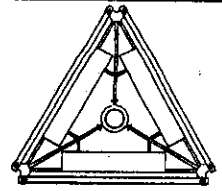


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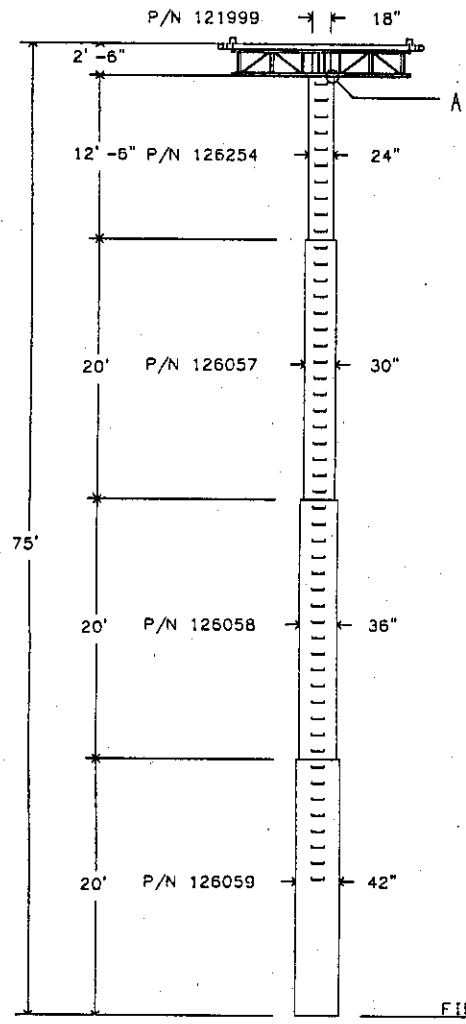


ROTATABLE TOP - TOP VIEW

MONOPOLE SECTION

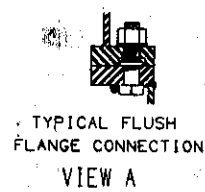
SECTION					CONNECT BOLT				PILOT BOLT				
LENGTH	PART #	SIZE	WALL	WT. *	DIAM	LENGTH	#	DIAM	LENGTH	#			
2'-6"	121999	18"	N/A	2203#	1"	4-1/2"	8						
12'-6"	126254	24"	.375"	1438#	1"	4-1/2"	17	1"	5"	3			
20'	126057	30"	.375"	2747#	1"	4-1/2"	21	1"	5"	3			
20'	126058	36"	.375"	3290#	1"	5"	25	1"	6"	3			
20'	126059	42"	.375"	3833#									

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.



TOP 2'-6" CONSISTS OF ROTATABLE TOP ASSEMBLY. SEE DWG # 122761-B FOR INSTALLATION DETAILS.

ALL CONNECTIONS ARE A-325 BOLTS SEE TABLE ABOVE FOR SIZE & QTY.



SEE PAGE 2 OF THIS DRAWING FOR OPENING INFORMATION.

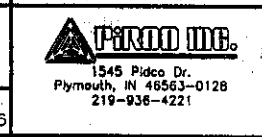
SEE PAGE 4 OF THIS DRAWING FOR CONNECTION BOLT TIGHTENING SPECIFICATIONS.

REMOVABLE CLIMBING RUNGS

U. S. WEST NEWVECTOR GROUP
MIN/ZANESWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME
MP42 X 75'
ASSEMBLY DRAWING



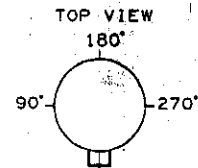
NO.	DESCRIPTION OF REVISIONS	INI	DATE
A	ADDED FOUNDATION. REVISED ANTENNA NOTES.	WBR	05/22/96

APPROVED/FOUND. DR BY DATE
N/A KWD 04/12/96

APPROVED/ENG. ARCHIVE
WBR 05/22/96 Q-57640

DWG. NO. 200993-B PAGE 1 OF 8

OPENINGS & BRACKETS WELDED TO POLE				
HEIGHT *H	TYP	DESCRIPTION	ANGL	ASSEMBLY DRAWING#
71' -5"	13	SAFETY CLIMB BRACKET	0°	
66' -6"	5	4-1/2" ROUND PORTHOLE EXITING UP	90°	
66' -6"	5	4-1/2" ROUND PORTHOLE EXITING UP	270°	
9' -8"	8	TRANS. LINE BRIDGE ATTACH BRACKET	270°	
7' -4"	2	10" X 25" OVAL PORTHOLE	270°	
6' -9"	7	GROUNDING PLATE	270°	
1' -6"	2	10" X 25" OVAL PORTHOLE	180°	
1' -3"	13	SAFETY CLIMB BRACKET	0°	



CLIMBING RUNGS

THE ANGLE TO THE OPENING IS MEASURED CLOCKWISE FROM THE CENTER-LINE OF THE CLIMBING RUNGS WHEN LOOKING DOWN



HEIGHT FROM TABLE

* THE HEIGHT IN THE TABLE IS THE DISTANCE FROM THE BASE OF THE BOTTOM SECTION OF THE MONO-POLE TO THE OPENING REFERENCE POINT "R" AS SPECIFIED ON PAGE 3 FOR THAT OPENING TYPE.

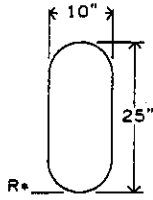
U. S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

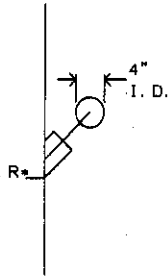
NAME MP42 X 75' OPENINGS		
APPROVED/FOUND. N/A	DR BY KWD	DATE 04/12/96
APPROVED/ENG. MBR 05/22/96	ARCHIVE Q-57640	DWG. NO. 200993-B

PERKINS INC.
1545 Plisco Dr.
Plymouth, IN 46563-0128
219-936-4221

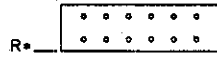
PAGE
2 OF 8



TYPE 2
OPENING



TYPE 5
OPENING



GROUNDING
PLATE



LINE BRIDGE
BRACKET

SAFETY CLIMB BRACKET

U. S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME MP42 X 75' OPENINGS	
APPROVED/FOUND. N/A	DR BY DATE KWD 04/12/96
APPROVED/ENG. WBR 05/22/96	ARCHIVE Q-57640

PERDUE INC.
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

DWG. NO. 200993-B PAGE 3 OF 8

GENERAL NOTES

1. TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-E FOR 90 MPH BASIC WIND SPEED WITH .50" RADIAL ICE WITH LOAD DUE TO WIND REDUCED BY 25% WHEN CONSIDERED SIMULTANEOUSLY WITH ICE. TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-E FOR 90 MPH BASIC WIND SPEED WITH NO ICE.
2. MATERIAL: (A) SOLID RODS CONFORM TO ASTM A-572 GRADE 50 REQUIREMENTS.
(B) ANGLES CONFORM TO ASTM A-36 REQUIREMENTS.
(C) PIPE CONFORMS TO ASTM A-53 TYPE E, GRADE B REQUIREMENTS. (MIN YIELD STRENGTH=42 KSI)
(D) ALL STEEL PLATES CONFORM TO ASTM A-36 REQUIREMENTS.
3. BASE REACTIONS PER EIA/TIA-222-E FOR 90 MPH BASIC WIND SPEED WITH .50" RADIAL ICE WITH LOAD DUE TO WIND REDUCED BY 25% WHEN CONSIDERED SIMULTANEOUSLY WITH ICE:
TOTAL WEIGHT= 19.6 KIPS.
MOMENT= 888.3 KIP-FT.
MAXIMUM SHEAR= 13.8 KIPS TOTAL.
4. BASE REACTIONS PER EIA/TIA-222-E FOR 90 MPH BASIC WIND SPEED WITH NO ICE.
TOTAL WEIGHT= 17.1 KIPS.
MOMENT= 1138.1 KIP-FT.
MAXIMUM SHEAR= 17.7 KIPS TOTAL.
5. FINISH: HOT DIPPED GALVANIZED AFTER FABRICATION.
6. ANTENNAS: 75' (12) 8' PANELS (CaAa = 16 sq-ft ea) WITH 1-5/8" LINES MOUNTED ON A ROTATABLE CELLULAR PLATFORM.
75' (3) WHIPS (CaAa = 6.3 sq-ft ea) WITH 1-5/8" LINES (FUTURE).
70' (1) 6' DISH WITH 1-5/8" LINE (FUTURE).
7. INSTALL BASE SECTION WITH MINIMUM OF 2" CLEARANCE ABOVE CONCRETE.
8. MIN. WELDS 5/16" UNLESS OTHERWISE SPECIFIED. ALL WELDING TO CONFORM TO AWS SPECIFICATIONS.
9. ALL BOLTS MUST BE IN PLACE WITH JAM NUTS PRIOR TO ERECTION OF THE STRUCTURE. ALL BOLTS AND NUTS MUST BE IN PLACE AND TIGHTENED BEFORE THE ADJOINING SECTION(S) ARE PLACED.
10. ALL A-325 BOLTS SHALL BE PRE-TENSIONED PER AISC SPECIFICATIONS. REFER TO DRAWING # 123107-B ("BOLT PRE-TENSIONING GUIDELINES".)
11. OUTSIDE CLIMB RUNGS WITH SAFETY CLIMB.

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME MP42 X 75'		
NOTES:		
APPROVED/FOUND.	DR BY	DATE
N/A	KWD	05/22/96



A	ADDED FOUNDATION. REVISED ANTENNA NOTES.	WBR	05/22/96	APPROVED/ENG.	ARCHIVE	DWG. NO.	PAGE
	DESCRIPTION OF REVISIONS	INI	DATE	WBR	05/22/96	Q-57640	200993-B 4 OF 8

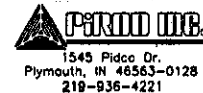
FOUNDATION NOTES

1. SOIL AS PER REPORT BY GME CONSULTANTS, INC., DATED 05/09/96 (PROJECT #6043).
2. CONCRETE TO BE 3000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. A COLD JOINT IS PERMISSIBLE UPON CONSULTATION WITH PIROD. ALL COLD JOINTS SHALL BE COATED WITH BONDING AGENTS PRIOR TO SECOND POUR.
4. ALL REINFORCING STEEL TO BE FORMED INTO A CAGE PRIOR TO SETTING INTO POSITION IN THE EXCAVATED PIER.
5. PERMANENT STEEL CASING SHALL NOT BE USED WITHOUT CONSENT FROM FOUNDATION DESIGNERS.
6. GROUTING OF MONOPOLE BASE IS OPTIONAL. IF GROUT IS USED, DRAINAGE MUST BE PROVIDED FROM THE INTERIOR OF POLE.
7. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
8. A TEMPORARY STEEL CASING AND/OR DRILLING MUD IS REQUIRED DURING INSTALLATION.

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME MP42 X 75'	
NOTES	
APPROVED/FOUND. DR BY DATE	
WBR 05/22/96	KWD 05/22/96
APPROVED/ENG.	ARCHIVE
WBR 05/22/96	G-57640

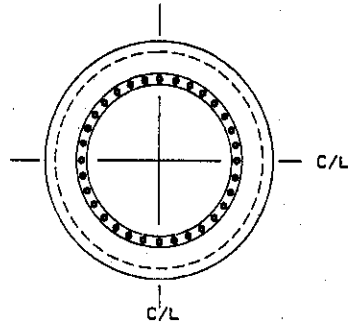


A	ADDED FOUNDATION. REVISED ANTENNA NOTES.	WBR	05/22/96	DWG. NO.	200993-B	PAGE	5 OF 8
	DESCRIPTION OF REVISIONS	INI	DATE				

TOP VIEW

TOP AND SIDE VIEWS ARE
DRAWN TO DIFFERENT SCALE

BASE FLANGE MUST BE CENTERED IN PIER
WITHIN +/- 10% OF PIER DIAMETER

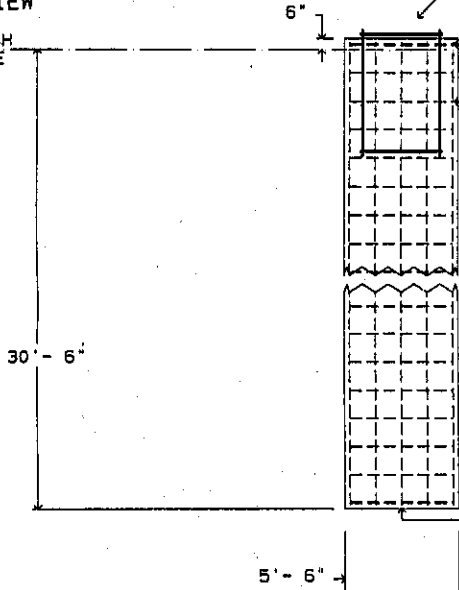


GROUTING OF MONOPOLE BASE IS OPTIONAL.
IF GROUT IS USED, DRAINAGE MUST BE
PROVIDED FROM THE INTERIOR OF POLE.

FOR ANCHOR STEEL IDENTIFICATION AND
PLACEMENT INFORMATION, SEE PAGE 8.

SIDE VIEW

FINISH
GRADE



FOR DETAIL VIEW OF REBAR CAGE
END AREA, SEE PAGE 7. (E)

5 HORIZONTAL TIES - SEE (B) ON PAGE 7.
23 PIECES REQUIRED, EQUALLY SPACED.

9 VERTICAL REBAR - SEE (A) ON PAGE 7.
33 PIECES REQUIRED, EQUALLY SPACED,
TO BE PLACED INSIDE TIES.

TOWER FOUNDATION

27.3 CUBIC YARDS CONCRETE REQUIRED

FOR INSTALLATION SPECIFICATIONS AND
ADDITIONAL INFORMATION, SEE PAGE 5
OF THIS DRAWING.

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME
MP42 X 75'
FOUNDATION

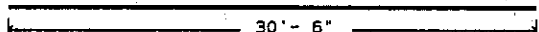


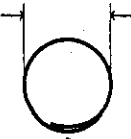
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NBR 05/22/96 KWD 05/22/96

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NBR 05/22/96 Q-57640

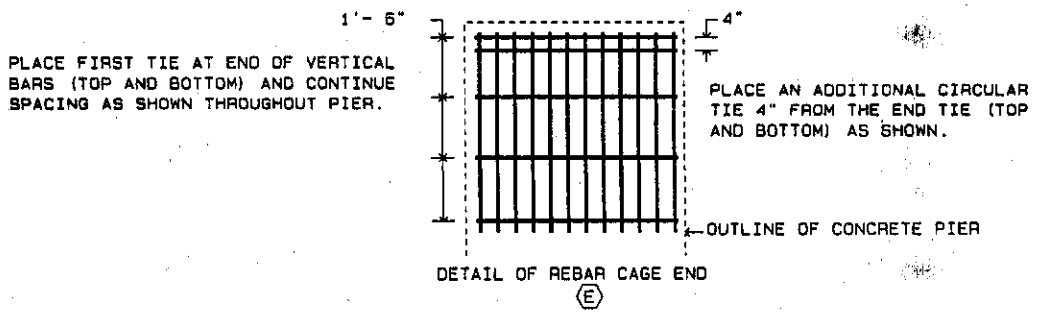
DWG. NO. **200993-B** PAGE **6 OF 8**

A	DESCRIPTION OF REVISIONS	INI	DATE
A	ADDED FOUNDATION. REVISED ANTENNA NOTES.	NBR	05/22/96

(A)  # 9 REBAR - 33 PIECES REQ. TOTAL
APPROX WT = 103.7# EACH, 3422# TOTAL


(B)  # 5 REBAR - 23 PIECES REQUIRED TOTAL
APPROX UNBENT LENGTH = 17'-11- 1/4"
APPROX WT = 18.7# EACH, 430# TOTAL

LAP DIMENSION: 2'- 2- 3/4"
PLACE REBAR RINGS SO THAT LAPS ON
ADJACENT RINGS ARE 180 DEGREES APART.
SEE PAGE 6 FOR RING PLACEMENT.

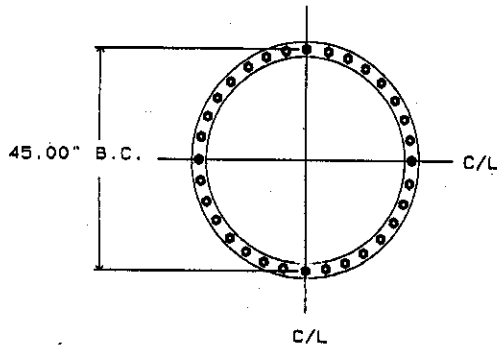


REBAR DETAIL

TOTAL APPROX REBAR WEIGHT = 3852#
REINFORCING BAR TO CONFORM TO
ASTM A615 GRADE 60 SPECIFICATIONS.

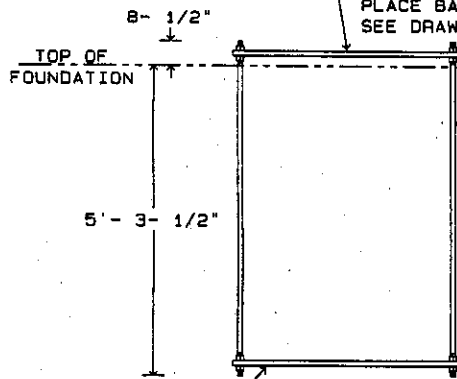
U.S. WEST NEWVECTOR GROUP MIN/ZANEWOOD, MINNESOTA		ENG. FILE NO. A-112089	
NAME MP42 X 75' REBAR DETAIL		 1545 Picco Dr. Plymouth, IN 46363-0128 219-936-4221	
APPROVED/FOUND.	DR BY	DATE	
WBR 05/22/96	KWD	05/22/96	
APPROVED/ENG.	ARCHIVE	DWG. NO.	
WBR 05/22/96	Q-57640	200993-B	
A	ADDED FOUNDATION, REVISED ANTENNA NOTES.	WBR	05/22/96
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		PAGE	
		7 of 8	

BASE FLANGE MUST BE CENTERED IN PIER
WITHIN +/- 10% OF PIER DIAMETER.



GROUTING OF MONOPOLE BASE IS OPTIONAL.
IF GROUT IS USED, DRAINAGE MUST BE
PROVIDED FROM THE INTERIOR OF POLE.

FOUNDATION PLATE P/N 118488 MUST BE SECURELY
DOUBLE-NUTTED TO ANCHOR BOLTS DURING CONCRETE
INSTALLATION AND MUST BE LEVEL +/- 1/8".
PLACE BASE FLANGE AS DEPICTED ABOVE.
SEE DRAWING #118492-8.



ANCHOR BOLT P/N 123653 - 32 REQUIRED
DIAMETER= 1.00" COLOR CODE= BLACK/GOLD
INSTALL WITH 8.5" OF THREADS EXPOSED.

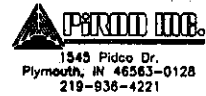
PLATE P/N 118488 SECURELY DOUBLE-NUTTED TO ANCHOR
BOLTS USED AS EMBEDMENT PLATE IN CONCRETE.

TOWER ANCHOR STEEL PLACEMENT

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA

ENG. FILE NO.
A-112089

NAME
MP42 X 75'
ANCHOR STEEL



APPROVED/FOUND. OR BY DATE
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A	ADDED FOUNDATION. REVISED ANTENNA NOTES.	WBR	05/22/96
	DESCRIPTION OF REVISIONS	INI	DATE

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WBR 05/22/96 G-57640

DWG. NO. 200993-B PAGE 8 of 8

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANESWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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REVISIONS

#	Rev	By	Date	Description
1				
2				
3				
4				

GENERAL INFORMATION

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
5					123107-B	BOLT PRE-TENSIONING GUIDELINES		
6								
7								

ANCHOR STEEL

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
8					118492-B	INSTALLATION DRAWING		
9		2		118488	118483-B	BASE FLANGE TEMPLATE 42" PIPE	117.90	236#
10		32		123653	103182-B	ANCHOR BOLT 1" X 72" COLOR CODE = BLACK/GOLD	18.00	576#
11						THE FOLLOWING ITEMS ARE INCLUDED WITH THE ANCHOR BOLTS		
12		64		312504		1" GALVANIZED NUT		
13		64		312505		1" BLACK NUT		

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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 Printed 05/22/96 16:19 Page 2

ANCHOR STEEL (Continued)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		64		312222		1" FLAT WASHER		
2		32		312223		1" LOCK WASHER		

MP42 SECTION (0' - 20' ELEVATION)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
3		1		126059	126059-B	42" M/P SEC. 20' (3/8" WALL) FLUSH MOUNT FLANGE-REMOVABLE RUNGS	3833.00	3833#
4					119721-B	PAD EYE INSTALLATION		
5		9		119730	119730-A	#4 CROSBY PAD EYE	0.50	5#
6		8		127492	127492-A	12" O.C. REMOVABLE CLIMBING RUNG FOR MONOPOLES	3.80	30#
7						WELD SLEEVES FOR CLIMBING RUNGS BEGINNING @ 10' ELEV. ON 0 DEGRE		
8		1		127257	127257-A	WELD SAFETY CLIMB BRACKET @ 1'- 3" ELEV @ 0 DEG ORIENTN	1.79	2#
9		1		121009	121009-B	WELD TRANS. LINE BRIDGE BRACKET @ 9'- 8" ELEV @270 DEG ORIENTN	6.05	6#
10		1		120970	120970-B	WELD GROUNDING PLATE @ 6'- 9" ELEV @270 DEG ORIENTN	5.96	6#
11		1				WELD 10" X 25" OVAL PORTHOLE @ 7'- 4" ELEV @270 DEG ORIENTN		
12		1				WELD 10" X 25" OVAL PORTHOLE @ 1'- 6" ELEV @180 DEG W/ COVER		
13								
14								
15								
16								

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANESWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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TYPE 2 ACCESS OPENING - 42" POLE

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt.Each	*Weight
1					119048-B	INSTALLATION DRAWING - TYPE 2 ACCESS OPENING		
2		2		118587	118587-B	10" X 25" OVAL ACCESS PORT HOLE FOR MONOPOLES	45.00	90#
3		2		118921	118921-A	REINFORCING PLATE (BLANK) 42" MONOPOLE	136.00	272#
4					118923-A	INSTALLATION DWG FOR PART #118921		

DOOR FOR TYPE 2 ACCESS OPENING

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt.Each	*Weight
5		1		118588	118588-A	10" X 25" COVER LARGE OVAL PORT HOLE	29.00	29#
6		2		311069	311063-A	1/2" X 3" GRADE 5 BOLT	0.20	0#
7		2		312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	0#
8								
9								
10								
11								
12								
13								
14								
15								
16								

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANEWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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MP36 SECTION (20' - 40' ELEVATION)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		1		126058	126058-B	36" M/P SEC. 20' (3/8" WALL) FLUSH MOUNT FLANGE-REMOVABLE RUNGS	3290.00	3290#
2					119721-B	PAD EYE INSTALLATION		
3		9		119730	119730-A	#4 CROSBY PAD EYE	0.50	5#
4		25	2	311238		1" X 5" FULL THREAD A-325 BOLT CONNECTION @ SECTION BOTTOM	1.11	30#
5		3	1	311242		1" X 6" GUIDE PIN; USE AS PILOT BOLT		
6		28	3	126030	126030-A	1"-8 HEX JAM NUT MECH. GALV. TAPED OVERSIZE	0.14	4#
7		28	3	312221	312001-A	1" GALVANIZED LOCKNUT	0.29	9#
8		28	3	312222	312122-A	1" GALVANIZED FLAT WASHER	0.06	2#
9		16		127492	127492-A	12" O.C. REMOVABLE CLIMBING RUNG FOR MONOPOLES	3.80	61#
10						WELD SLEEVES FOR CLIMBING RUNGS ON 0 DEGREE REFERENCE		
11								
12								

MP30 SECTION (40' - 60' ELEVATION)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
13		1		126057	126057-B	30" M/P SEC. 20' (3/8" WALL) FLUSH MOUNT FLANGE-REMOVABLE RUNGS	2747.00	2747#
14					119721-B	PAD EYE INSTALLATION		
15		6		119730	119730-A	#4 CROSBY PAD EYE	0.50	3#
16		21	1	311236		1" X 4-1/2" A-325 BOLTS ALL THREAD; CONNECTION @ SECTION BOTTOM		
17		3	1	311238		1" X 5" FULL THREAD A-325 BOLT USE AS PILOT BOLT	1.11	4#

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANESWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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MP30 SECTION (40' - 60' ELEVATION) (Continued)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		24	2	126030	126030-A	1"-8 HEX JAM NUT MECH. GALV. TAPED OVERSIZE	0.14	4#
2		24	2	312221	312001-A	1" GALVANIZED LOCKNUT	0.29	8#
3		24	2	312222	312122-A	1" GALVANIZED FLAT WASHER	0.06	2#
4		16		127492	127492-A	12" O.C. REMOVABLE CLIMBING RUNG FOR MONOPOLES	3.80	61#
5						WELD SLEEVES FOR CLIMBING RUNGS ON 0 DEGREE REFERENCE		
6								
7								

MP24 SECTION (60' - 72'-6" ELEVATION)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
8		1		126254	126056-B	24" M/P SEC. 12'-6" (3/8" WALL) FLUSH MOUNT FLANGE-REMOVABLE RUNG	1183.00	1183#
9		17	1	311236		1" X 4-1/2" A-325 BOLTS ALL THREAD; CONNECTION @ SECTION BOTTOM		
10		3	1	311238		1" X 5" FULL THREAD A-325 BOLT USE AS PILOT BOLT	1.11	4#
11		20	2	126030	126030-A	1"-8 HEX JAM NUT MECH. GALV. TAPED OVERSIZE	0.14	3#
12		20	2	312221	312001-A	1" GALVANIZED LOCKNUT	0.29	6#
13		20	2	312222	312122-A	1" GALVANIZED FLAT WASHER	0.06	1#
14		10		127492	127492-A	12" O.C. REMOVABLE CLIMBING RUNG FOR MONOPOLES	3.80	38#
15						WELD SLEEVES FOR CLIMBING RUNGS ON 0 DEGREE REFERENCE		
16		1		127257	127257-A	WELD SAFETY CLIMB BRACKET @ 71'- 5" ELEV @ 0 DEG ORIENTN	1.79	2#
17		1		121890	121890-A	WELD 4-1/2" ROUND PORTHOLE EXIT UP @ 66'- 6" ELEV @ 90 DEG ORIEN	5.70	6#

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA
MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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MP24 SECTION (60' - 72'-6" ELEVATION) (Continued)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		1		121890	121890-A	WELD 4-1/2" ROUND PORTHOLE EXIT UP @ 66'- 6" ELEV @270 DEG ORIEN	5.70	6#
2								
3								

850613 18" OPEN STYLE ROT. TOP (12 ANTENNA)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
4					122761-B	INSTALLATION DRAWING - ROTATABLE TOP 18" OPEN CENTER SECTION		
5					122763-B	3-D VIEW FOR ROTATABLE TOP - FOR REFERENCE ONLY		
6		1		121999	121999-B	18" OPEN CENTER SECTION WELDMENT FOR NEW ROTATABLE TOP	230.00	230#
7		3		121713	121570-B	SIDE ARM ANTENNA PLATFORM 79"	105.00	315#
8		12		311067	311063-A	1/2" X 2-1/2" GRADE 5 BOLT	0.17	2#
9		12		312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	0#
10		24	2	312062		1/2" GALVANIZED FLAT WASHER		
11						- NOTE: USE FLATWASHERS BETWEEN THE CENTER HUB & SIDEARMS		
12		3		121930	121930-B	SUPPORT FOR PIPE MOUNT	43.00	129#
13		3		121927	121927-B	15' PIPE MOUNT 4" PIPE NO BRACKETS	180.00	540#
14		6		313016	313016-A	3/4" U-BOLT ON 5-3/8" CENTERS 303 STAINLESS STEEL	2.37	14#
15		12		312502	312501-A	3/4" GALVANIZED NUT	0.12	1#
16		12		312153	312003-A	3/4" GALVANIZED LOCKWASHER	0.04	0#
17		12		312152	312122-A	3/4" GALVANIZED FLAT WASHER	0.03	0#

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BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANEWOOD, MINNESOTA
 MP42 X 75'

Job# A-112089- Dwg# 200993-B Q-57640
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850613 18" OPEN STYLE ROT. TOP (12 ANTENNA) (Continued)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		24	1	311067	311063-A	1/2" X 2-1/2" GRADE 5 BOLT	0.17	4#
2		24	1	312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	1#
3		3		122229	122229-B	WALKWAY ROTATABLE TOP PLATFORM	142.50	428#
4		8	1	311236		1" X 4-1/2" A-325 BOLTS ALL THREAD; CONNECTION @ SECTION BOTTOM		
5		8	1	312223	312003-A	1" GALVANIZED LOCKWASHER	0.13	1#
6		8	1	312504	312501-A	1" GALVANIZED NUT	0.29	3#
7		8	1	312222	312122-A	1" GALVANIZED FLAT WASHER	0.06	1#

(850635) 12-ANTENNA PIPES 2" X 96" (U.S.W.)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
8		12		124960	105965-B	2" (2-3/8" OD) X 8' PIPE	29.14	350#
9		12		121926	121926-A	MOUNTING BRACKET FOR PIPE MOUNT C8 X 11.5# CHANNEL	9.50	114#
10		24	1	313015	313014-A	1/2" U-BOLT 5-1/8" CENTERS 303 STAINLESS STEEL	0.92	23#
11		24	1	313014	313014-A	1/2" U-BOLT ON 3" CENTERS 303 STAINLESS STEEL	0.60	15#
12		96	2	312500		1/2" PLAIN NUT	1.00	98#
13		96	2	312063	312003-A	1/2" GALVANIZED LOCKWASHER		
14		96	2	312062		1/2" GALVANIZED FLAT WASHER		
15								
16								

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BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
MIN/ZANEWOOD, MINNESOTA
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(806011) 15' LIGHTNING ROD EXT (ROD TOP)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1					126165-B	ASSEMBLY DRAWING		
2		1		121420	121420-A	15' LIGHTNING ROD EXTENDER (NO CLAMPS) FOR ROTATABLE TOP; FOR ROTA	36.00	36#
3					-	FOR P/N 121420 USE 2-3/8" OD. L/R/E		
4		1		101620	101620-B	1/2" X 4' LIGHTNING ROD	2.67	3#
5		2		113681	113680-B	SPECIAL CLAMP	12.90	26#
6		4		100064	117285-B	CLAMP(S) (4" V-CLAMP)	0.85	3#
7		4		311073	311063-A	1/2" X 4" GRADE 5 BOLT	0.26	1#
8		4		311069	311063-A	1/2" X 3" GRADE 5 BOLT	0.20	1#
9		8	1	312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	0#
10		8	1	312062		1/2" GALVANIZED FLAT WASHER		

(802256) SINGLE LEVEL ANGLE HANGER FOR 27" BRIDGE

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
11		4		111219	111219-A	TRANSMISSION LINE CHANNEL - UNIVERSAL	4.00	16#
12		8		313120		1/2" X 18" THREADED ROD	1.20	10#
13		16		110687	110687-A	SPACER 2" X 1-1/2" X 3/8" (9/16" HOLE)	0.29	5#
14		8		312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	0#
15		24		312063	312003-A	1/2" GALVANIZED LOCKWASHER		
16		24		312500		1/2" PLAIN NUT	1.00	24#
17								

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BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANEWOOD, MINNESOTA
 MP42 X 75'

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SERVICE PLATFORM/FINISH TOUCHUP

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		3		119728	119728-B	SERVICE PLATFORM MONOPOLE	22.00	66#
2		1		320632		COLD GALVANIZING SPRAY	1.40	1#
3		2		124900	124897-A	END CAP FOR 4" ANTENNA MTG PIPES USE FOR 4-1/2" OD. PORTHOLES		
4								
5								

SAFETY CLIMB (DELETED HARNESS)

#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
6					127296-B	BRACKET INSTALLATION		
7		2		127258	127258-A	SAFETY CLIMB BRACKET (BOLTED ON PIECE)	5.36	11#
8		4		311067	311063-A	1/2" X 2-1/2" GRADE 5 BOLT	0.17	1#
9		4		312061	312001-A	1/2" GALVANIZED LOCKNUT	0.04	0#
10								
11								
12		1		320912		80' M/P TRYLON SAFETY CLIMB KIT		
13					127219-A	INSTALLATION DRAWING		
14						THE FOLLOWING ITEMS ARE INCLUDED IN THE ABOVE KIT:		
15					-	DELETED BODY HARNESS		
16		1		320810		TRYLON TROLLEY SYSTEM		
17		1		320803		TRYLON MOUNTING HARDWARE KIT		

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.

BILL OF MATERIALS
PIROD, INC.
 Plymouth, Indiana

U.S. WEST NEWVECTOR GROUP
 MIN/ZANEWOOD, MINNESOTA
 MP42 X 75'

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SAFETY CLIMB (DELETED HARNESS) (Continued)								
#	Rev	Qty	Xtra	Part #	Drawing#	Description	*Wt. Each	*Weight
1		2		320812		TRYLON SAFETY CLIMB STANDOFF USE @ 25' SPACING		
2		2		320815		TRYLON SAFETY CLIMB SHACKLE		
3		1		320818		TRYLON SAFETY CLIMB TURNBUCKLE		
4		1		320824		TRYLON LOWER TENSION SPRING		
5		85		320827		TRYLON 7/32" STAINLESS STEEL CABLE		
6		2		320821		TRYLON SAFETY CLIMB CABLE CLAMPS - 3/16"		
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								

*THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.



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for
DETAIL DRAWINGS

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US WEST
MIN/ZANEWOOD, MN

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Drawing#	Drawing Description	Page
123107-A	BOLT PRE-TENSIONING GUIDELINES	1
118492-B	ANCHOR BOLTS MONOPOLES	2
118483-B	BASE FLANGE TEMPLATE	3
103182-B	ANCHOR BOLTS - 5/8" DIA. THRU 2-1/4" DIA	4
126059-B	42" M/P SECTION INT. FLANGE/REM. RUNGS	5
119721-B	MONOPOLE SERVICE PLATFORM PAD EYE LOCATE	6
126058-B	36" MP SECTION INT. FLANGE/REM. RUNGS	7
126057-B	30" MP SECTION INT. FLANGE/REM. RUNGS	8
126056-B	24" MP SECTION INT. FLANGE/REM. RUNGS	9
122761-B	18" OPEN STYLE ROTATABLE TOP	10
122763-A	3-D VIEW OF OPEN STYLE ROTATABLE TOP	15
126165-B	15' LIGHTNING ROD EXTENDER ASSEMBLY	16
127296-B	SAFETY CLIMB BRACKET ASSEMBLY DRAWING	17
127219-A	INSTALLATION - TRYLON SAFETY CLIMB	18
	INDEX OF DRAWINGS (IN DRAWING NUMBER ORDER)	20

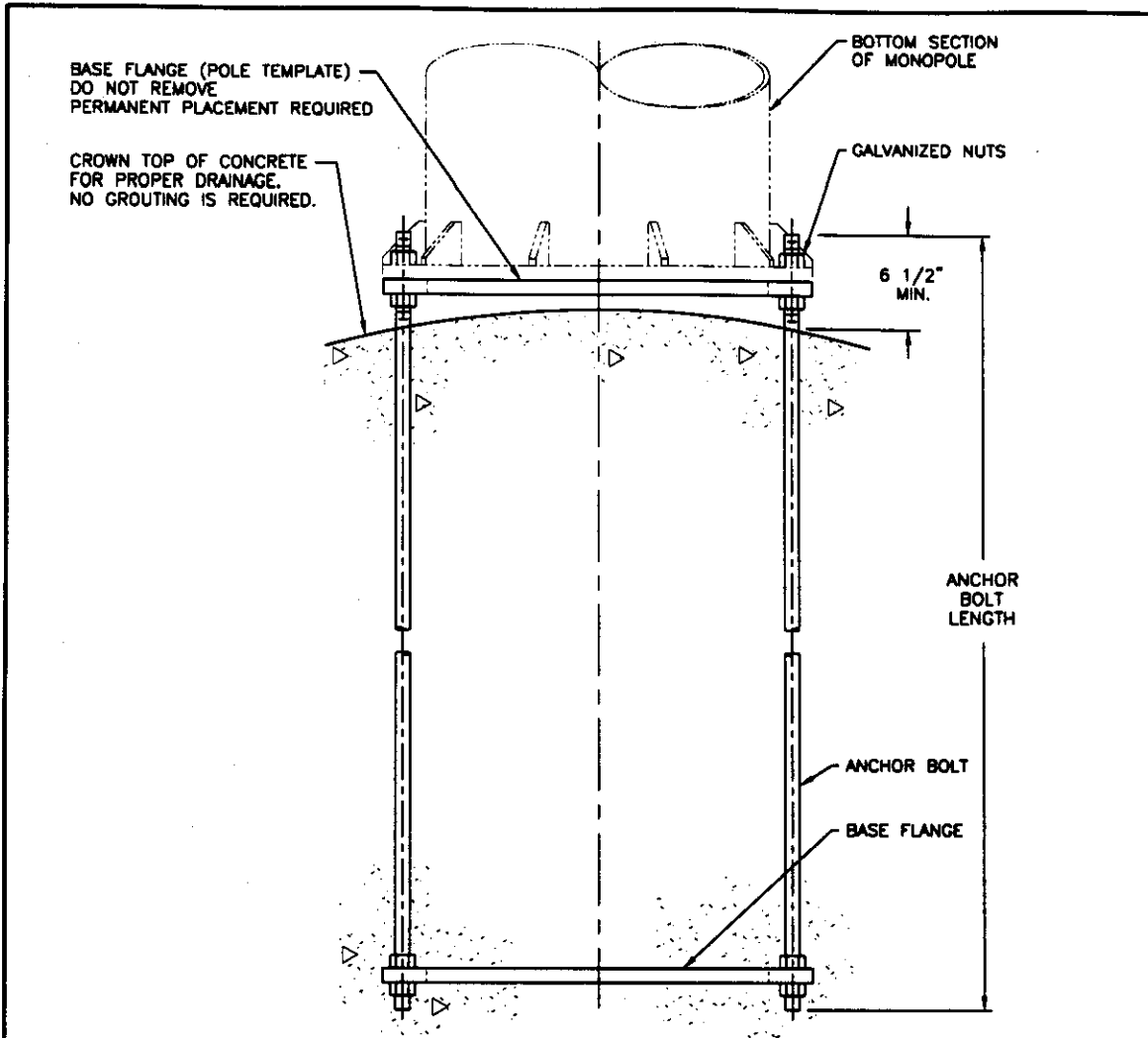
Bolt Pretensioning Requirements:

A-325 High Strength Bolts Job Inspection Torque - ft.-lbs.

Note: A-490 bolts and A-687 Anchor Bolts are not to be used in conjunction with this table.

Bolt Diameter (in.)	Wrench		Reading
0.5000	150	-	160
0.6250	190	-	200
0.7500	225	-	235
0.8750	265	-	280
1.0000	300	-	315
1.2500	375	-	395
1.3750	415	-	435
1.5000	450	-	475
1.7500	525	-	550
2.0000	600	-	630

			PART NO.	
NAME BOLT PRETENSIONING REQUIREMENTS			 PIROD INC. 1545 Pidco Dr. Plymouth, IN 46563-0128 219-936-4221	
APPROVED BY		DR BY	DATE	
DMF		DMF	05/10/95	
B	REVISED AND REDRAWN	08/30/95		
		DMF		
A	REVISED AND REDRAWN	05/10/95	REG. ENGINEER	
		DMF	SCALE	
CHG	DESCRIPTION OF REVISIONS	DATE	1/4"=12"	DWG. NO.
LET		BY		123107 -A



PART NUMBER	MONOPOLE SIZE	BASE FLANGE PART NUMBER	ANCHOR BOLT PART NUMBER	SIZE OF BOLTS	QUANTITY OF BOLTS	ANCHOR BOLT LENGTH	WEIGHT
118492	12"	118483	(D) 123653	1"	10	(D) 6'-0"	165#
118493	18"	118484	(D) 123653	1"	16	(D) 6'-0"	330#
118494	24"	118485	(D) 123653	1"	20	(D) 6'-0"	420#
118495	30"	118486	(D) 123653	1"	24	(D) 6'-0"	510#
118496	36"	118487	(D) 123653	1"	28	(D) 6'-0"	600#
118497	42"	118488	(D) 123653	1"	32	(D) 6'-0"	685#
118498	48"	118489	(D) 123653	1"	36	(D) 6'-0"	775#
118499	54"	118490	(D) 123653	1"	48	(D) 6'-0"	975#
118500	60"	118491	(D) 123653	1"	48	(D) 6'-0"	1010#
119059	60"	119058	(B) 109881	1-1/4"	48	6'-8"	1100#
124233	60"	124231	123653	1"	52	6'-0"	1084#
*124234	60"	*124098	109881	1-1/4"	52	6'-8"	1157#
124235	60"	124232	109881	1-1/4"	88	6'-8"	2620#
125234	60"	125220	109881	1-1/4"	52	6'-8"	1157#

*PART NUMBER 124098 NEEDS TO BE REPLACED WITH NEW NUMBER 125220

DESCRIPTION OF REVISIONS			BY	DATE	REG. NO.	SCALE	DRAW. NO.
G	CHANGE TO P/N 124098	CJD	8/14/95				
F	ADDED P/N 125234	TNS	12/02/94				
E	ADDED P/N 124233, 124234, & 124235	HDS	07/01/94				
D	WAS P/N 103182 5'-0" LONG	TNS	04/22/94				
C	ADDED NOTES AT TOP OF PAGE	TNS	07/27/93				
B	WAS 103183 ANCHOR BOLT 5'-0" LONG	TNS	06/14/93				
A	119059 ADDED	TNS	06/29/92				
						NONE	118492-B

PART NO. SEE CHART

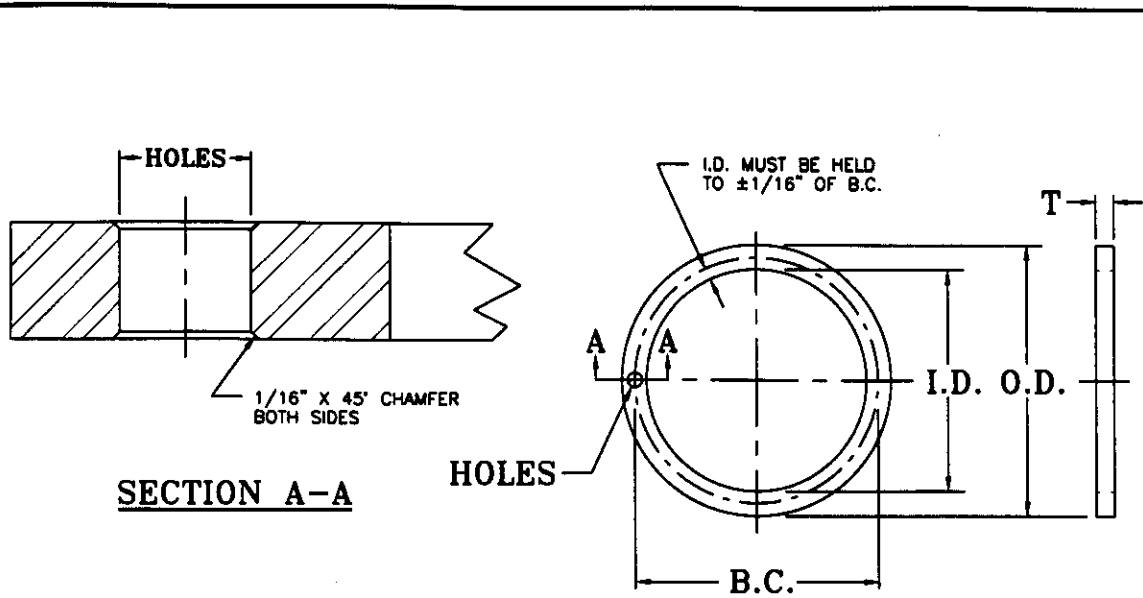
1545 Pidco Dr.
Plymouth, IN 46563-0128
219-936-4221

ANCHOR BOLTS MONOPOLES

APPROVED BY: DR BY DATE: TNS 04/03/92

REG. ENGINEER: SCALE: NONE

DRAW. NO. 118492-B

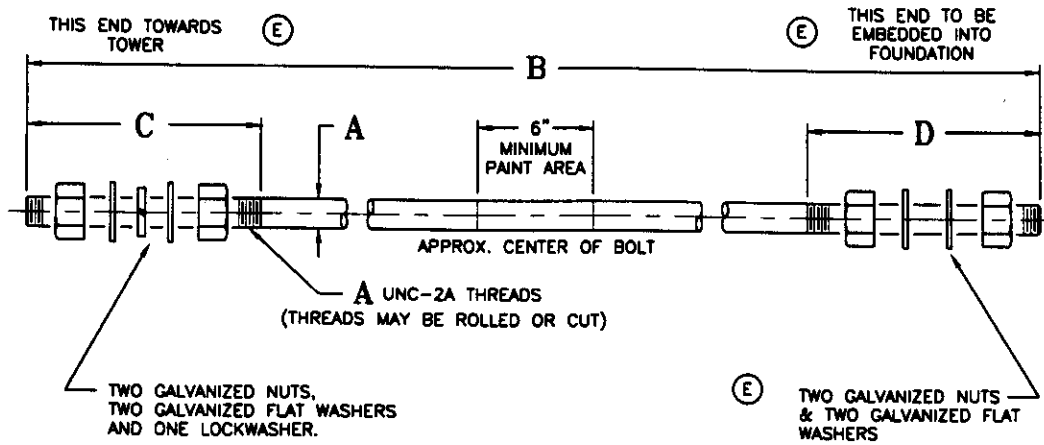


MATERIAL: A-36 STEEL

PART NUMBER	PIPE O.D.	HOLES				QTY.	SIZE ±.005"	T	WEIGHT
		O.D. ±1/16"	I.D. ±1/16"	B.C. ±.005"					
120330	8 3/4"	12 7/8"	8 7/8"	10 3/8"	16	25/32"	3/4"	13.0#	
118483	12 3/4"	18 1/8"	12 7/8"	15"	10	1 1/32"	1"	32.4#	
118484	18"	24 1/8"	18 1/8"	21"	16	1 1/32"	1"	52.6#	
118485	24"	30 1/8"	24 1/8"	27"	20	1 1/32"	1"	67.9#	
118486	30"	36 1/8"	30 1/8"	33"	24	1 1/32"	1"	83.1#	
118487	36"	42 1/8"	36 1/8"	39"	28	1 1/32"	1"	102.2#	
118488	42"	48 1/8"	42 1/8"	45"	32	1 1/32"	1"	117.9#	
118489	48"	54 1/8"	48 1/8"	51"	36	1 1/32"	1"	133.6#	
118490	54"	60 1/8"	54 1/8"	57"	48	1 1/32"	1"	149.3#	
118491	60"	66 1/8"	60 1/8"	63"	48	1 1/32"	1"	165.0#	
119058	60"	66 1/8"	60 1/8"	63"	48	1 9/32"	1"	165.0#	
*124231	60"	71"	65"	*68"	52	1 1/32"	1"	177.9#	
*124098	60"	71"	65"	*68"	52	1 9/32"	1"	170.8#	
125219	60"	70"	64"	67"	52	1 1/32"	1"	176#	
125220	60"	70"	64"	67"	52	1 9/32"	1"	169#	

* PART NUMBERS 124231 AND 124098 WITH 68" BOLT CENTERS ARE OBSOLETE

<table border="1"> <tr><td>E</td><td>OBSOLETED 124231 AND 124098</td><td>CJD</td><td>8/17/95</td></tr> <tr><td>D</td><td>ADDED 125219 AND 125220</td><td>TNS</td><td>12/02/94</td></tr> <tr><td>C</td><td>ADDED 124098 AND 124231</td><td>HDS</td><td>07/01/94</td></tr> <tr><td>B</td><td>120330 ADDED</td><td>TNS</td><td>11/19/92</td></tr> <tr><td>A</td><td>119058 ADDED</td><td>TNS</td><td>06/29/92</td></tr> <tr><td>REV</td><td>DESCRIPTION OF REVISIONS</td><td>BY</td><td>DATE</td></tr> </table>				E	OBSOLETED 124231 AND 124098	CJD	8/17/95	D	ADDED 125219 AND 125220	TNS	12/02/94	C	ADDED 124098 AND 124231	HDS	07/01/94	B	120330 ADDED	TNS	11/19/92	A	119058 ADDED	TNS	06/29/92	REV	DESCRIPTION OF REVISIONS	BY	DATE	<table border="1"> <tr><td colspan="2">NAME</td></tr> <tr><td colspan="2">BASE FLANGE TEMPLATE</td></tr> <tr><td>APPROVED BY</td><td>DR BY DATE</td></tr> <tr><td></td><td>TNS 04/03/92</td></tr> <tr><td>REG. ENGINEER</td><td>SCALE</td></tr> <tr><td></td><td>NONE</td></tr> <tr><td>REG. NO.</td><td></td></tr> </table>		NAME		BASE FLANGE TEMPLATE		APPROVED BY	DR BY DATE		TNS 04/03/92	REG. ENGINEER	SCALE		NONE	REG. NO.		<table border="1"> <tr><td colspan="2">PART NO.</td></tr> <tr><td colspan="2">118483-B</td></tr> <tr><td colspan="2">1545 Pidco Dr. Plymouth, IN 48563-0128 219-936-4221</td></tr> <tr><td colspan="2">DWC. NO.</td></tr> </table>		PART NO.		118483-B		1545 Pidco Dr. Plymouth, IN 48563-0128 219-936-4221		DWC. NO.	
E	OBSOLETED 124231 AND 124098	CJD	8/17/95																																																		
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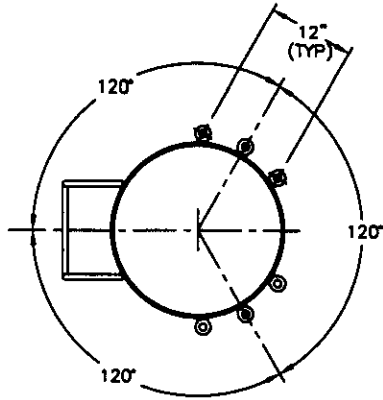


PART NUMBER	THREAD SIZE	A	B	C	D	CAPACITY	PAINT COLOR
113782	5/8" - 11	5/8"	2'-0"	6"	6"	13.5 KIPS	RED & WHITE
112601	5/8" - 11	5/8"	3'-0"	6"	6"	13.5 KIPS	RED & WHITE
115638	5/8" - 11	5/8"	5'-0"	6"	6"	13.5 KIPS	RED & WHITE
115463	3/4" - 10	3/4"	4'-0"	6"	6"		YELLOW & WHITE
115030	1" - 8	1"	2'-0"	8"	8"	36.3 KIPS	BLACK & GOLD
110986	1" - 8	1"	3'-6"	8"	8"	36.3 KIPS	BLACK & GOLD
103182	1" - 8	1"	5'-0"	8"	8"	36.3 KIPS	BLACK & GOLD
123140	1" - 8	1"	5'-10"	8"	8"	36.3 KIPS	BLACK & GOLD
123653	1" - 8	1"	6'-0"	8"	8"	36.3 KIPS	BLACK & GOLD
111965	1 1/4" - 7	1 1/4"	3'-6"	8"	8"	58.1 KIPS	PINK & WHITE
103183	1 1/4" - 7	1 1/4"	5'-0"	8"	8"	58.1 KIPS	PINK & WHITE
109881	1 1/4" - 7	1 1/4"	6'-8"	8"	8"	58.1 KIPS	PINK & WHITE
125025	1 1/4" - 7	1 1/4"	10'-0"	8"	8"	58.1 KIPS	PINK & WHITE
113823	1 1/2" - 6	1 1/2"	6'-8"	8"	8"	84.2 KIPS	GREEN & WHITE
114611	1 3/4" - 5	1 3/4"	7'-6"	10"	10"	114.9 KIPS	BLUE & WHITE
125075	2" - 4 1/2	2"	3'-6"	12"	12"	149.0 KIPS	BROWN & WHITE
125133	2" - 4 1/2	2"	5'-0"	12"	12"	149.0 KIPS	BROWN & WHITE
125134	2" - 4 1/2	2"	6'-8"	12"	12"	149.0 KIPS	BROWN & WHITE
114612	2" - 4 1/2	2"	8'-0"	10"	10"	149.0 KIPS	BROWN & WHITE
125135	2" - 4 1/2	2"	9'-8"	12"	30"	149.0 KIPS	BROWN & WHITE
121974	2 1/4" - 4 1/2	2 1/4"	5'-0"	12"	12"	204.5 KIPS	BLUE & BROWN
114717	2 1/4" - 4 1/2	2 1/4"	8'-0"	12"	12"	204.5 KIPS	BLUE & BROWN
122397	2 1/2" - 4	2 1/2"	10'-0"	15"	15"		RED & YELLOW

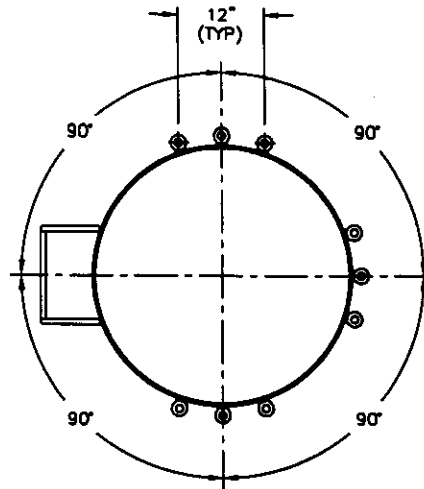
MATERIAL: A-687 STEEL WITH SHARP IMPACT RESISTANCE OF 15 FT.-LB. AT 20° F. CERTIFICATION REQUIRED. YIELD STRENGTH 105,000 P.S.I.

HOT DIP GALVANIZE: ASTM A153 FULL LENGTH

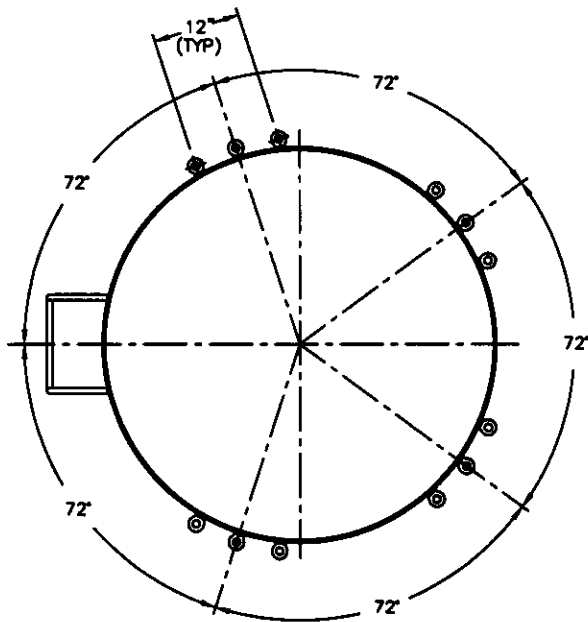
E		ADDED FLAT WASHERS AND NOTES		DMF	12/30/94	PART NO.	
D		ADDED 125075, 125133, 125134 & 125135		TNS	11/17/94	NAME	
C		125025 ADDED, 114611 WAS 114661		TNS	11/11/94	ANCHOR BOLT	
B		REDRAWN ON CAD. PRIOR REVISIONS REMOVED		TNS	04/26/94	PiROD INC.	
DESCRIPTION OF REVISIONS		BY		DATE		PLYMOUTH, INDIANA 46563	
REG. ENGINEER		REG. NO.		SCALE		DIRG. NO.	
				NO SCALE		103182-B	



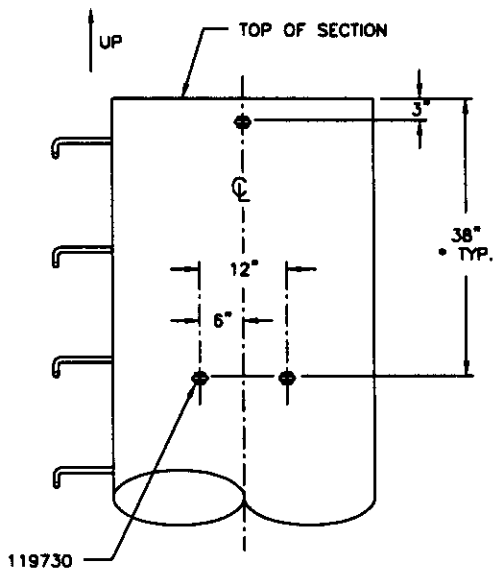
PLAN VIEW
30" SIZE



PLAN VIEW
36", 42" & 48" SIZES




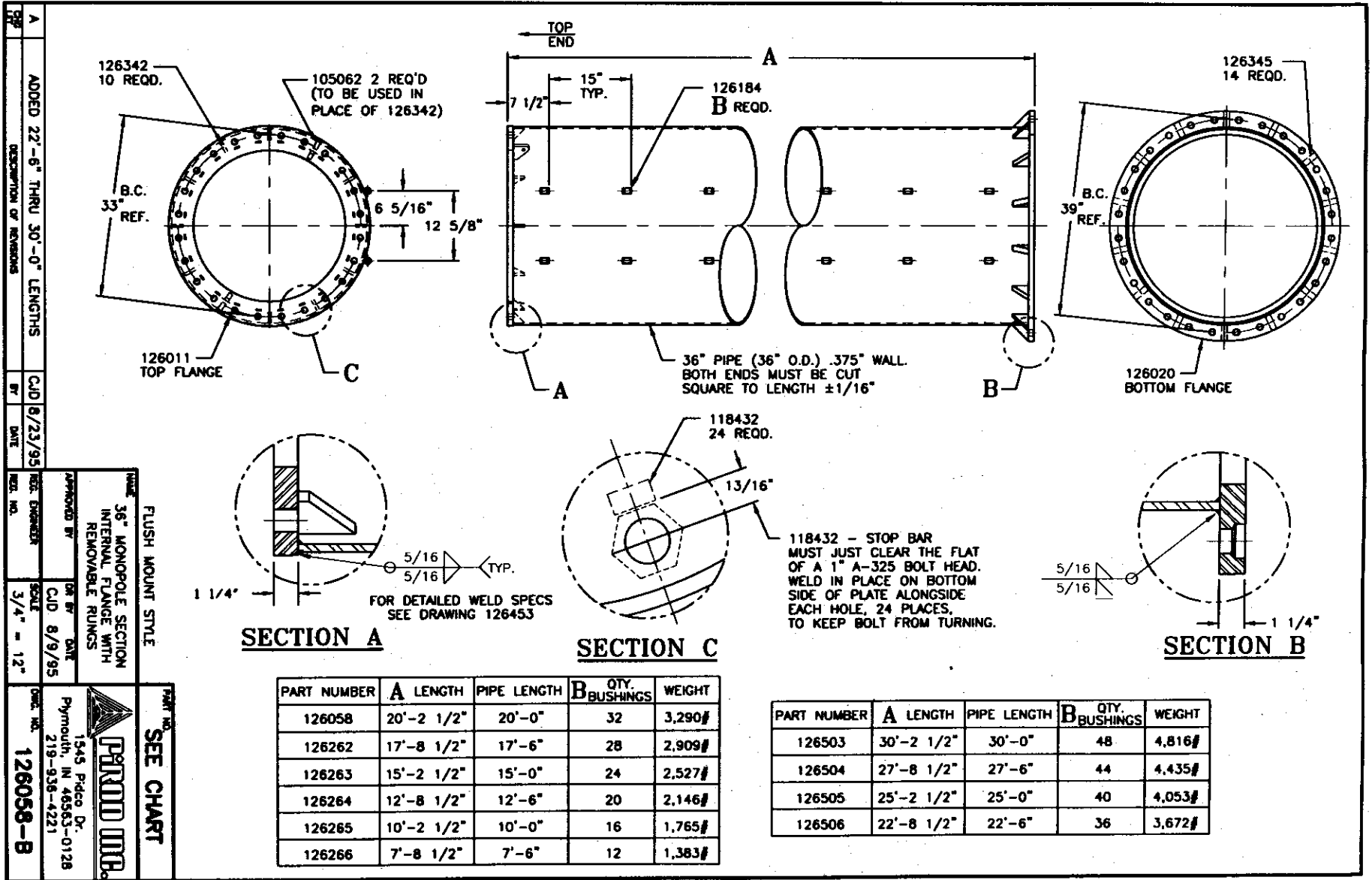
PLAN VIEW
54" & 60" SIZES



TYPICAL ELEVATION VIEW

*NOTE: 38" DIMENSION IS STANDARD FOR SPECIAL SECTIONS AND/OR CLEARANCE PROBLEMS A PLUS OR MINUS 3" TOLERANCE MAY BE MAINTAINED.

			PART NO.		119721	
			NAME		 1545 Pidco Dr. Plymouth, IN 46563-0128 219-936-4221	
C ENGINEERING CLARIFICATION			CJD	01/04/96	APPROVED BY	DR BY DATE
B PAD EYE DIM. CHANGE			CJD	09/15/95	TNS	08/04/92
A 24" SIZE REMOVED			TNS	08/12/93	REG. ENGINEER	SCALE
DESCRIPTION OF REVISIONS			BY	DATE	REG. NO.	3/4" = 12"
					DWG. NO.	119721-B



REV	DESCRIPTION OF REVISIONS	BY	DATE
A	ADDED 22'-6" THRU 30'-0" LENGTHS	CJD	8/23/95

FLUSH MOUNT STYLE

36" MONOPOLE SECTION INTERNAL FLANGE WITH REMOVABLE RUNGS

APPROVED BY: CJD 8/9/95

DATE: 8/9/95

SCALE: 3/4" = 12"

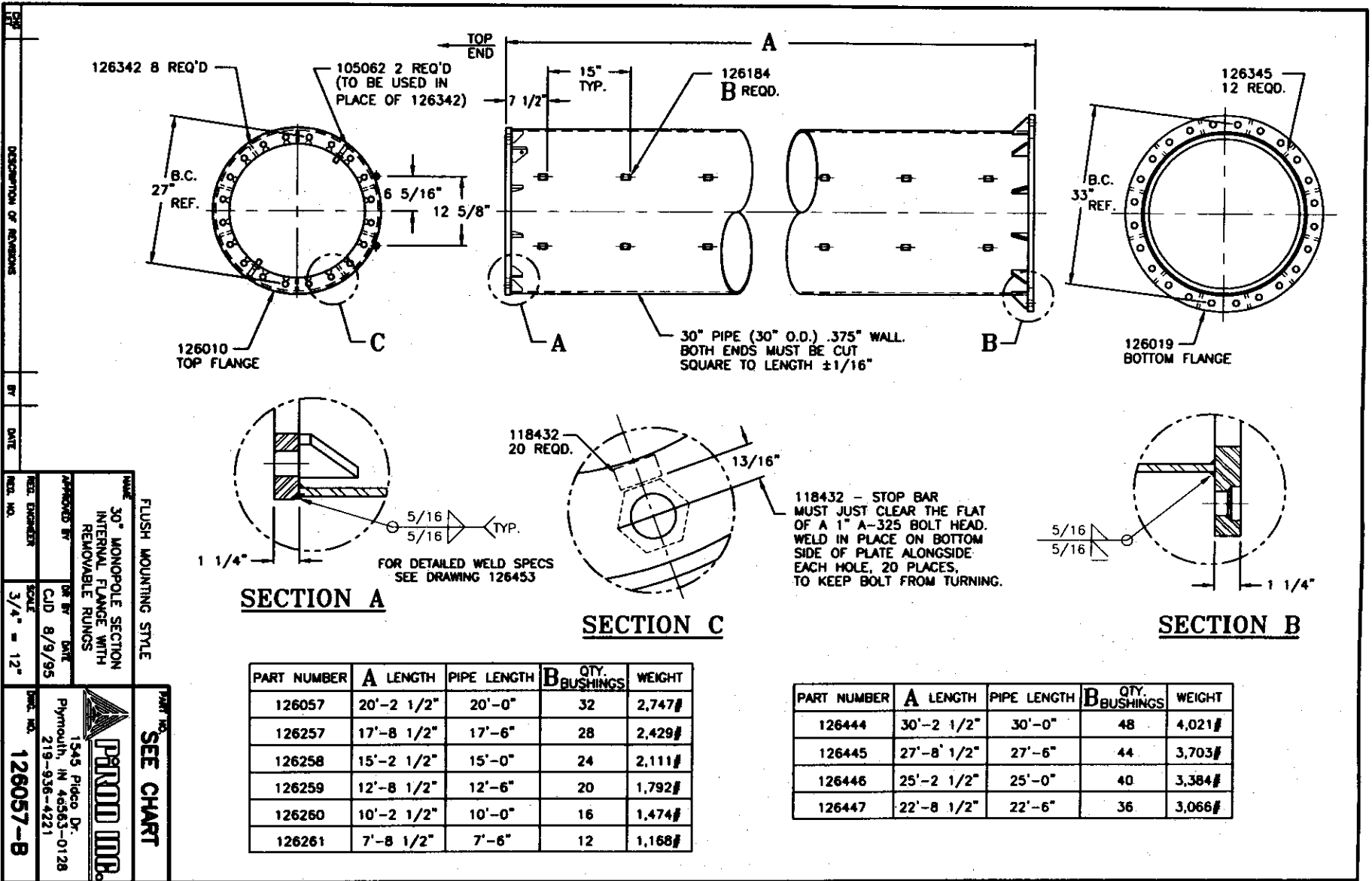
1545 Pico Dr.
Plymouth, IN 46563-0128
219-936-4221

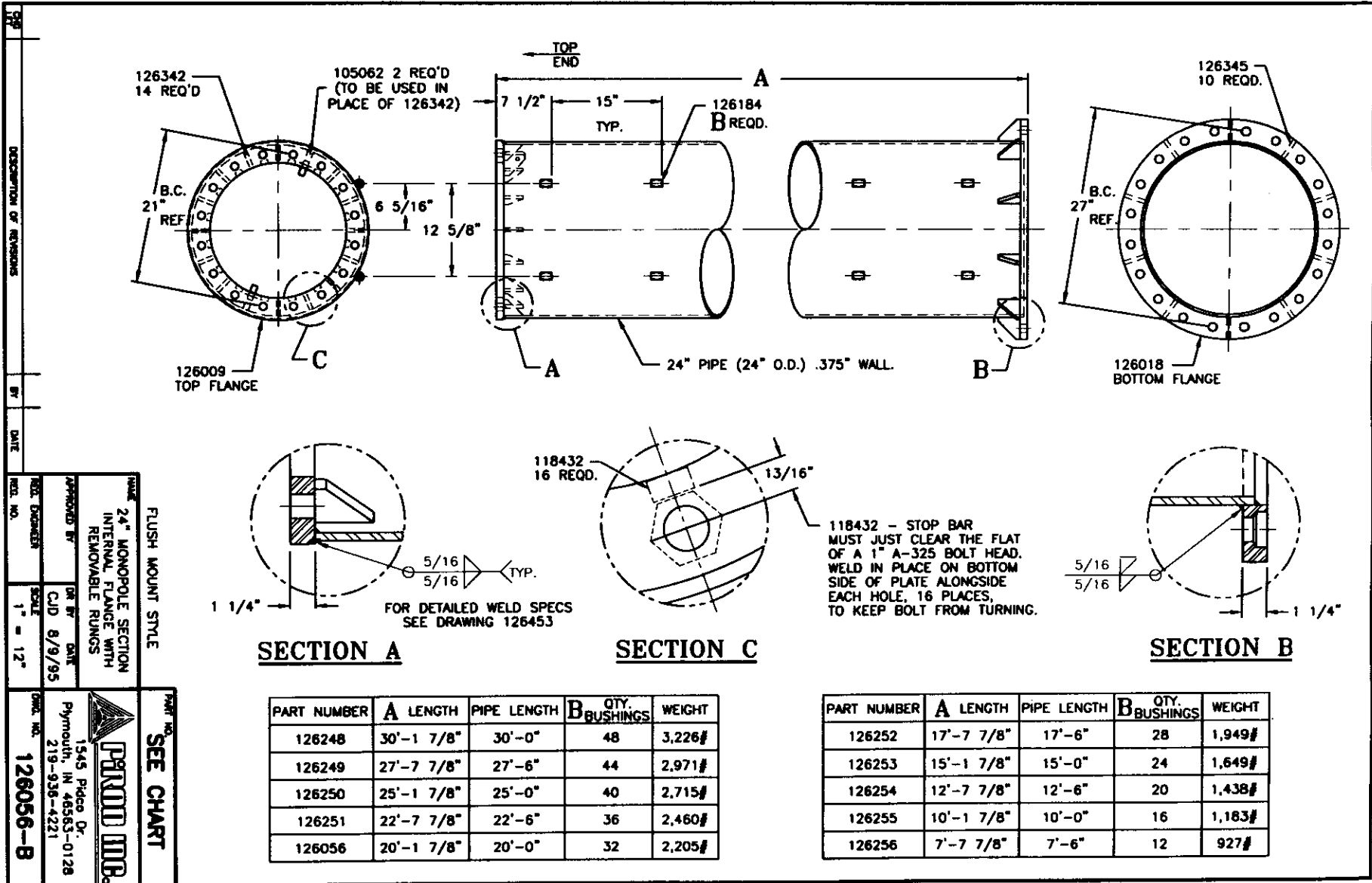
126058-B

SEE CHART

PART NUMBER	A LENGTH	PIPE LENGTH	B QTY. BUSHINGS	WEIGHT
126058	20'-2 1/2"	20'-0"	32	3,290#
126262	17'-8 1/2"	17'-6"	28	2,909#
126263	15'-2 1/2"	15'-0"	24	2,527#
126264	12'-8 1/2"	12'-6"	20	2,146#
126265	10'-2 1/2"	10'-0"	16	1,765#
126266	7'-8 1/2"	7'-6"	12	1,383#

PART NUMBER	A LENGTH	PIPE LENGTH	B QTY. BUSHINGS	WEIGHT
126503	30'-2 1/2"	30'-0"	48	4,816#
126504	27'-8 1/2"	27'-6"	44	4,435#
126505	25'-2 1/2"	25'-0"	40	4,053#
126506	22'-8 1/2"	22'-6"	36	3,672#





PART NUMBER	A LENGTH	PIPE LENGTH	B QTY. BUSHINGS	WEIGHT
126248	30'-1 7/8"	30'-0"	48	3,226#
126249	27'-7 7/8"	27'-6"	44	2,971#
126250	25'-1 7/8"	25'-0"	40	2,715#
126251	22'-7 7/8"	22'-6"	36	2,460#
126056	20'-1 7/8"	20'-0"	32	2,205#

PART NUMBER	A LENGTH	PIPE LENGTH	B QTY. BUSHINGS	WEIGHT
126252	17'-7 7/8"	17'-6"	28	1,949#
126253	15'-1 7/8"	15'-0"	24	1,649#
126254	12'-7 7/8"	12'-6"	20	1,438#
126255	10'-1 7/8"	10'-0"	16	1,183#
126256	7'-7 7/8"	7'-6"	12	927#

FLUSH MOUNT STYLE

24" MONOPOLE SECTION INTERNAL FLANGE WITH REMOVABLE RUNGS

APPROVED BY _____ **DATE** _____

DR BY CID **DATE** 8/9/95

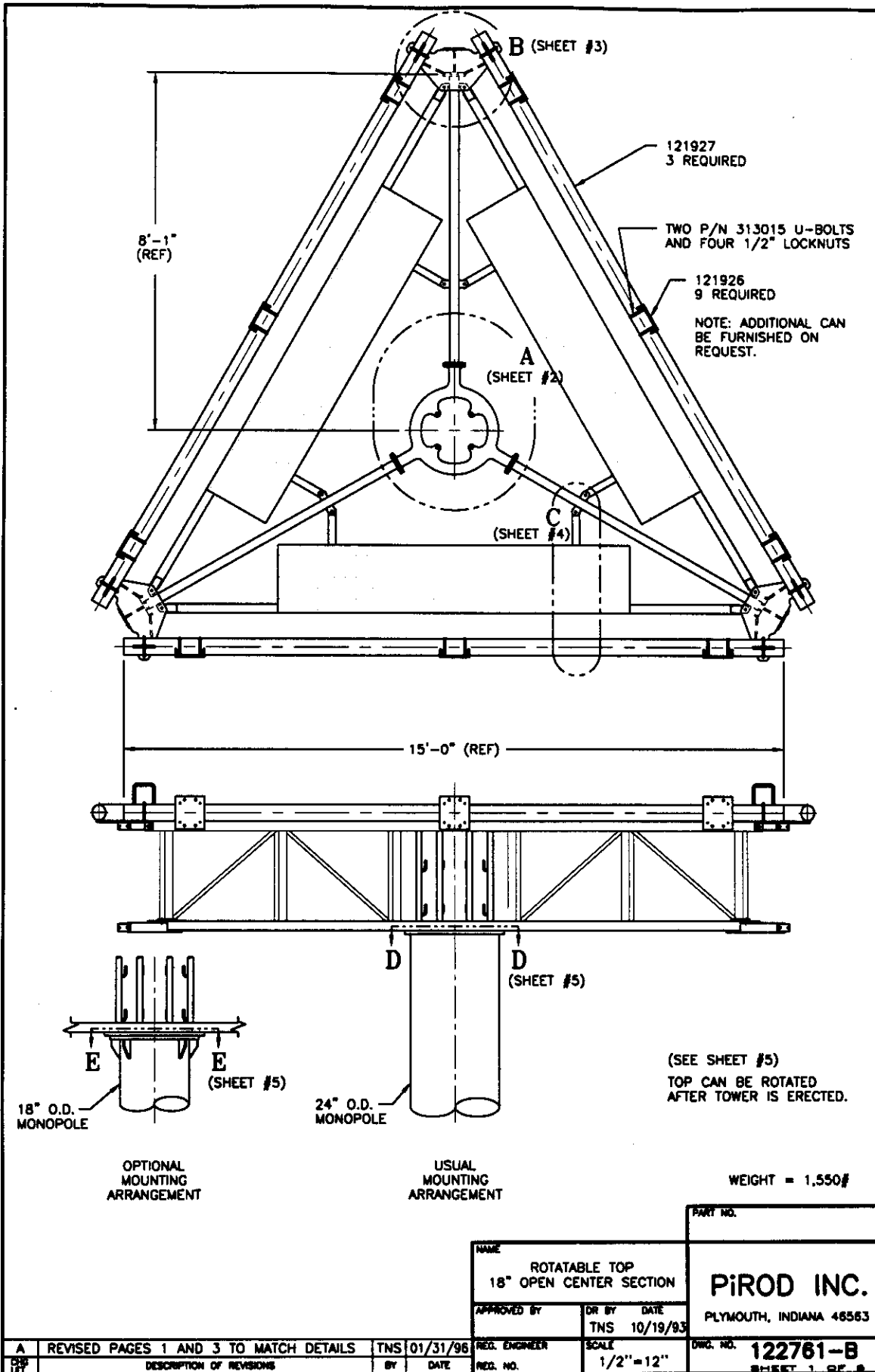
SCALE 1" = 12"

126056-B

PROUD INC.

1545 Pico Dr. Plymouth, IN 46585-0128 219-936-4221

SEE CHART



18" O.D. MONOPOLE

OPTIONAL MOUNTING ARRANGEMENT

24" O.D. MONOPOLE

USUAL MOUNTING ARRANGEMENT

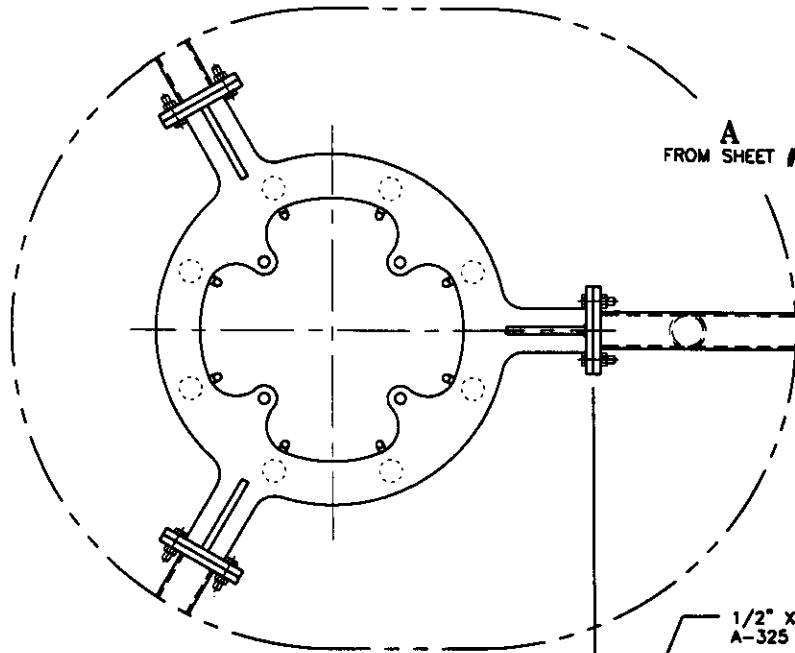
(SEE SHEET #5)
TOP CAN BE ROTATED AFTER TOWER IS ERECTED.

WEIGHT = 1,550#

PART NO.	
PIROD INC.	
PLYMOUTH, INDIANA 46563	
DWG. NO. 122761-B	

NAME		ROTATABLE TOP	
APPROVED BY		18" OPEN CENTER SECTION	
DR BY	DATE	TNS	10/19/93
REG. ENGINEER	SCALE	1/2" = 12"	
REG. NO.			

A	REVISED PAGES 1 AND 3 TO MATCH DETAILS	TNS	01/31/96
REP	DESCRIPTION OF REVISIONS	BY	DATE

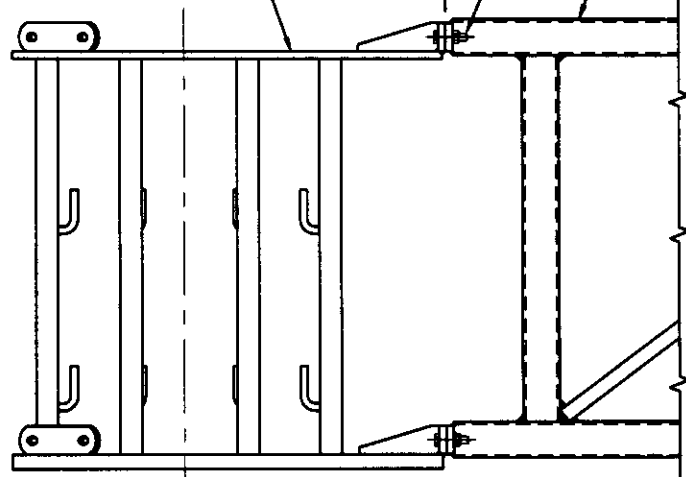


A
FROM SHEET #1

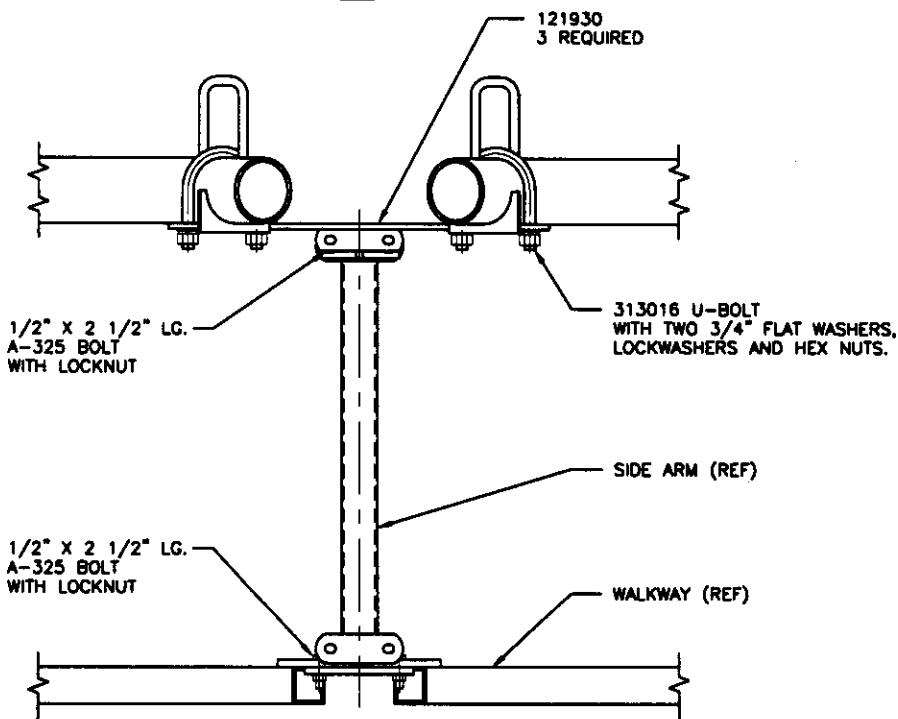
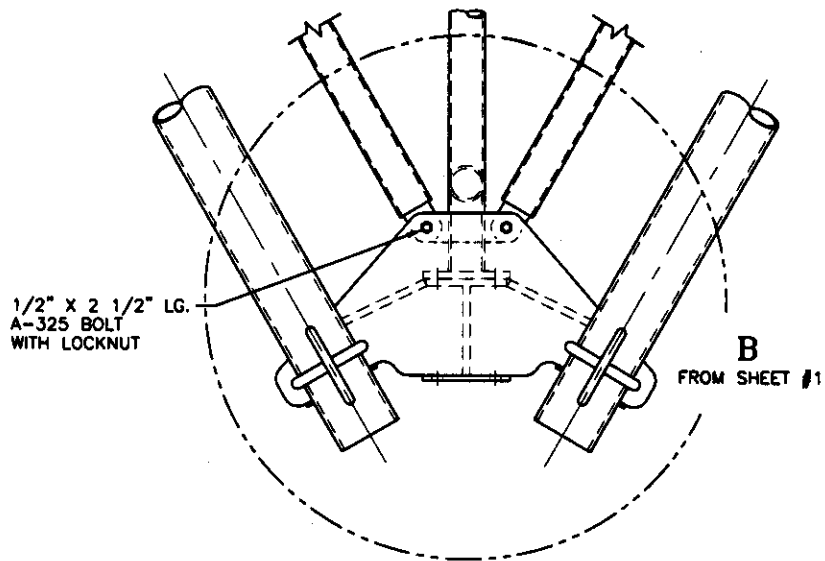
1/2" x 2 1/2" LONG
A-325 BOLT WITH LOCKNUT

121999

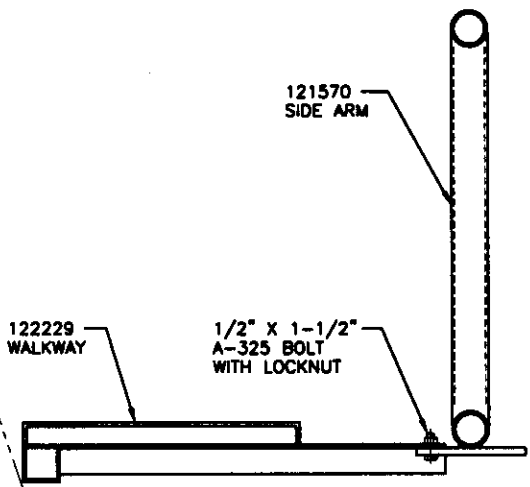
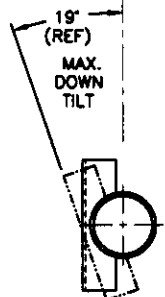
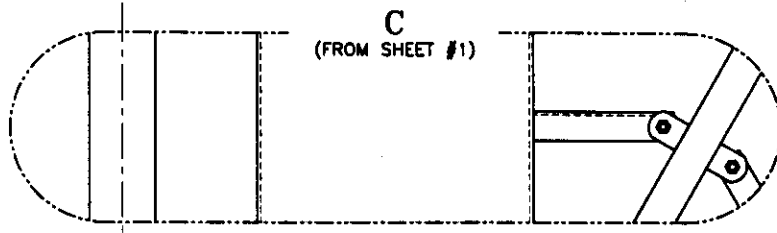
121713
3 REOD.



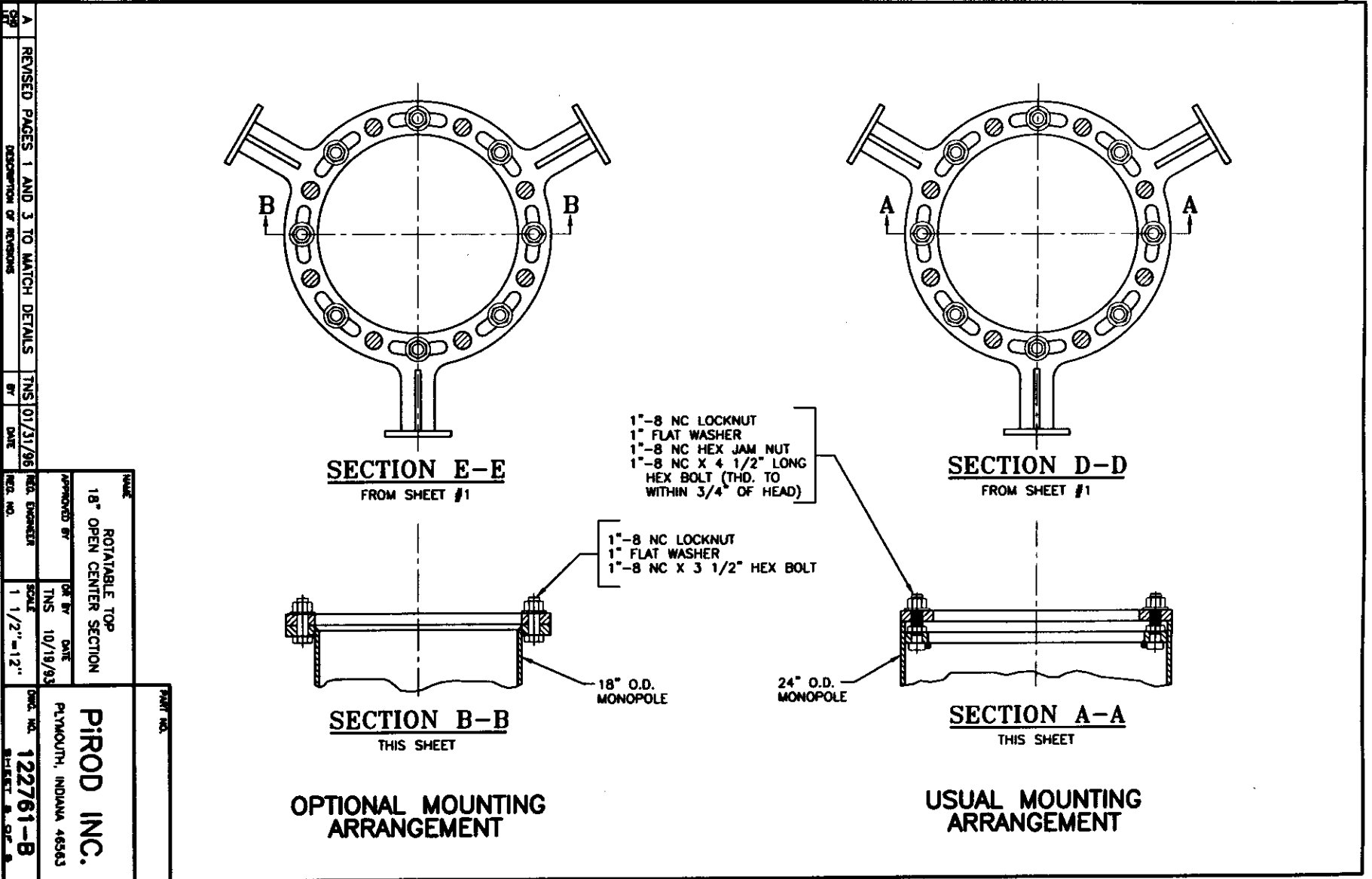
NAME		PART NO.	
ROTATABLE TOP 18" OPEN CENTER SECTION		PiROD INC.	
APPROVED BY	DR BY	DATE	PLYMOUTH, INDIANA 46563
TNS	TNS	10/18/93	
REV. ENGINEER	SCALE	DWG. NO.	122761-B
REV. NO.	1 1/2" = 12"	SHEET 2 OF 3	
A	REVISED PAGES 1 AND 3 TO MATCH DETAILS	TNS	01/31/96
CH LET	DESCRIPTION OF REVISIONS	BY	DATE

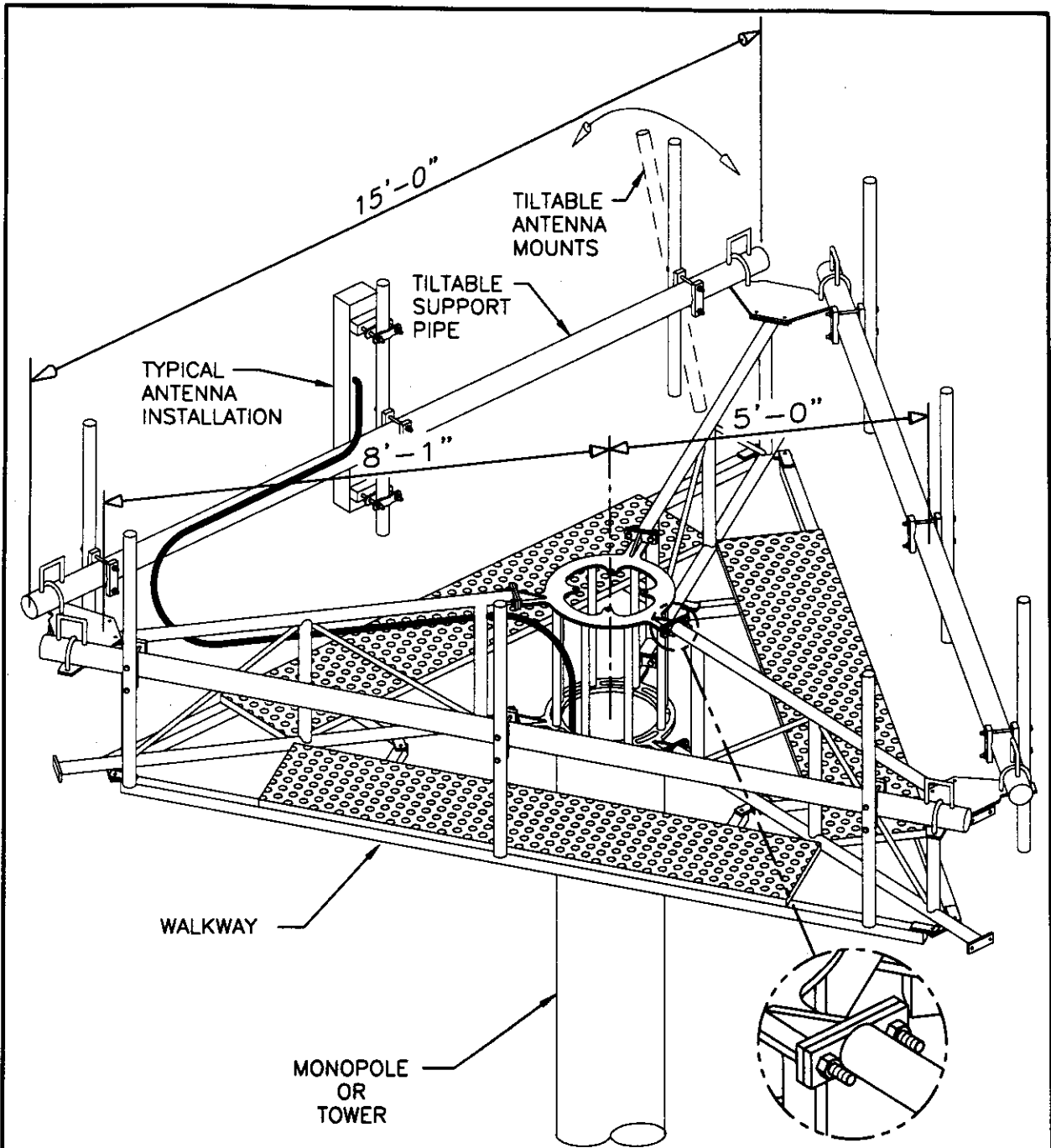


REVISED PAGES 1 AND 3 TO MATCH DETAILS		TNS	01/31/96	NAME ROTATABLE TOP 18" OPEN CENTER SECTION		PART NO. PIROD INC. PLYMOUTH, INDIANA 46563	
CS	UT	REG. ENGINEER	REG. NO.	APPROVED BY	OR BY		DATE
DESCRIPTION OF REVISIONS				BY	DATE	SCALE	DWG. NO.
						1 1/2" = 12"	122761-B
							SHEET 2 OF 2

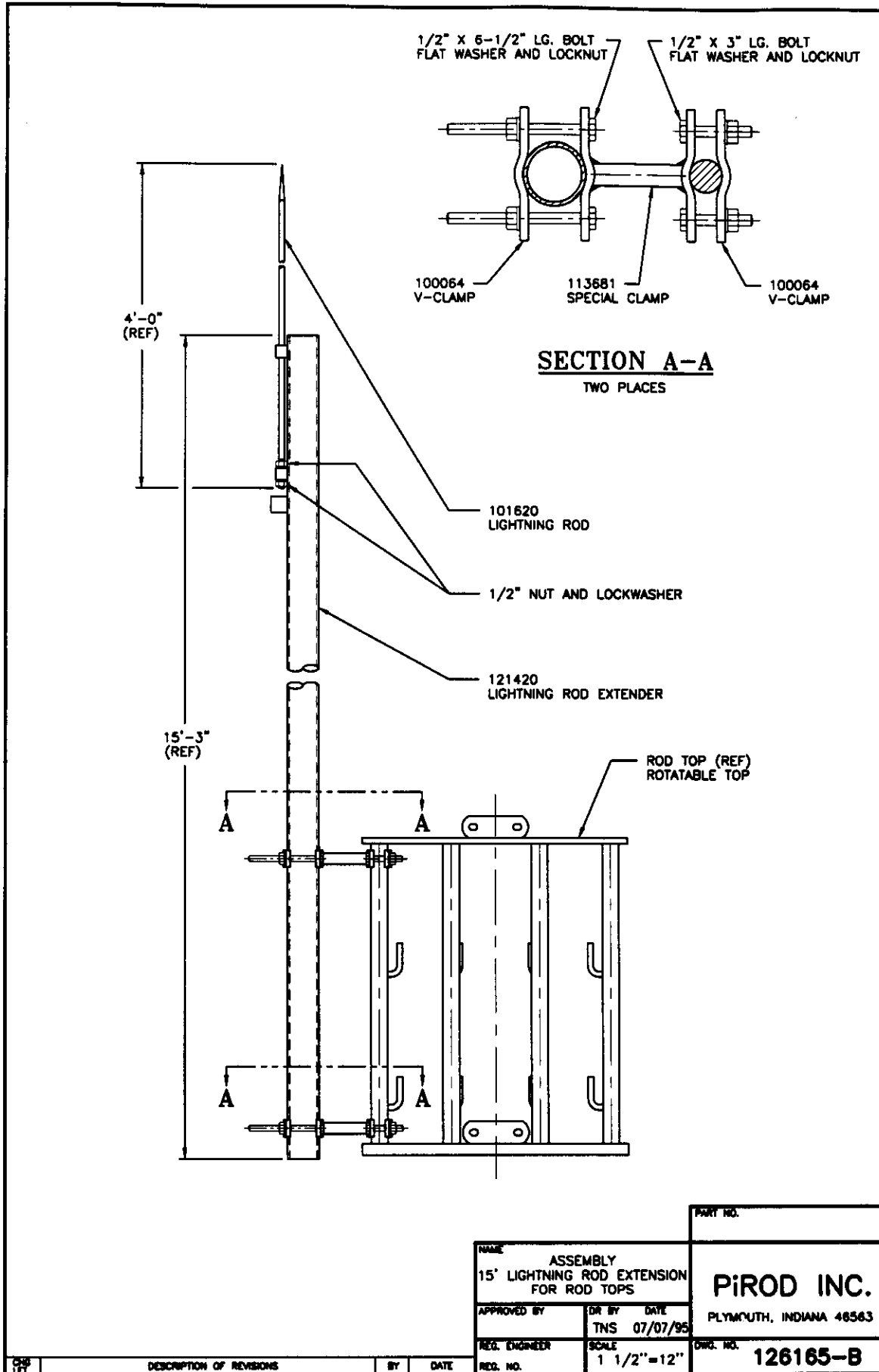


PART NO.		NAME		PART NO.	
		ROTATABLE TOP 18" OPEN CENTER SECTION		PiROD INC.	
		APPROVED BY	DR BY	DATE	PLYMOUTH, INDIANA 46563
			TNS	10/19/93	
A	REVISED PAGES 1 AND 3 TO MATCH DETAILS	TNS	01/31/96	REQ. ENGINEER	SCALE
DR	DESCRIPTION OF REVISIONS	BY	DATE	REQ. NO.	1 1/2"=12"
				DRG. NO.	122761-B
				SHEET 4 OF 8	





			PART NO.	
			NAME ROTATABLE TOP 3-D VIEW	
			PIROD INC. PLYMOUTH, INDIANA 46563	
C	REVISED TILTABLE PIPE SUPPORT	1/31/93 TNS	APPROVED BY	DR BY DATE
B	REVISED ANTENNA MOUNT, ADDED DIMS.	2/27/93 TNS		TNS 10/19/93
A	BOLTS NOW SHOWN, TYP. ANT. ADDED	4/21/94 TNS	REG. ENGINEER	SCALE
CHG LET	DESCRIPTION OF REVISIONS	DATE BY	REG. NO.	1/2"=12"
			DWG. NO. 122763-A	



1/2" X 6-1/2" LG. BOLT
FLAT WASHER AND LOCKNUT

1/2" X 3" LG. BOLT
FLAT WASHER AND LOCKNUT

100064
V-CLAMP

113681
SPECIAL CLAMP

100064
V-CLAMP

SECTION A-A
TWO PLACES

4'-0"
(REF)

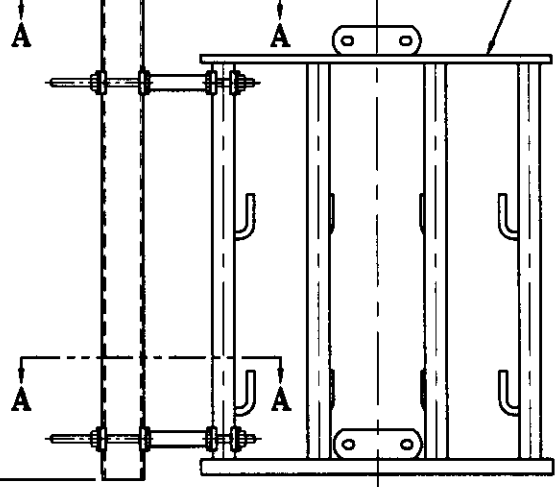
101620
LIGHTNING ROD

1/2" NUT AND LOCKWASHER

121420
LIGHTNING ROD EXTENDER

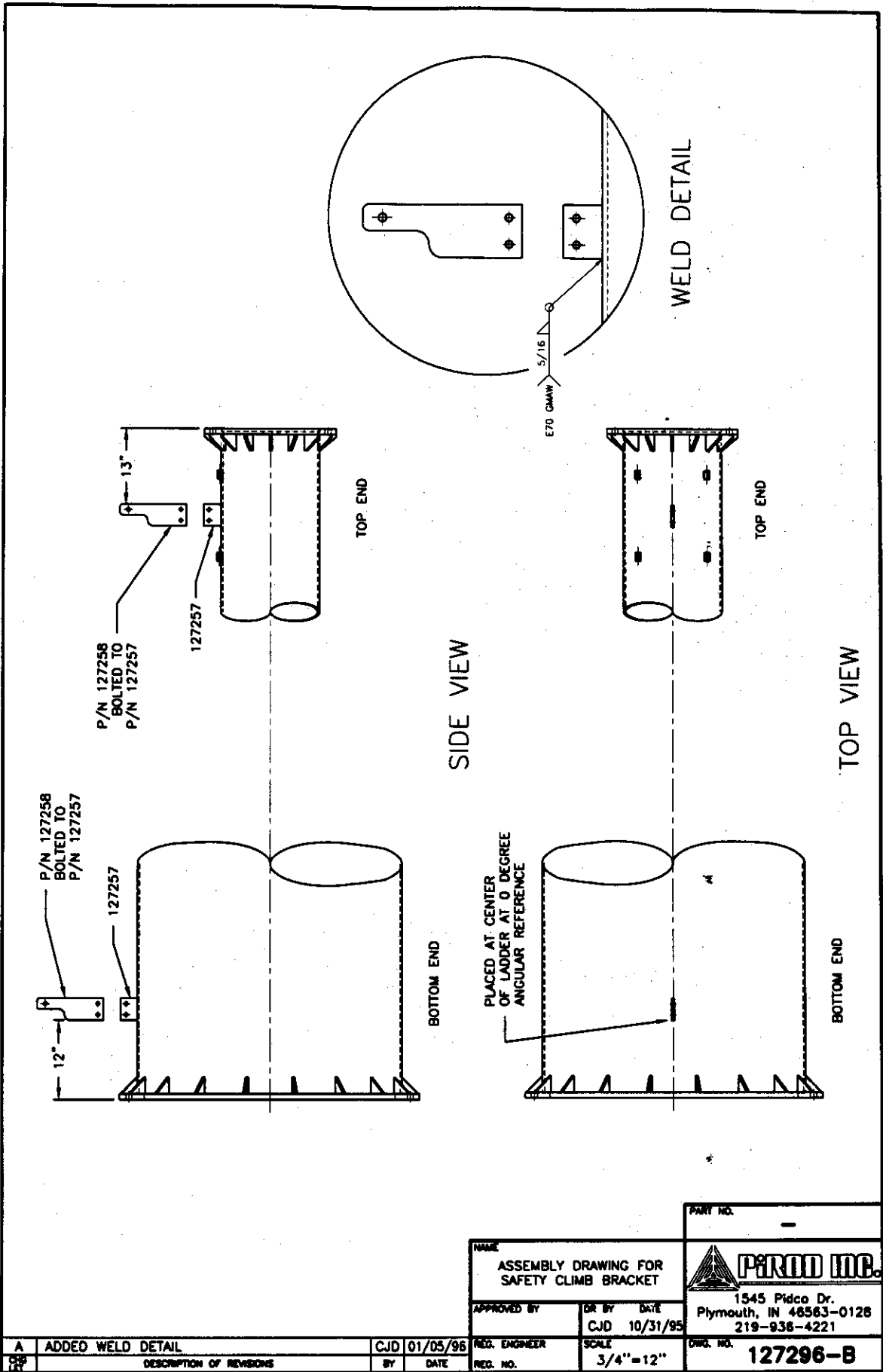
15'-3"
(REF)

ROD TOP (REF)
ROTATABLE TOP



NAME		PART NO.	
ASSEMBLY 15' LIGHTNING ROD EXTENSION FOR ROD TOPS		PiROD INC.	
APPROVED BY	DR BY DATE	PLYMOUTH, INDIANA 46563	
REG. ENGINEER	TNS 07/07/95	DWS. NO.	
REG. NO.	SCALE 1 1/2" = 12"	126165-B	

NO.	DESCRIPTION OF REVISIONS	BY	DATE

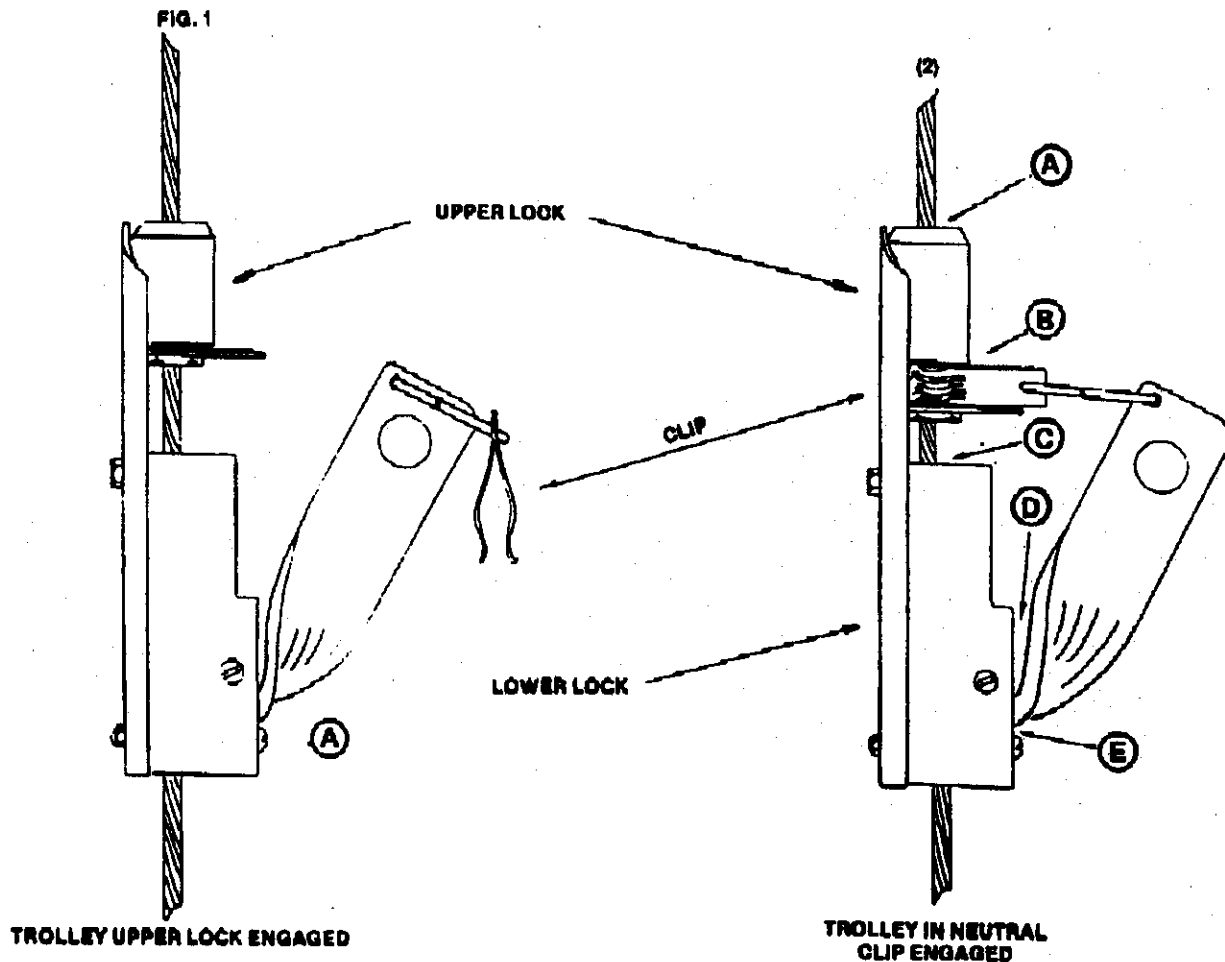


A	ADDED WELD DETAIL	CJD	01/05/96
	DESCRIPTION OF REVISIONS	BY	DATE

NAME ASSEMBLY DRAWING FOR SAFETY CLIMB BRACKET		
APPROVED BY	DR BY	DATE
	CJD	10/31/95
REQ. ENGINEER	SCALE	
REQ. NO.	3/4" = 12"	

PART NO.	-
1545 Pidco Dr. Plymouth, IN 46563-0128 219-936-4221	
DWG. NO.	127296-B

SAFETY CABLE TROLLEY



Operation/Maintenance of Trylon Safety Cable Fall Prevention System

PRIOR TO USE

When preparing to ascend the tower, the trolley should be checked for smooth travel along the cable. Due to infrequent use, dirt and other foreign matter could accumulate within the mechanism. This can be corrected by spraying the vital parts with LPS2 or similar release agent, such as WD-40 (see illustration A-B-C-D-E).

Reasonable tension should exist on the cable at all times. If it appears slack, a few turns on the turnbuckle will correct this. Overtightening is not possible because of the spring "in line" with the cable.

OPERATION

1. The spring clip (see illustration) should be as follows:

a) Ascending - can be done with or without the spring engaged.

b) Reaching the working area - if detaching from the system, the clip should be disengaged; otherwise the trolley could fall to the bottom of the cable. This can be avoided by proper adjustment of tensioning screws below lever (Fig. 1-A).

c) Descending - it should always be engaged. This allows the trolley free movement, making descent easier.

d) When job is completed - the clip should be engaged. This prevents the trolley from being in firm contact with the cable.

2. When reaching the stand-off brackets, the cable should be inspected for chafing. Any damage should be reported to the supervisor for immediate correction.

3. When descending and re-inserting the cable into the s/o brackets, make sure that the cable is being held firmly, otherwise tension the retainer nut(s).

GENERAL

It is important that no paint be sprayed or splashed onto the cable. The trolley is made to very close tolerances and will not move over foreign matter on the cable. Any accidental spray or splash during painting should be immediately wiped off.

If the system has been subjected to severe stress, such as a fall, the trolley should be replaced. This is standard practice for safety items, such as safety belts, lanyards and other holding devices.

The safety belt should be stored inside to avoid weather damage.

Replacement parts for the system are available from:

TRYLON MANUFACTURING COMPANY LTD:
P.O. Box 199, 21 Howard Avenue,
Elmira, Ontario N3B 2Z6
(519) 669-6421

Installation Procedure

STEPS:

1. Attach cable supports (A) to first and third ladder rung top and bottom as shown.
2. Attach 7/32" cable to top cable support with 1/2" shackle through factory formed loop as shown.
3. Locate stand-off brackets (B) 35' intervals on ladder.
4. Lower cable to base. Attach spring to lower 3/8" shackle as shown. Extend 3/8" x 8" turnbuckle and attach turnbuckle to spring as shown.
5. Place safety cable trolley on cable lever and (C) up, directing factory terminated cable end through top opening with top spring clip engaged and lever positioned such that cable passes through bottom hole in lever and exits at bottom of trolley body, passing between the spring loaded plates inside trolley. Gently pry plates open.
6. Form loop in factory terminated cable end and attach the two U-bolt clips (D) to cable leaving sufficient space to insert 1/4" thimble (E). Squeeze cable against thimble, pull rope clips toward thimble enough to firmly engage the thimble and cable and tighten clips.
7. Remove threaded bolt from top of turnbuckle (F). Insert thimbled cable loop. Replace bolt and tighten.
8. Tighten (assembled spring, shackle) turnbuckle until cable is taut. Usually enough tension is indicated when the spring begins to open.

OPERATION

Attach safety belt securely around waist. Snap hook is attached to belt with enclosed 5/16" twisted shackle. Disengage trolley spring clip (G) and climb in normal fashion. Leaning outward when climbing will activate lock mechanism.

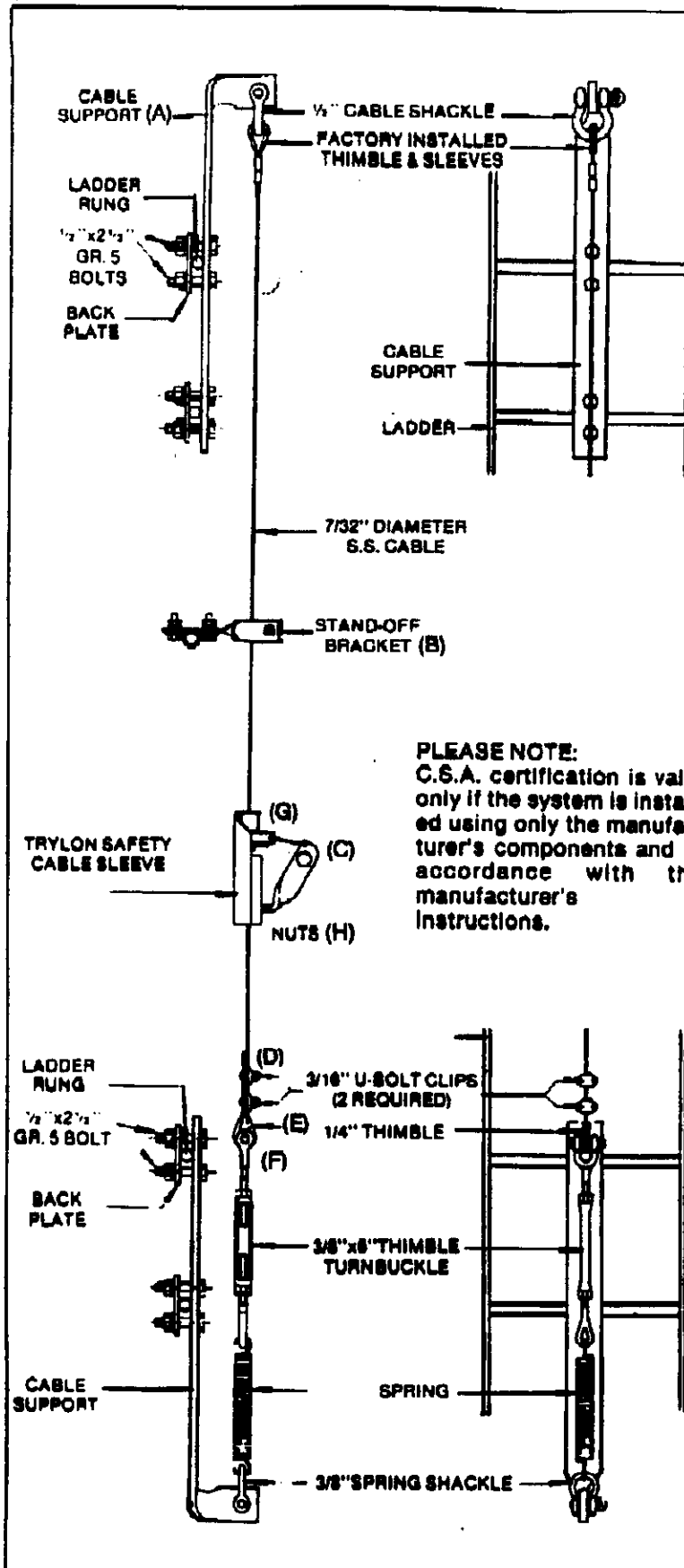
When descending, engage spring clip and descend in normal manner without leaning back. Abrupt downward movement will engage lock mechanism and stop descent immediately. To resume, re-engage upper spring clip.

In the event that an injured climber must be lowered, it will be necessary to keep any weight off of the mechanism and keep the upper spring clip engaged.


Cable breaking strength is 8,000 pounds. DO NOT exceed two trolleys or more than two climbers per system. Installation system is limited to one climber per trolley. For more than two climbers, install additional system.

ADJUSTMENTS

Trolleys are factory set to ride freely on cable without freefalling. If adjustments are required, adjust at nut "H" as shown in diagram.



PLEASE NOTE:
C.S.A. certification is valid only if the system is installed using only the manufacturer's components and in accordance with the manufacturer's instructions.

 <p>1545 Pidco Dr. Plymouth, IN 46563-0128 219-936-4221</p>	<p>INDEX for DETAIL DRAWINGS</p>	<p>Job # A-112089- Q-57640 Page 20 US WEST MIN/ZANEWOOD, MN Compiled: 05/22/96 16:11</p>
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Drawing#	Drawing Description	Page
103182-B	ANCHOR BOLTS - 5/8" DIA. THRU 2-1/4" DIA	4
118483-B	BASE FLANGE TEMPLATE	3
118492-B	ANCHOR BOLTS MONOPOLES	2
119721-B	MONOPOLE SERVICE PLATFORM PAD EYE LOCATE	6
122761-B	18" OPEN STYLE ROTATABLE TOP	10
122763-A	3-D VIEW OF OPEN STYLE ROTATABLE TOP	15
123107-A	BOLT PRE-TENSIONING GUIDELINES	1
126056-B	24" MP SECTION INT. FLANGE/REM. RUNGS	9
126057-B	30" MP SECTION INT. FLANGE/REM. RUNGS	8
126058-B	36" MP SECTION INT. FLANGE/REM. RUNGS	7
126059-B	42" M/P SECTION INT. FLANGE/REM. RUNGS	5
126165-B	15' LIGHTNING ROD EXTENDER ASSEMBLY	16
127219-A	INSTALLATION - TRYLON SAFETY CLIMB	18
127296-B	SAFETY CLIMB BRACKET ASSEMBLY DRAWING	17