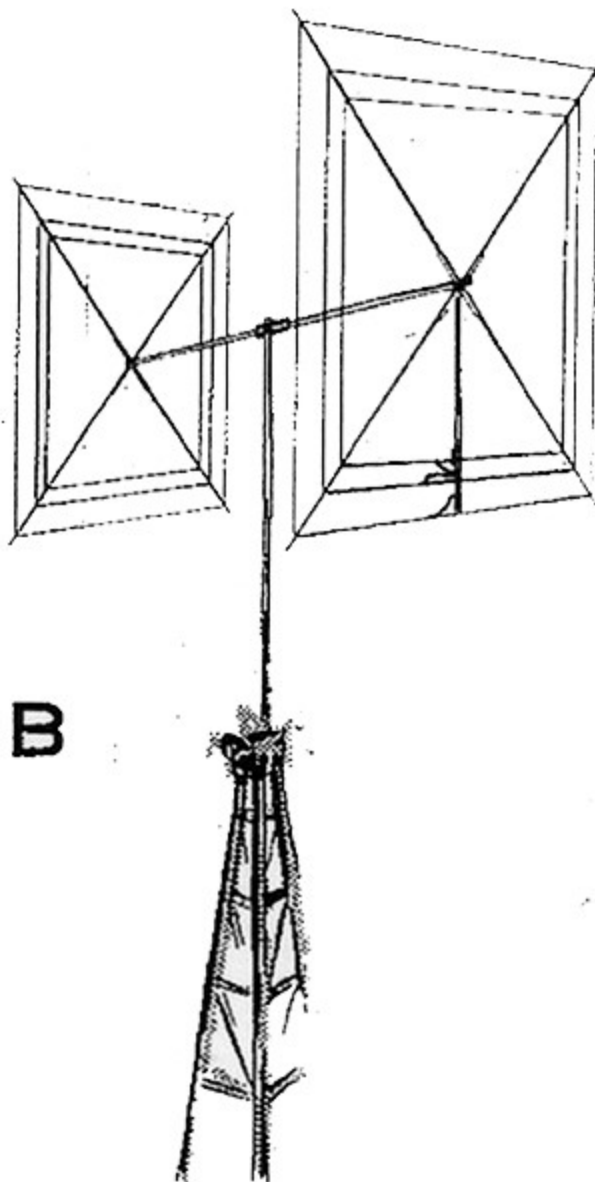


ASSEMBLY INSTRUCTIONS

FOR MOSLEY CUBICAL QUAD



MODEL MCQ-3B

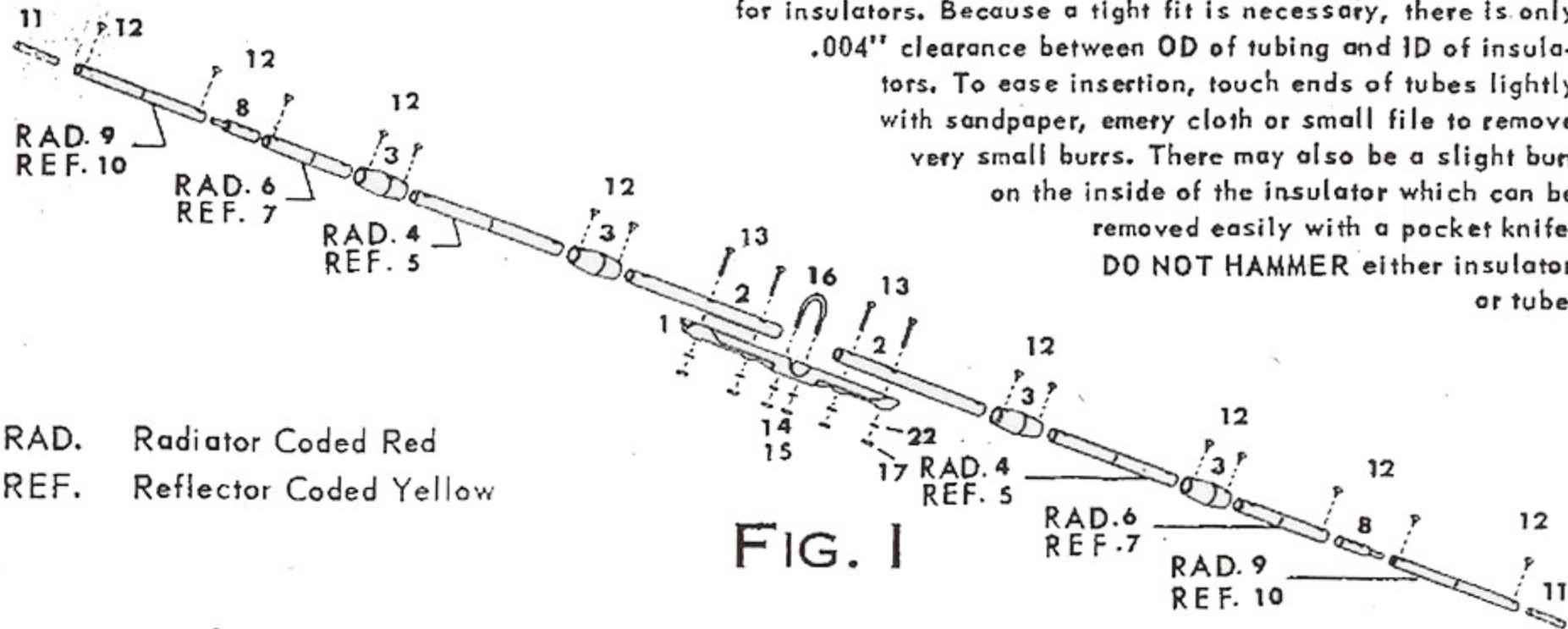
The high performance of your MOSLEY Antenna can only be achieved if the antenna is assembled in accordance with the instruction supplied. Substitution of materials or modification of design will materially lessen this performance.

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CAUTION:

When first inserted, aluminum tubes may appear to be too large for insulators. Because a tight fit is necessary, there is only .004" clearance between OD of tubing and ID of insulators. To ease insertion, touch ends of tubes lightly with sandpaper, emery cloth or small file to remove very small burrs. There may also be a slight burr on the inside of the insulator which can be removed easily with a pocket knife. **DO NOT HAMMER** either insulator or tube.



RAD. Radiator Coded Red
REF. Reflector Coded Yellow

FIG. 1

Begin assembly by grouping together all spreader tubing sections according to color code. Check all parts received against parts list of the instructions. Read and study the instructions before attempting assembly. Boxes are provided for checking steps of assembly. Numbers in parentheses () indicate item numbers that are found on drawing and parts list.

RADIATOR SPREADER SECTIONS, CODED RED: (See Fig. 1)

- Place common spreader tubing (2) in "V" of spreader casting (1). Align holes in tubing (2) and casting (1), securing with screws (13), lockwashers (22), and nuts (17).
 - Place insulators (3) on both ends of tubing (2). Align holes and secure with sheet metal screws (12) (See fig. 1).
 - Telescope 1" x 3 1/4" long tubing (4) color coded red into insulators (3). Align holes and secure with screws (12).
 - Place insulators (3) over end of tubing (4) and secure with screws (12), see fig. 1.
 - Telescope 1" x 23 1/2" long tubing (6) color coded red into ends of insulators (3) and secure with screws (12).
 - Place large end of insulators (8) into end of tubing (6). Align holes and secure with screws (12).
 - Telescope 3/4" x 42 3/4" long tubing (9) color coded red over small ends of insulators (8) and secure with screws (12).
 - Place the small insulators (11) into tubing (9), and secure with screws (12).
- NOTE: THE HOLES 1/2" FROM END OF INSULATOR MUST BE ON THE OUTER END.
- Loosely install U-bolt (16) to spreader casting (1) with lockwashers & nuts (14 & 15).
 - This completes the assembly of one complete Radiator spreader section.
 - Assemble the remaining Radiator spreader, color coded red, and the two Reflector spreaders, color code yellow, in the same manner described above and in Fig. 1.

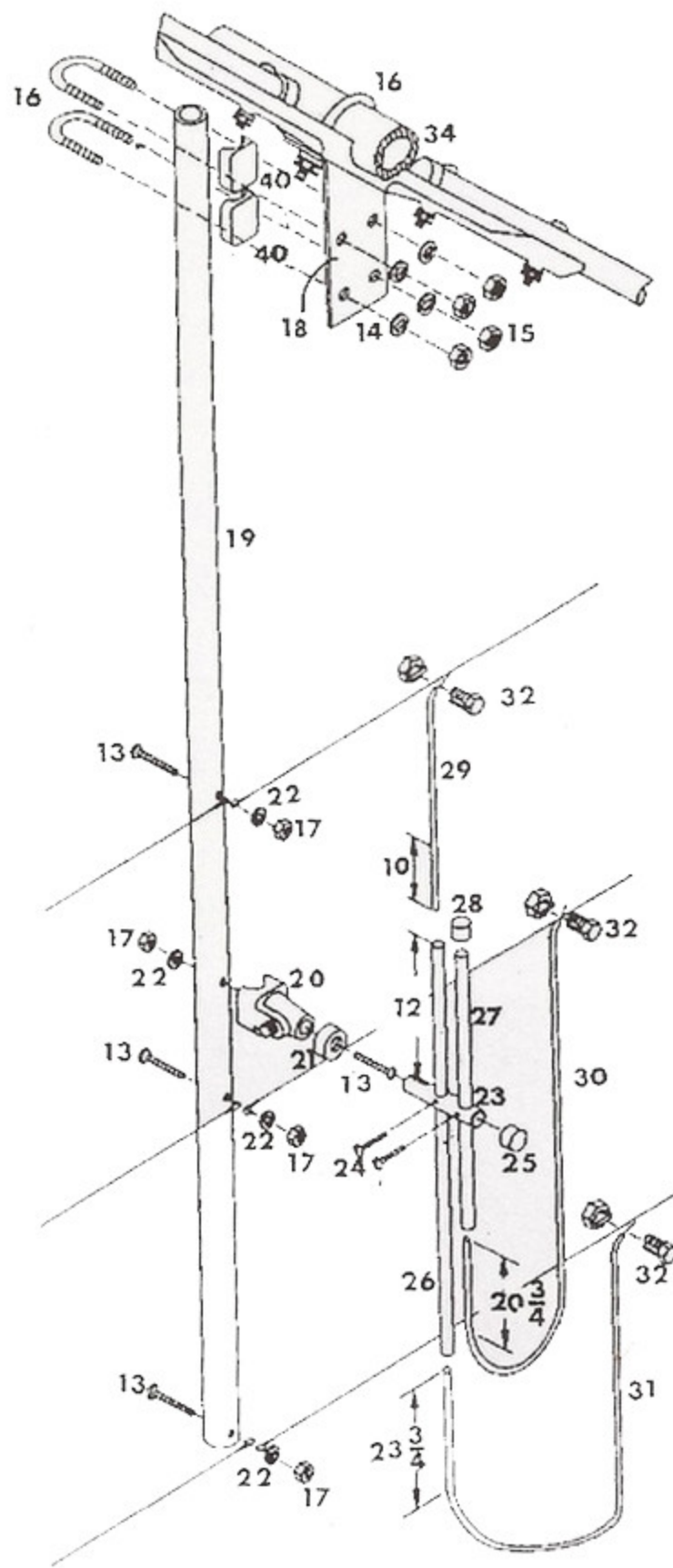


FIG. 2

RADIATOR GAMMA ASSEMBLY: (See Fig. 2)

- Loosely install the gamma angle bracket (18) to one of the Radiator spreaders with U-bolt (16) as shown in Fig. 2.
- Place three screws (13) in holes of the gamma support mast (19), as shown in Fig. 2.
- Loosely install lockwashers (22) and nuts (17) on screws (13). These screws will be used to secure the 10, 15 & 20 meter Radiator wires in a later assembly.
- Place screw (13) through hole in plastic gamma base (20), and gamma support mast (19) securing with lockwasher & nut (22 & 17).
- Press caplug (21) over gamma base (20).
- Slide the small condenser tube (27) into hole $\frac{1}{2}$ " from end of gamma bracket tube (23) to a length of 12" as shown in Fig. 2 and secure with screw (24).
- Press caplug (28) on top of small condenser tube (27). See Fig. 2.
- Slide large condenser tube (26) into remaining hole of gamma bracket tube (23) to a length of 12" as shown in Fig. 2, and secure with screw (24).
- Press caplug (25) on end of gamma bracket tube (23).
- Telescope end of bracket tube (23) through hole of caplug (21) and into hole in gamma base (20), (See Fig. 2). Be sure heavy wire is between set screw and gamma bracket tube (23).
- Align condenser tubes parallel to gamma support mast (19). Secure set screw on side of plastic gamma base (20).
- Install the gamma support mast assembly to gamma angle bracket (18) with U-bolts (16), lockwashers (14), clamping blocks (40) and nuts (15). See Fig. 2.

RADIATOR

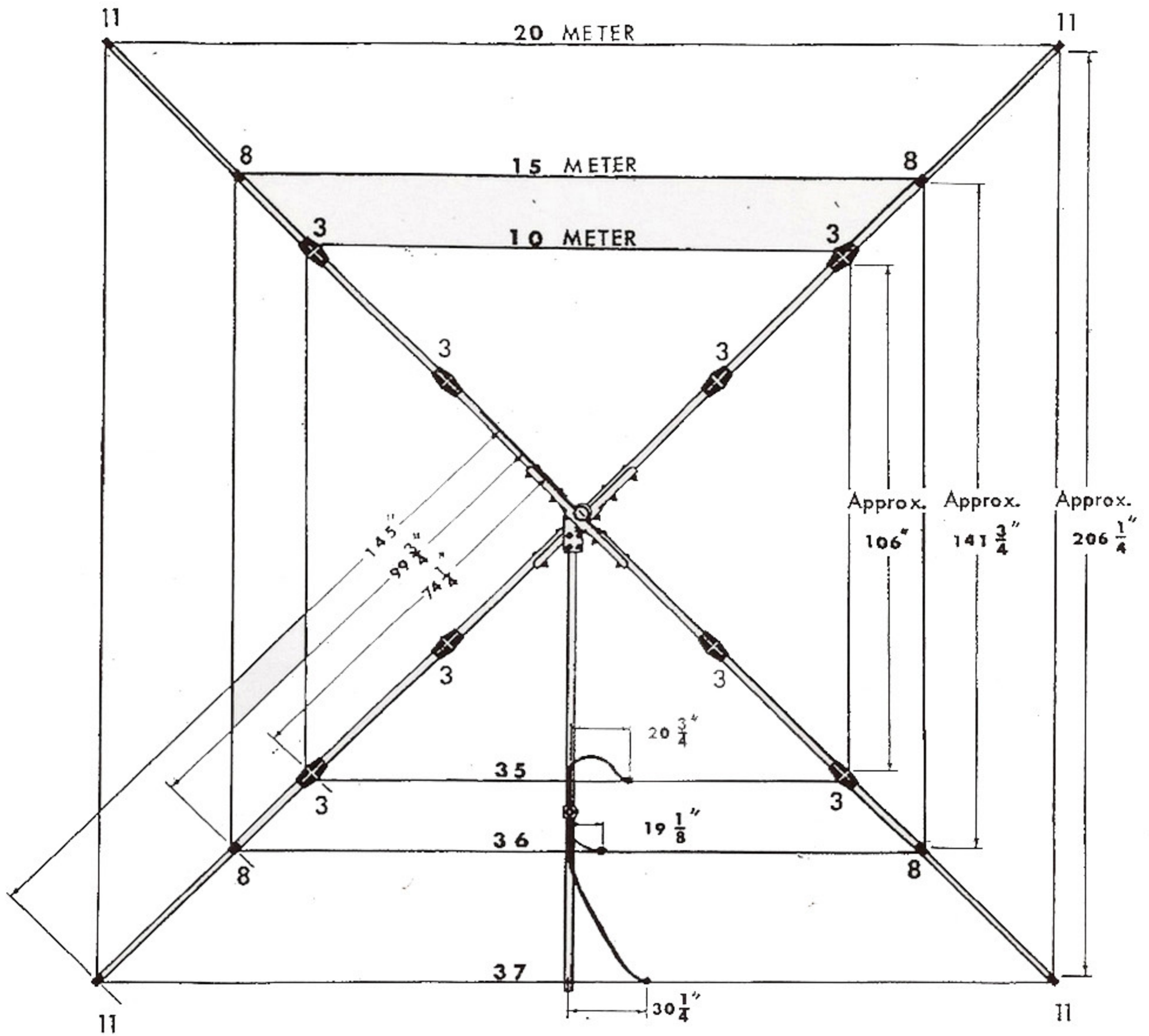
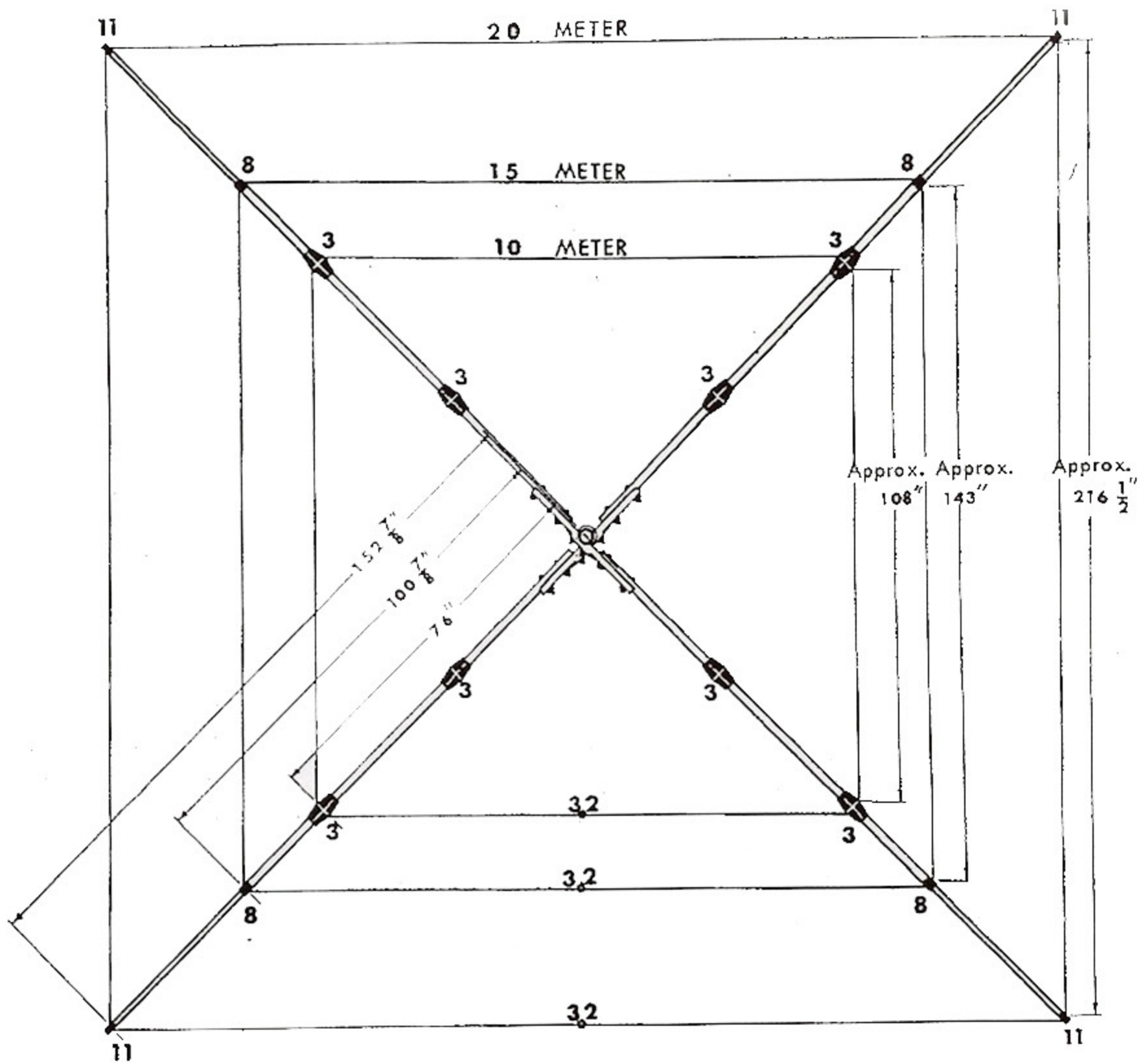


FIG. 3

STRINGING WIRE FOR RADIATOR: (See Figs. 2 & 3)

- Check dimensions of the Radiator spreaders against dimensions shown in Fig. 3.
- Lay Radiator spreader assembly with gamma support mast attached on flat area.
- Arrange spreaders so they are straight and 90° to each other, See Fig. 3.
- From one of the 40 foot rolls of wire (35) cut the Radiator 10 meter wire to a length of 35 Feet 8 inches.
- Beginning at the gamma support mast (See Figs. 2 & 3) wrap 2" of wire around screw (13) and twist wire to form loop.
- Dress wire through center holes of all four insulators (3) and back to screw (13) of gamma support spreader. Allow 2" of wire to wrap around screw (13) then twist wire to form loop. Secure nut (17) to hold wires in place.
- The wires of the 10 meter section should be loosely strung and measure approximately 106 inches between insulators.
- From one of the 55 foot rolls of wire (36) cut the 15 meter Radiator wire to a length of 47 feet 7 inches.
- From one of the 75 foot rolls of wire (37) cut the 20 meter Radiator wire to a length of 69 feet 1 inch.
- The 15 & 20 meter wires are assembled in the same manner described above and as shown in Figs. 2 & 3. Substitute insulators (8) and (11) for (3).
- When all the wires are strung, check to make sure that the spreader arms are straight and 90° to each other.
- Slide 10" of the 10 meter gamma wire (29) which is 31" long, in top of condenser tube (26), as shown in Fig. 2. Wrap electrical plastic tape around condenser tube and gamma wire to secure.
- Slide 23 3/4" of the 20 meter gamma wire (31), which is 61 1/2" long into bottom of condenser tube (26) as shown in Fig. 2. Wrap with electrical plastic tape to hold in place.
- Slide 20 3/4" of the 15 meter gamma wire (30) which is 43 1/2" long into bottom of condenser tube (27), as shown, and wrap with electrical plastic tape to hold in place.
- Attach the other end of the 10 meter gamma wire to the 10 meter Radiator wire with split bolt connector (32), as shown in Fig. 2. Measure 20 3/4" from center of screw on gamma support mast to center of split bolt connector and gamma wire, as shown in Fig. 3, and secure connector (32). Attach the other gamma wires for 15 & 20 meters to the respective 15 & 20 meter Radiator wires as shown in Figs. 2 and 3.

This completes the assembly of the Radiator element. To be placed on the boom in later assembly.



REFLECTOR

FIG. 4

STRINGING WIRE FOR REFLECTOR: (See Fig. 4)

- Check the dimensions of the Reflector spreader assemblies against dimensions shown in Fig. 4.
- Lay the Reflector spreader assembly on a flat surface. Arrange the spreader arms so they are straight and 90° to each other.
- Cut the 10 meter Reflector wire to a length of 36 feet 2 inches from remaining 40 foot roll (35).
- Dress the wire through holes in center of the four insulators (3), as shown in Fig. 4.
- Bring the two ends of the 10 meter Reflector wires together at the center, as shown in Fig. 4. Lap wires 1" and secure with wire nut (32), as shown in Fig. 4.
- The wires of the 10 meter section should be loosely strung and measure approximately 108" between insulators.
- Cut the 15 meter Reflector wire to a length of 47 feet 10 inches from the remaining 55 foot roll of wire (36).
- Cut the 20 meter Reflector wire to a length of 72 feet 4 inches from the remaining 75 foot roll of wire (37).
- The 15 & 20 meter Reflector wires are assembled in the same manner described above, as shown in Fig. 4.
- When all the Reflector wires are strung, check to make sure that spreader arms are straight and 90° to each other.
- This completes the Reflector element assembly. It will be placed on the boom in a later assembly.

BOOM TO MAST PLATE ASSEMBLY: (See Fig. 5)

- Center boom (34) over mast (38). Place U-bolts (16) around boom (34), clamping blocks (33) and into holes in mast plate (38).
- Secure U-bolts (16) on mast plate (38) with lock-washer and nuts (14 & 15).
- Press boom cap (39) into both ends of boom (34).
- Attach the mast plate and boom assembly to mast with the two remaining U-bolts (16) lock-washers (14), and nuts (15).
- Place the Radiator element assembly on end of boom. Note the boom has two holes drilled 90° apart. The bosses on the radius of the spreader casting fit into the holes in boom, this automatically locates the spreaders 90° apart. The Reflector element assembly is assembled to the boom following the same manner as the Radiator.
- For even better precautionary measures to keep either the boom or the antenna from turning in their U-bolt fasteners, you may install $\frac{1}{4}$ " bolt (not furnished) through hole in center of boom (34), mast plate (38), and supporting mast (not furnished). Hole in your support mast is to be drilled at time of installation.

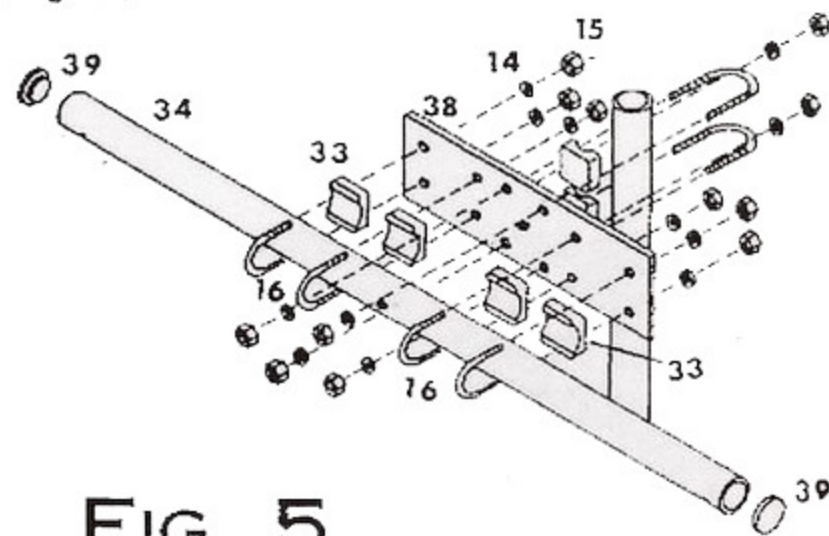


FIG. 5

CONNECTING COAX TRANSMISSION LINE:

The Cubical Quad antenna is designed for single 52 ohm Coax line RG-8/U or equivalent. A PL-259 Coax Connector (not supplied) is required to connect Coax to the antenna gamma match. Tape or wire the coax to the gamma support mast and boom to hold in place.

PARTS LIST

PART NO.	ITEM	QUAN.	DESCRIPTION
2276	1	4	Spreader support casting Aluminum
2423	2	8	Spreader tube Alum. 1" OD x 35 1/2" long No color code
2422	3	16	Insulator tube 1" ID x 4 3/4" long
2424	4	4	Spreader tube Alum. 1" OD x 34 1/4" long Color coded Red
2427	5	4	Spreader tube Alum. 1" OD x 36" long Color coded Yellow
2425	6	4	Spreader tube Alum. 1" OD x 23 1/2" long Color coded Red
2428	7	4	Spreader tube Alum. 1" OD x 22 7/8" long Color coded Yellow
2379	8	8	Insulator .924 Dia x 674 Dia. x 6" long Black Plastic
2426	9	4	Spreader tube Alum. 3/4" OD x 42 3/4" long Color coded Red
2429	10	4	Spreader tube Alum. 3/4" OD x 49 1/2" long Color coded Yellow
2380	11	8	Insulator .674 Dia. x 4" long Black Plastic
1017	12	56	Screw no. 7 x 1/2" long sheet metal S/S
2516	13	20	Screw 10-32 x 2" long Round Head S/S
2515	14	24	Lockwasher 1/4" S/S internal
1020	15	24	Nuts 1/4-20 S/S
1018	16	12	U-Bolts 1/4-20 x 1 3/4 C.C. S/S
1066	17	20	Nuts 10-32 S/S
2437	18	1	Angle Bracket for gamma mast
2430	19	1	Gamma support mast 1 1/4" OD x 105" long Alum.
A-2443	20	1	Gamma base assembly with coax connector
1075	21	1	Caplug 1 1/4" with 7/8" hole in center Black
1004	22	20	Lockwasher no. 10 S/S
2433	23	1	Gamma Bracket tube 7/8" OD x 4 1/2" long Alum.
2517	24	2	Screw 10-32 x 1/2" long Round Head S/S
1375	25	1	Caplug 7/8" Black
2432	26	1	Gamma condenser tube 3/8" OD x 36" Alum.
2431	27	1	Gamma condenser tube 3/8" OD x 22" long Alum.
1423	28	1	Caplug 3/8" Dia. Black
2436	29	1	Gamma wire center conductor of RG 8/U Length 31 in.
2435	30	1	Gamma wire center conductor of RG 8/U Length 43 1/2 in.
2434	31	1	Gamma wire center conductor of RG 8/U Length 61 1/2 in.
2444	32	6	Split bolt connector (12-10 AWG)
1037	33	6	Clamping block no. 43
2441	34	1	Boom 1 1/2" OD x 96" Aluminum.
2438	35	2	Wire no. 14 copperweld 40' coil
2487	36	2	Wire no. 14 copperweld 55' coil
2440	37	2	Wire no. 14 copperweld 75' coil
2514	38	1	Mast Plate
1035	39	2	Caplug 1 1/4"
1266	40	2	Clamping Block no. 44

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