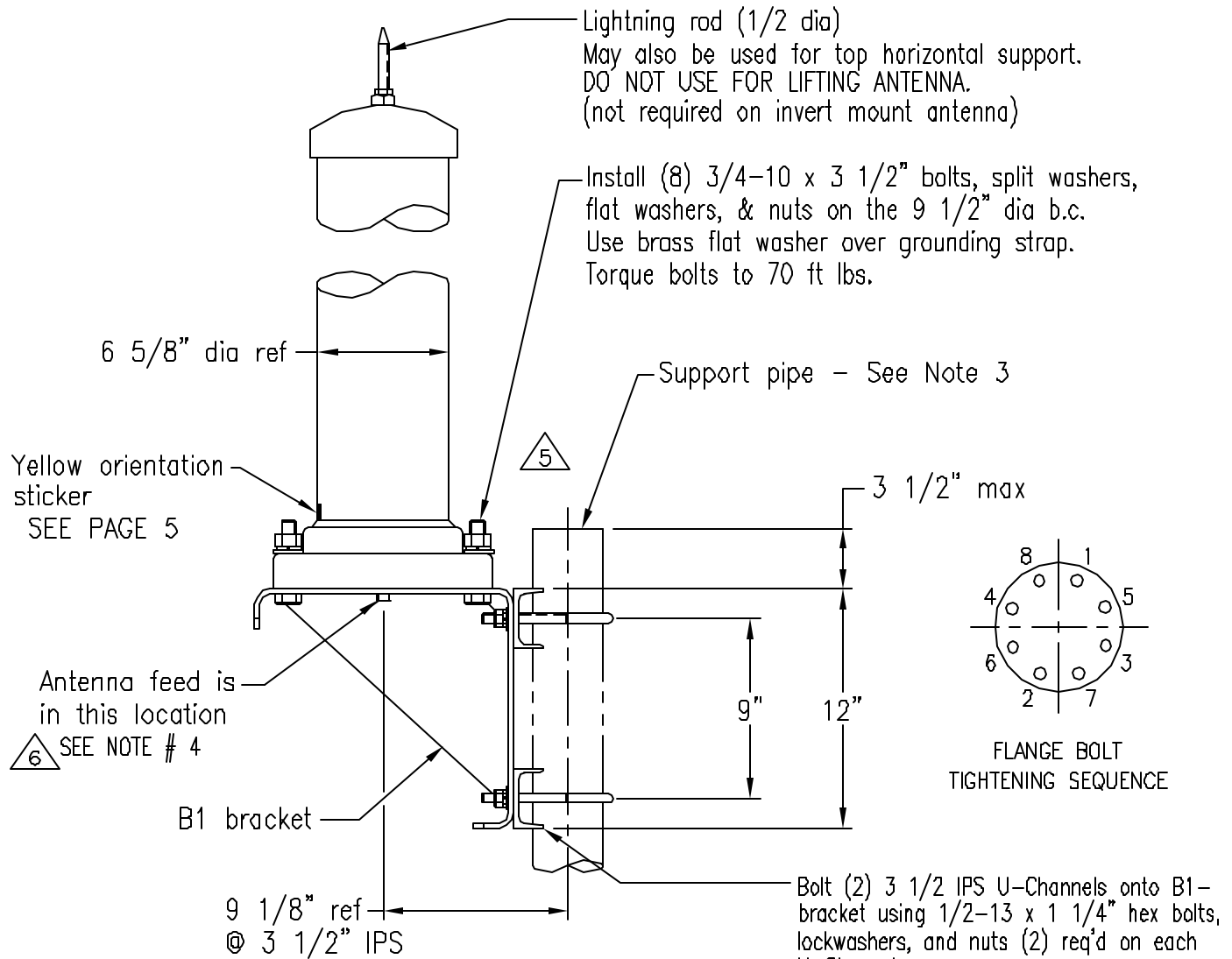


ANTENNA MOUNTED ON B1 BRACKET

(SEE PAGE 2 FOR B1-HD INSTALLATION)

A-104889



NOTES:

- 1) Antenna should be mounted a minimum of 4 feet from tower, or main structure on 800MHz models, and 6 feet on 400MHz models.
- 2) Antenna to be mounted vertical within 1/2".
- 3) Any antenna longer than 13' must be installed on 3.5 IPS pipe. For antennas 13 or less, the support pipe size should be 3.5 IPS max (2.5 dia min).

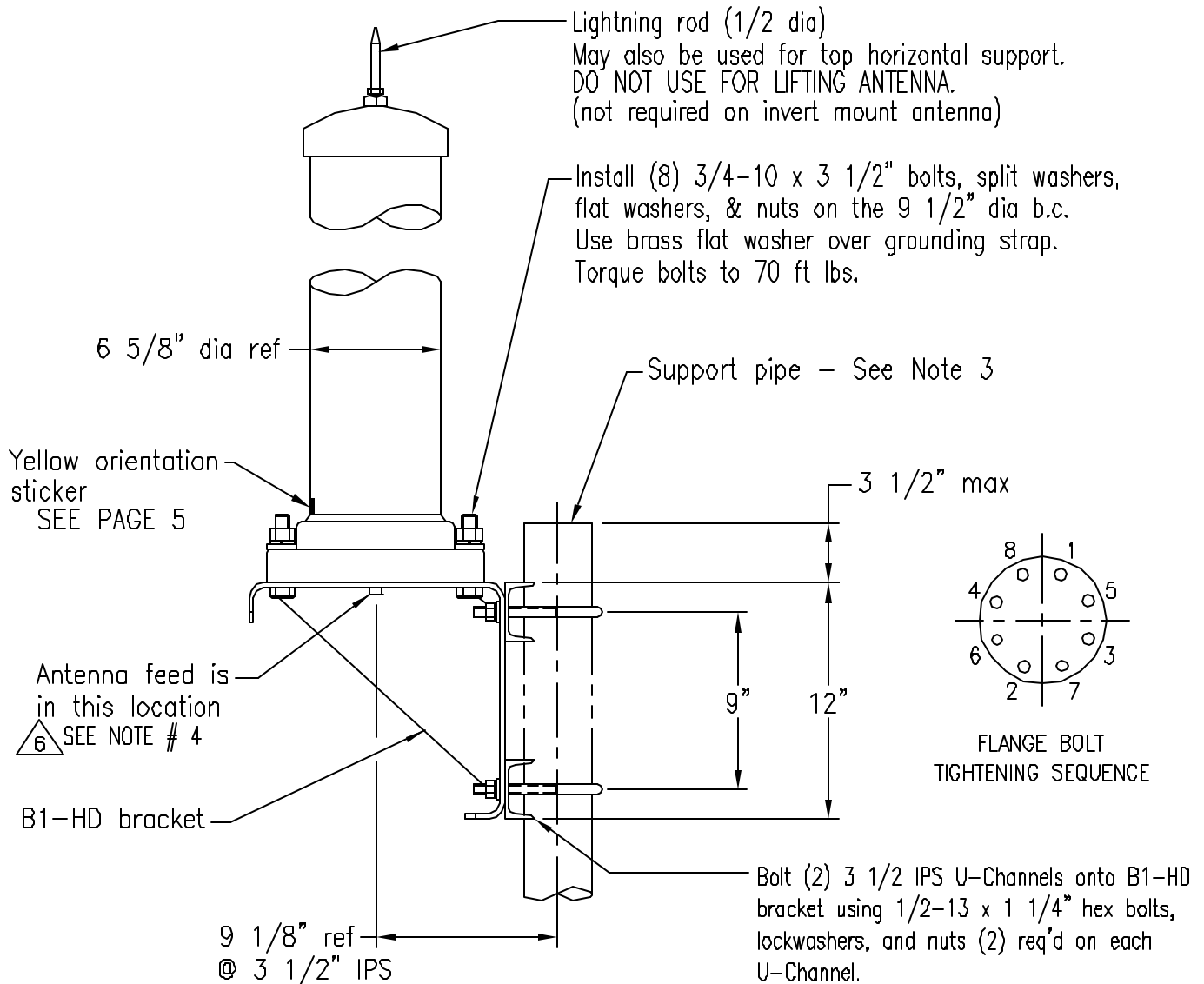
- 4) TORQUE TYPE N CONNECTORS 10-15 INCH-POUNDS, IF POSSIBLE HOLD IN PLACE WITH 9/16 WRENCH ACROSS FLATS DURING TIGHTENING

Bolt (2) 3 1/2 IPS U-Channels onto B1-bracket using 1/2-13 x 1 1/4" hex bolts, lockwashers, and nuts (2) req'd on each U-Channel.
Bolt assembled bracket to support pipe using 1/2-13 U-bolts, lockwashers, flatwashers and nuts (2) req'd. torque to 50 ft. lbs.

6	5	4	3	2	1	TITLE	DRAWING NO.	REV.
ECO 13250 ATU	ECO 11445 RA 10-JUL-03	UPDATED RFS LOGO RA 22-JAN-03	ECR 11184 JH 7 JAN 2003	ECN 98-W2-286-VB	ECN 96-461-TPW AS B-7-98	INSTALLATION INSTRUCTIONS FOR PENETRATOR ANTENNAS	A-104889	6
							SHEET 1 OF 5	
						DRAWN BY SBF	2/15/96	RADIO FREQUENCY SYSTEMS
						APPROVED BY AS	5/30/96	
						200 Pondview Drive, Meriden, Ct. 06450-7195		

ANTENNA MOUNTED ON B1-HD BRACKET


A-104889



NOTES:

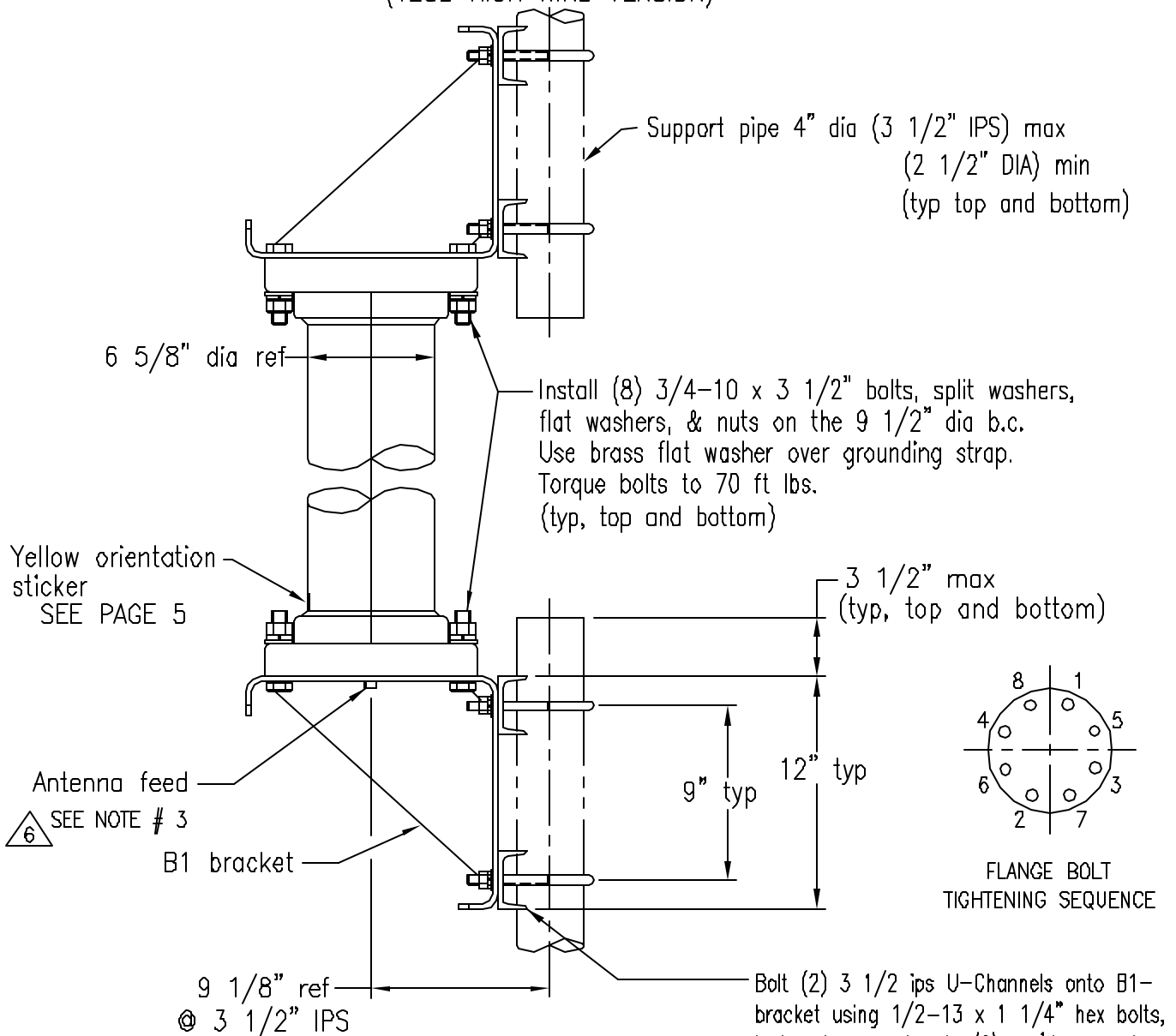
- 1) Antenna should be mounted a minimum of 4 feet from tower, or main structure on 800MHz models, and 6 feet on 400MHz models.
- 2) Antenna to be mounted vertical within 1/2°.
- 3) Any antenna mounted on "HD" bracket must be installed on 3.5 IPS pipe.

△ 4) TORQUE TYPE N CONNECTOR 10-15 INCH-POUNDS, IF POSSIBLE
HOLD IN PLACE WITH 9/16 WRENCH ACROSS FLATS DURING TIGHTENING

TITLE		DRAWING NO.	REV.
INSTALLATION INSTRUCTIONS FOR PENETRATOR ANTENNAS		A-104889	6
		SHEET 2 OF 5	
DRAWN BY	SBF	2/15/96	RADIO FREQUENCY SYSTEMS 
APPROVED BY	AS	5/30/96	
200 Pondview Drive, Meriden, Ct. 06450-7195			

ANTENNA MOUNTED ON B1 BRACKET TOP AND BOTTOM
(12dB HIGH WIND VERSION)

A-104889

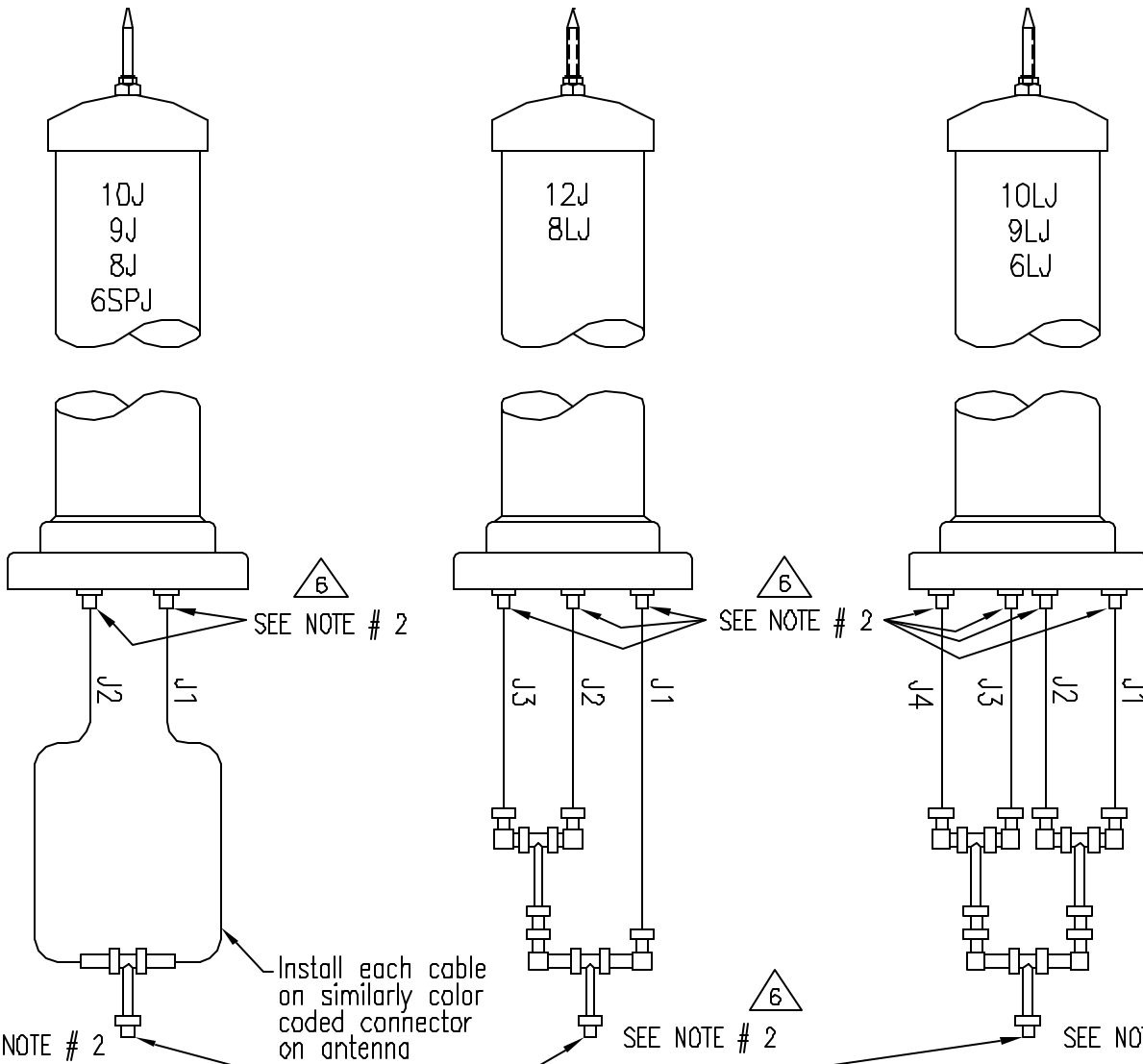


NOTES:

- 1) Antenna should be mounted a minimum of 4 feet from tower, or main structure on 800MHz models, and 6 feet on 400MHz models. This mounting configuration requires two separate support pipes as shown
- 2) Antenna to be mounted vertical within 1/2'.
- 3) TORQUE TYPE N CONNECTOR 10-15 INCH-POUNDS, IF POSSIBLE
HOLD IN PLACE WITH 9/16 WRENCH ACROSS FLATS DURING TIGHTENING

TITLE INSTALLATION INSTRUCTIONS FOR PENETRATOR ANTENNAS		DRAWING NO. A-104889	REV. 6
		SHEET <u>3</u> OF <u>5</u>	
DRAWN BY SBF	2/15/96	RADIO FREQUENCY SYSTEMS	
APPROVED BY AS	5/30/96	200 Pondview Drive, Meriden, Ct. 06450-7195	

TYPICAL CONFIGURATIONS FOR ANTENNAS PROVIDED WITH EXTERNALLY ADJUSTABLE BEAM TILT (J OPTION)



NOTES:

1) Each cable set provides a specific beam tilt. To change the beam tilt a new set of cables must be purchased.

2) TORQUE TYPE N CONNECTORS (J1 THRU J4) PLUS FEEDLINE CONNECTIONS AT 10-15 INCH-POUNDS, IF POSSIBLE HOLD IN PLACE WITH 9/16 WRENCH ACROSS FLATS DURING TIGHTENING

TITLE INSTALLATION INSTRUCTIONS FOR PENETRATOR ANTENNAS		DRAWING NO. A-104889	REV. 6
		SHEET 4 OF 5	
DRAWN BY SBF	2/15/96	RADIO FREQUENCY SYSTEMS	
APPROVED BY AS	5/30/96	200 Pondview Drive, Meriden, Ct. 06450-7195	



PENETRATOR PATTERN ORIENTATION

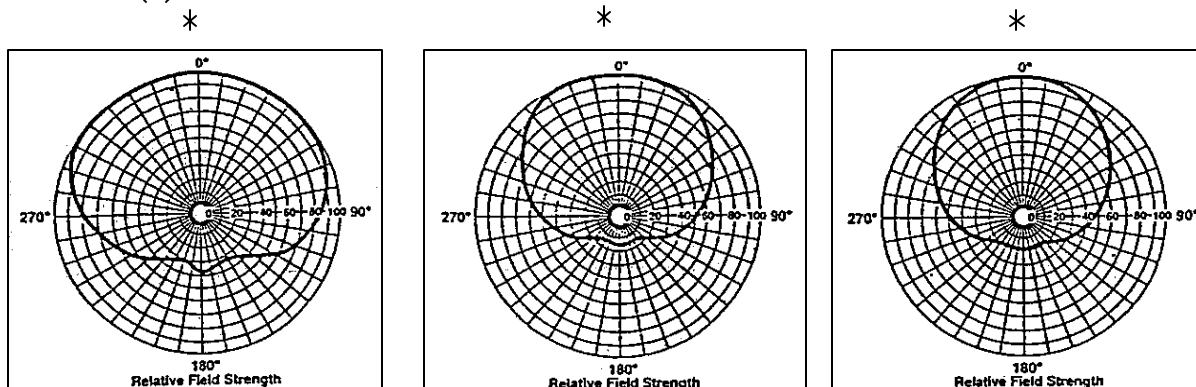
A-104889

NEAR THE ANTENNA BASE, A YELLOW STICKER WILL BE LOCATED ON THE SIDE OF THE RADOME. THIS STICKER WILL REPRESENT THE "0" DEGREES ON AZIMUTH CHART.

PATTERNS A,B, & D

IF THE YELLOW STICKER IS NOT ON THE ANTENNA, THEN LOOK AT THE BLUE RADOME. THERE WILL BE BOLTS FORMING A VERTICAL LINE ON THE RADOME. THE LINE FORMED BY THE MOST NUMBER OF BOLTS INDICATES THE DIRECTION OF THE MAIN LOBE.

THE STAR (*) REPRESENTS THE LOCATION OF THE STICKER RELATIVE TO THE PATTERN.



PATTERN A
(220 DEGREE SECTOR)

PATTERN B
(140 DEGREE SECTOR)

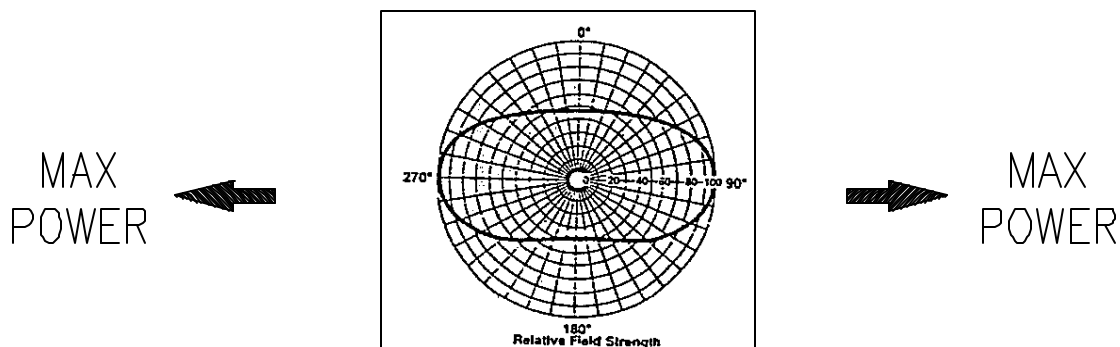
PATTERN D
(120 DEGREE SECTOR)

PATTERN H

IF THE YELLOW STICKER IS NOT ON THE ANTENNA, THEN LOOK AT THE REFLECTOR. THE MAIN LOBES OF THIS BI-DIRECTIONAL ANTENNA ARE LOCATED 90 DEGREES IN EACH DIRECTION FROM THE LOCATION OF THE REFLECTOR.


EXAMPLE: IF REFLECTOR IS POINTING NORTH, THEN THE MAIN LOBES WOULD BE POINTING EAST AND WEST.

THE REFLECTOR DIRECTION IS INDICATED BY THE STAR (*) ON THE H-PATTERN



PATTERN H
(140 DEGREE SECTOR)

PATTERN O
ORIENTATION OF THIS
PATTERN IS NOT
CRITICAL

TITLE		DRAWING NO.	REV.
INSTALLATION INSTRUCTIONS FOR PENETRATOR ANTENNAS		A-104889	6
		SHEET 5 OF 5	
DRAWN BY	SBF	2/15/96	RADIO FREQUENCY SYSTEMS
APPROVED BY	AS	5/30/96	
200 Pondview Drive, Meriden, Ct. 06450-7195			