

# HF-SSB Mobile Antennas

## Models FAD-1400 and TAA-1000

### Description

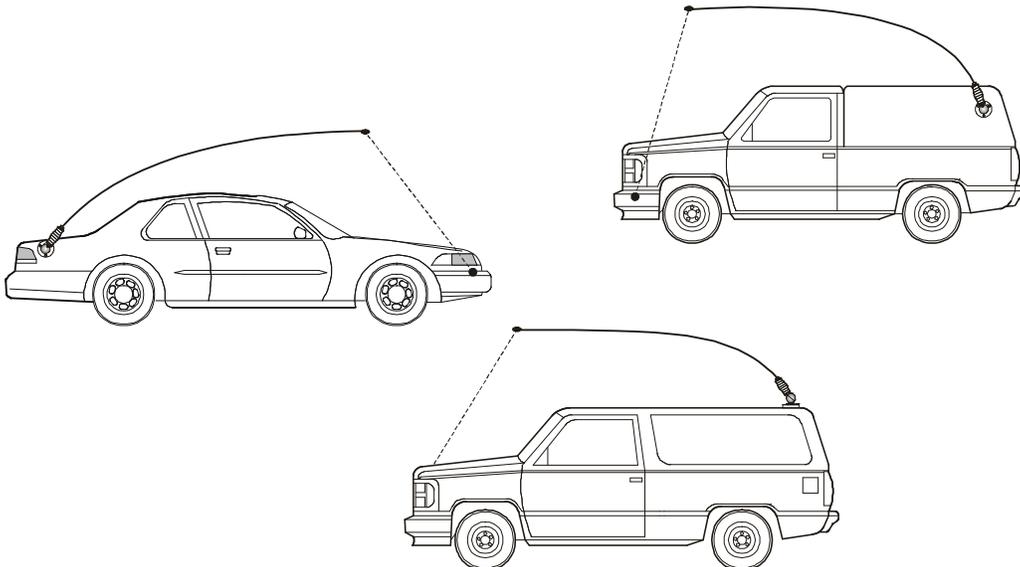
The FAD-1400 antenna consists of three 48.4" (123 cm) identical fiberglass antenna sections with threaded ends, which are assembled to form one whip. To improve radiation efficiency at lower HF frequencies, a fourth 48.4" (123 cm) section can be added. The antenna, which maintains a corrosion-free appearance through long service life, can be mounted on vehicles with single- or double-wall construction. A ball type swivel mount adapts the antenna for mounting in a convenient location on the vehicle.

The same ball swivel mount can also be used to mount the TAA-1000 antenna, which consists of one 96" (244 cm) stainless steel antenna rod. A special adapter is used to attach the TAA-1000 to the ball swivel mount.

### Mounting Considerations

To achieve maximum operating range, the antenna should be mounted as high on the vehicle body as possible without striking overhead obstructions in the normal service area of the vehicle.

Select a mounting location on a flat portion of the vehicle body, compatible with the maximum allowable high voltage lead-in cable length. If room is available, a desirable location is the flat area between the rear window and the trunk lid.



---

### GENERAL SAFETY INFORMATION

---

The United States Department of Labor, through the provisions of the Occupational Safety and Health Act of 1970 (OSHA), has established an electromagnetic safety standard which applies to the use of mobile radios. Proper installation and use of this antenna with MICOM radios will result in exposure below the

OSHA Limit. Antennas must be installed at least two feet (0.6 meter) from vehicle operators and passengers unless shielded by a metallic surface.

## **Installation of Antenna Mount Base on Single-Wall Construction Vehicles**

**Step 1** Drill the 1-5/16 inch (34 mm) center hole in the vehicle wall with a hole saw (Motorola No. ST157 or equivalent). Use the drilling guide supplied with antenna mount base to drill the remaining holes.

***Throughout the whole procedure, avoid touching the rough edges of the holes!***

**Step 2** Loosen the three hex screws (1A, 1B, 1C) and the nut (2), and disassemble the antenna mount base. Keep removed washers in a safe place.

**Step 3** Align the three holes of the gasket (3) with the corresponding insulator (4) holes, and place the two in position, on the outside on the vehicle wall.

**Step 4** Hold the "C" shaped mounting plate (5) in position from the underside of the vehicle wall, with the open end pointing downwards, or towards direction of antenna lead-in cable. Push hex screw (1A) with lockwasher (6) and flatwasher (7) through hole in insulator, gasket (3), vehicle wall and fasten into threaded hole in mounting plate (5), to temporarily hold the assembly.

**Step 5** Repeat similar procedure with other two hex screws (1B, 1C).

**Step 6** Fasten all the hex screws (1A, 1B, 1C).

**Step 7** Loosen screw (8) on the upper hemisphere (9) using Allen wrench, until you can easily rotate the upper hemisphere.

**Step 8** Insert ball assembly screw (10) into insulator hole, and temporarily fasten with nut (2).

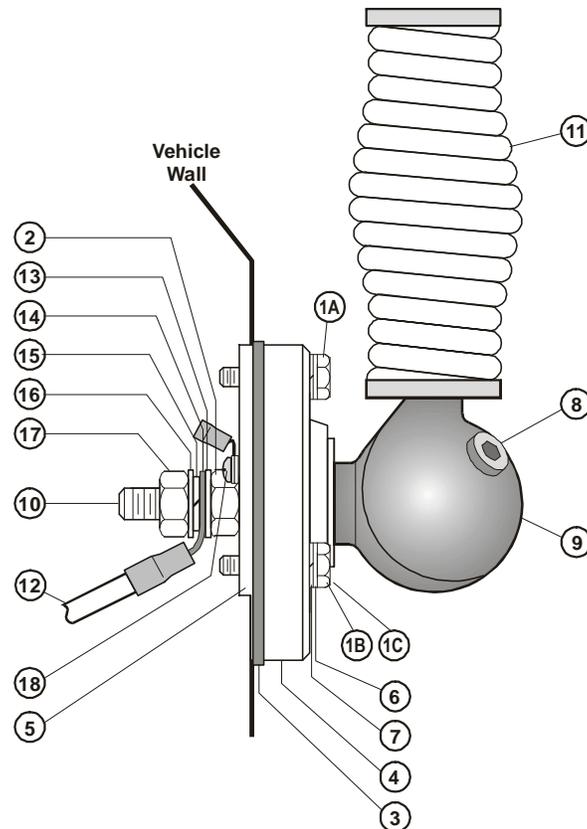
**Step 9** Rotate the upper hemisphere (9) and if necessary the entire ball assembly, until a vertical antenna mounting spring (11) position is achieved. Tighten screw (8) making sure that entire ball assembly is held firmly together. Tighten hex nut (2).

### **CAUTION**

Maximum high voltage antenna lead-in cable length from the antenna tuner to hex nut (2) should not exceed 18 inches (46 cm). A shorter cable length is preferable. After the cable is dressed, it should be no closer than 1 inch (2.5 cm) to any metal surface along its length. Cable contact with the vehicle wall could cause arcing between the wall and the cable.

**Step 10** Route the high voltage antenna lead-in cable (12) supplied with the antenna tuner to hex nut (2). One end of the cable should be connected to the tuner (see tuner manufacturer's instructions). Cut the cable to minimum length needed to connect the tuner to antenna. Strip 1/2 inch of insulation from the other end of the cable. Crimp the lug (14) (supplied with the cable) to the other end of the cable (12) and solder the lug to the cable. Slip the supplied heatshrink tubing over the lug and position the tubing just below the loop in the lug. Heat the tubing until it shrinks around the cable and lug.

- Step 11** Slide flatwasher (13) over screw (10) down to the hex nut (2), then insert the antenna lead-in cable lug (14), lockwasher (15) and flatwasher (16) and secure the whole assembly using hex nut (17).
- Step 12** Position lead-in (12) so it is at a right angle with respect to the vehicle wall, and then completely tighten nut (17). It is preferable to bring in the lead-in from the open side of the "C" shaped mounting plate (5).
- Step 13** Crimp optional heavy-gage grounding wire for "C" shaped mounting plate to lug (18) and then cover lug with heatshrink tubing. Connect other end of grounding wire to vehicle chassis, or to one of the antenna tuner grounding screws. Make wire as short as possible, and route it far from the lead-in cable.

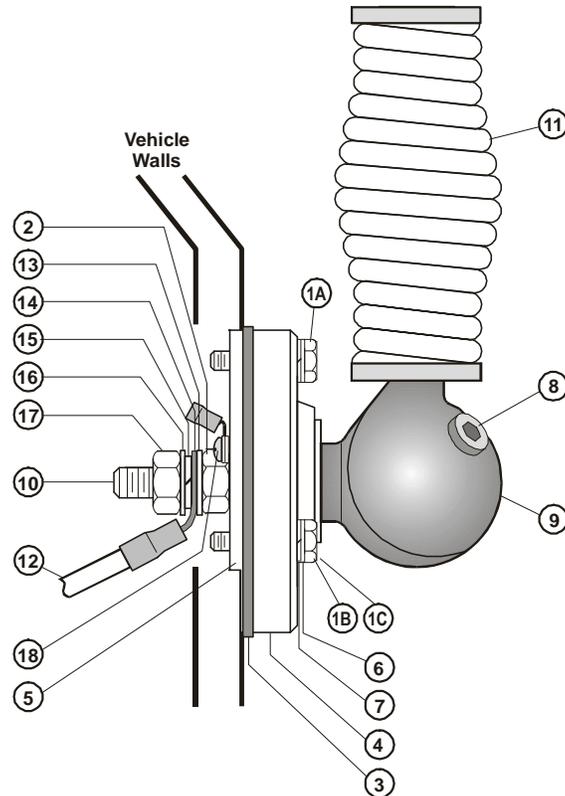


### Installation of Antenna Mount Base on Dual Wall Construction Vehicles

- Step 1** Drill the 1-5/16 inch (34 mm) center hole through both walls. If possible, the inside wall hole should be enlarged to at least 2 inches (51 mm) to ensure sufficient clearance for the high voltage cable.
- Throughout the whole procedure, avoid touching the rough edges of the holes!***
- Step 2** Drill the remaining four holes through the outer wall only, using the drilling guide provided with the antenna mount base.
- Step 3** Insert a piece of stiff wire through one of the larger threaded holes in the "C" shaped mounting plate (5). This provides a means of holding the plate to prevent it from falling between the two walls when inserted in **Step 4**.
- Step 4** Hold the mounting plate parallel to the vehicle outer wall and insert one end of the plate into the mounting hole. Slowly turn the plate until it is completely in the hole

and between the two vehicle walls.

- Step 5** Align the three holes of the gasket (3) with the corresponding insulator (4) holes, and place the two in position, on the outside on the vehicle wall.
- Step 6** With the forefinger, position the "C" shaped plate with the open end pointing downwards or towards direction of antenna lead-in cable. Fasten plate loosely with two of the supplied hex screws (1A, 1B). Remove the "fish" wire and tighten the two screws.
- Step 7** Complete the installation by performing **Steps 5** through **13** of the installation procedure on single wall construction vehicle.



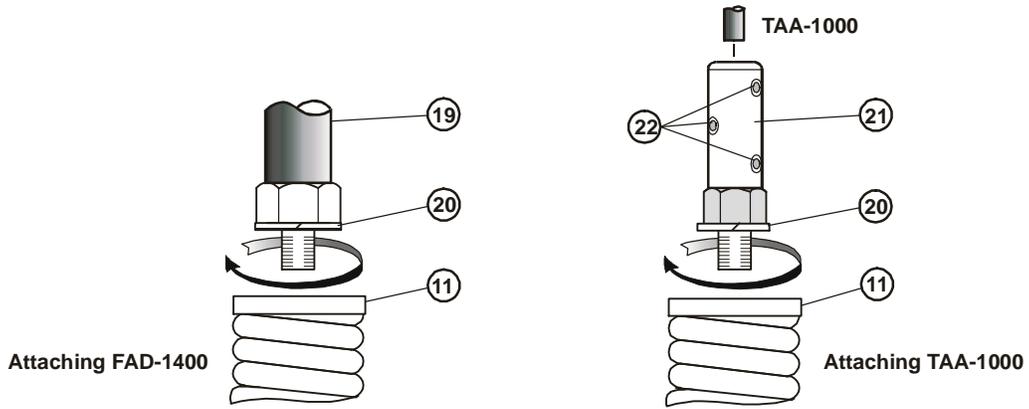
## Installing Antenna

**FAD-1400** Assemble the antenna whip by screwing together the three (or optionally four) antenna sections.

Place lockwasher (20) on the antenna bushing (19), and then screw securely the antenna whip into the antenna receptacle of the mounting spring (11).

**TAA-1000** Place lockwasher (20) on the antenna adapter (21), and then screw securely antenna adapter into the antenna receptacle of the mounting spring (11). Insert the TAA-1000 end into the antenna adapter (21) and tighten the 3 set screws (22) with Allen wrench.

**Vertical Adjustment** If necessary, loosen Allen head screw (8) with Allen wrench, and readjust the upper hemisphere (9) for vertical antenna position. Tighten the Allen head screw (8).



# Drill Guide for FAD-1400 and TAA-1000 Antenna Mount Base

