

Model : PB-82 Instruction Sheet

The **PB-82 Parabeam UHF parabolic screen reflector antenna** is of modular design for use singly or in dual arrays and offers very high gain with extremely low windloading. It is supplied with the necessary installation hardware. Output terminal is a 75-ohm threaded “F” type fitting.

Mechanical Specifications

MODEL	REFLECTOR		DIMENSIONS(IN.)			THRUST**		WEIGHT	
	SIZE(FT)	QTY	WIDTH	HEIGHT	DEPTH*	NO ICE	1/4" ICE	NET	SHIPPING
PB-82	8.0	2	199.0	96.5	18.0	486	1100	110	165

*Depth for reflector only

**Thrust in pounds transferred to supporting structure at 30 PSF

Overview

PB-82 screen reflectors are shipped in two sections and must be assembled prior to mounting the feed assembly. The entire antenna assembly is then raised into position, oriented and secured to the mast or tower leg as shown in Figure 1 and overview drawing on page 5.

Materials and tools required

1. An appropriate 75-ohm downlead equipped with a 75-ohm female “F” type connector and a weatherboot.
2. Weatherproofing compound.
3. A ratchet wrench with 7/16” and 9/16” sockets.
4. A 7/16” and 1/2” open-end wrenches.

NOTE: When assembling this unit, leave all bolts hand tight until assembled, to ensure clean fit of all bolts and hardware. Tighten all the bolts prior to installation.

SCREEN ASSEMBLY

Open hardware package #1. This should consist of a minimum of:

- 14 - Bolts, 1/4 - 20 x 3 1/2" Hex Head
- 14- Nuts, 1/4 - 20 Hex
- 14 - Lockwashers, 1/4" Split
- 28 - Reinforcing Channels

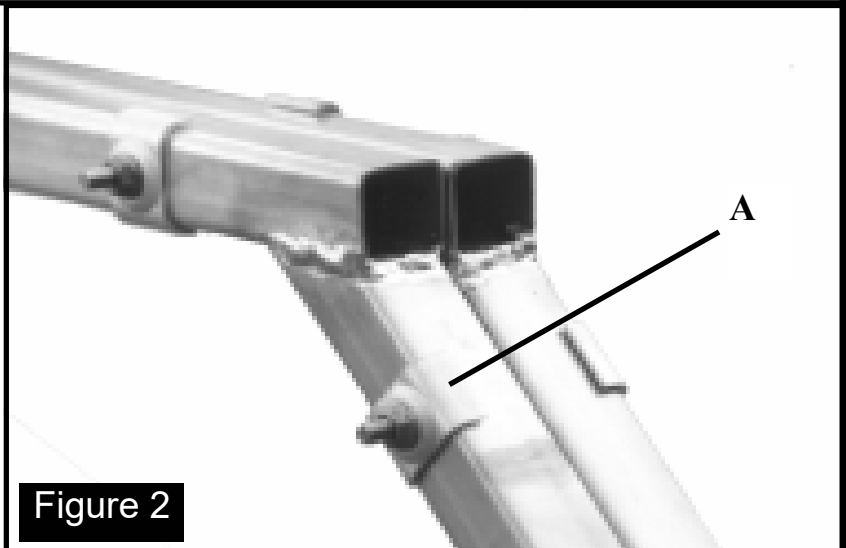


Figure 2

There are two dishes and two halves to each dish in the assembly of this unit. The hardware quantities in package #1, reflect the assembly of both dish assemblies as separate units. The dish sections are marked "TOP" and "BOTTOM". Use the hardware above to assemble the antenna halves as shown in Figures 2 and 3. At this point you must decide which dish will be on which side when they are mounted together as a pair. Do not install hardware in location "A" when location "A" is nearest to the mating dish assembly. There will be a pair of angle cross-members bolting to this location later on.

Screen Half Assembly

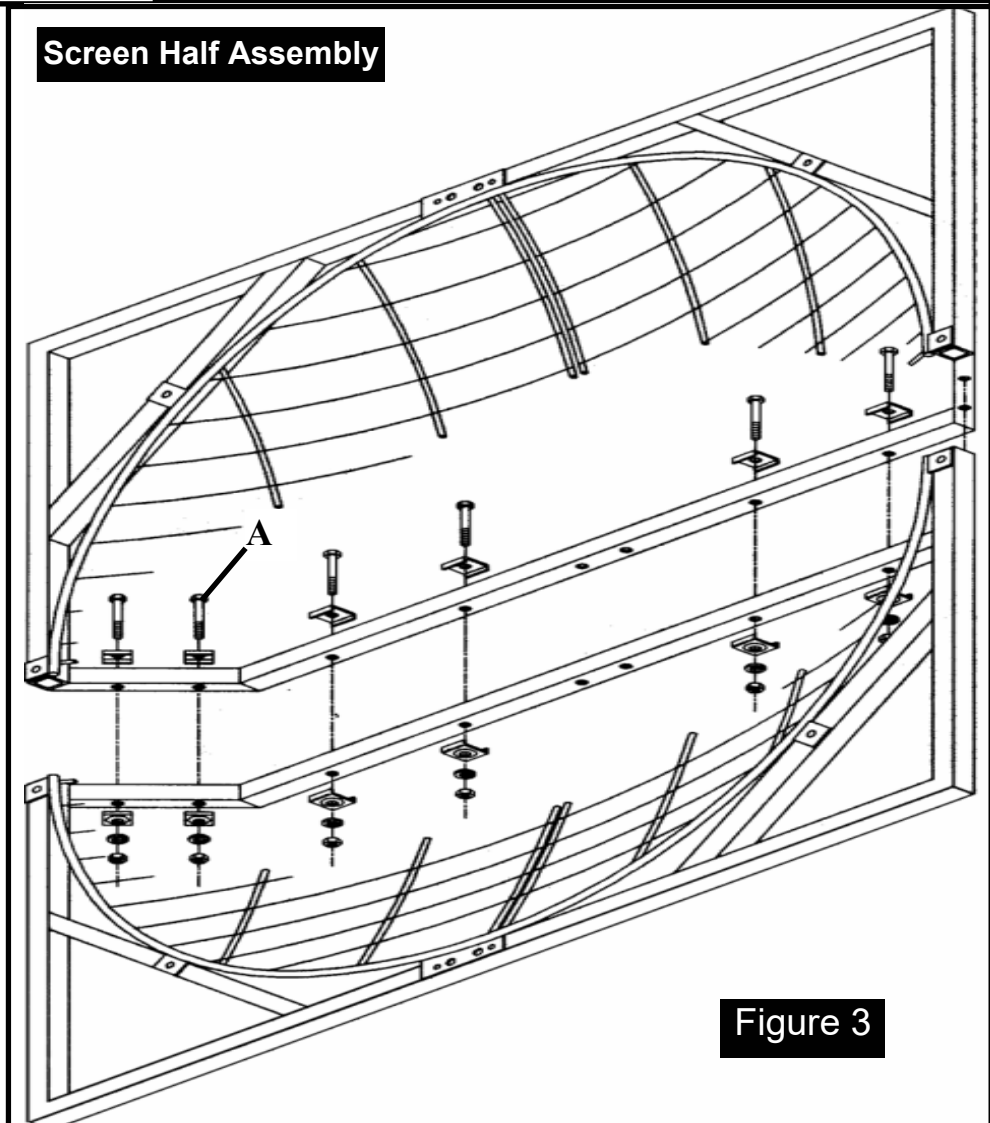


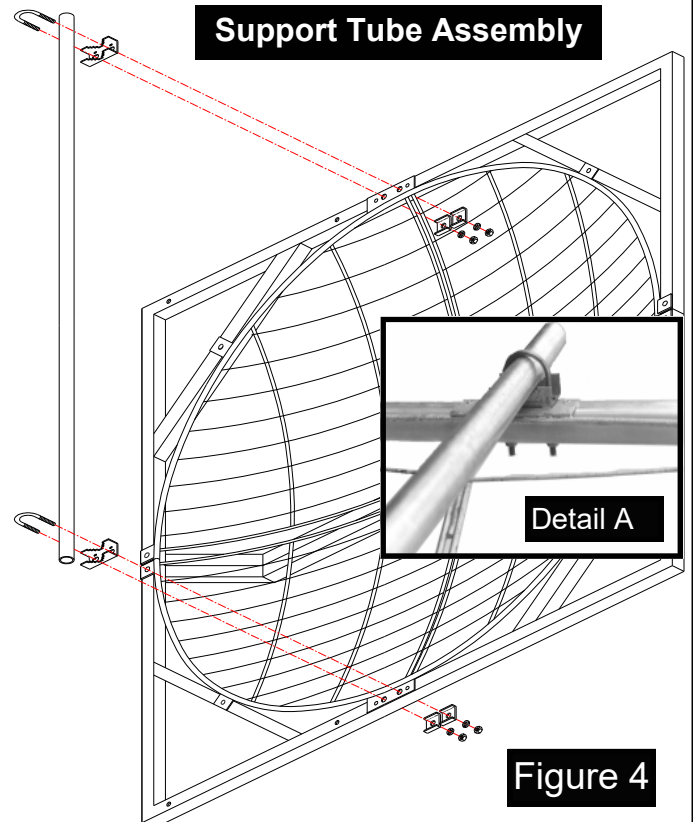
Figure 3

SUPPORT MAST AND FEED

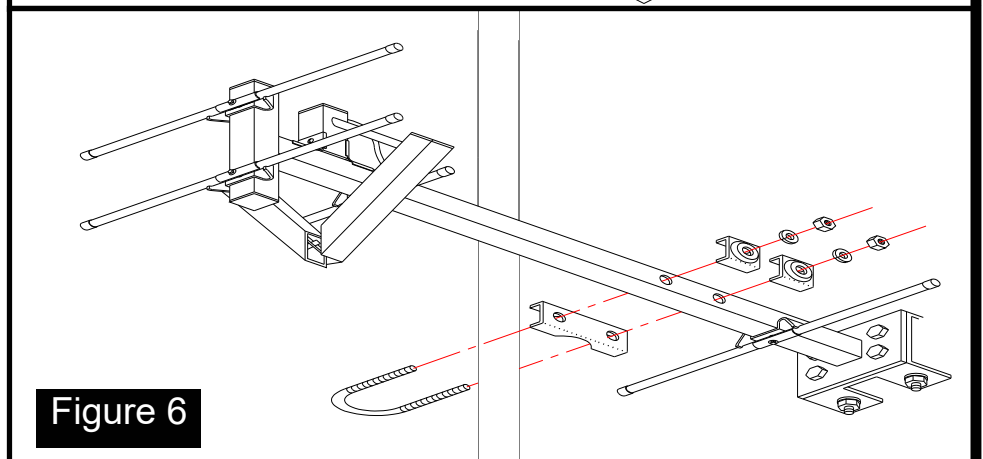
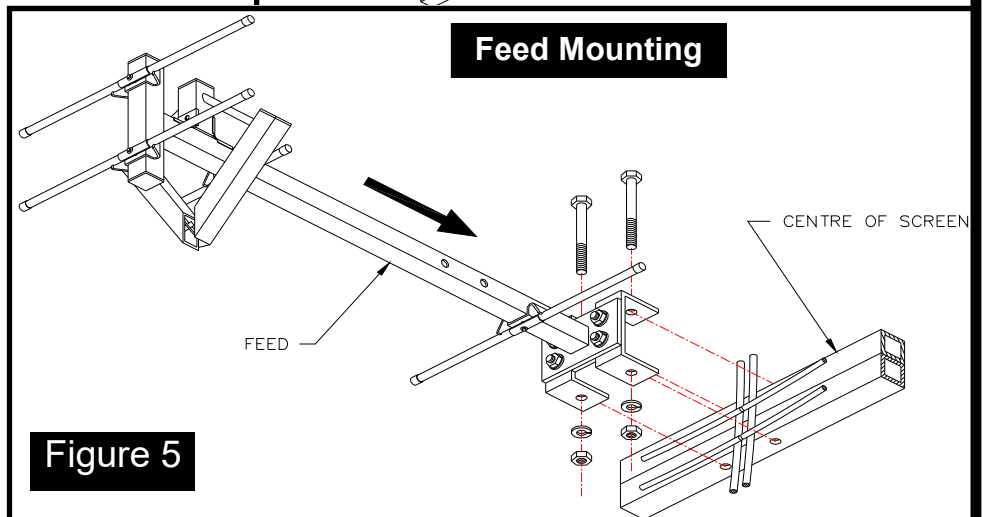
Locate the Feed, Support Tube and Hardware Package #2. Hardware package #2 should consist of a minimum of:

- 6 - U-bolts, 5/16 x 2" I.D.
- 12 - Nuts, 5/16 Hex
- 12 - Split Lockwashers, 5/16"
- 12 - Reinforcing Channels
- 6 - Mast clamps
- 4 - Bolts, 1/4 - 20 x 3 1/2" Hex Head
- 4- Nuts, 1/4 - 20 Hex
- 4 - Lockwashers, 1/4" Split

Assemble the Feed Support Tubes to each of the two PB-82 Screen Frames, using the supplied 5/16 x 2" I.D. U-Bolts, Mast Clamps, Reinforcing Channels, Lock-washers and Hex Nuts as shown in Figure 4 and detail A.



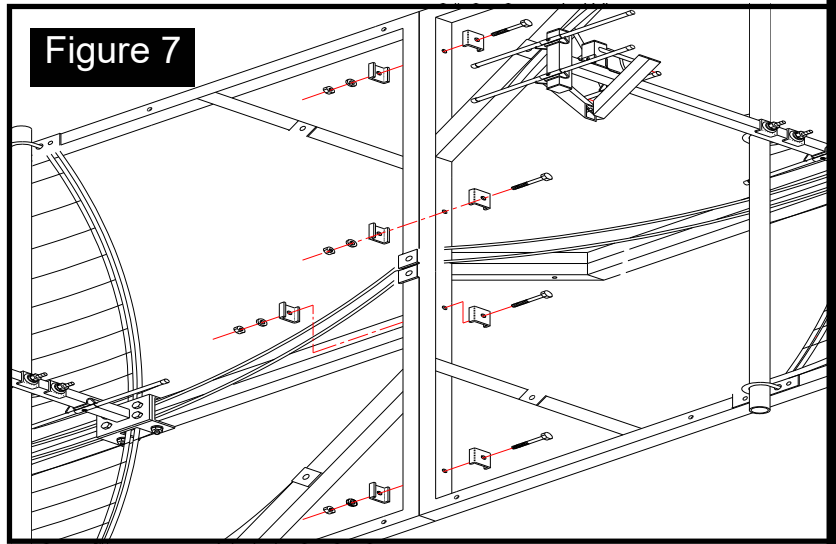
Attach the feeds to the center of each screen using the 1/4 - 20 x 3 1/2" bolts, flat washers, lockwashers and nuts as shown in Figure 5. Proceed by attaching the feed body to the upright vertical feed support tube using the 5/16" U-Bolt, lockwashers, nuts, reinforcing channels and mast clamps as shown in Figure 6. Note that the output connector must be installed in the "up" position and that the feed must be aligned straight out from the screen, perpendicular to the frame.



SCREEN MAIN ASSEMBLY

Locate the 2 Mounting Braces, 2 Angle Brackets, Cable harness, and hardware package #3. This should consist of a minimum of:

- 8 - Bolt, 3/8-16 x 2-1/4" Hex Head
- 8 - Nut, 3/8- 16 Hex
- 8 - Lockwasher, 3/8" Split
- 8 - Reinforcing Channel
- 8 - Reinforcing Channel with side removed
- 6 - Bolts, 1/4x20 x 3 1/2
- 6 - Nuts, 1/4 x 20
- 6 - Lockwasher, 1/4 split
- 8 - Flat washer 3/8



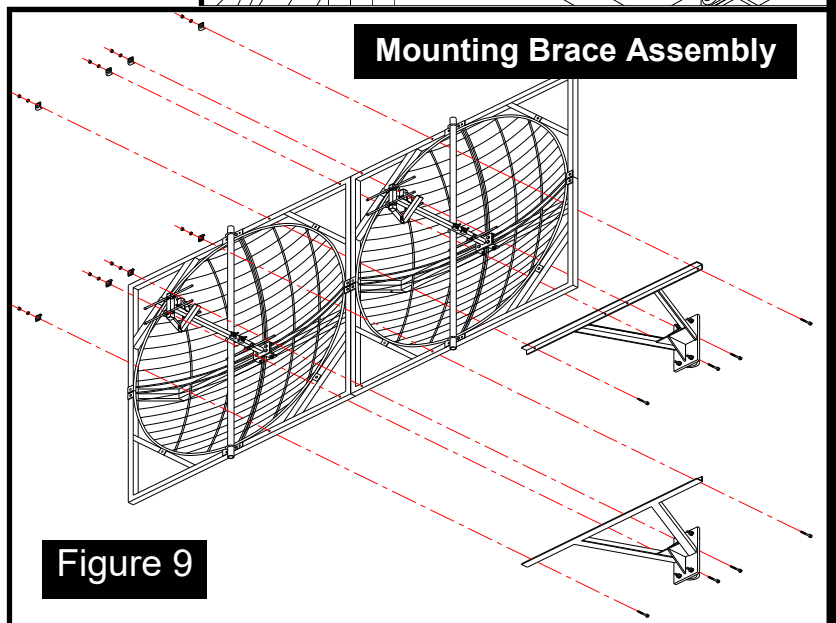
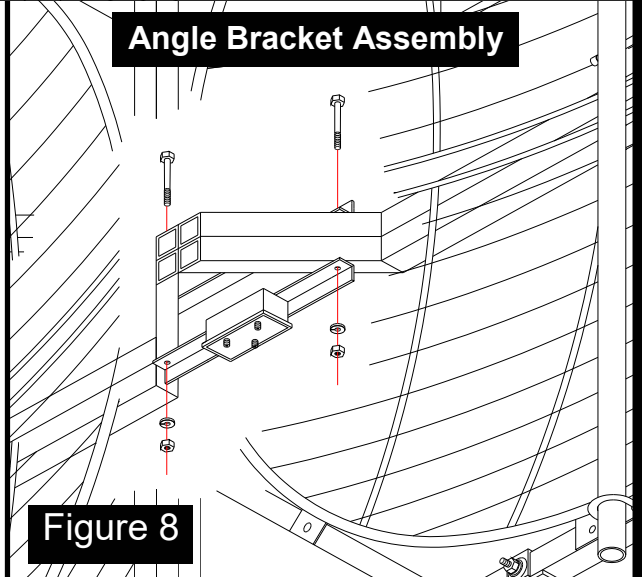
Attach the two screens together loosely as shown in Figure 7, using four (4) 1/4-20 x 3-1/2" bolts, eight (8) Reinforcing Channel, four (4) 1/4-20 nuts and four (4) 1/4 split lockwashers.

Next, loosely bolt on the angle brackets as shown in figure 8 to "location A" shown in figure 2 on both screen halves. Use two (2) 1/4-20 x 3-1/2" bolts, two (2) 1/4-20 nuts and two (2) 1/4 split lockwashers. One of the two angle brackets has an F style combiner affixed to it. Ensure that this angle bracket is located such that the combiner faces down. This will help avoid moisture build up on the face of the combiner.

Mount the entire assembly onto the two mounting braces as shown in Figure 9. Use eight (8) 3/8-16 x 2-1/4" bolts, eight (8) 3/8 flat washers, eight (8) 3/8 lockwashers, eight (8) 3/8-16 nuts.

At this point, tighten all of the bolts on the entire device.

Being careful not to bump or damage the feeds, sit the antenna assembly upright, and connect the cable harnesses to each antenna feed. Connect the other end of each harness to the appropriate F connection on the combiner. Hand tighten each connection, then wrench tighten each fitting not more than 1/6 of a turn. Apply a liberal coating of weatherproofing compound to the connection and slide the weather-boot on. Affix the cable to the feed tube and dish frame using the supplied zip ties.



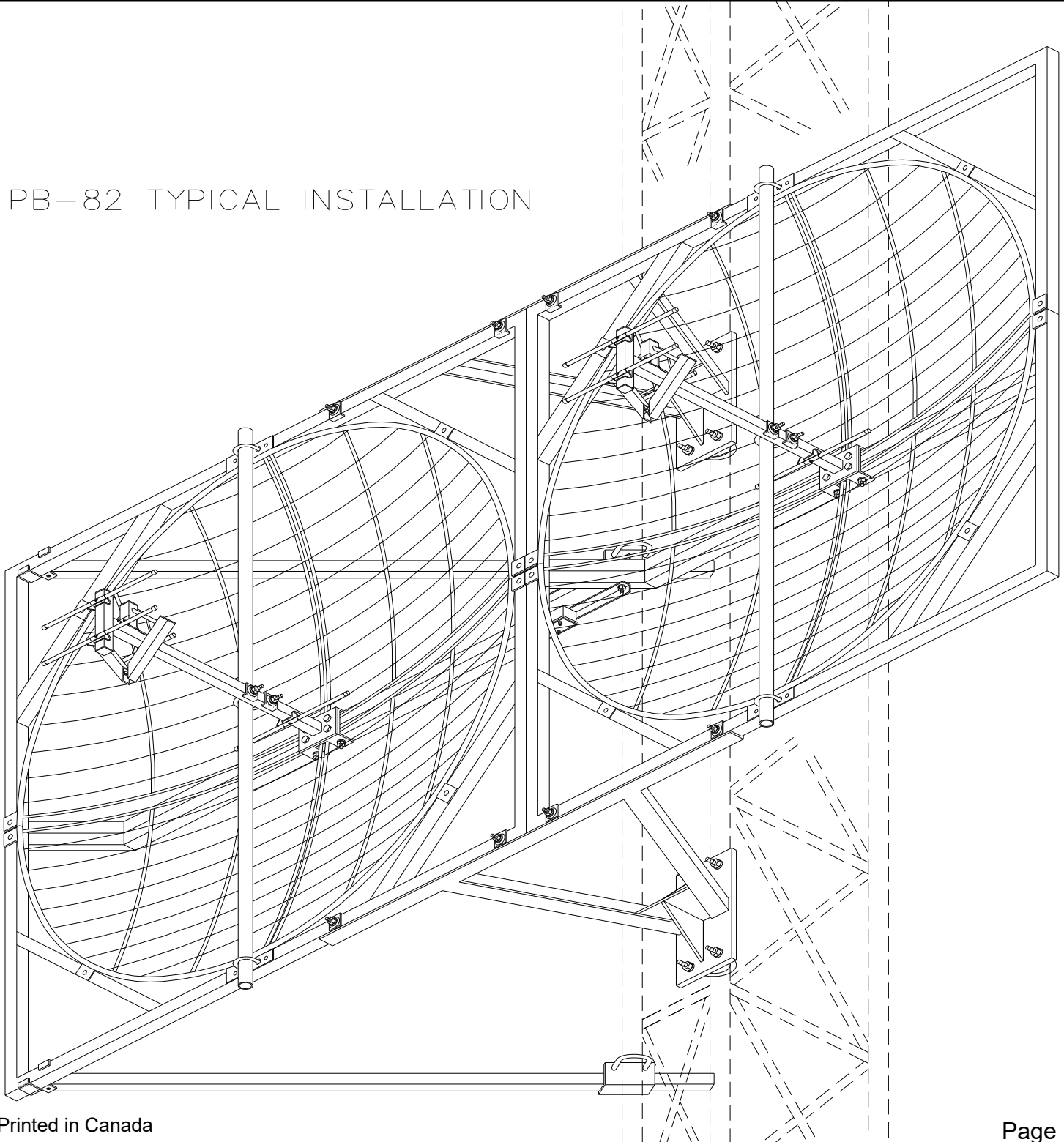
ANTENNA MOUNTING

1) Carefully lift the antenna assembly into position on the tower or mast, roughly aligned to the direction of the desired broadcasting stations. Temporarily secure the unit as shown below. Tightening them sufficiently to bear the weight of the antenna during alignment.

Overview Drawing

Caution! Take care not to damage the feed assembly or move it out of alignment with the center of the reflector.

PB-82 TYPICAL INSTALLATION



ANTENNA MOUNTING – CONTINUED

Locate hardware package #4. This should consist of a minimum of:

- 4 - Bolts, 1/4-20 x 3/4"
- 2 - U-Bolts, 3/8-16
- 4 - Washers, 3/8 Flat
- 4 - Lockwashers, 3/8 Split
- 4 - Nuts, 3/8 Hex
- 2 – brace clamp Sub. Assy.
- 4 – Nuts 1/4 -20
- 8 – zip ties

2) Assemble the twist-lock azimuth braces onto the reflector frame following steps 1,2 & 3 at right. Align the open portion of end bracket with the antenna frame. Slide the bracket over the antenna frame and turn 1/4 of a turn counterclockwise to lock bracket on the frame.

3) Locate the azimuth brace mount shown in figure 10. The 3/8 U-bolts supplied are adaptable to a range of appropriate tower leg sizes. Mount this brace to the tower leg as shown in Figure 1 and the overview drawing on page 5. Rotate the entire antenna slightly, both left and right, until maximum signal strength is achieved. This is obtained by sliding the azimuth braces through their respective brace clamps (Figure 10). Two (2) 1/4-20 x 3/4" bolts are used to lock the azimuth brace in place, and two (2) 1/4-20 nuts are used as lock nuts to lock the bolts (not shown in picture). When alignment is satisfactory, tighten **all** bolts and U-bolts **securely**.

4) Connect the down-lead fitting to the antenna output terminal. Hand tighten, then wrench tighten the fitting not more than 1/6 of a turn. Apply a liberal coating of weatherproofing compound to the connection and slide the weatherboot on. Utilize the remaining zip ties to secure the cable to the frame and mounting brackets.

