

## OLSON INDUSTRIES, INC.

### TO OUR STEEL POLE USERS:

The following information is provided for the purchaser's guidance in the application and use of Olson Industries steel poles.

- All Olson Industries steel poles are fabricated from 55,000 PSI yield or better steel tubing.
- After allowing for vertical loads on the poles, the maximum allowable bending moments (in ft. lbs.) of the steel pole tubing is:

$$8.625'' \text{ OD} \times .125'' \text{ thick} = 29,130$$

$$10.75'' \text{ OD} \times .125'' \text{ thick} = 45,620$$

$$12.75'' \text{ OD} \times .125'' \text{ thick} = 64,540$$

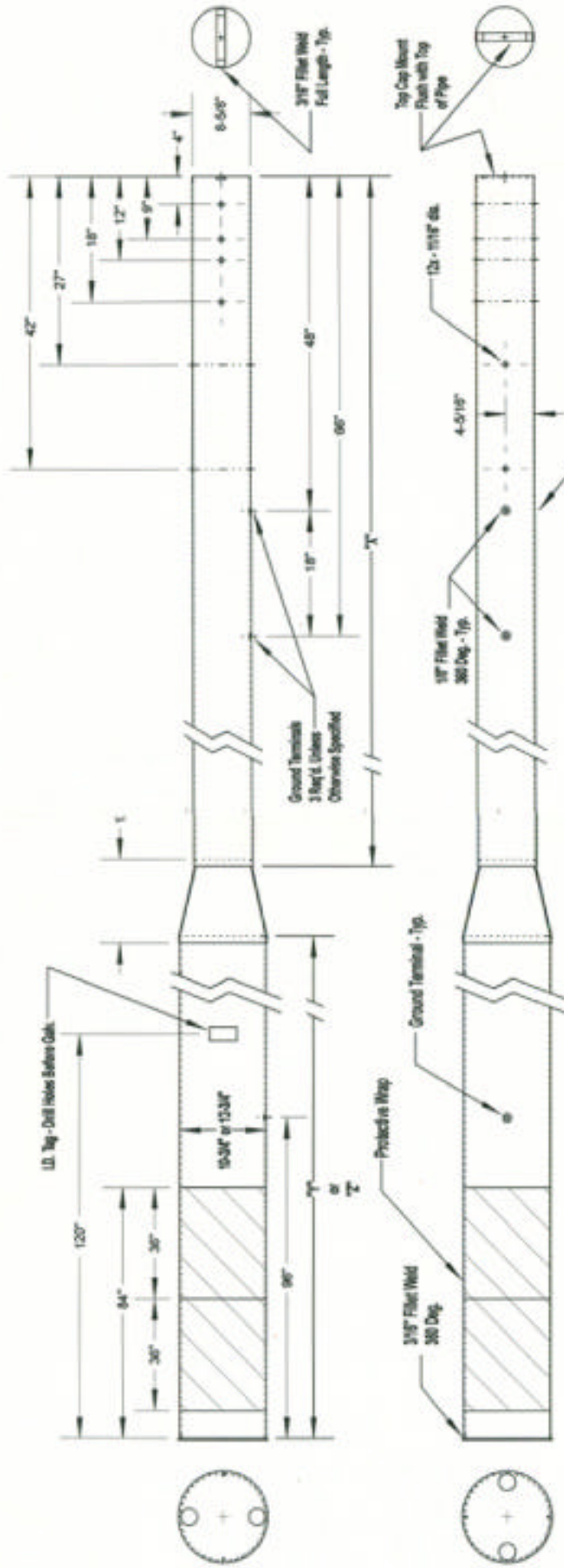
- To help minimize future leaning of these steel poles, Olson Industries recommends MINIMUM SETTING DEPTHS to be 6.5' for 35' poles and 10% of the length plus 2.5' for others. 6" more depth would be even better.
- As an alternate to using 40' and 45' class 5 equivalent steel poles for single phase distribution lines, Olson Industries offers 40' and 45' steel poles made with 8.625" OD tubing only. These poles are adequate for many single-phase lines that will never need to be converted to 2 or 3 phase lines.
- Moments due to 16 lb. wind on the pole ( in ft. lbs.) At standard setting depths:

	<u>35' Poles</u>	<u>40' Poles</u>	<u>45' Poles</u>
8.625" OD Pipe	4836	6647	8523

- ALLOWABLE AVERAGE SPAN LENGTHS for Olson Industries 8.625" OD (No Class) distribution line steel poles based on NESC Grade B construction in the heavy loading district with over-load factors of 2.5 for wind and 1.65 for line angle loads are shown below. Allowable span lengths for NESC Grade C construction would be about 13% more. This assumes conductor design tensions of 3100 lbs. for 4/0 ACSR, 2050 lbs. for 1/0 ACSR and 1370 lbs. for #4 ACSR. (These 8.625" OD poles are NOT adequate for three (3) phase lines.)

SINGLE PHASE LINES	<u>35' Poles</u>		<u>40' Poles</u>		<u>45' Poles</u>	
	Tangent (0° angle)	2° line Angle	Tangent (0° angle)	2° line Angle	Tangent (0° angle)	2° line Angle
4/0 ACSR Line with 1/0 ACSR neutral: <u>8.625" OD x .125" thick pole</u>	353'	232'	277'	156'	223'	102'
1/0 ACSR line with 1/0 ACSR or smaller neutral: <u>8.625" OD x .125" thick pole</u>	376'	275'	295'	193'	237'	136'
#4 ACSR line with #4 ACSR neutral: <u>8.625" OD x .125" thick pole</u>	418'	343'	328'	252'	264'	189'

- Dents or other damage to the steel pole tubing during shipping, handling, or installation may significantly reduce the strength of the steel pole. Be sure to consult your design ENGINEER if damage occurs.
- BE SURE TO CONSULT YOUR ELECTRICAL DESIGN ENGINEER about line design using steel structures. Be sure to consult YOUR ELECTRICAL LINE DESIGN ENGINEER for information on other line designs or designs with other conductor sizes. If there are other questions, please contact Olson Industries, Inc.



**COMPONENT PIPE SIZES & LENGTHS PER CLASS**

Item #	8-5/8" length	10-3/4" x 0.125" "X"	12-3/4" x 0.125" "Z"	12-3/4" x 0.150" "Z"	Reducer	Part Numbers
Item 1	20'	14' 3"	19' 3"		10-3/4 to 8-5/8"	P4-40-P4-0 P4-48-P4-0
Item 2	20'	9' 3"			10-3/4 to 8-5/8"	P4-31-P4-0 P4-39-P4-0
Item 3	15'	19' 3"	24' 3"	29' 3"	12-3/4 to 8-5/8"	P4-40-P4-0 P4-48-P4-0

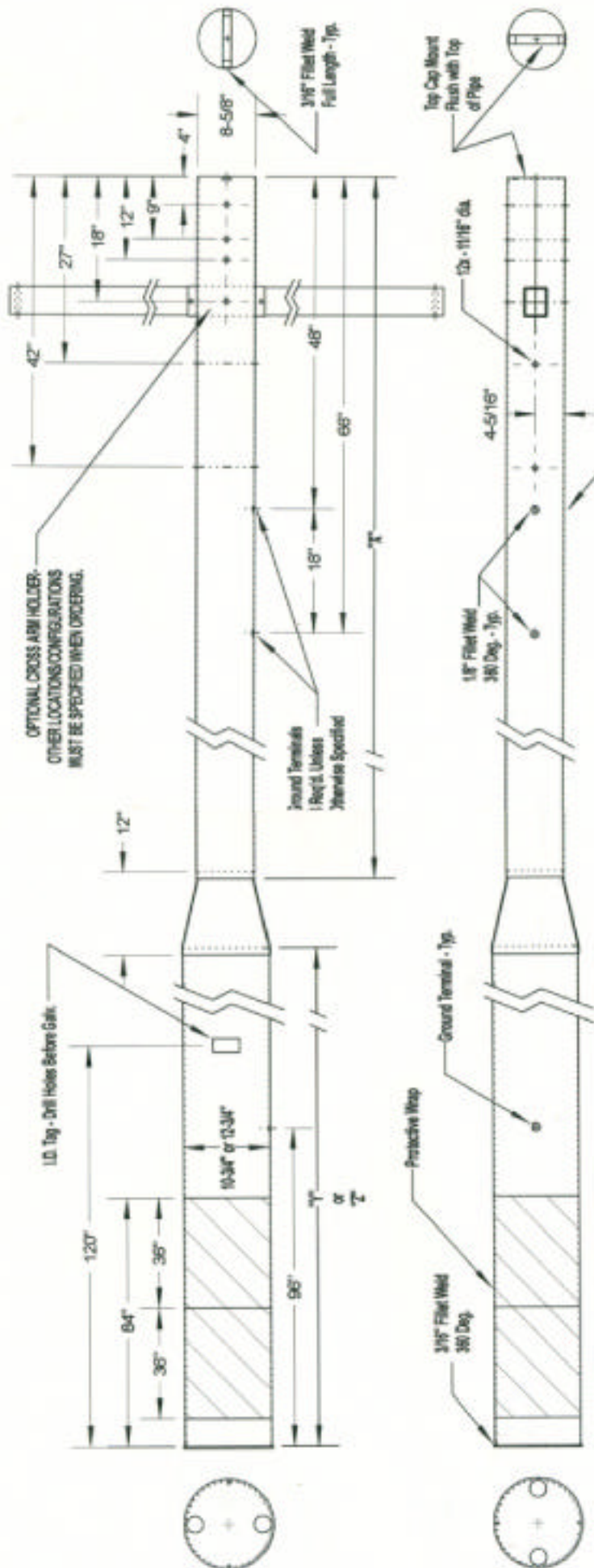
Updated 2/16/19 to Top of Pole Protection Strip (2020)  
 Updated 10/07/18 Pole Length Class 1 (2020)  
 Standard 10/11/17 "X"  
 Note F' from Top (2020)

**NOTE: 10-3/4 & 12-3/4" OD PIPE - 1/8" WALL**  
 ASTM SPEC. - A595  
 60,000 psi min. yield strength

**NOTE: 8-5/8" OD PIPE - 1/8" WALL**  
 ASTM SPEC. - A595  
 60,000 psi min. yield strength

DRAWN BY: TOL	TITLE: TWO PIECE POLE ASSEMBLY	COLSON INDUSTRIES INC.
APPROV BY: TOL	MAT. SPEC.: See Above	CONSOLID. 8/13
DATE: 03/20/21	NEXT ASSEMBY:	PKG. NO.:
SCALE: 1"=10'	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	MODEL NO.:
FILE NAME: PA-UU-TPPA-D	FRACTIONS 1/2" DECIMALS 1/10" ANGLES 1/16 Deg	PART NO.: See Table





COMPONENT PIPE SIZES & LENGTHS PER CLASS

Item #	8-5/8" x 0.125"	10-3/4" x 0.125"	12-3/4" x 0.125"	12-3/4" x 0.156"	Part Numbers
Item 1	30'	30'	30'	30'	PS9-53-PA-1 PS9-53-PA-1
Item 2	14' 3"	14' 3"	14' 3"	14' 3"	P4-48-PA-OH P4-48-PA-OH
Item 3	9' 3"	9' 3"	9' 3"	9' 3"	P4-36-PA-OH P4-36-PA-OH
Item 4	20'	20'	20'	20'	P4-48-PA-OH P4-48-PA-OH
Item 5	15'	15'	15'	15'	P4-36-PA-OH P4-36-PA-OH

NOTE: 10-3/4" & 12-3/4" OD PIPE - 1/8" WALL  
 ASTM SPEC. - A 595  
 60,000 psi min. yield strength

NOTE: 8-5/8" OD PIPE - 1/8" WALL  
 ASTM SPEC. - A 595  
 60,000 psi min. yield strength

DRLE:	TOL	TITLE:	TWO PIECE POLE ASSEMBLY WITH CROSS ARM HOLDER	OLSON INDUSTRIES INC.
APBY:	TOL	MAT SPEC:	See Above	ATYERSON, NE 85713
DA:	02/05/03	HEAT ASSEM. IS:	CROSS ARM HOLDER	
SC:	17-007	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
FRAME:	PA3-JU-TPRA-3CH	FACTORS 10" DECIMAL 1/32" ANGLES 1/16"		
		MODEL NO.:		
		PART NO.:	See Table	

Updated 26. to Top of Pole Protective Wrap 02/01  
 Updated 1487. Pole Lengths Class 3 8/20/01  
 Standard 01 11/07 06  
 Model P 1 use 1g 6/26/01

ROSS ARM HOLDER - PAT. PENDING # 09/678,119