.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type	34223010
d	2	Washer, square, 2 1/4"	-
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
dd	1	Adapter, insulator	34303000
ek	*	Double coil spring washers, as req'd	-

ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010

M5-5



ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type (12.47/7.2 kV)	34223010
f	1	Pin, crossarm steel, 5/8" x 10 3/4"	45413111

MISCELLANEOUS PRIMARY ASSEMBLIES

*Quantity as Required

DEC. 1985



REVISED
NOV 2022

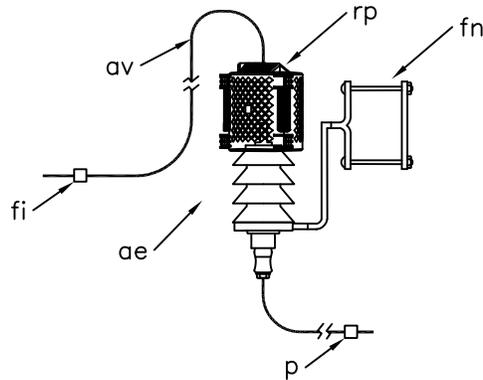
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MISC. ASSEMBLIES
12.47/7.2 kV

M5-4, M5-5

ITEM	QTY	ASSET #	INVENTORY NO.
ae	1	DT OH 365001	01520991

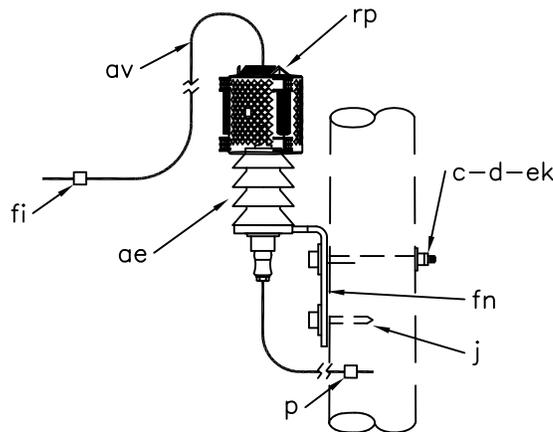
M5-6



ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connector, as req'd.	-
ae	1	Lightning arrester	01520991
av	*	Jumpers, covered, as req'd.	-
fn	1	Bracket, "L" type, crossarm	-
fi	1	Connector, M43-10 or M43-10A assembly	170100TT
rp	1	Wildlife Guard, Small	25001006

ITEM	QTY	ASSET #	INVENTORY NO.
ae	1	DT OH 365001	01520991

M5-6B



ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	1	Washer, square, 2 1/4"	-
j	1	Screw, lag, 1/2" x 4"	-
p	1	Connector, as req'd	-
ae	1	Lightning arrester	01520991
av	*	Jumpers, covered, as req'd.	-
ek	*	Double coil spring washers, as req'd	-
fi	1	Connector, M43-10 or M43-10A assembly	170100TT
fn	1	Bracket, "L" type, pole	-
rp	1	Wildlife Guard, Small	25001006

LIGHTNING ARRESTORS

*Quantity as Required

APR. 1983



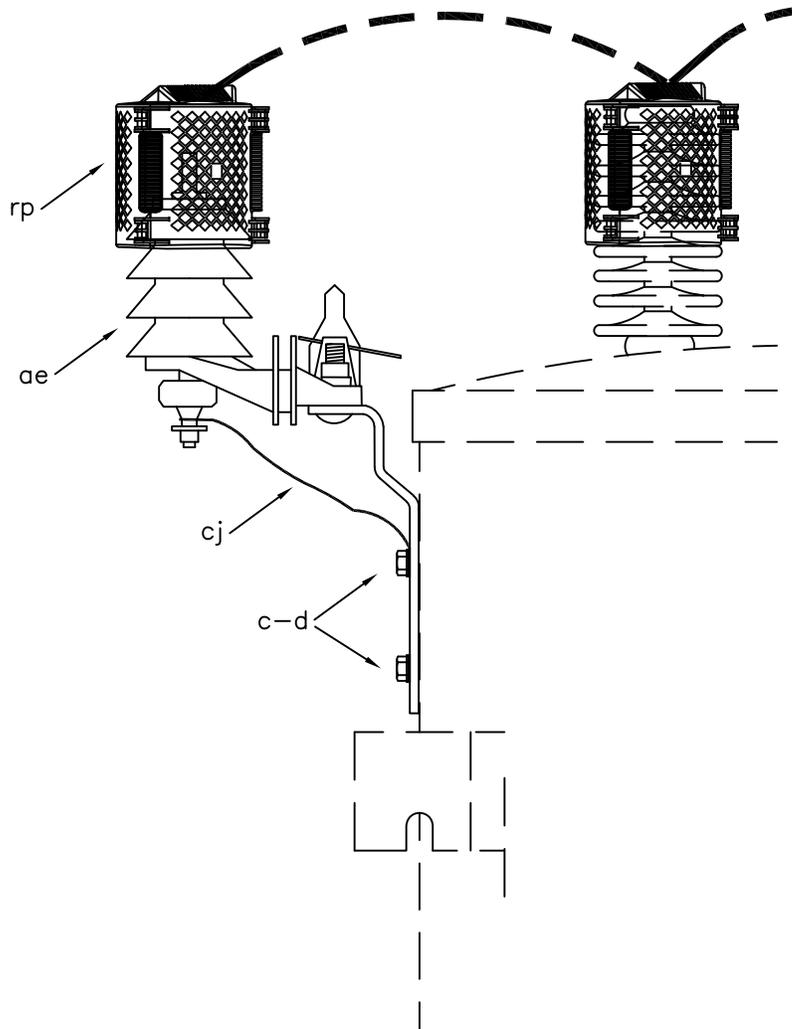
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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M5-6
M5-6B

ITEM	QTY	ASSET #	INVENTORY NO.
ae	1	DT OH 365001	01520900



M5-6C

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 1/2" x 3/4	-
d	2	Flat Washer 1/2"	-
d	2	Lock Washer 1/2"	-
ae	1	Polymer Lightning Arrester, 9kV	01520900
cj	*	Ground wire, #6cu	15610501
rp	1	Wildlife Bushing Guard, Small	25001006

LIGHTNING ARRESTORS

*Quantity as Required

APR. 1983



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NOV 2022

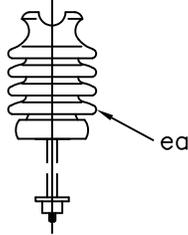
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MISC. ASSEMBLIES
12.47/7.2 kV

M5-6C

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34251010

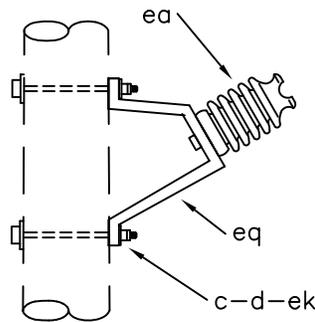
M5-7



ITEM	QTY	MATERIAL	INVENTORY NO.
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
ek	*	Double coil spring washers, as req'd	-
-	1	Insulator 7" x 3/4" stud, complete with washers and machine nuts	34302000

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34251010

M5-7B



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square 2 1/4"	-
ea	1	Insulator, post type	34251010
ek	*	Double coil spring washers, as req'd	-
eq	1	Bracket, offset pole mount 15"	07807600
-	1	Insulator 1 3/4" x 3/4" stud, complete with washers and machine nuts	34301000

MISCELLANEOUS PRIMARY ASSEMBLIES

*Quantity as Required

APR. 1983



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NOV 2022

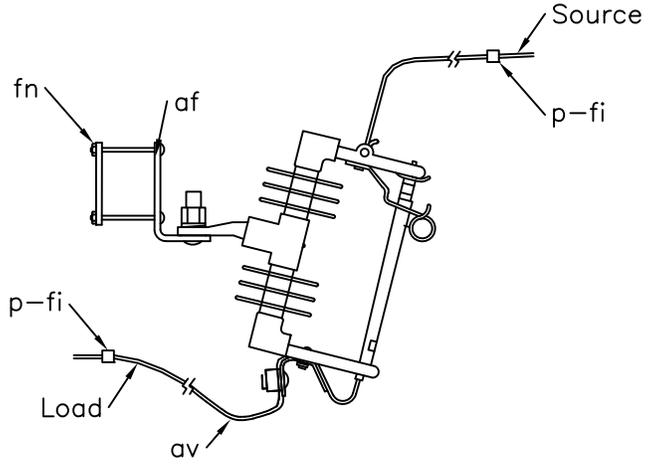
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MISC. ASSEMBLIES
12.47/7.2 kV

M5-7, M5-7B

ITEM	QTY	ASSET #	INVENTORY NO.
af	1	DT OH 365049	18312111

M5-9



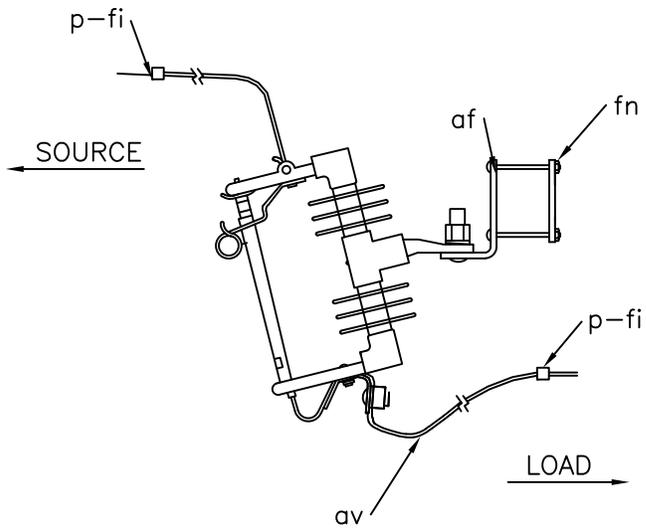
NOTES:

1. Use Anti-Rotational hot line stirrup and connectors for copper weld conductor.
2. If conductor is ACSR use Tap Rod.
3. Use bronze hot line clamp to connect jumpers to conductors.
4. Bracket Included with Cutout.

ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connector, as req'd.	-
af	1	Cutout, w/ fuse tube and "L" Bracket	18312111
av	*	Jumpers, covered, as req'd.	-
fi	2	Clamp, Hot Line	114139XX

ITEM	QTY	ASSET #	INVENTORY NO.
-	1	-	18391000
af	1	DT OH 365049	18312111

M5-9S



NOTES:

1. Bracket Included with Cutout.

ITEM	QTY	MATERIAL	INVENTORY NO.
p	*	Connectors, as req'd.	-
af	1	Cutout, w/ solid blade and "L" Bracket	18312111
av	*	Jumpers, covered, as req'd.	-
fi	2	Clamp, Hot Line	114139XX
-	1	Blade, Solid	18391000

CUTOUPS & ARRESTORS

*Quantity as Required

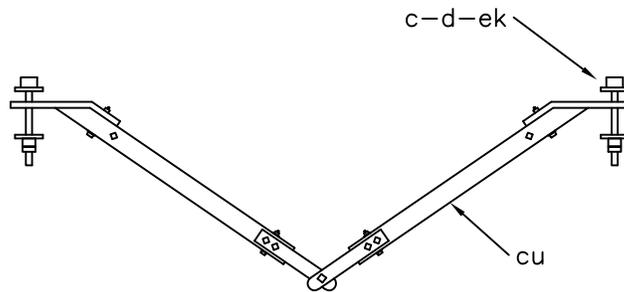
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MISC. ASSEMBLIES
 12.47/7.2 kV

M5-9, M5-9S

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 1/2" x req'd. length	063804TT
d	2	Washer, round, 1 3/8"	-
cu	1	Brace, wood, 60" span, pair	07535168
ek	*	Double coil spring washers, as req'd	-

CROSSARM BRACES

*Quantity as Required

APR. 1983



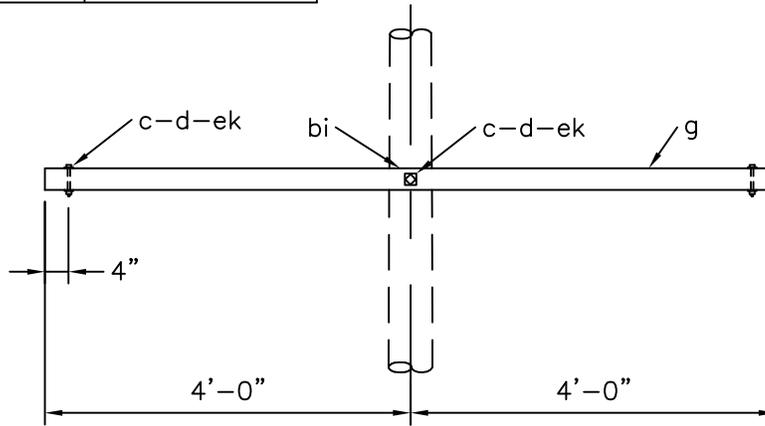
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MISC. ASSEMBLIES
12.47/7.2 kV

M5-13

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311

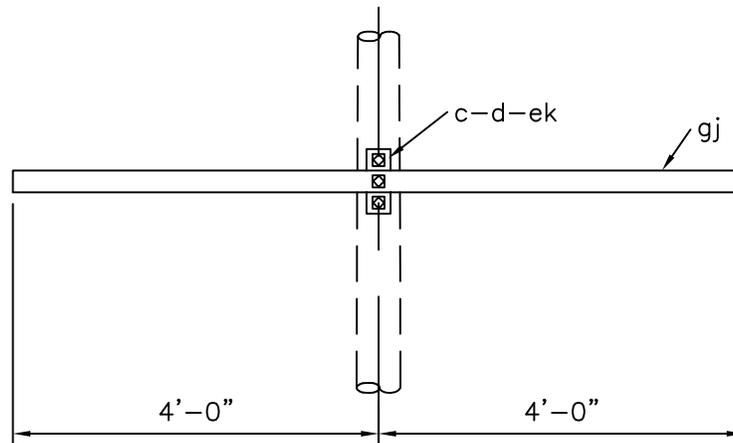
M5-14



ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
c	2	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	4	Washer, square, $2\frac{1}{4}$ "	-
d	1	Washer, square, 3", curved	-
d	1	Washer, square, 3"	-
g	1	Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8'-0"	18290311
bi	1	Gain, plate	46800260
ek	*	Double coil spring washers, as req'd	-

ITEM	QTY	ASSET #	INVENTORY NO.
gj	1	DT PC 364021	18290411

M5-14F



NOTES:

1. Fiberglass crossarms to be used in place of or substituted for wooden crossarms.
2. Factory drilled holes per CORE M19 type 04.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, $\frac{3}{4}$ " x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
g	1	Fiberglass Crossarm, $3\frac{5}{8}$ " x $4\frac{5}{8}$ " x 8'-0" Tangent	18290411
ek	*	Double coil spring washers, as req'd	-

8' TANGENT CROSSARMS

APR. 1983

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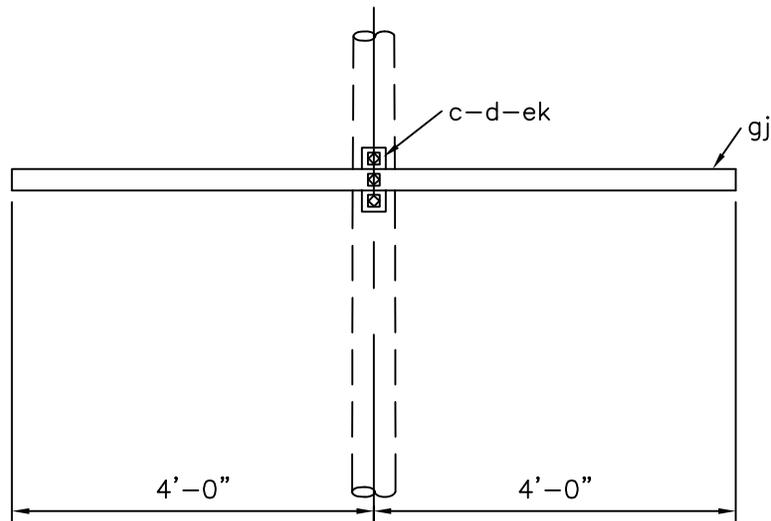
MISC. ASSEMBLIES
12.47/7.2 kV

M5-14
M5-14F

*Quantity as Required



ITEM	QTY	ASSET #	INVENTORY NO.
gj	1	DT PC 364021	18081205



NOT FOR NEW CONSTRUCTION

NOTES:

1. includes factory installed deadend eyenuts 6" from ends of crossarms.
2. Includes factory installed 2-hole guying tee below crossarm.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
gj	1	8' Fiberglass crossarm, deadend	18081205
ek	*	Double coil spring washers, as req'd	

DEAD END CROSSARM

*Quantity as Required

APR. 1983



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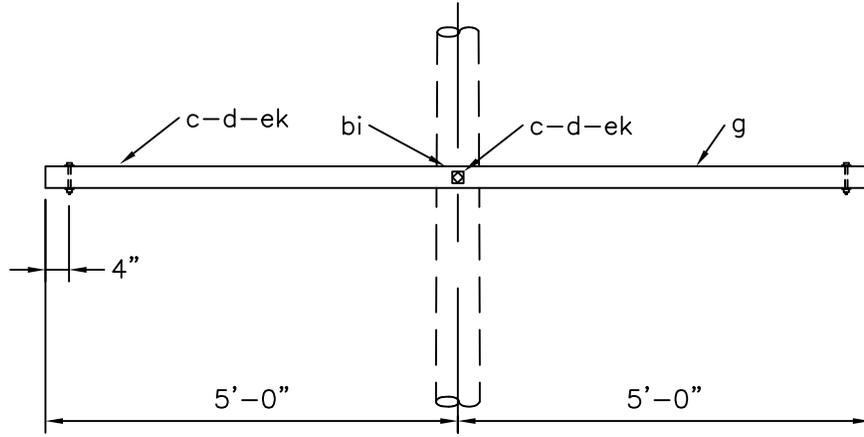
APPROVED BY
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MISC. ASSEMBLIES
12.47/7.2 kV

M5-14FDE

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290511

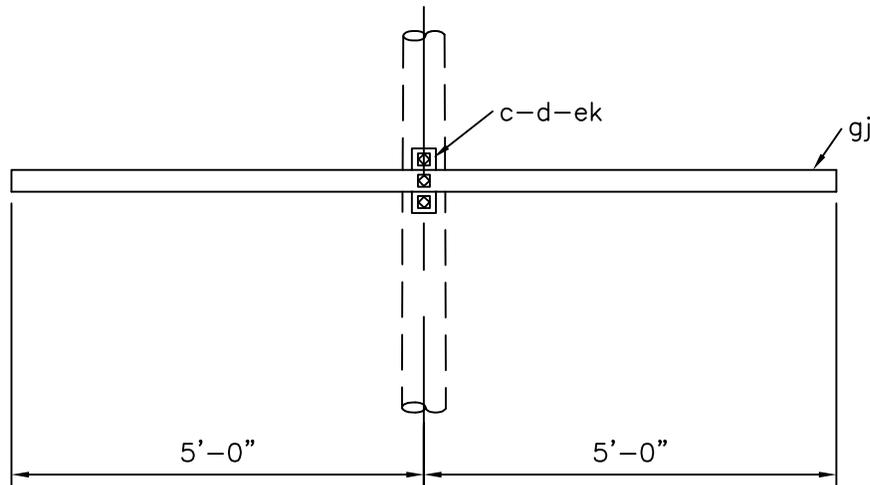
M5-16



ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 3/4" x req'd. length	063806TT
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square, 2 1/4"	-
d	1	Washer, square, 3", curved	-
d	1	Washer, square, 3"	-
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'-0"	18290511
bi	1	Gain, Plate	46800260
ek	*	Double coil spring washers, as req'd	-

ITEM	QTY	ASSET #	INVENTORY NO.
gj	1	DT PC 364021	18290611

M5-16F



NOTES:

1. Fiberglass crossarms to be used in place of or substituted for wooden crossarms.
2. Factory drilled holes per CORE M19 type 05.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3", curved	-
gj	1	Fiberglass crossarm, 3 5/8" x 4 5/8" x 10'-0" Tangent	18290611
ek	*	Double coil spring washers, as req'd	-

10' TANGENT CROSSARMS

APR. 1983

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NOV 2022

MISC. ASSEMBLIES
12.47/7.2 kV

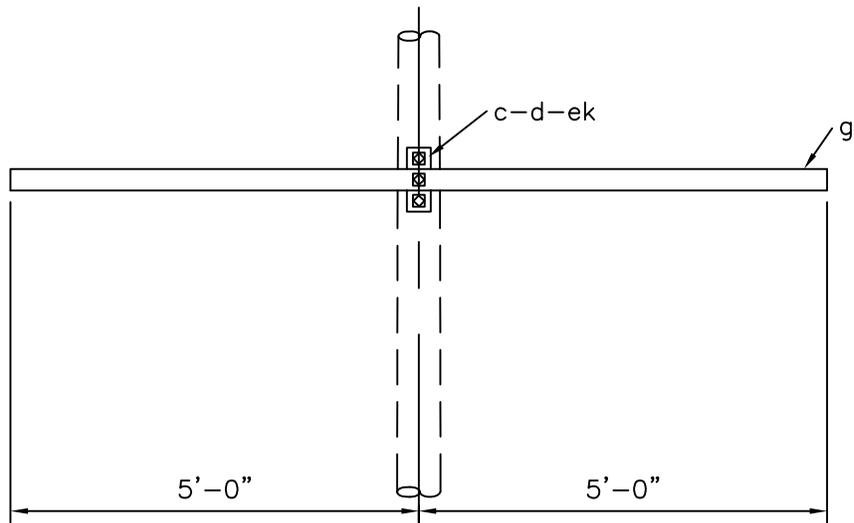
M5-16
M5-16F

*Quantity as Required



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MFJ

ITEM	QTY	ASSET #	INVENTORY NO.
gj	1	DT PC 364021	18081207



NOTES:

1. includes factory installed deadend eyenuts 6" from ends of crossarms.
2. Includes factory installed 2-hole guying tee below crossarm.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 3/4" x req'd. length	063806TT
d	2	Washer, square, 3"	-
gj	1	10' Fiberglass crossarm, deadend	18081207
ek	*	Double coil spring washers, as req'd	

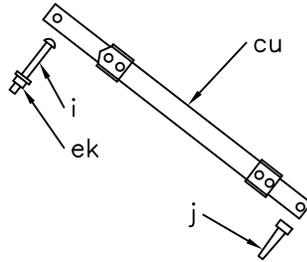
DEAD END CROSSARMS

*Quantity as Required

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-16FDE
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

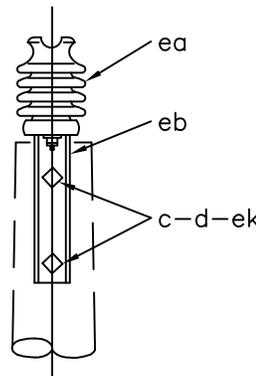
M5-17



ITEM	QTY	MATERIAL	INVENTORY NO.
i	1	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	1	Screw, lag, 1/2" x 4"	-
cu	1	Brace, wood, 28", each	07535128
ek	*	Double coil spring washers, as req'd	-

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT PC 365055	34251010

M5-18



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square, 2 1/4"	-
ea	1	Insulator, post type (12.47/7.2 kV)	34251010
eb	1	Bracket, for post type insulator	45612130
ek	*	Double coil spring washers, as req'd	-
-	1	Insulator, stud 1 3/4" x 3/4", complete with washers & machine nuts	34301000

MISCELLANEOUS ASSEMBLIES

*Quantity as Required

APR. 1983



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NOV 2022

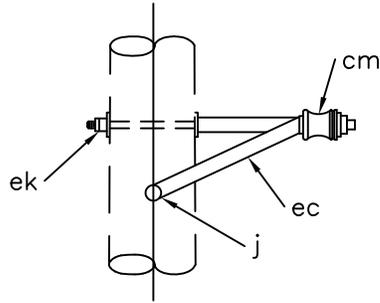
APPROVED BY
MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M5-17, M5-18

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

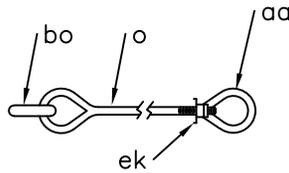
M5-19



ITEM	QTY	MATERIAL	INVENTORY NO.
j	2	Screw, lag, 1/2" x 4"	-
cm	1	Insulator, spool, 3" ANSI 53-2	34263010
ec	1	Bracket, offset, neutral, bare	07804550
ek	*	Double coil spring washers, as req'd	-

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

M5-21



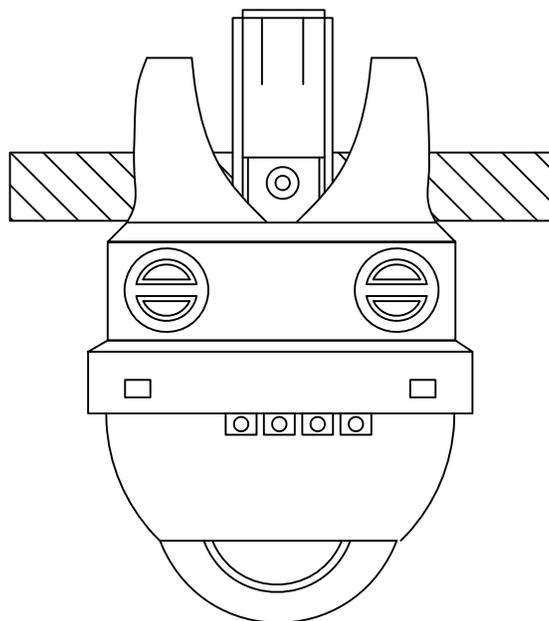
ITEM	QTY	MATERIAL	INVENTORY NO.
o	1	Bolt, eye, 5/8" x req'd. length	063615TT
aa	1	Nut, eye 5/8"	41904065
bo	1	Shackle, anchor	12302800
ek	*	Double coil spring washers, as req'd	-

MISCELLANEOUS ASSEMBLIES

*Quantity as Required

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-19, M5-21
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
go	1	DT UD 367081	23002000



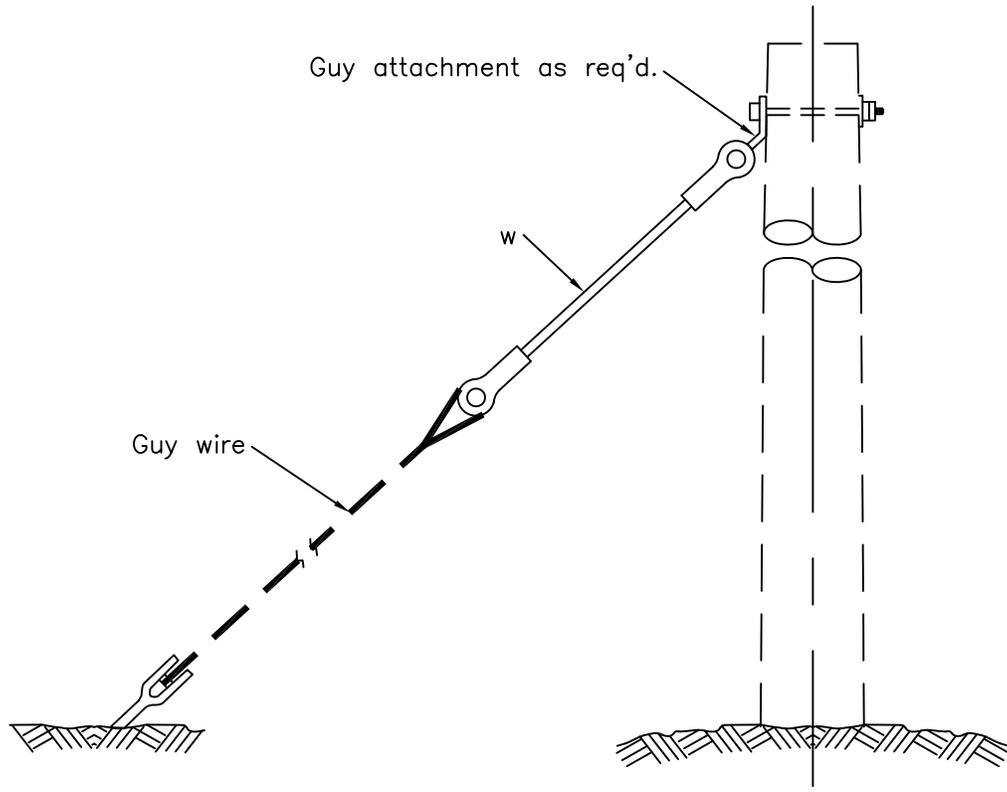
ITEM	QTY	MATERIAL	INVENTORY NO.
go	1	Faulted circuit indicator, overhead	23002000

FAULTED CIRCUIT INDICATOR

*Quantity as Required

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-FCI
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



ELEVATION

NOTES:

1. Specify strain insulator length.
2. Specify guying assembly separately.

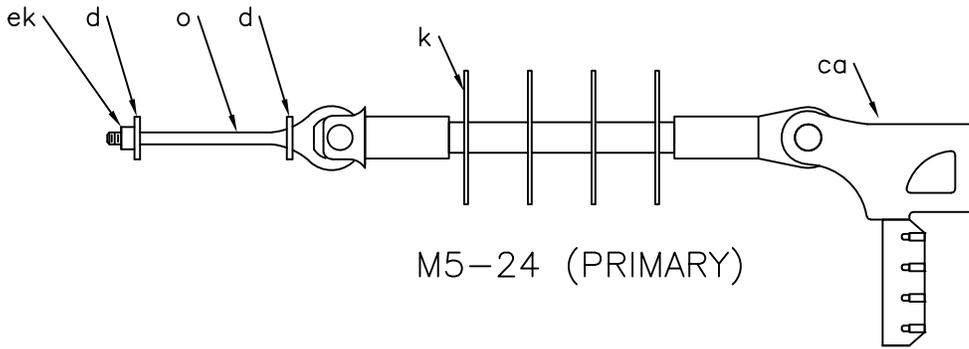
UNIT	LENGTH	INVENTORY NO.
M5-23-12	12"	34276130
M5-23-36	36"	34276630
M5-23-78	78"	34276730

ITEM	QTY	MATERIAL
w	1	Strain guy, fiberglass, C-TE

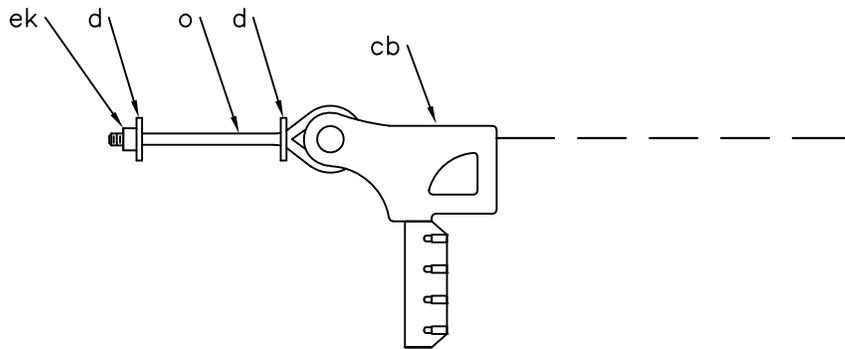
STRAIN INSULATOR (FIBERGLASS)
INSULATED DOWN GUY

DEC. 1985	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-23
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
k	1	DT OH 365055	34281020



M5-24 (PRIMARY)



M5-25 (NEUTRAL)

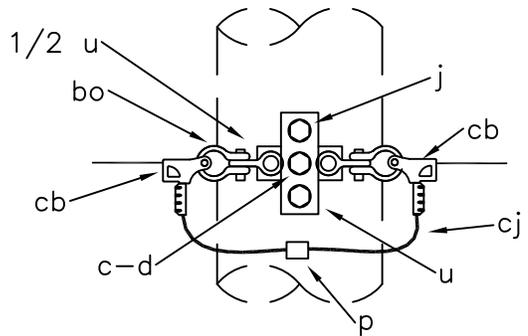
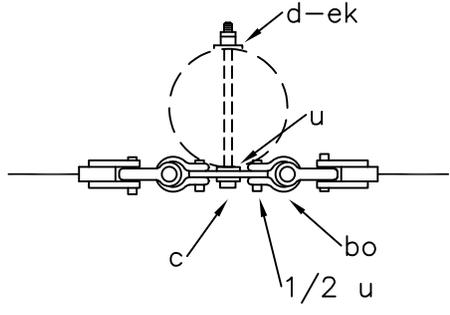
ITEM	MATERIAL	CONFIGURATION INVENTORY NO.	M5-24 QTY	M5-25 QTY
d	Washer, square, 3", curved	-	2	2
k	Insulator, suspension, epoxilator, 7.2kV	34281020	1	-
o	Bolt, eye, 5/8" x req'd. length	063615TT	1	1
ek	Double coil spring washers, as req'd	-	*	*
ca	Deadend assembly, primary	117220XX	1	-
cb	Deadend assembly, neutral or secondary	117220XX	-	1

SUSPENSION INSULATOR

*Quantity as Required

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-24, M5-25
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	1	Washer, square, 2 1/4"	-
j	2	Screw, lag, 1/2" x 4"	-
p	*	Connectors, as required	-
u	2	Clamp, guy, 6", heavy duty	-
cj	*	Jumpers as required	-
bo	4	Shackle, anchor	12302800
cb	2	Deadend assembly, neutral	117220XX
ek	*	Double coil spring washers, as req'd	-

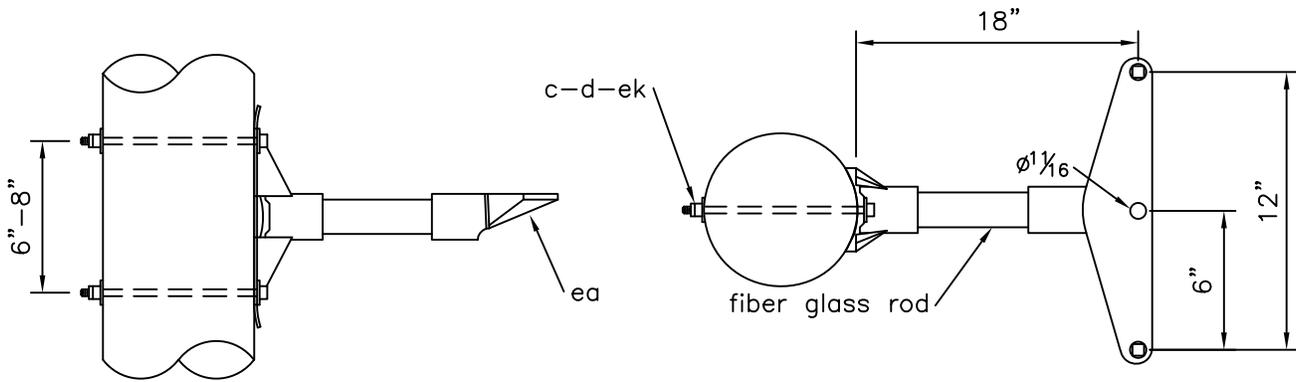
**NEUTRAL ASSEMBLY
DEADEND (DOUBLE)
BUTTERFLY TYPE**

*Quantity as Required

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M5-25B
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

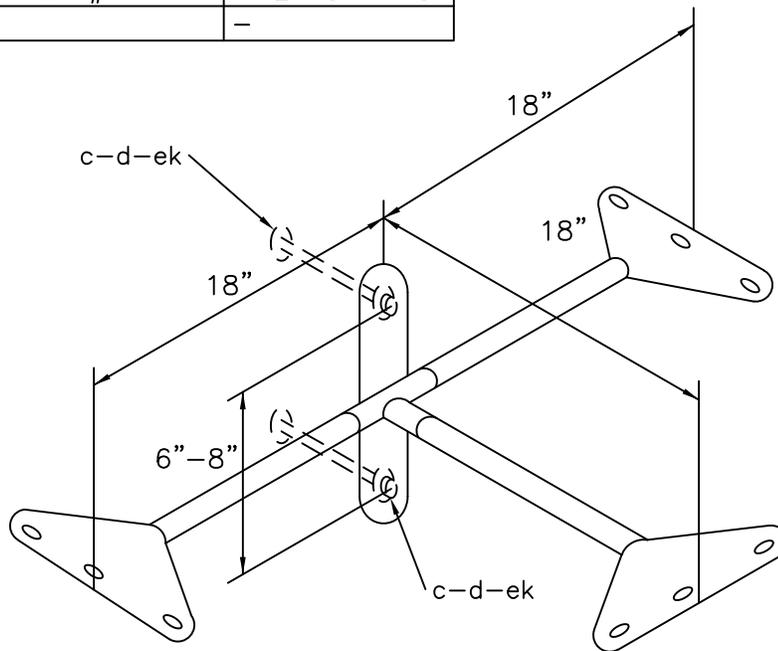
M5-27B



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd length	063805TT
d	2	Washer, square, 2 1/4"	-
ek	*	Double coil spring washer	-
fm	1	18" insulated 2 position bracket	07803500

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

M5-27C



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd length	063805TT
d	2	Washer, square, 2 1/4"	-
ek	*	Double coil spring washer	-
fm	1	18" insulated 2 position bracket, 3 arms	07803900

LIGHTNING ARRESTOR MOUNTING BRACKET

*Quantity as Required

APR. 1983



REVISED
NOV 2022

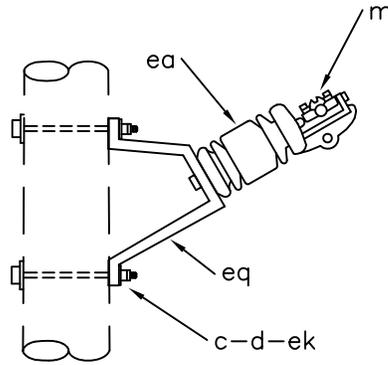
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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M5-27B
M5-27C

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34256100

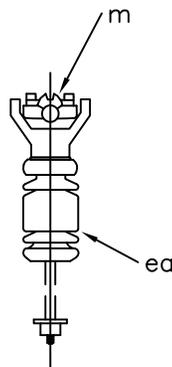
M5-28



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Machine bolt, 5/8" x required length	063805TT
d	2	Washer, square 2 1/4"	-
m	1	Clamp, trunnion shoe, conductor	117420XX
ea	1	Insulator, polymer post type, horizontal	34256100
ek	*	Double coil spring washer	-
eq	1	Bracket, offset pole mount 15"	07807600
-	1	Insulator stud, 1 3/4" x 3/4", complete with washers & machine nuts	34301000

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34256200

M5-29



ITEM	QTY	MATERIAL	INVENTORY NO.
m	1	Clamp, trunnion shoe, conductor	11720XX
ea	1	Insulator, polymer post type, vertical	34256200
-	1	Insulator stud, 7" x 3/4", complete with washers & machine nuts	34302000

MISCELLANEOUS PRIMARY ASSEMBLIES

*Quantity as Required

APR. 1983



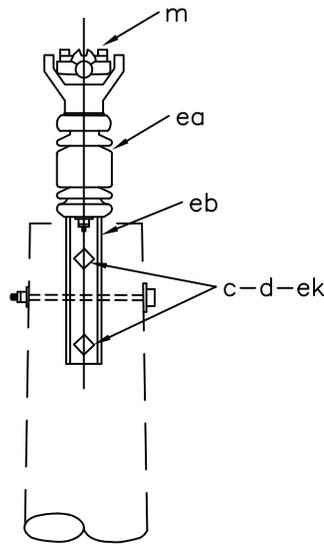
REVISED
NOV 2022

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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M5-28, M5-29

ITEM	QTY	ASSET #	INVENTORY NO.
ea	1	DT OH 365055	34256200



ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Machine bolt, $\frac{5}{8}$ " x required length	063805TT
d	2	Washer, square 2 $\frac{1}{4}$ "	-
m	1	Clamp, trunnion shoe, conductor	117420XX
ea	1	Insulator, polymer post type, vertical	34256200
eb	1	Bracket for post type insulator	45612130
ek	*	Double coil spring washer	-
-	1	Insulator stud, 1 $\frac{3}{4}$ " x $\frac{3}{4}$ ", complete with washers & machine nuts	34301000

MISCELLANEOUS PRIMARY ASSEMBLIES

*Quantity as Required

APR. 1983



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NOV 2022

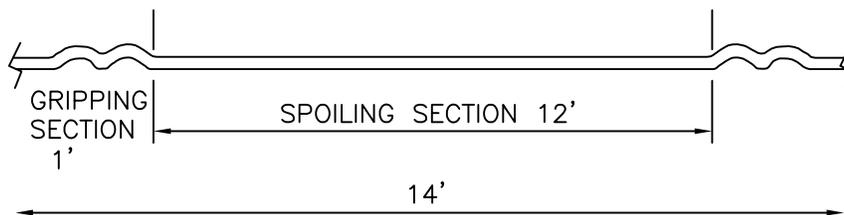
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MISC. ASSEMBLIES
12.47/7.2 kV

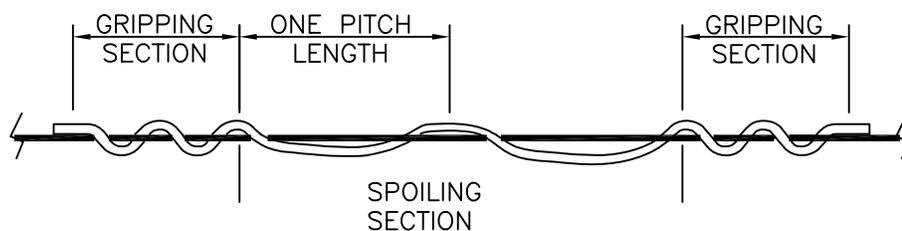
M5-30

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

PREFORMED AIR FLOW SPOILER AS RECEIVED AT SITE



PREFORMED AIR FLOW SPOILER INSTALLED



QUANTITY REQUIRED PER CONDUCTOR PER SPAN

$$Q = \frac{\text{SPAN LENGTH (ft)}}{56}$$

(Q MUST BE A WHOLE NUMBER
ROUND UP IF DECIMAL IS
GREATER THAN .10)

DISTANCE FROM SUPPORT TO START APPLICATION

$$D = 7 + 1/2 \text{ SPAN LENGTH} - 14Q$$

DESIGN NOTES:

Specify conductor size: 1/0, 4/0, 477 or 795 ACSR.

AIR FLOW SPOILER

DEC. 1985



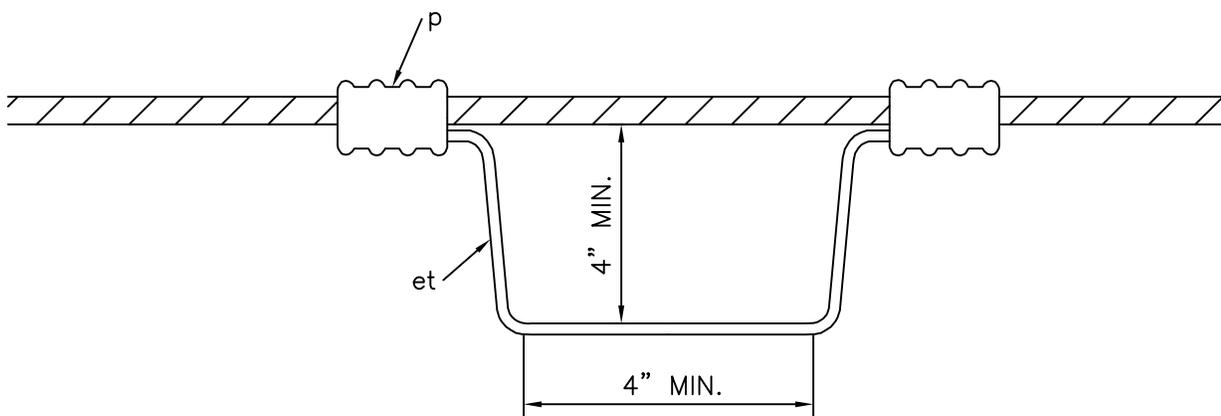
REVISED
NOV 2022

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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M5-AFS-
4/0, 477

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



ELEVATION

NOTES:

1. Stirrup to be installed with H Crimp compressions. Installer to make sure compressions are installed correctly and not flipped around.

ITEM	QTY	MATERIAL	INVENTORY NO.
p	2	Connector, compression, H Crimp	-
et	1	Bail, 2/0 SOL CU, Tin Plated	540000XX

HOT LINE CLAMP, STIRRUP

DEC. 1985



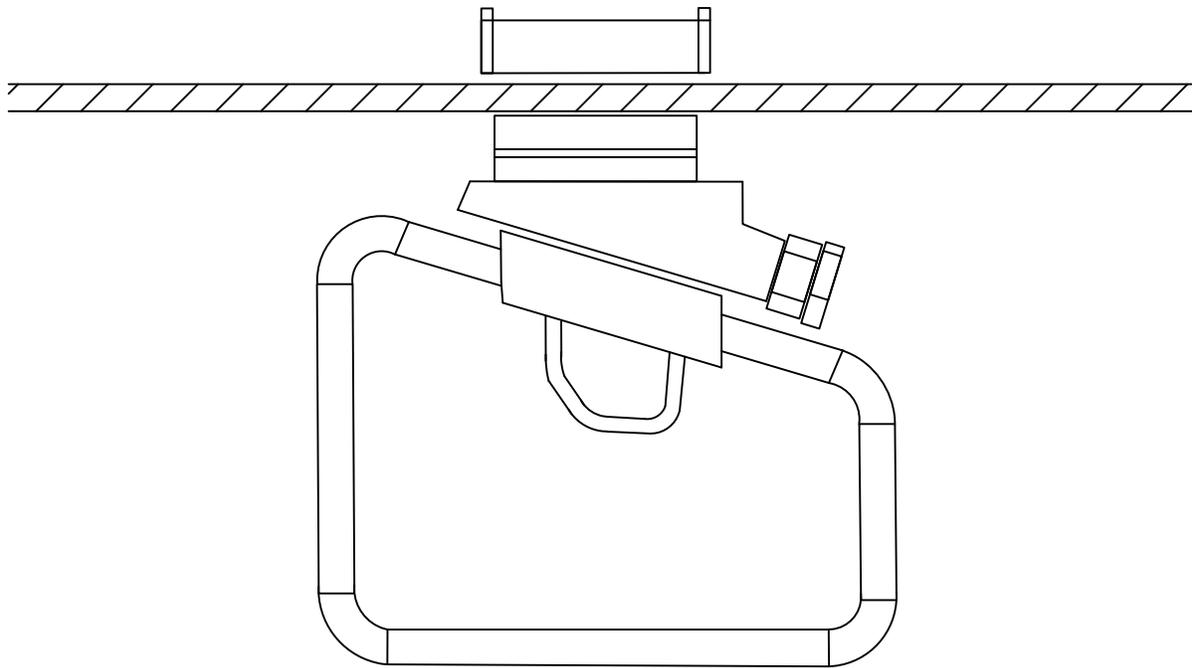
REVISED
NOV 2022

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MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M9-1

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



#4 ACSR	54000400
1/0 ACSR	54001000
4/0 ACSR	54004000
477 18/1 ACSR	54004775
477 26/7 ACSR	
795 ACSR	54007950

ITEM	QTY	MATERIAL	INVENTORY NO.
et	1	Stirrup, Shear Bolt Wedge Style	540000XX

STIRRUP, SHEAR BOLT WEDGE STYLE

OCT. 2020



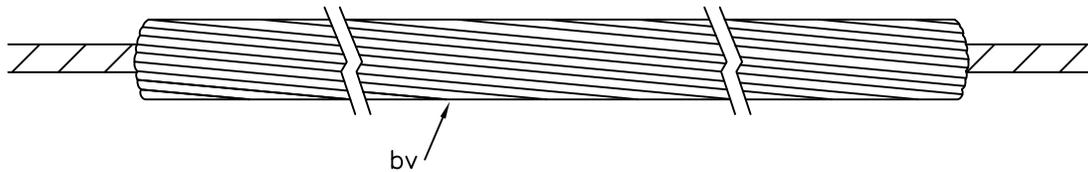
REVISED
APRIL 2023

APPROVED BY
MFJ

MISC. ASSEMBLIES
12.47/7.2 kV

M9-2

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Tap Rod is Not for New Construction. Retirement Only
2. Tap rod included with assembly M43-10A

ASSEMBLY: M9-1A M9-1B M9-1T

ITEM	MATERIAL	INVENTORY NO.	QTY.	QTY.	QTY.
bv	Tap Rod, 10" SET	537180XX	-	-	1
bv	Armor Rod (Single Insulator) SET	537100XX	1	-	-
bv	Armor Rod (Double Insulator) SET	537101XX	-	1	-

TAP ROD & ARMOR ROD

SEPT 2018



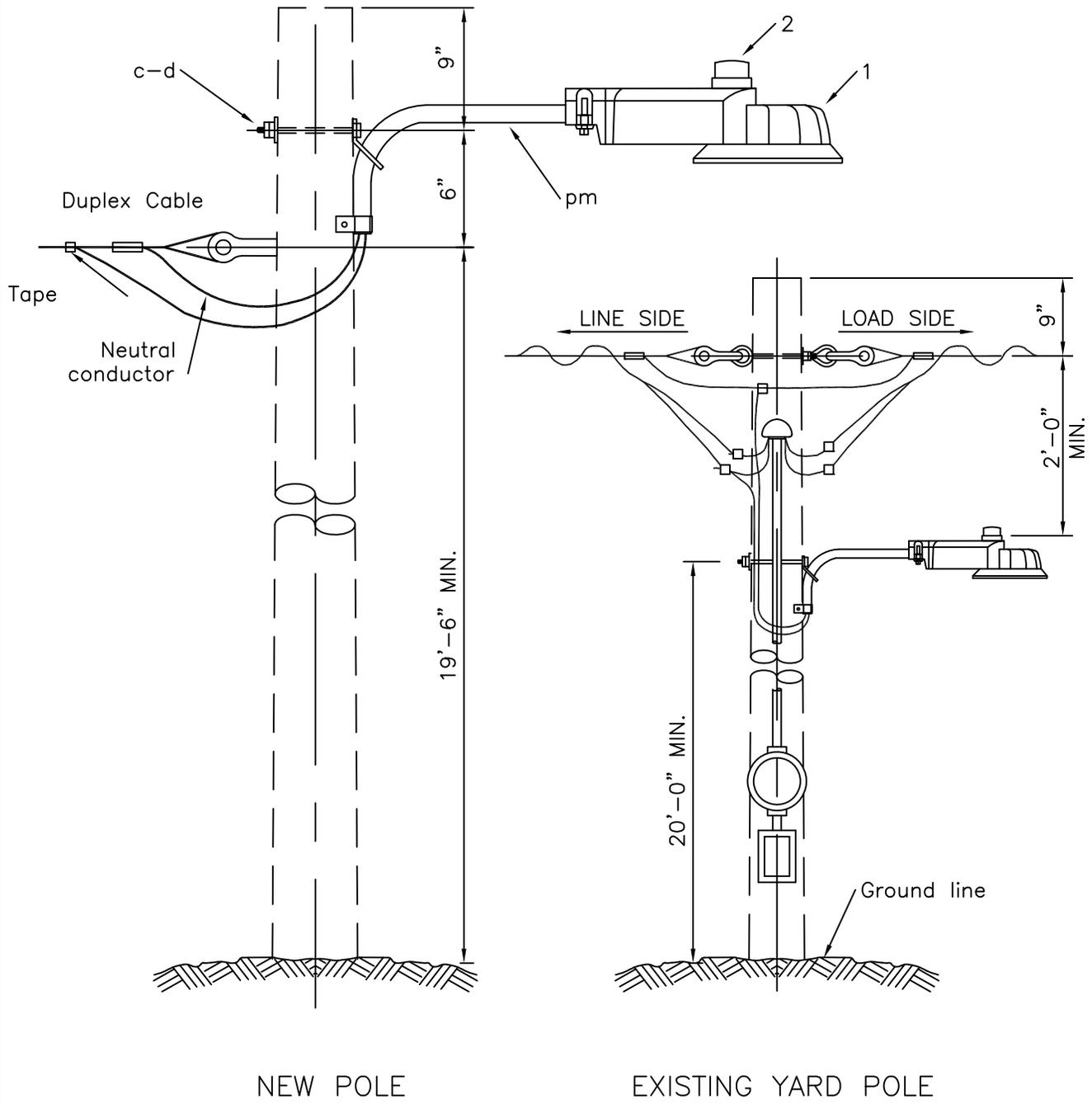
REVISED
NOV 2022

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JDP

MISC. ASSEMBLIES
12.47/7.2 kV

M9-1A,
M9-1B, M9-1T

ITEM	QTY	ASSET #	INVENTORY NO.
-	1	DT CI 371015	39302000



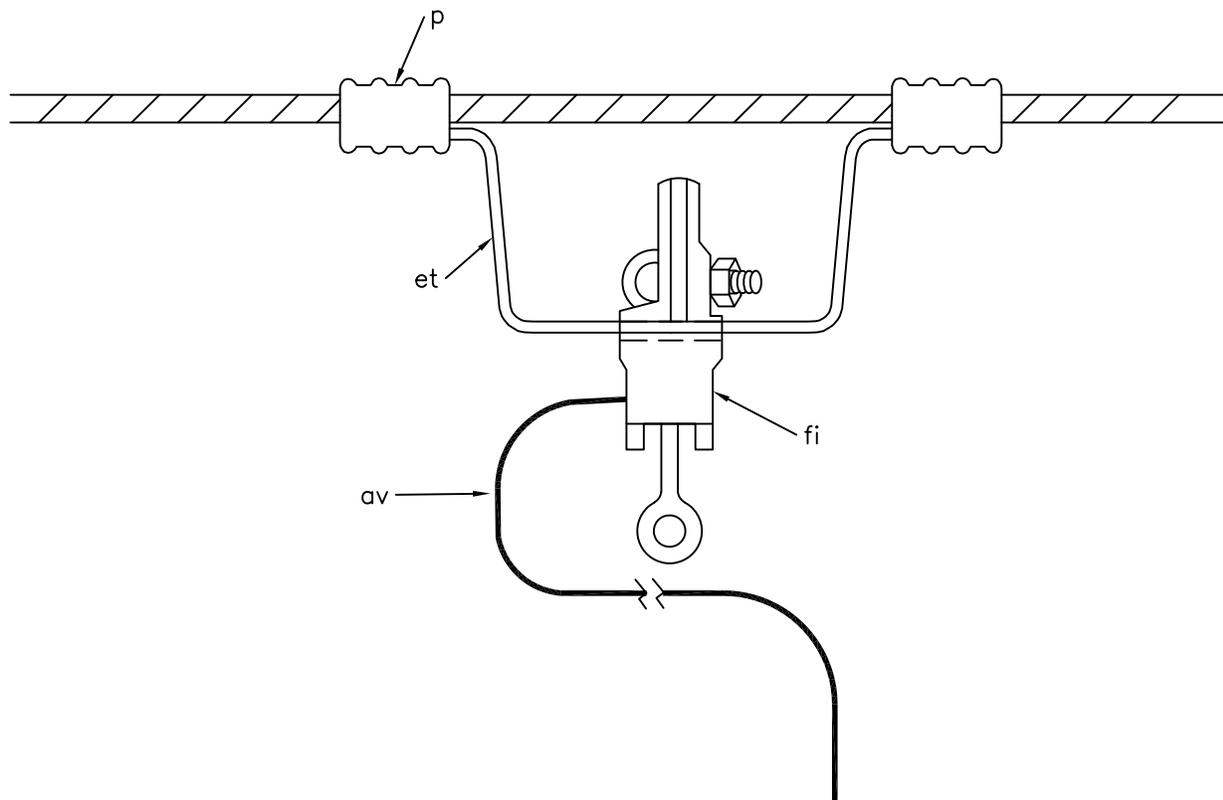
ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	1	Washer, square, 2 1/4"	-
j	2	Screw, lag, 3/8" x 4"	-
pm	1	Arm, Area Light, 30"	39302001
1	1	Light, LED Area	39302000
2	1	Photo Cell	44501000

NOTES:
Specify M26-5 LED for fixtures with LED bulbs. Maintenance Only

AREA LIGHT INSTALLATION GUIDE (UNMETERED)

APR. 1983	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M26-5, M26-5 LED, M26-5 Lo
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOTES:

1. Stirrup to be installed with H Crimp compressions. Installer to make sure compressions are installed correctly and not flipped around.
2. 1520 hot line clamp is to be used

ITEM	QTY	MATERIAL	INVENTORY NO.
et	1	Bail, 2/0 SOL CU, Tin Plated	540000XX
p	2	Connectors, compression, H Crimp	-
av	*	Jumpers, covered, as req'd.	-
fi	1	Connector, hot line	114139XX

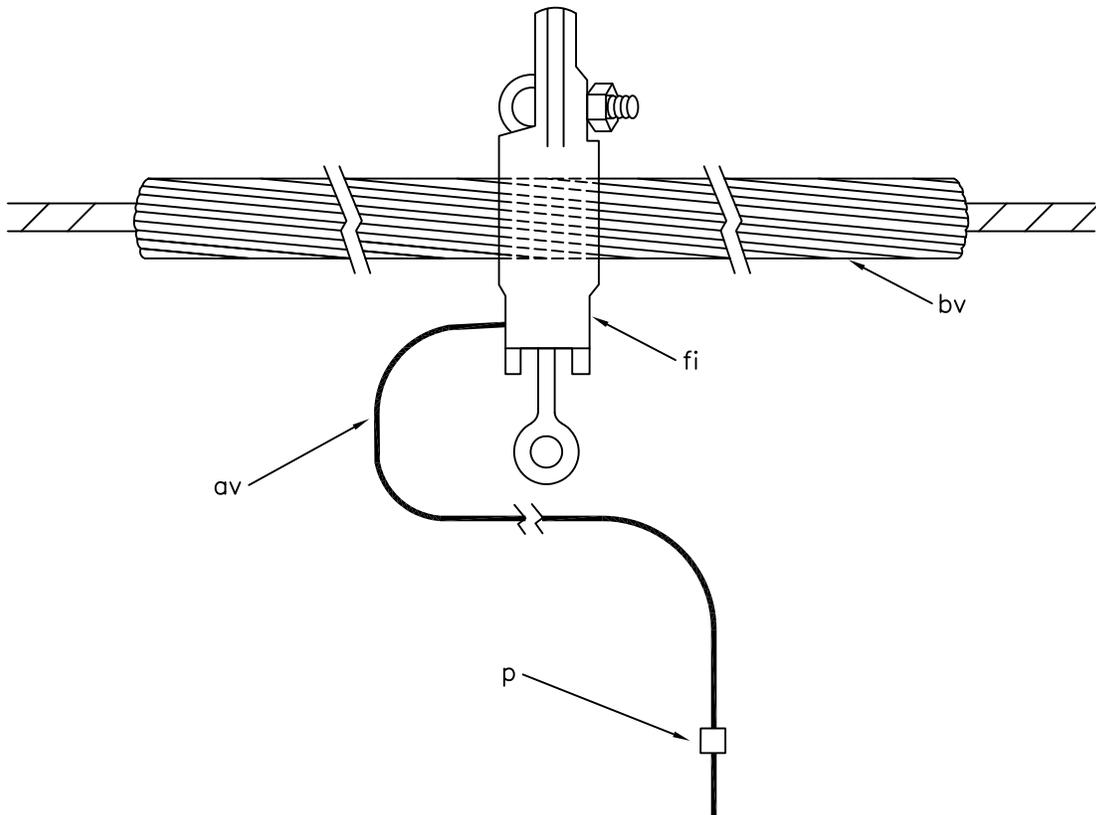
NOTES:

HOT LINE CONNECTOR WITH STIRRUP

*Quantity as Required

DEC. 1985	REVISED NOV 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M43-10
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOT FOR NEW CONSTRUCTION

NOTES:

1. Tap Rod Required
2. 1520 hot line clamp is to be used

ITEM	QTY	MATERIAL	INVENTORY NO.
bv	1	Tap rod, 10"	537180XX
p	*	Connectors, as req'd.	-
av	*	Jumpers, covered, as req'd.	-
fi	1	Connector, hot line, bronze	114139XX

NOTES:

For use with conductors $\frac{3}{8}$ " and smaller.

HOT LINE CONNECTOR WITH TAP ROD

*Quantity as Required

SEPT. 2018



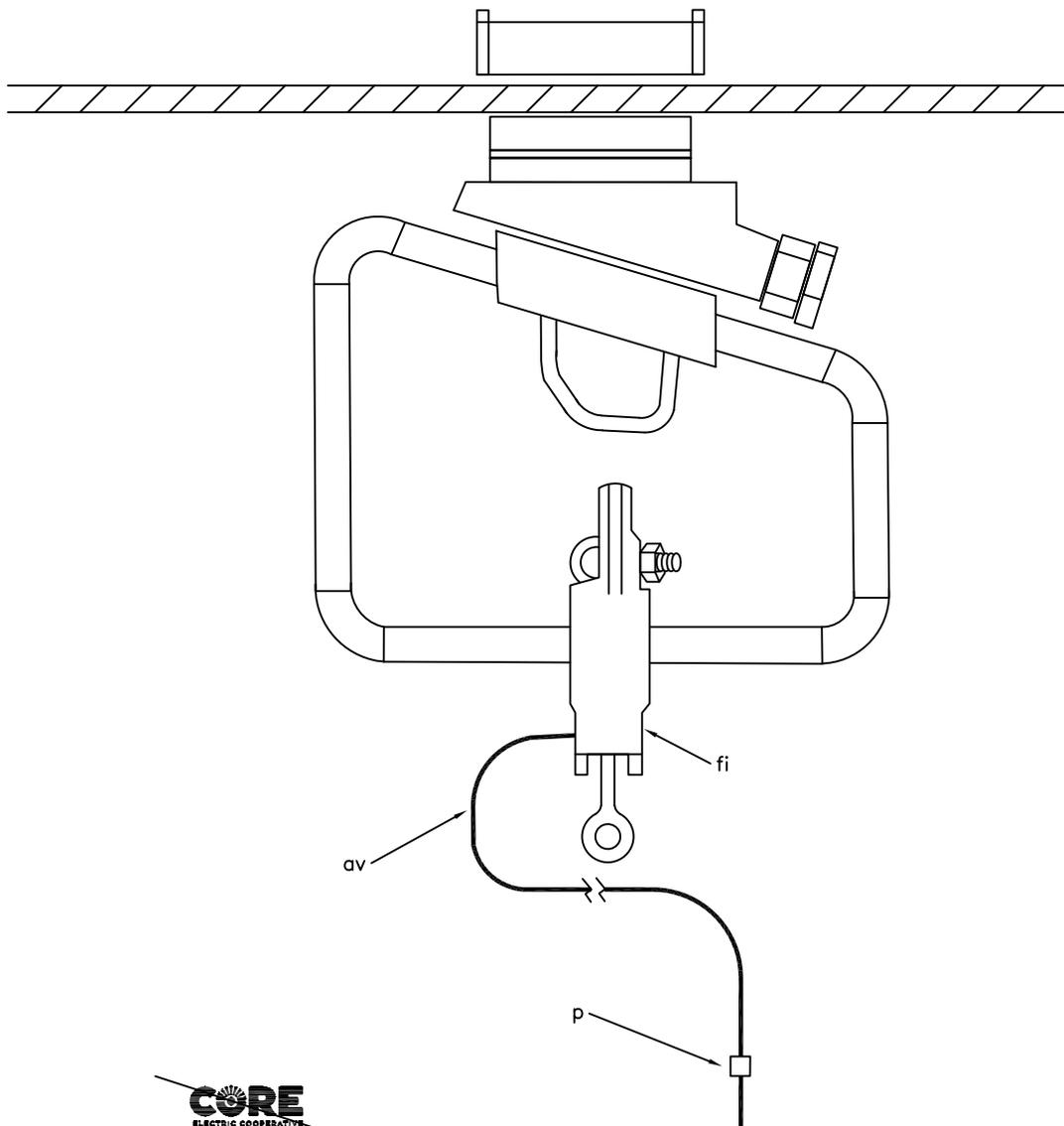
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MISC. ASSEMBLIES
12.47/7.2 kV

M43-10A

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



#4 ACSR	54000400
1/0 ACSR	54001000
4/0 ACSR	54004000
477 18/1 ACSR	54004775
477 26/7 ACSR	
795 ACSR	54007950

NOTES:

- The following practice will be used in the installation of hot line connectors or clamps on ACSR conductor

ITEM	QTY	MATERIAL	INVENTORY NO.
et	1	Stirrup, Shear Bolt Wedge Style	540000XX
p	*	Connectors, as req'd.	-
av	*	Jumpers, covered, as req'd.	-
fi	1	Connector, hot line, bronze	11413900

HOT LINE CONNECTOR WITH WEDGE STYLE STIRRUP

*Quantity as Required

NOV. 2020

IRSA

REVISED
Aug 2021

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MISC. ASSEMBLIES
12.47/7.2 kV

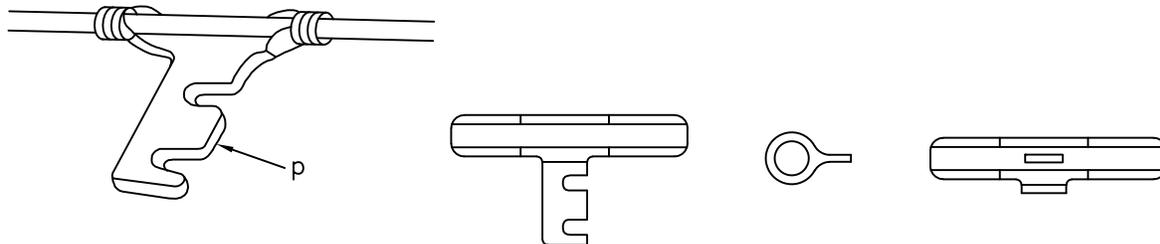
M43-10B

18.33

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

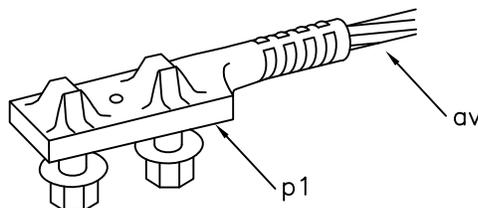
Disconnectable T-tap (with pad) for copper, aluminum, ACSR, 6201, 5005, compressed and compact conductors type YTA-R-2N

Aluminum primary t-tap connector with slotted tap pad designed for easy disconnecting of tap conductor. Tap pad accommodates compression terminals types YKA-R-A-2N and has positioning socket for proper alignment on sizes larger than 336.4 ACSR, the YTA-R-2N run element has two piece interlocking key with lifting eye that simplifies hotline installations. Catalog number does not include mating terminal



Disconnectable terminal (with fixed hardware) for copper, aluminum, ACSR, 6201, 5005, compressed and compact conductors types YKA-R-2N & YKA-A-2N.

Aluminum compression terminal with fixed hardware and positioning pin for making disconnectable tap or jumper connections. Used with slotted YTA-R-2N t-tap or YSA-R-2N terminal. Supplied with aluminum bolts washer-face, self-locking nuts. Prefilled with denetroy joint compound and capped.



ITEM	QTY	MATERIAL	INVENTORY NO.
p	1	Tee tap, disconnectable, bolted	5400480T
av	*	Jumper, covered, as req'd	-
p1	1	Terminal, disconnectable, 2-hole NEMA	170900XX

NOTES:

For use with conductors 4/0 and larger.

*Quantity as Required

TAP ASSEMBLY GUIDE
(LARGE CONDUCTOR)

DEC. 1985	REVISED DEC 2022	MISC. ASSEMBLIES 12.47/7.2 kV	M43-11
	APPROVED BY JDP		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

OVERHEAD FUSE CHART

AU	FUSE SIZE	INVENTORY NUMBER
UMS-3T	6A Min. Melt	24510003
UMS-5T	10A Min. Melt	24510005
UMS-6T	12A Min. Melt	24510006
UMS-10T	20A Min. Melt	24510110
UMS-12T	24A Min. Melt	24510112
UMS-15T	30A Min. Melt	24510115
UMS-25T	50A Min. Melt	24510225
UMS-30T	60A Min. Melt	24510330
UMS-40T	80A Min. Melt	24510440
UMS-50T	100A Min. Melt	24510550
UMS-65T	130A Min. Melt	24510665
UMS-80T	160A Min. Melt	24510880
UMS-100T	200A Min. Melt	24511000
UMS-140T	280A Min. Melt	24511440
UMS-200T	400A Min. Melt	24512000

OVERHEAD FUSE CHART

*Quantity as Required

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MISC. ASSEMBLIES
12.47/7.2 kV

UMS-FUSE

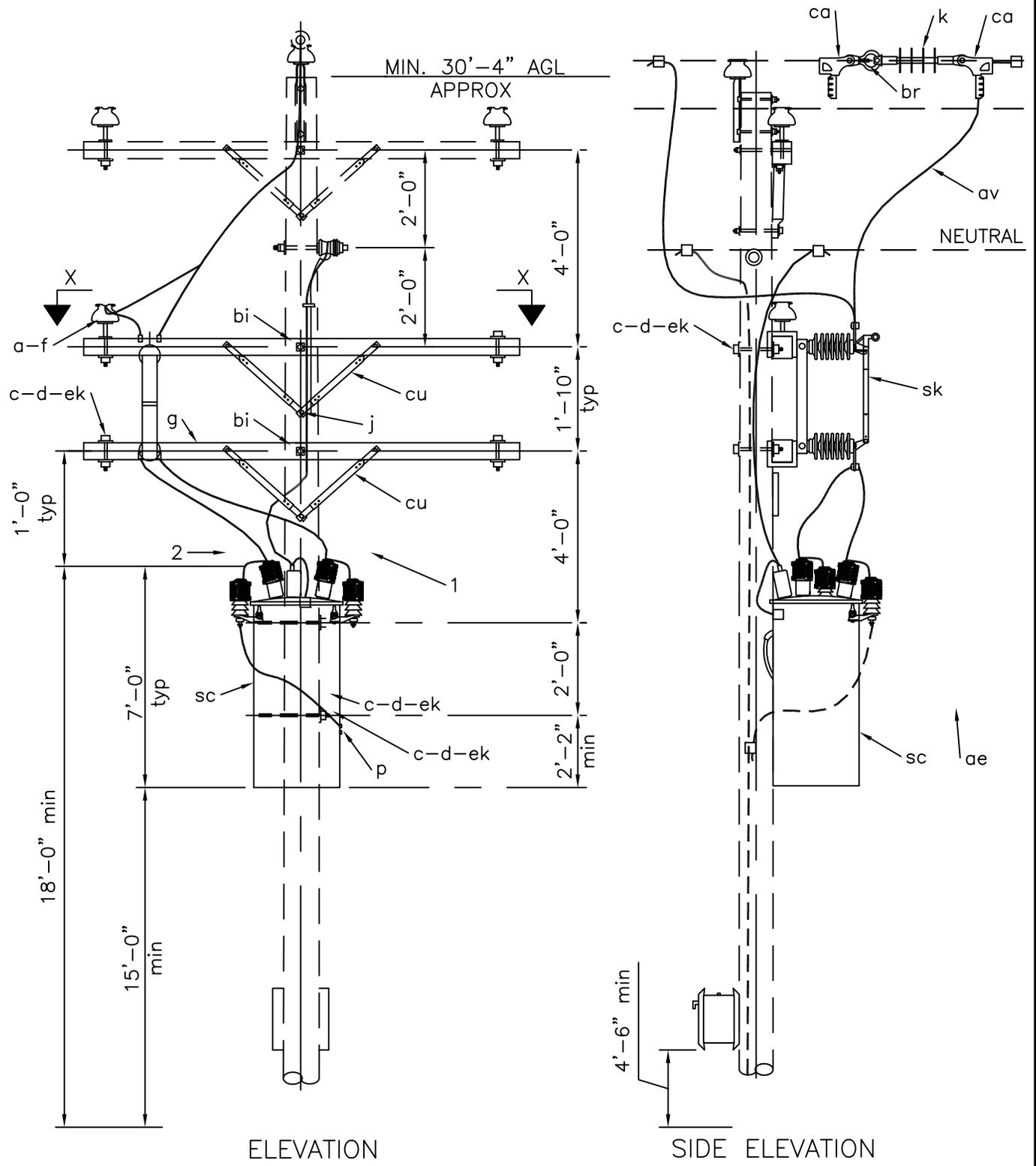


CAPACITORS & REGULATORS

CAPACITORS & REGULATORS

PAGE	DRAWING	DESCRIPTION
19.01	M7-11	One Voltage Regulator Pole Mounted
19.02	M7-13	Three Voltage Regulators Platform Mounted
19.03	M7-14 M7-15	3-Phase Voltage Regulator - Cluster Mounted M7-14-Auto Booster M7-15-Regulators
19.04	M9-11	Single-Phase Capacitor Assembly
19.05	M9-12 M9-13	2 or 3-Phase Capacitor Assembly
19.06	M9-13A M9-13B M9-13C	3-Phase Capacitor Bank Assembly

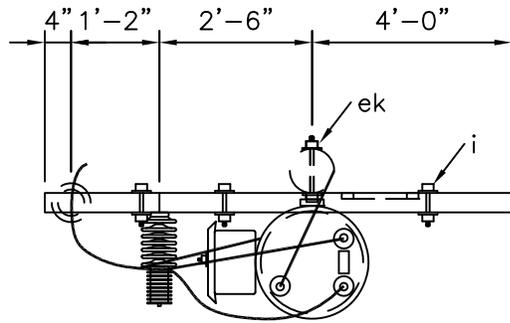
ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
a	1	DT OH 365055	34223010	ae	1	DT OH 365001	01520991
g	2	DT PC 364021	18290311	sc	1	DT RG 368004	368400AA
k	1	DT OH 365055	34281020	sk	1	DT LT 365005	65614000



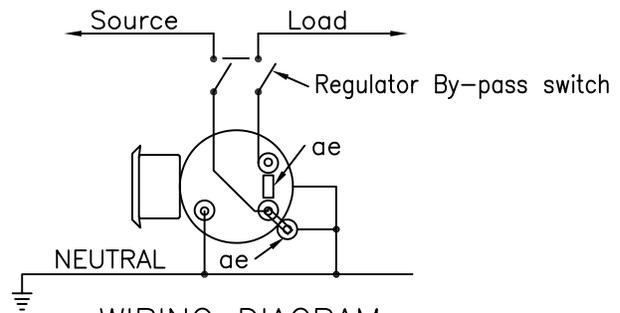
40-2 Min. Pole Height & Class
Crushed Rock Backfill Req'd

ONE VOLTAGE REGULATOR
POLE MOUNTED
SHEET 1 OF 2

APR. 1983	REVISED DEC 2022	REGULATOR ASSEMBLIES 12.47/7.2 kV	M7-11
CORE ELECTRIC COOPERATIVE	APPROVED BY MFJ		



SECTION X-X



WIRING DIAGRAM

NOTES:

1. Control box may be located on the pole below regulator. If so, add the required amount of control cable.
2. Control cabinet must be grounded when separated from the regulator tank.
3. Where strength of existing pole is inadequate for regulator weight, use platform structures as shown on drawing M7-13.
4. Pole ground conductor shall be the same as the equipment jumper size.
5. The largest voltage regulator allowed 167kVA – 219A.

ITEM	QTY	MATERIAL	INVENTORY NO.
a	1	Insulator, pin type	34223010
c	4	Bolt, machine, 3/4" x req'd. length	063806TT
d	6	Washer, square, 2 1/4"	-
d	2	Washer, square, 3"	-
d	2	Washer, square, 3", curved	-
f	1	Pin, crossarm, steel, 5/8" x 10 3/4"	45413111
g	2	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
i	4	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	2	Screw, lag, 1/2" x 4"	-
k	1	Insulator, suspension, epoxilator, 7.2 kV	34281020
p	*	Connectors, as req'd.	-
al	*	Staples, ground wire	-
ca	2	Assembly, deadend, primary	117220XX
ee	*	Phase & device tags complete	405420XX
ae	2	Surge arrester	01520991
ae	1	By-Pass arrester **	01520991
av	*	Jumpers, stranded, covered, as req'd.	-
bi	2	Gain, plate	46800260
br	1	Chain link, 5/8" x 3 1/4"	-
p	1	Connector, grounding **	-
cu	2	Brace, crossarm, wood, 28", pair	07535128
ek	*	Double coil spring washers, as req'd.	-
sc	1	Regulator, step type	368400AA
sk	1	Regulator, by-pass switch, complete with mounting hardware	65614000
-	1	Control box with cable & mounting hardware **	-
1	2	Wildlife Bushing Guard, Small	22001006
2	2	Wildlife Bushing Guard Large	22001012

40-2 Min. Pole Height & Class
Crushed Rock Backfill Req'd

**Specify this item to be
furnished by regulator
manufacturer.

*Quantity as Required

ONE VOLTAGE REGULATOR
POLE MOUNTED
SHEET 2 OF 2

APR. 1983



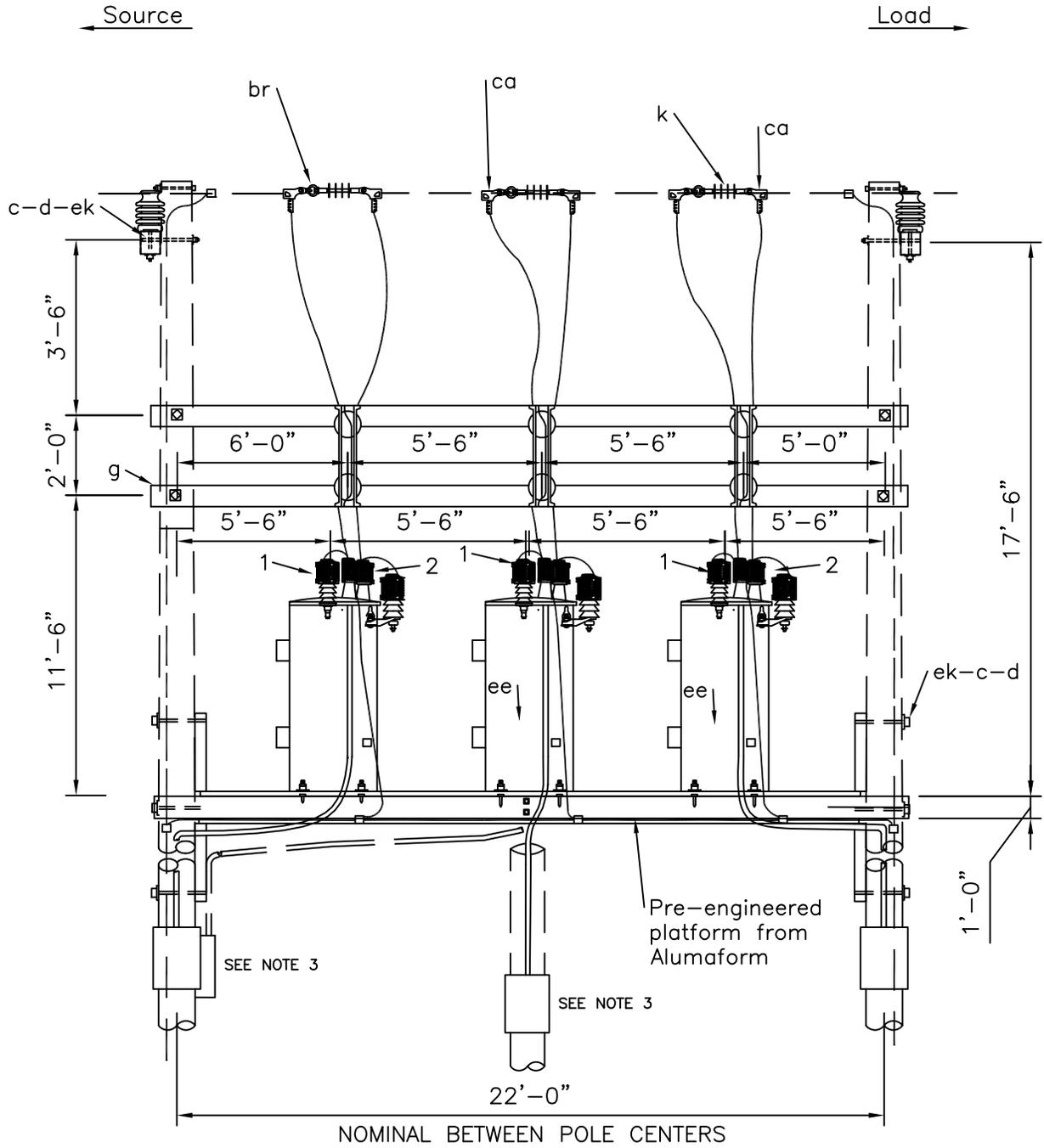
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REGULATOR ASSEMBLIES
12.47/7.2 kV

M7-11

ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290511
k	3	DT OH 365055	34281020
ae	6	DT OH 365001	01520991
sc	3	DT RG 368004	368400AA
sk	3	DT LT 368006	65614000
1	1	DT LT 364027	-



SIDE ELEVATION

MINIMUM 40-3 POLES

THREE VOLTAGE REGULATORS
PLATFORM MOUNTED
SHEET 1 OF 2

APR. 1983

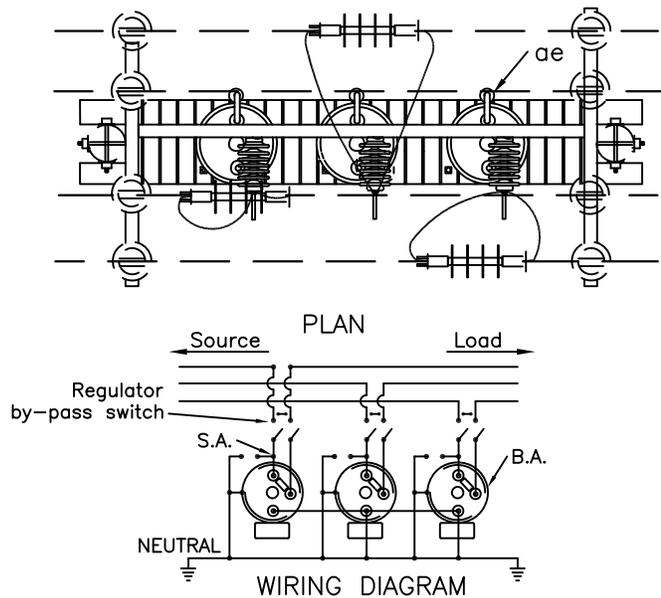
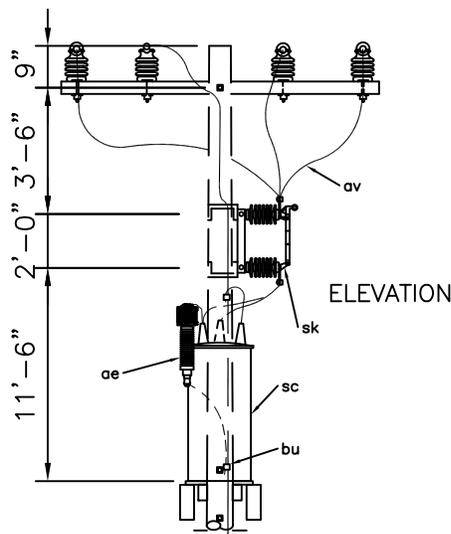


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REGULATOR ASSEMBLIES
12.47/7.2 kV

M7-13



NOTES:

1. Parallel Crimp Connectors shall be used on pigtails to jumper down to disconnect switch.
2. Secure Control Cables with zip ties along platform.
3. Cut Pole placed near center of platform for center regulator controller. Pole may be removed if site conditions are not adequate. Controller shall then be set on adjacent poles. Cut pole shall be topped and treated. Engineer to determine if existing pole can be used or if a new pole is needed. Pole to be designed seperately of M7-13 spec.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	12	Bolt, machine, 3/4" x req'd. length	063806TT
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
d	4	Washer, square 2 1/4"	-
d	2	Washer, square, 3"	-
d	12	Washer, square, 3", curved	-
g	2	Crossarm, 3 5/8" x 4 5/8" x 10'-0", or as req'd	18290511
k	3	Insulator, suspension, epoxilator, 7.2 kV	34281020
p	*	Connector, as req'd.	-
p	3	Connector, solderless **	-
ae	3	By-Pass arrester **	01520991
ae	6	Surge arrester	01520991
av	*	Jumpers, covered, stranded, as req'd.	-
br	3	Chain link, 5/8" x 3 1/4"	-
ca	6	Deadend, assembly, primary	117220XX
ea	8	Insulator, post type (12.47/7.2 kV)	34251010
ee	*	Phase & device tags, complete	-
ek	*	Double coil spring washers, as req'd.	-
sc	3	Regulator, step type	368400AA
sk	3	Regulator, by-pass switch, complete with mounting hardware	65614000
1	6	Wildlife Bushing Guard, Small	25001006
2	6	Wildlife Bushing Guard, Large	25001012
	8	Stud, long, insulator, 7" x 3/4"	34302000
	3	Remote control kit with 30' control cable and mounting hardware **	36841200
	1	22' Pre-engineered platform, Alumaform, 2EHD2PAL-22, O.E.	36840720
	2	22' Overhead Switch Mounts, Alumaform, 2B2-22	36840750
	*	Zip-Ties	-

**Specify this item to be furnished by regulator manufacturer.

*Quantity as Required

**THREE VOLTAGE REGULATORS
PLATFORM MOUNTED
SHEET 2 OF 2**

APR. 1983



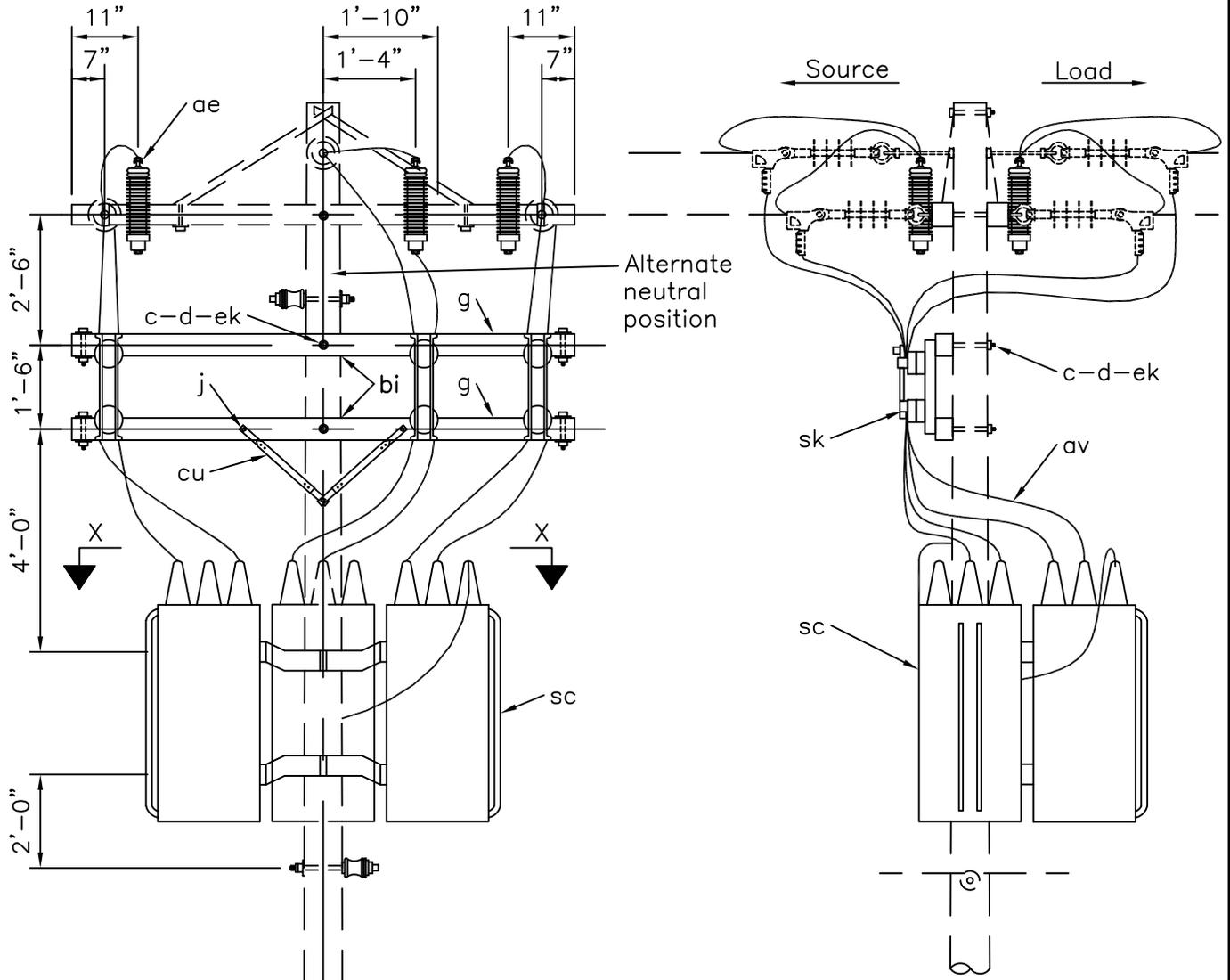
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REGULATOR ASSEMBLIES
12.47/7.2 kV

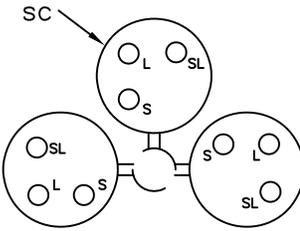
M7-13

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	2	DT PC 364021	18290311	sc	3	DT RG 368004	368400AA
ae	3	DT OH 365001	01520991	sk	3	DT LT 368005	65604000
dm	1	-	31001492				



ELEVATION

SIDE ELEVATION



SECTION X-X

NOT FOR NEW CONSTRUCTION

3-PHASE VOLTAGE REGULATOR-CLUSTER MOUNTED
M7-14 - AUTO BOOSTERS
M7-15 - REGULATORS
SHEET 1 OF 2

DEC. 1985	REVISED DEC 2022	REGULATOR ASSEMBLIES 12.47/7.2 kV	M7-14 M7-15
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. SL jumper should equal system neutral and connect to ground and neutral.
2. Minimum ground clearance for equipment is 10 feet.
3. 40-foot pole should be used with C8INX primary unit.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, 5/8" x req'd. length	063805TT
c	6	Bolt, machine, 1/2" x req'd. length	063804TT
d	6	Washer, square, 3"	-
d	4	Washer, square 2 1/4" x 3/16", 13/16" hole	-
g	2	Crossarm, 3 1/2" x 4 1/2" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	1	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
p	3	Connector, grounding **	-
ae	6	Lightning arrester	01520991
ae	3	Arrester, bypass **	01520991
av	*	Jumpers, insulated, as req'd.	-
cu	2	Brace, crossarm, wood, 28", pair	07535128
dm	1	Hanger, transformer, banded, size as req'd.	31001492
ek	*	Double coil spring washers, as req'd.	-
sc	*	Regulator (M7-15)	368400AA
sc	*	Auto Booster (M7-14)	03001010
sk	3	Switch, regulator by-pass, complete with mounting hardware	65604000
-	3	Control box w/ cable & mounting hardware **	-

NOT FOR NEW CONSTRUCTION

**Specify this item to be furnished by regulator manufacturer

3-PHASE VOLTAGE REGULATOR-CLUSTER MOUNTED
M7-14 - AUTO BOOSTERS
M7-15 - REGULATORS
SHEET 2 OF 2

*Quantity as Required

DEC. 1985



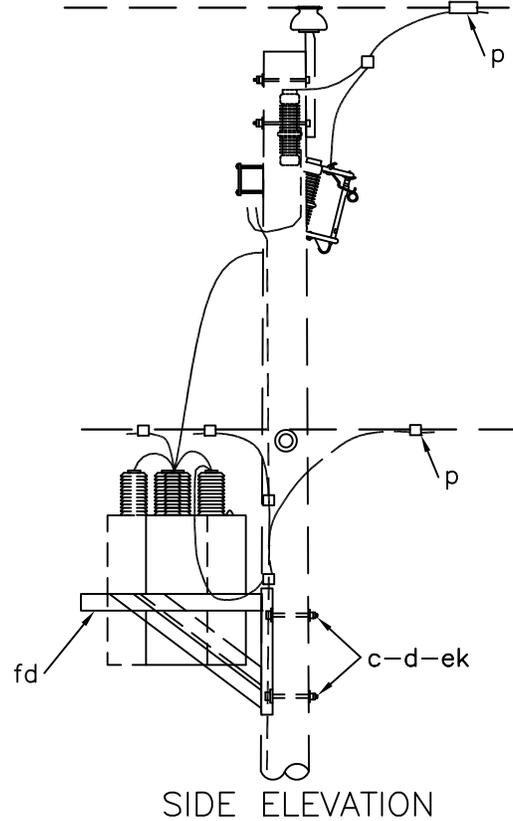
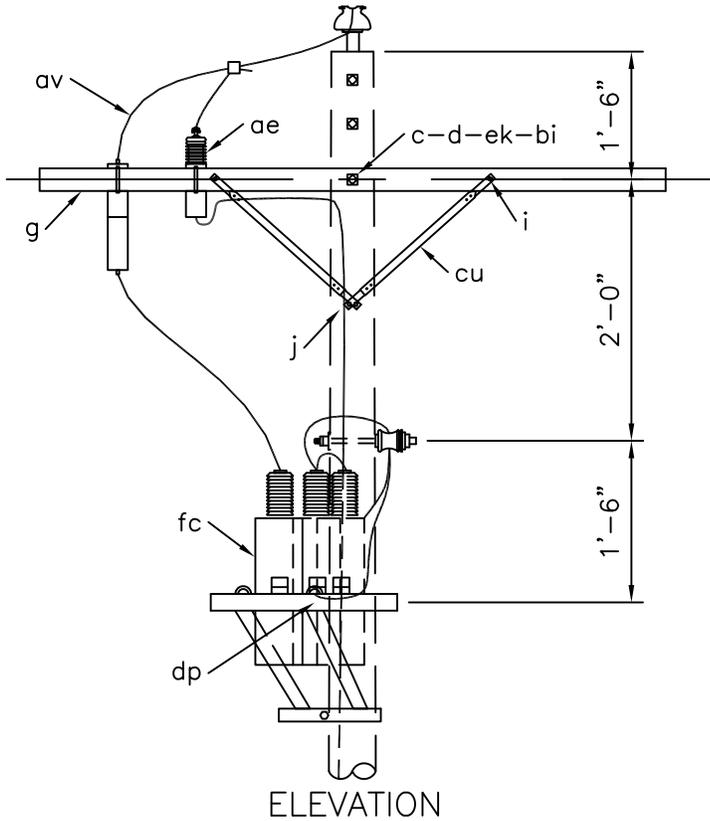
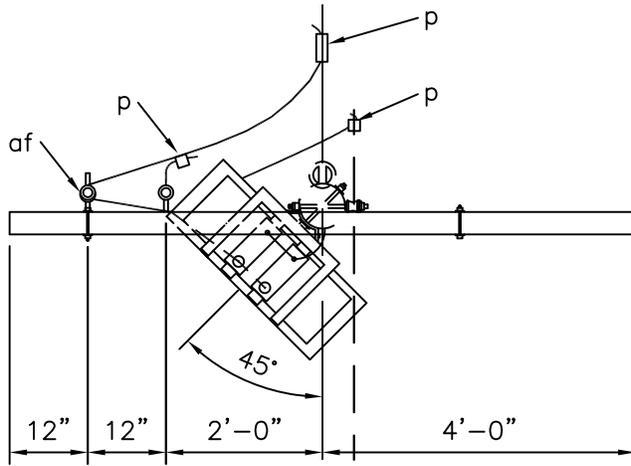
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REGULATOR ASSEMBLIES
12.47/7.2 kV

M7-14
M7-15

ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311
ae	1	DT OH 365001	01520991
af	1	DT OH 365049	18312111
fc	*	DT LT 368007	105500AA
fd	1	DT PT 364017	30002006



NOT FOR NEW CONSTRUCTION

SINGLE-PHASE CAPACITOR ASSEMBLY
SHEET 1 OF 2

APR. 1983



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CAPACITOR ASSEMBLIES
12.47/7.2 kV

M9-11

19.04.1

NOTES:

1. Specify number and kVAr required.
2. Load Break cutouts for installations over 75 kVAr.
3. Specify insulating caps for primary terminal bushings.
4. Quantity and capacity of capacitor as specified by system planners.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
d	2	Washer, square $2\frac{1}{4}$ " x $\frac{3}{16}$ ", $1\frac{3}{16}$ " hole	-
d	1	Washer, square, 3"	-
d	1	Washer, square, curved, 3"	-
g	1	Crossarm, $3\frac{1}{2}$ " x $4\frac{1}{2}$ " x 8'-0"	18290311
i	2	Bolt, carriage, $\frac{3}{8}$ " x $4\frac{1}{2}$ "	063103TT
j	1	Screw, lag, $\frac{1}{2}$ " x 4"	-
p	*	Connector, M43-10 or M43-10A assembly	-
p	1	Connector, compression type	170100TT
ae	1	Surge arrester	01520991
af	1	Cutout, fused	18312111
av	*	Jumpers, insulated, as req'd.	-
bi	1	Gain, pole	-
cu	1	Brace, crossarm, wood, 28", pair	07535128
dp	1	Grounding connector and lockwasher	170300TT
ek	*	Double coil spring washers, as req'd.	-
fc	*	Capacitor, _____kVA each, see note 4	105500AA
fd	1	Capacitor hanger, pole mounted	30002006

NOT FOR NEW CONSTRUCTION

*Quantity as Required

SINGLE-PHASE CAPACITOR ASSEMBLY
SHEET 2 OF 2

APR. 1983



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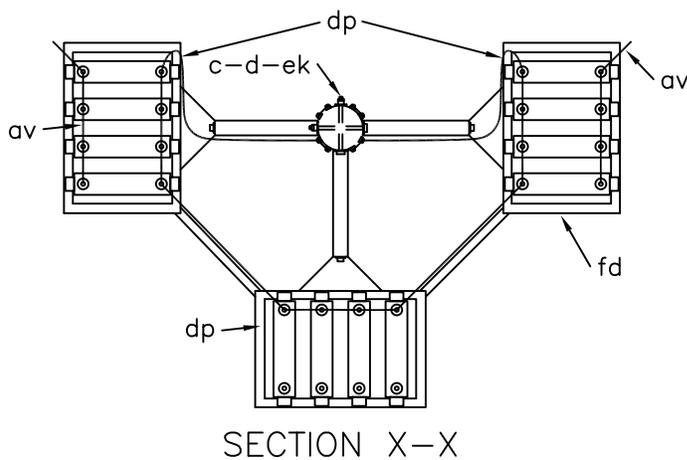
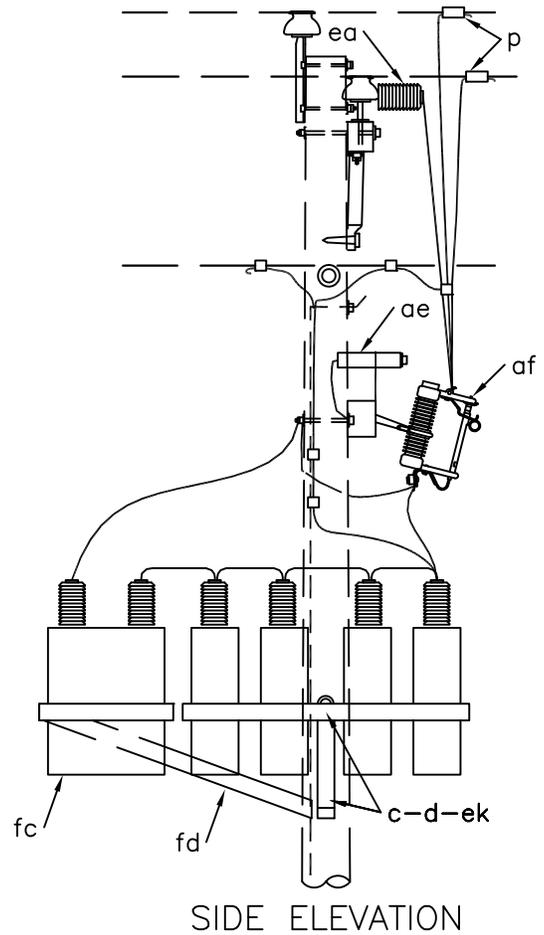
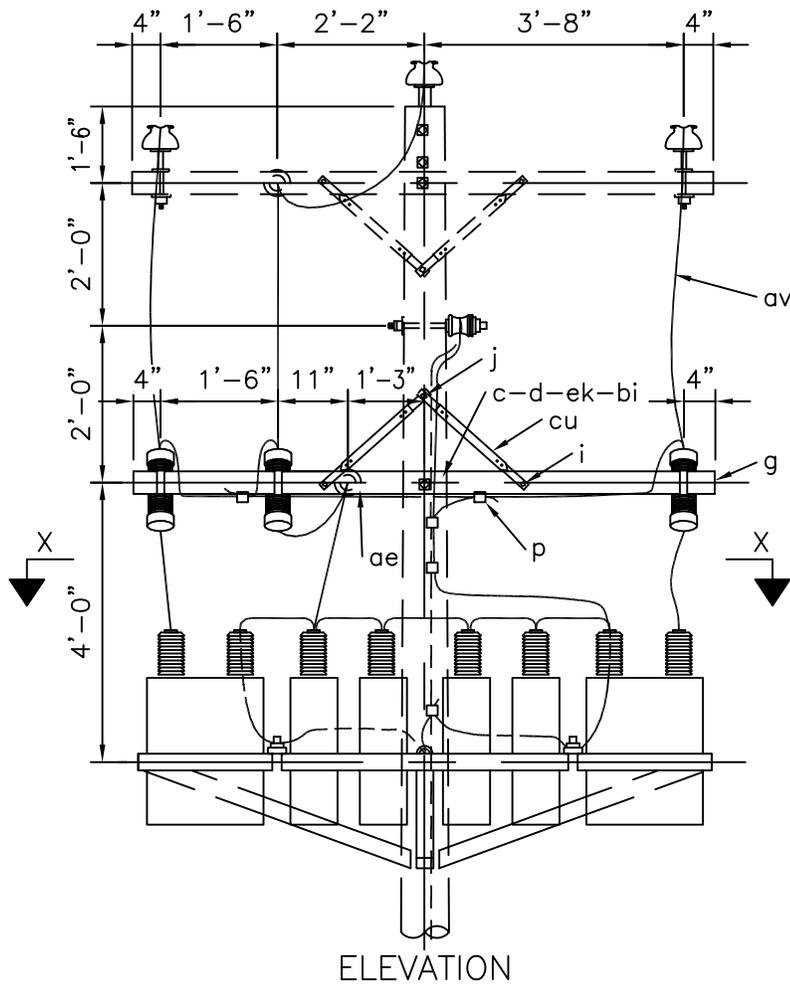
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CAPACITOR ASSEMBLIES
12.47/7.2 kV

M9-11

19.04.2

ITEM	QTY	ASSET #	INVENTORY NO.	ITEM	QTY	ASSET #	INVENTORY NO.
g	1	DT PC 364021	18290311	fc	*	DT LT 368007	105500AA
af	3	DT OH 365049	18312111	fd	1	DT PT 364017	30002006
ea	2	DT OH 365055	34251010	ae	3	DT OH 365001	01520991



2 OR 3-PHASE CAPACITOR ASSEMBLY
SHEET 1 OF 2

*Quantity as Required

APR. 1983



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CAPACITOR ASSEMBLIES
12.47/7.2 kV

M9-12
M9-13

NOTES:

1. Quantity and capacity of capacitor as specified by system planners.
2. Load Break cutouts for installations over 75 kVAr /phase.
3. For V-Phase installations omit capacitors and related items on center phase. Designate as assembly M9-2.
4. Specify insulating caps for primary terminal bushings.
5. Care must be taken to coordinate fuse with sectionalizing plan.

SUGGESTED FUSING TABLE

kVAr Connected to each Cutout	25	50	75	100	150
Fuse Size (Amp.)	7	15	25	25	40

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Bolt, machine, 5/8" x req'd. length	063805TT
d	2	Washer, square 2 1/4" x 3/16", 1 3/16" hole	-
d	3	Washer, square, 3"	-
d	1	Washer, square, curved, 3"	-
g	1	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	18290311
i	2	Bolt, carriage, 3/8" x 4 1/2"	063103TT
j	1	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
p	3	Connector, M43-10 or M43-10A assembly	170100TT
ae	3	Arrestor	01520991
av	*	Jumpers, covered, stranded, as req'd.	-
af	3	Cutout, fused, see note 2	18312111
bi	1	Gain, pole	-
cu	1	Brace, crossarm, wood, 28", pair	07535128
dp	3	Grounding connector and lock washer	170300TT
ea	2	Insulator, post type	34251010
ek	*	Double coil spring washers, as req'd.	-
fc	*	Capacitor, _____kVA each, see note 1	105500AA
fd	1	Capacitor hanger, cluster type	30002006
-	2	Insulator, stud, 7" x 3/4", complete with washers & machine nuts	34302000
-	1	Beck with three phase digital capacitor bank controller	-

2 OR 3-PHASE CAPACITOR ASSEMBLY
SHEET 2 OF 2

*Quantity as Required

APR. 1983



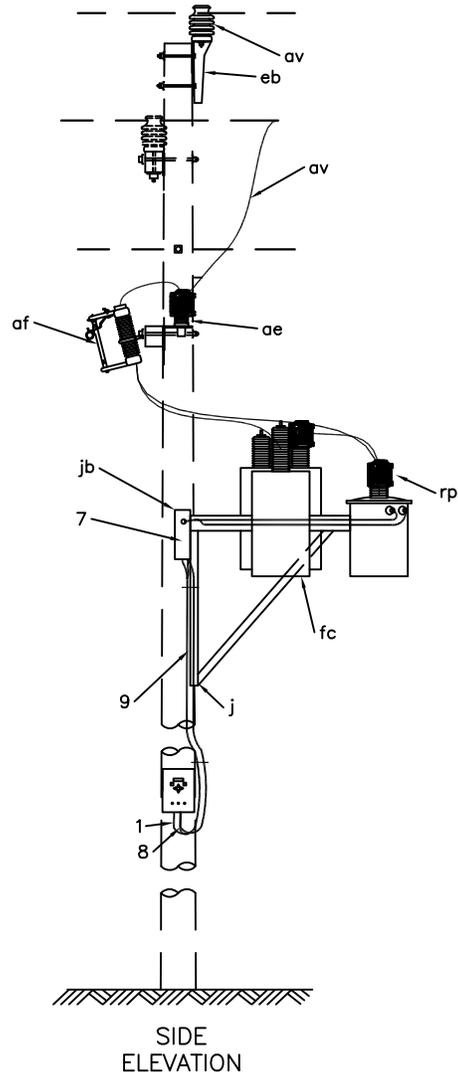
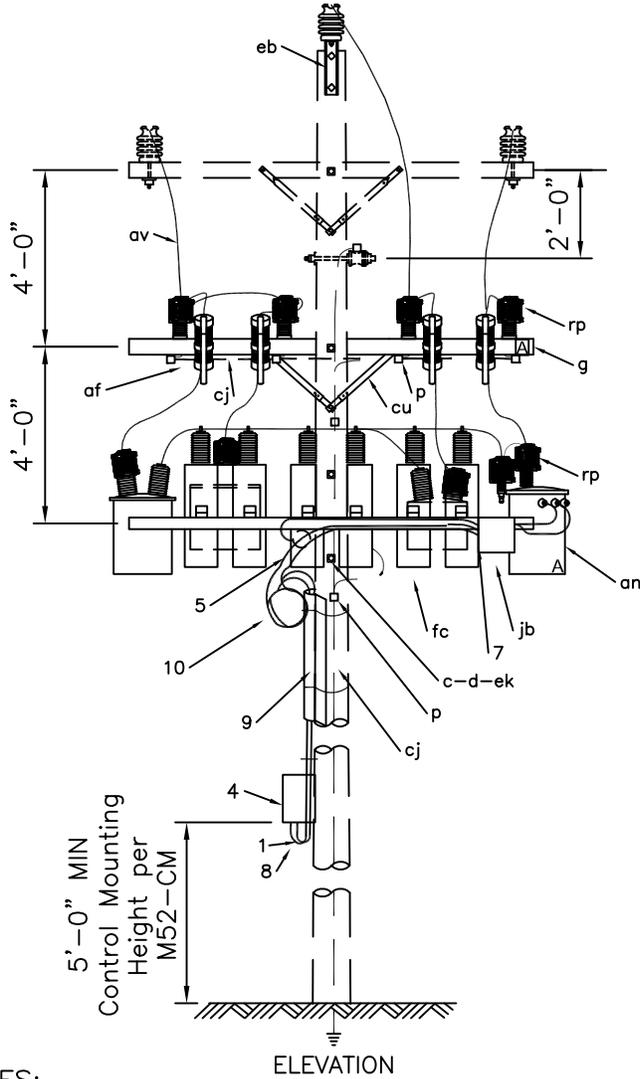
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CAPACITOR ASSEMBLIES
12.47/7.2 kV

M9-12
M9-13

ITEM	QTY	ASSET #	INVENTORY NO.
ae	3	DT OH 365001	01520991
af	4	DT OH 365049	18312111
fc	1	DT LT 368007	105550AA
g	1	DT PC 364021	18290511



NOTES:

1. Elevations this drawing show M9-13B assembly.
2. For Bill of Materials and Capacitor ordering information, see sheet 2.
3. For rack configuration guide, see sheet 3.
4. Pole ground and ground rod separately specified when required.
5. Load Break cutouts for installations over 75 kVAr /phase.
6. PT must be installed on A phase.
7. Mount Junction Box on assembly.
8. Capacitor assembly shall be set on ridge pin side of pole.
9. For all new Capacitor Installations, use U-Guard or Pipe.
10. Coil cable slack at top and zip tie.

3-PHASE CAPACITOR BANK ASSEMBLY
SHEET 1 OF 3

APR. 1987



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CAPACITOR ASSEMBLIES
12.47/7.2 kV

M9-13A, M9-13B,
M9-13C

CAPACITOR ORDERING INFORMATION

1. SYSTEM VOLTAGE LINE TO GROUND – 7200 VOLT.
2. TOTAL 3 ϕ KVAR DESIRED FOR (AS PER CAPACITOR STUDY)
 - A. ULTIMATE RACK CAPACITY
 - B. INITIAL RACK CAPACITY (MAY BE THE SAME AS ULTIMATE CAPACITY)
3. CAPACITORS – 1 ϕ UNITS, SINGLE BUSHING, 95 KV BIL FOR 15 KV BIL OPERATING 7.2 KV TO GROUND, NON PCB, EXTRA CREEPAGE BUSHING.
 - A. CAPACITOR KVAR (WHAT SIZE REQUIRED)
 - B. NUMBER OF BUSHINGS REQUIRED (SINGLE TYPICALLY)
 - C. RACK CONFIGURATION (GROUNDED WYE)
 - D. ORDER WITH VACUUM SWITCHES TYPE (95–KV BIL)
 - E. ORDER WITH POTENTIAL TRANSFORMER (TYPICAL 1/2 KVA).
 - F. ORDER WITH 50:0.2A CURRENT TRANSFORMER.
 - G. CAPACITOR CONTROL: BECKWITH M–6283A OR EQUAL.
 - H. ORDER TO BE SPECIFIED BY A FACTORY REPRESENTATIVE.

ITEM	QTY	MATERIAL	INVENTORY NO.
ae	4	Lighting arrester	01520991
af	4	Cutout, fused	18312111
aj	1	Clamp, ground rod	11311000
al	*	Staples, ground wire	–
an	1	1/2 KVA transformer CSP (order as part of capacitor bank)	36810020
av	*	Jumpers, insulated, 2 AWG stranded copper, as req'd.	–
c	3	Bolt, machine, 3/4" x req'd length	063806TT
cj	*	Wire, ground #6, as req'd.	15610501
cu	1	Brace, wood, 28" span, pair	07535128
d	4	Washer, square 3"	–
bi	1	Gain plate	46800260
dp	*	Grounding connector and lock washer	170300TT
eb	1	Bracket, Pole Top	45612130
ek	*	Double coil spring washers, as req'd.	–
fc	1	Capacitor bank, factory pre-wired, size as req'd. (include necessary mounting hardware)	105550AA
fi	3	Connector, hot line, M43–10 or M43–10A assembly	114139XX
g	1	Crossarm, 3 5/8" x 4 5/8" x 10'	18290511
gd	6	Strap, conduit, as req'd.	–
i	2	Carriage, Bolt, 3/8" x 4 1/2"	–
j	3	Screw, lag, 1/2" x 4"	–
jb	1	Junction Box	–
p	*	Connector, as req'd.	–
p	*	Connector, compression, parallel groove	170100TT
1	*	S.O.O.W. cord, 15C/#14	–
4	1	Capacitor control, Beckwith M–6283A	10557200
5	1	Current Transformer, Neutral, 50:0.2A	–
7	3	Sealtite connector for S.O.O.W. cord	–
8	*	S.O.O.W Cord 8C/#14	–
9	1	U–Guard, Heavy Duty, 5"	70500500
	1	U–Guard Backplate, 5"	70500520

3–PHASE CAPACITOR BANK ASSEMBLY SHEET 2 OF 3

APR. 1987

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DEC 2022

CAPACITOR ASSEMBLIES

M9-13A, M9-13B,
M9-13C

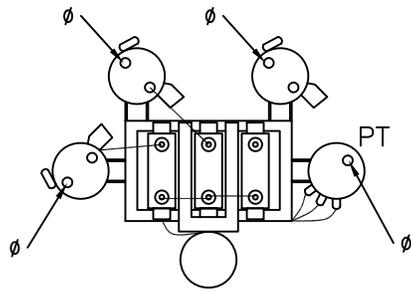


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MFJ

12.47/7.2 kV

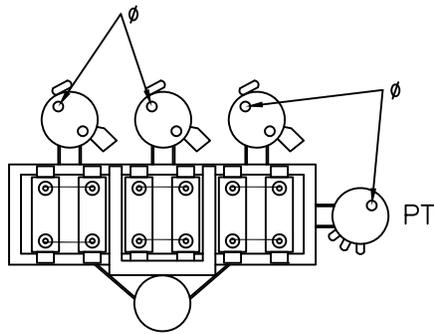
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19.06.2

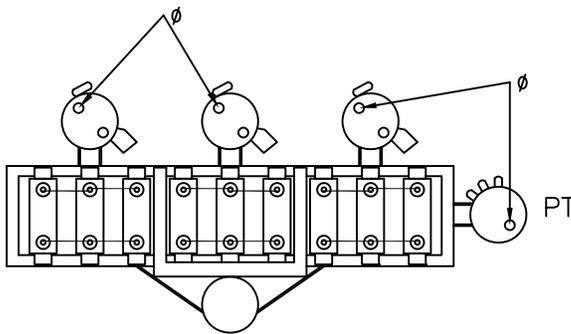


3-UNIT RACK, M9-13A

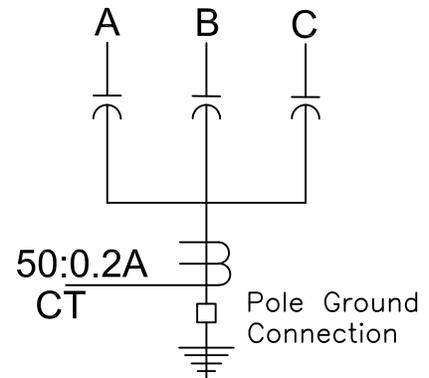
TYPICAL FUSE LINKS		
KVAR PER PHASE	RATED AMPERAGE	FUSE LINK
100	13.9	15T
150	20.8	20T
200	27.8	25T
300	41.7	40T
400	55.6	50T
450	62.5	65T
600	83.3	80T



6-UNIT RACK, M9-13B



9-UNIT RACK, M9-13C



CT CONFIGURATION

NOTES:

1. For Bill of Materials and Capacitor ordering information, see sheet 2.
2. Verify fuse link coordination with capacitor rupture curve and line side sectionalizing device.
3. Refer to manufacturer data for dimensions.

3-PHASE CAPACITOR BANK ASSEMBLY
RACK CONFIGURATION GUIDE
SHEET 3 OF 3

APR. 1987

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CAPACITOR ASSEMBLIES

M9-13A, M9-13B,
M9-13C



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12.47/7.2 kV

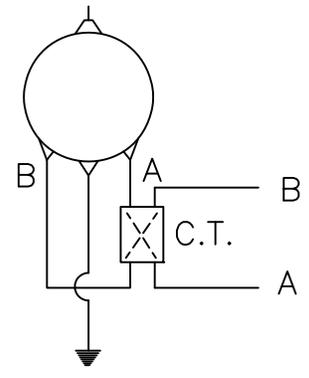
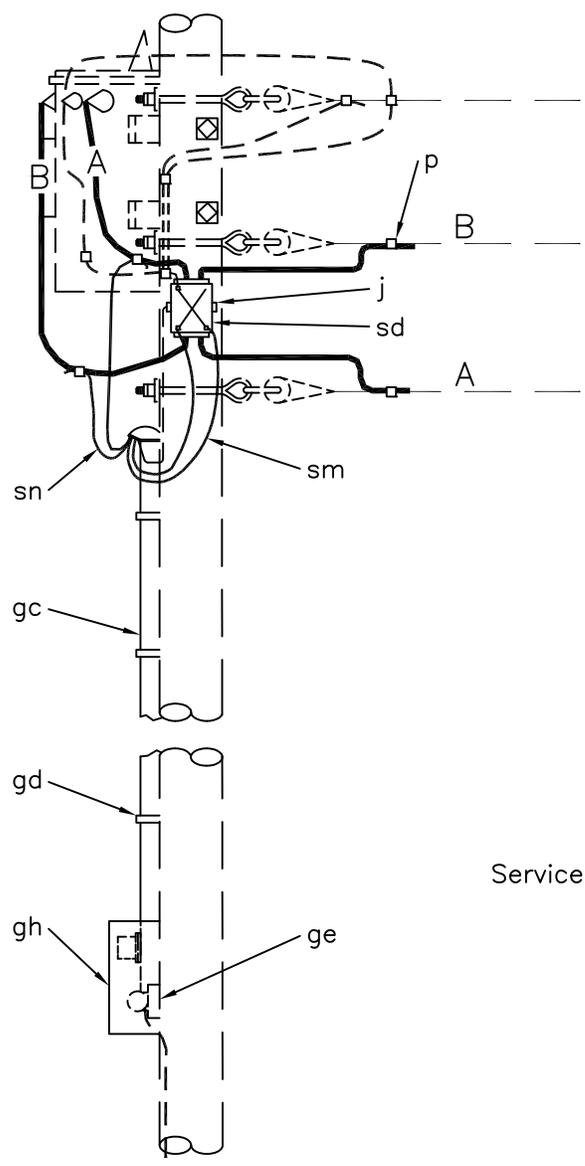


METERING

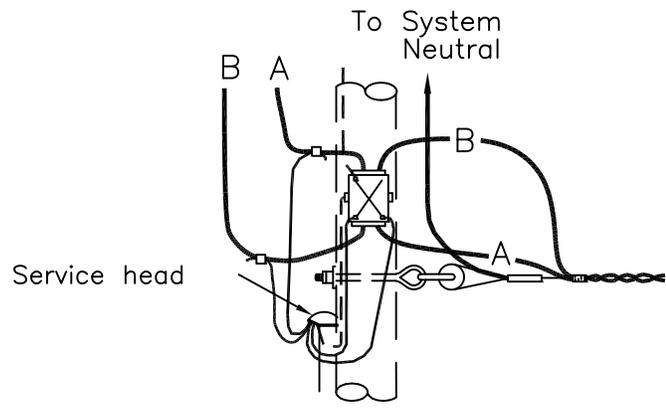
METERING

PAGE	DRAWING	DESCRIPTION
20.01	M8	Secondary Metering Guide Single-Phase 120/240V
20.02	M8-6	Secondary Metering Guide 3-Phase 120/240V 4-Wire Delta
20.03	M8-9	Guide to Yard Pole Meter Installation
20.04	M8-10	Guide to Yard Pole Meter Installation
20.05	M8-11	Secondary Metering Guide 3-Phase 120/208V 4-Wire Grounded-Wye
20.06	M8-12	Secondary Metering Guide 3-Phase 240V 3-Wire Corner Grounded Delta
20.07	M8-15	Primary Metering Guide 3-Phase 4-Wire Wye
20.08	M8-16	Horizontal Mounted AMI AP
20.09	M8-17	Vertical Mounted AMI AP
20.10	M8-18	Horizontal Mounted Single Phase AMI AP
20.11	M8-19	In and Out Loop
20.12	M8-20	In and Out Loop Lift Pole

ITEM	QTY	ASSET #	INVENTORY NO.
sd	1	DT MR 370002	691100AA



WIRING DIAGRAM



TRIPLEX SERVICE

NOT FOR NEW CONSTRUCTION

NOTES:

1. For more detailed wiring diagram, see CORE Bulletin 161-12.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	2	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
gc	*	Conduit, 1 1/4", as req'd.	-
gd	*	Straps, conduit, as req'd.	-
ge	1	Condulet, type LB, 1 1/4"	-
gh	1	Meter box, meter and test block	-
sd	1	Transformer, current	691100AA
sm	*	Wire, No. 12, insulated for current	-
sn	*	Wire, No. 14, insulated for potential	-
6	1	Service head, 1 1/4"	-

SECONDARY METERING GUIDE SINGLE PHASE, 120/240V

APR. 1983

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METERING
12.47/7.2 kV

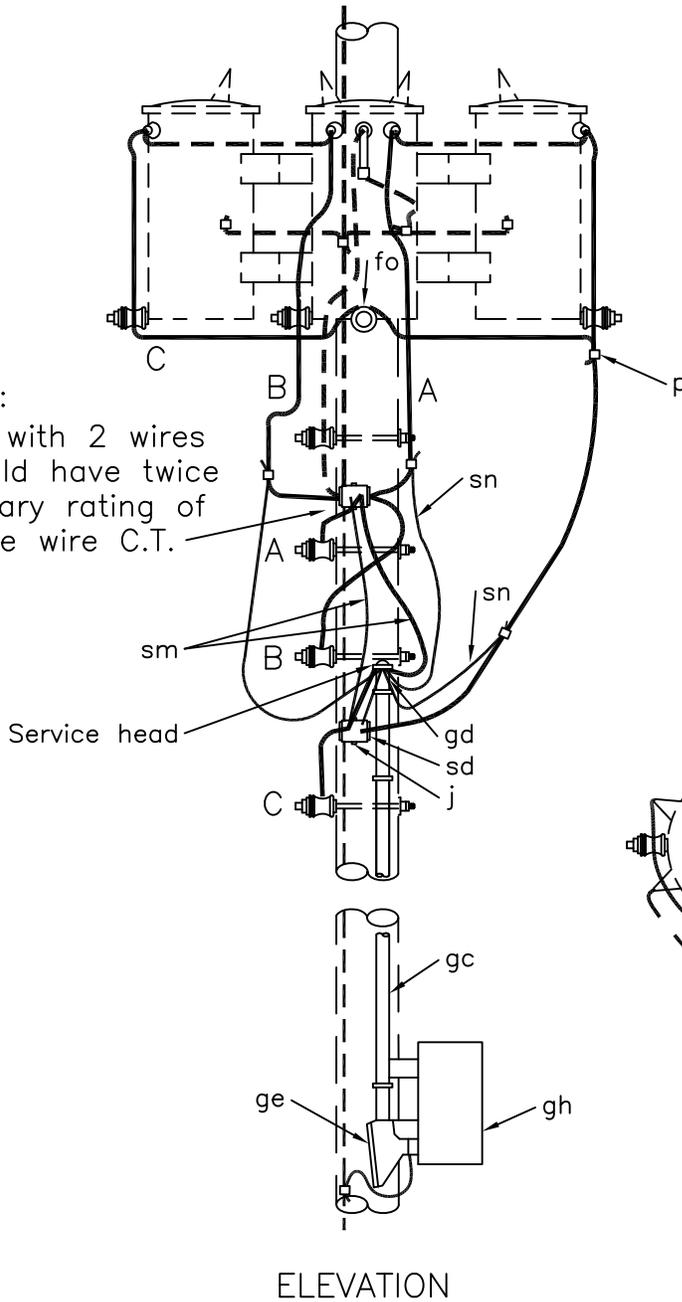
M8

* Quantity as Required

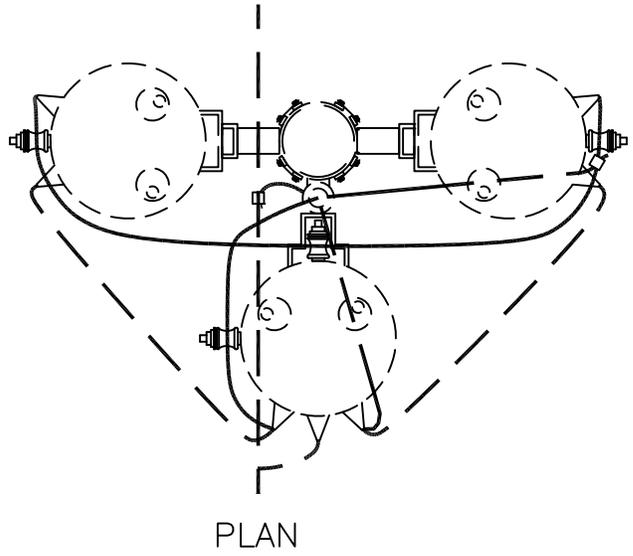
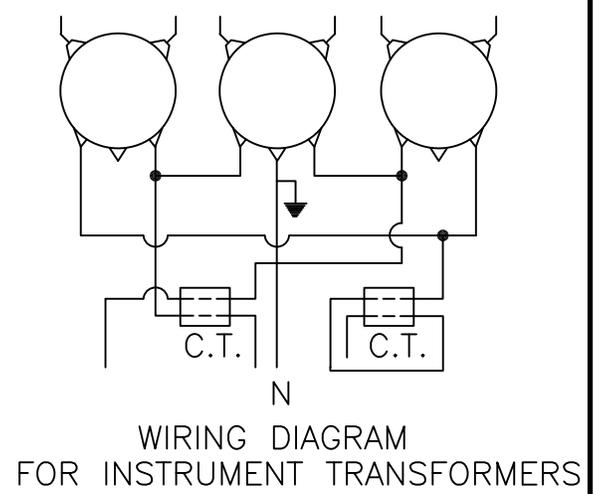


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ITEM	QTY	ASSET #	INVENTORY NO.
sd	2	DT MR 370004	691120AA



Note:
C.T. with 2 wires
should have twice
primary rating of
single wire C.T.



NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE 3-PHASE,
120/240V 4-WIRE DELTA
SHEET 1 OF 2

* Quantity as Required

APR. 1983	REVISED DEC 2022	METERING 12.47/7.2 kV	M8-6
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

20.02.1

NOTES:

1. This arrangement of metering equipment is designed for use with the transformer drawing G310.
2. For more detailed wiring diagram, see bulletin 161-12.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	4	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
fo	3	Transformer, secondary bracket, insulated	-
gc	*	Conduit, 1 1/4", as req'd.	-
gd	*	Straps, conduit, as req'd.	-
ge	1	Condulet, type LB	-
gh	1	Meter box, meter and test block	-
sd	2	Transformer, current	691120AA
sm	*	Wire, No. 12, insulated for current	-
sn	*	Wire, No. 14, insulated for potential	-
6	1	Service head	-

NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE 3-PHASE,
120/240V 4-WIRE DELTA
SHEET 2 OF 2

* Quantity as Required

APR. 1983



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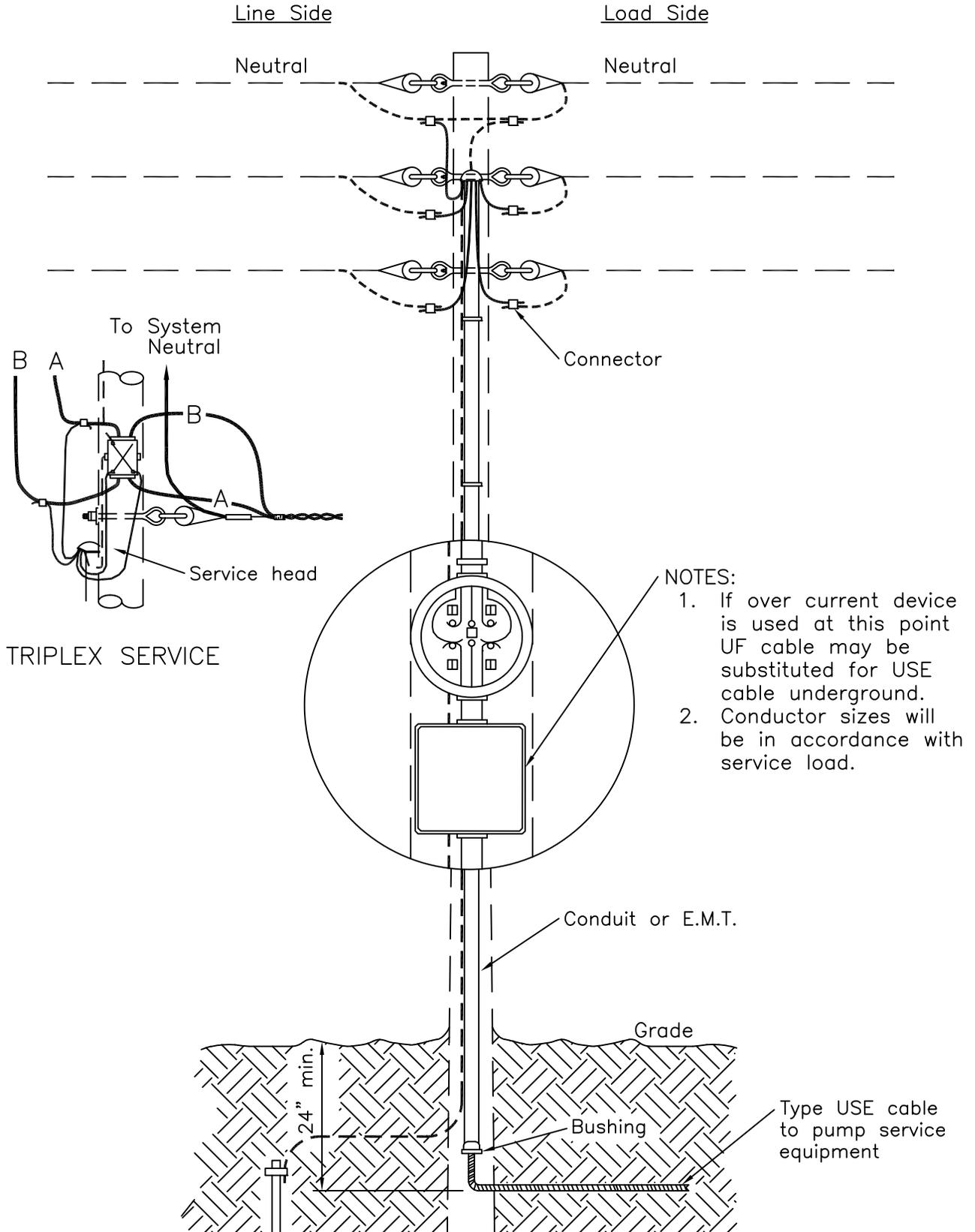
METERING
12.47/7.2 kV

M8-6

20.02.2

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

NOT FOR NEW CONSTRUCTION



GUIDE TO YARD POLE METER INSTALLATION (SHOWING PUMP SERVICE CARRIED UNDERGROUND)

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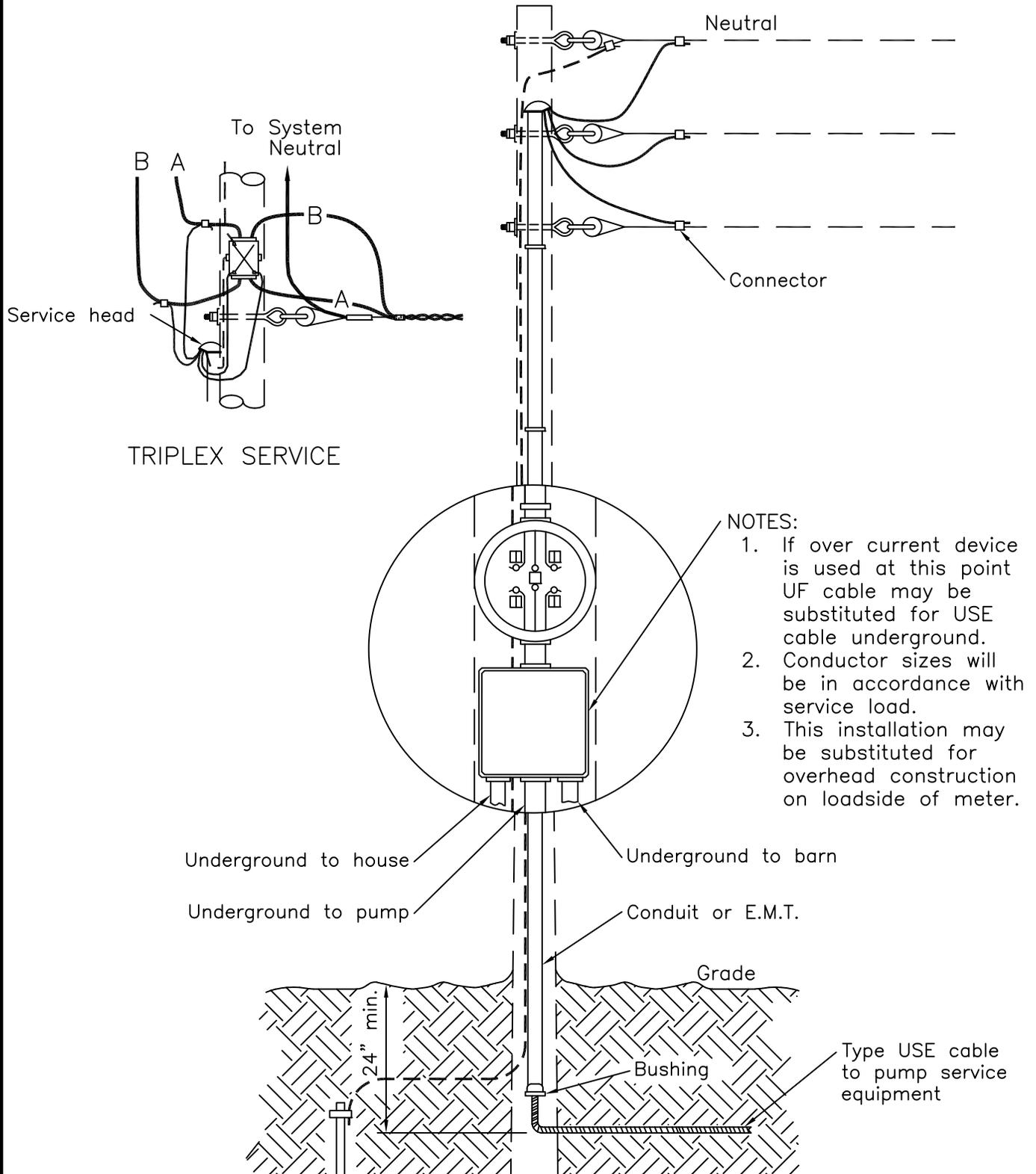
METERING
12.47/7.2 kV

M8-9

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

NOT FOR NEW CONSTRUCTION

Line Side



GUIDE TO YARD POLE METER INSTALLATION (SHOWING ALL BUILDING SERVICES CARRIED UNDERGROUND)

APR. 1983



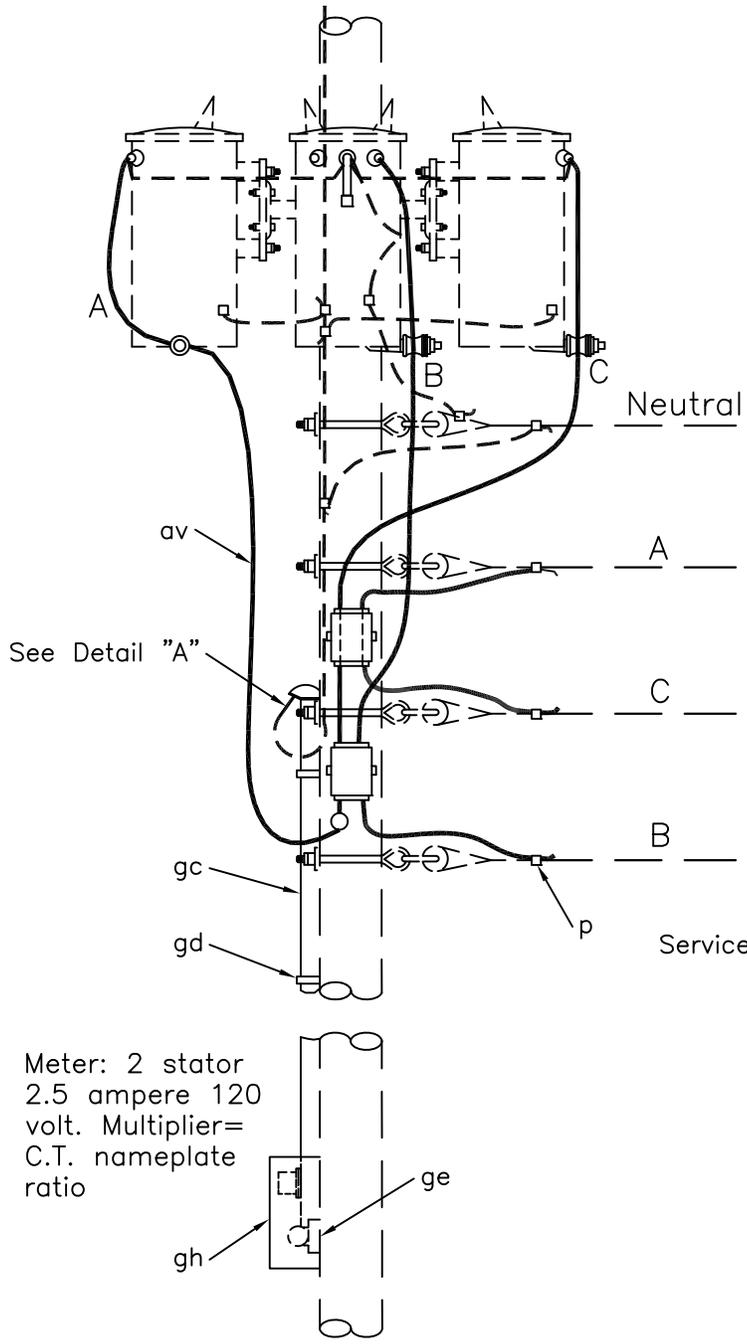
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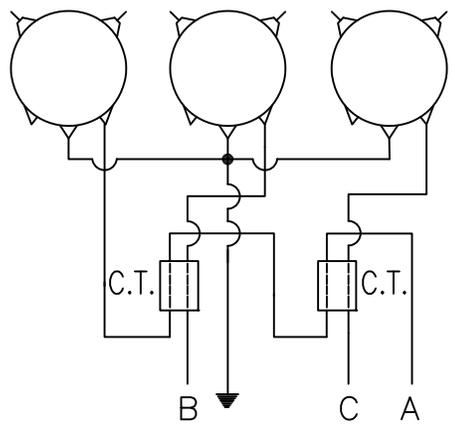
METERING
12.47/7.2 kV

M8-10

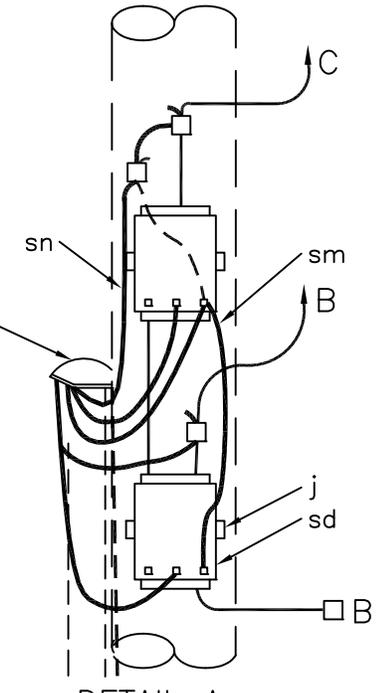
ITEM	QTY	ASSET #	INVENTORY NO.
sd	2	DT MR 370004	691120AA



ELEVATION



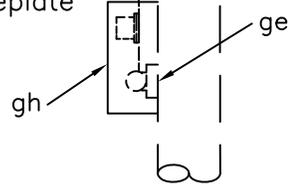
WIRING DIAGRAM



DETAIL A

Connections from C.T.'s to Service Head

Meter: 2 stator
2.5 ampere 120
volt. Multiplier=
C.T. nameplate
ratio



NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE
3-PHASE, 120/208V 4-WIRE GROUNDED WYE
SHEET 1 OF 2

* Quantity as Required

APR. 1983



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METERING
12.47/7.2 kV

M8-11

20.05.1

NOTES:

1. For more detailed drawing and wiring diagram, see Bulletin 161-12.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	4	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
fo	3	Bracket, transformer, insulated	-
gc	*	Conduit, 1 1/4", as req'd.	-
gd	*	Straps, conduit, as req'd.	-
ge	1	Condulet, type LB, 1 1/4"	-
gh	1	Meter box, meter and test block	-
sd	2	Transformer, current	691120AA
sm	*	Wire, No. 12, insulated for current	-
sn	*	Wire, No. 14, insulated for potential	-
6	1	Service head	-

NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE
 3-PHASE, 120/208V 4-WIRE GROUNDED WYE
 SHEET 2 OF 2

APR. 1983

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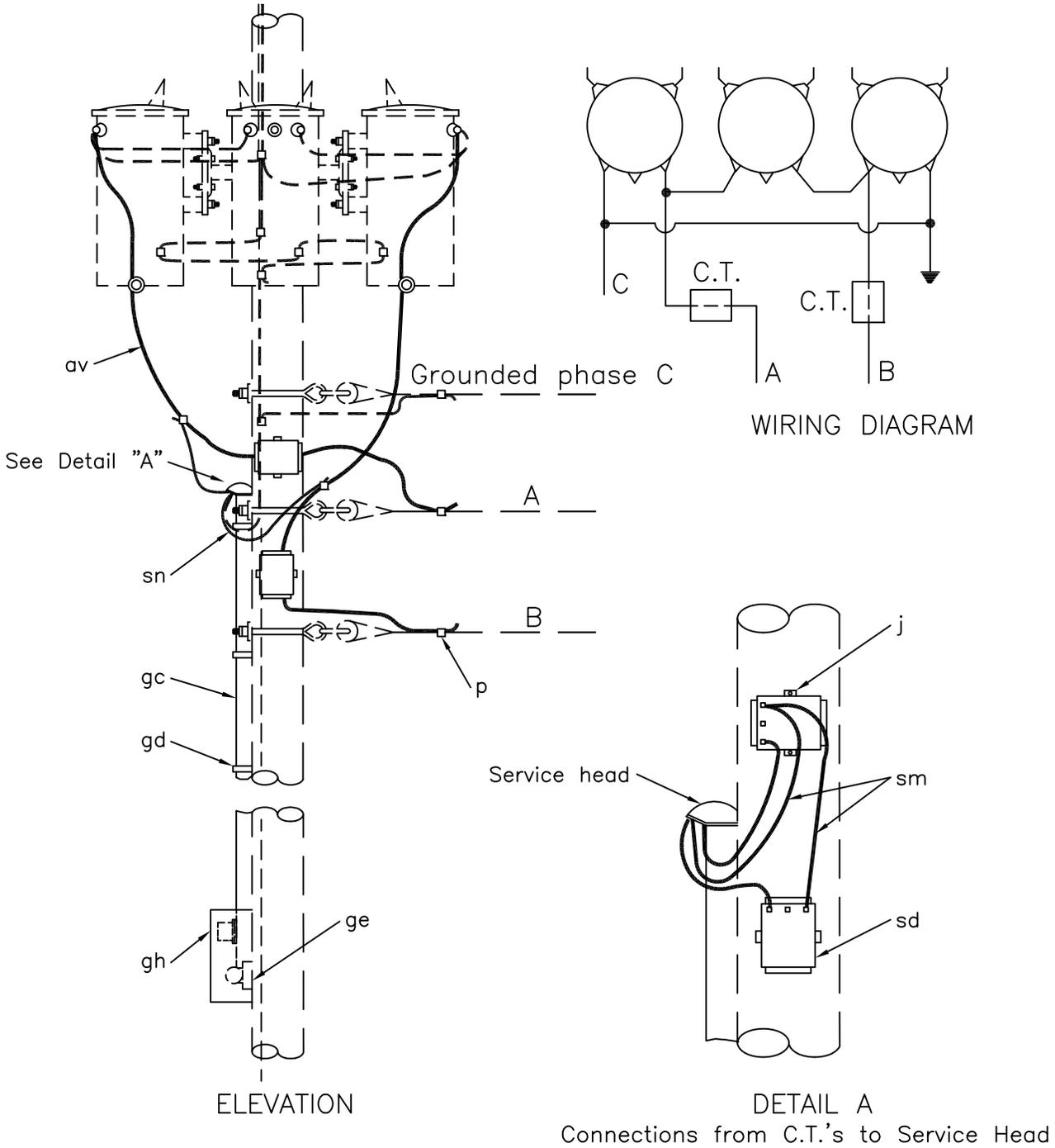
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METERING
 12.47/7.2 kV

M8-11

* Quantity as Required

ITEM	QTY	ASSET #	INVENTORY NO.
sd	2	DT MR 370004	691120AA



NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE
 3-PHASE, 240V 3-WIRE CORNER
 GROUNDED DELTA
 SHEET 1 OF 2

* Quantity as Required

APR. 1983	REVISED DEC 2022
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP

METERING
 12.47/7.2 kV

M8-12

20.06.1

NOTES:

1. For more detailed wiring diagram, see Bulletin 161-12.

ITEM	QTY	MATERIAL	INVENTORY NO.
j	4	Screw, lag, 1/2" x 4"	-
p	*	Connector, as req'd.	-
fo	*	Bracket, transformer, insulated	-
gc	*	Conduit, 1 1/4", as req'd.	-
gd	*	Straps, conduit, as req'd.	-
ge	1	Condulet, type LB, 1 1/4"	-
gh	1	Meter box, meter and test block	-
sd	2	Transformer, current	691120AA
sm	*	Wire, No. 12, insulated for current	-
sn	*	Wire, No. 14, insulated for potential	-
6	1	Service head, 1 1/4"	-

NOT FOR NEW CONSTRUCTION

SECONDARY METERING GUIDE
 3-PHASE, 240V 3-WIRE CORNER
 GROUNDED DELTA
 SHEET 2 OF 2

* Quantity as Required

APR. 1983



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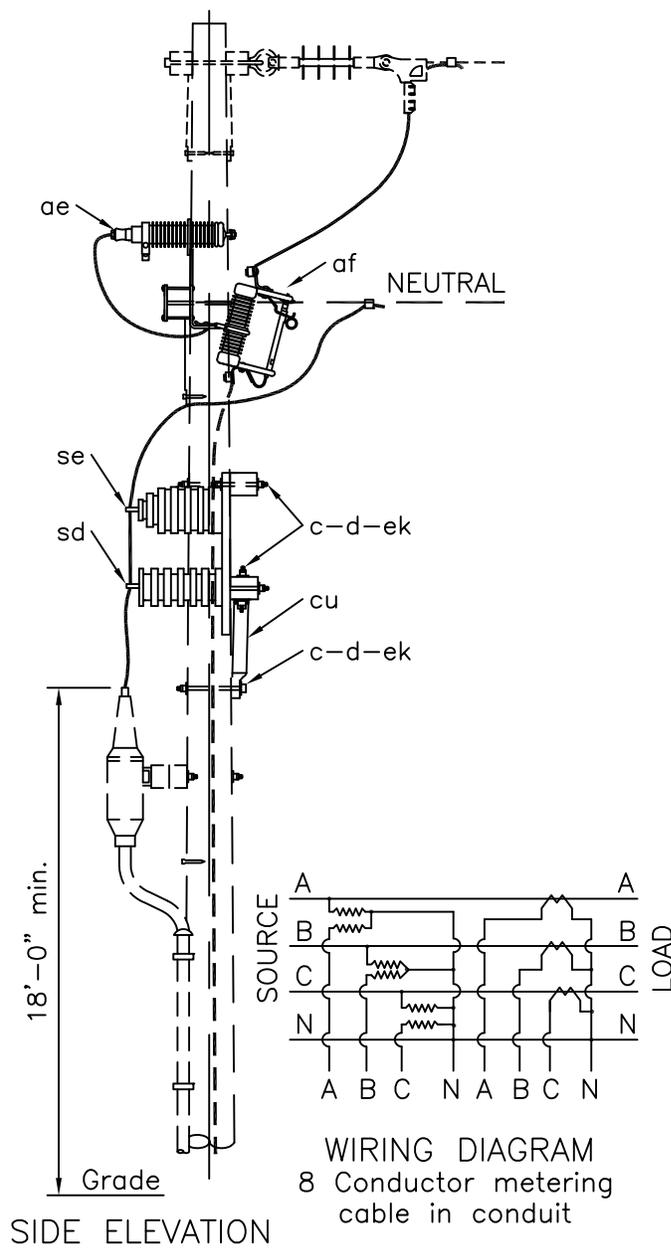
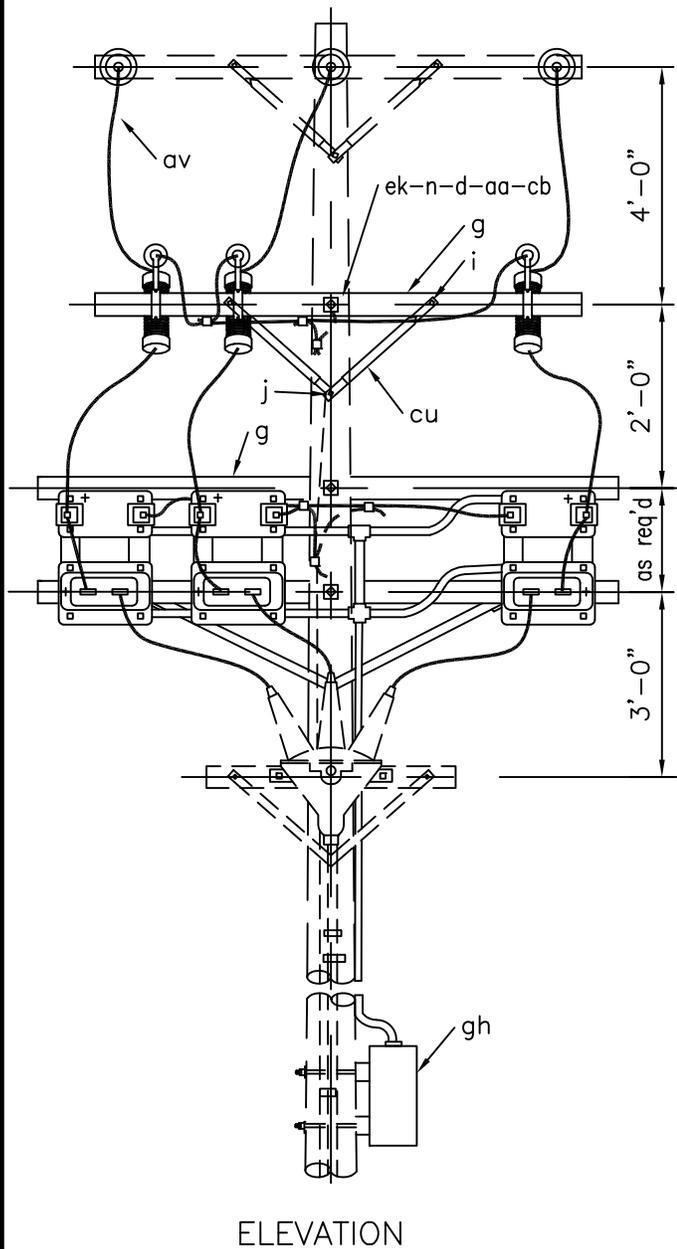
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METERING
12.47/7.2 kV

M8-12

20.06.2

ITEM	QTY	ASSET #	INVENTORY NO.
g	3	DT PC 364021	18290311
ae	3	DT OH 365001	01520991
af	3	DT OH 365049	18312111
sd	3	DT MR 370004	691120AA
se	3	DT MR 370003	692911AA



NOT FOR NEW CONSTRUCTION

* Quantity as Required
** Specify this item to be furnished by the transformer manufacturer.

PRIMARY METERING GUIDE
3-PHASE, 4-WIRE WYE
SHEET 1 OF 2

APR. 1983	REVISED DEC 2022	METERING 12.47/7.2 kV	M8-15
CORE ELECTRIC COOPERATIVE	APPROVED BY JDP		

NOTES:

1. See drawing M42-13, for item cb.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	2	Bolt, machine, $\frac{5}{8}$ " x req'd. length	063805TT
c	2	Bolt, machine, $\frac{1}{2}$ " x req'd. length	063804TT
d	2	Washer, round, $1 \frac{3}{8}$ "	-
d	6	Washer, square, $2 \frac{1}{4}$ "	-
g	3	Crossarm, $3 \frac{5}{8}$ " x $4 \frac{5}{8}$ " x 8'-0"	18290311
i	2	Bolt, carriage, $\frac{3}{8}$ " x $4 \frac{1}{2}$ "	063103TT
j	1	Screw, lag, $\frac{1}{2}$ " x 4"	-
n	1	Bolt, double arming, $\frac{5}{8}$ " x req'd. length	063305TT
p	*	Connector, as req'd.	-
aa	1	Nut eye, $\frac{5}{8}$ "	41904065
av	*	Jumper, primary, insulated, as req'd.	-
af	3	Cutout	18312111
ae	3	Surge arrestor	01520991
1	1	Deadend assembly, neutral	117220XX
cu	1	Brace, crossarm, wood, 28"	07535128
cu	1	Brace, crossarm, wood, 60" span	07535168
ek	*	Locknut, as req'd.	-
ge	1	Condulet, as req'd.	-
gh	1	Meter box, meter and test block	65000010
sd	3	Transformer, current w/ mounting hardware	691120AA
se	3	Transformer, potential w/ mounting hardware	692911AA
**	6	Mounting brackets	-
	*	Metering cable, as req'd.	-

NOT FOR NEW CONSTRUCTION

PRIMARY METERING GUIDE
3-PHASE, 4-WIRE WYE
SHEET 2 OF 2

* Quantity as Required
** Specify this item to be furnished by the transformer manufacturer.

APR. 1983



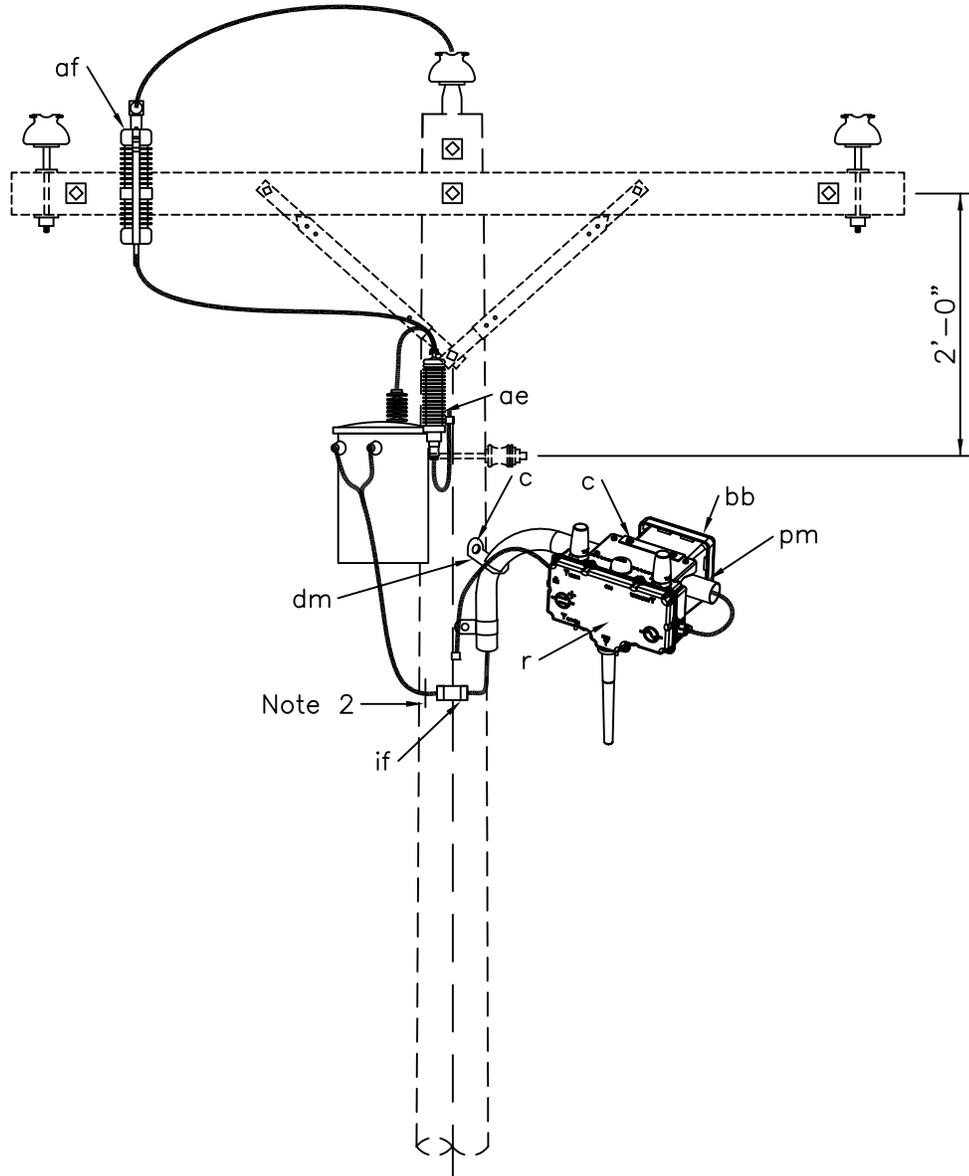
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METERING
12.47/7.2 kV

M8-15

ITEM	QTY	ASSET #	INVENTORY NO.
r	1	DT MT 370072	7700060
ae	1	DT OH 365001	01520991
af	1	DT OH 365049	18312111
an	1	368032	36810019



HORIZONTAL MOUNTED AMI AP
SHEET 1 OF 2

MAY 2018



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METERING
12.47/7.2 kV

M8-16

20.08.1

NOTES:

1. One power cable is the main feed power and the other is the backup battery power.
2. Staple conductor to pole 6" from one side of inline fuse.
3. If relay is mounted below transformer, staple conductor every 6" to secure to the pole.
4. AC source side of AP, denoted with the AC source symbol, shall face outward.
5. Ground wire should be crimped with C-crimp onto the pole ground.
6. Cable Colors:
 Hot – Brown
 Neutral – Blue
 Ground – Green/Yellow
7. Antenna shall be set no less than 30" from the pole.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, Machine, 5/8" x req'd length	063805TT
c	7	Bolt, 1/4-20 x 1/2", 7/16" hex	-
d	15	Washer, Flat, 1/4"	-
d	15	Split Lock Washers, 1/4"	-
d	2	Washer, Square, 2 1/4"	-
d	1	Washer, curved, 1 1/16"	-
j	2	Screw, lag, 1/2" x 4"	-
p	2	AMI Power cable	77000030
r	1	AMI AP	77000060
s	4	Hex Screw, 1/4-20 x 3/4"	-
s	4	Hex Screw, 1/4-20 x 4"	-
ae	1	Surge arrestor (M5-6)	01520991
af	1	Cutout (M5-9)	18312111
an	1	0.5kVA Transformer, conv	36810019
av	*	Jumpers, Covered, as req'd	-
bb	1	Backup Battery	77000010
bc	*	Band Clamps	-
cj	*	Ground Wire, #10 AWG	-
dm	1	Saddle Mounting Bracket	77000080
dm	2	Clamp, "U" Plate	-
dm	1	Backup Battery Bracket	-
ek	*	Double coil spring washer, as req'd	-
fi	1	Hot line connector	114139XX
if	1	Inline fuse, 10A	24501400
pm	1	Area Light Large Arm	77000070
tx	3	Antennas (1 TransAmerica/2 Cellular)	77000040
	1	Fuse Holder	24501501
	2	Fuse Holder, Cover	24501502
	*	*Sec 6 Duplex	-

HORIZONTAL MOUNTED AMI AP
SHEET 2 OF 2

*Quantity as Required

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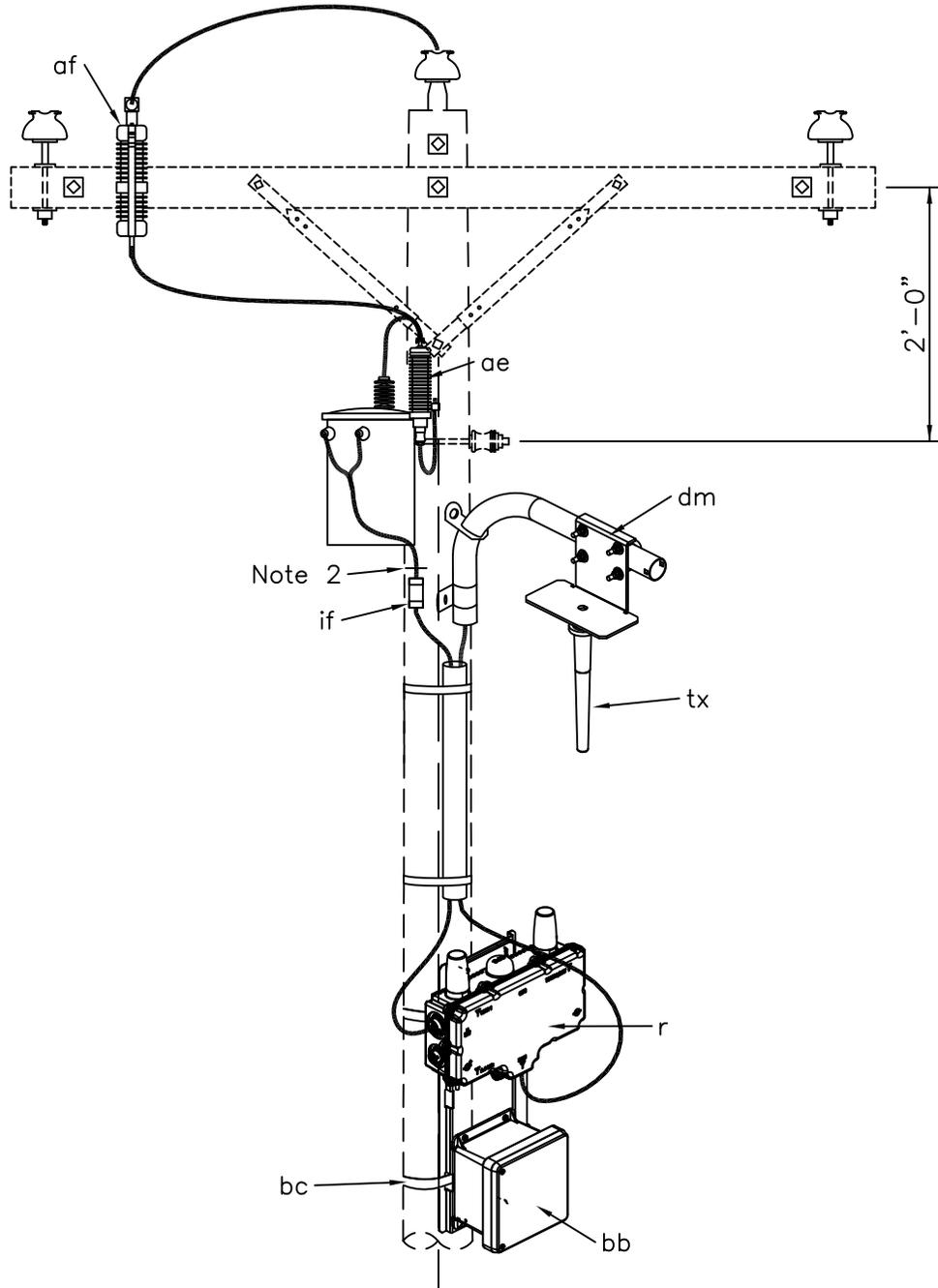
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METERING
12.47/7.2 kV

M8-16

20.08.2

ITEM	QTY	ASSET #	INVENTORY NO.
r	1	DT MT 370072	7700060
ae	1	DT OH 365001	01520991
af	1	DT OH 365049	18312111
an	1	368032	36810019



Note 2

VERTICAL MOUNTED AMI AP
SHEET 1 OF 2

MAY 2018

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METERING
12.47/7.2 kV

M8-17

20.09.1



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NOTES:

1. One power cable is the main feed power and the other is the backup battery power.
2. Remote antenna mounting area to be specified at each location.
3. Staple conductor to pole 6" from one side of inline fuse.
If relay is mounted below transformer, staple conductor every 6" to secure to the pole. Ground wire should be crimped with C-crimp onto the pole ground.
4. Cable Colors:
Hot – Brown
Neutral – Blue
Ground – Green/Yellow
5. Antenna shall be set no less than 30" from the pole.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	1	Machine Bolt, 5/8"	063805TT
d	8	#10 Washer, Flat	–
d	8	#10 Split Lock Washer	–
d	6	Washer, Flat, 1/4"	–
d	6	Split Lock Washers, 1/4"	–
d	4	Washer, Square, 2 1/4"	–
d	4	Split Lock Washers, 3/8"	–
d	4	Nut, Hex, M10	–
j	2	Screw, lag, 1/2" x 4"	–
d	1	Washer, curved, 1 1/6"	–
p	2	AMI Power cable	77000030
r	1	AMI AP	77000060
s	8	10-32 x 3/4" Philips Screw	–
s	6	1/4-20 x 3/8" Philips Screw	–
s	4	M10 x 80mm" Hex Screw	–
ae	1	Surge arrester (M5-6)	01520991
af	1	Cutout (M5-9)	18312111
an	1	0.5kVA transformer, conv	36810019
av	*	Jumpers, covered, as req'd	–
bb	1	Backup Battery	–
bc	*	Band Clamps	–
cj	1	Ground Wire, #10 AWG	–
dm	1	AP/BB Mounting Plate	77000090
pm	1	Area Light Large Arm	77000070
dm	1	Antenna Bracket Arm Mount	77000100
fi	1	Hot line connector	114139XX
if	1	Inline fuse 10A	24501400
tx	3	Antennas (1 NAN/2 Cellular)	77000040
	1	2" PVC Conduit, size as req'd	16422000
	1	Fuse Holder	24501501
	2	Fuse Holder cover	24501502
	*	Sec Duplex	–

VERTICAL MOUNTED AMI AP
SHEET 2 OF 2

*Quantity as Required

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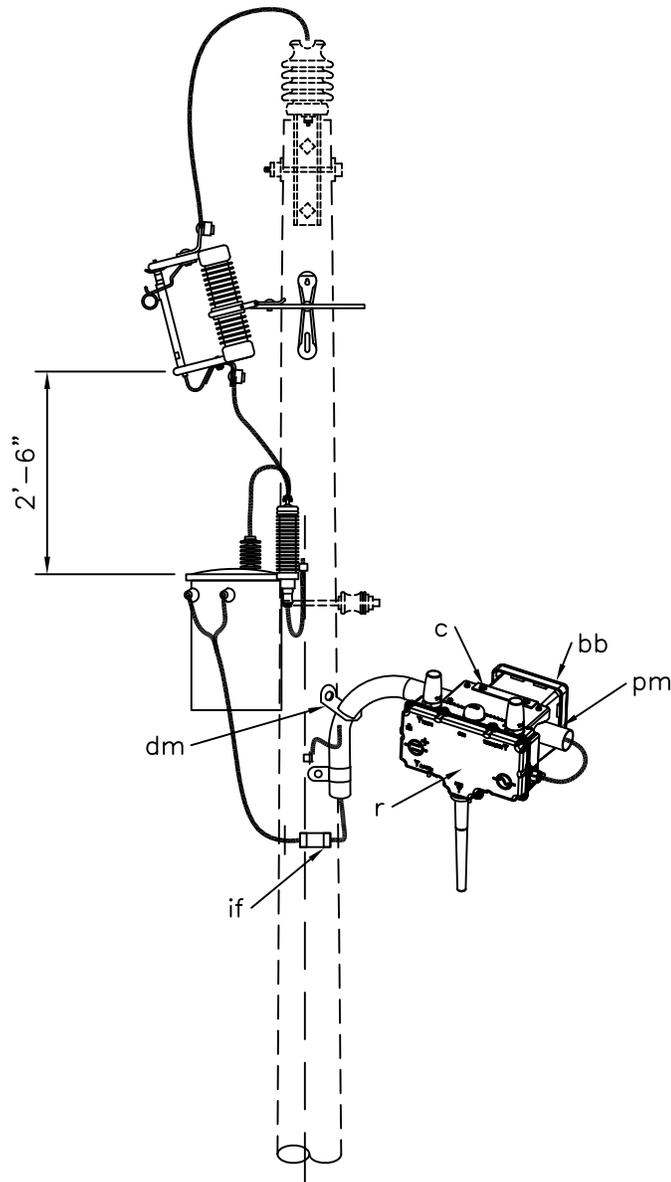
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METERING
12.47/7.2 kV

M8-17

20.09.2

ITEM	QTY	ASSET #	INVENTORY NO.
r	1	DT MT 370072	7700060
ae	1	DT OH 365001	01520991
af	1	DT OH 365049	18312111
an	1	368032	36810019



HORIZONTAL MOUNTED SINGLE PHASE
AMI AP
SHEET 1 OF 2

*Quantity as Required

APR. 1983



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1-PHASE PRIMARY
12.47/7.2 kV

M8-18

20.10.1

NOTES:

1. One power cable is the main feed power and the other is the backup battery power.
2. Staple conductor to pole 6" from one side of inline fuse.
3. If relay is mounted below transformer, staple conductor every 6" to secure to the pole.
4. AC source side of AP, denoted with the AC source symbol, shall face outward.
5. Ground wire should be crimped with C-crimp onto the pole ground.
6. Cable Colors:
 Hot – Brown
 Neutral – Blue
 Ground – Green/Yellow
7. Antenna shall be set no less than 30" from the pole.

ITEM	QTY	MATERIAL	INVENTORY NO.
c	3	Bolt, Machine, 5/8" x req'd length	063805TT
c	7	Bolt, 1/4-20 x 1/2", 7/16" hex	-
d	15	Washer, Flat, 1/4"	-
d	15	Split Lock Washers, 1/4"	-
d	2	Washer, Square, 2 1/4"	-
d	1	Washer, curved, 1 1/6"	-
j	2	Screw, lag, 1/2" x 4"	-
p	2	AMI Power cable	77000030
r	1	AMI AP	77000060
s	4	Hex Screw, 1/4-20 x 3/4"	-
s	4	Hex Screw, 1/4-20 x 4"	-
ae	1	Surge arrestor (M5-6)	01520991
af	1	Cutout (M5-9)	18312111
an	1	0.5kVA Transformer, conv	36810019
av	*	Jumpers, Covered, as req'd	-
bb	1	Backup Battery	77000010
bc	*	Band Clamps	-
cj	*	Ground Wire, #10 AWG	-
dm	1	Saddle Mounting Bracket	77000080
dm	2	Clamp, "U" Plate	-
dm	1	Backup Battery Bracket	-
eb	1	Bracket (M5-27B)	07803500
ek	*	Double coil spring washer, as req'd	-
fi	1	Hot line connector	114139XX
if	1	Inline fuse, 10A	24501400
pm	1	Area Light Large Arm	77000070
tx	3	Antennas (1 TransAmerica/2 Cellular)	77000040
	1	Fuse Holder	24501501
	2	Fuse Holder, Cover	24501502
	*	Sec 6 Duplex	-

HORIZONTAL MOUNTED SINGLE PHASE
 AMI AP
 SHEET 2 OF 2

*Quantity as Required

APR. 1983



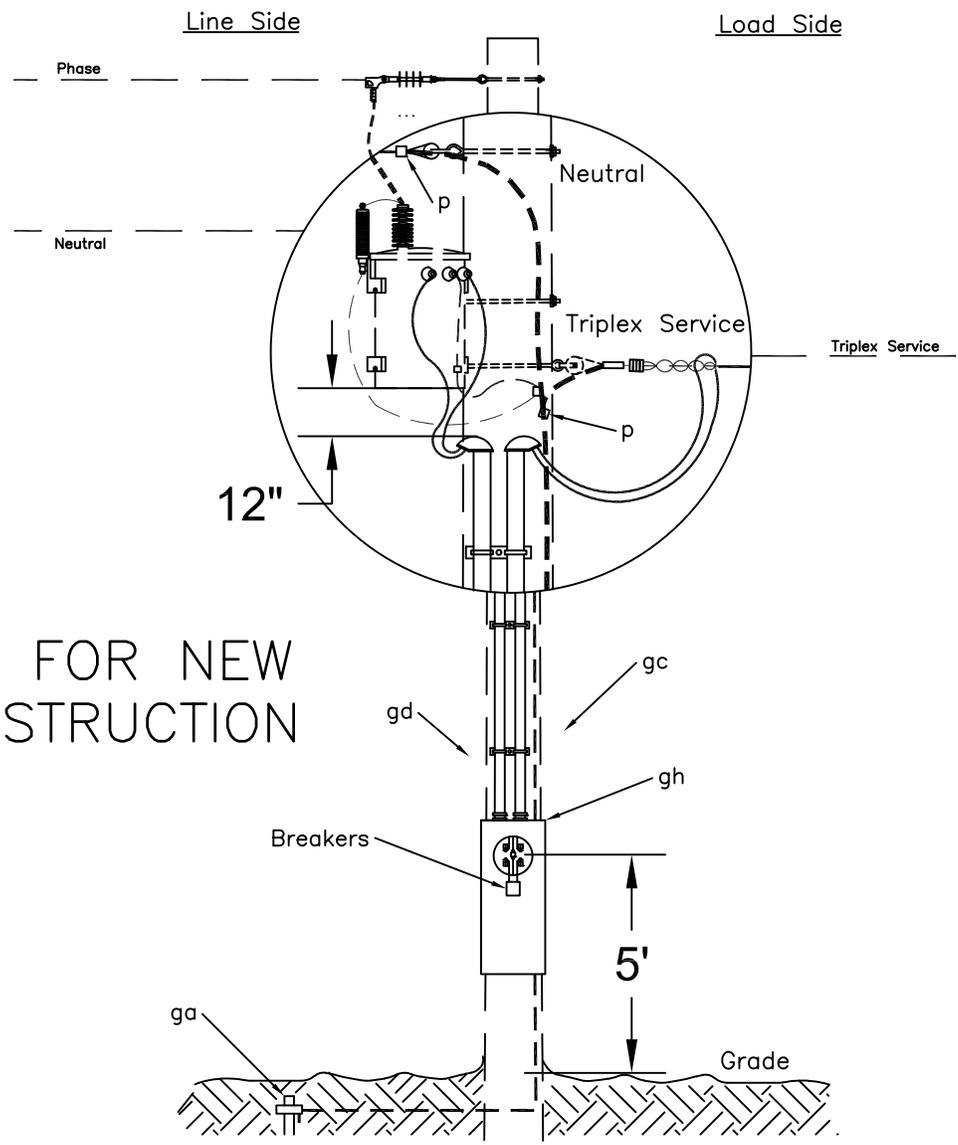
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1-PHASE PRIMARY
12.47/7.2 kV

M8-18

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



NOT FOR NEW CONSTRUCTION

Notes:

- 1.) Class 320: Meter housing with Lever By-pass, min. 3/0 conductor.
- 2.) Class 200: min. #2 conductor. 2/0 conductor shall be used for long runs.
- 3.) Meter housing shall be bonded to pole ground.
- 4.) Housing, Meter, Breaker, and Wire Size all Dependent on Customers Load.
- 5.) In and Out Meter Loop shall follow current CORE Building Standards.

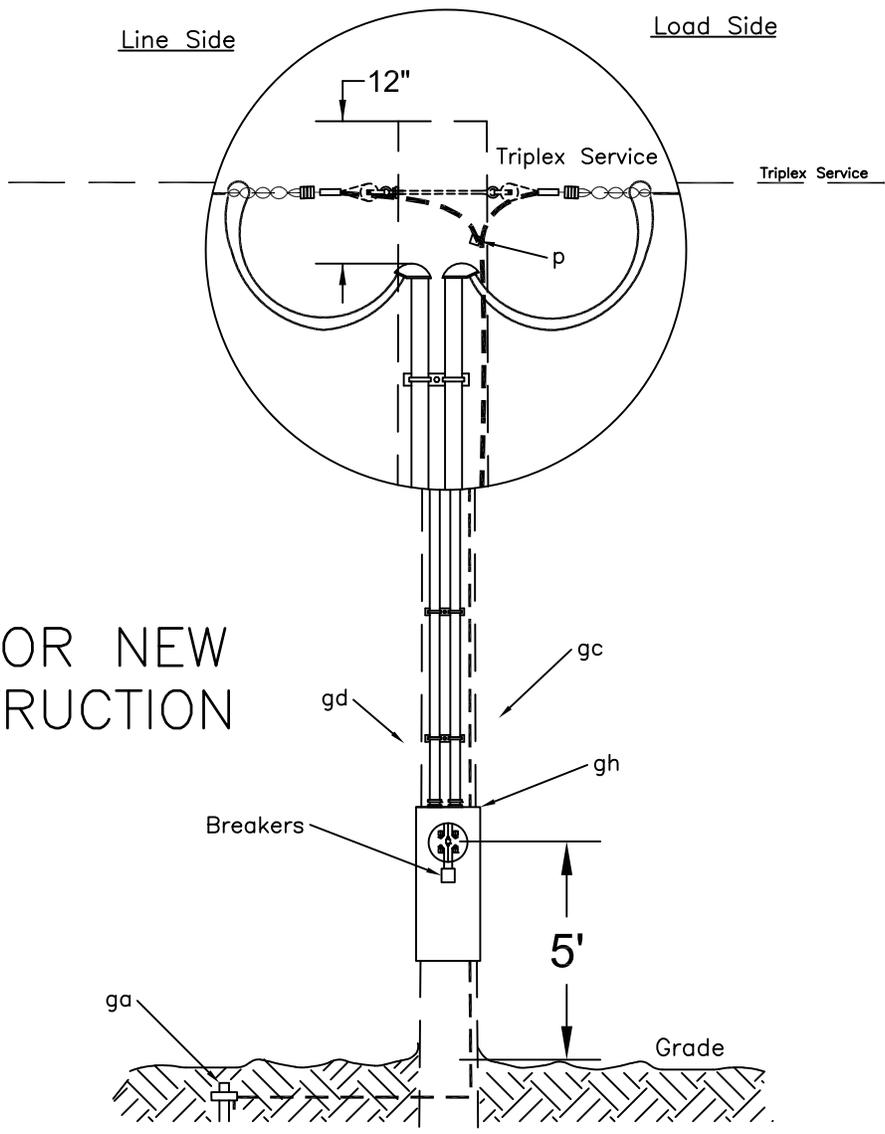
ITEM	QTY	MATERIAL	INVENTORY NO.
av	1	#6, copper ground as req'd	15620600
ga	1	Ground Rod	53828508
gc	2	Conduit, 2", EMT, as req'd, 6" standoff	-
gd	*	Straps, conduit, as req'd, 6" standoff	-
ge	2	Conduit, type LB, 2", EMT	-
gh	1	Meter housing, 6" standoff	-
p	*	Connector, as req'd.	-
6	2	Service head, as req'd.	-
	1	Ground Rod Clamp	11311000

IN AND OUT METER LOOP

MAR. 2020	REVISED DEC 2022	METERING 12.47/7.2 kV	M8-19
	APPROVED BY MFJ		

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

NOT FOR NEW CONSTRUCTION



Notes:

- 1.) Class 320: Meter housing with Lever By-pass, min. 3/0 conductor.
- 2.) Class 200: min. #2 conductor. 2/0 conductor shall be used for long runs.
- 3.) Meter housing shall be bonded to pole ground.
- 4.) Housing, Meter, Breaker, and Wire Size all Dependent on Customers Load.
- 5.) In and Out Meter Loop shall follow current CORE Building Standards.

ITEM	QTY	MATERIAL	INVENTORY NO.
av	1	#6, copper ground as req'd	15620600
ga	1	Ground Rod	53828508
gc	2	Conduit, 2", EMT, as req'd, 6" standoff	-
gd	*	Straps, conduit, as req'd, 6" standoff	-
ge	2	Conduit, type LB, 2", EMT	-
gh	1	Meter housing, 6" standoff	-
p	*	Connector, as req'd.	-
6	2	Service head, as req'd.	-
	1	Ground Rod Clamp	11311000
	1	Stand Off Bracket	7807650

IN AND OUT METER LOOP ON LIFT POLE

MAR. 2020

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DEC 2022



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METERING
12.47/7.2 kV

M8-20



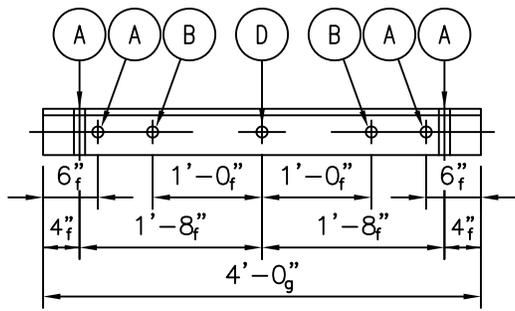
GUIDELINE SPECIFICATIONS

GUIDELINE SPECIFICATIONS

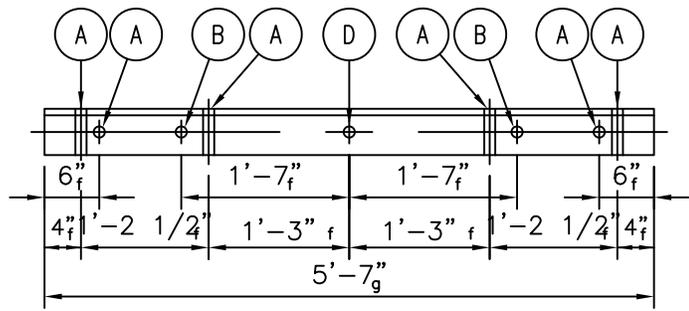
PAGE	DRAWING	DESCRIPTION
21.01	M19	Crossarm Drilling Guide
21.02	M19-1	Gain Plate Framing
21.03	M20	Pole Framing Guide
21.04	M21	Angle Construction Guide Crossarm to Vertical Construction - 30° -60° Angle
21.05	M22-1	Tree Trimming Guide
21.06	M22-2	Tree Trimming Guide
21.07	M24	Cable Service Assembly Guide
21.08	M24-1	Open Wire Secondary or Service Assembly Guide
21.09	M24-10A	Service Mast Assembly Guide for Ranch Type House (Stud Construction)
21.10	M24-10B	Service Mast Assembly Guide for Ranch Type House (Block Construction)
21.11	M24-10C	Service Mast Assembly Guide for Ranch Type House (Brick Veneer Construction)
21.12	M27	Transformer Connection Guide Open Wire Services
21.13	M27-1	Transformer Connection Guide Triplex Cable Services
21.14	M27-1A	Alternative Transformer Connection (Primary Tangent, Service Take-Off at Transformer)
21.15	M27-2	Transformer Connection Guide Secondary Underbuild
21.16	M28	Transformer Connection and Service Take-Off Guide from Secondary
21.17	M29-1	Tap Assembly Guide
21.18	M29-2	Tap Assembly Guide
21.19	M30-1	Installation of Ground Wire Above Neutral on Guyed Poles
21.20	M30-2	Installation of Ground Wire Above Neutral on Poles with Butt-Wrapped or Driven Grounds
21.21	M40-11	Armor Rods ACSR Conductor
21.22	M41-1	Angle Assembly Guide Vertical Construction 30°-60° Angle, Copper Type Conductor with Preformed Type Armor Rods
21.23	M41-10	Angle Assembly Guide Vertical Construction 30°-60° Angle, ACSR Conductors with Straight or Formed Type Armor Rods
21.24	M42-13-1 M42-13-2 M42-13-3 M42-13-4	Deadend Assembly Guide (Large Conductors)
21.25	M43-4	Tap Assembly Guide Copperweld Copper & Copper Conductors
21.26	M52-3 M52-4	Neutral Identification & Pole Numbering Guide

GUIDELINE SPECIFICATIONS

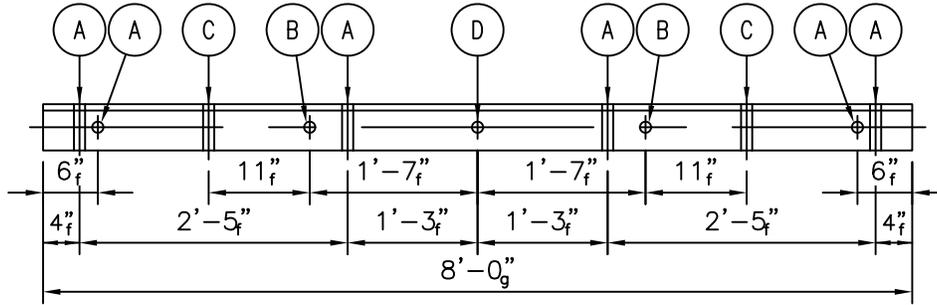
PAGE	DRAWING	DESCRIPTION
21.27	M52-CM	Control Mounting Guide
21.28	CUT POLE	Pole Cutting Guide with Existing Utilities
21.29	R1XX R1-TRIM	Right-Of-Way Clearing Guide
21.30	RP-1	Raptor Protection Guide Primary Jumpers
21.31	RP-2	Raptor Protection Guide Three-Phase Transformer Bank
21.32	RP-3	Raptor Protection Guide Single-Phase CSP Transformer
21.33	Lock Box	Lock Box Guidelines
21.34	Poles	Pole Setting Depths
21.35	Poles	Pole Sizes



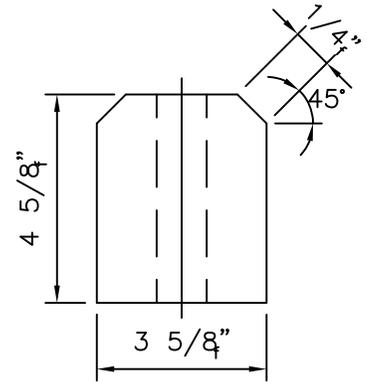
TYPE 01



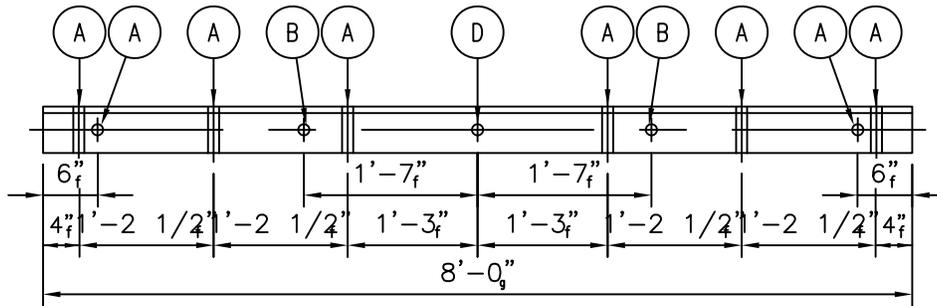
TYPE 02



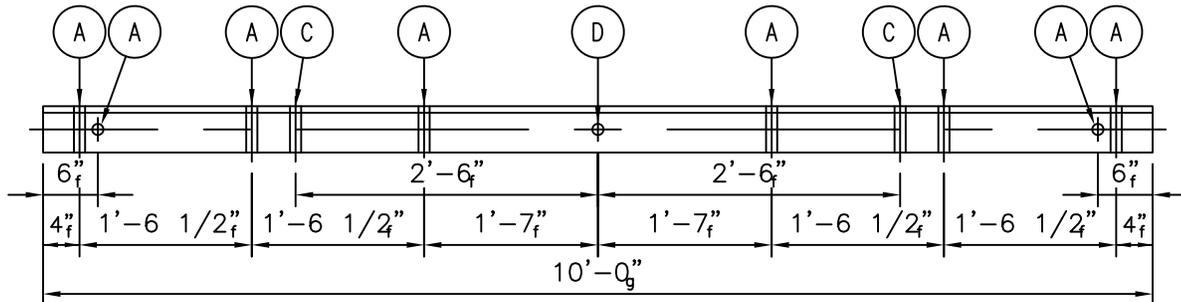
TYPE 03



TYPICAL ENLARGE SECTION



TYPE 04



TYPE 05

TOLERANCES - SIZES OF HOLES

f--- ± 1/8"
g--- ± 1/4"

	NOMINAL	GO	NO GO
(A)	11/16"	5/8"	3/4"
(B)	7/16"	3/8"	1/2"
(C)	9/16"	1/2"	5/8"
(D)	13/16"	3/4"	7/8"

CROSSARM DRILLING GUIDE

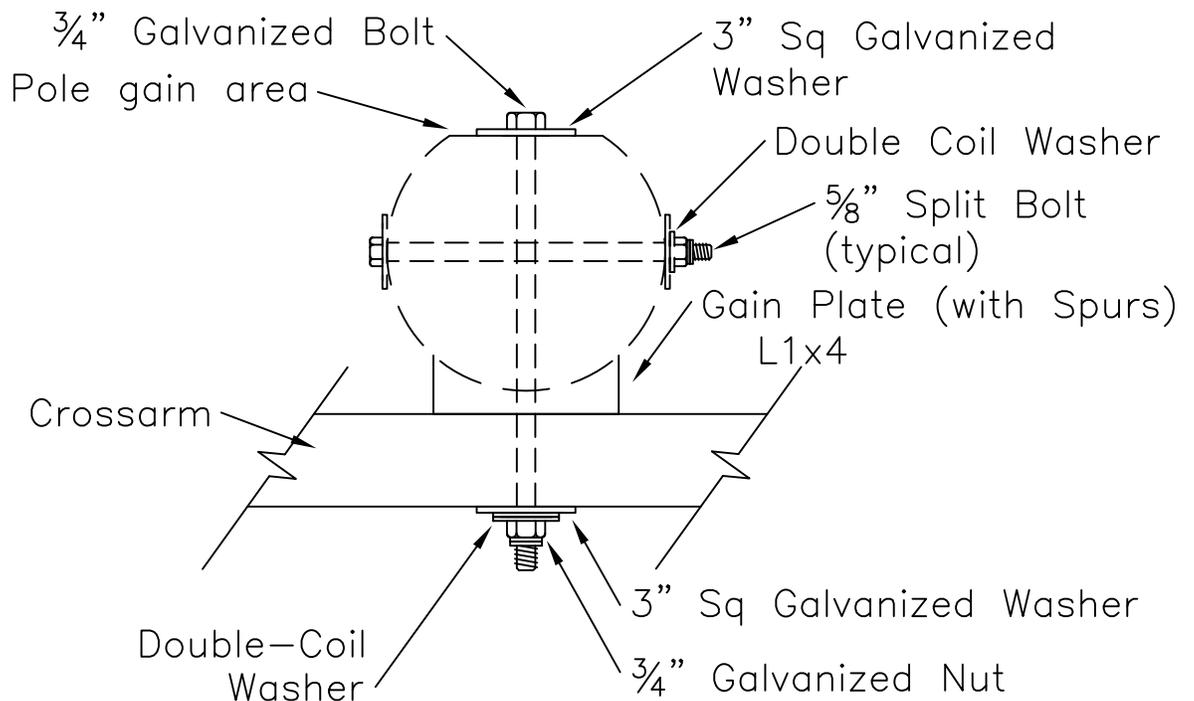
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GUIDE SPECS
12.47/7.2 kV

M19



NOTES:

1. Gain plates to be installed on all crossarms.
2. Center mounting bolt (machine or double-arming) shall be $\frac{3}{4}$ " with 3" square washer.
3. Split bolt (shown) is typical of pole-top framing.

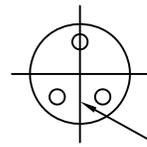
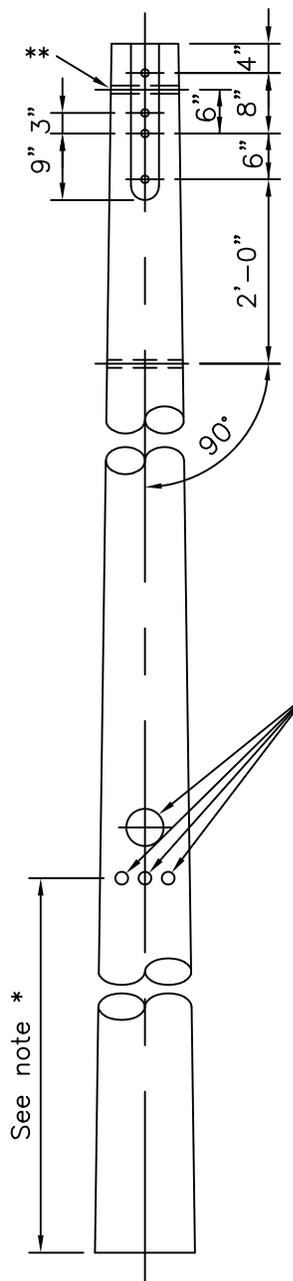
GAIN PLATE FRAMING



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GUIDE SPECS
12.47/7.2 kV

M19-1



Brand butt with proper length and class

Through-bolt holes must be parallel and in the same plane

HOLES: Drill 11/16" diameter

GAINS: Gains are to be flat with plane at right angles to the bolt holes

Neutral bolt hole must be at 90° angle with through-bolt holes

All poles shorter than 50 feet must be bored, roofed and gained before treatment, except that Class 7 and smaller poles need not be gained unless requested by purchaser. Roofs may be flat or at a 15° angle at the producer's option.

*Bottom of brand or center of metal disk shall be 10'-1"± from pole butt, 14'-1"± mark for poles 55' and longer.

If insured warranted pole, brand "IW".

Manufacturer's Mark and Date of Treatment, (Month and Year).

Brand with proper length and class.

Brand with species, preservation code and retention .

Tolerance:

Holes:

On the gain ±1/8" from the centerlines of the holes.

On the side opposite the gain ±1/4" from the centerlines of the holes.

Location - measured from roof

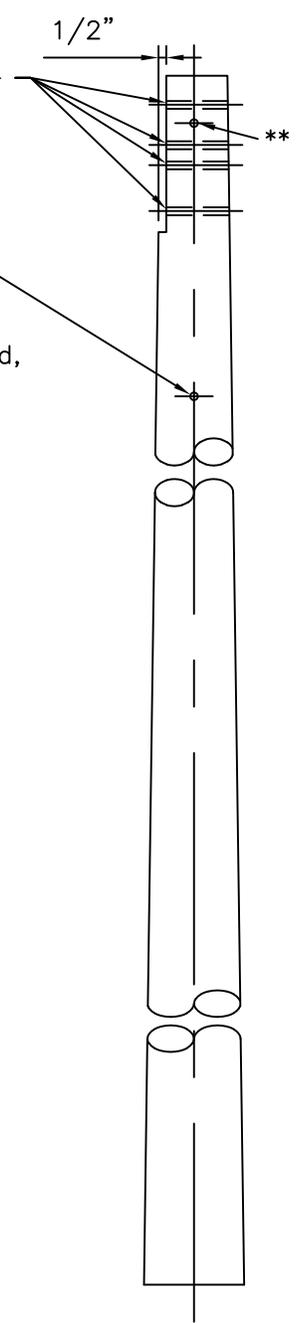
Gain side ±1/4"

Opposite side ±1/2"

Diameter ±1/16"

Gains out of parallel ±1/2"

**Optional, anti-split bolt hole to be drilled only when so specified by the purchaser.



POLE FRAMING GUIDE

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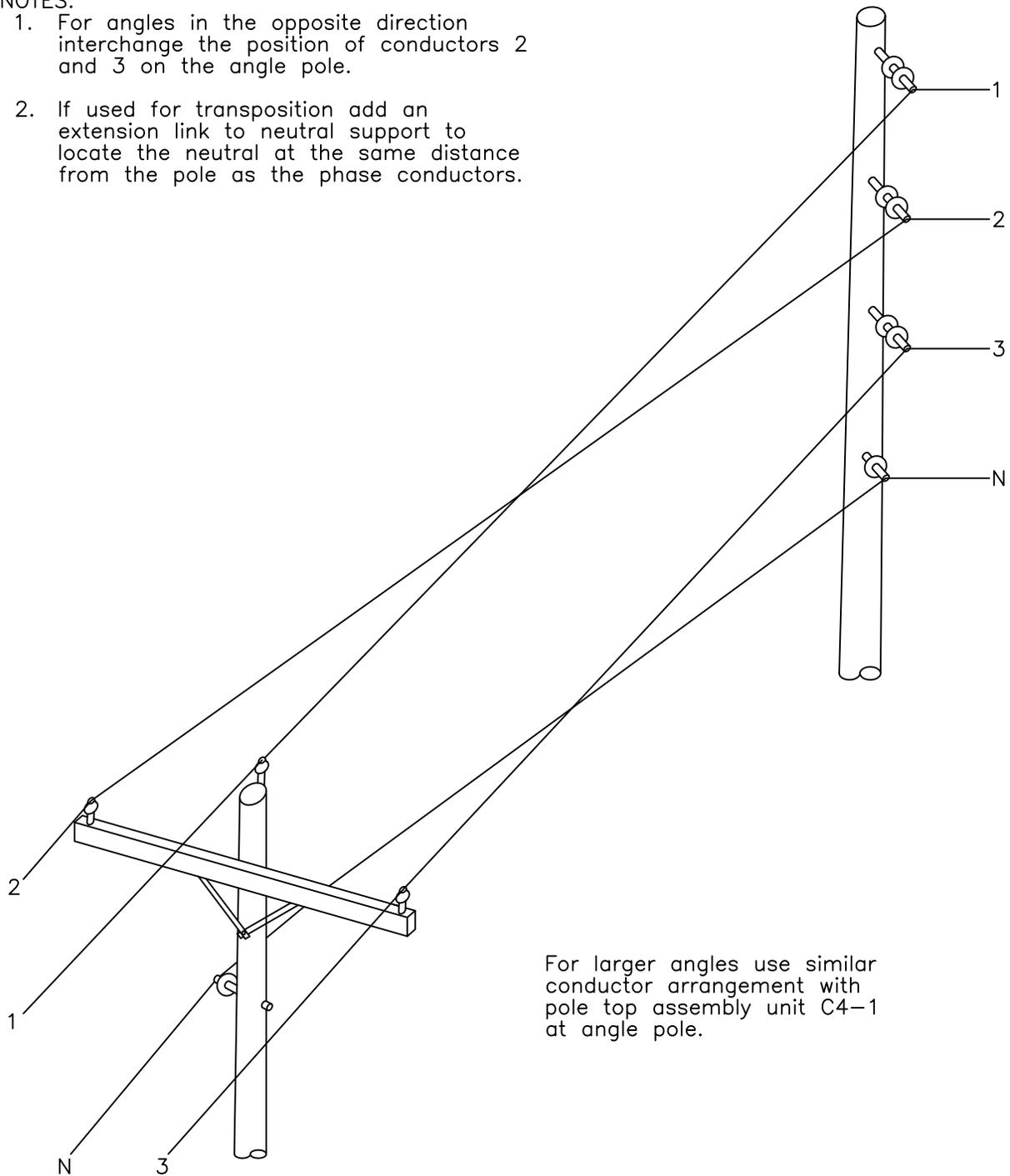
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GUIDE SPECS
12.47/7.2 kV

M20

NOTES:

1. For angles in the opposite direction interchange the position of conductors 2 and 3 on the angle pole.
2. If used for transposition add an extension link to neutral support to locate the neutral at the same distance from the pole as the phase conductors.



For larger angles use similar conductor arrangement with pole top assembly unit C4-1 at angle pole.

ANGLE CONSTRUCTION GUIDE
CROSSARM TO VERTICAL CONSTRUCTION –
30° TO 60° ANGLE

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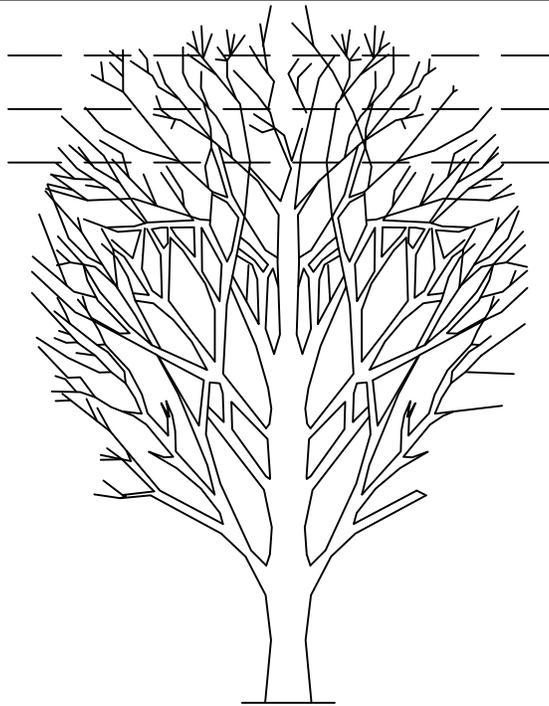


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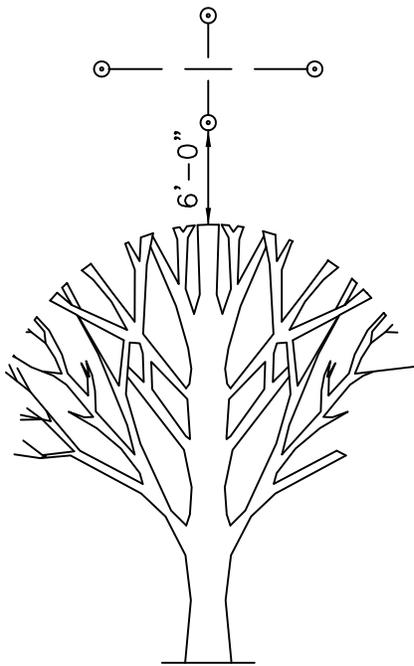
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GUIDE SPECS
12.47/7.2 kV

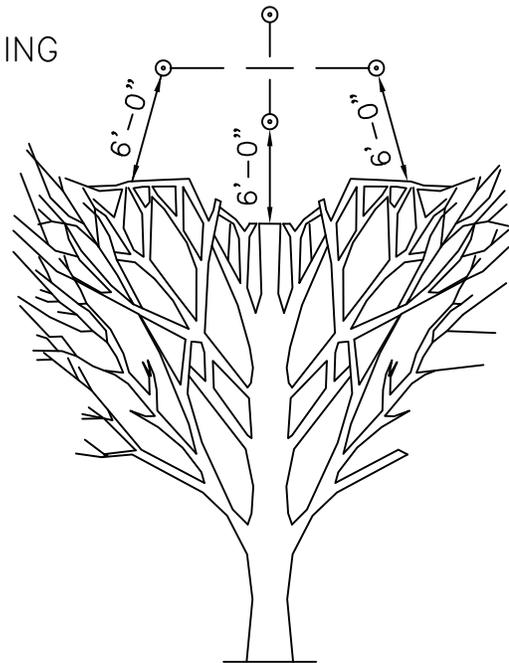
M21



BEFORE TRIMMING



RIGHT WAY



WRONG WAY

NOTES:

1. No parts of tree should be closer than 6'-0" from open energized wiring.
2. Trimming should leave tree with symmetrical appearance.

TREE TRIMMING GUIDE

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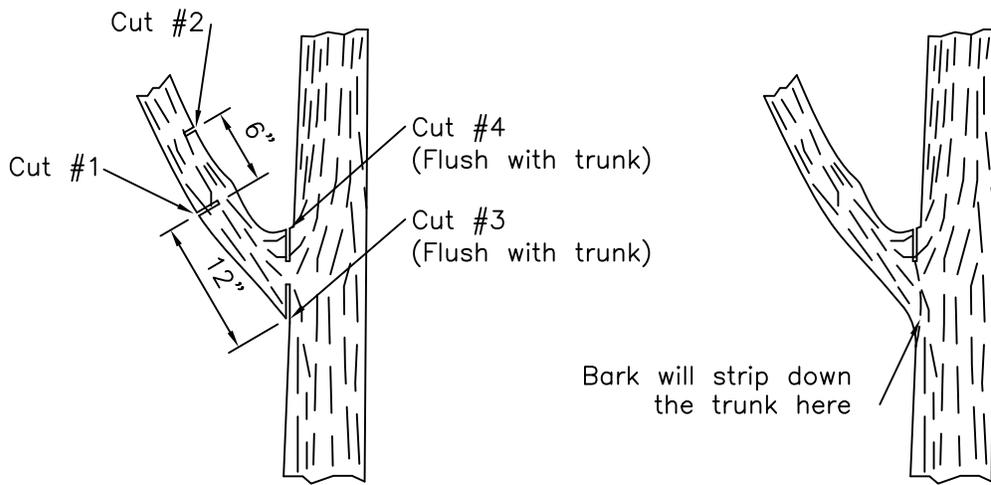


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GUIDE SPECS
12.47/7.2 kV

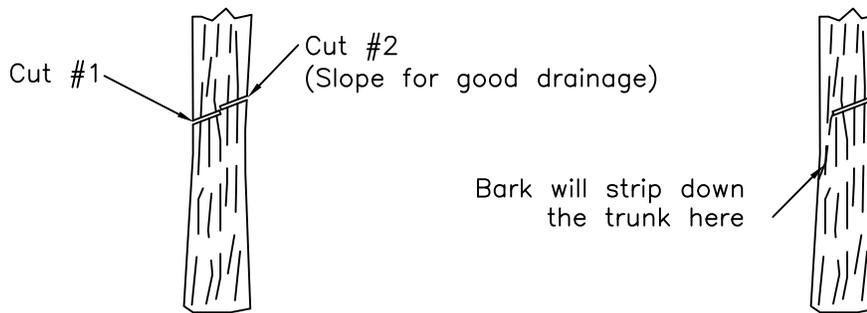
M22-1



RIGHT WAY

WRONG WAY

For small branches omit Cuts #1 and #2
 REMOVAL OF HEAVY SIDE LIMB



RIGHT WAY

WRONG WAY

REMOVAL OF VERTICAL LIMB

NOTE:
 Coat final cut with tree paint or wound protectant.

TREE TRIMMING GUIDE

APR. 1983

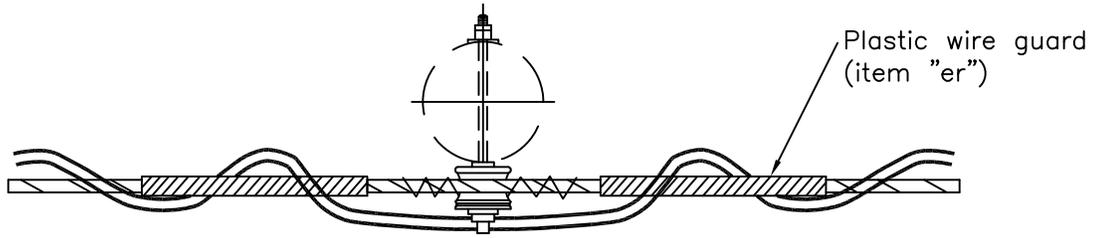
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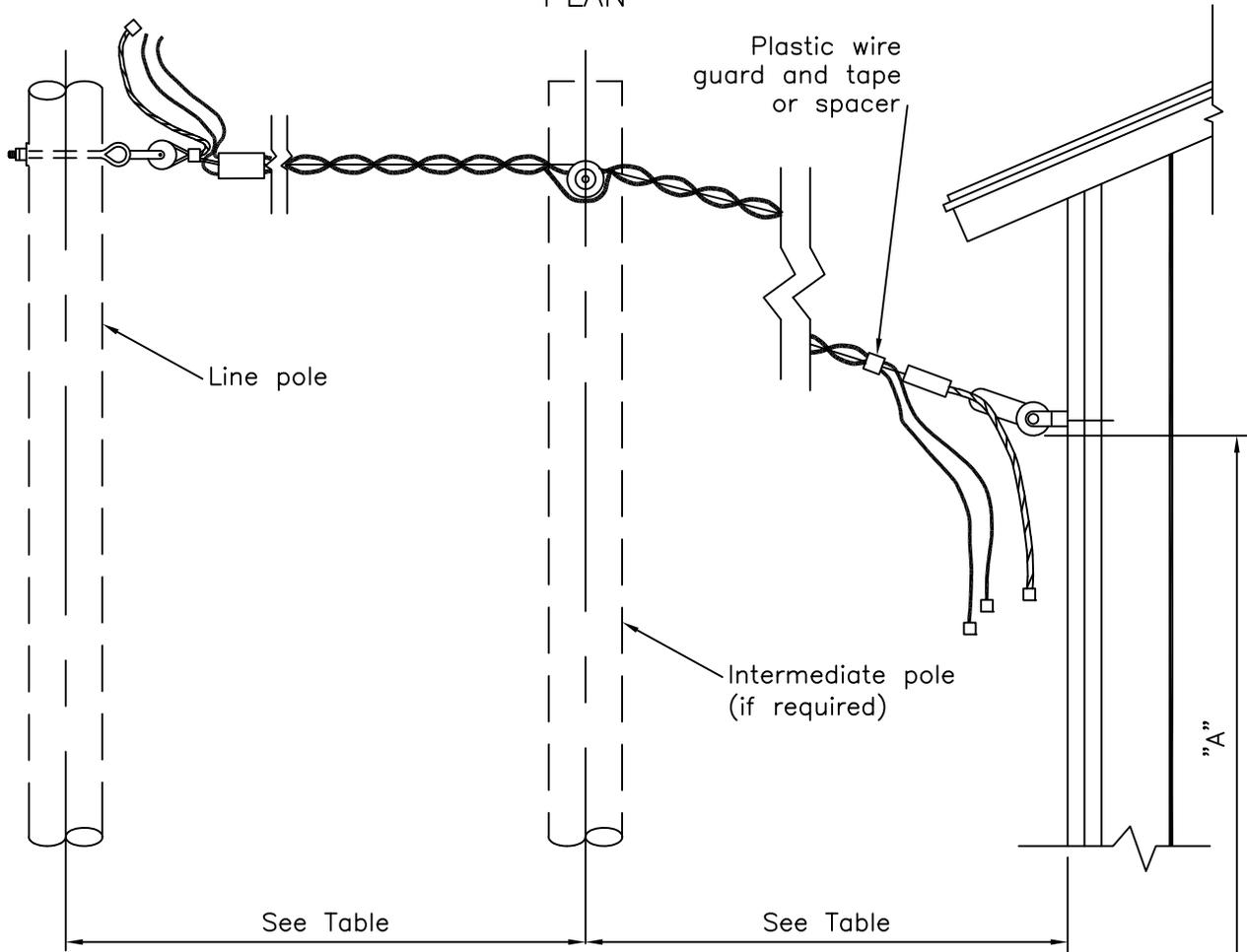
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GUIDE SPECS
 12.47/7.2 kV

M22-2



PLAN



MAX. SPAN (Unguyed)	
CONDUCTOR	LENGTH
#2 TPX	75'
1/0 TPX	65'
4/0 TPX	50'

ELEVATION

Clearance "A" minimum

To bottom of drip loop	16'
To service assembly	16'
To service drop conductor in span	16'

NOTES:

1. Services as short as possible are preferred.
2. Refer to secondary and service assemblies for construction details.
3. Service connectors to be insulated compression type.
4. For spans in excess of maximum allowable length, install additional guys as necessary.

CABLE SERVICE ASSEMBLY GUIDE

APR. 1983



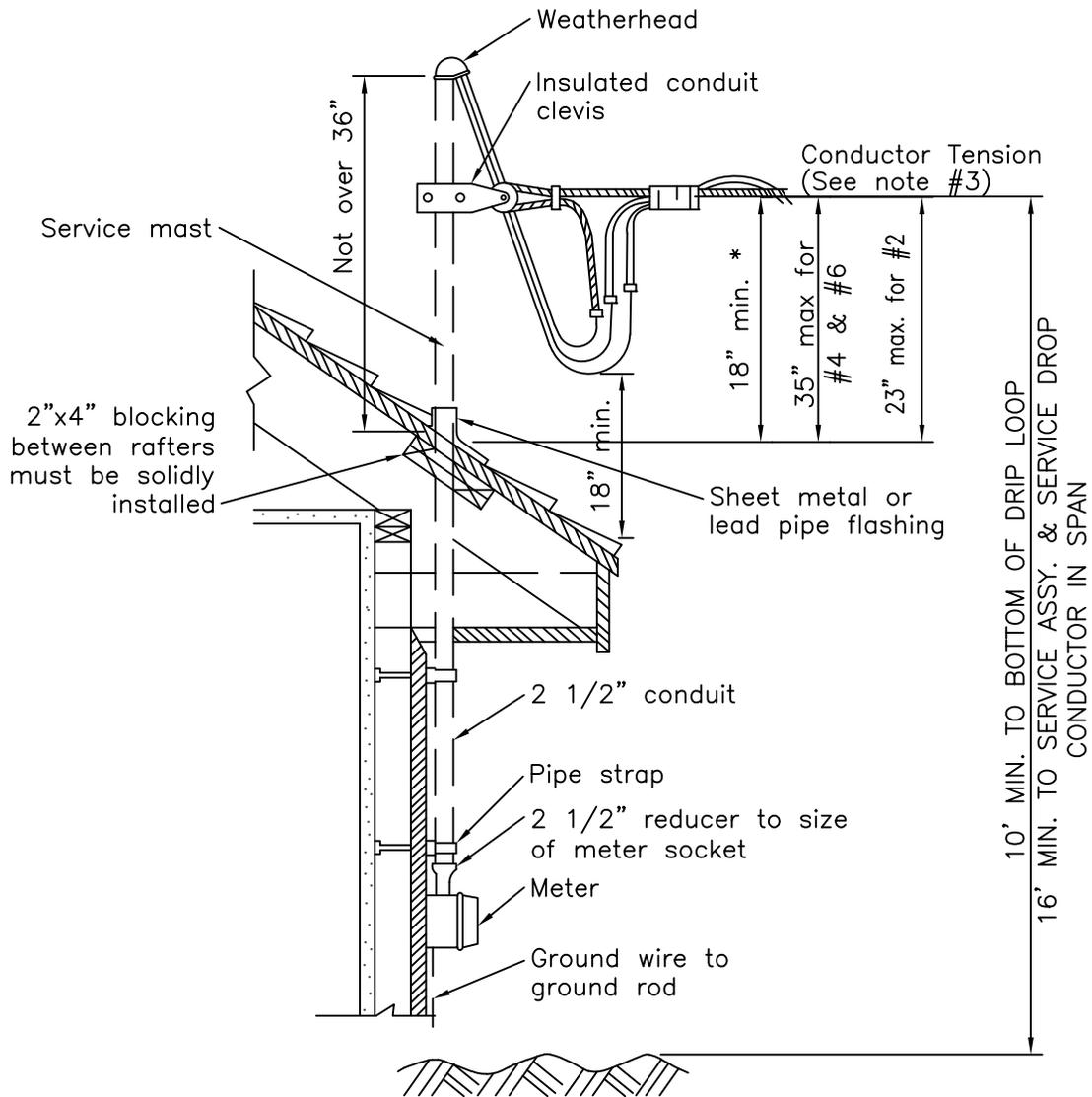
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GUIDE SPECS
12.47/7.2 kV

M24

* These dimensions apply to both drip loop and span.



STUD CONSTRUCTION

NOTES:

1. If length of conduit exceeds ten feet, coupling will be permitted on end adjacent to meter.
2. Center of meter housing to be located 5'-0" from ground level.
3. Maximum tension of conductor not to exceed 50% of ultimate strength.
4. For service assemblies, see drawings K16C & K17.
5. Service connectors to be insulated compression type.

SERVICE MAST ASSEMBLY GUIDE
FOR RANCH TYPE HOUSE
(STUD CONSTRUCTION)

APR. 1983



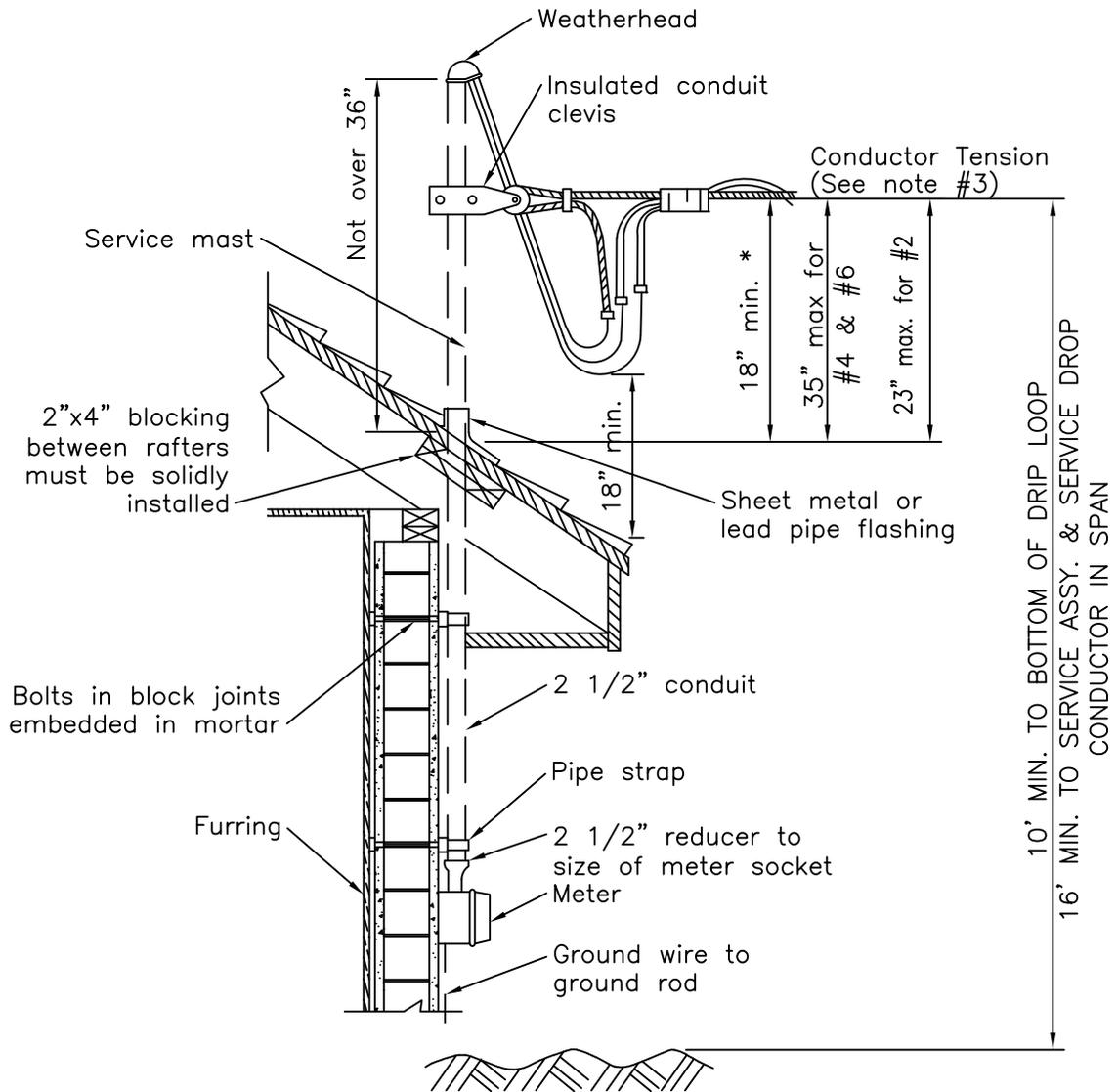
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GUIDE SPECS
12.47/7.2 kV

M24-10A

* These dimensions apply to both drip loop and span.



BLOCK CONSTRUCTION

NOTES:

1. If length of conduit exceeds ten feet, coupling will be permitted on end adjacent to meter.
2. Meter to be located 5'-0" from ground level.
3. Maximum tension of conductor not to exceed 50% of ultimate strength.
4. For service assemblies, see drawings K16C & K17.
5. Service connectors to be insulated compression type.

SERVICE MAST ASSEMBLY GUIDE FOR RANCH TYPE HOUSE (BLOCK CONSTRUCTION)

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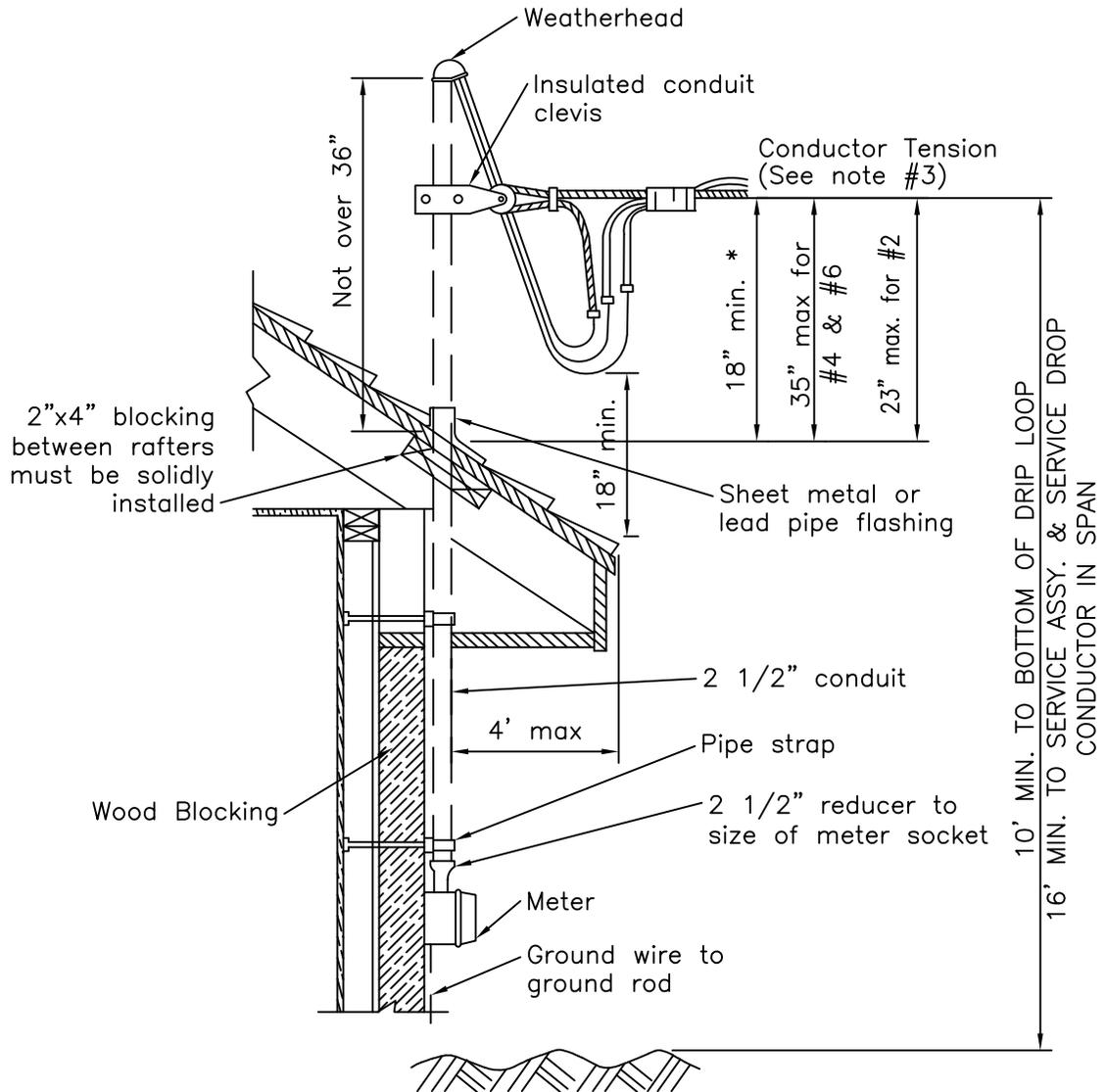
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GUIDE SPECS
12.47/7.2 kV

M24-10B

* These dimensions apply to both drip loop and span.



BRICK VENEER CONSTRUCTION

NOTES:

1. If length of conduit exceeds ten feet, coupling will be permitted on end adjacent to meter.
2. Meter to be located 5'-0" from ground level.
3. Maximum tension of conductor not to exceed 50% of ultimate strength.
4. For service assemblies, see drawings K16C & K17.
5. Service connectors to be insulated compression type.

SERVICE MAST ASSEMBLY GUIDE FOR RANCH TYPE HOUSE (BRICK VENEER CONSTRUCTION)

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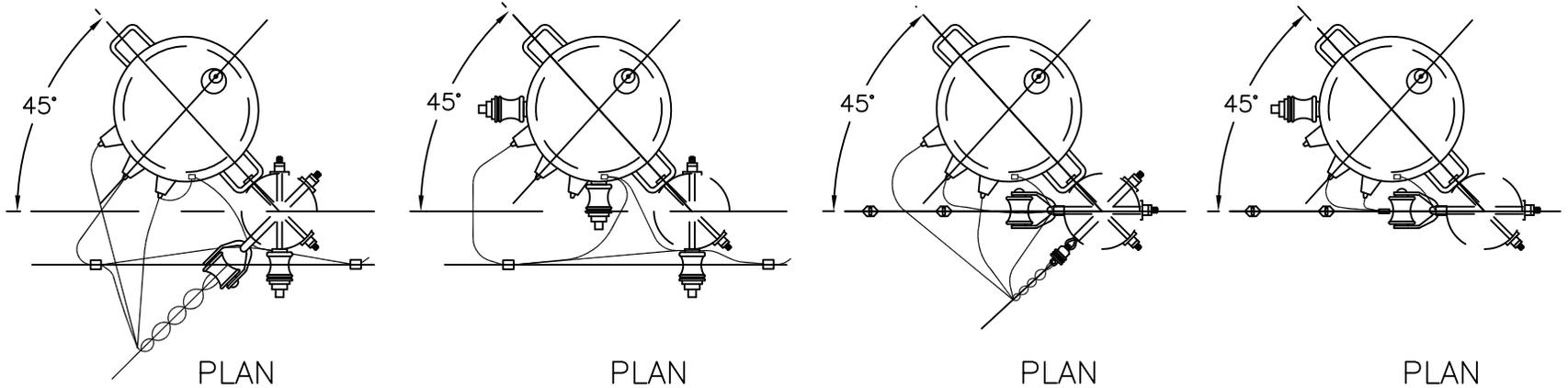


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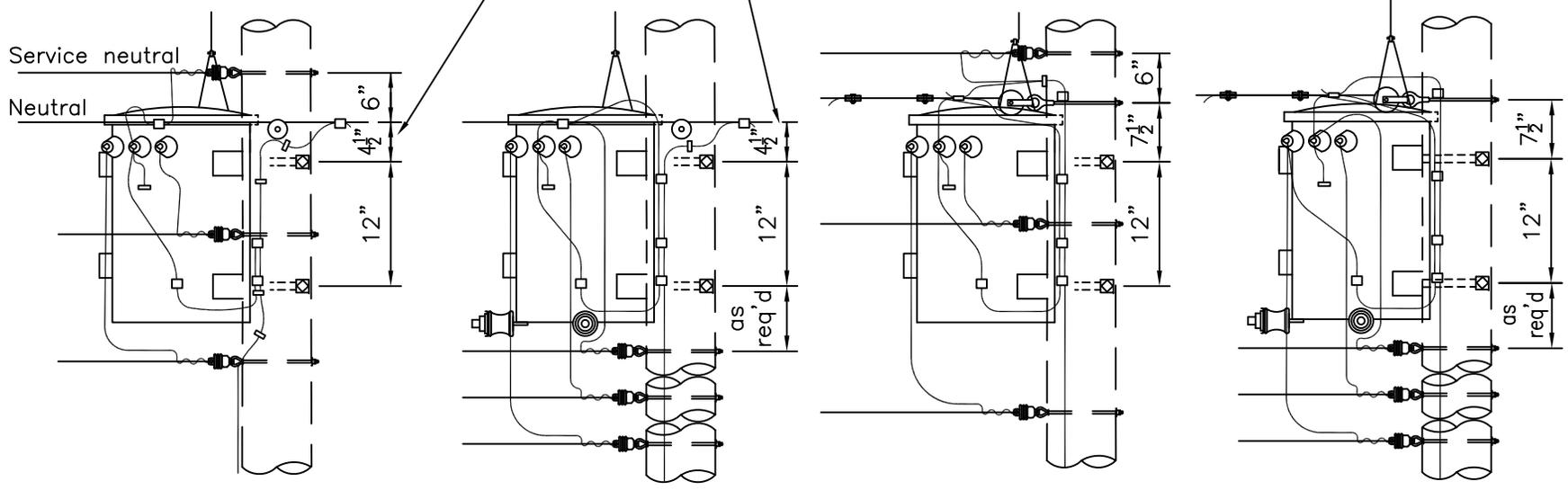
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GUIDE SPECS
12.47/7.2 kV

M24-10C



For multiphase primary line construction with the crossarm in the revised lower position, change this dimension to 12".



PRIMARY TANGENT SERVICE TAKE-OFF AT TRANSFORMER LEVEL

PRIMARY TANGENT SERVICE TAKE-OFF BELOW TRANSFORMER

PRIMARY DEADEND SERVICE TAKE-OFF AT TRANSFORMER LEVEL

PRIMARY DEADEND SERVICE TAKE-OFF BELOW TRANSFORMER

NOTES:
 1. Transformers may be mounted in alternate positions and quadrants as practical in order to facilitate services in directions not shown.

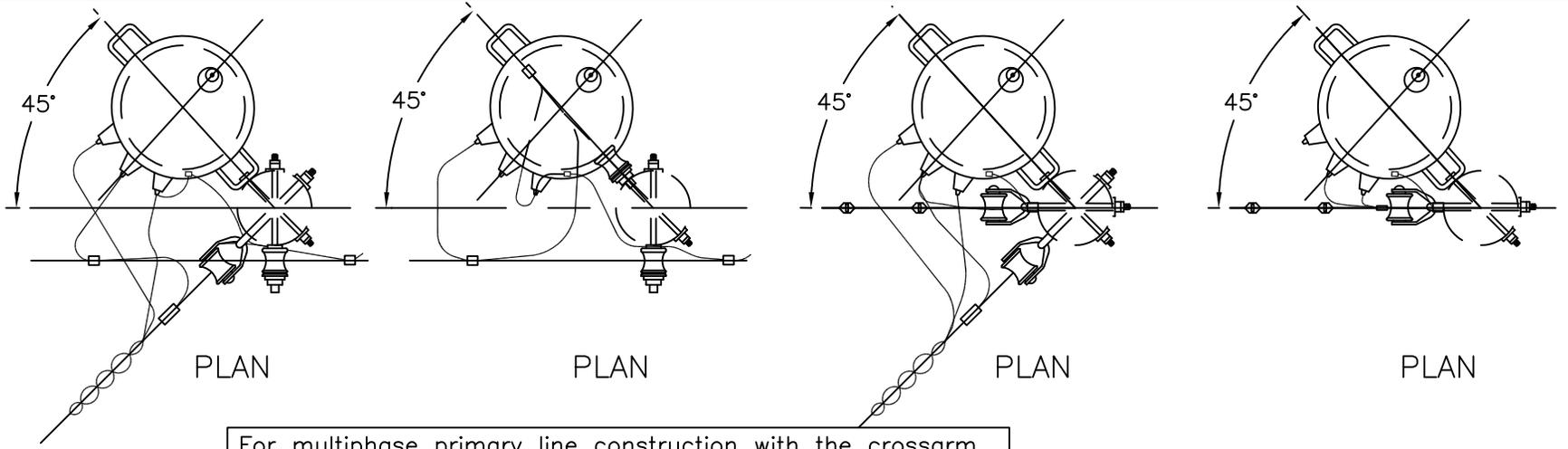
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**TRANSFORMER CONNECTION GUIDE
 OPEN WIRE SERVICES**

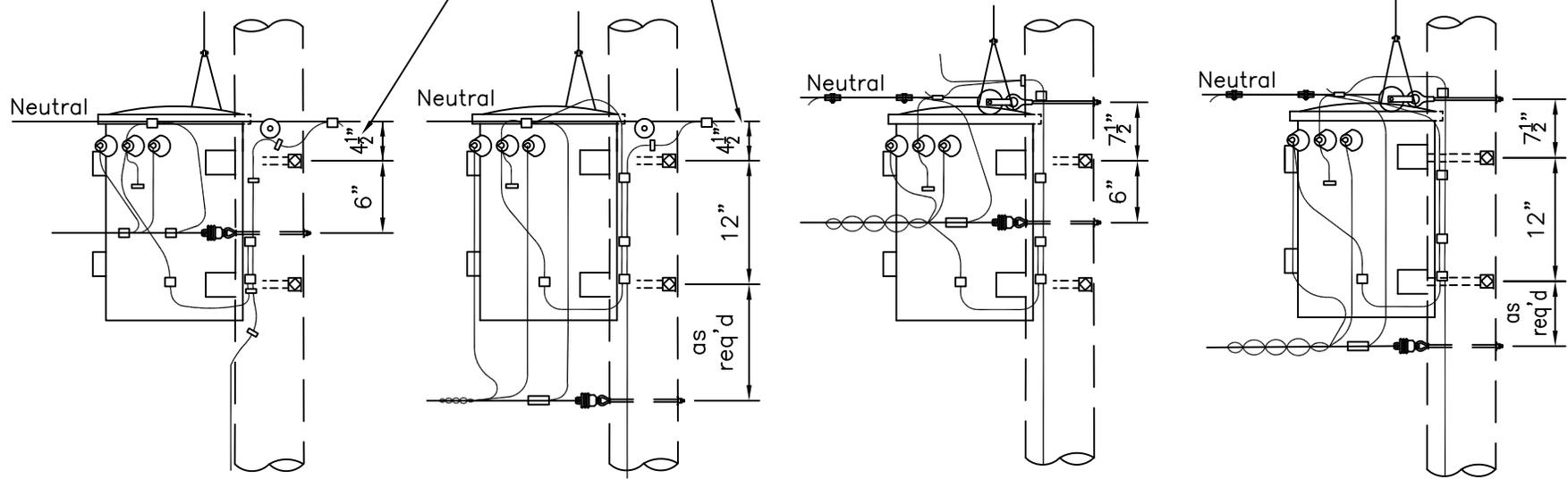
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GUIDE SPECS
 12.47/7.2 KV

M27



For multiphase primary line construction with the crossarm in the revised lower position, increase this dimension to 12".



PRIMARY TANGENT SERVICE TAKE-OFF AT TRANSFORMER

PRIMARY TANGENT SERVICE TAKE-OFF BELOW TRANSFORMER

PRIMARY DEADEND SERVICE TAKE-OFF AT TRANSFORMER

PRIMARY DEADEND SERVICE TAKE-OFF BELOW TRANSFORMER

NOTES:

1. Secondary bushing not to be used for bi-metal connection.
2. Transformers may be mounted in alternate positions and quadrants as practical in order to facilitate services in directions not shown.
3. For more detail see Guide Drawing M27-1A.

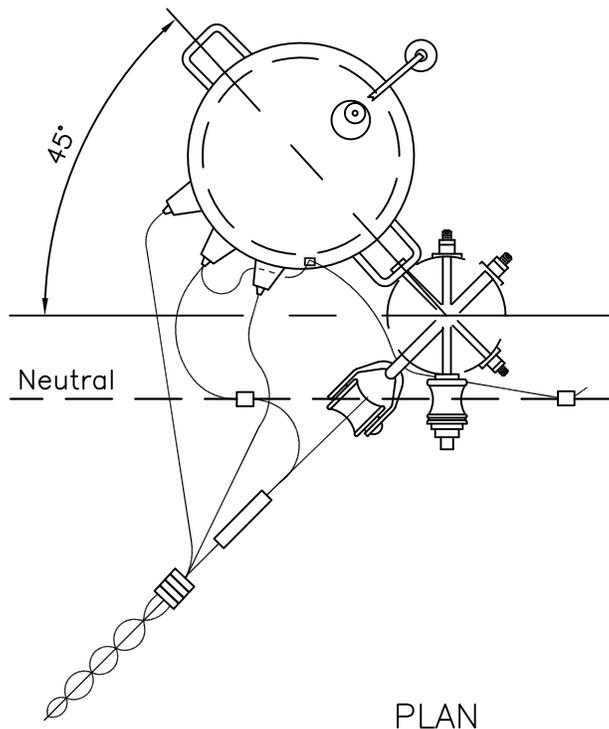
TRANSFORMER CONNECTION GUIDE
TRIPLEX CABLE SERVICES

APR. 1983
CORE
ELECTRIC COOPERATIVE

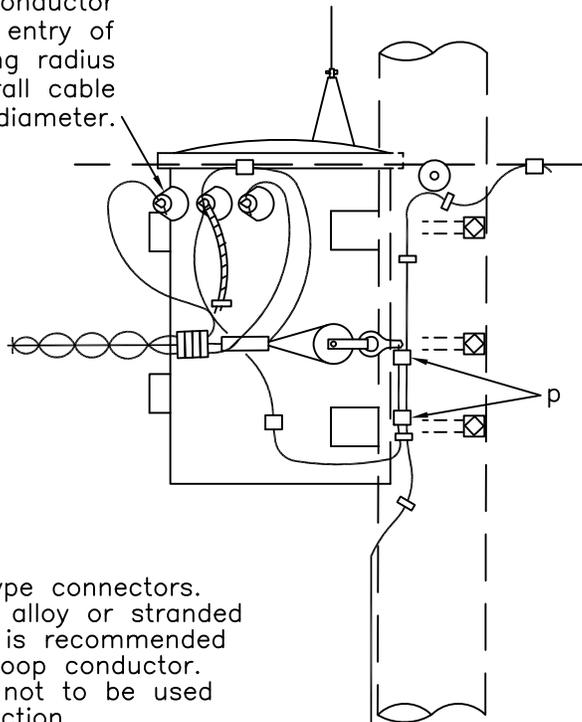
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JDP

GUIDE SPECS
12.47/7.2 KV

M27-1



Cover secondary terminals with moisture seal or dress conductor ends downward to prevent entry of moisture. Minimum bending radius is six times the overall cable diameter.



NOTES:

1. Use compression type connectors.
2. Stranded aluminum alloy or stranded soft-drawn copper is recommended for the grounding loop conductor.
3. Secondary bushing not to be used for bi-metal connection.

TRANSFORMER INSTALLATION GUIDE

ALTERNATIVE TRANSFORMER CONNECTION
(PRIMARY TANGENT, SERVICE TAKE-OFF
AT TRANSFORMER)

APR. 1983



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GUIDE SPECS
12.47/7.2 kV

M27-1A

APR. 1983
CORE
 ELECTRIC COOPERATIVE

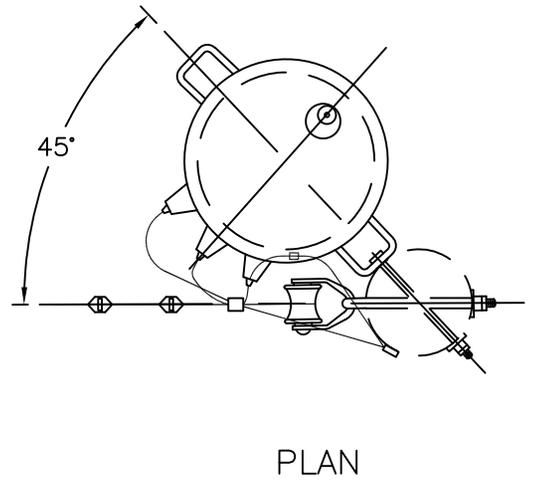
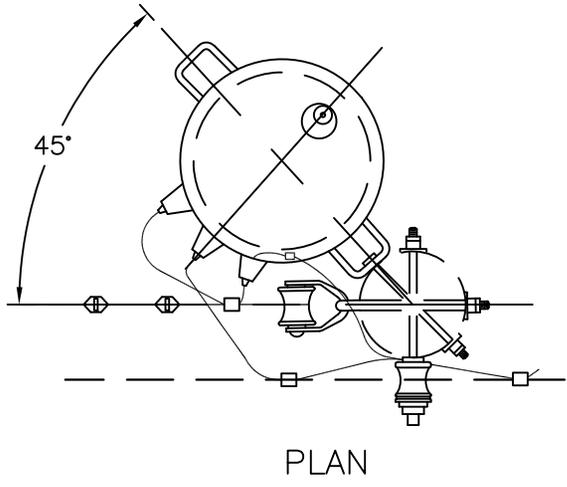
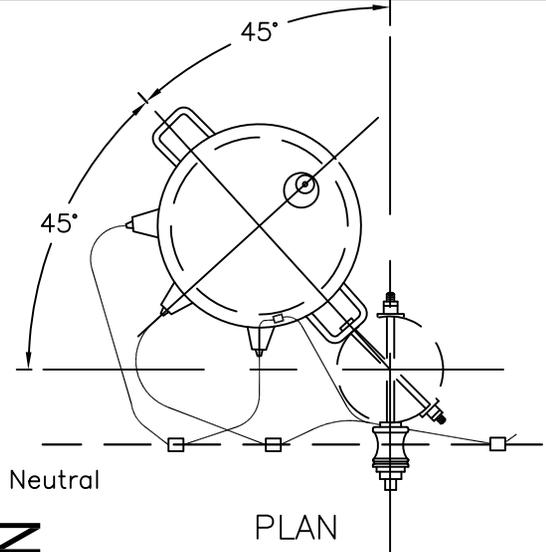
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GUIDE SPECS
 12.47/7.2 KV

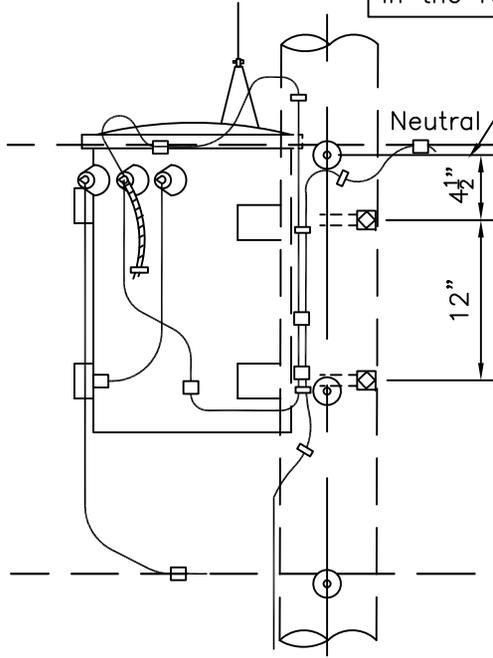
M27-2

TRANSFORMER CONNECTION GUIDE
 SECONDARY UNDERBUILD

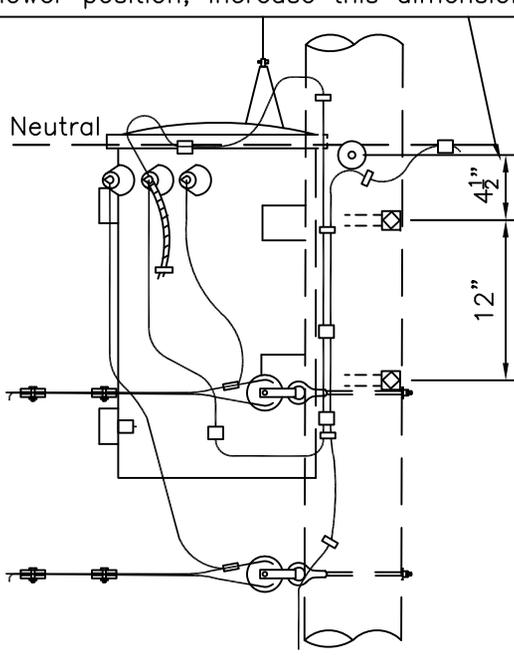
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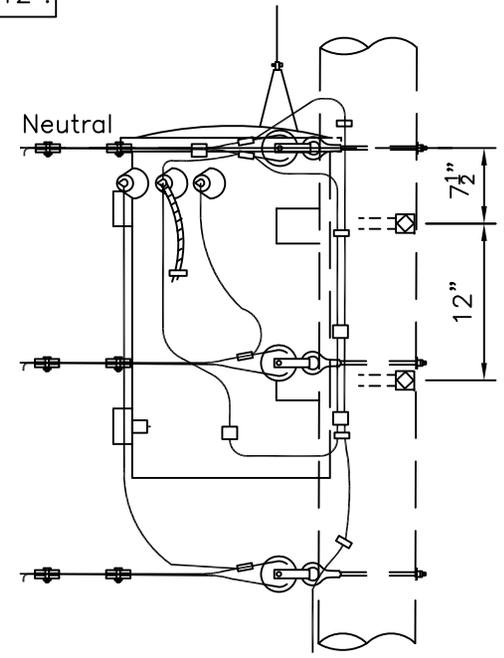
For multiphase primary line construction with the crossarm in the revised lower position, increase this dimension to 12".



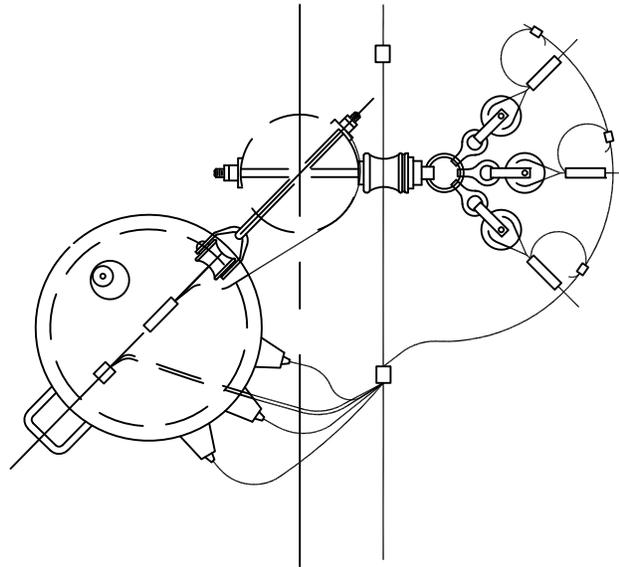
PRIMARY TANGENT
 SECONDARY TANGENT



PRIMARY TANGENT
 SECONDARY DEADEND

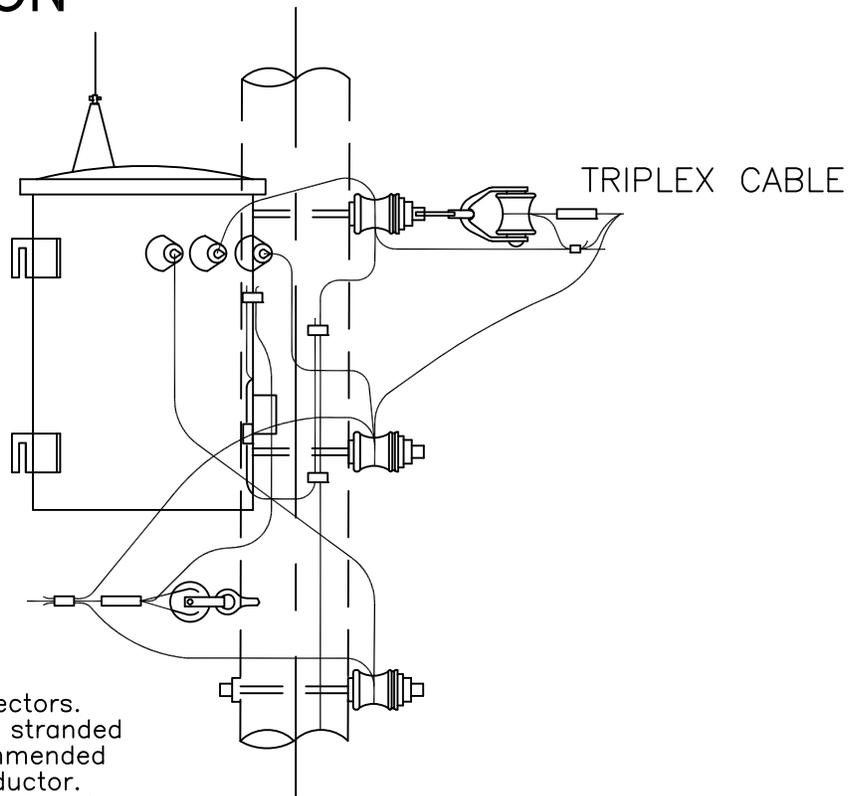


PRIMARY DEADEND
 SECONDARY DEADEND



PLAN

**NOT FOR NEW
CONSTRUCTION**



TRIPLEX CABLE

NOTES:

1. Use compression type connectors.
2. Stranded aluminum alloy or stranded soft-drawn copper is recommended for the grounding loop conductor.
3. Secondary bushing not to be used for bi-metal connection. Spades or copper studs may be used.

**TRANSFORMER CONNECTION AND SERVICE
TAKE-OFF GUIDE FROM SECONDARY**

APR. 1983

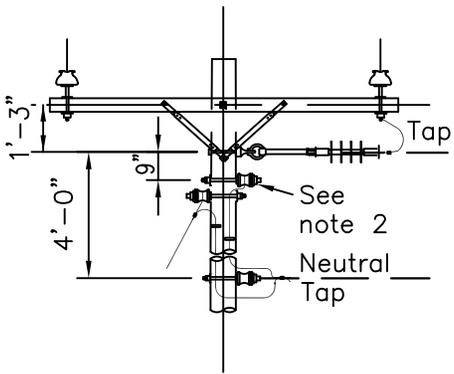


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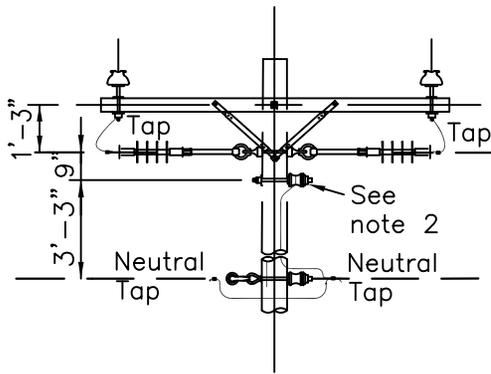
APPROVED BY
JDP

GUIDE SPECS
12.47/7.2 kV

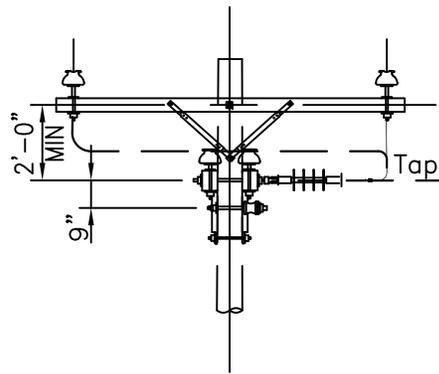
M28



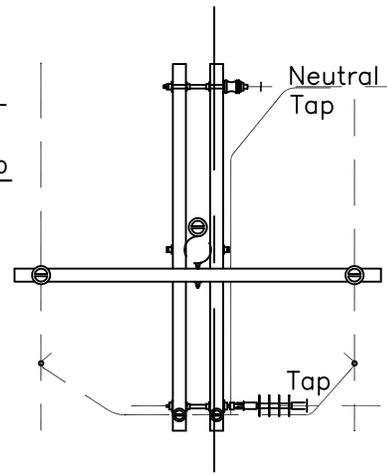
COMPLETE ASSEMBLY
A5-2 AND B1



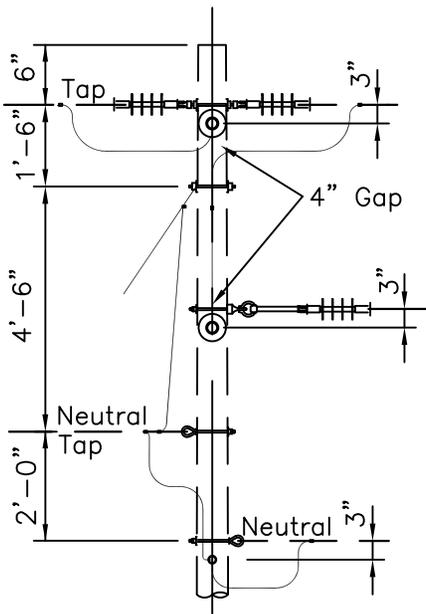
COMPLETE ASSEMBLY
A5-2, A5-2A
AND B1



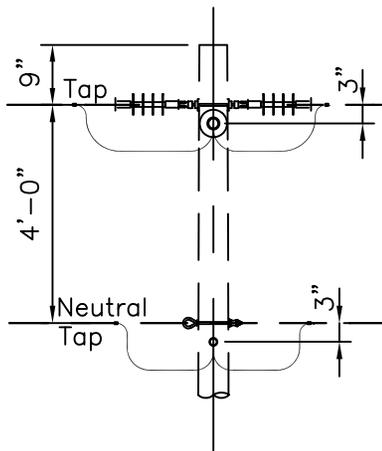
COMPLETE ASSEMBLY
C1, A7 AND
M5-5



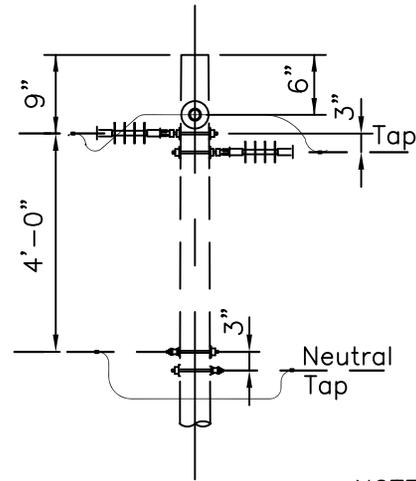
PLAN



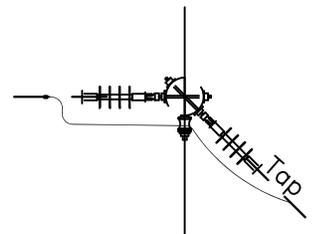
COMPLETE ASSEMBLY
A5-3 AND B4-1



COMPLETE ASSEMBLY
A5-3 AND A4



COMPLETE ASSEMBLY
A5-1, M5-7
AND A5



PLAN

NOTES:

1. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.
2. Where ground clearance permits mount all neutrals at lower level.

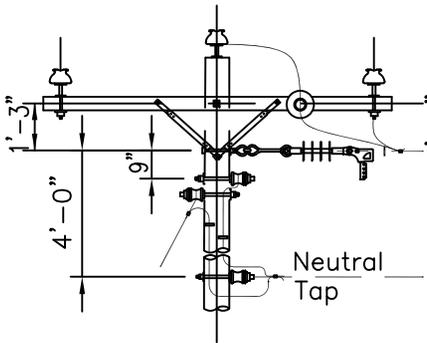
TAP ASSEMBLY GUIDE

APR. 1983
CORE
ELECTRIC COOPERATIVE

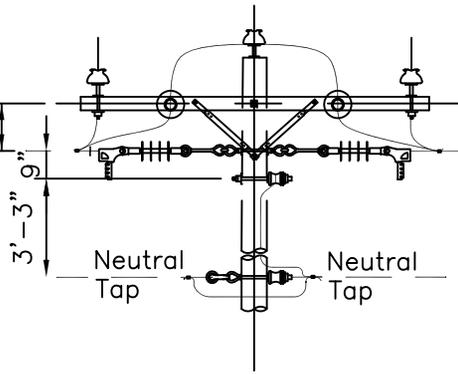
REVISION
DEC 2022
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JDP

GUIDE SPECS
12.47/7.2 KW

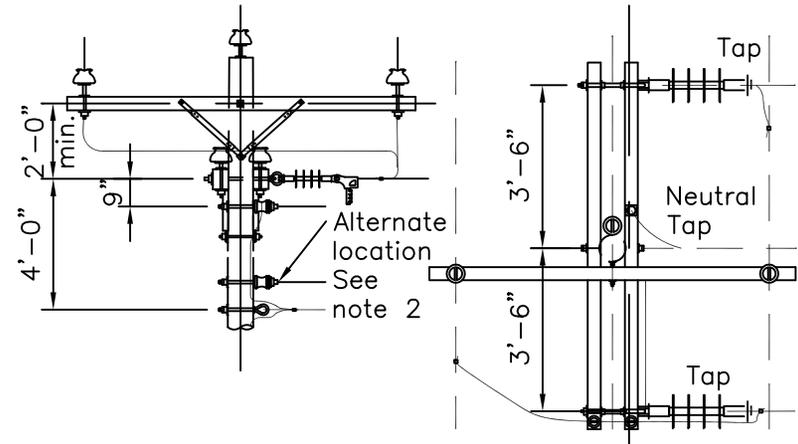
M29-1



COMPLETE ASSEMBLY
A5-2, C1 AND M5-7
(If Needed)

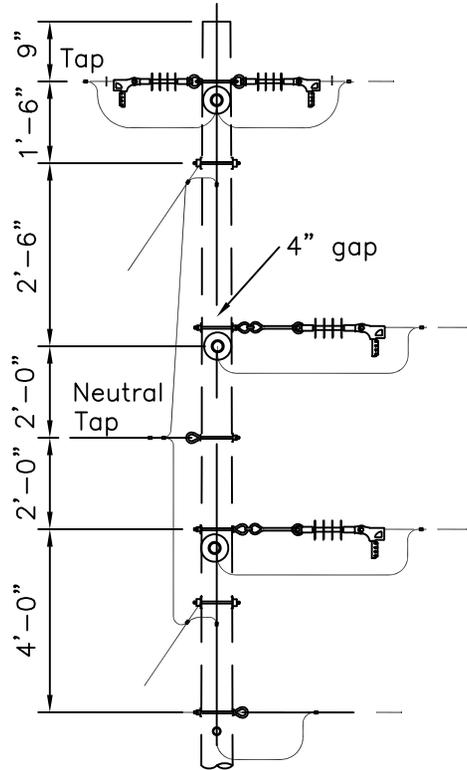


COMPLETE ASSEMBLY
A5-2, A5-2A, C1 AND
M5-7 (If Needed)

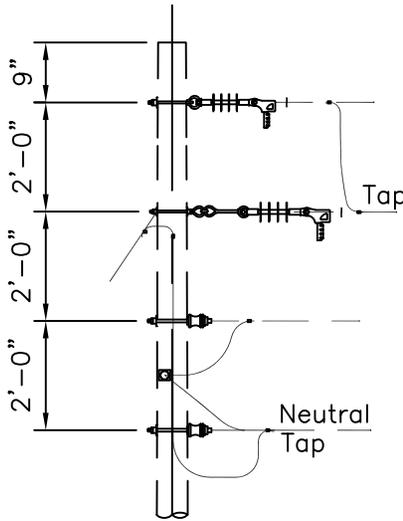


COMPLETE ASSEMBLY
C1, B7 AND M5-5

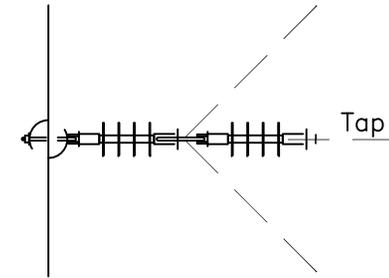
PLAN



COMPLETE ASSEMBLY
A5-3 AND C4-1



COMPLETE ASSEMBLY
A5-2 AND A3



PLAN

NOTES:

1. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.
2. Where ground clearance permits mount all neutrals at lower level.

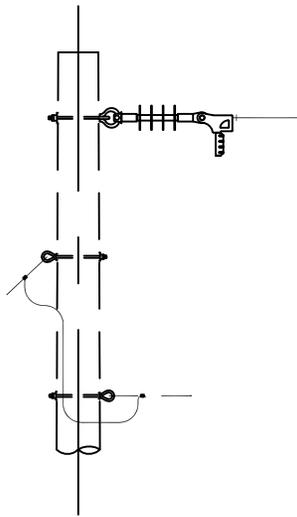
TAP ASSEMBLY GUIDE

APR. 1983
CORE
ELECTRIC COOPERATIVE

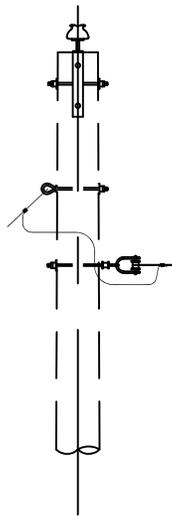
REVISION
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GUIDE SPECS
12.47/7.2 KV

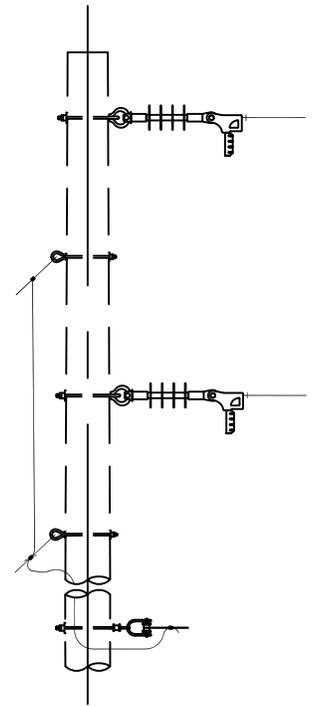
M29-2



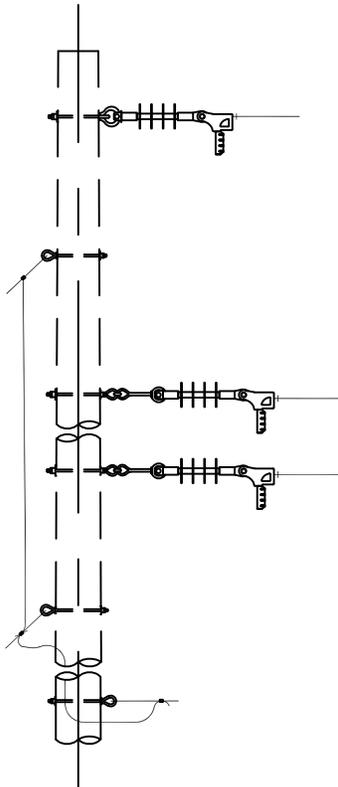
AT SINGLE PHASE
ANGLES
AND DEADENDS



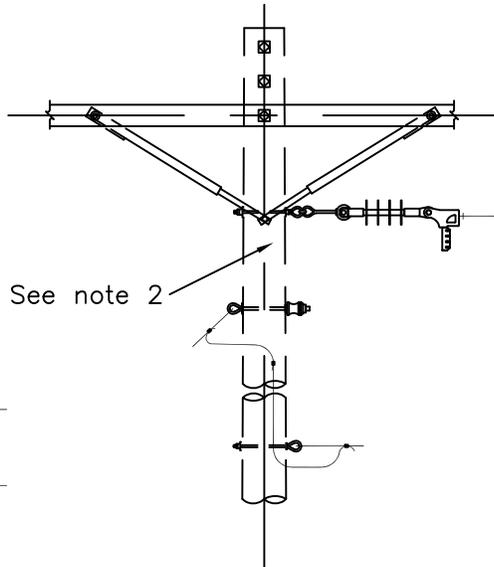
AT SINGLE
PHASE ANGLES



AT V-PHASE
ANGLES
AND DEADENDS



AT THREE-PHASE
ANGLES
AND DEADENDS



See note 2

AT V OR THREE-PHASE
TAP ASSEMBLY

NOTES:

1. The jumper wire on system grounding assemblies should be stranded.
2. Position of staple is important. Maintain 4" minimum distance from staple or clip to lag screw or eye bolt.
3. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.
4. An M2-12, 12A, 12A2 or M2-11 ground assembly may be added if desired.

INSTALLATION OF GROUND WIRE
ABOVE NEUTRAL ON GUYED POLES

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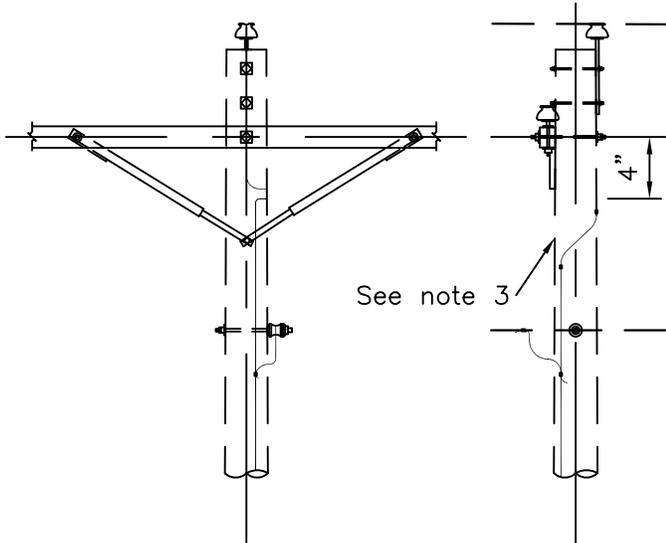


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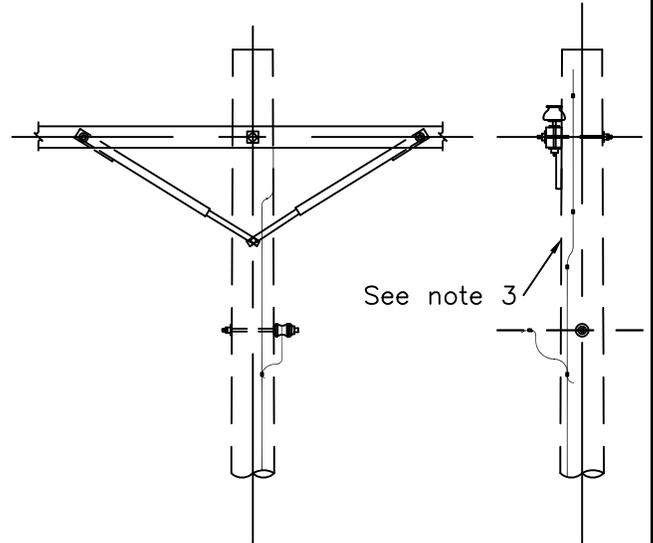
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GUIDE SPECS
12.47/7.2 kV

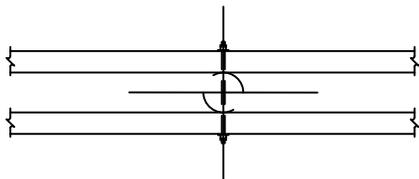
M30-1



AT SINGLE ARM ASSEMBLIES
WITH POLE TOP PIN



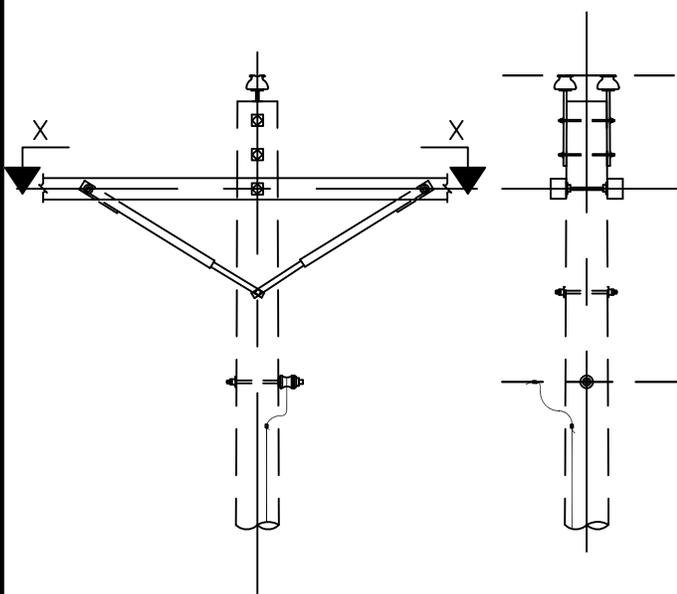
AT SINGLE ARM ASSEMBLIES
WITHOUT POLE TOP PIN



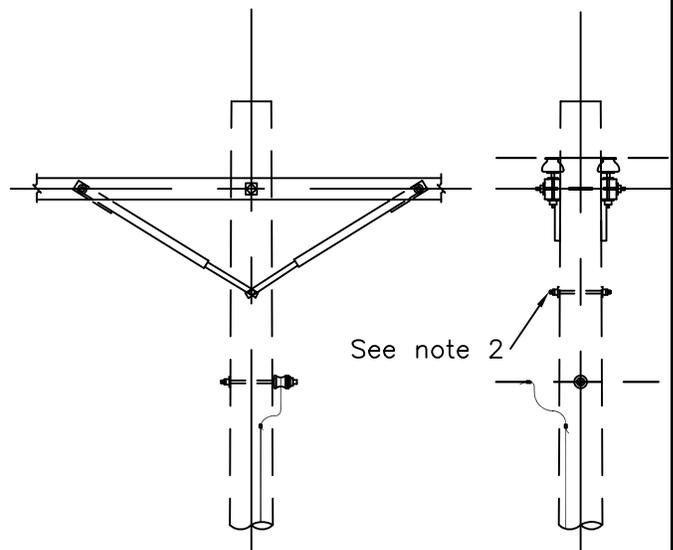
SECTION X-X

NOTES:

1. The jumper wire on system grounding assemblies should be stranded.
2. Position of staple is important. Maintain 4" minimum distance from staple or clip to lag screw or eye bolt.
3. Maintain 2" minimum spacing between ground wire and hardware associated with energized conductors.



AT DOUBLE ARM ASSEMBLIES
WITH POLE TOP PIN



AT DOUBLE ARM ASSEMBLIES
WITHOUT POLE TOP PIN

INSTALLATION OF GROUND WIRE ABOVE
NEUTRAL ON POLES WITH BUTT-WRAPPED OR
DRIVEN GROUNDS

APR. 1983

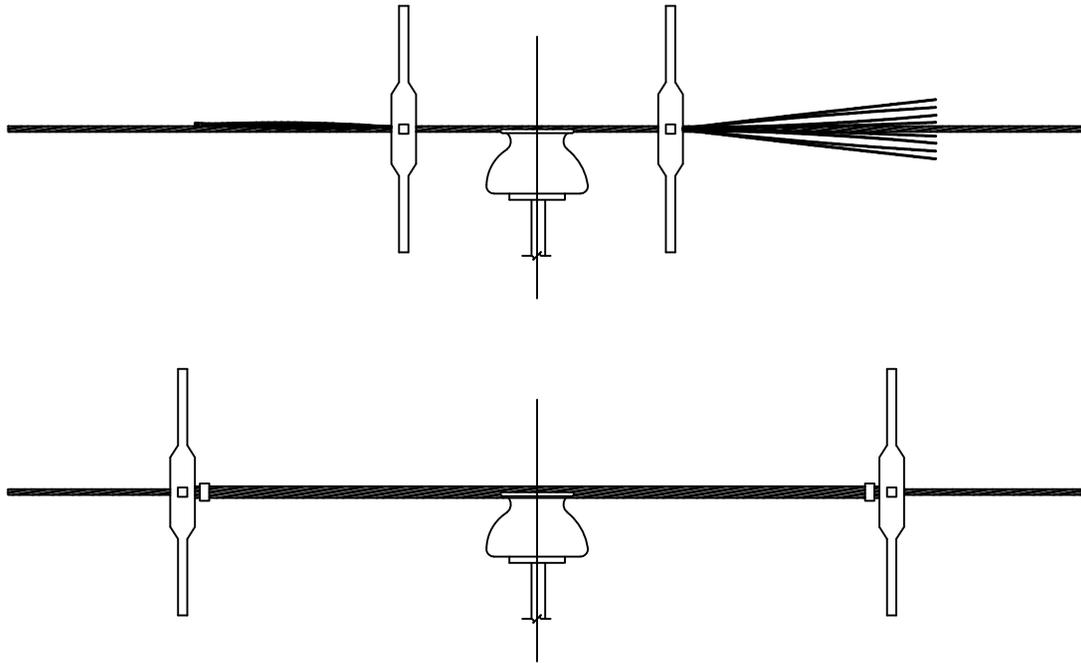


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GUIDE SPECS
12.47/7.2 kV

M30-2



NOTES:

1. With tape still on one end of rods and other end threaded through wrenches so they open between the same two rods, center on conductor over point of support and close around conductor as shown above.
2. Twist rods enough to give permanent set.
3. Remove tape and slide wrenches half way to ends and repeat.
4. Move wrenches to end of rods and twist.
5. Attach clips and tighten before removing so end of rods will flare after removal.
6. Rods should be twisted snugly with a smooth lay in same directions as lay of conductor.
7. For further information and method of installing rods on angle, see manufacturer's instructions for construction.

CONDUCTOR SIZE	SUPPORT	
	Single	Double
	Twists	
#4 ACSR (6A1/1St) & (7A1/1St)	5-6	7-8
#2 ACSR (6A1/1St) & (7A1/1St)	6-7	8-9
#1/0 ACSR (6A1/1St)	4-5	6-7
#2/0 ACSR (6A1/1St)	5-6	7-8
#3/0 ACSR (6A1/1St)	5-6	7-8
#4/0 ACSR (6A1/1St)	5-6	7-8

ARMOR RODS
ACSR CONDUCTOR

APR. 1983



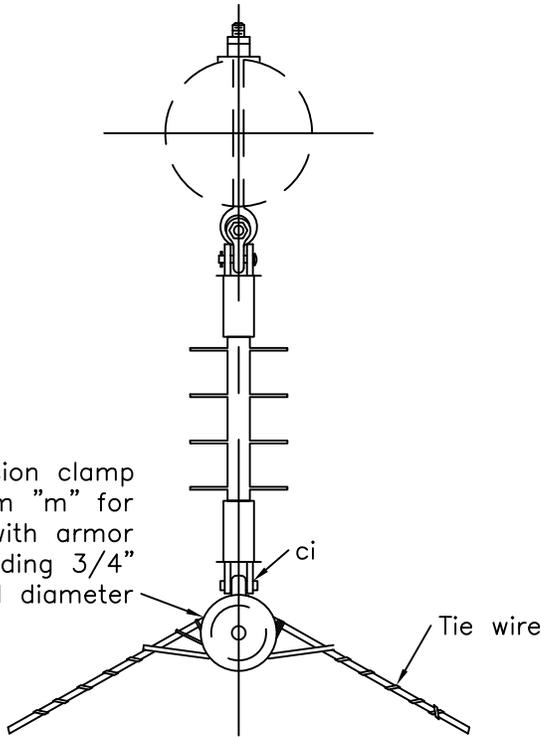
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GUIDE SPECS
12.47/7.2 kV

M40-11

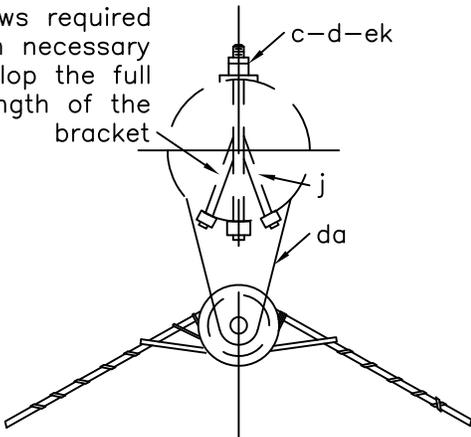
ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



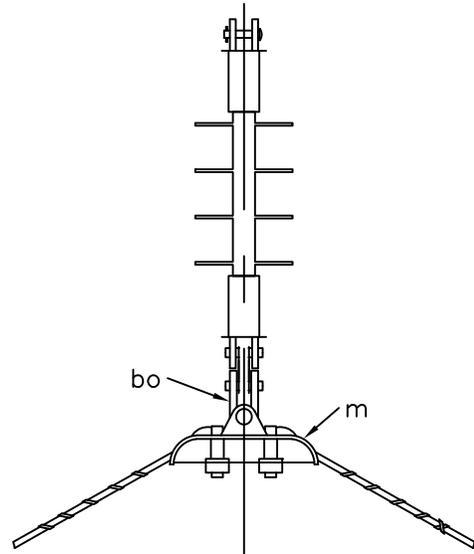
Use suspension clamp item "m" for conductors with armor rods exceeding 3/4" overall diameter

PRIMARY ANGLE ASSEMBLY "cd"
(except at telephone crossings)

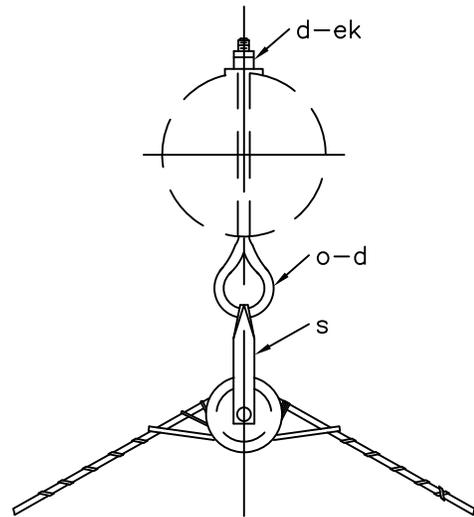
Lag screws required only when necessary to develop the full strength of the bracket



NEUTRAL AND SECONDARY ASSEMBLY "ce"
(except at crossings of railroad tracks and limited access highways)



FOR TELEPHONE CROSSING ANGLE ASSEMBLY "cd"
(with 2-bolt suspension clamp)



NEUTRAL AND SECONDARY ANGLE ASSEMBLY "ce"
(except at crossings of railroad tracks and limited access highways)

NOT FOR NEW CONSTRUCTION

ANGLE ASSEMBLY GUIDE,
VERTICAL CONSTRUCTION 30° TO 60° ANGLE,
COPPER TYPE CONDUCTORS WITH FORMED
TYPE ARMOR RODS SHEET 1 OF 2

APR. 1983



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GUIDE SPECS
12.47/7.2 kV

M41-1

21.22.1

ITEM	QTY	MATERIAL	INVENTORY NO.
c		Bolt, machine, $\frac{5}{8}$ " x req'd length	063805TT
d		Washer, square $2\frac{1}{4}$ " x $\frac{3}{16}$ ", $1\frac{3}{16}$ " hole	-
j		Screw, lag, $\frac{1}{2}$ " x 4"	-
m		Clamp, suspension	11742033
o		Bolt, eye $\frac{5}{8}$ " x req'd. length	063615TT
s		Clevis, secondary, swinging, bare	12301201
bo		Shackle, anchor	12302800
ci		Clevis, thimble	-
da		Bracket, bare	07804500
ek		Locknuts or spring washers, as req'd.	-
cm		Insulator, spool, ANSI 53-1	34263011

**NOT FOR NEW
CONSTRUCTION**

ANGLE ASSEMBLY GUIDE,
VERTICAL CONSTRUCTION 30° TO 60° ANGLE,
COPPER TYPE CONDUCTORS WITH FORMED
TYPE ARMOR RODS SHEET 2 OF 2

APR. 1983



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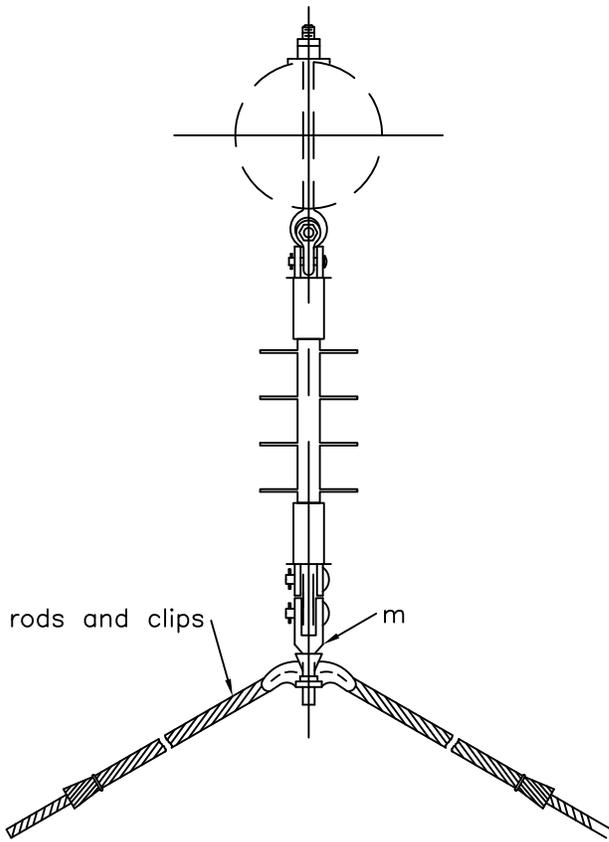
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GUIDE SPECS
12.47/7.2 kV

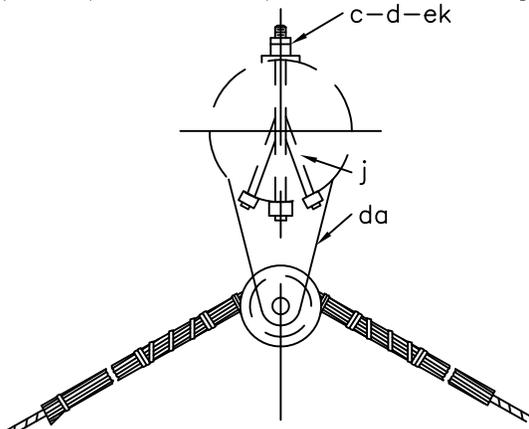
M41-1

21.22.2

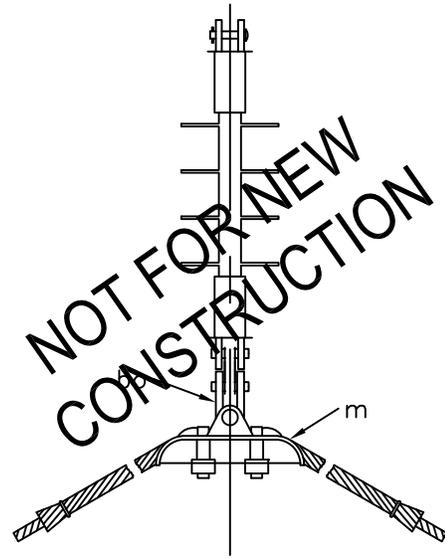
ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



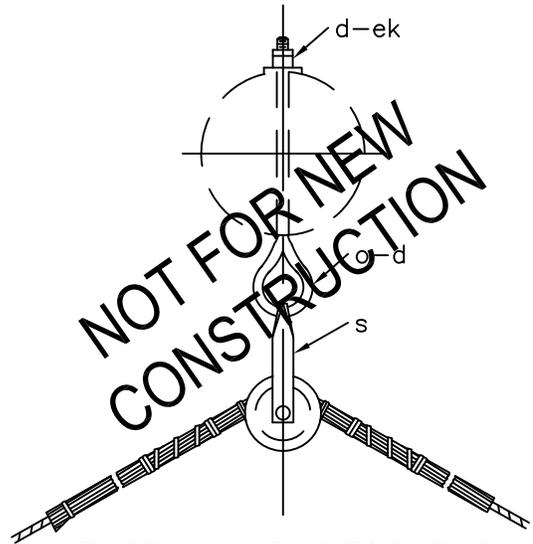
PRIMARY ANGLE ASSEMBLY "cd"
(except at telephone crossings)



NEUTRAL AND SECONDARY
ASSEMBLY "ce"
(except at crossings of
railroad tracks and limited
access highways)



FOR TELEPHONE CROSSING
ANGLE ASSEMBLY "cd"
(with 2-bolt suspension clamp)



NEUTRAL AND SECONDARY
ANGLE ASSEMBLY "ce"
(except at crossings of
railroad tracks and limited
access highways)

ANGLE ASSEMBLY GUIDE,
VERTICAL CONSTRUCTION 30° TO 60° ANGLE,
ACSR CONDUCTORS WITH STRAIGHT OR
FORMED TYPE ARMOR RODS SHEET 1 OF 2

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GUIDE SPECS
12.47/7.2 kV

M41-10

ITEM	QTY	MATERIAL	INVENTORY NO.
c		Bolt, machine, $\frac{5}{8}$ " x req'd length	063805TT
d		Washer, square $2\frac{1}{4}$ " x $\frac{3}{16}$ ", $1\frac{3}{16}$ " hole	-
j		Screw, lag, $\frac{1}{2}$ " x 4"	-
m		Clamp, suspension	11742033
o		Bolt, eye $\frac{5}{8}$ " x req'd. length	063615TT
s		Clevis, secondary, swinging, bare	12301201
bo		Shackle, anchor	12302800
ci		Clevis, thimble	-
cm		Insulator, spool, 3", ANSI 53-2	34263010
da		Bracket, bare	07804500
ek		Locknuts or spring washers, as req'd.	-

ANGLE ASSEMBLY GUIDE,
 VERTICAL CONSTRUCTION 30° TO 60° ANGLE,
 ACSR CONDUCTORS WITH STRAIGHT OR
 FORMED TYPE ARMOR RODS SHEET 2 OF 2

APR. 1983



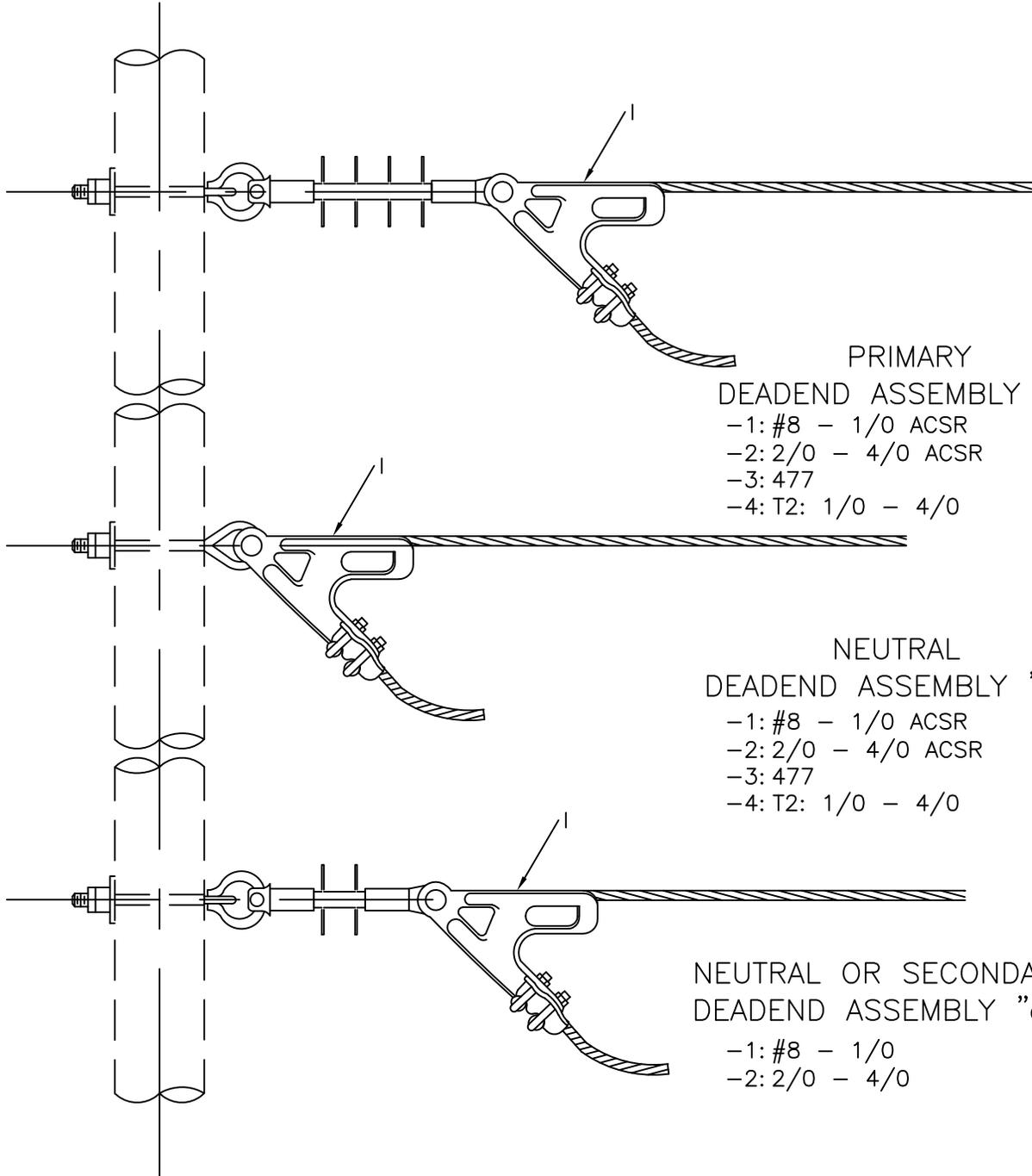
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GUIDE SPECS
 12.47/7.2 kV

M41-10

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-



PRIMARY
DEADEND ASSEMBLY "ca"
-1: #8 - 1/0 ACSR
-2: 2/0 - 4/0 ACSR
-3: 477
-4: T2: 1/0 - 4/0

NEUTRAL
DEADEND ASSEMBLY "cb"
-1: #8 - 1/0 ACSR
-2: 2/0 - 4/0 ACSR
-3: 477
-4: T2: 1/0 - 4/0

NEUTRAL OR SECONDARY
DEADEND ASSEMBLY "cc"
-1: #8 - 1/0
-2: 2/0 - 4/0

NOTES:

1. Item 'cc' is shown on assembly drawing J6
2. 3" Insulated Spool is also required

ITEM	QTY	MATERIAL	INVENTORY NO.
1		Clamp, deadend	117220XX

DEADEND ASSEMBLY GUIDE
(LARGE CONDUCTORS)

APR. 1983



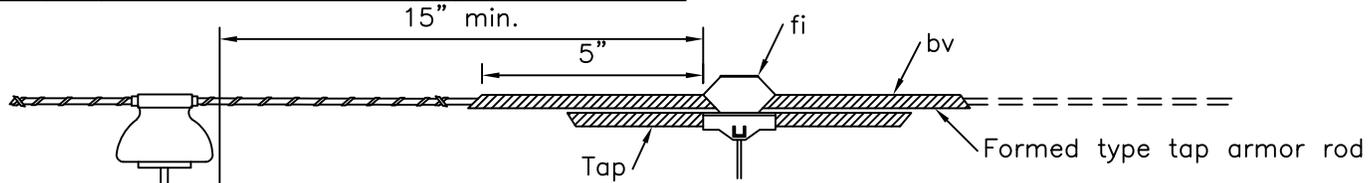
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GUIDE SPECS
12.47/7.2 kV

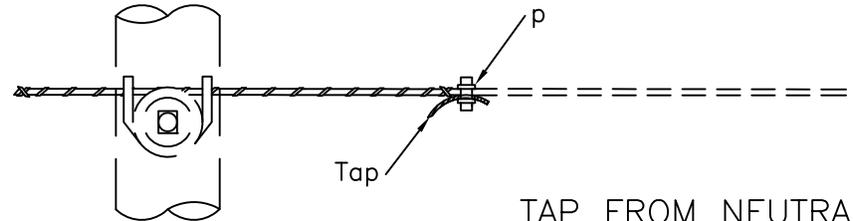
M42-13-1, M42-13-2,
M42-13-3, M42-13-4

ITEM	QTY	ASSET #	INVENTORY NO.
-	-	-	-

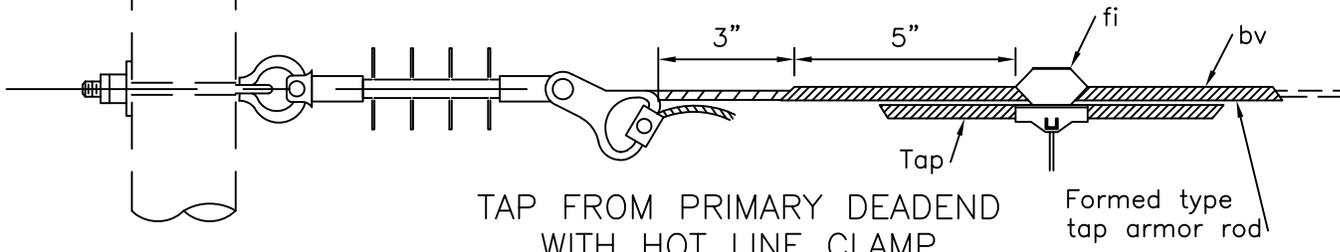


Note:
To be used on existing construction where full length armor rods were not installed.

TAP FROM PRIMARY LINE

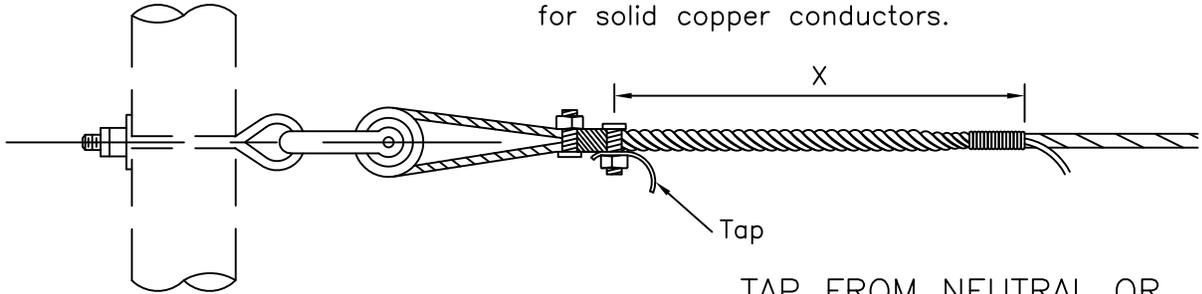


TAP FROM NEUTRAL OR SECONDARY LINE WITH CONNECTOR



TAP FROM PRIMARY DEADEND WITH HOT LINE CLAMP

Add third connectors at "X" for solid copper conductors.



TAP FROM NEUTRAL OR SECONDARY DEADEND

SIZE OF SOLID CONDUCTOR	X
No. 6 Copper	18"
No. 4 Copper	20"

NOTES:

1. Arrangement shown on M42-11 may be used for neutral and secondary deadend if preferred.
2. When installing armor rods on existing lines, both conductor and armor rods should be wire brushed to provide clean contact surfaces. A corrosion inhibitor should be applied before or immediately after brushing.
3. Taps to be slack.

ITEM	QTY	MATERIAL	INVENTORY NO.
p		Connector, as req'd.	-
bv		Tap armor rods, bronze	537180XX
fi		Connector, hot line, tap assembly	114139XX

NOT FOR NEW CONSTRUCTION

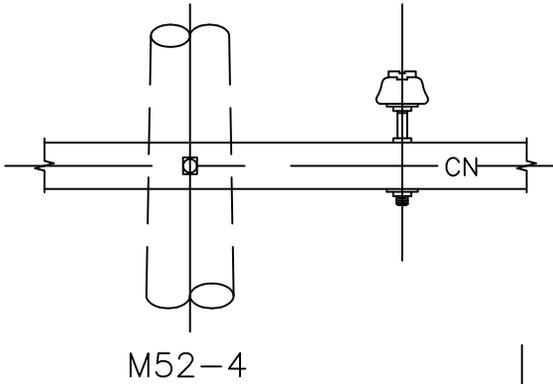
TAP ASSEMBLY GUIDE
COPPERWELD COPPER & COPPER CONDUCTORS

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GUIDE SPECS
12.47/7.2 kV

M43-4



MAY BE PLACED
IA
23
INSTEAD OF AS
SHOWN

IA23

M52-3

6'-0"

Ground Line

NOTES:

1. Numbers and letters shall:
 - a. Be of cutout aluminum or electrogalvanized soft steel, fastened to pole with galvanized or aluminum barbed 1" round head nails; or
 - b. Be either die stamped or printed with a reflectorized background on individual pieces of aluminum and mounted in an aluminum holder and fastened to pole with aluminum barbed round head nails. If numbers smaller than 1 1/2" are used, they shall be reflectorized.
2. Pole legends to be 1 1/2" to 3" high. Reflectorized numbers and letters may be 1" to 3" high.
3. "CN" to be 2" high.
4. Pole to be staggered 30° from direct facing highway. When line crosses highway or railroad, legend should face same.
5. On poles having limited climbing space due to special equipment, pole legend should be so located as to leave climbing space quadrant unobstructed.

ITEM	QTY	MATERIAL	INVENTORY NO.
az		Pole numbers and letters, as req'd.	-
ee		Letters "CN" with 1" nails	-

NEUTRAL IDENTIFICATION & POLE NUMBERING GUIDE

APR. 1983

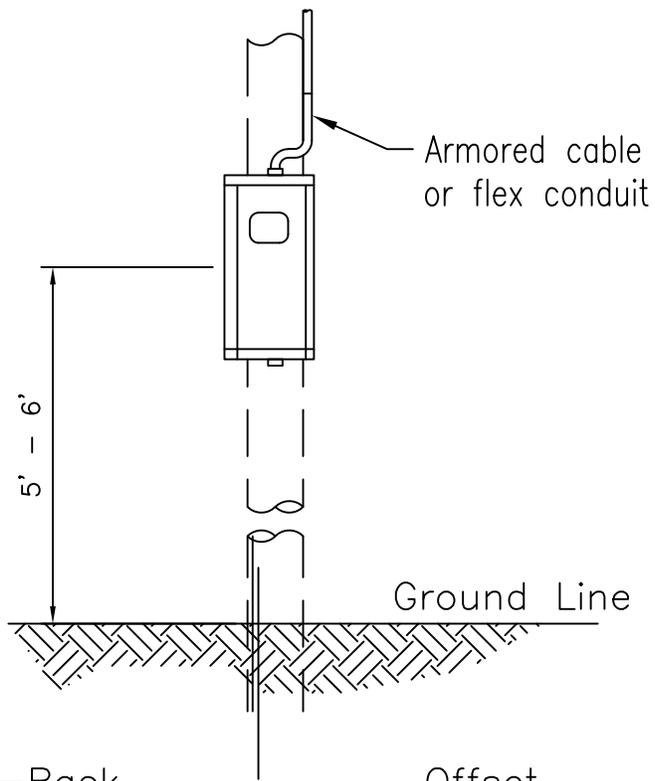


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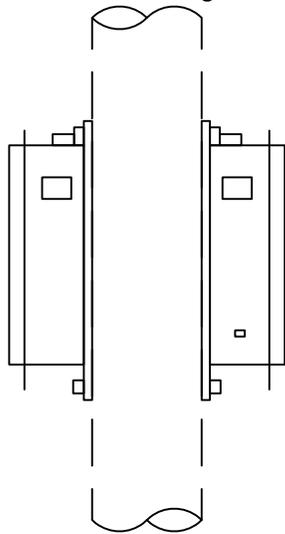
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GUIDE SPECS
12.47/7.2 kV

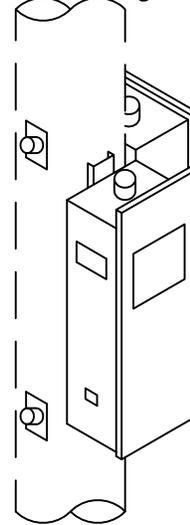
M52-3
M52-4



Back-to-Back Mounting



Offset Mounting



NOTES:

1. All control boxes shall be bonded.
2. Pole mounted regulators should have the controls mounted at 5' to 6' from ground line and power cables must be protected with armor or flex conduit to prevent vandalism when applicable. 5' to center of control box shall be minimum height requirement.
3. Rack mounted regulator control boxes shall be mounted on the poles in various configurations such as back-to-back or offset as shown, or separately; one per pole if a center pole is used.

CONTROL MOUNTING GUIDE

APR. 1983

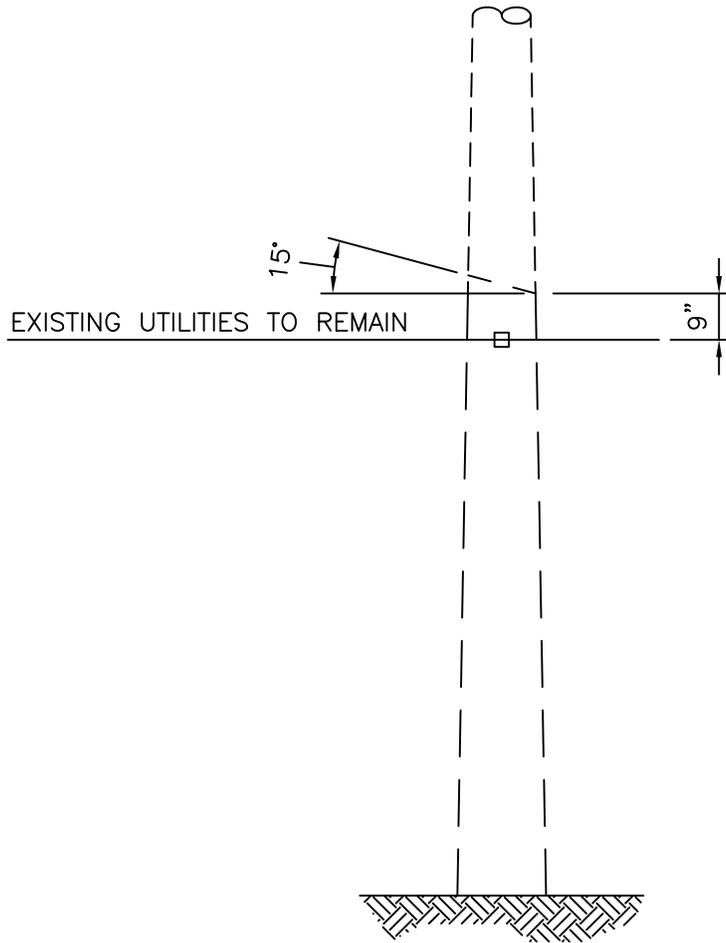


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M52-CM



POLE CUTTING GUIDE WITH EXISTING UTILITIES

DEC. 1985

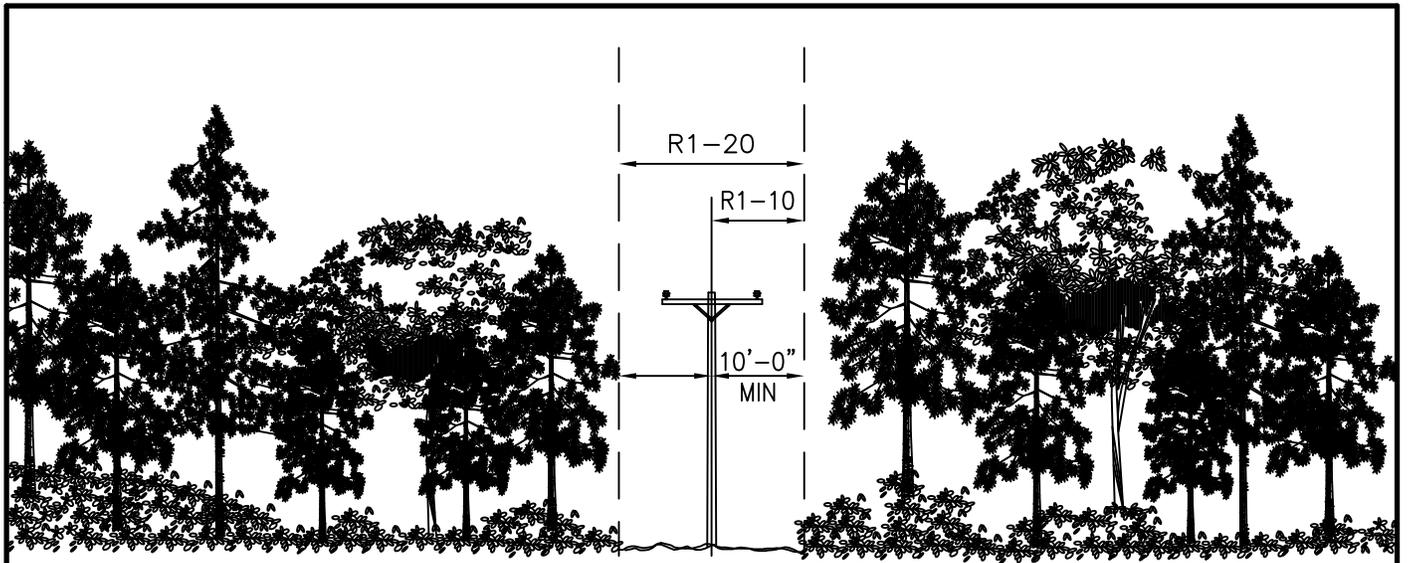


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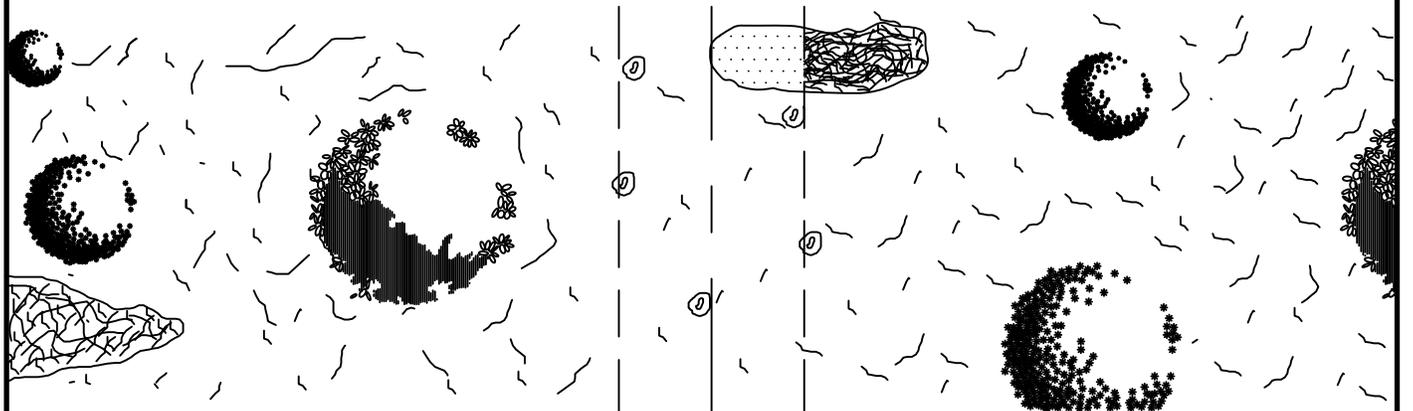
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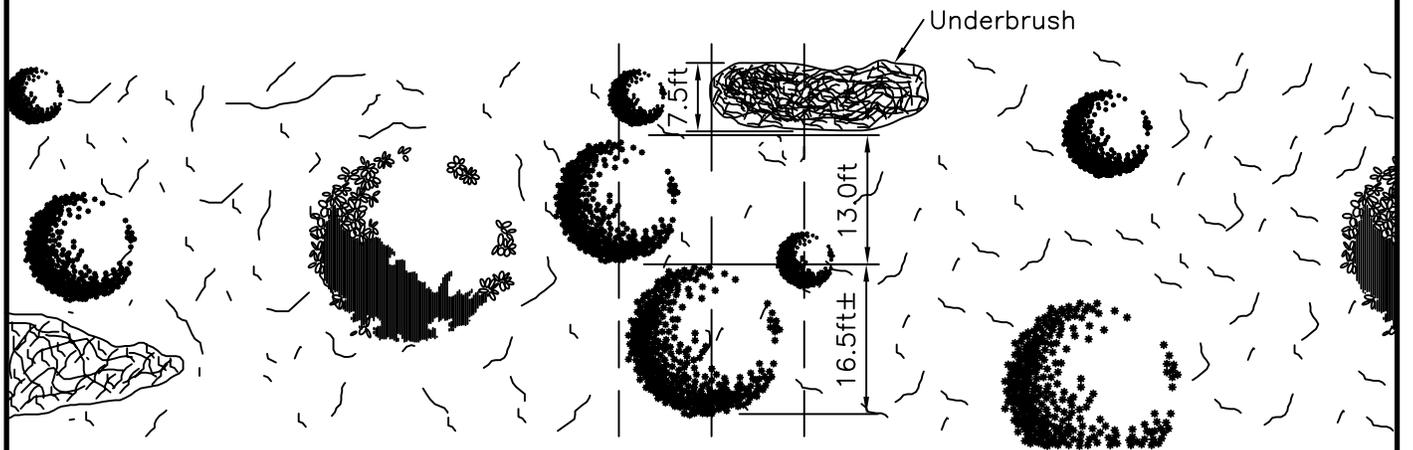
POLE TOP



ELEVATION



AFTER CLEARING



BEFORE CLEARING

NOTES:

1. Available widths are 10', 15', 20', 25', 30'

ROW Clearing Units:	
R1-10	- 10' ROW Clearing
R1-15	- 15' ROW Clearing
R1-20	- 20' ROW Clearing
R1-25	- 25' ROW Clearing
R1-30	- 30' ROW Clearing

R1-TRIM - Trimming Per Designated Footage

RIGHT-OF-WAY CLEARING GUIDE
SHEET 1 OF 3

APR. 1983

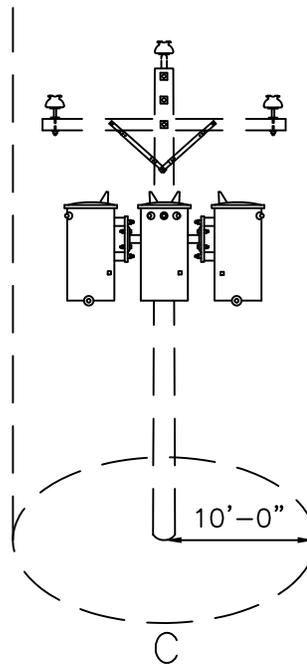
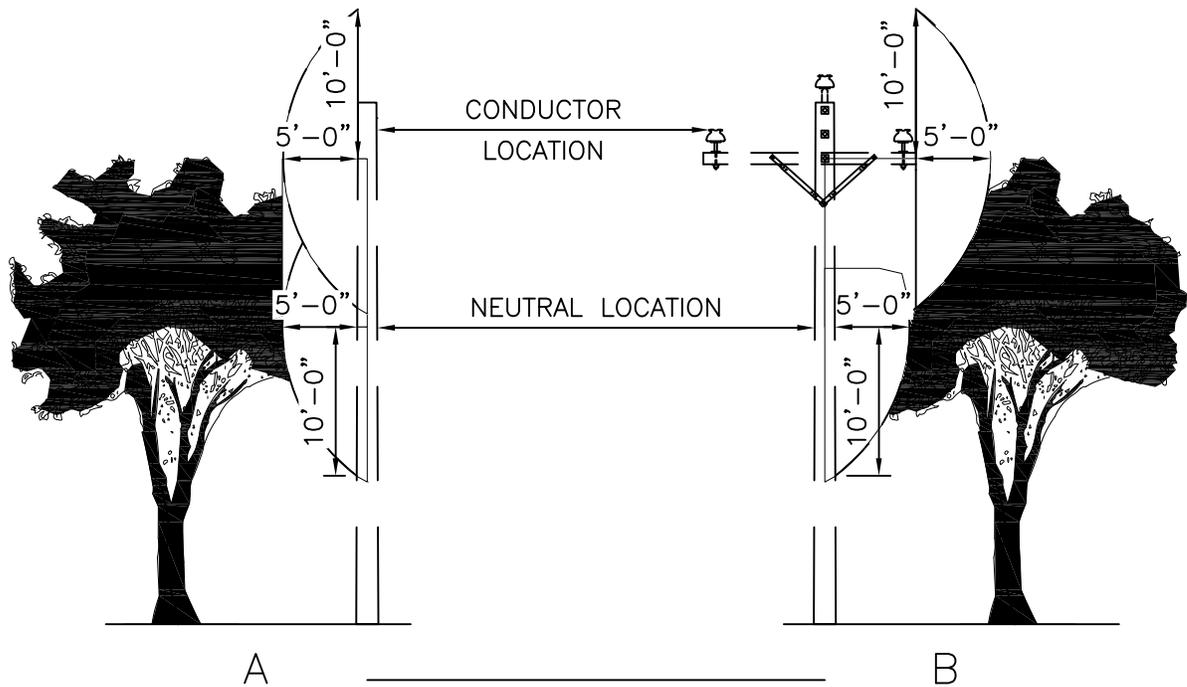


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R1XX
R1-TRIM



NOTES:

- 1) Trim trees with limbs and branches within 5 feet horizontal and 10 feet vertical of power lines as shown in figures A & B.
- 2) Remove all overhanging limbs and branches over the conductors.
- 3) Cut and remove danger trees outside the right of way, that are dead, leaning or dying and are a risk to power lines.
- 4) Ground to sky clearing 10 feet either side of any pole with oil tank equipment as shown in figure C.
Example: Transformers, circuit recloser and voltage regulators.
- 5) Trees and brush shall be cut and chipped or removed from inside of right of way.
- 6) Only in situations approved by line superintendent of CORE will deviations be allowed.

ROW Clearing Units:	
R1-10	- 10' ROW Clearing
R1-15	- 15' ROW Clearing
R1-20	- 20' ROW Clearing
R1-25	- 25' ROW Clearing
R1-30	- 30' ROW Clearing

R1-TRIM - Trimming Per Designated Footage

RIGHT-OF-WAY CLEARING GUIDE
SHEET 2 OF 3

APR. 1983

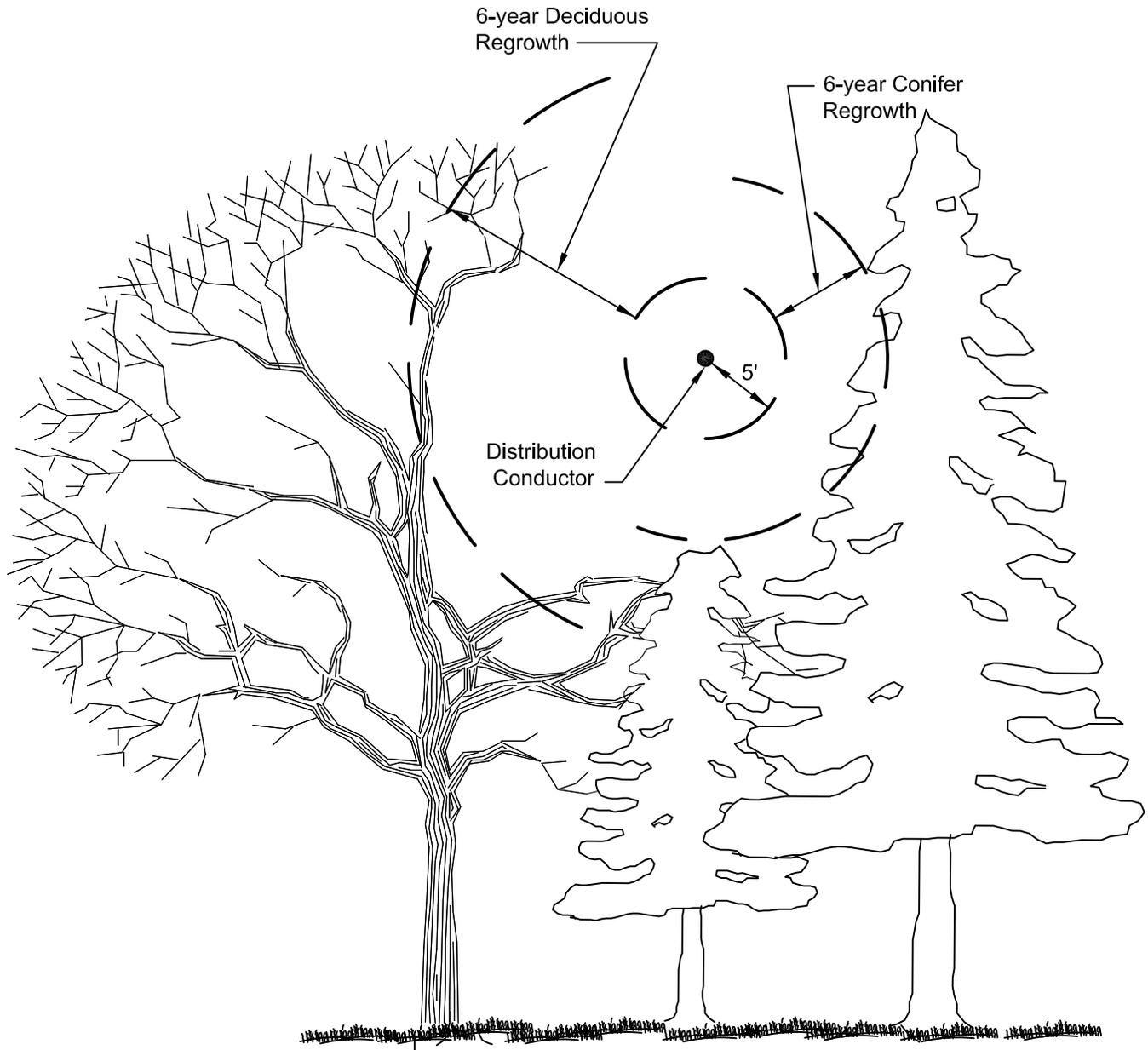


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R1XX
R1-TRIM



NOTES:

1. Drawing shows two types of trees, trimmed to a 6 year cycle, leaving branches and limbs that are not growing toward and encouraging growth away from then energized single-phase conductor.

ROW Clearing Units:	
R1-10	- 10' ROW Clearing
R1-15	- 15' ROW Clearing
R1-20	- 20' ROW Clearing
R1-25	- 25' ROW Clearing
R1-30	- 30' ROW Clearing

R1-TRIM - Trimming Per Designated Footage

**RIGHT-OF-WAY CLEARING GUIDE
SHEET 3 OF 3**

APR. 1983

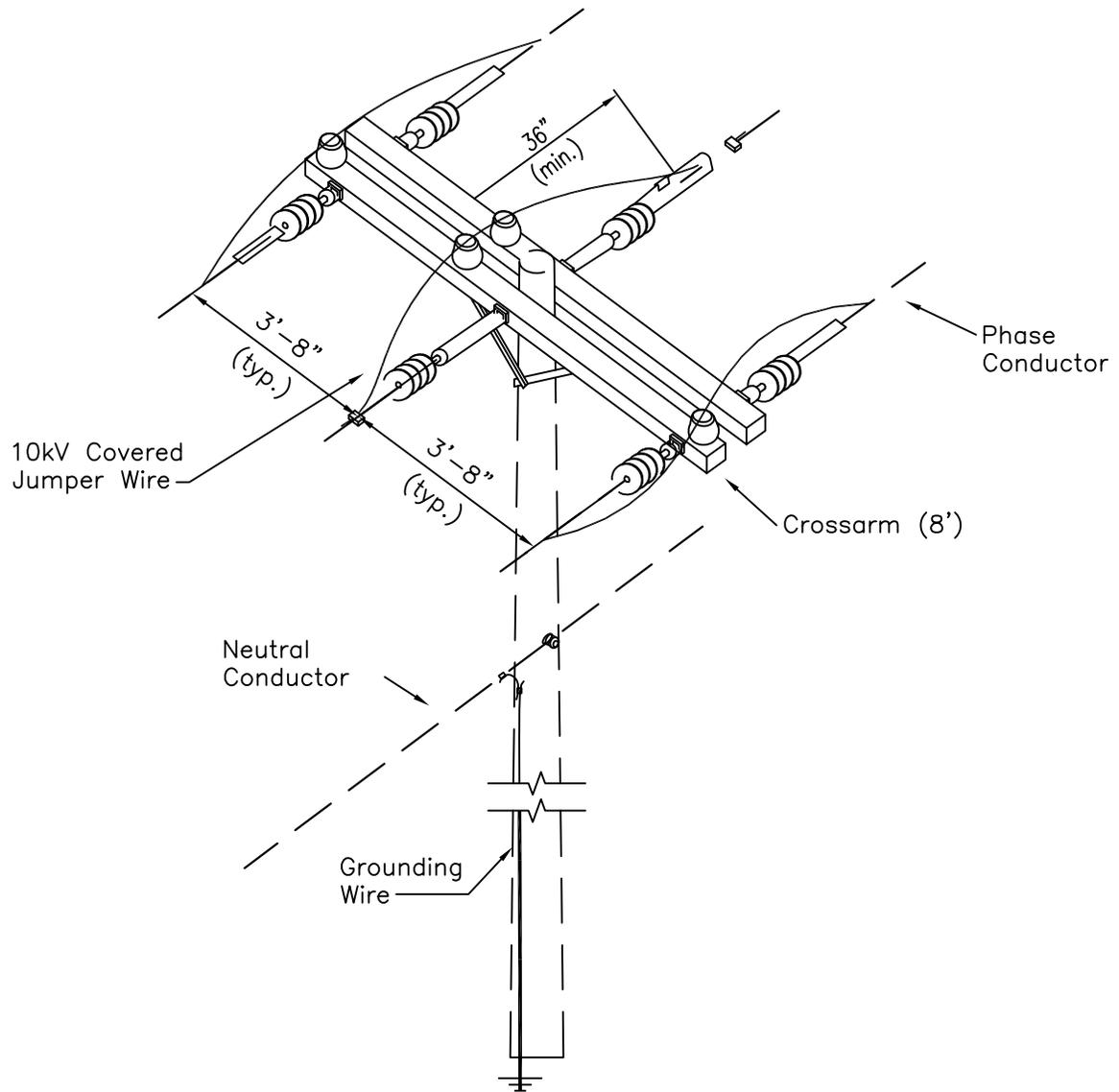


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R1XX
R1-TRIM



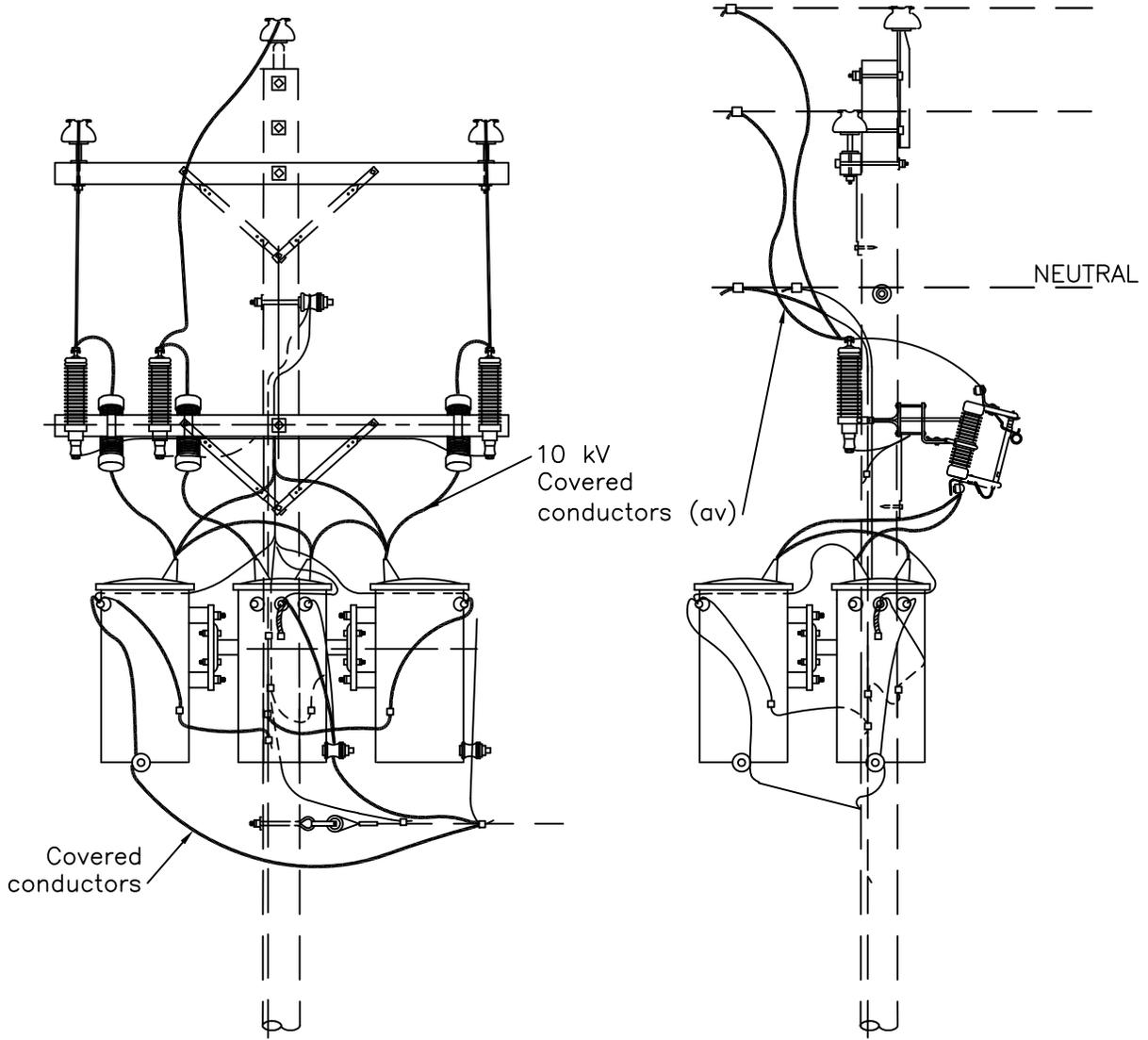
RAPTOR PROTECTION GUIDE
PRIMARY JUMPERS



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RP-1

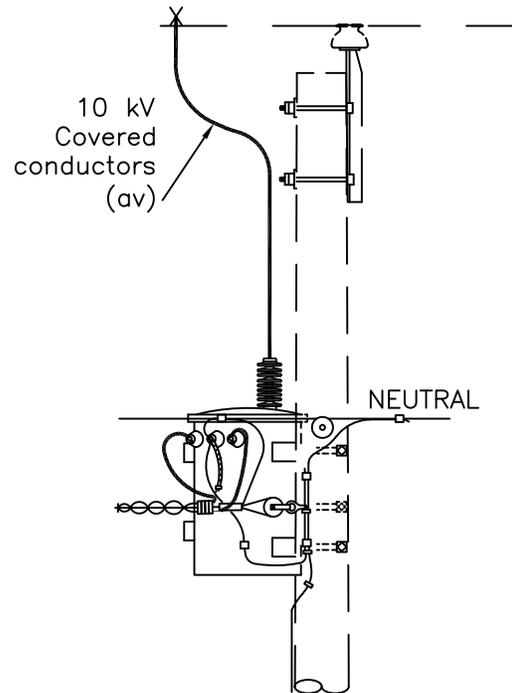
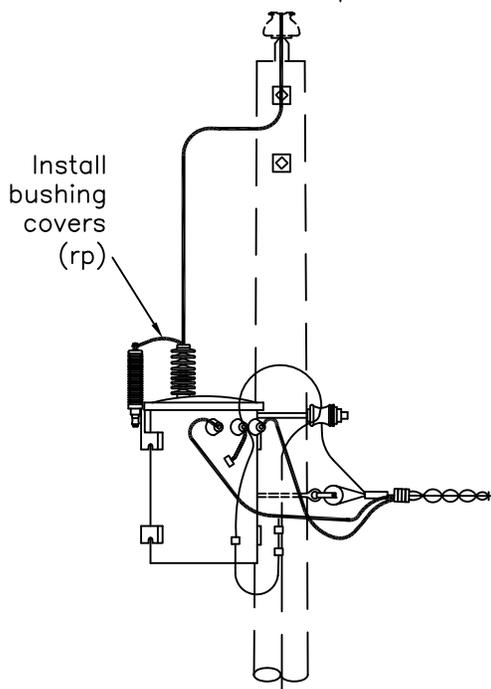
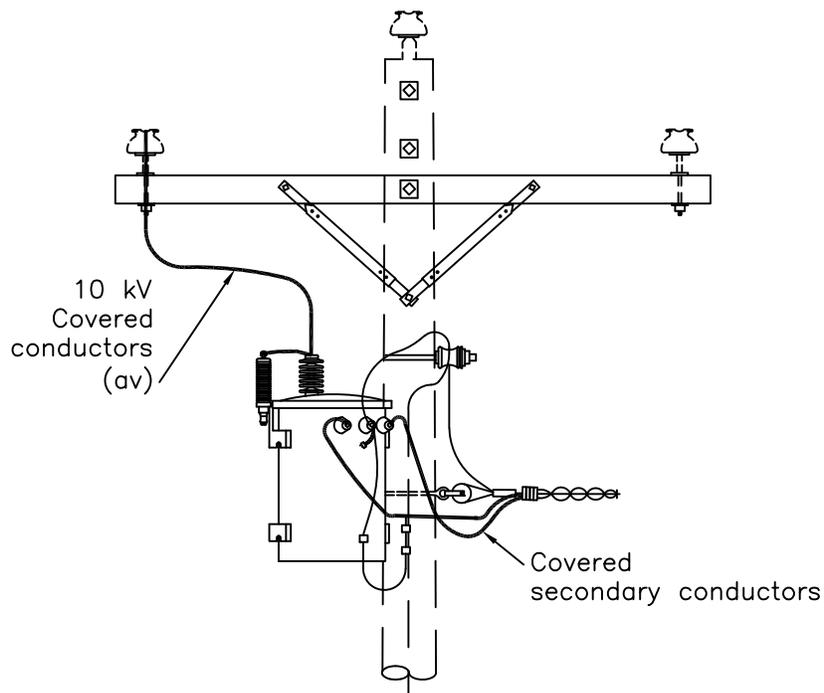


NOTES:

1. Install bushing covers (rp) on all surge arresters and transformer bushings.

RAPTOR PROTECTION GUIDE
THREE-PHASE TRANSFORMER BANK

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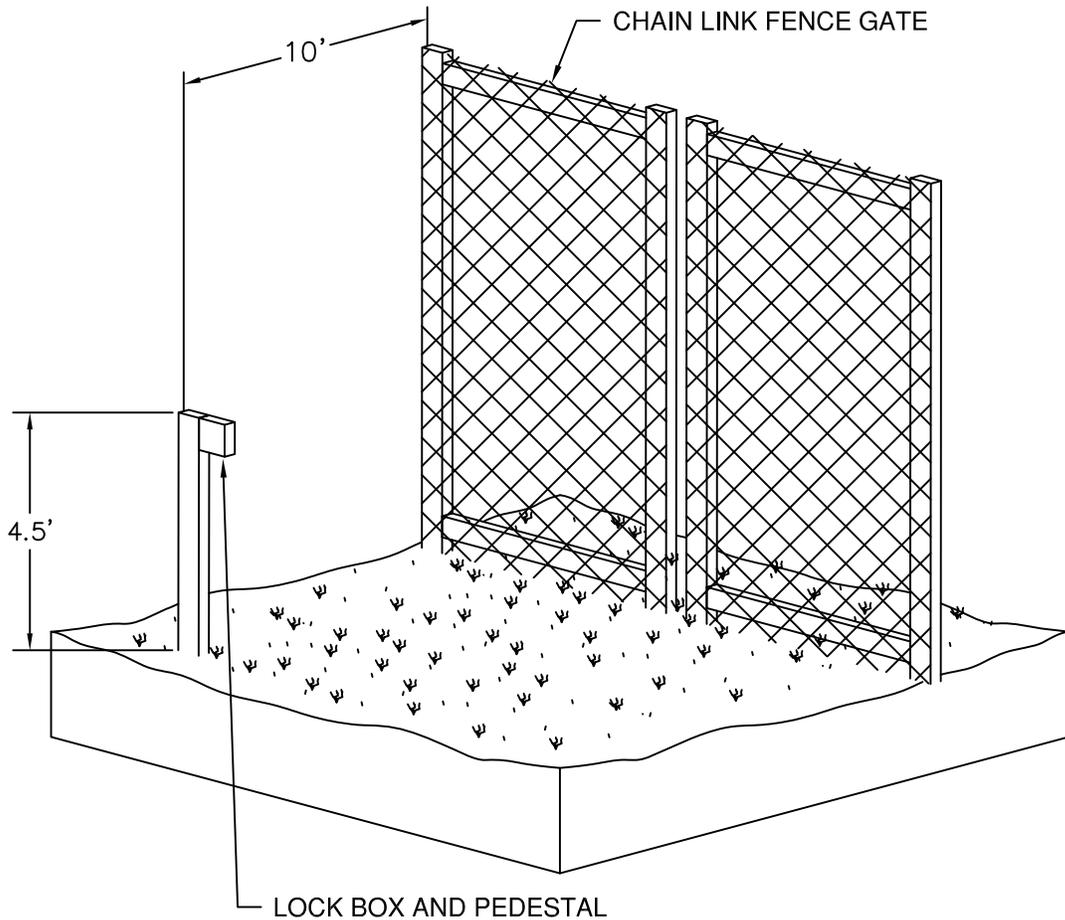


NOTES:

1. Install bushing covers (rp) on all surge arresters and transformer bushings.

RAPTOR PROTECTION GUIDE
SINGLE-PHASE CSP TRANSFORMER

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	APPROVED BY JDP		



NOTES:

1. CORE requires all lock boxes to be no more than 10' away from fence gate. it is preferred to have lock box mounted on fence near gate lock.
2. Lock box must be mounted 4.5' above ground level.
3. Lock box may be mounted on existing rfid gate access pedestal. in this circumstance alone it is okay if the gate and pedestal are further than 10' apart. box may also be slightly lower than 4.5' if that deimension is prohibited by existng pedestal size.
4. Lock box must be inner-tite access lock box with custom tumbler.
5. Access key must be a physical key or a rfid fob no larger than 1.75" x 1.75". credit card sized rfid cards are not allowed.

LOCK BOX GUIDELINES



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LOCK BOX

POLE SETTING DEPTHS

The minimum depth for setting pole is:

Length of Pole (FEET)	Setting in Soil (FEET)	Setting in All Solid Rock (FEET)
20	4.0	3.0
25	5.0	3.5
30	5.5	3.5
35	6.0	4.0
40	6.0	4.0
45	6.5	4.5
50	7.0	4.5
55	7.5	5.0
60	8.0	5.0

NOTES:

1. "Setting in soil" depths apply where:
2. Poles are set in soil.
3. There is a layer of soil of more the two (2) feet in depth over solid rock
4. The hole in solid rock is not substantially vertical or the diameter of the hole at the surface of the rock exceeds approximately twice the diameter of the pole at the same level.
5. "Setting in All Solid Rock" depths shall apply where, Explosive are not used during excavation, poles are set in solid rock and where the hole is substantially vertical, approximately uniform in diameter and large enough to permit the use of tamping bars the full depths of the hole.
6. Where there is a layer of soil two (2) feet or less in depth over solid rock, the depth of the hole shall be the depth of the soil in addition to the depth specified under "Setting in All Solid Rock" provided. However, this depth shall not exceed the depth specified under "Setting in Soil".
7. On sloping ground, the depth of the hole shall be measured from the low side of the hole.

	Pole Setting Depths		
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POLE	DESCRIPTION	ASSET	INVENTORY
30-1	30' Class 1 Pole	DT PT 364006	48301919
30-2	30' Class 2 Pole	DT PT 364006	48302919
30-3	30' Class 3 Pole	DT PT 364006	48303919
30-4	30' Class 4 Pole	DT PT 364006	48304919
30-5	30' Class 5 Pole	DT PT 364006	48305919
30-6	30' Class 6 Pole	DT PT 364006	48306919
35-2	35' Class 2 Pole	DT PT 364006	48352919
35-4	35' Class 4 Pole	DT PT 364006	48354919
35-5	35' Class 5 Pole	DT PT 364006	48355919
35-6	35' Class 6 Pole	DT PT 364006	48356919
40-2	40' Class 2 Pole	DT PT 364006	48402919
40-3	40' Class 3 Pole	DT PT 364006	48403919
40-4	40' Class 4 Pole	DT PT 364006	48404919
40-5	40' Class 5 Pole	DT PT 364006	48405919
45-1	45' Class 1 Pole	DT PT 364006	48451919
45-2	45' Class 2 Pole	DT PT 364006	48452919
45-3	45' Class 3 Pole	DT PT 364006	48453919
45-4	45' Class 4 Pole	DT PT 364006	48454919
45-5	45' Class 5 Pole	DT PT 364006	48455919
50-1	50' Class 1 Pole	DT PT 364010	48501919
50-2	50' Class 2 Pole	DT PT 364010	48502919
50-3	50' Class 3 Pole	DT PT 364010	48503919
50-4	50' Class 4 Pole	DT PT 364010	48504919
55-3	55' Class 3 Pole	DT PT 364010	48553919
60-3	60' Class 3 Pole	DT PT 364010	48603919
60-4	60' Class 4 Pole	DT PT 364010	48604919

Pole Sizes



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POLE