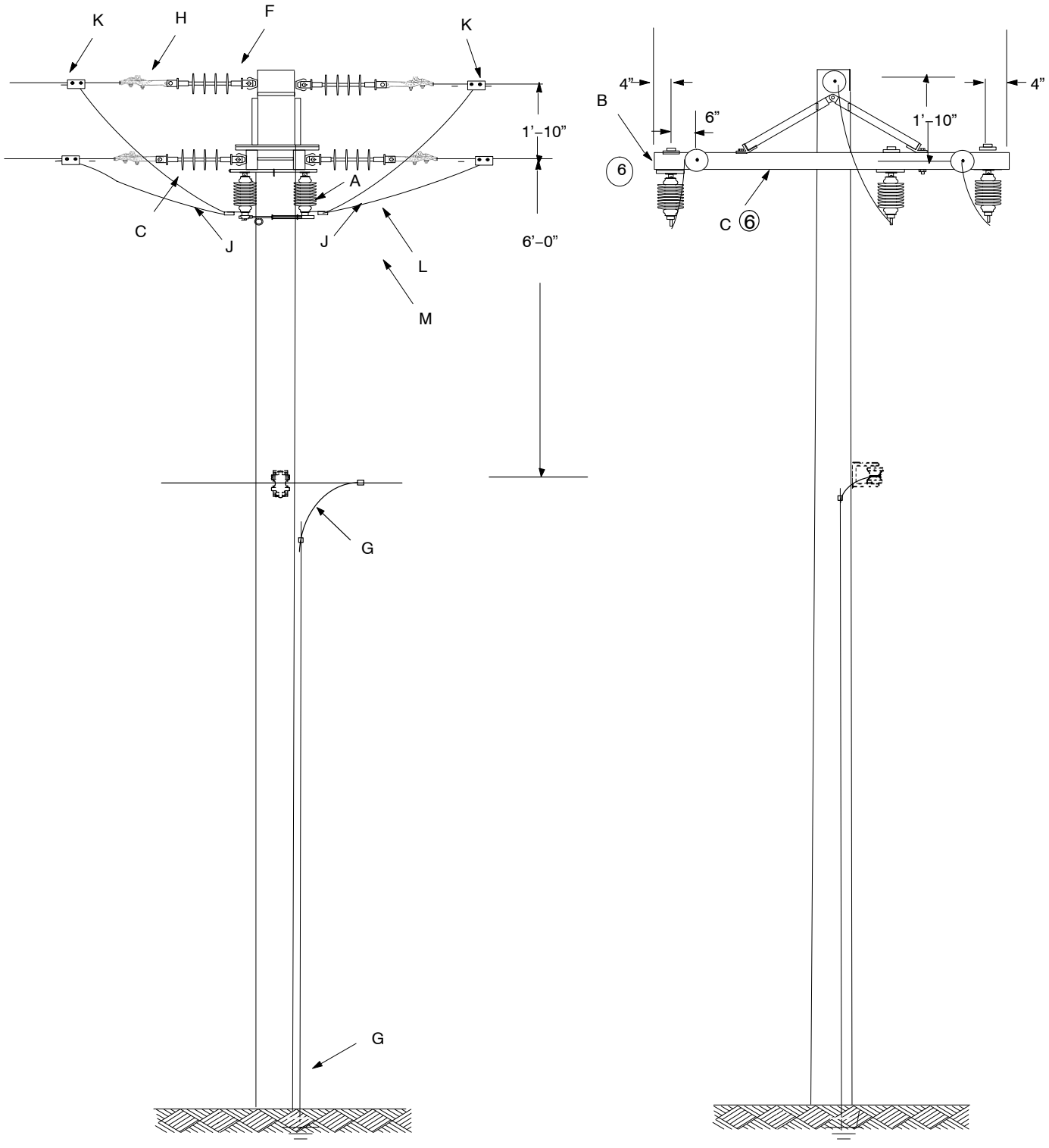
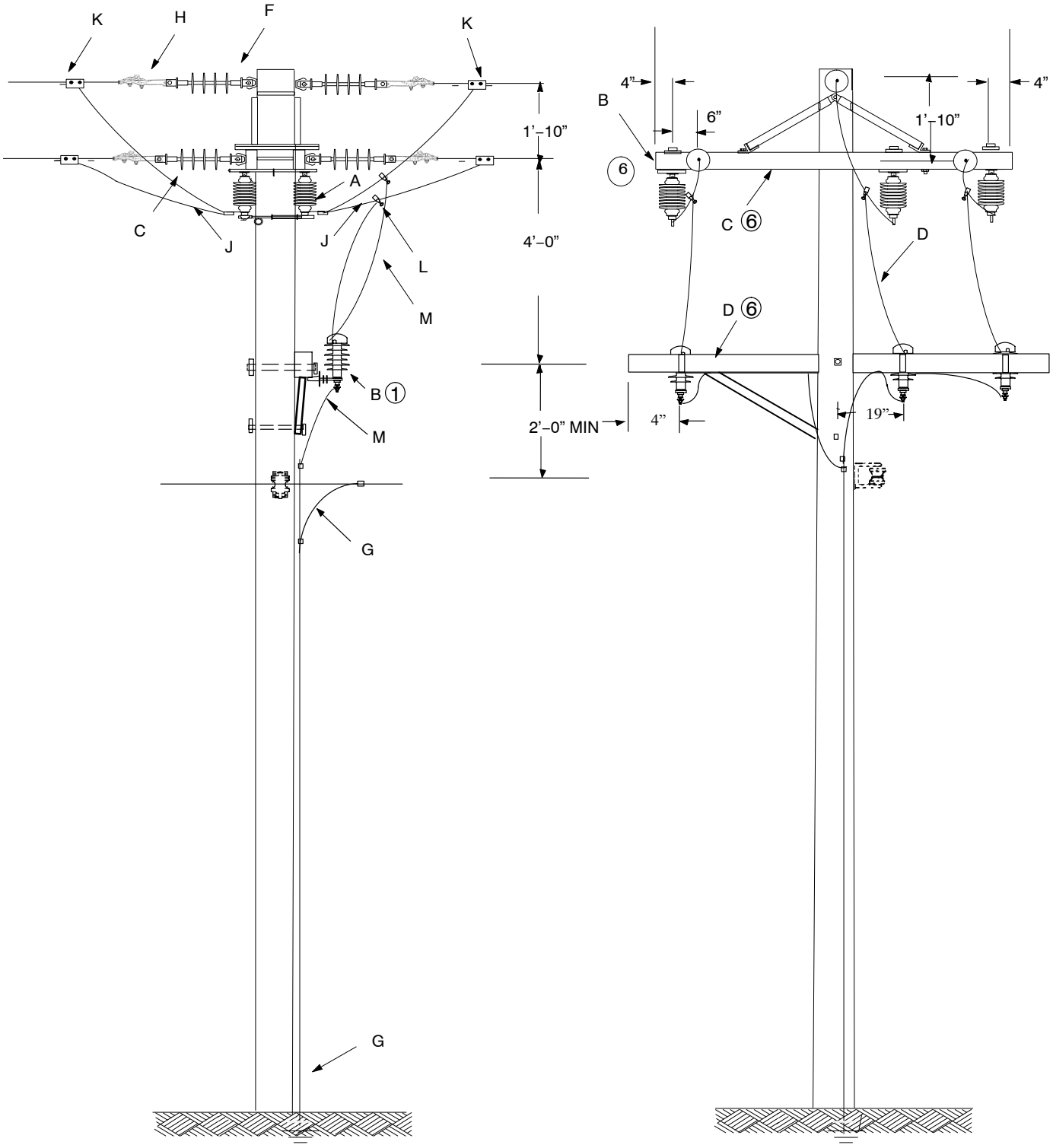
ALTERNATIVE 1 – 10 12 12 01



ALTERNATIVE 2 – 10 12 12 02

MISSOURI ONLY



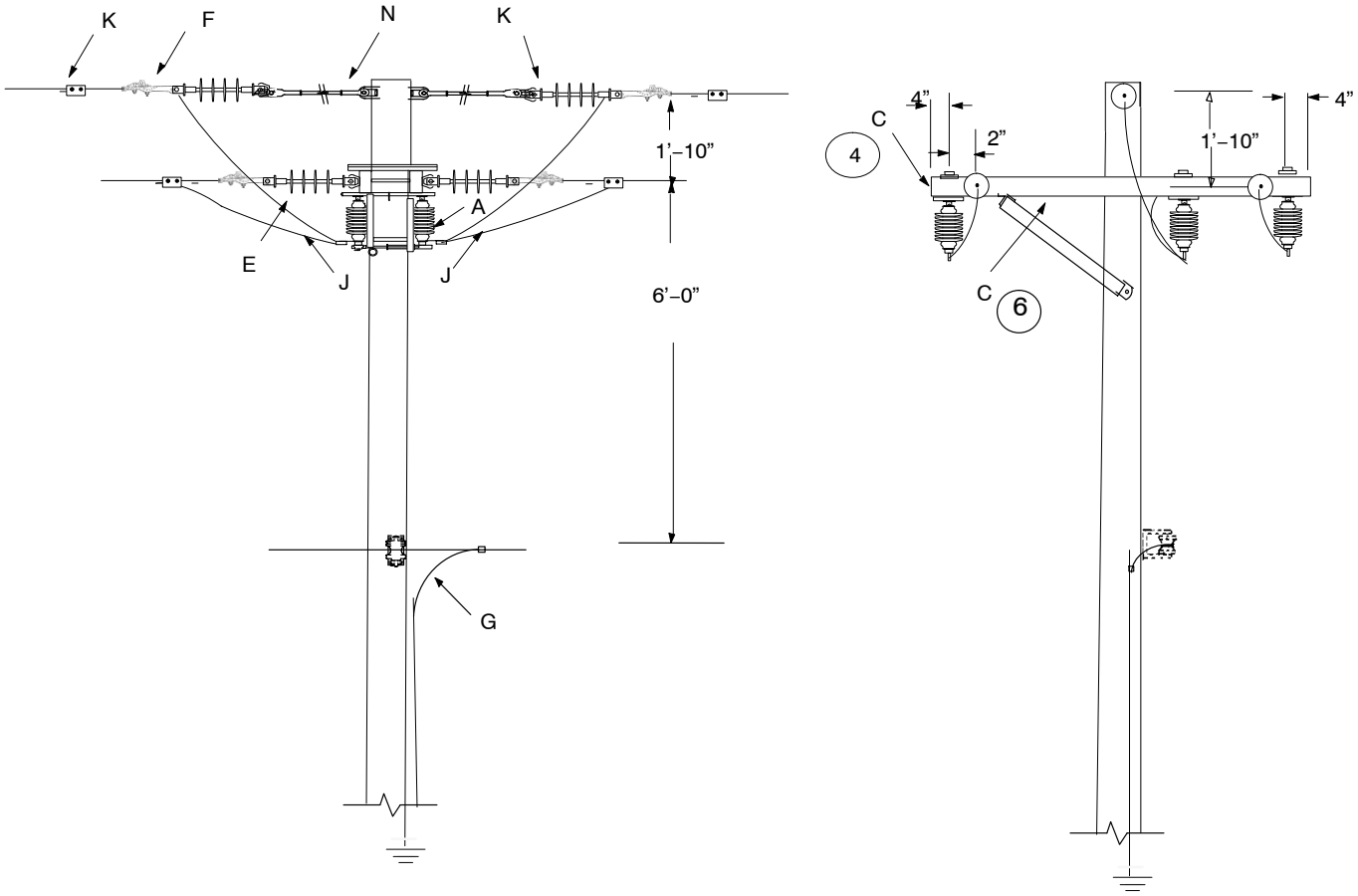
NOTES:

1. Alternative 2 is permissible for existing installation in Missouri. For new installation, both Illinois and Missouri, arresters are not required for normally closed switch installations; where switches are normally open, install both sets of arresters on adjacent poles. Refer to DCS **12 00 01 01** for arresters selection.
2. If insulators are not at least 2" from switch base using a single eye clevis, install one additional eye clevis in each deadend. On angle poles, a shackle may also be necessary to obtain clearances.
3. Use DCS **12 00 10 01** for ground coil application on new pole installation.
4. When required, switch number tag shall be installed here.
5. Double deadend on pole w/o FG extension available Missouri only.
6. 8' crossarm available Missouri only.

		Stnd. / Stk. No.	**Description 10 12 12****	**01**	**02**
	A	54 07 204	Switch, Dis., 600A, 15kV	3	3
1@	B	10 01 144	Arrester, 10kV w/ Protective Cap		3
		10 01 133	Arrester, 3kV w/ Protective Cap		3
8@	C	**04 00 20 07**	Crossarm, Dbl, Wood. 8' (use only ½ of V–Brace)	1	1
		04 00 20 08	Crossarm, Dbl, Wood. 10' (use only ½ of V–Brace)	1	1
6@	D	**04 00 20 02**	Crossarm, Sgl, Wood. 8' (use only ½ of V–Brace)		1
		04 00 20 03	Crossarm, Single 10' (use only 1/2 of V–brace)		1
2	E	**06 12 34 04**	Double Deadend on Arm	2	2
5@	F	**06 12 30 03**	Double Deadend on Pole w/ FG Extension	1	1
		06 12 30 13	Double Deadend on Pole w/o FG Extension	1	1
3	G	**12 00 10 02**	Grounding Unit – Ground Rod	1	1
@	H	DEC*W	Clamp, Deadend – DCS **07 00 11 00**	6	6
@	J	LW*W	Wire, Poly Covered (ft.)	30	30
@	K	PG*	Clamp, Parallel Groove (See Std, **07 00 25 00**)	6	6
	L	23 78 183	Clamp, Hot Line		3
	M	18 51 021	Wire, Poly, #6 Cu., Ft.		15

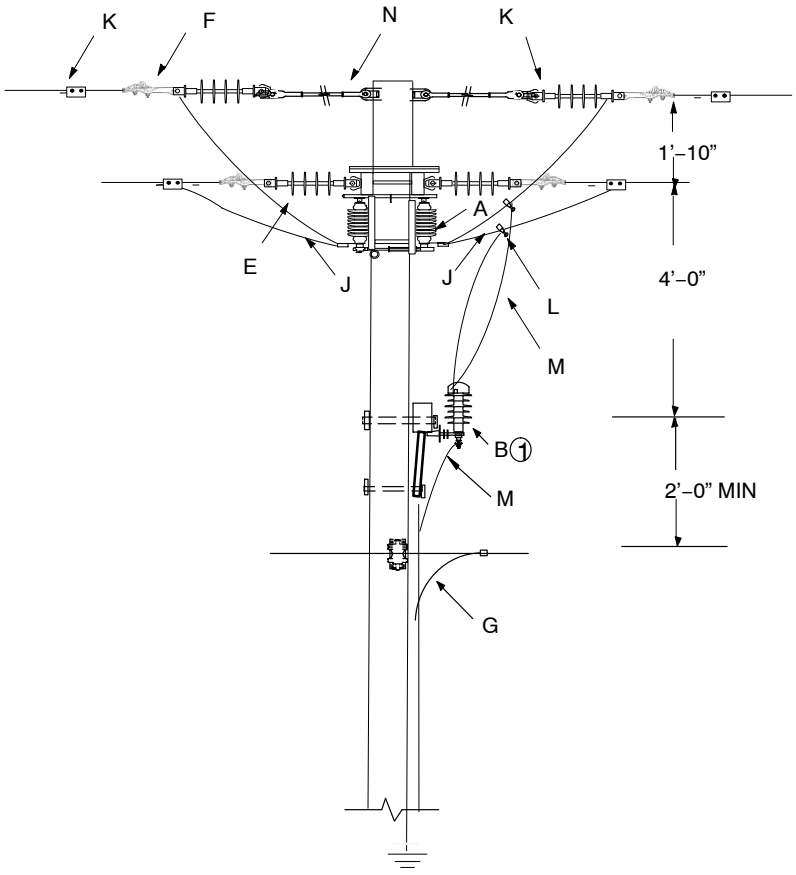
MISSOURI ONLY

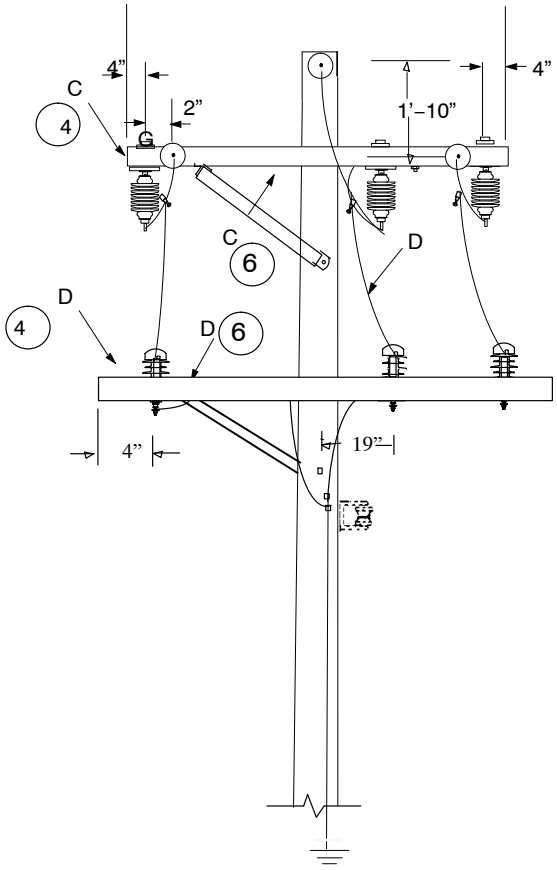
ALTERNATIVE 1 – 10 12 14 01



ALTERNATIVE 2 – 10 12 14 02

MISSOURI ONLY



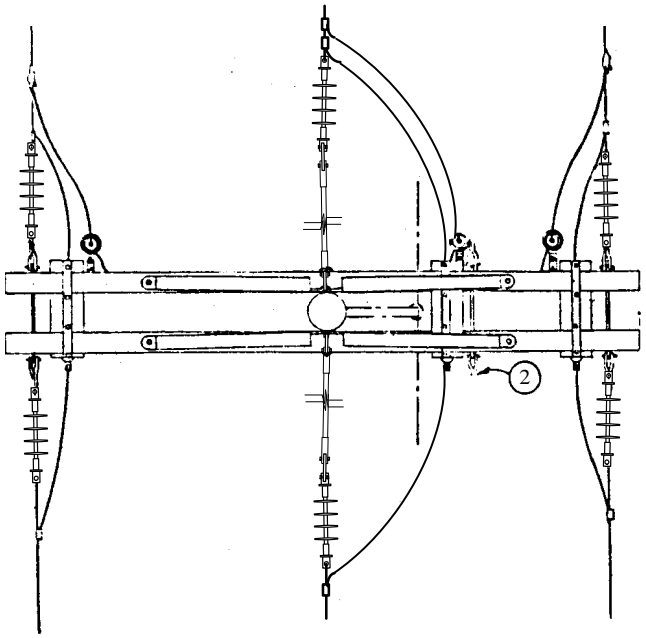


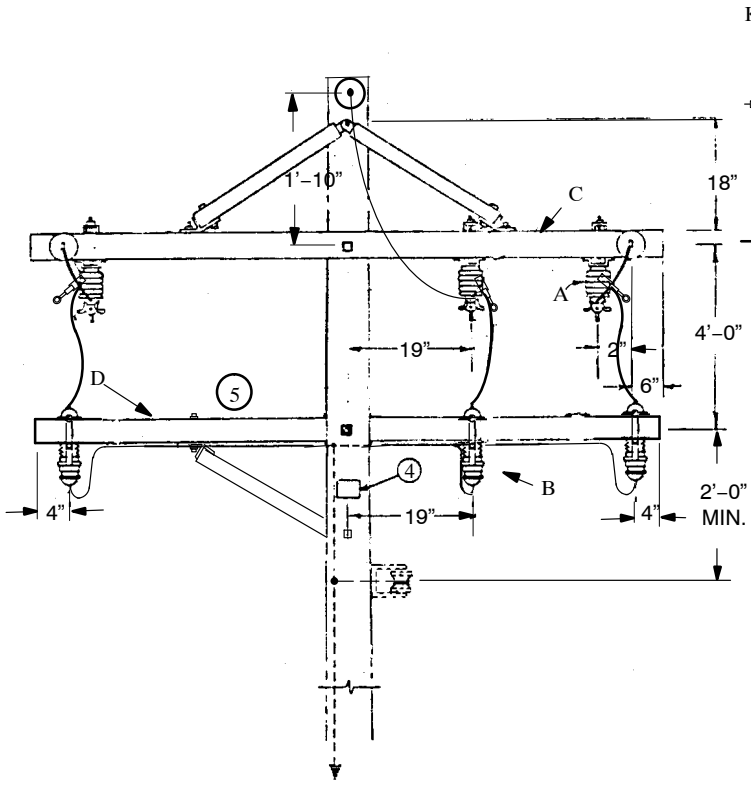
NOTES:

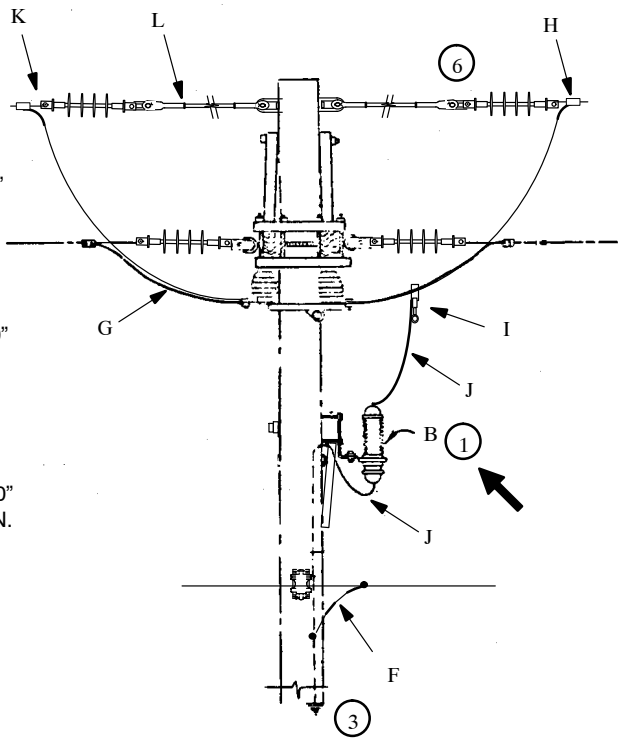
1. Alternative 2 is permissible for existing installation in Missouri. For new installation, both Illinois and Missouri, arresters are not required for normally closed switch installations; where switches are normally open, install both sets of arresters on adjacent poles. Refer to DCS **12 00 01 01** for arresters selection.
2. If insulators are not at least 2" from switch base using a single eye clevis, install one additional eye clevis in each deadend. On angle poles, a shackle may also be necessary to obtain clearances.
3. When required, switch number tag shall be installed here.
4. 8' crossarm available AmerenMO only.
5. Double deadend on pole w/o FG extension available Missouri only.

		Stnd. / Stk. No.	**Description** **10 12 14****	**01**	02
	A	54 07 204	Switch, Dis., 600A, 15kV	3	3
1@	B	10 01 144	Arrester, 10kV		3
		10 01 133	Arrester, 3kV		3
4@	C	**04 00 20 08**	Crossarm, Dbl, Wood 10' (use only 1/2 of V–brace)	1	1
		04 00 20 07	Crossarm, Dbl, Wood 8' (use only 1/2 of V–brace)	1	1
4@	D	**04 00 20 03**	Crossarm, Sgl, Wood 10' (use only 1/2 of V–brace)		1
		04 00 20 02	Crossarm, Sgl, Wood 8' (use only 1/2 of V–brace)		1
2	E	**06 12 34 04**	Double Deadend on Arm	2	2
@	F	DEC*W	Clamp, Deadend, DCS **07 00 11 00**	4	4
@	G	**12 00 10 02**	Grounding Unit on Existing Pole – Ground Rod	1	1
		12 00 10 01	Grounding Unit on New Pole – Ground Coil	1	1
@	J	PLW*W	Wire, Poly covered, (ft.), DCS **07 00 80 00**	30	30
@	K	PG*	Clamp, Parallel Groove, DCS **07 00 25 00**	6	6
	L	23 78 183	Clamp, Hot Line		3
	M	18 51 021	Wire, Poly, #6 Cu., Ft.		15
5@	N	**06 12 30 03**	Dbl Deadend on Pole w/ FG Extension	1	1
		06 12 30 13	Dbl Deadend on Pole w/o FG Extension	1	1

MISSOURI ONLY



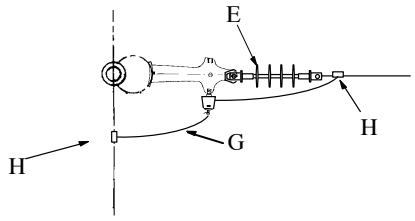




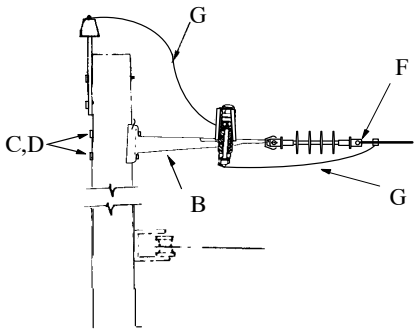
NOTES:

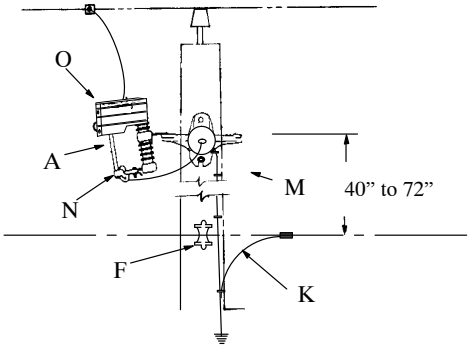
1. This installation is permissible for existing installation in Missouri. For new installation, both Illinois and Missouri, arresters are not required for normally closed switch installations; where switches are normally open, install both sets of arresters on adjacent poles. Refer to DCS **12 00 01 01** for arresters selection.
2. If insulators are not at least 2" from switch base using a single eye clevis, install one additional eye clevis in each deadend. On angle poles a shackle may also be necessary to obtain clearances.
3. Use DCS **12 00 10 01** for ground coil application on new pole installation.
4. When required, switch number tag shall be installed here.

		Stnd. / Stk. No.	**Description 10 12 16 02**	
	A	54 07 204	Switch, Dis., 600A, 15kV	3
1@	B	10 01 144	Arrester, 10 kV, w/ Protective Cap	3
		10 01 133	Arrester, 3 kV, w/ Protective Cap	3
	C	**04 00 20 08**	Crossarm, Double, 10'	1
5@	D	**04 00 20 03**	Crossarm, Sgl, Wood, 10'(use only 1/2 of V–brace)	1
		04 00 20 02	Crossarm, Sgl, Wood, 8'(use only 1/2 of V–brace)	1
2	E	**06 12 34 04**	Double Deadend	2
3@	F	**12 00 10 02**	Grounding Unit – Ground Rod	1
		12 00 10 01	Grounding Unit – Ground Coil	1
@	G	PLW*W	Wire, Poly covered (Ft.)	30
@	H	PG*	Clamp, Parallel Groove (See Std. **07 00 25 00**)	6
	I	23 78 183	Clamp, Hot Line	3
	J	18 51 021	Wire, Poly #6 Cu., Ft.	15
@	K	DEC*W	Clamp, Deadend	4
@	L	**06 12 30 03**	Dbl Deadend on Pole w/ FG Extension	1
		06 12 30 13	Dbl Deadend on Pole w/o FG Extension	1

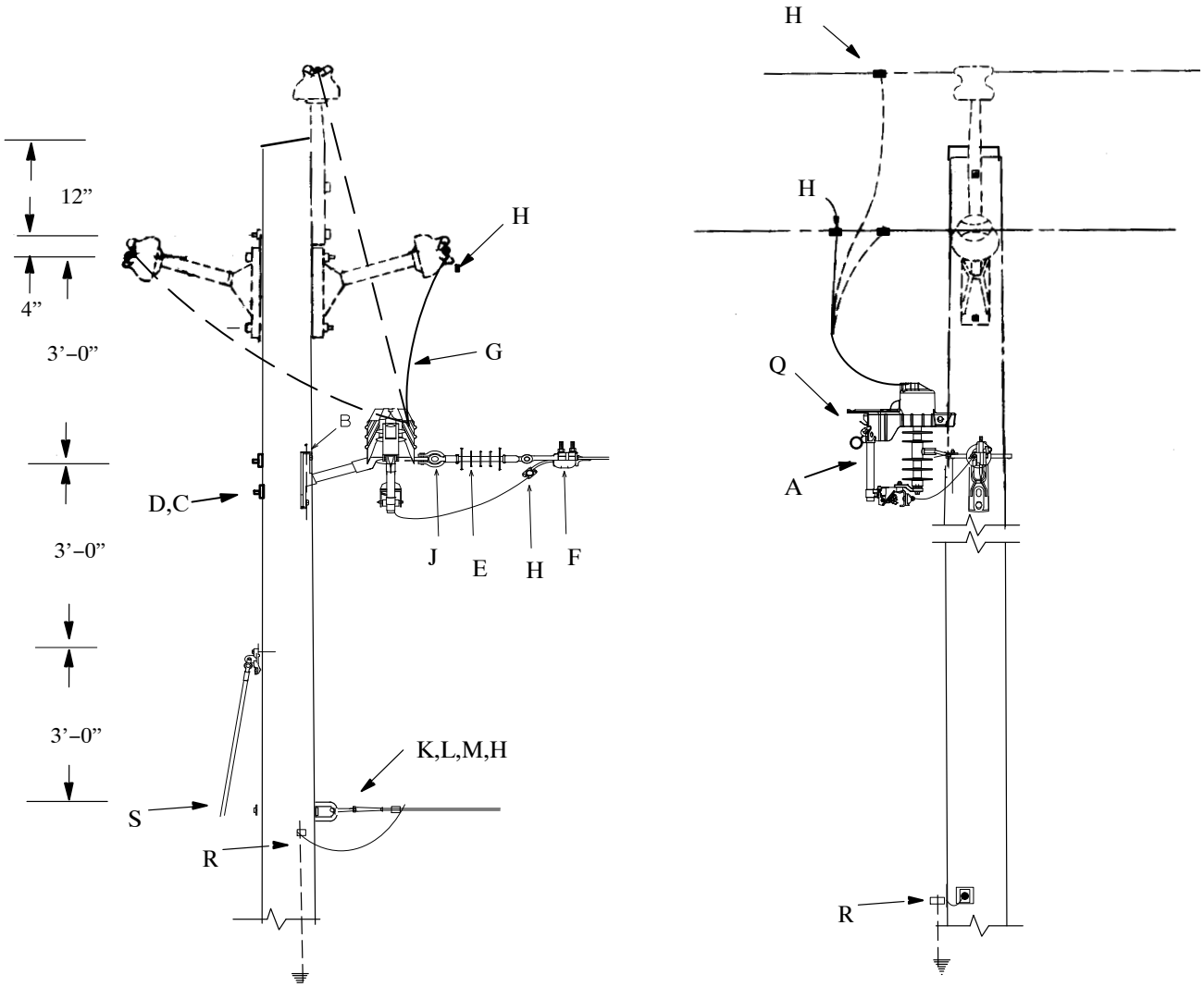


100 AMP. FUSED	10 12 19 01
200 AMP. FUSED	10 12 19 02
300 AMP. SOLID BLADE	10 12 19 03





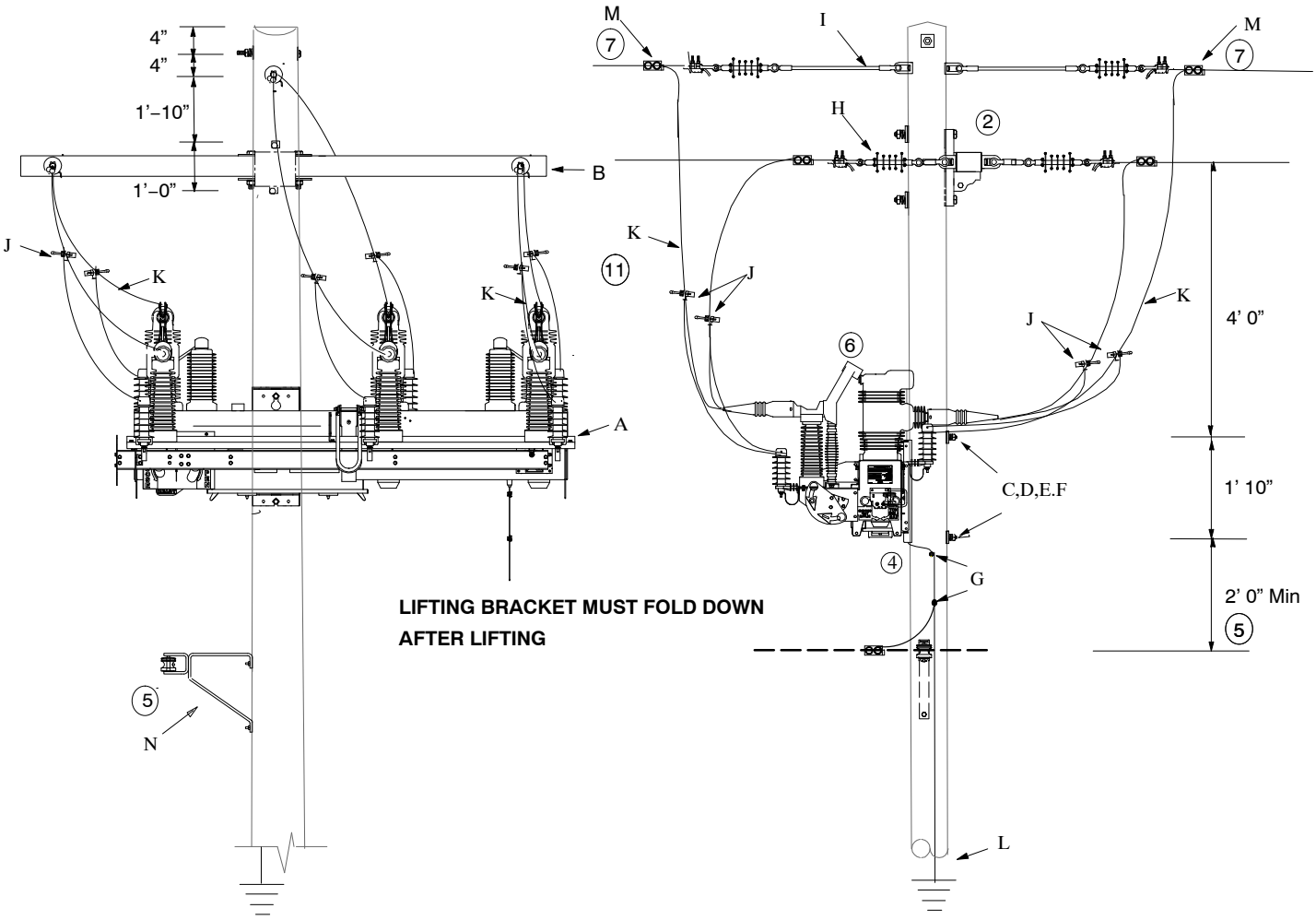
		Stnd. / Stk. No.	Description 10 12 19 **	01	02	03
	A	54 07 208	Switch, Fuse, 100A, 15 kV	1		
		54 07 209	Switch, Fuse, 200A, 15kV		1	
		54 07 210	Switch, Solid Blade, 300A, 15kV			1
	B	23 56 063	Bracket, Switch , Arr. and Deadend	1	1	1
	C	23 52 065	Bolt, Mach., 5/8" x 12"	2	2	2
	D	23 66 027	Washer, Square, 5/8"	2	2	2
	E	25 06 052	Ins., Suspension, 12kV	1	1	1
@	F	DEC*W or DEA*W	Clamp, Deadend	1	1	1
@	G	PLW*W	Wire, Poly Covered (ft.), DCS **07 00 80 00**	10	10	10
@	H	PG*	Clamp, Parallel Groove DCS **07 00 25 00**	2	2	2
@	K	**12 00 10 01**	Grounding Unit – New Pole – Ground Coil	1	1	1
		12 00 10 02	Grounding Unit – Existing Pole – Ground Rod	1	1	1
@	N		Link, Fuse (Sized by Engineer)	1	1	
	O	**05 15 10 01**	Cutout Cover	1	1	1



↘	100 AMP. FUSED	10 12 21 01
	200 AMP. FUSED	10 12 21 02
	300 AMP. SOLID BLADE	10 12 21 03

		Stnd. / Stk. No.	**Description 10 12 21 ****			
				01	**02**	**03**
	A	54 07 208	Switch, Fuse, 100A., 15 kV	1		
		54 07 209	Switch, Fuse 200A., 15kV		1	
		54 07 210	Switch, Solid Blade, 300A., 15kV			1
	B	23 56 063	Bracket, Switch, Arrestor and Deadend	1	1	1
	C	23 52 065	Bolt, Mach., 5/8" x 12"	2	2	2
	D	23 66 027	Washer, Square, 5/8"	2	2	2
	E	25 06 052	Ins., Suspension, 12kV	1	1	1
@	F	DEC*W or DEA*W	Clamp, Deadend, DCS **07 00 11 00**	1	1	1
@	G	PLW*W	Wire, Poly covered (ft.), DCS **07 00 80 00**	10	10	10
@	H	PG*	Clamp, Parallel Groove, DSC **07 00 25 00**	3	3	3
@	I	**12 00 10 01**	Grounding Unit – New Pole – Ground Coil	1	1	1
		12 00 10 02	Grounding Unit – Existing Pole – Ground Rod	1	1	1
@	P		Link, Fuse (Sized by Engineer)	1	1	
	Q	**05 15 10 01**	Cover, Cutout	1	1	1
	R	17 54 182	Connector, Split Bolt	1	1	1
	J	23 68 181	Shackle, Deadend	1	1	1
	K	23 59 095	Eyelet, ¾"	1	1	1
	L	SDEA*W	Deadend, Automatic, Secondary, DCS **08 01 10 00**	1	1	1
	M	23 52 097	Bolt, Machine, ¾" x 12"	1	1	1
@	S	**11 00 ****	Guy Unit	1	1	1

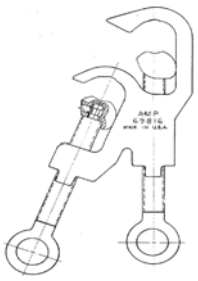
DER **Ameren** ①



CONSTRUCTION NOTE(s):

1. When used for DER applications, Intellirupter shall be installed on the pole with the integral disconnect switch on the DER side of the Intellirupter to allow line voltage to power Intellirupter when disconnect switch is open.
2. If differential line tension is present, crossarm must be installed on the side of the pole with lower line tension. Intellirupter may be installed on the same side of the pole as crossarm, see Construction Note 1.
3. Intellirupter recloser frame must be connected to pole ground with #2 Cu. Pole ground to neutral connection must be #2 Cu.
4. Tool for removal / install of radio module and control module is stock #46 01 645.
5. Install neutral/secondary using extension brackets on the side of the pole with only one phase to allow access to the compartments on the bottom of the Intellirupter. The neutral/secondary may be dead–ended to the pole as long as they are mounted 36 inches below the bottom mounting bolt of the Intellirupter.
6. Integral disconnect switches on recloser shall be in the open position while connecting primary leads to the recloser.

7. The recloser leads shall be connected to the line connector with a piggy–back clamp (stock #85 38 392) (see picture below) during the installation. The lightning arresters shall be connected to the recloser leads with hot line clamps and the hot line clamps must be installed 36” away from the aluminum base of the Intellirupter. Then, the recloser leads shall be permanently connected with parallel groove clamps and the piggy–back clamps shall be removed.

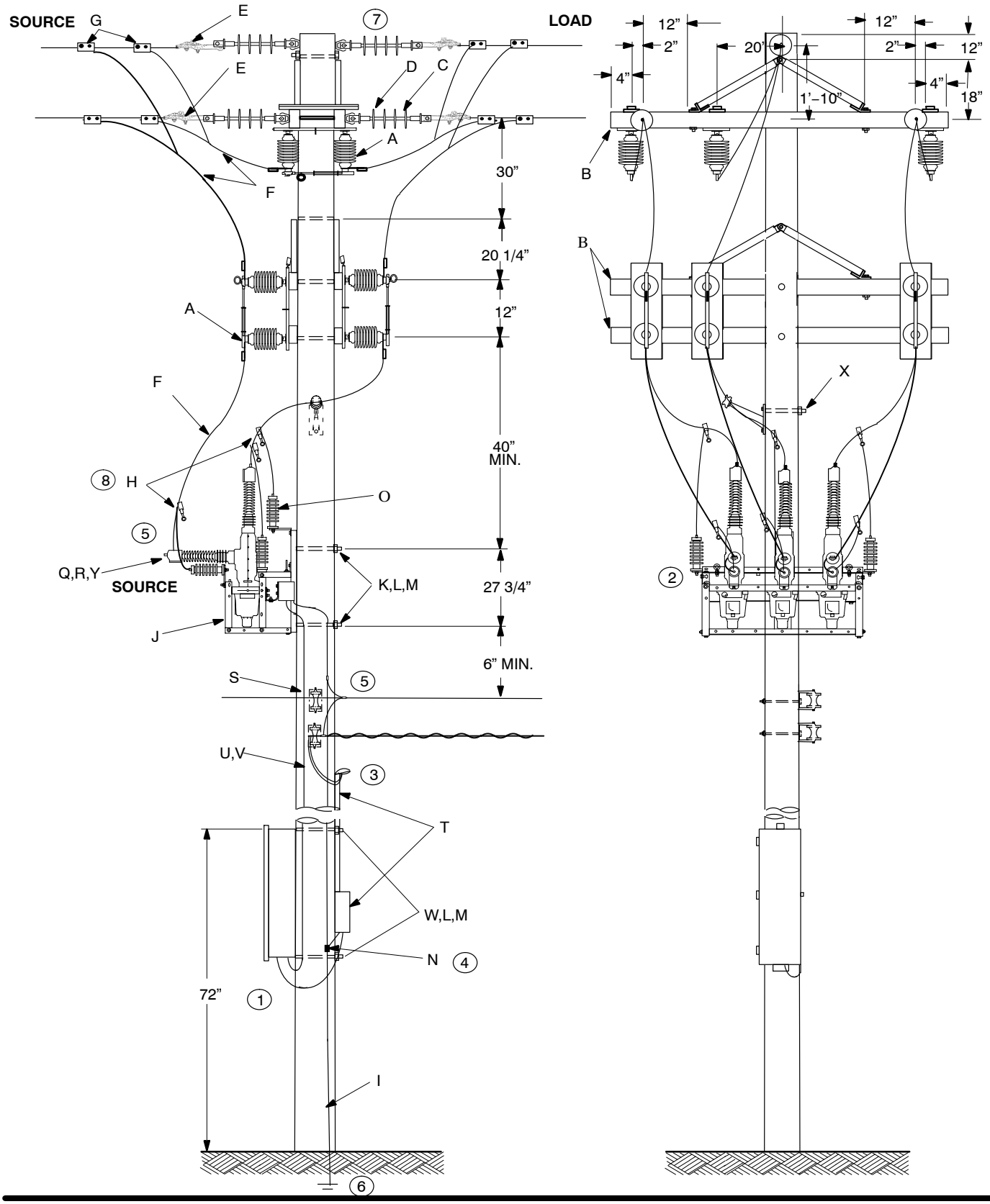


Stock #85 38 392

8. Intellirupter Recloser weights 1010 lbs.
9. Use DCS **12 00 10 03** for ground with existing poles; use DCS **12 00 10 04** for ground with new pole installation.
10. External power supply, powered off secondary from Ameren side of Intelliruper, required for installing on circuits less than 12.47 kV. Contact Distri-bution Standards for installation instructions.
11. Minimum wire size for covered copper leads for Intellirupter shall be 1/0.
12. Speednet Radio may be required for communications.

		Stnd. / Stk. No.	**Description** **10 12 33**	11
	A	69 10 250	Recloser, S&C Intellirupter, 15kV, 600A w/Comm Module	1
	B	**04 00 41 04**	Crossarm, Deadend, F/G, 10’	1
	C	23 52 219	Bolt, Galv., 3/4” x 14”	2
	D	23 66 031	Curved Washer, Galv., 3/4” SQ	2
	E	23 66 135	Lock Washer, 3/4", Double Coil	2
	F	23 66 042	Lock Nut, 3/4", Square	2
	G	17 54 373	Split Bolt #4 Cu to #2 Cu	2
	H	**06 12 35 02** @	Double Deadend on FG Arm	2
	I	**06 12 30 03** @	Dbl Deadend on Pole F/G Extension	1
@	J	**07 00 21 00** @	Clamp, Hot Line, HLC*W	6
11@	K	**07 00 80 00** @	Wire, Covered Copper, PLW* (Ft.)	75
@	L	**12 00 10 03**	Grounding Unit (with #2 S.D. Cu) – Ground Rod	1
		12 00 10 04	Grounding Unit (with #2 S.D. Cu) – Ground Coil	1
@	M	**07 00 25 00** @	Clamp, Parallel Groove , PG*	7
@	N	**03 01 ** **** @	Secondary Configuration	1
10@	O	69 10 252	4 kV power supply	1
12 @	P	16 16 060	Speednet Radio	1

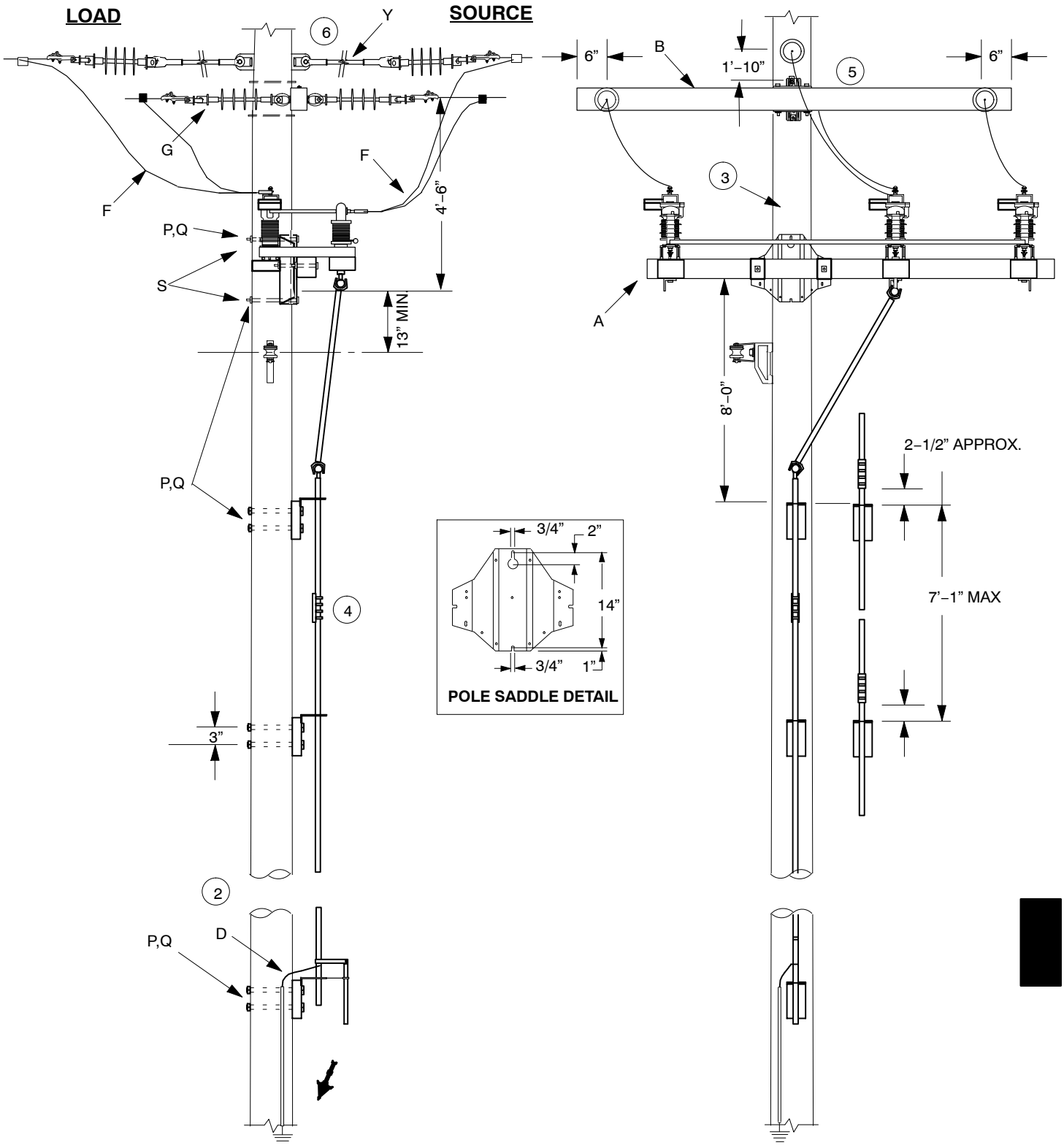
G & W RECLOSER WITH BYPASS AND DISCONNECT SWITCHES



NOTES

1. Recloser comes with a 30’ control cable. A 50’ (Stk. No. 69 10 233) and a 35’ (Stk. No. 69 12 234) may be substituted.
2. Join arrester grounds together and connect to frame and pole ground.
3. Secondary voltage can be supplied with duplex.
4. Control cabinet and circuit breaker/receptical box must be connected to pole ground, with #6 S.D. Cu.
5. Bond ground to distribution system neutral. Bond duplex neutral to distribution system neutral.
6. Use DCS **12 00 10 04** for ground coil application on new pole installation.
7. Double deadend on pole w/o FG extension available AmerenMO only.
8. The lightning arresters shall be connected to the recloser leads with hot line clamps and the hot line clamps must be installed 36” away from the connecting busing.

		Stnd. / Stk. No.	**Description 10 12 34 ****	**01**
	A	54 07 204	Disc., Switch, 600 A, 15 kV,	9
	B	**04 00 20 07**	Crossarm, Double 8 Ft.	3
	C	**06 12 34 04**	Double Deadend on Arm	2
7@	D	**06 12 30 03**	Dbl Deadend on Pole w/ FG Extension	1
		06 12 30 13	Dbl Deadend on Pole w/o FG Extension	1
@	E	DEC*W	Clamp, Deadend	6
@	F	18 51 022	Wire, 500 kcmil, Poly., S.D.	150
@	G	PG*	Clamp, Parallel Groove (See Std. **07 00 25 00**)	12
	H	17 02 175	Hot Line Clamp, 500kcmil Cu Main/#4 Cu Tap	6
6	I	**12 00 10 03**	Grounding Unit	1
	J	69 10 237	Recloser, G&W Viper, 15kV, 800 A	1
	K	23 52 066	Bolt, Galv., 5/8” x 14”	2
	L	23 66 027	Washer, Galv., 11/16”, Square	4
	M	23 66 046	Washer, Galv., 11/16”, Round	4
	N	17 54 003	Connector, Split Bolt	2
	O	10 01 144	Lightning Arrester, 10kV	6
	P	18 51 025	Wire, #4 Cu, Poly	30
	Q	17 54 955	Lug, 1/0 – 500 Cu.	6
	R	17 51 234	Lug, #8 TO 2/0 Cu.	6
	S	**06 01 01 03**	Sgle. Clevis, Ext. Brkt	1
	T	54 17 486	Circuit Breaker, Receptical Box, w/Riser 120V, 20A	1
	U	41 56 041	Moulding – Plastic 3/4” x 8’	4
	V	23 64 028	Staple – for 3/4” moulding	16
	W	23 52 068	Bolt, Galv., 5/8” x 16”	2
	X	**06 12 20 04**	Training Arm with Pin Insulator	1
	Y	69 58 181	Guard, Wildlife	6

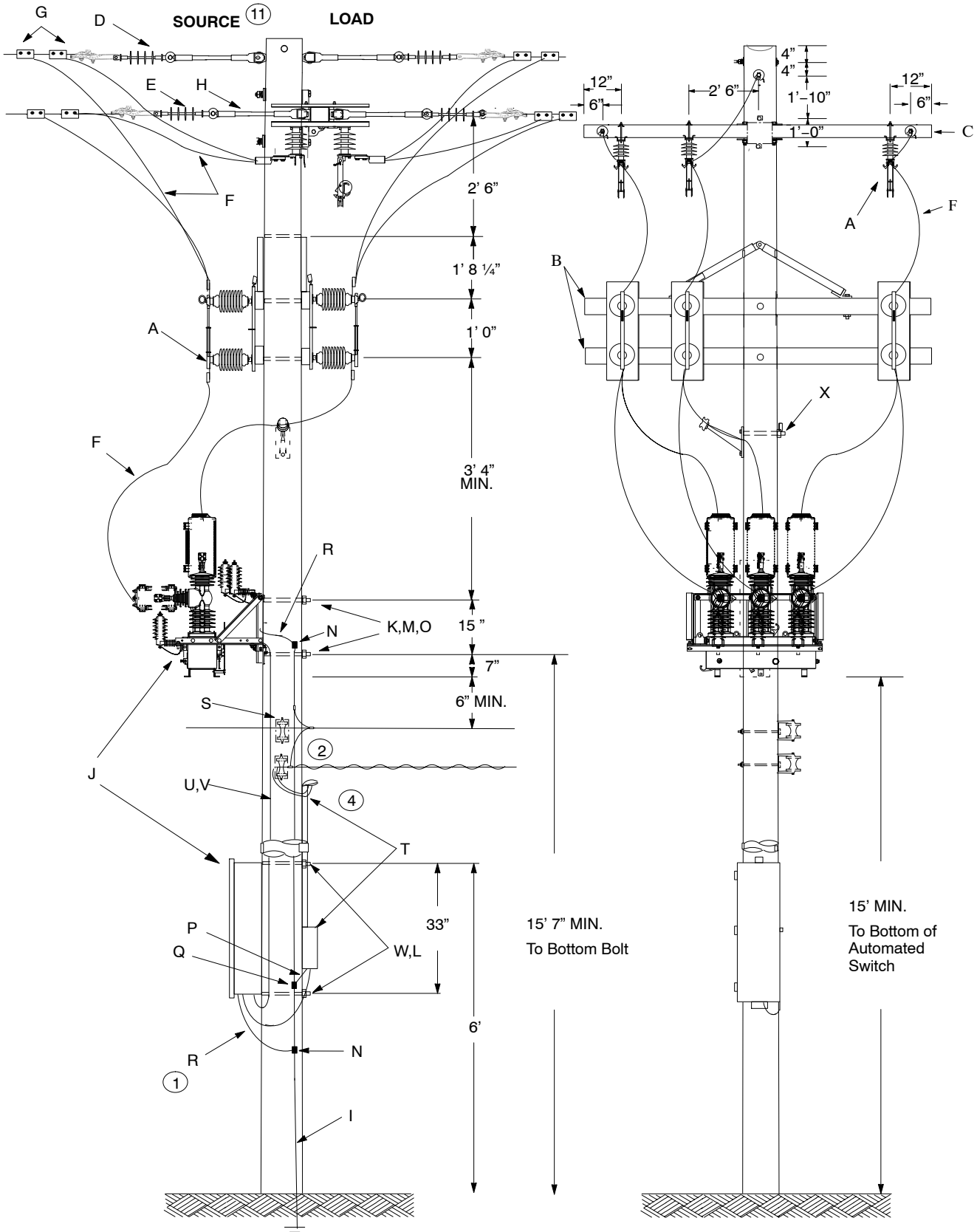

LOAD
SOURCE
Y
6
G
F
F
P,Q
S
4'–6"
13" MIN.
P,Q
4
3"
2
P,Q
D
6"
B
1'–10"
6"
5
3
A
8'–0"
2–1/2" APPROX.
7'–1" MAX
3/4"
2"
14"
3/4"
1"
POLE SADDLE DETAIL

NOTES:

1. For new installation, both Illinois and Missouri, arresters are not required for normally closed switch installations; where switches are normally open, install both sets of arresters on adjacent poles. Refer to DCS **12 00 01 01** for arresters selection.
2. Grounding unit the switch handle.
3. When required, switch number tag shall be installed here.
4. Insulator must be installed in this section.
5. 8' crossarm available AmerenMO only.
6. Double deadend on pole w/o FG extension available AmerenMO only.

		Stnd. / Stk. No.	**Description 10 12 35 01**	**Qty**
	A	54 07 273	Switch, Group Operated 15kV	1
5@	B	**04 00 41 03**	Crossarm, Deadend, F/G, 8'	1
		04 00 41 04	Crossarm, Deadend, F/G, 10'	1
@	D	**12 69 11 05**	Grounding Unit–Ground Rod	1
		12 69 11 06	Grounding Unit–Ground Coil	1
@	E	PG*W	Clamp, PG, DCS **07 00 25 00**	6
	F	18 51 052	Wire, SD Cu, 350 kcmil, Poly covered	30
	G	**06 12 35 02**	Double Deadend on FG Crossarm	2
	P	23 52 066	Bolt, Galv., 5/8" x 14"	8
	Q	23 66 027	Washer, Galv., 11/16" Square	4
	S	23 66 046	Washer, Galv, 11/16" Round	2
@	X	DEC*W	Clamp, Deadend, DCS 07 00 30 00	4
6@	Y	**06 12 30 03**	Double Deadend on Pole w/ FG Extension	1
		06 12 30 13	Double Deadend on Pole w/o FG Extension	1

Automated Sectionalizer for DER Applications

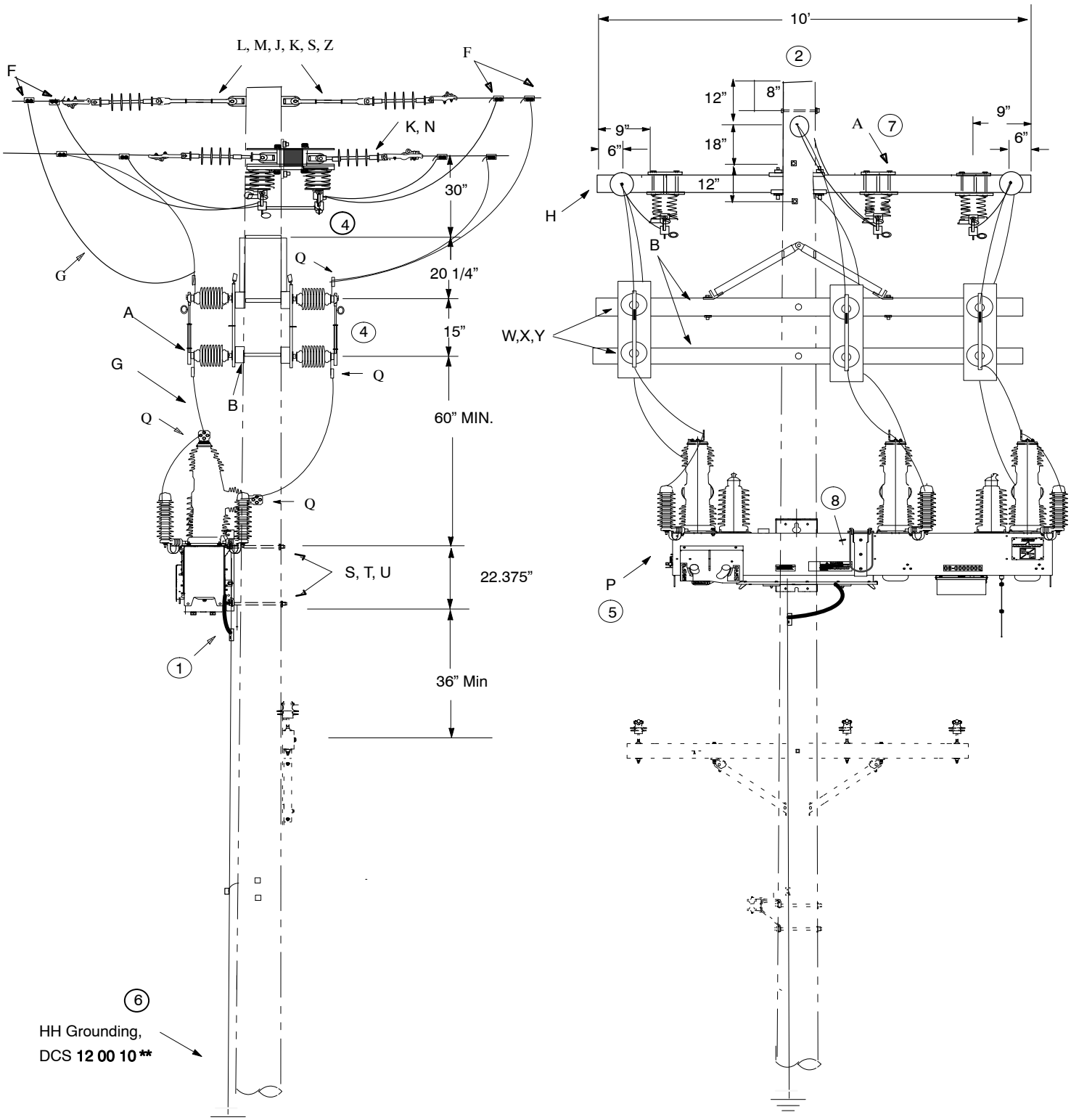


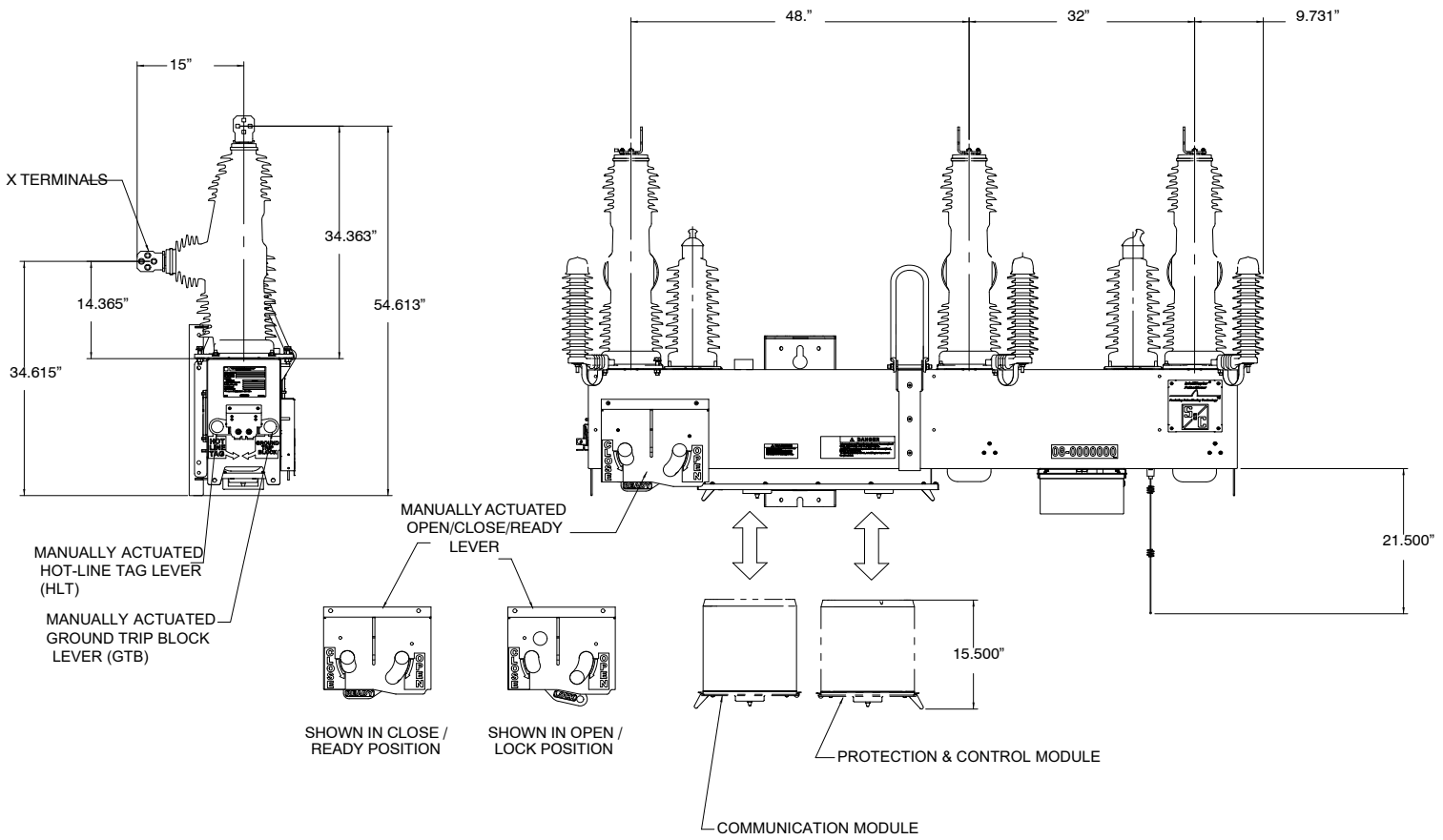
NOTES

1. Control cabinet and equipment frame shall be bonded to pole ground with #2 poly covered copper. Circuit breaker box shall be bonded to pole ground with #6 poly covered copper.
2. Bond pole ground to distribution system neutral. If present, bond duplex neutral to distribution system neutral.
3. If antenna installation is required in supply space, see **25 90 00 00** for clearance requirement. If antenna installation is required in communications zone, see **29 00 17 11** for clearance requirement.
4. Minimum 40” clearance required (at pole) from lowest point on secondary (or weatherhead drip loop, whichever is lower) to communications, if present.
5. Use DCS **12 00 10 04** for ground coil application on new pole installation.
6. Voltage sensors come calibrated for 7.2 kV line to ground voltage. Automated switch rated for 630 amp continuous current and 12.5 kA withstand symmetrical fault current.
7. 10 kV lightning arresters come preinstalled. See DCS **12 00 01 01** when different arresters are required.
8. Control cabinet comes with a 55’ control and power cables.
9. Automated switch assembly weighs 400 lbs. Control cabinet weighs 105 lbs.
10. 120V supply power must be provided for control cabinet through the circuit breaker box, item T.
11. The “source” side shall be in the direction of the feeder, the “load” side shall be on the distributed generation side.

		Stnd. / Stk. No.	**Description 10 12 36 ****	**01**
	A	54 07 204	Disc., Switch, 600 A, 15 kV,	9
	B	**04 00 20 11**	Crossarm, Double 10 Ft. Vertically	2
	C	**04 00 41 04**	Crossarm, Deadend, F/G, 10’	1
	D	**06 12 30 03**	Dbl Deadend on Pole w/ FG Extension	1
	E	**06 12 35 02**	Dbl Deadend on Arm	2
	F	18 51 052	Wire, 350 kcmil, Poly., S.D.	140
@	G	PG*	Clamp, Parallel Groove (See Std. 07 00 25 00)	12
	H	25 56 076	Insulator, Strain, Fiberglass 26”	4
5@	I	**12 00 10 03**	Grounding Unit, #2 Cu	1
		12 00 10 04	Grounding Coil, #2 Cu	1
	J	69 10 262	Automated Switch, G&W Diamondback	1
	K	23 52 219	Bolt, Galv., 3/4” x 14”	2
	L	23 66 027	Washer, Flat, 5/8”, Square	2
	M	23 66 031	Washer, Curved., 3/4”	2
	N	17 54 182	Connector, Split Bolt, #2 Cu – #4 Cu	2
	O	23 66 135	Washer, Lock, 3/4”, Dbl Coil	2
	P	18 51 021	Wire, #6 Cu, Poly Covered	3
	Q	17 54 005	Connector, Split Bolt, #2 Cu – #6 Cu	1
	R	18 51 019	Wire, #2 Cu, Poly Covered	6
@	S	**06 01 01 ****	Secondary Clevis	1
		06 01 03 **	Secondary Rack	1
	T	54 17 486	Circuit Breaker Box, w/Riser 120V, 15A, sec. arrest.	1
	U	41 56 041	Moulding – Plastic 3/4” x 8’	4
	V	23 64 028	Staple – for 3/4” moulding	16
	W	23 52 068	Bolt, Galv., 5/8” x 16”	2
	X	**06 12 20 04**	Training Arm with Vice–Top Insulator	1

S&C INTELLIRUPTER RECLOSER



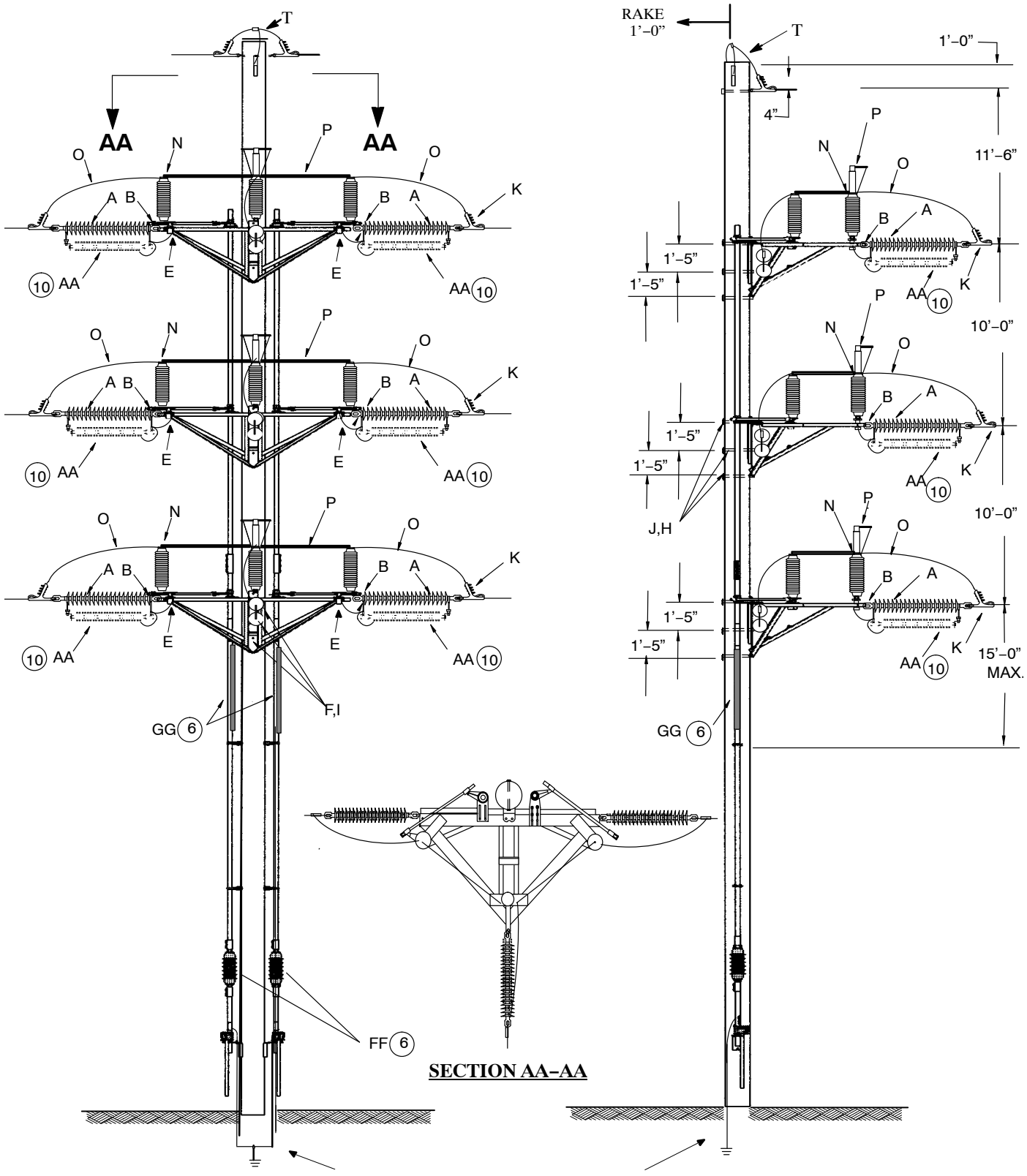


NOTES

1. Intellirupter recloser frame must be connected to ground with #2 Cu. Pole ground to neutral connection must be #2 Cu.
2. If system neutral is present, bond #2 Cu ground to the system neutral is present. If system neutral is not present and a static/shield wire is present, then bond the #2 Cu ground to the static/shield wire. If system neutral and static wire are both present, only bond the #2 Cu ground to the system neutral.
3. Tool to removal / install radio module and control is 46 01 645.
4. Switch to open towards climbing side of pole.
5. Intellirupter Recloser weight is 900 lbs.
6. Use DCS **12 00 10 03** – ground rod and DCS **12 00 10 04** – ground coil installation on new pole installation.
7. **Only install the two inside bolts on the switch and slide them as close to the crossarm as possible.**
8. Make sure lifting bails are folded down before energizing.

		Stnd. / Stk. No.	Description 10 34 51 **	01
	A	54 07 302	Disc., Switch, 900 A, 34 kV,	9
	B	**04 00 20 10**	Crossarm, Double 10 Ft.	2
	E	18 51 019	Wire, #2 Cu Poly (Ft)	10
@	F	PG*	Clamp, Parallel Groove (See Std. **07 00 25 00**)	12
	G	18 51 022	Wire, 500 Cu, Poly (Ft.)	110
	H	**04 00 41 04**	Crossarm, Deadend, F/G, 10’	1
	J	25 56 076	Insulator, Guy Strain F/G 26”	2
	K	25 06 053	34kV Deadend Insulator	6
	L	23 59 095	Eyelet, ¾”	1
	M	23 65 018	Eyenut, ¾”	1
	N	DEC*W	Clamp, Deadend, DCS **07 00 20 00**	6
	P	69 10 247	Recloser, 35kV, 800 Amp S&C IntelliRupter	1
	Q	17 54 177	Connector, Cable to Flat 1/0 to 500 kcmil, Spade Type, Bronze	18
	S	23 52 097	Bolt, Mach., 3/4” x 12”	3
	T	23 66 031	Washer, Curved, 3/4”	2
	U	23 66 135	Washer Lock DBL, Coil, ¾”	2
	W	23 52 441	Bolt, Carriage, Galvanized	18
	X	21 75 735	Washer, ⅜”	18
	Y	23 65 057	Nut, Lock, ⅜”	18
	Z	23 66 131	Washer, SQ, ¾”	2
@	HH	**12 00 10 04**	Ground Unit, #2 Cu Poly, Ground Coil	1
		12 00 10 03	Ground Unit, #2 Cu Poly, Ground Rod	1
	II	17 54 373	Connector – PG, 2–2/0 Cu to Cu	1

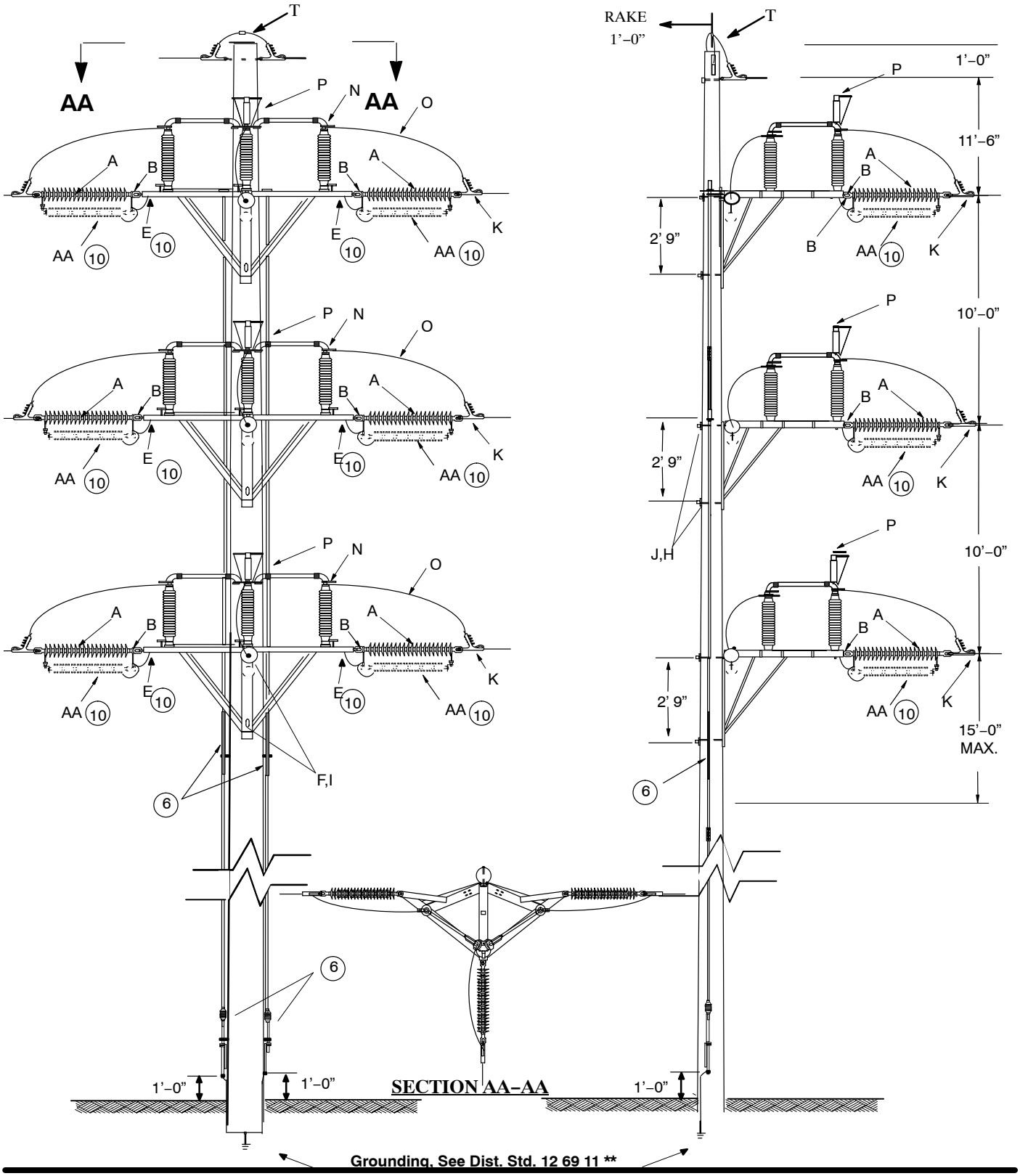
Turner 69kV – 1200 Amp – Loadbreak Interrupters 10 69 20 01
Turner 69kV – 1200 Amp – without Loadbreak Interrupters 10 69 20 02



SECTION AA–AA

Grounding, See Dist. Std. 12 69 11 **

SEECO Switch 69kV – 1200 Amp – Loadbreak Interrupters 10 69 20 03
SEECO Switch 69kV – 1200 Amp – without Loadbreak Interrupters 10 69 20 04



Grounding, See Dist. Std. 12 69 11 **

		Stnd. / Stk. No.	Description 10 69 05 **	01	02	03	04
@		Contact Dist. Eng.	Composite or Steel Pole	1	1	1	1
	A	25 06 113	Insulator, Polymer, Suspension, Wye Clevis– Oval Eye, 42”L (nominal)	9	9	9	9
	B	23 68 440	Shackle, Anchor, 3/4” Pin, 1–1/16” opening, Galv.	18	18	18	18
10@	E	17 51 032	Clamp, Parallel Groove, #6AWG–1/0 AWG AL	6	6	6	6
	F	23 52 103	Bolt, Mach., Galv., 3/4” Sq. Head/Sq. Nut, 18” Length	9	9	9	9
	H	23 65 042	Nut, Lock, MF, Galv., 3/4”	9	9	9	9
	I	23 66 131	Washer, Sq. Flat, Galv., 3/4”	9	9	9	9
	J	23 66 031	Washer, Sq. Curved, Galv., for 3/4” Bolt	9	9	9	9
@	K	DEC*W	Clamp, Deadend (wire type and size required)	9	9	9	9
	N	CL*W	Lug, Compr. Terminal, AL, DCS **07 00 30 00**	12	12	12	12
11@	O	LW *W	Wire, Bare, DCS **07 00 01 01**	As Req.	As Req.	As Req.	As Req.
	P	Special Order Item	Turner CSB Switch, 69kV, 1200 Amp., LBRK 2–Way	1			
		Special Order Item	Turner CSB Switch, 69kV, 1200 Amp., Non LBRK 2–Way		1		
		Special Order Item	SEECO Switch, 69kV, 1200 Amp., LBRK 2–Way			1	
		Special Order Item	SEECO Switch, 69kV, 1200 Amp., Non LBRK 2–Way				1
	Q	22 13 099	Lock, Switch, 7/8” vertical opening	3	3	3	3
9	R	16 01 229	Plate, Number & Caution Sign, Alum.	3	3	3	3
10@	AA	10 01 236	Arrester, Line Protection, 60kV Rated, 48kV MCOV	As Req.	As Req.	As Req.	As Req.
@	T	**06 00 11 ****	Deadend – Looparound, Static Wire	1	1	1	1
@	AAA	**12 69 11 ****	Grounding Unit	1	1	1	1

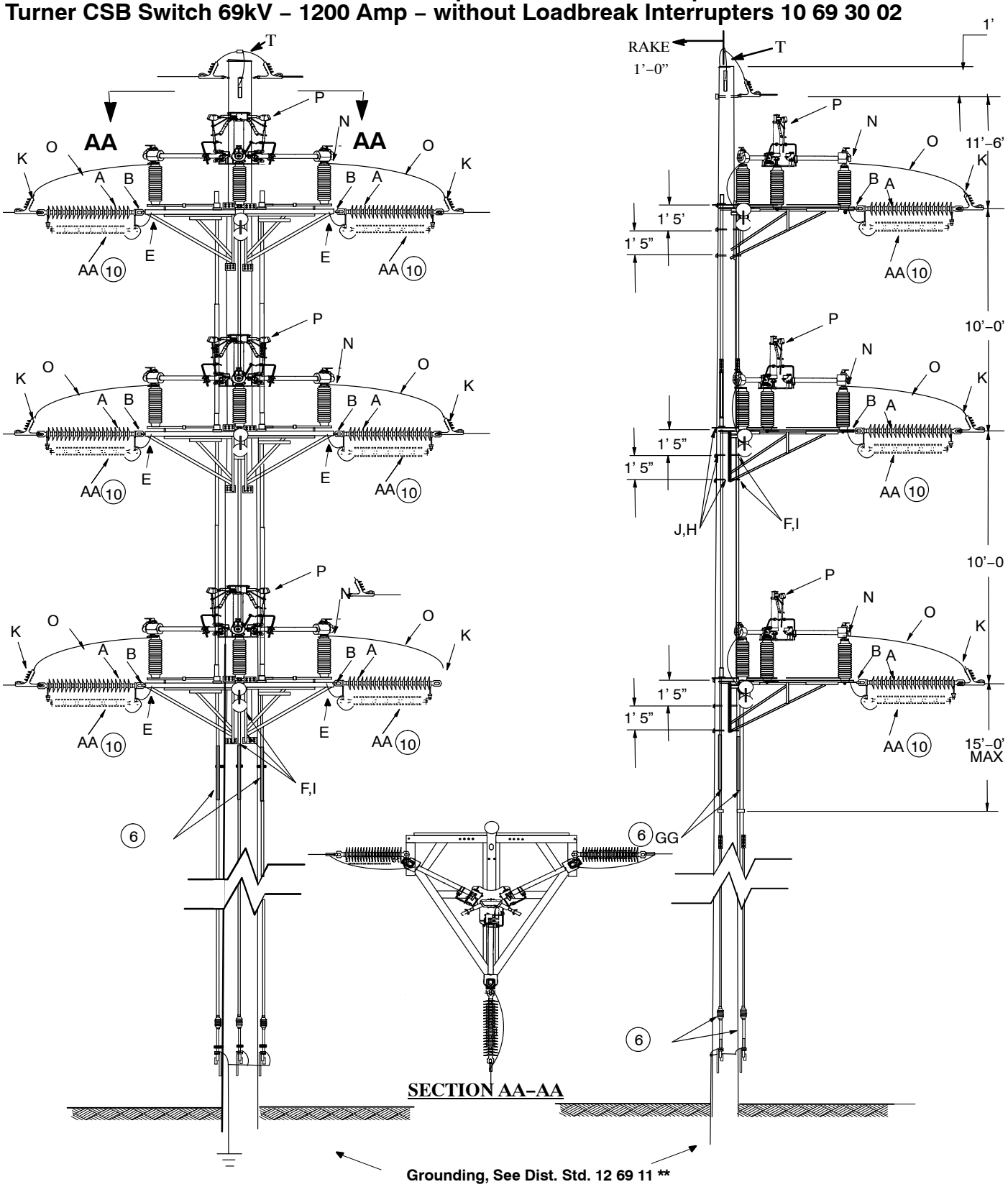
NOTES:

1. See Dist. Std. **06 00 11**** for shield wire details
2. Evenly space pipe guides 10'–0" to 15'–0" apart
3. Refer to DCS **12 69 11 **** for grounding switch pole. The switch handle must be grounded to a driven ground rod or a field formed ground electrode.
4. Switch weight must be considered when determining pole class. Each switch with insulators and interrupting devices weights approximately 2109 Pounds.
5. Switch can be equipped with or without load interrupting devices.
6. Switch pole grounding, operating rod insulators and ground mat requirement and installation, refer to DCS **10 34 01 01**.
7. If motor operator is to be installed, See Dist. Std. **10 00 01 01** & **10 69 10 ****.
8. The space shall be increased 7'–6" when distribution conductor is not T–2.
9. Where to mount switch's number plate is based on your local description
10. Arresters are used for normally open switches, or switches with sensor devices which may be susceptible to lightning. The line arrester is suspended from the compressed–on end fittings of the polymer deadend insulator and supported by aluminum hot line clamps. The disconnector coupling assembly detaches the line end of the arrestor should the arrestor fail and will cause the arrester to pivot and drop down into a vertical position which makes the failed arrester much more visible. The disconnect coupling assembly with a 3/8" threaded stud that can be inserted into the tap lead eyebolt of the hot line clamp on the line end and an eyebolt with 3/8" stud that can be inserted into the tap lead eyebolt of the hot line clamp on the ground end. One of the tinned copper leads (on the left (pole end) of the assembly) is to shunt the clevis–eye connection to eliminate radio noise. The longer tinned copper lead is for connection to a pole ground wire or a metal switch based with line clamp (stk no. 23 78 394) connected the line end on a stainless bolt (stk no. 21 56 433, 21 75 106 (hex nut), and 21 61 142 (washer)), which is bolted on the switch base.

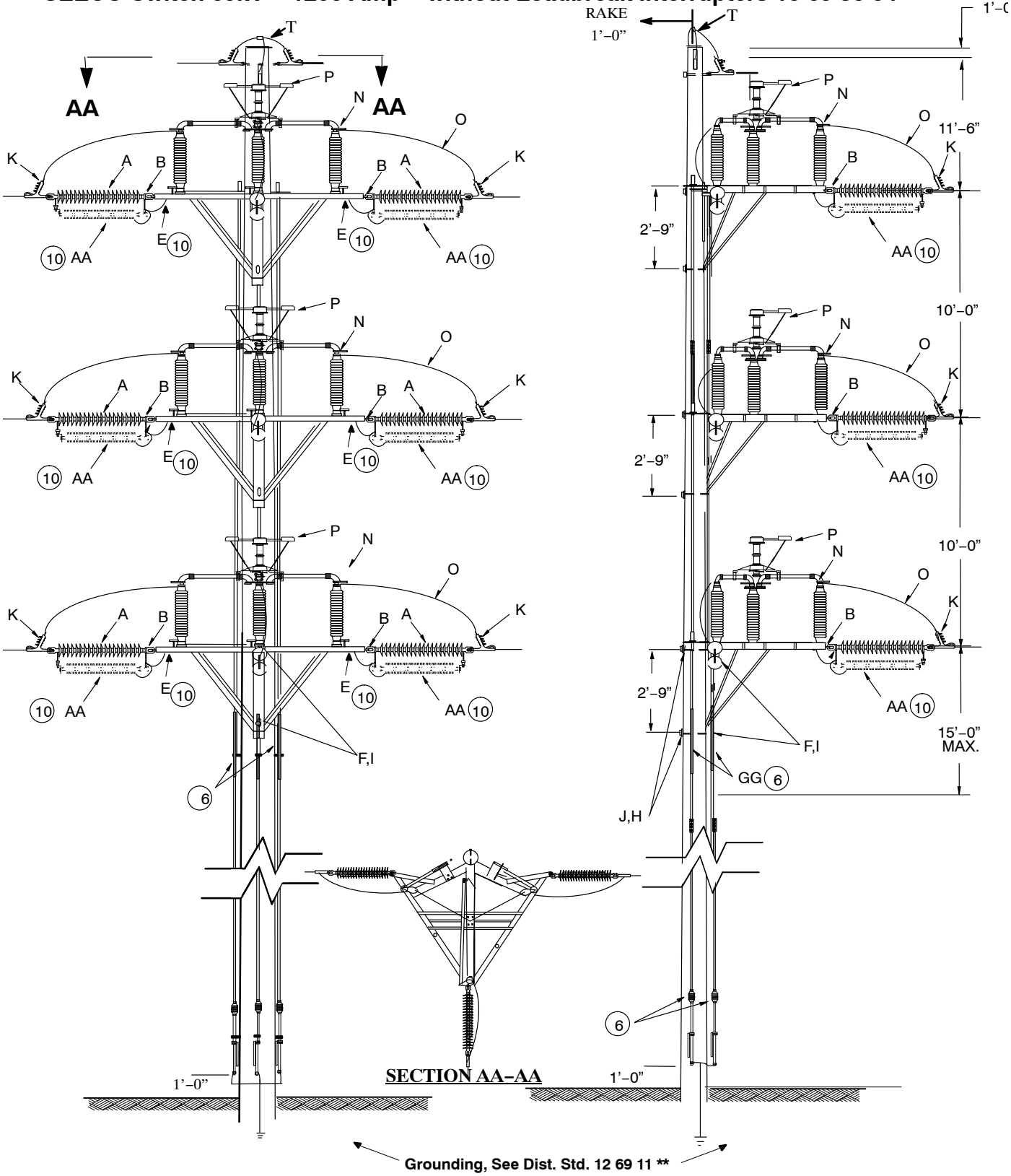
    Notes (as suggestion):

    1. Use some Loctite on the threads of the 3/8" bolts to keep bolts from coming loose and also use a 3/8" carriage head bolt through the hot line clamp eyebolt which would keep the assembly from falling if the hot line clamp tap lead eyebolt should loosen.
    2. The arrester assembly will not work with porcelain deadend bells.
    3. If space is limited on the switch pole but available on adjacent pole, install the arresters on the adjacent pole.
11. Train phase conductors thru DE clamp and terminate with compression lugs to attach to switch terminals.
12. If pull offs from switch frame other than 0°, 90°, or 180°, precaution must be taken to avoid torque to the switch frame out of alignment.
13. The operating rod insulator (8 ft. interphase fiberglass insulator for isolating 69 kV from underbuilt circuits and one TR210 porcelain station post insulators for isolating underbuilt circuits from the switch operating handle) can be eliminated for a steel pole.

Turner CSB Switch 69kV – 1200 Amp – Loadbreak Interrupters 10 69 30 01
Turner CSB Switch 69kV – 1200 Amp – without Loadbreak Interrupters 10 69 30 02



SEECO Switch 69kV – 1200 Amp – Loadbreak Interrupters 10 69 30 03
SEECO Switch 69kV – 1200 Amp – without Loadbreak Interrupters 10 69 30 04



NOTES:

1. See DCS **06 00 11**** for shield wire details
2. Evenly space pipe guides 10'–0" to 15'–0" apart
3. Refer to DCS **12 69 11**** for grounding switch structure. The switch handle must be grounded to a driven ground rod or a field formed ground electrode.
4. Switch weight must be considered when determining pole class. Each switch with insulators and interrupting devices weights approximately 2109 Pounds.
5. Switch can be equipped with or without loadbreak interrupting devices.
6. Switch pole grounding, operating rod insulators and ground mat requirement and installation, refer to DCS **10 34 01 01**.
7. If motor operator is required, See DCS **10 00 01 01** & **10 69 10 ****.
8. The space shall be increased 7'–6" when distribution conductor is not T–2.
9. Where to mount switch's number plate is based on your local description.
10. Arresters are used for normally open switches, or switches with sensor devices which may be susceptible to lightning. The line arrester is suspended from the compressed–on end fittings of the polymer deadend insulator and supported by aluminum hot line clamps. The disconnector coupling assembly detaches the line end of the arrestor should the arrestor fail and will cause the arrester to pivot and drop down into a vertical position which makes the failed arrester much more visible. The disconnect coupling assembly with a 3/8" threaded stud that can be inserted into the tap lead eyebolt of the hot line clamp on the line end and an eyebolt with 3/8" stud that can be inserted into the tap lead eyebolt of the hot line clamp on the ground end. One of the tinned copper leads (on the left (pole end) of the assembly) is to shunt the clevis–eye connection to eliminate radio noise. The longer tinned copper lead is for connection to a pole ground wire or a metal switch based with line clamp (stk no. 23 78 394) connected the line end on a stainless bolt (stk no. 21 56 433, 21 75 106 (hex nut), and 21 61 142 (washer)), which is bolted on the switch base.

    Notes (as suggestion):

    1. Use some Loctite on the threads of the 3/8" bolts to keep bolts from coming loose and also use a 3/8" carriage head bolt through the hot line clamp eyebolt which would keep the assembly from falling if the hot line clamp tap lead eyebolt should loosen.
    2. The arrester assembly will not work with porcelain deadend bells.
    3. If space is limited on the switch pole but available on adjacent pole, install the arresters on the adjacent pole.
11. Train phase conductors thru DE clamp and terminate with compression lugs to attach to switch terminals.
12. If pull offs are from switch frame other than 0°, 90°, or 180°, precaution must be taken to avoid torque to the switch frame out of alignment.
13. The operating rod insulator (8 ft. interphase fiberglass for isolating 69 kV underbuilt circuits and one TR210 porce-lain station post insulators for isolating underbuilt circuit from the switch operating handle) can be eliminated for a steel pole.

		Stnd. / Stk. No.	Description 10 69 05 **	01	02	03	04
		Contact Dist. Eng.	Composite or Steel Pole	1	1	1	1
	A	25 06 113	Insulator, Polymer, Suspension, Wye Clevis– Oval Eye, 42”L (nominal)	9	9	9	9
	B	23 68 440	Shackle, Anchor, 3/4” Pin, 1–1/16” opening, Galv.	18	18	18	18
10@	E	17 51 032	Clamp, Parallel Groove, #6AWG–1/0 AWG AL	6	6	6	6
@	F	23 52	Bolt, Mach., Galv., 3/4” Sq. Head/Sq. Nut, length as required	9	9	9	9
	H	23 65 042	Nut, Lock, MF, Galv., 3/4”	9	9	9	9
	I	23 66 131	Washer, Sq. Flat, Galv., 3/4”	9	9	9	9
	J	23 66 031	Washer, Sq. Curved, Galv., for 3/4” Bolt	11	11	11	11
@	K	DEC*W	Clamp, Deadend (wire type and size required)	9	9	9	9
@	N	CL*W	Lug, Compr. Terminal, AL, DCS **07 00 30 00**	12	12	12	12
11@	O	LW *W	Wire, Bare, DCS **07 00 01 01**	As Req.	As Req.	As Req.	As Req.
	P	Special Order Item	Turner CSB Switch, 69kV, 1200 Amp., LBRK 3–Way	1			
		Special Order Item	Turner CSB Switch, 69kV, 1200 Amp., Non LBRK 3–Way		1		
		Special Order Item	SEECO Switch, 69kV, 1200 Amp., LBRK 3–Way			1	
		Special Order Item	SEECO Switch, 69kV, 1200 Amp., Non LBRK 3–Way				1
	Q	22 13 099	Lock, Switch, 7/8” vertical opening	3	3	3	3
9	R	16 01 229	Plate, Number & Caution Sign, Alum.	3	3	3	3
@	T	**06 00 11 ****	Deadend – Loop around, Static Wire	1	1	1	1
10	AA	10 01 236	Arrester, Line Protection, 60kV Rated, 48kV MCOV	As Req.	As Req.	As Req.	As Req.
	BB	**12 69 11****	Grounding Unit	1	1	1	1
			Number Switch	3	3	3	3