



INSTALLATION MANUAL FOR CUSTOM MVP MOBILE COMBINATIONS

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(DF9041)

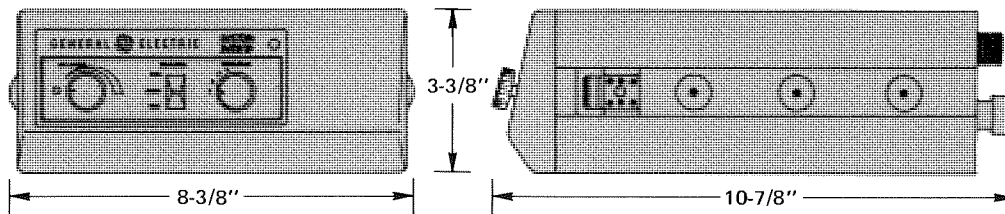


Figure 1 — Mounting Dimensions

INSTALLATION EQUIPMENT

The equipment required for installing the Two-Way Radio includes:

- An electric drill for drilling mounting holes
- Drills and circle cutters (see sizes in box below)
- A soldering iron for the antenna cable
- Phillips and flat-blade screwdrivers and a 5/16-inch hex head driver for mounting screws.

DRILL SIZES

No. 31 (1/8-inch) Drill for No. 8 Self-Tapping Screws
No. 27 (9/64-inch) for No. 10 Self-Tapping Screws
9/32-Inch Drill for 30–50 MHz Antenna and 1/4-Inch Bolt (optional)
3/4-Inch Punch or Holesaw for 132–512 MHz Antenna (optional)
1 3/8-Inch Circle Cutter, Holesaw and Socket Punch for 30–50 MHz Antenna (optional)
No. 9 (3/16-Inch) Drill for 25–50 MHz Antenna Ground Screw (optional)
1-1/8-Inch Circle Cutter, Holesaw and Socket Punch for rubber grommet.

UNPACKING AND CHECKING EQUIPMENT

Carefully unpack the Two-Way Radio. It is recommended that you identify the items in the packing case and check them off in the appropriate column below before discarding the packing material. If any damage has occurred to the equipment during shipment, file a claim with the carrier immediately.

EQUIPMENT

- Two-Way Radio
- Speaker 19C320302G7
- Microphone 19C320270G1
- Microphone Bracket 7141414G2
- Power Cable with System Plug 19B227333G1
- Mounting Bracket 19C327087P1
- Mounting Hardware Kit 19A136606G1

OPTIONAL EQUIPMENT

- Ignition Switch Control Cable 19A136581G2
- Channel Guard Hookswitch 19C327091G1
- Adaptor Plates 19B227635P1
- Antenna Cable and RF Connector
(25–50 MHz antenna whip shipped
in separate carton)

PLANNING THE INSTALLATION

The accompanying photograph of a typical Custom MVP installation should help you in planning your installation. Suggestions for locating and installing the units are given with the following installation instructions:

Before starting, plan your installation carefully—so that it will be:

- Convenient for the operator to use
- Neat
- Protected from damage from water
- Easy for the serviceman to service
- Out of the way of auto mechanics
- Out of the way of passengers



Figure 1 — Typical Installation

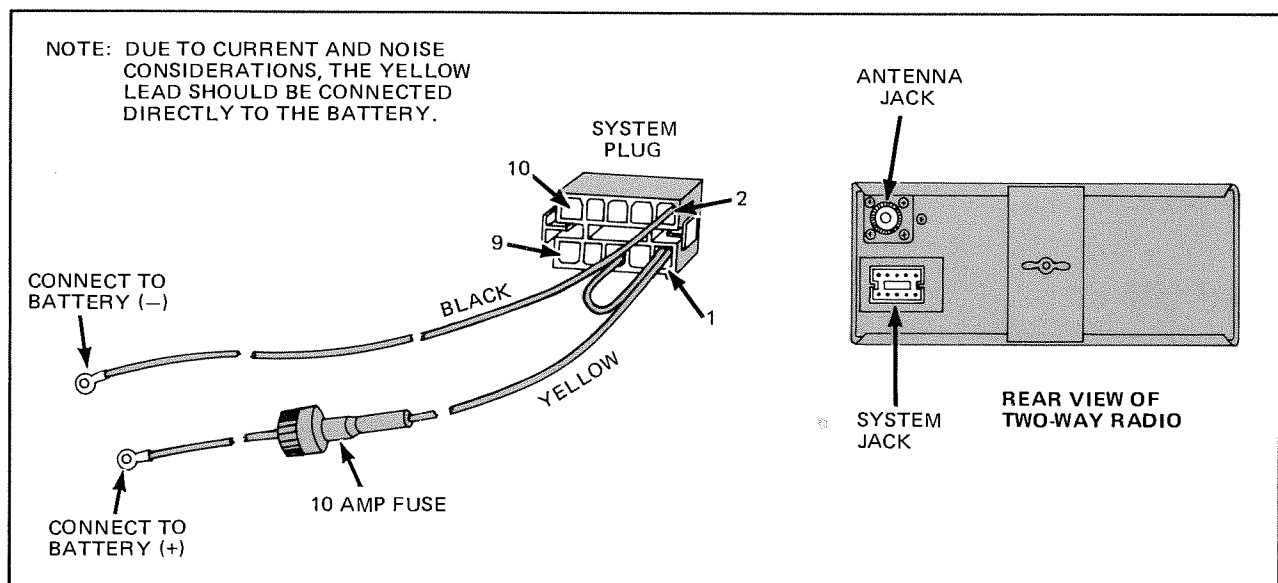
It is suggested that you take advantage of the experience of one of the many authorized General Electric Service Stations located throughout the United States by having them install your Two-Way Radio and make the final adjustments.

WARNING

Interference with Vehicular Electronics – *Electronic fuel injection systems, electronic anti-skid braking systems, electronic cruise control systems, etc., are typical of the types of electronic devices which may be prone to malfunction due to the lack of protection from radio frequency energy present when transmitting. If the vehicle contains such equipment, consult the dealer for the make of vehicle and enlist his aid in determining if such electronic circuits will perform normally when the radio is transmitting.*

POWER CABLE

The Power Cable consists of a fused yellow lead, a black lead, and a 10-pin systems plug (see Figure 2). To install the Power Cable, start with the plug end of the Cable at the location of the radio and run the two leads to the vehicle battery. Connect the yellow fused lead to the positive (+) battery terminal, and the black lead to the negative (–) battery terminal. Always locate the fuse as close to the battery as possible. Coil up the surplus cable and secure it out of the way. Be sure to leave some slack in the cables going to the radio so that it may be pulled out for servicing with the power applied.



NOTE

The Custom MVP mobile combination operates in 12-volt negative ground systems *only!* Always check the battery polarity and voltage of the vehicle before installing the radio.

INSTALLING THE RADIO

Mount the Two-Way Radio so that the controls are within reach of the operator. Use the mounting bracket as a template to locate the holes, and mount the radio as shown in Figure 3. Be sure to leave enough room at the rear of radio for cable connections. Before attaching the radio in the mounting brackets, connect the antenna plug and systems plug.

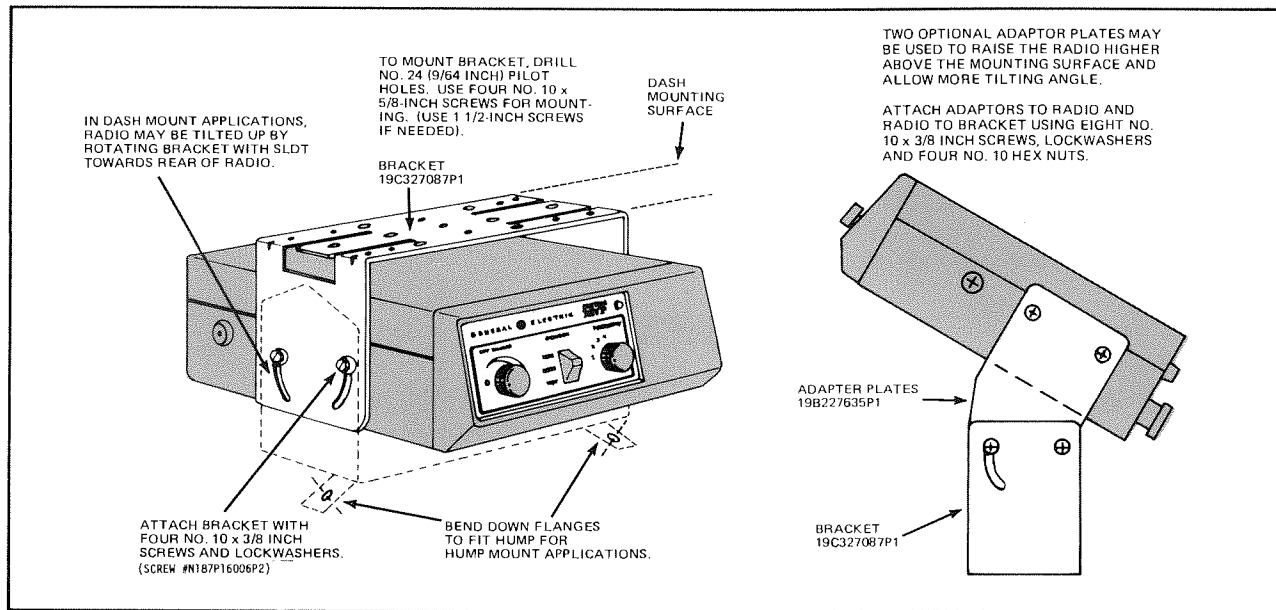


Figure 3 – Installing Mounting Bracket

CAUTION

Be careful to avoid damaging some vital part of the vehicle when drilling mounting holes. Always check to see how far the mounting screws will extend below the mounting surface before installing.

MICROPHONE

Mount the microphone where it will be within easy reach of the operator, but will not interfere with safe operation of the vehicle. After the microphone bracket is mounted, connect the microphone plug into the microphone jack on the side of the radio and tighten the retaining screw in the plug. If the bracket is not mounted on the Control Panel, refer to Figure 4 for mounting instructions. For mounting the bracket on the Control Panel, two bosses are provided on the inside of the Control Panel that can be drilled out (No. 31 drill) for mounting the standard bracket.

To gain access to the inside of the Control Panel, remove the wing nut on the rear of the radio and slide the radio out to expose the four retaining screws (two each side). Remove these screws and tilt the Control Panel forward. Use the two No. 7 x 5/16-inch screws to mount the microphone, bracket to the control panel.

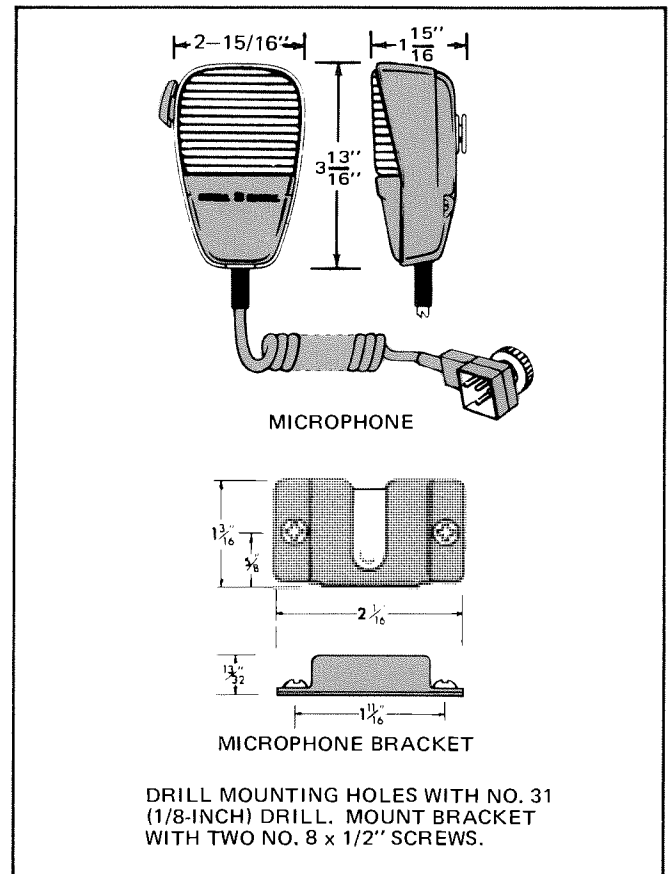


Figure 4 – Microphone Bracket Mounting

CHANNEL GUARD AUTOMATIC MONITORING HOOKSWITCH (OPTIONAL)

For Channel Guard with Automatic Monitoring applications, a hookswitch is used in place of the microphone bracket. Mount the hookswitch as shown in Figure 5. After mounting the hookswitch, insert the two pins in holes 6 and 8 on the Systems Plug.

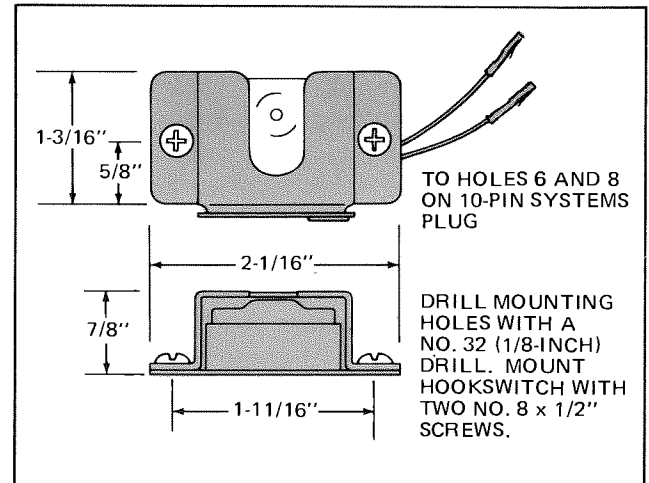


Figure 5 – Hookswitch Mounting

SPEAKER

The speaker should be mounted where it will direct sound to the operator, but not interfere with his vision or provide a hazard to passengers in case of an accident. The speaker may be mounted on the lower edge of the instrument panel, on the firewall, above the windshield in some trucks, or behind the built-in speaker grille in some vehicles. Use the mounting bracket as a template for locating the mounting holes, and mount the speaker as shown in Figure 6. Then connect the speaker leads to pin 3 (speaker hi) and pin 4 (speaker low) on the system plug.

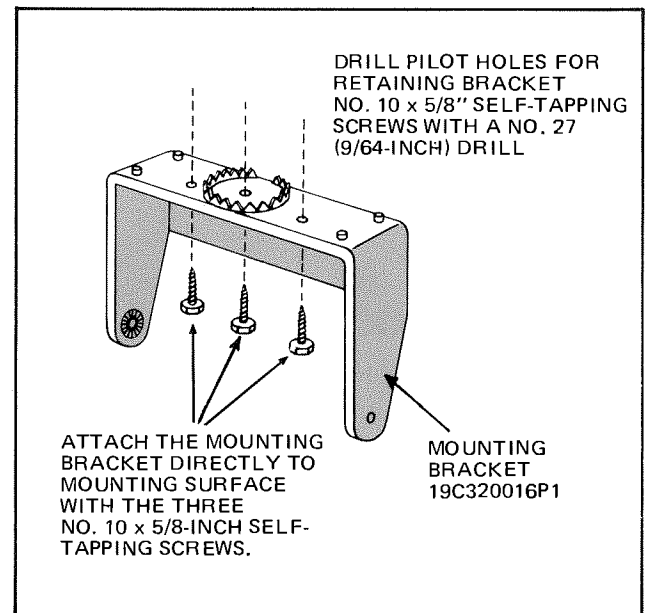


Figure 6 – Mounting the Speaker

IGNITION SWITCH CONTROL CABLE (OPTIONAL)

With ignition switch control, the transmitter and receiver operate only with the ignition switch in the Accessory or On position. To install the cable, cut the red jumper between systems plug P1-1 and P1-5 (See Figure 7). Strip the clipped red jumper lead and insert into the splice connector on the optional fused red lead and crimp the splice connector. Connect the red fused lead to the ignition switch terminal. Use the crimp-on terminal for vehicle fuse block connection, or the ring terminal lug for ignition switch connection.

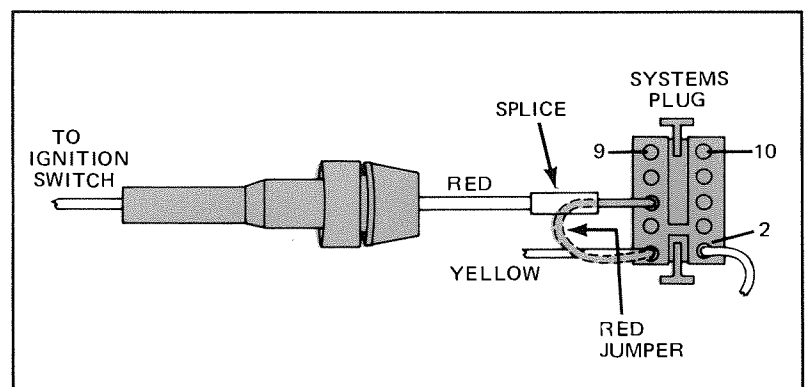


Figure 7 – Ignition Switch Control Cable Connections

HANDSET HOOKSWITCH (OPTIONAL)

For applications using a handset hookswitch, make the following connections to Systems Plug (P1). NOTE: The speaker is normally connected to P1-3 and P1-4.

First, cut the speaker cable approximately 3 inches from P1. Separate the bonded wires from the speaker and P1 about 2 inches and strip ends of the wires 1/3 of an inch. Splice the wire from P1-3 to the brown wire from the handset hookswitch (See Figure 8), and splice (1) wire from the speaker to the green wire from the handset hookswitch. Next, splice the wire from P1-4 and the other wire from the speaker to the white wire from the handset hookswitch. Then connect the orange wire from the handset hookswitch to P1-8.

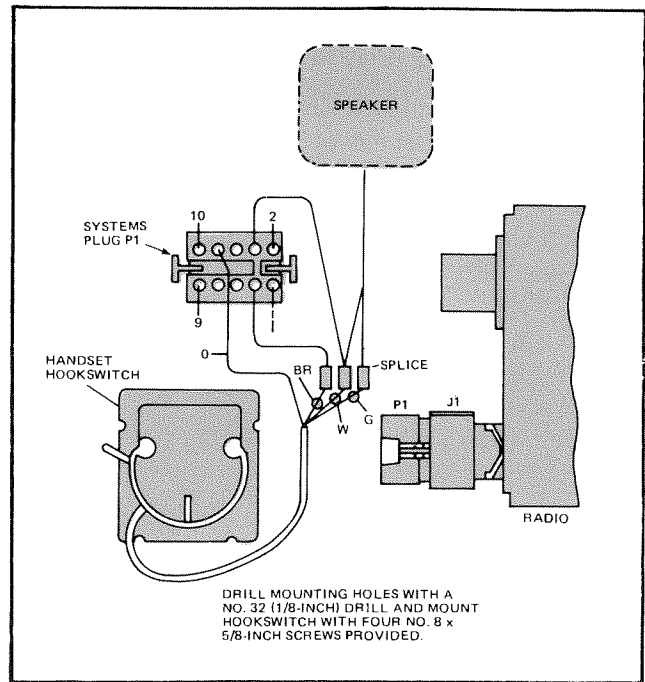


Figure 8 – Handset Hookswitch

TAMPER PROOF SCREWS

Two tamperproof Holt Head screws are included in the mounting hardware kit. One screw secures the microphone plug and the other screw secures the radio in the mounting bracket. Holt Head bits for installing the screws are available by ordering Option 1909. Install the screws as shown in Figure 9.

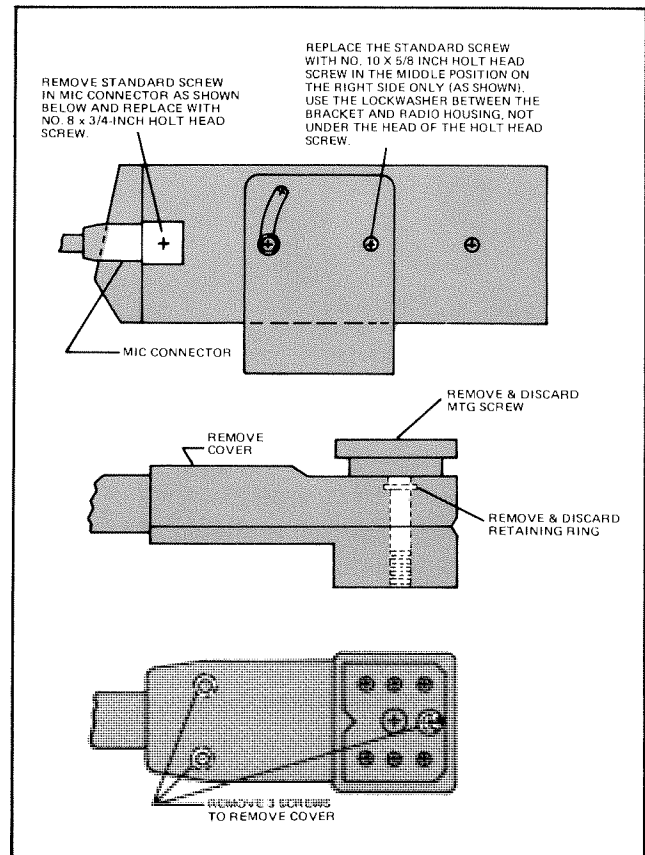


Figure 9 – Installing Tamperproof Screws

AC POWER SUPPLY (OPTIONAL)

The rubber feet supplied with the AC power supply should be applied to the bottom of the supply and radio cases. These feet protect the surface on which the units are located, and prevent heat and transformer hum from being conducted from power supply to radio when the units are stacked.

To install the feet, remove the backing strip and apply the adhesive side of the feet to the bottom corners of the radio and power supply. The feet should be approximately one-half inch from the edge.

After positioning the radio and power supply, install the terminal, washer and ground wire as shown in Figure 10. This grounding will help protect operators and equipment from injury or damage during lightning storms. Then connect the power supply jack and AC line cord as shown.

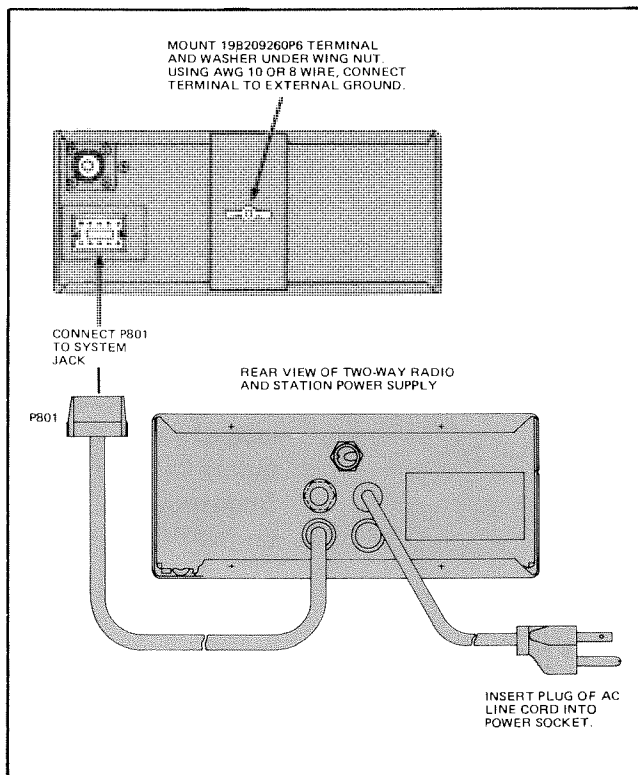


Figure 10 – Installing Power Supply

ANTENNA (OPTIONAL)

Installation instructions for the antenna are packaged with the antenna. The antenna must be installed in accordance with good engineering practice for optimum results.

For the 138–512 MHz antenna, the most effective mounting position is usually in the center of the roof of the vehicle. The antenna cable will normally run from the front of the Two-Way Radio, behind sections of the interior trim to a door or window post, and then up between the roof and headliner in the passenger compartment to the antenna base.

For the 25–50 MHz antenna, the most effective mounting position is usually on the driver's side of the vehicle near the top of the left rear fender or body of the vehicle.

Try to route the cable away from locations where it will be exposed to heat, sharp edges or mechanical damage, and where it will be out of the way of the driver, passengers or vehicle mechanics. Wherever possible, existing holes in the trunk wall, and the channels above or beneath doors and window columns should be utilized.

PLACING THE TWO-WAY RADIO IN OPERATION

After completing the installation of the Two-Way Radio, the following final operations should be performed:

Have an electronics technician who holds a 1st or 2nd Class FCC Radiotelephone license make the final adjustments.

These include:

Transmitter: Measure Forward and Reflected Power and adjust antenna length for optimum ratio. Set transmitter to rated power output (or to the specific output or input that may be required by the FCC station authorization). Measure the frequency and modulation and enter these measurements on the FCC-required Station Records.

Vehicle: Check to see if any electrical noise suppression is needed.

Instructions for making these adjustments are included in the Maintenance Manual for the Two-Way Radio.

Fill out and mail the "ON ARRIVAL" Information Card.

Give the Operating Manual for the Two-Way Radio to the person who is going to operate it, or place the Manual in the vehicle where he will find it.

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