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MMCR Antenna Installation

I. Purpose:

This procedure describes the steps necessary to install the antenna components of the ARM 8mm Cloud Radar MMCR.

II. Cautions and Hazards:

- The installer must make sure that all the power sources are disconnected during installation.

III. Requirements:

- A flat-tip screwdriver.
- A Phillips-tip screwdriver.
- A 27/64 size drill.
- A combination square.
- A forklift.

IV. Procedure:

A. 4" x 4" x 1/2" Aluminum L-Angles

1. Fasten the 4" x 4" x 1/2" aluminum L-angle to the seatainer, using anchor points provided on the seatainer.
 - Since the mounting holes are unlikely aligned, a straight line must first be established:
 - a) At the 1- and 7-foot anchor supports, string a line at approximately 1 1/4" above the roof plate of the seatainer.
 - b) Measure from the line down to the center of the mounting hole for the other two anchor points.
 - c) Drill the corresponding holes in each of the 4" x 4" aluminum L-angles.
 - d) Fasten the 4" x 4" aluminum L-angles on the seatainer.

B. 3" x 5" x 1/2" Aluminum I-Beams

1. Place I-beams on working surface.
2. With a combination square, check the ends of the I-beam for a square cut.

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3. Make centerline mark for aligning the antenna mount.
4. Measure in 2" from the edge of the I-beam and mark it.
(If the ends of the I-beam are not square, make measurements from one corner of I-beam and square up the other corner.)
5. At this point (2" from the edge) come in ¾" from the side of the beam and make a mark.
6. Where these two marks intersect, drill a 9/32" hole.
7. Set the I-beams aside for attaching to antenna mount.

C. Assembly of Antenna Mount

1. Support the antenna and mount with forklift or other means.
2. Raise the antenna to a working height about 3 or 4 feet above the ground.
3. Measure center point of the antenna mount and make sure that antenna feed aligns with the center mark of the antenna mount; if not, adjust accordingly.
4. Once centerline of antenna mount has been established, mark centerline of I-beam and match up the two centerlines.
5. Clamp the 8-foot I-beams to the antenna mount, making sure the centerlines have not moved.
6. Mark placement of mounting holes and drill holes with a size 27/64 drill and tap for ½-13 bolt.
7. Once the holes are tapped, fasten the mount to I-beams with ½-13 bolts.
8. Raise the adjustable side of the antenna mount so that the two I-beams are on the same plane.

D. Mounting Antenna

1. Raise the antenna and mount it with forklift and place on aluminum L-angles fastened to the roof of seatainer.
2. Plumb down with plumb-bob to assure alignment with the feed-through hole of seatainer.
3. Once the antenna feed is aligned, mark placement of pre-drilled mounting holes, and drill and tap for ½-13 bolt as before.
4. Fasten to L-angle with 6" ½-13 bolts.

V. References:

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1. United States Department of Commerce (NOAA/ERL, Environmental Technology Laboratory, System Demonstration and Integration Division). Operation and Maintenance Manual for ARM's 8mm Cloud Radar, pp. 4-8. January 1998. MAN(MMCR)-001.001.