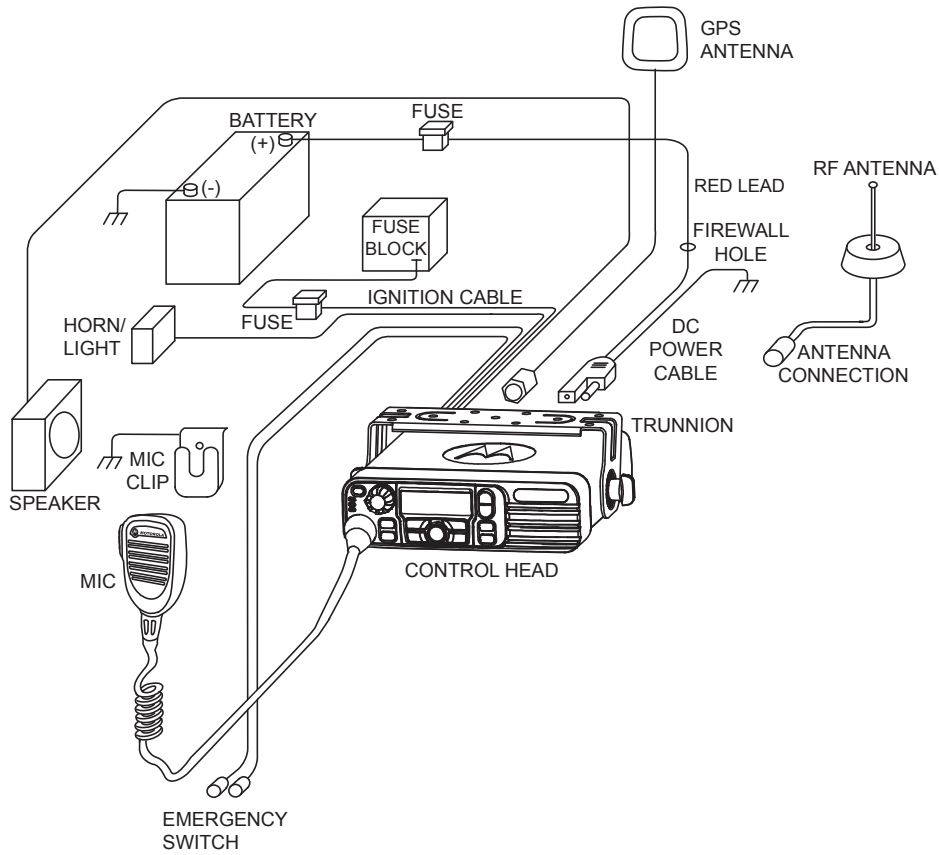


Figure 9: Radio Installation (Dash Mount)



2.5

Power Cables

Route the red radio power cable from the radio to the battery compartment of the vehicle, using accepted industry methods and standards. Be sure to grommet the firewall hole to protect the cable.

Remove the 15-Amp (part number 6580283E06) or 20-Amp (part number 6580283E07) fuse from the fuseholder and connect the red lead of the radio power cable to the positive battery terminal using the hardware provided.

Connect the black lead to a convenient solid chassis ground point. Do not connect the black lead directly to the battery negative terminal.

**NOTICE:**

The radio nominal operating voltage for 12 V vehicle installation is 13.2 VDC with an operating voltage range of 10.8–15.6 V.

switch, and allows the radio to “remember” the state of the radio on/off switch, even if it is changed while the vehicle is off.

- For radio ON/OFF control independent of the ignition switch, connect the red ignition cable (pin 25 of accessory connector) to “battery hot” at the vehicle fuse block.

The ignition sense cable uses either a 3-Amp (P/N 6500139764) or 4-Amp (P/N 6580283E02) fuse.

For other considerations when connecting the ignition cable, see the MOTOTRBO Basic Service Manual.

2.7

Antenna Installation



IMPORTANT: To assure optimum performance and compliance with RF Energy Safety standards, these antenna installation guidelines, and instructions are limited to metal-body vehicles with appropriate ground planes and take into account the potential exposure of back seat passengers and bystanders outside the vehicle.



NOTICE: For mobile radios with rated power of 7 W or less, the only installation restrictions are to use only Motorola Solutions approved antennas and install the antenna externally on metal body vehicles. For mobile radios with rated power greater than 7 W, always adhere to all the guidelines and restrictions in "Selecting an Antenna Site/Location on a metal Body Vehicle".

2.7.1

Selecting an Antenna Site/Location on a Metal Body Vehicle

Prerequisites:

- Be sure that the distance from the antenna location on the trunk lid is at least 85 cm (33 in.) from the front surface of the rear seat-back to assure compliance with RF Energy Safety standards.
- Ensure that the trunk lid is grounded by connecting grounding straps between the trunk lid and the vehicle chassis.



CAUTION: If these conditions cannot be satisfied, then mount the antenna on the roof top.

Procedure:

- 1 Do one of the following:

External installation

Check the requirements of the antenna supplier and install the vehicle antenna external to a metal body vehicle in accordance with those requirements.

Roof top

For optimum performance and compliance with RF Energy Exposure regulations, mount the antenna in the center area of the roof.

Trunk lid

On some vehicles with clearly defined, flat trunk lids, the antennas of some radio models (see restrictions below) can also be mounted on the center area of the trunk lid. For vehicles without clearly defined, flat trunk lids (such as hatchback autos, sports utility vehicles, and pick-up trucks), mount the antenna in the center area of the roof.



NOTICE: For all VHF and UHF models with the output power set to 30 W or higher, the ¼ wave antenna shall be mounted only in the center area of the roof, not on the trunk lid, to ensure compliance with RF Energy Safety standards.

- 2 Ensure that the antenna cable can be easily routed to the radio. Route the antenna cable as far away as possible from the vehicle electronic control units and associated wiring.

- 3 Check the antenna location for any electrical interference.
- 4 Make sure that the mobile radio antenna is installed at least 30 cm (1 foot) away from any other antenna on the vehicle.



NOTICE: Any two metal pieces rubbing against each other (such as seat springs, shift levers, trunk and hood lids, exhaust pipes, and others) in close proximity to the antenna can cause severe receiver interference.

2.7.2

Installing the Antenna

Procedure:

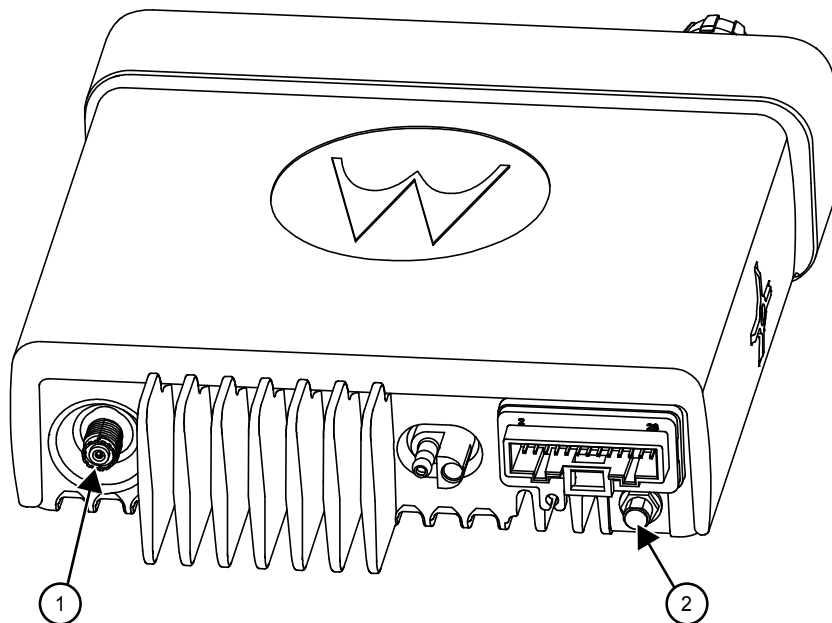
- 1 Mount the antenna according to the instructions provided with the antenna kit. Run the coaxial cable to the radio mounting location. If necessary, cut off the excess cable and install the cable connector.



NOTICE: Do not mount the antenna on metal surface.

- 2 Connect the antenna cable connector to the radio antenna connector on the rear of the radio.

Figure 18: Antenna Connections on the Back of the Radio



Label	Description
1	Antenna Connector
2	GPS-Antenna Connector

- 3 In case of a GPS model, connect the GPS antenna to the GPS antenna connector on the rear of the radio.

2.7.3

Antenna Connection

To ensure a secure connection of an antenna cable plug to a radio jack, their interlocking features must be properly engaged. If they are not properly engaged, the system will loosen.

Prerequisites:

NOTICE: Applying excessive force with a tool can cause damage to the antenna or the connector (stripping threads, deforming the collar or connector, or causing the connector to twist in the housing opening and break).

Procedure:

- 1 Make sure that there is sufficient slack in the antenna cable.
- 2 Make sure that the collar of the antenna cable plug is loose and does not bind.
- 3 Slide the collar back against the flange. Insert the antenna cable plug pin fully into the radio jack, but do not engage the threads.
- 4 Ensure that the plug and jack interlocking features are fully seated. Check this by grasping the crimp on the cable jack, rotating the cable, and noting any movement. If the features are seated correctly, there should be NO movement.
- 5 Finger-tighten the antenna cable plug collar onto the radio jack.
- 6 Give a final tug, by hand, to the collar, and retighten by hand as firmly as possible.
- 7 Use the rubber-coated pliers to grip the plug knurled collar, then turn clockwise to tighten the collar. It should take $\frac{1}{4}$ turn or less. Turning counterclockwise loosens the collar.



NOTICE: Overtightening the collar can damage the connector and the radio.