

# MOTOROLA

## FOLDED COAXIAL ANTENNA KIT

UNITY GAIN TYPE  
FOR BASE STATIONS

MC6569



The antenna kits include a TAD6070A Series Antenna and a TLN6685A Mounting Clamp Kit.

The d-c ground feature also provides a degree of protection against destructive voltage surges which can be induced in the antenna by lightning strikes.

These antennas provide as much as 1.5 db gain over typical "ground-plane" antennas because of their increased radiating aperture and low angle of radiation. Mast coupling and pattern distortion has been minimized through careful design of the coaxial skirt section. A low-loss, broadband matching transformer is mounted in the support staff to maintain less than 1.5 vswr (voltage standing wave ratio) over the frequency range specified in the MODEL TABLE.

The antennas are made from non-ferrous materials and use stainless steel hardware to minimize the possibility of performance degradation caused by rust and corrosion. To preserve the omnidirectional pattern of the antenna, the bottom of the coaxial skirt must be mounted above all surrounding metal objects. The antenna is equipped with a uhf connector which will accept any PL-259 (or equivalent) uhf plug.

The TLN6685A Mounting Clamp Kit holds the antenna to the tower mast (or other structural members) as shown in the illustration for Step 2. The kit is made of aluminum alloy with stainless steel hardware to prevent rust and corrosion.

Motorola "foamed dielectric" transmission line kits are recommended for these antennas. The "foamed dielectric" transmission line kit using the 1/2" cable should not be used for lengths in excess of 100 feet. The 7/8" cable permits lengths up to 300 feet. For distance in excess of 300 feet consult with your Motorola representative for the appropriate transmission line kit to use.

MODEL TABLE

Frequency	Model No.	Antenna Unit	Clamp Kit
136-141 MC	TAD1001B	TAD6071A	TLN6685A
141-150 MC	TAD1002B	TAD6072A	
150-162 MC	TAD1003B	TAD6073A	
162-174 MC	TAD1004B	TAD6074A	

### 1. DESCRIPTION

The Motorola TAD1000B Series Folded Coaxial Antenna Kits use a vertically polarized coaxial dipole configuration antenna, which provides an omnidirectional radiation pattern. A unique grounded element minimizes received signal degradation caused by precipitation static and other forms of electrostatic discharges.



**MOTOROLA INC.**

Engineering Publications

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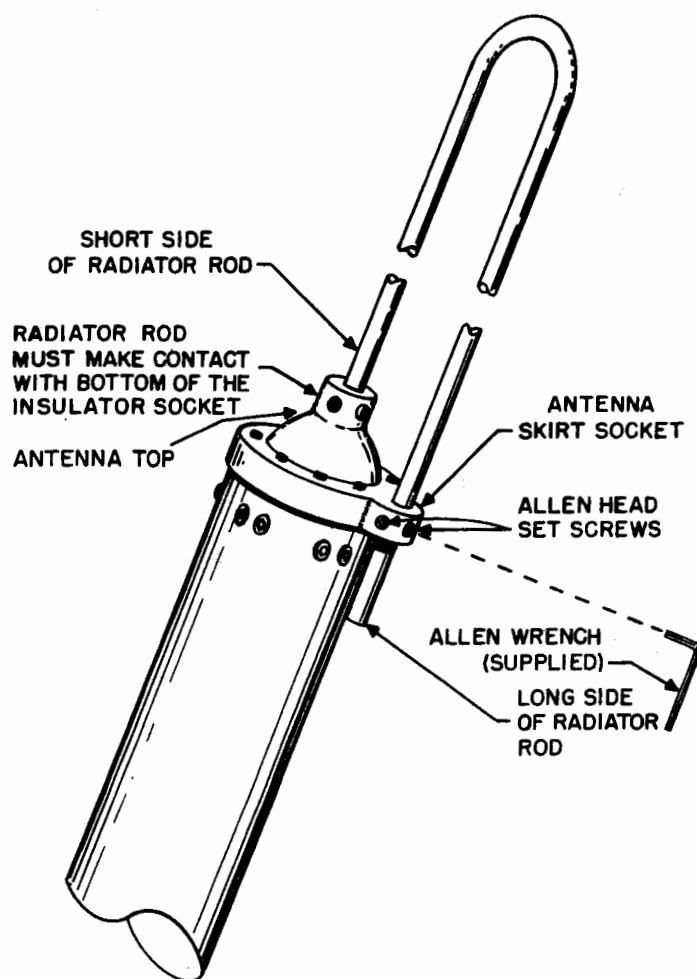
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## STEP 1



"Hairpin" Radiator Assembly Detail.

## 2. INSTALLATION

The assembly of the antenna must be completed by fastening the "hairpin" radiator to the insulator-hub assembly before mounting the clamps to the antenna. Refer to steps 1 and 2 for complete installation details.

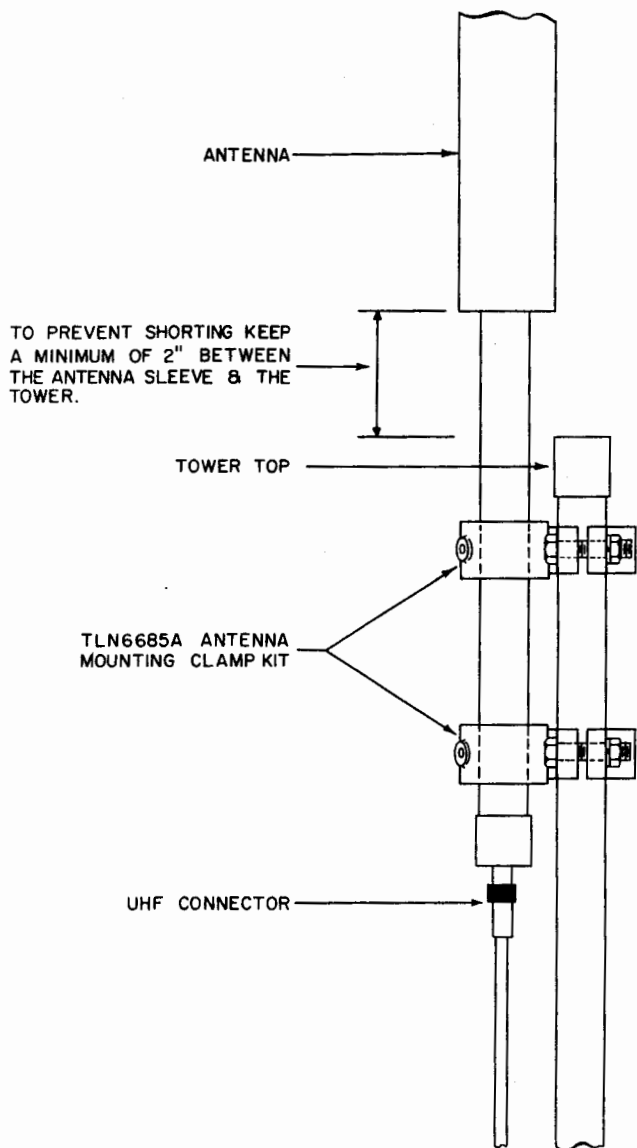
### NOTE

The radiator rod must make contact with bottom of the insulator socket for proper operation. Apply pressure to the top of the radiator rod while tightening the "Allen" head setscrews to make a good contact.

BE PD-6193-O

## STEP 2

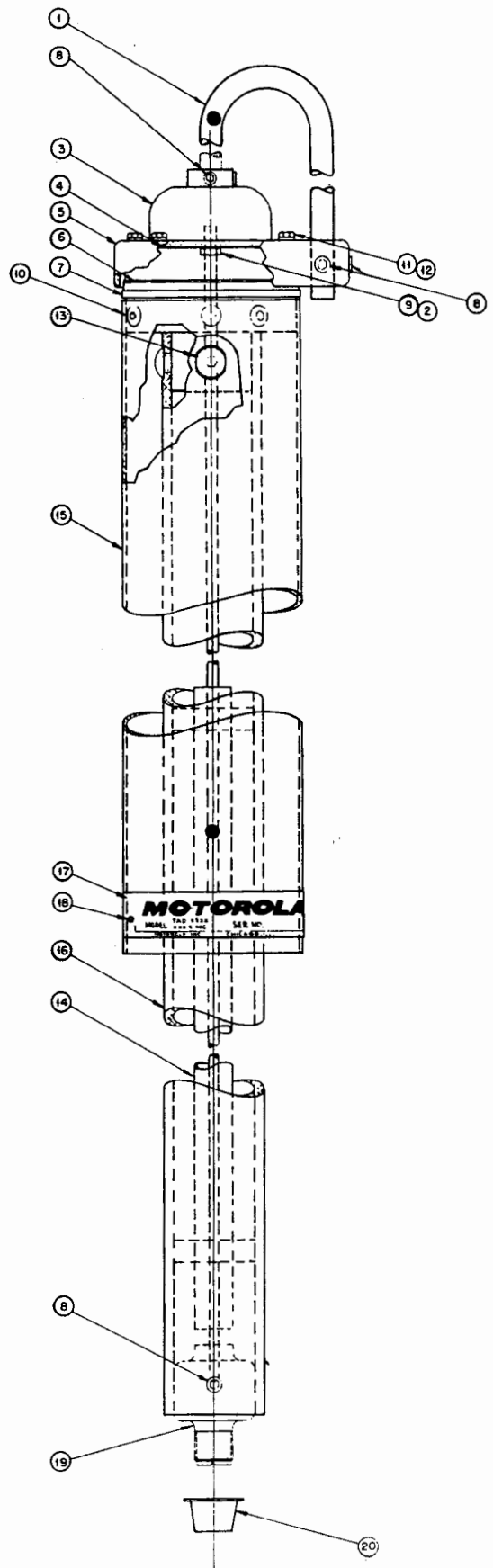
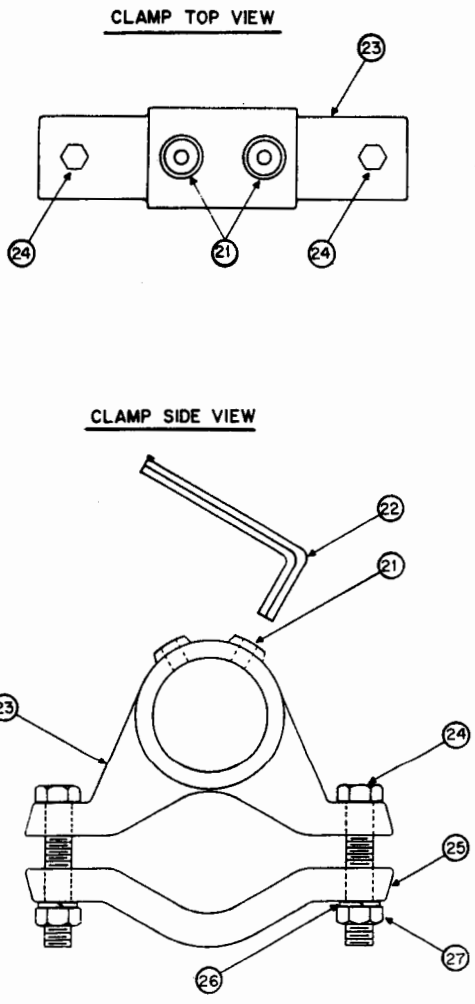
CEPD-10585-O



### MOUNTING PROCEDURE

1. SLIDE CLAMPS OVER ANTENNA.
2. TIGHTEN SET SCREWS.
3. MOUNT ANTENNA TO TOWER.

Antenna and Mounting Clamp Installation.



MODEL TABLE

FREQUENCY	MODEL NO.	SUFFIX	ANTENNA UNIT	CLAMP KIT
136-141MC	TAD1001B		TAD6071A	TLN6685A
141-150MC	TAD1002B		TAD6072A	
150-162MC	TAD1003B		TAD6073A	
162-174MC	TAD1004B		TAD6074A	

Model TAD1000B Series  
 Antenna & Mounting Clamp  
 Installation Detail  
 Motorola No. 69D81108A60-O  
 8/1/64-UP

DIAGRAM NO. 69D81108A60

PARTS LIST for Detail Diagram 69D81108A60-O

ITEM NO.	QTY	MOTOROLA PART NO.	DESCRIPTION
1	1	47B82736B01	ELEMENT, antenna (used on TAD6071A)
1	1	47B82736B03	ELEMENT, antenna (used on TAD6072A)
1	1	47B82736B05	ELEMENT, antenna (used on TAD6073A)
1	1	47B82736B07	ELEMENT, antenna (used on TAD6074A)
2	9	4S400368	LOCKWASHER, split: #10; sst
3	1	14C82943B02	INSULATOR, antenna hub
4	1	32A475396	GASKET
5	1	42C82737B01	RING, clamping
6	1	42A85708	RING, compressor
7	1	43C82738B01	HUB, antenna
8	7	3S131779	SETSCREW, ALLEN: 1/4"-20 x 1/4"; sst
9	1	2S1359	NUT, hex: #10-32; sst
10	8	3B82739B01	CAPSCREW, ALLEN: #10-32 x 1/2"; sst
11	8	3S125496	MACHINE SCREW: #8-32 x 1"; sst
12	8	4S9746	LOCKWASHER, split: #8; sst
13	4	3B82739B02	CAPSCREW, ALLEN: 5/16"-18 x 3/8"; sst
14	1	1B82741B01	TRANSFORMER ASSY., antenna (used on TAD6071A)
14	1	1B82741B02	TRANSFORMER ASSY., antenna (used on TAD6072A)
14	1	1B82741B03	TRANSFORMER ASSY., antenna (used on TAD6073A)
14	1	1B82741B04	TRANSFORMER ASSY., antenna (used on TAD6074A)
15	1	47B82745B01	TUBING, skirt (used on TAD6071A)
15	1	47B82745B03	TUBING, skirt (used on TAD6072A)
15	1	47B82745B05	TUBING, skirt (used on TAD6073A)
15	1	47B82745B07	TUBING, skirt (used on TAD6074A)
16	1	47B82744B01	PIPE, antenna mounting
17	1	33A82028D01	NAMEPLATE
18	2	3A892219	SCREW, special: one-way slot; #3-48 x 3/16"
19	1	1B82748B01	CONNECTOR ASSY., coaxial
20	1	15B82747B01	CAP, tapered plastic
NON-REFERENCED ITEM			
	1	66K108154	WRENCH, ALLEN

TLN6685A Mounting Clamp Kit

21	4	3S134159	SETSCREW: 5/16-18 x 3/8" socket head
22	1	66K108219	KEY, socket head screw ("Allen" wrench); 5/32"
23	2	42C82006H01	CLAMP, antenna mounting (large)
24	4	3S131910	SCREW, machine: 3/8-16 x 3-1/2" plain hex
25	4	42A82167C01	CLAMP, antenna mounting (small)
26	4	4S9748	LOCKWASHER: 3/8" split
27	4	2S1379	NUT, machine: 3/8-16 x 5/8"