

Section 8 APPLIANCES

NOTE: This section provides information for the removal and installation of appliances. For repairing individual appliances, it is recommended that a qualified service company perform the repair operation. Inexperienced repairing of appliances could cause damage to the appliance or bodily injury.

FURNACE

Refer to Figures 8-1 and 8-2.

Before removing an inoperative furnace and installing a new unit see the manufacturer's instructions that outline numerous checks to be made which may easily solve the problem.

Removal

1. Shut off gas at LPG tank. Turn OFF circuit breaker controlling current to the furnace.
2. Disconnect gas line, electric and thermostat leads.
3. Remove screws from inside of furnace that hold it to the vehicle.
4. Suburban Furnaces Only: Disconnect furnace vent cap adapter from furnace by removing outside vent cap and remove 2 screws securing vent cap adapter.
5. Slide furnace out of cabinet until heat duct outlets on each side are accessible.
6. Disconnect ducts from furnace.
7. Slide furnace out and remove from motor home.

Replacement

1. To install a new furnace, reverse steps 1 through 7.

NOTE: Suburban Furnaces Only: See Figure 8-2.

2. Install asbestos rope gasket on exhaust pipe.
3. Secure vent cap adapter to exhaust pipe flange with 2 screws. Gasket must be compressed.

4. Position fresh air rubber boot against vehicle outer wall.
5. Apply ribbon sealer to vent cap mounting face.
6. Attach vent cap with screws.

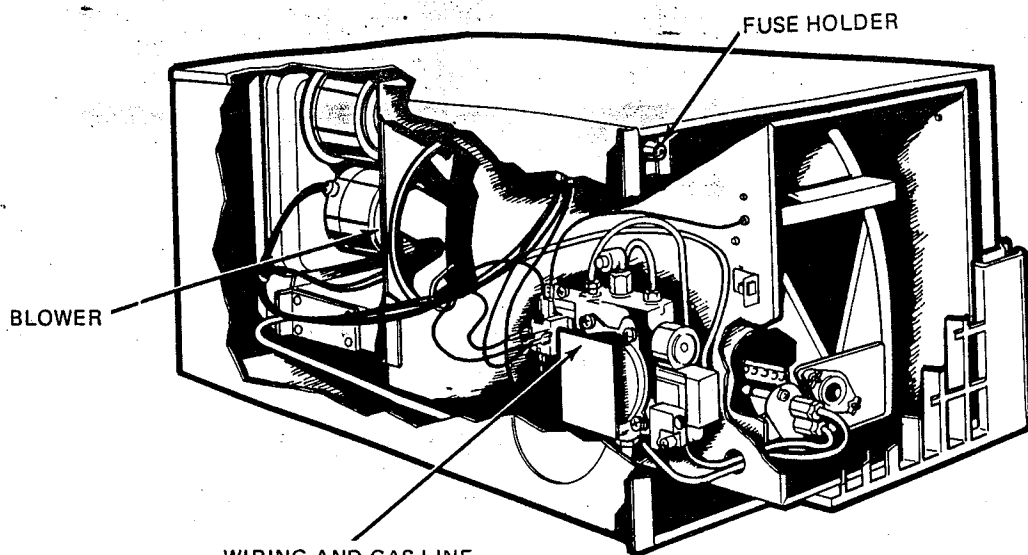
WARNING: Vent cap adapter must be securely seated against rope gasket. If rope gasket is not securely seated "tight" against exhaust pipe flange, toxic fumes may leak into passenger compartment (see Figure 8-2).

WATER HEATER - 6.5 GALLON L.P.G.

Refer to Figure 8-3.

Removal

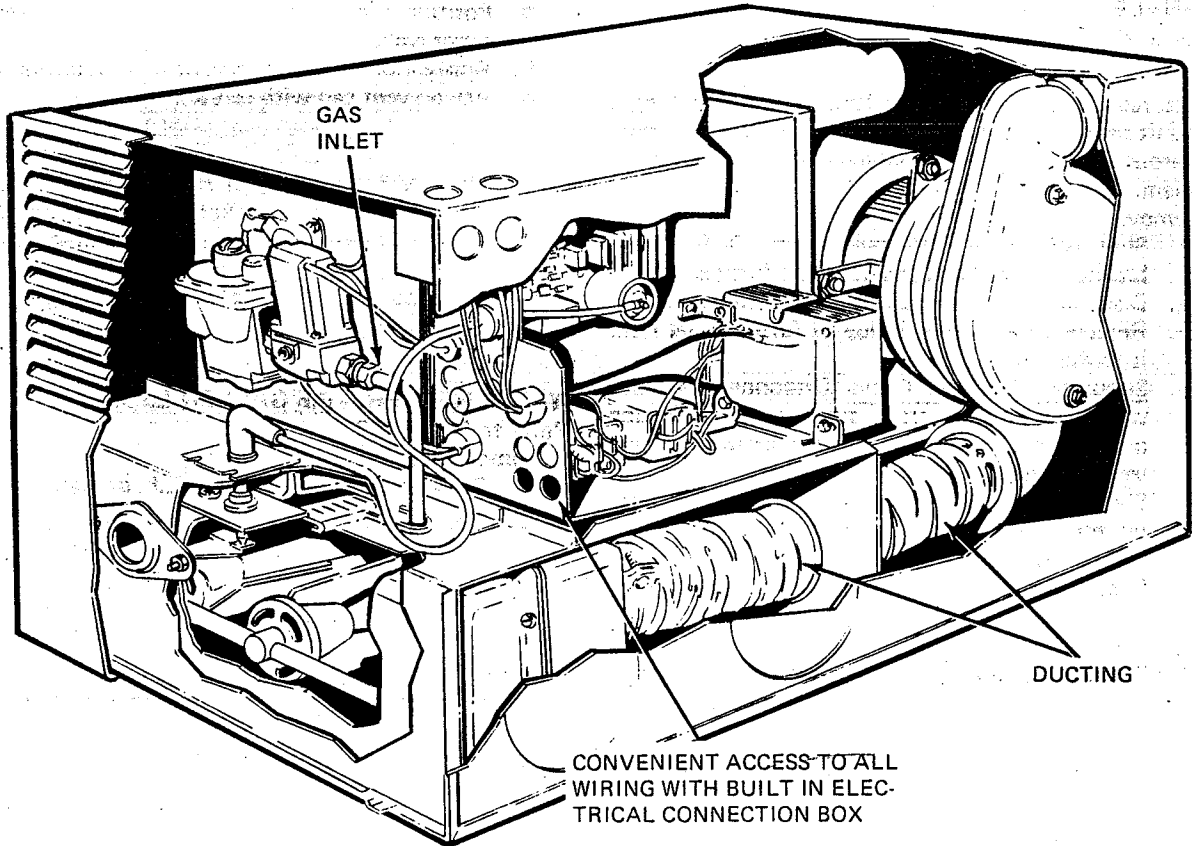
1. Turn off L.P. gas supply at L.P. gas tank.
2. Depressurize water system by turning off demand pump or air compressor and opening faucets.
3. Drain complete system including fresh water tank. Drain water heater by opening petcock from outside of vehicle.
4. Unscrew flare nuts and disconnect water inlet and water outlet lines.
5. Remove gas supply line from water heater control valve.
6. Remove water heater door (refer to Section 2, Figure 2-2).
7. Remove screws attaching heater to side of vehicle.
8. Remove water heater.



BLOWER

FUSE HOLDER

WIRING AND GAS LINE
HOOK-UPS ARE SIMPLE
AND ALL MADE ON THE LEFT
SIDE OF THE HEATER



GAS
INLET

DUCTING

CONVENIENT ACCESS TO ALL
WIRING WITH BUILT IN ELEC-
TRICAL CONNECTION BOX

FIGURE 8-1 Furnaces

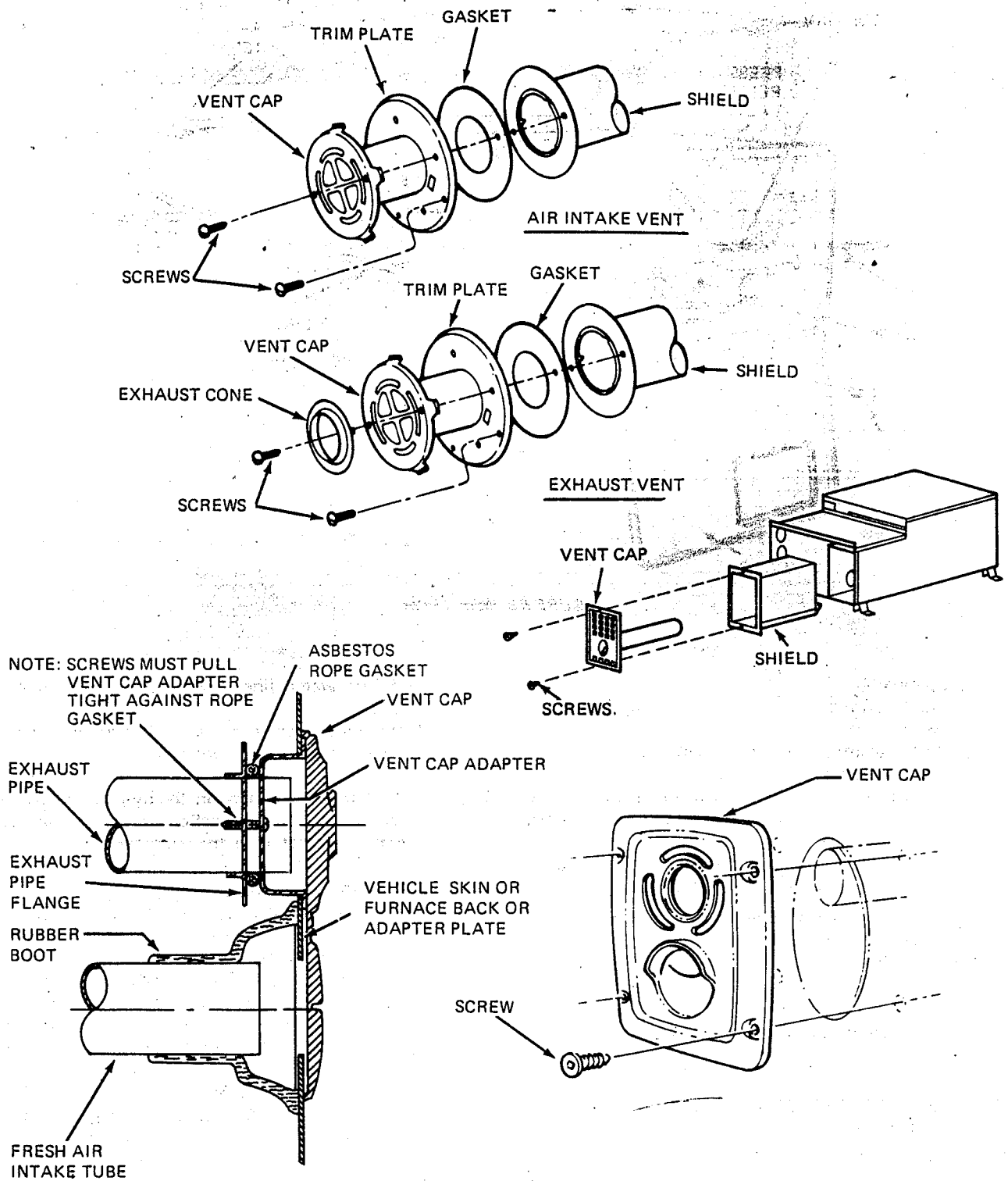


FIGURE 8-2 Furnace vents

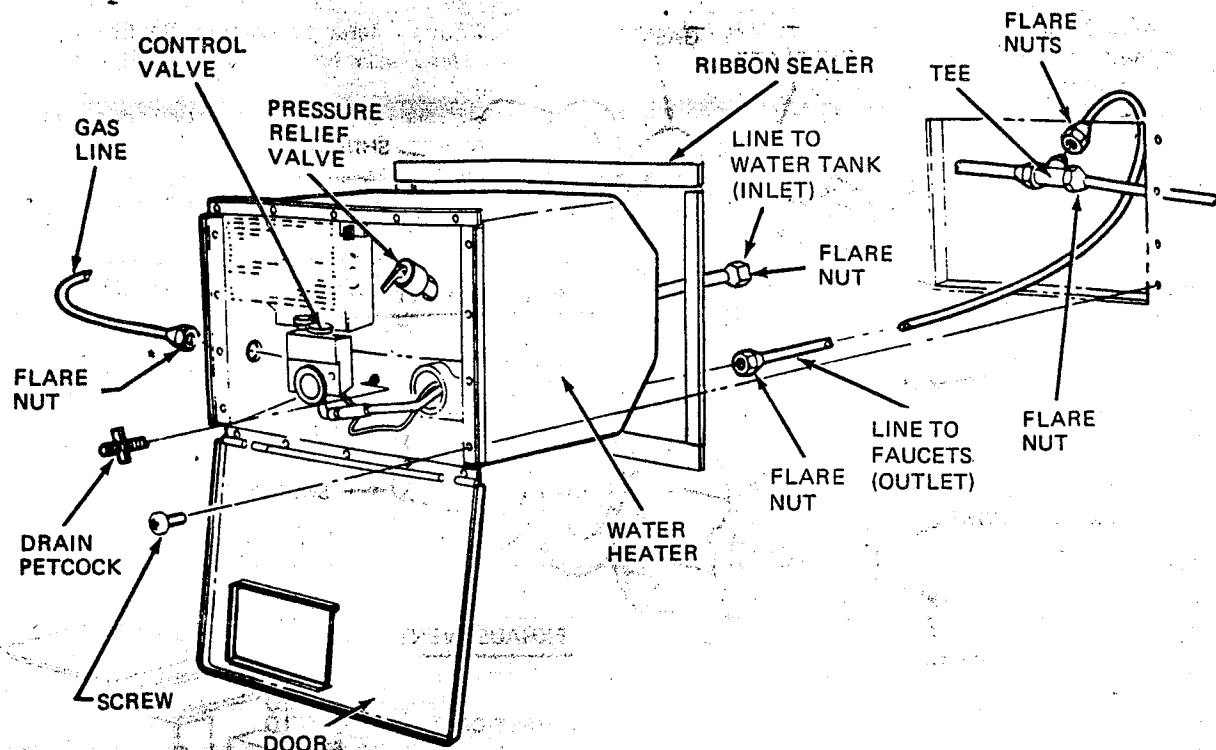


FIGURE 8-3 Water heater

Replacement

1. Apply ribbon sealer to mounting flange of heater.
2. Install water heater. Secure with screws.
3. Replace water heater door.
4. Attach gas supply line to water heater control valve. Be sure that flared adapter is tightened securely.
5. Attach water inlet and water outlet lines to water heater. Tighten flare nuts securely.
6. Refill complete system. Turn on demand pump. Check for water leakage.
7. Turn on gas supply to heater.
8. Check for gas leakage using soapy water at supply line and flare nut.
9. Check for proper water heater operation.

and hot water lines and fittings from water heater.

2. Install water heater by-pass kit as follows or by following directions on kit box.

NOTE: The female couplings on the by-pass kit enable the by-pass to be installed on either male or female connectors to the water heater.

3. Put teflon tape over the threads of the two street elbows on the by-pass and securely screw them into place in the water heater tank where the fittings were removed in step #1.
4. Put teflon tape over the threads of the fittings on the hot and cold water lines removed from the heater in step No. 1 and screw these fittings and lines into the female couplings on the by-pass. The hot and cold water lines are now connected to the by-pass.
5. To by-pass the water heater, when winterizing the water system, close valves A and B (the valves controlling flow into and out of the water heater) and open valve C before adding anti-freeze in the water system.

BY-PASS INSTALLATION – WINTERIZING HOT WATER HEATER

Refer to Section 6, Figure 6-1.

1. After hot water tank has been drained (see winterizing water system section), remove cold

6. To reconnect the water heater with the water system, reverse procedure in step No. 5.
7. Make sure all connections are tight.

AIR CONDITIONER INSTALLATION - DUO-THERM

For installation of other makes of air conditioners see manufacturer's service manual.

Refer to Figure 8-4.

Installation

1. Turn off electrical current.
2. Remove roof vent. (Refer to Section 2, Fig. 2-10.
3. Electrical line for connection to air conditioner is located at vent on driver side of motor home.

4. Pull out for later connection. Electrical connection may also be available at 110V outlet in ceiling.
5. Place large piece of plywood on roof to stand on while installing air conditioner.
6. Uncrate air conditioner.
7. Install return air duct in vent opening.
8. Make sure perimeter of vent opening is clean where air conditioner will be positioned.
9. Attach neoprene gasket to air conditioner base.
10. Set air conditioner on roof. Align with roof opening.
11. From the inside of the motor home, bolt the inside AC control plate to the air conditioner.
12. Follow instructions included with air conditioner for electrical hook-up.
13. With screws, attach air conditioning controls to mount plate.

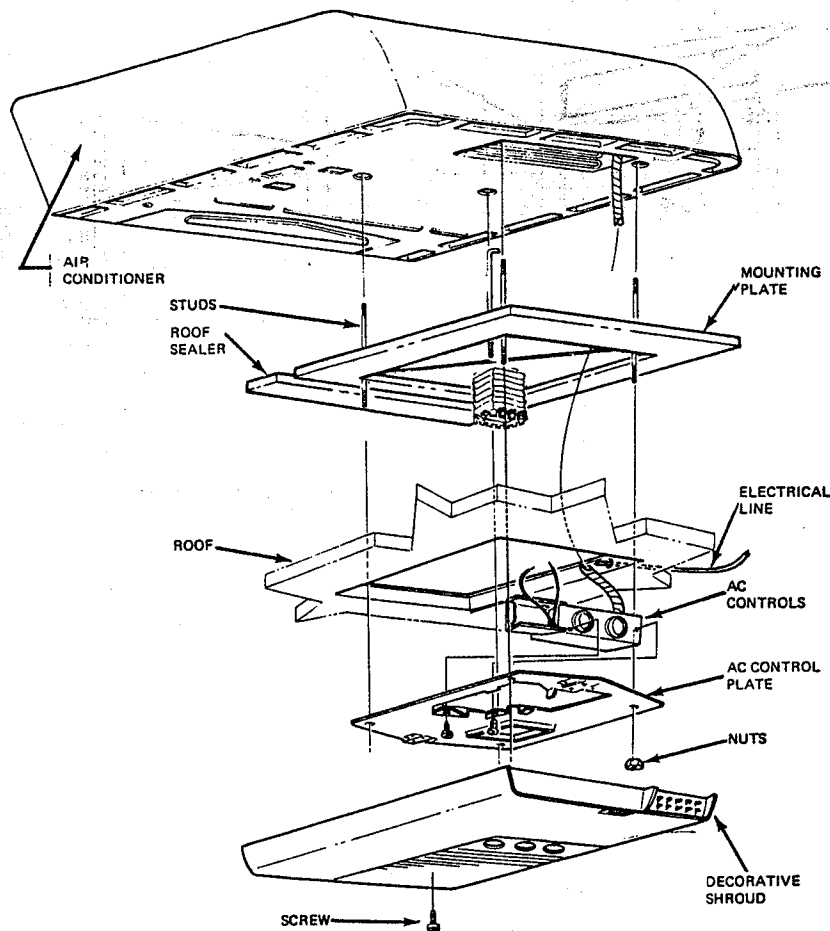


FIGURE 8-4 Air conditioner - duo-therm

13. Connect electrical wires to air conditioner.
14. Make sure thermal sensor in air conditioner is in proper position. See instructions that accompany air conditioner.
15. Snap decorative shroud in place around the control plate.
16. Make sure air direction control operates in the proper manner and can be turned to any required position. Turn on electrical current and check operation.

REFRIGERATOR – (AMFRIDGE)

Removal and Replacement

1. Disconnect electric leads from battery.
2. Remove 4 screws that hold refrigerator to cabinet.
3. Unfasten compressor from floor.
4. Disconnect 12 volt leads from compressor.
5. Remove refrigerator and compressor.
6. Re-install in reverse order.

REFRIGERATOR – 3-WAY (LPG, 12V, 110V)

Refer to Figure 8-5.

Removal

1. Turn off electrical current and reverse steps 2 through 14.

Before removing inoperative refrigerator, make the following checks. The problem may be in one of these areas which do not require removal of the refrigerator.

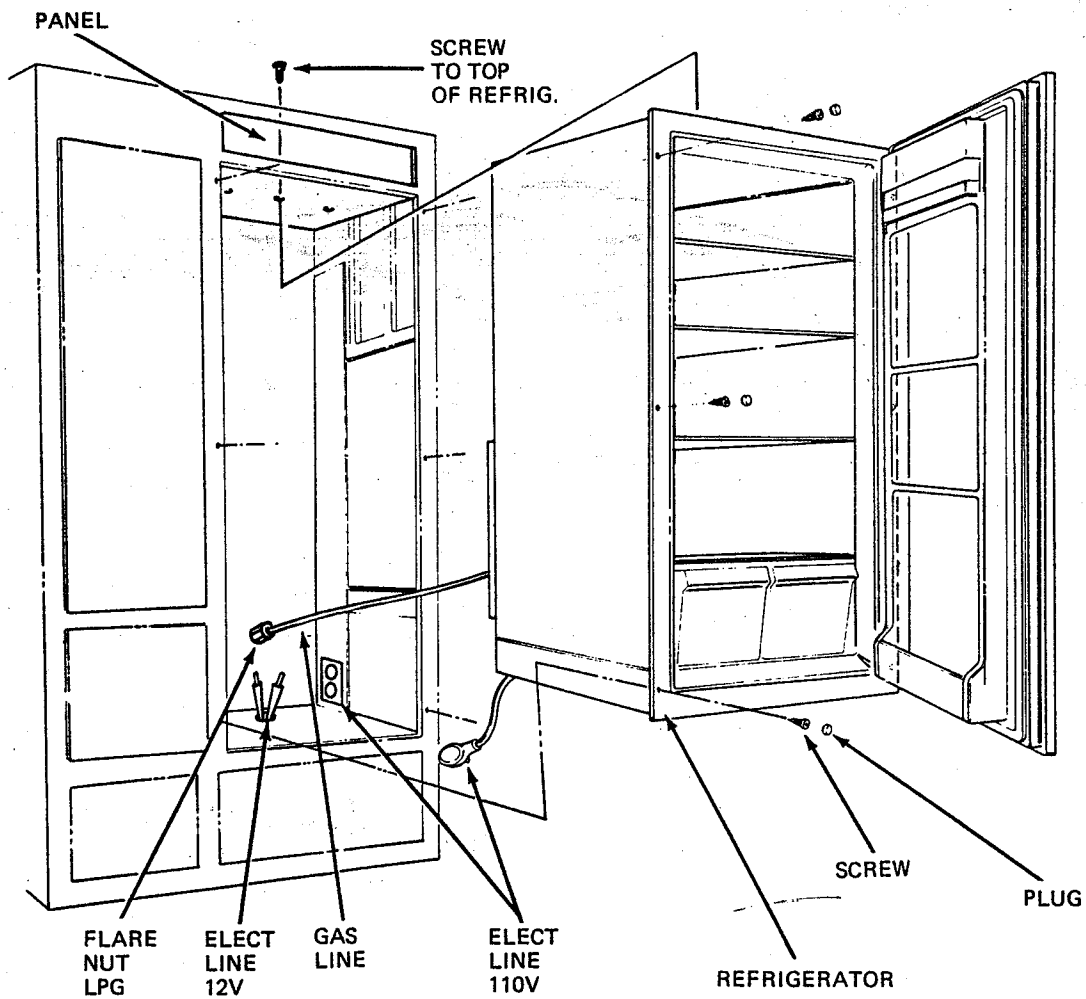


FIGURE 8-5 Refrigerator, 3 way (LPG, 12V, 110V)

LPG Cycle

1. If the refrigerator LPG supply will not light, check battery connections or check for dirty burner.
2. If flame jumps off burner or is a low flame, check regulator gas pressure. Pressure should be between 10 and 12 inches water column. Adjust pressure if necessary. (See regulator adjustment, Section 7).
3. If unit lights up and heats but does not cool, check side and top openings around refrigerator. Openings at sides and top of refrigerator must be completely sealed by the installation. Check roof vent area. Area must be a minimum of 4½ by 18 inches. Also check vent on side of motor home. Vents must be clean and unobstructed. LPG cycle requires continuous flow of air from bottom vent through heating element and out top vent.

Electric Cycle

1. Check heating element to see if current is heating the element.

If these potential problems all check out satisfactorily, then the refrigerator may require removal for repairs.

Removal

1. Shut off gas at supply tank and electricity at converter.
2. Open vent door.
3. Disconnect gas line and 110V and 12 volt electric lines from refrigerator.
4. Remove screws holding refrigerator in position. Screws may be located under corner side mold-

ing, in cabinet next to the refrigerator and around the refrigerator itself.

5. Slide refrigerator out and remove from motor home. This operation usually requires two men.
6. Install new unit by reversing steps 1 through 6.

NOTE: A fully charged 12 volt battery will operate a 3-way refrigerator for only 4 hours without recharging. For example, a 6 cu.ft. refrigerator requires 12.5 amps/hour to operate resistance heating element.

REFRIGERATOR 2 WAY (110V - 12V) COMPRESSOR TYPE

Refer to Figure 8-6.

Removal and installation

1. Turn off 12V & 110V power at converter.
2. Remove refrigerator door.
3. Remove screws attaching refrigerator to vehicle cabinet structure.
4. Remove D.C. electric service access screen plate from inside refrigerator.
5. Inside service access area, remove 12V electrical box cover plate.
6. Remove wire nuts connecting 12V supply to unit. Mark positive wire with piece of tape to identify when reconnecting.
7. Slide unit out of vehicle cabinet and set on floor.
8. Unplug 110V supply from receptacle.

Replacement

Reverse above procedure. See electrical section for wiring schematic.

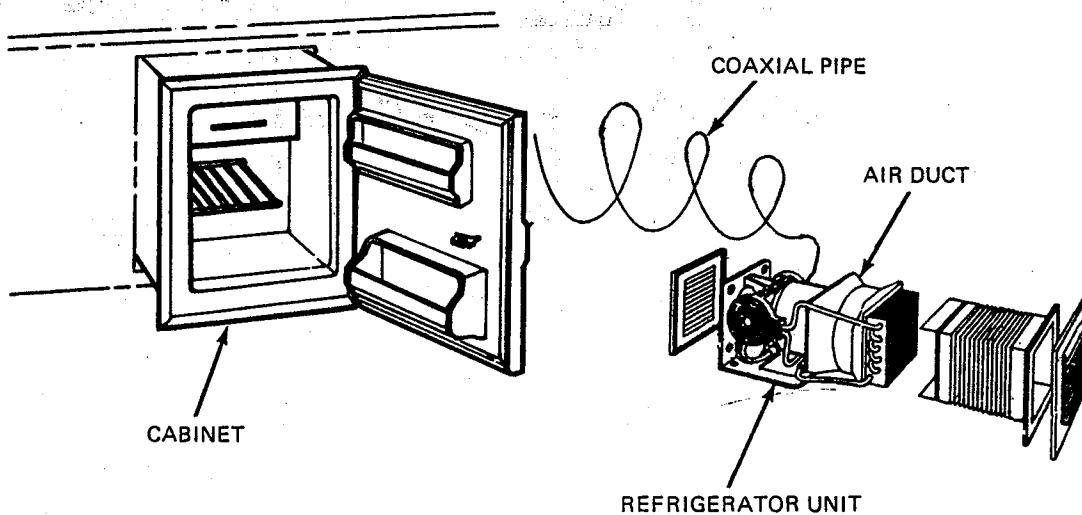


FIGURE 8-6 Refrigerator (12V) compressor type

NOTE: A fully charged 12V battery pack will operate a 2-way refrigerator compressor for 50 hours without recharging. Operating time will be reduced if 12V supply is used for other appliances and lighting.

RANGE – (COMBINATION AND EYE-LEVEL)

Refer to Figure 8-7.

Removal

1. Turn off gas supply to range.
2. Remove grates over burners.
3. Remove range top by lifting from front.
4. Disconnect inlet gas line.
5. Remove screws holding range in place.
6. Pull range out.

Replacement

1. Reverse steps 1 through 6.
2. Check for gas leaks using a soapy water solution.

RANGE – COUNTER TOP

Refer to Figure 8-8.

Removal

1. Turn off gas supply to range.
2. Remove grate clips and grates.
3. Remove top assembly.
4. Remove screws from burner box and lift up slightly.
5. Disconnect gas line to burner manifold and remove unit.

Replacement

1. Reverse steps 1 through 5.
2. Check for gas leaks using a soapy water solution.

RANGE HOOD AND EXHAUST FAN

Refer to Figure 8-9.

Turn off electric current to range hood fan.

If the exhaust fan is inoperative check circuit breaker at converter or for a break in the wiring to the fan. Repair wire break with a good splice and tape splice with electrical tape. If wire break cannot be found, install new wire connection to fan. This is accomplished by entering kitchen sink cabinet beside range and running the wire up paralleling the molding to each end of sink cabinet, then over to range hood electric box. Connect wire properly to converter. Turn on electric current to fan. If fan does not operate remove range hood and replace.

Removal

1. Turn off electric current.
2. Disconnect wiring from fan.
3. Remove four screws holding hood to overhead kitchen cabinet.
4. Remove hood and install new hood and fan assembly reversing steps 1 through 3.

OVEN – MICRO WAVE

Removal

1. Remove electrical plug from outlet.
2. Remove screws from mounting channel.
3. Remove oven.
4. Remove mounting channel from oven and re-install on new oven.
5. Reverse procedure for installation.

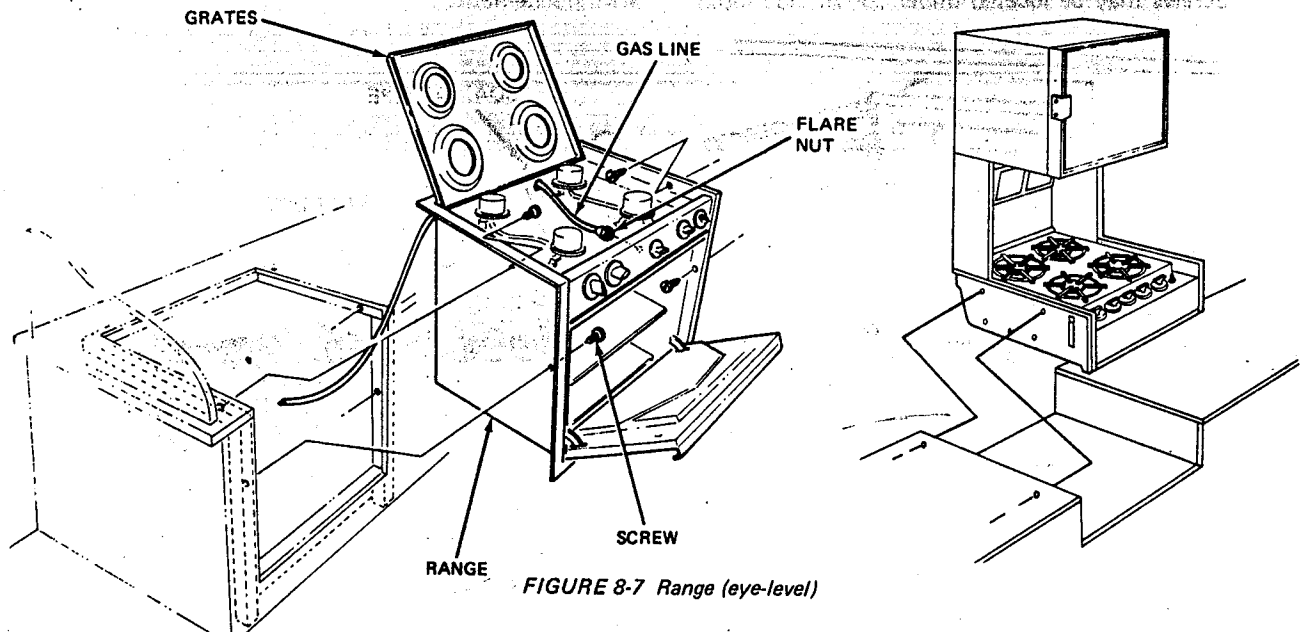
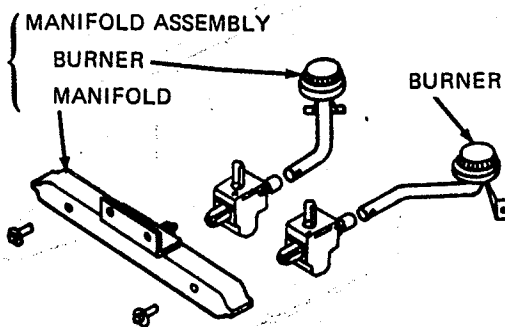


FIGURE 8-7 Range (eye-level)

WARNING: IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING.

WARNING: All pilot lights and appliances shall be turned off during refueling of motor fuel tanks and/or L.P.-Gas containers.



TWO BURNER RANGE

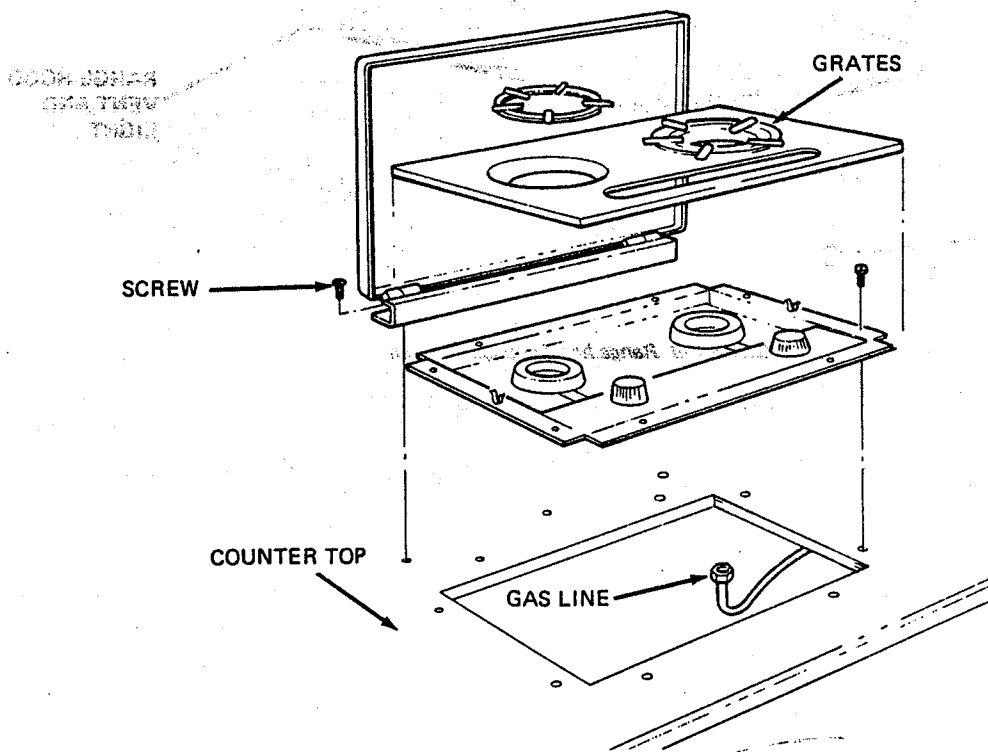


FIGURE 8-8 Range-counter top

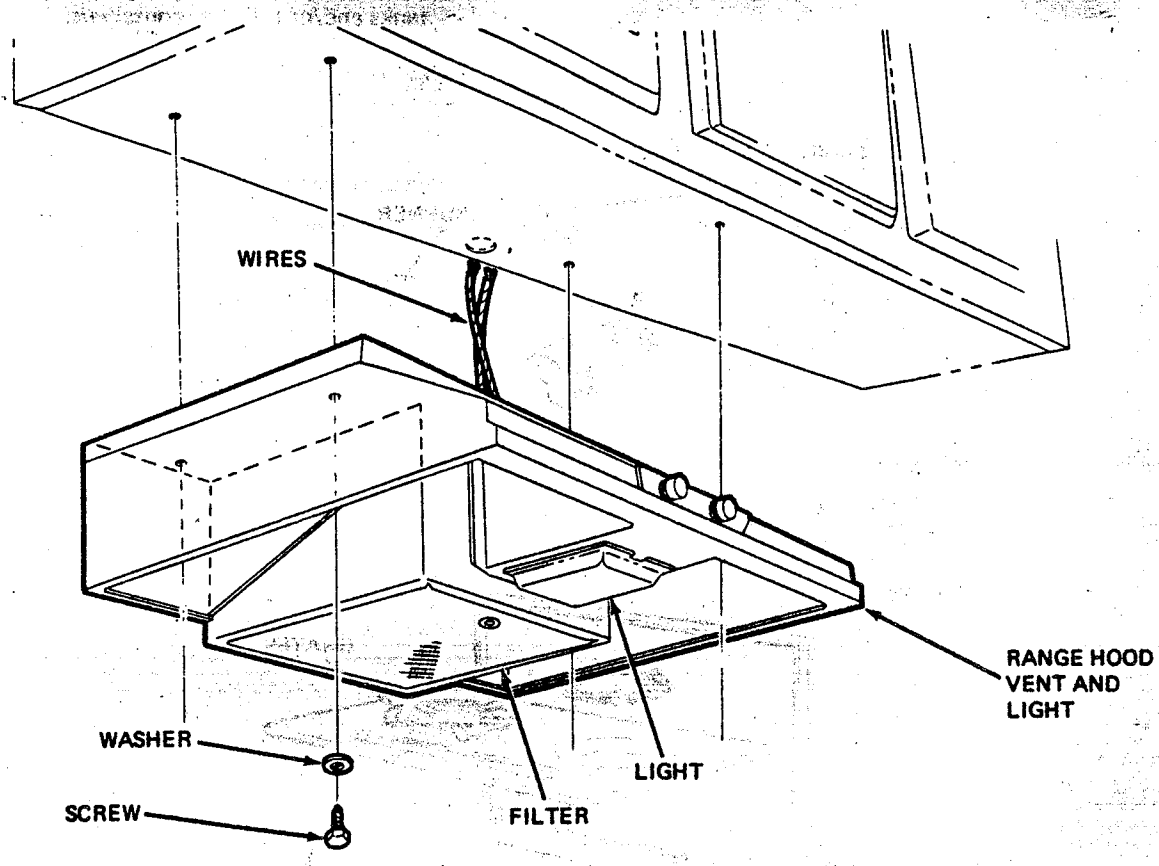


FIGURE 8-9 Range hood and exhaust fan

Section 9 ACCESSORIES

WINDSHIELD WASHER

Refer to Figure 9-1 for part locations when replacing windshield washer.

WINDSHIELD WASHER NOZZLE OR HOSE REPLACEMENT

Refer to Figure 9-1.

1. Remove dash top by removing screws.
2. Remove washer hose.
3. Remove washer nozzle retaining nut.
4. Remove nozzle and lock washer.
5. Adjust nozzle spray in correct position and tighten retaining nut.
6. Replace washer hose by sliding on nozzle.

WASHER PUMP REPLACEMENT — FOOT PUMP

Refer to Figure 9-1.

1. From inside vehicle remove two screws securing pump to floor.
2. Remove hoses from pump.
3. Install hoses on identical fitting on new pump.

NOTE: Supply hose and pressure hose are different sizes.

4. Reposition pump and install screws to secure pump to floor.

WASHER PUMP REPLACEMENT — ELECTRIC

1. Disconnect electric lead from motor.
2. Disconnect hose from bottle.
3. Remove mounting screws and remove bottle and pump assembly from the unit.
4. Reverse procedure for reinstallation.

WINDSHIELD WIPER AND WIPER MOTOR

WIPER BLADE REPLACEMENT

Refer to Figure 9-2.

1. Remove blade retaining screw and wiper.
2. Install new blade and replace screw.

WIPER PIVOT ARM REPLACEMENT

Refer to Figure 9-2.

1. Remove arm retaining nut and washer at pivot shaft.
2. Pull pivot arm assembly from shaft.
3. Remove serrated locking bushing from wiper arm.
4. Install bushing on pivot arm.
5. Install new pivot arm.
6. Reinstall retaining nut and washer.

WIPER PIVOT REPLACEMENT

Refer to Figure 9-2.

1. Remove wiper arm (see above).
2. Remove rubber seal boot.
3. Remove hex nut.
4. Remove snap ring from actuating arm pivot pin.

NOTE: In some vehicles it may be necessary to raise defroster panel to provide access to wiper motor and pivots.

5. Reverse procedure for installation of new pivot.

WINDSHIELD WIPER PIVOT ACTUATING ARM

Replacement

Refer to Figure 9-2.

1. Remove dash top by removing screws.
2. Remove the pivot arm retaining nut and lock washer.
3. Remove pivot arm from pivot assembly.
4. Replace pivot arm.
5. Replace lock washer and pivot arm nut.
6. Replace dash.

WINDSHIELD WIPER MOTOR

Refer to Figure 9-3, 9-4.

1. To obtain access to the wiper motor, open hinged front grill panel — or remove defroster panel from inside of motor home.
2. Remove pivot arm retaining nut and lock washer.
3. Remove pivot arm from pivot assembly.

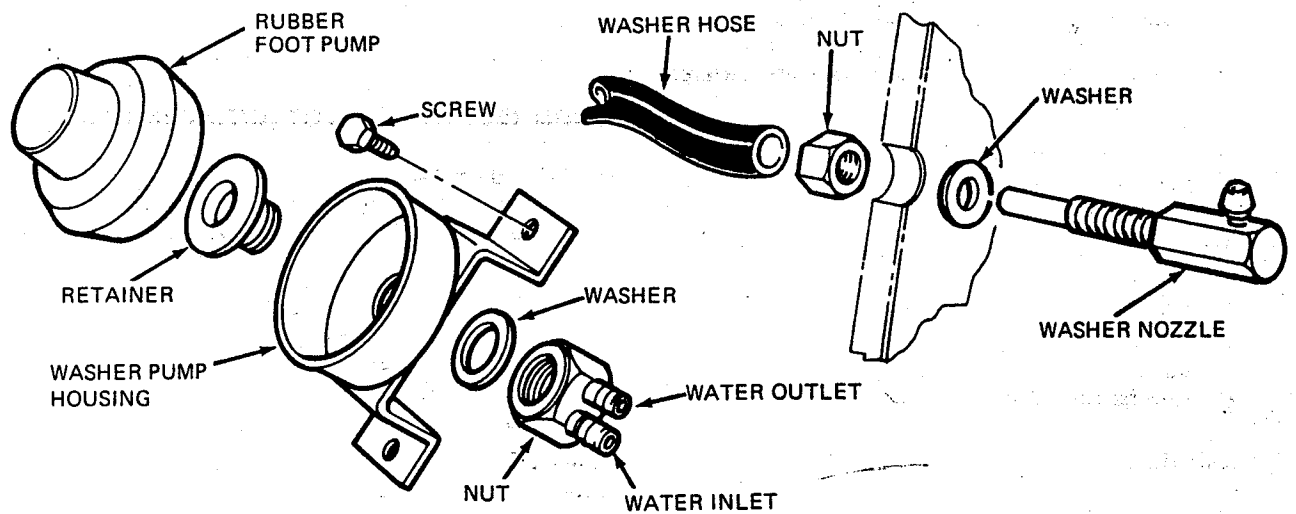
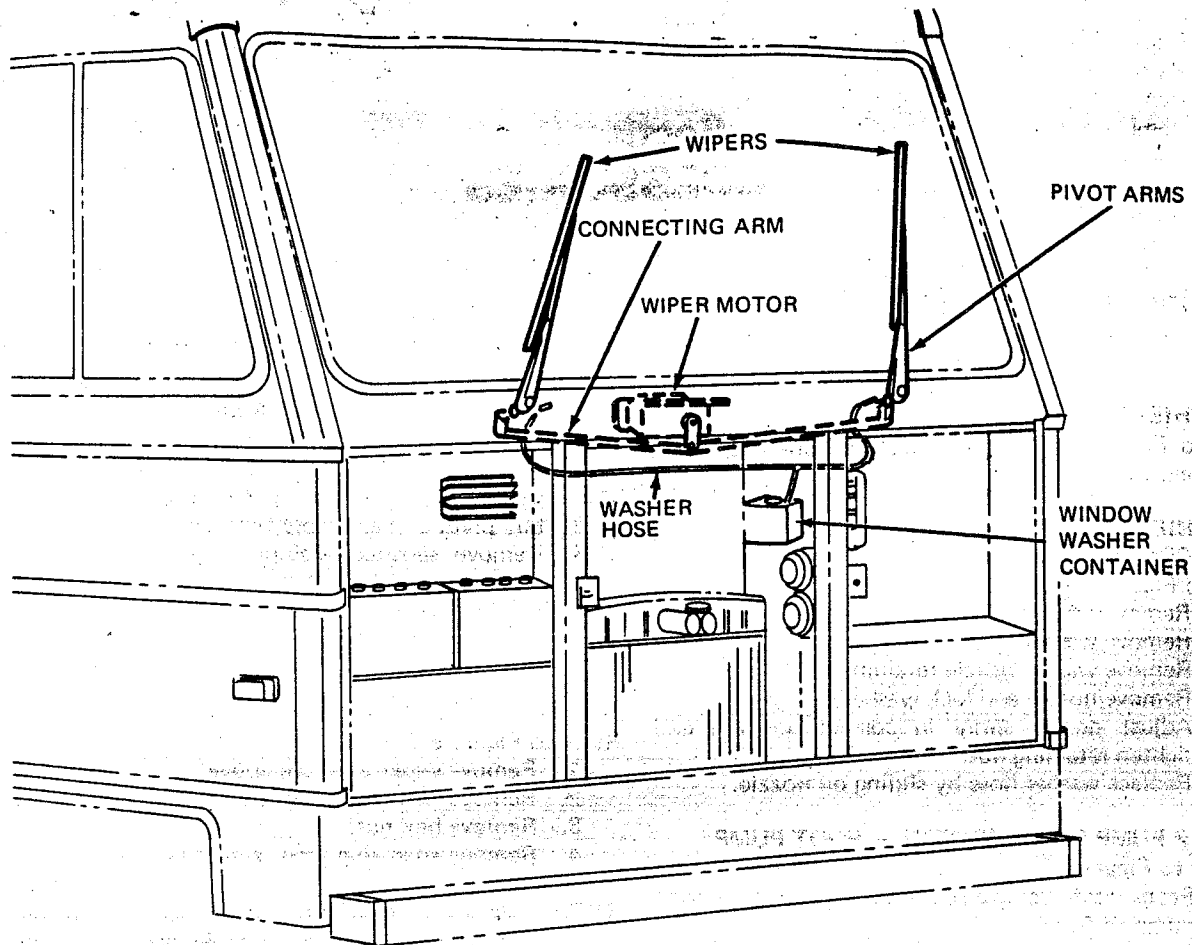


FIGURE 9-1. Windshield washer, nozzle and hose

4. Remove wiper arm locking bushing.
5. Remove wiper pivot assembly guide bushing.
6. Remove retaining ring holding motor drive arm.
7. Remove pivot assembly screws.
8. Remove pivot assembly and washer.
9. Remove 2 bolts holding windshield wiper motor.
10. Remove motor.
11. Remove electrical leads from motor and mark for proper assembly.
12. Install new motor and pivot assembly by reversing steps 1 through 11.
13. Close grill panel or reinstall defroster dash panel.

6. Disconnect plug to heater motor.
7. Remove heater.

Replacement

1. Reverse steps for removal of heater.
2. Refill radiator and run engine to check for any coolant leakage.

CAUTION: All heaters equipped with air conditioning, because of their specialized nature and tools required for service, it is recommended that the owner contact an authorized service as noted in the equipment operating instructions.

WIPER STROKE AND STOP ADJUSTMENT

Refer to Figure 9-3.

Sweep stroke of wiper arm is controlled by location of connecting arm attachment to the wiper pivot. Sweep stroke distance can be changed by repositioning arm on wiper pivot arm. (See wiper pivot replacement.)

Sweep stop location can be adjusted by loosening three screws on motor stop switch cover plate and turning cover plate clockwise or counterclockwise to adjust for desired stop location.

HEATER – AUTOMOTIVE HOT WATER (TITAN AND CHAMPION)

NOTE: This information applies to Class A motorhomes only. Heater service instructions for the Trans-Van, Trans-Star and Mini-Motorhome can be obtained from the chassis manufacturer.

HEATER REPLACEMENT

Refer to Figure 9-5.

Heater is accessible from underneath the dash or on the outside of the firewall.

Removal

1. Drain heater using petcock on bottom of the radiator.
2. Loosen clamps on all air and water hoses and disconnect hoses.
3. Remove all screws, nuts and bolts holding heater to the firewall.

NOTE: On some installations, it may be necessary to remove the fiberglass front end.

4. Remove heater from firewall.
5. Disconnect vacuum lines from vacuum motors.

HEATER TEMPERATURE CONTROL CABLE REPLACEMENT

Refer to Figure 9-5.

Removal

1. Remove heater control assembly from dash by removing the screws in the panel face.
2. Disconnect cable from the back of the operating lever. Do not disturb any vacuum lines or caps.
3. Raise engine cover and disconnect cable from the water valve installed in the heater hose.
4. Remove cable.

Replacement

1. Install new cable and reverse above procedure.

ELECTRICAL AND VACUUM REPAIRS

Figure 9-6 is a typical Evans and Mark IV electrical schematic and vacuum logic diagram and will assist in diagnosing most malfunctions. Read the heater manufacturer's specific service instructions before starting any repairs.

AUXILIARY HOT WATER HEATER

Auxiliary hot water heater is installed in rear of motor home. Heater is supplied with hot water from hoses running from main heater.

DEFROSTER VENT REPLACEMENT

Refer to Figures 9-7, 9-8.

1. Remove screws holding vent in place.
2. Pull vent up through opening.
3. Loosen hose clamp and remove screws.
4. Remove vent and replace.
5. Replace screws and hose.

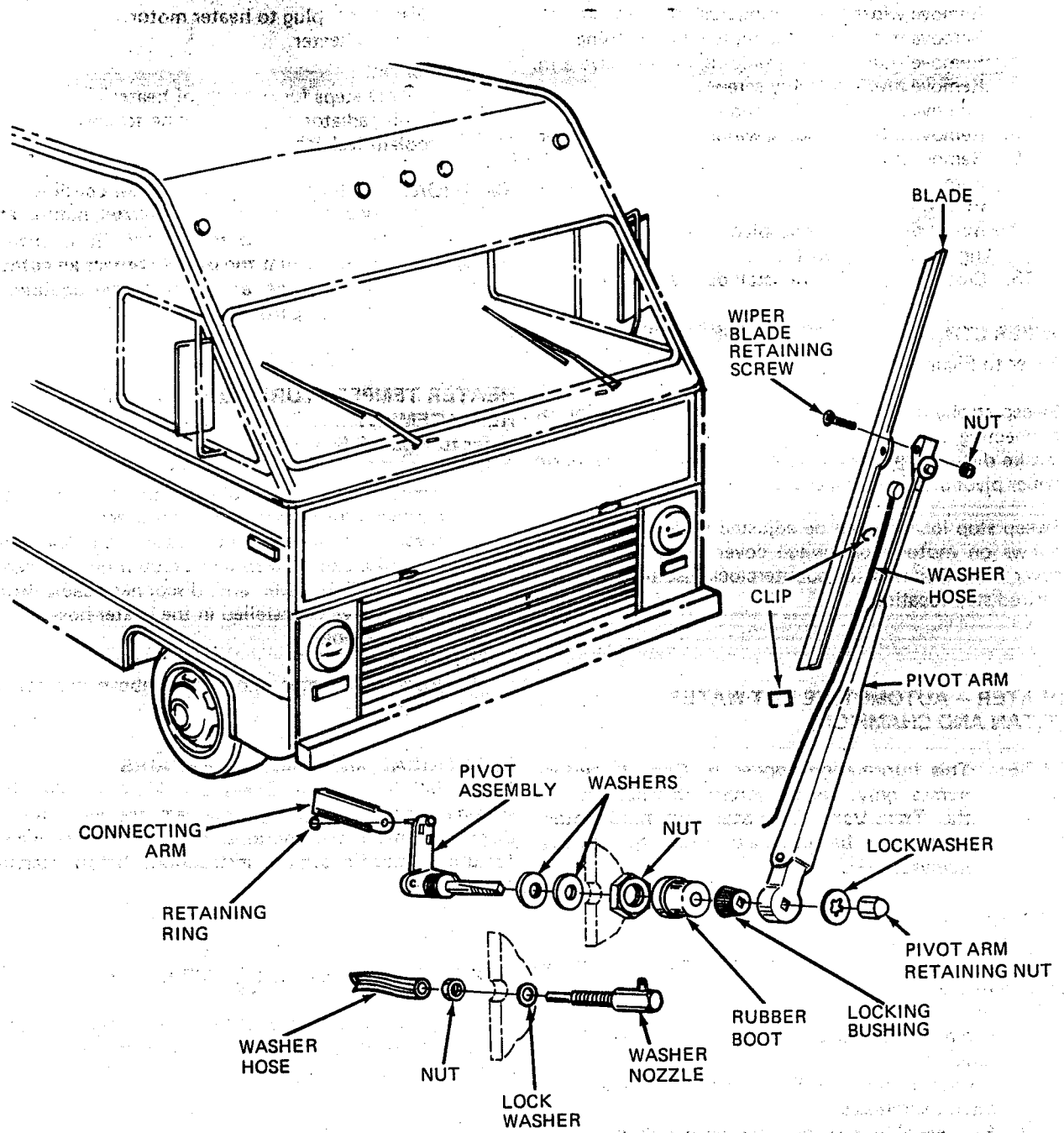
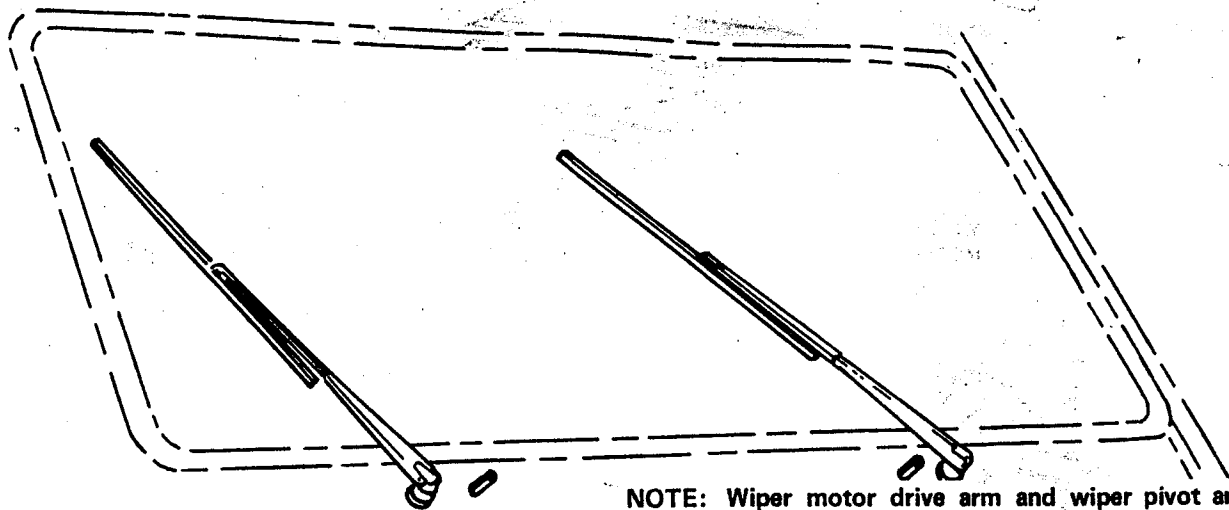
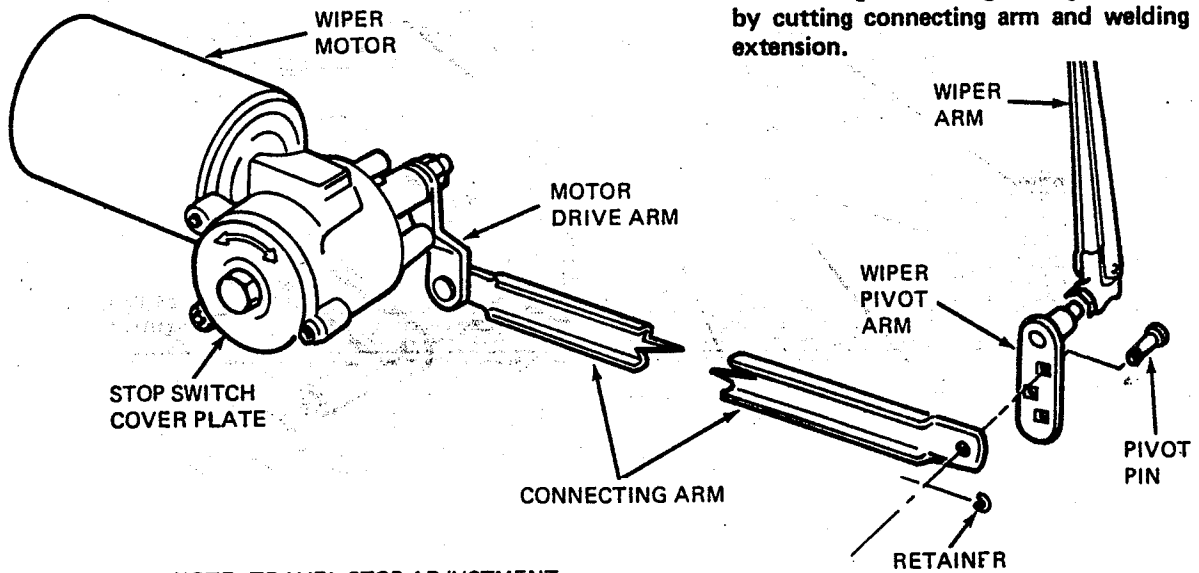


FIGURE 9-2 Windshield wiper blade and pivot arm



NOTE: Wiper motor drive arm and wiper pivot arm must be parallel. Adjustment can be made by shortening or lengthening the connecting arm. Shortening can be achieved by cutting out section on connecting arm and welding the two sections together. Lengthening can be achieved by cutting connecting arm and welding in an extension.



NOTE: TRAVEL STOP ADJUSTMENT
 LOOSEN THREE SCREWS.
 ADVANCE—COUNTER CLOCKWISE.
 RETARD—CLOCKWISE.
 TIGHTEN THREE SCREWS

FIGURE 9-3 Windshield wiper motor replacement

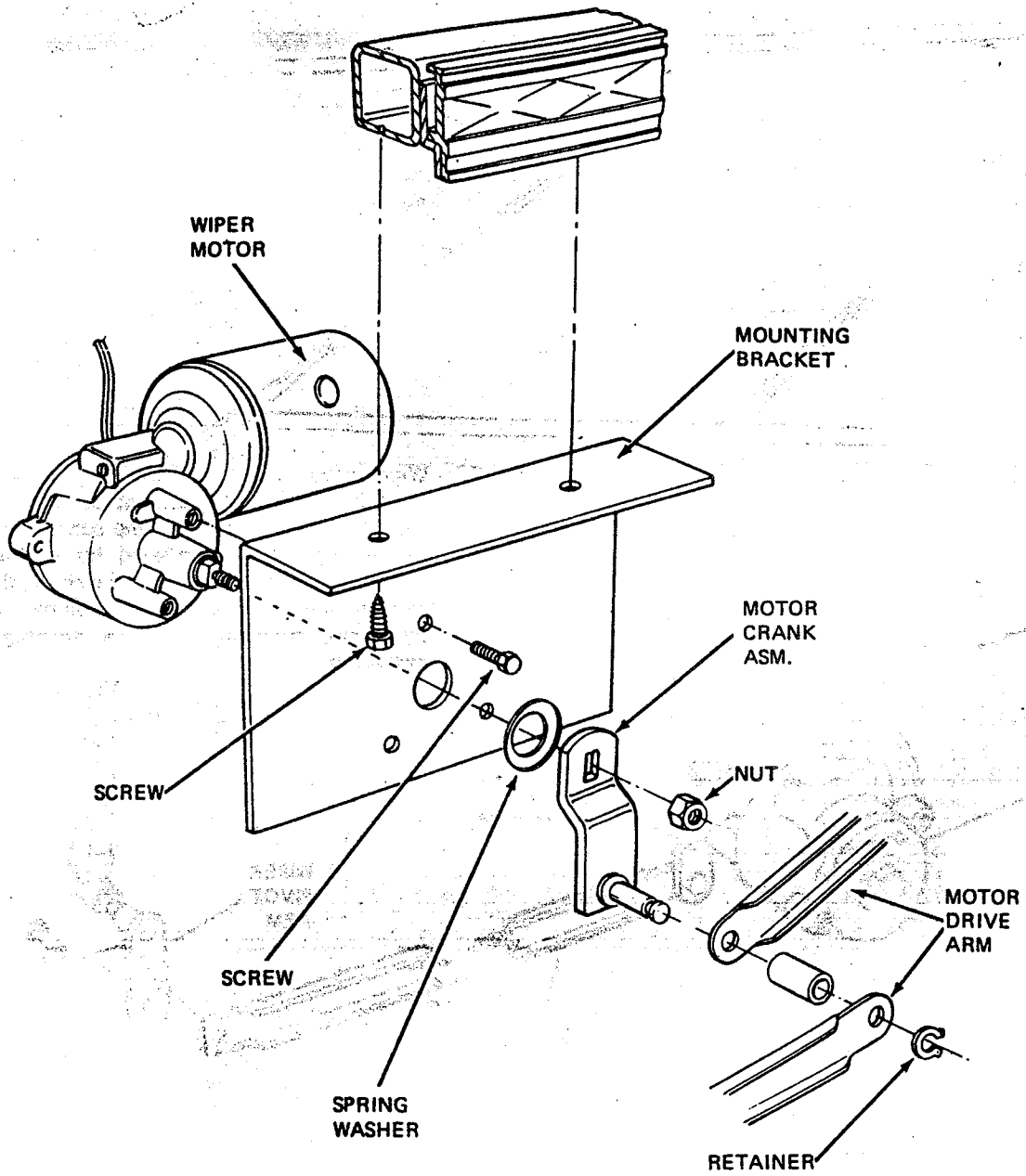


FIGURE 9-4 Wiper motor replacement (external)

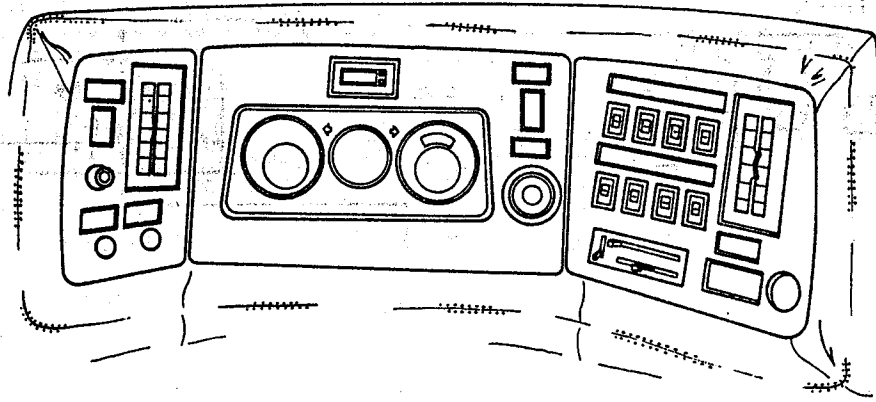
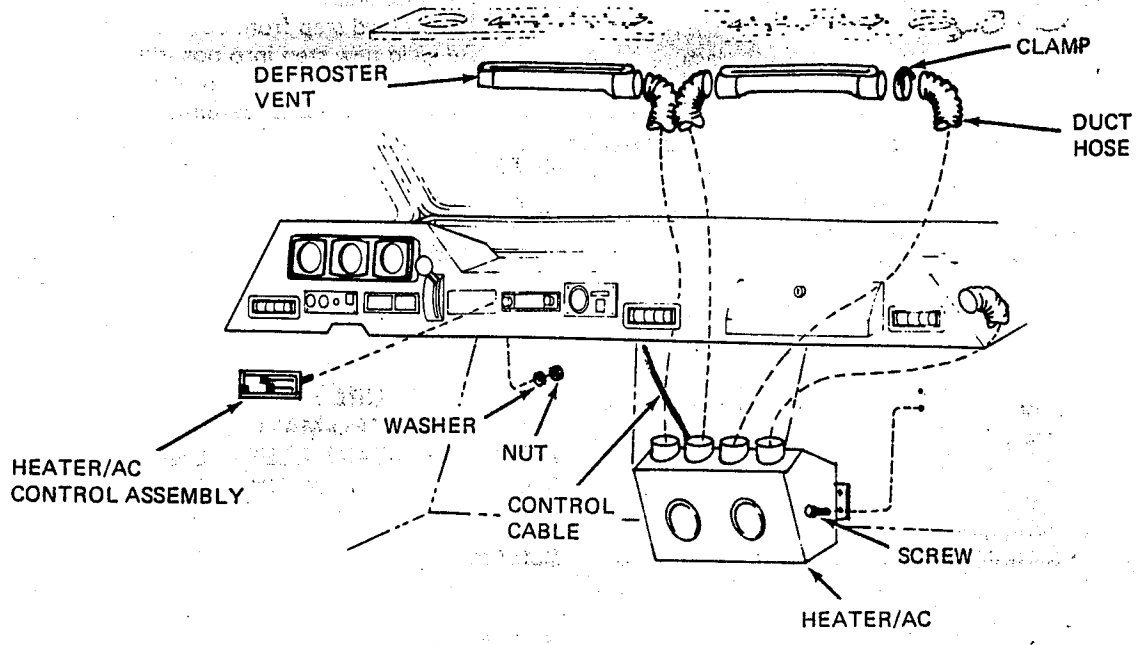


FIGURE 9-5 Typical heater

DEFROSTER HOSE REPLACEMENT

Refer to Figure 9-7.

Remove dash top or work from underneath dash.

1. Remove vent. Refer to vent removal in this section.
2. Loosen hose clamps and remove hose at heater.
3. Remove hose clamps.
4. Cut new hose to correct length and install.
5. Replace clamp and tighten in place.
6. Reinstall vent.

ENTRANCE DOOR STEP (ELECTRIC)

Refer to Figure 9-9.

WARNING: Before replacing electric entrance door step disconnect electric leads from battery to step motor.

Removal and Replacement

1. After battery leads are disconnected, remove

leads to electric motor. Motor is integral with the door step.

2. Cut welded step from body supports.
3. Re-weld new step into position.
4. Reconnect electric motor leads.
5. Reconnect leads to battery.

NOTE: For original installation refer to manufacturer's instructions.

NOTE: Most step malfunctions are caused by dirt and corrosion. Lubricate frequently with penetrating oil.

TEST PROCEDURE FOR MALFUNCTIONING KWIKEE ELECTRO-MATIC STEP WITH SOLID STATE ELECTRONIC CONTROL UNIT NO. 6020-050.

Refer to Figure 9-9.

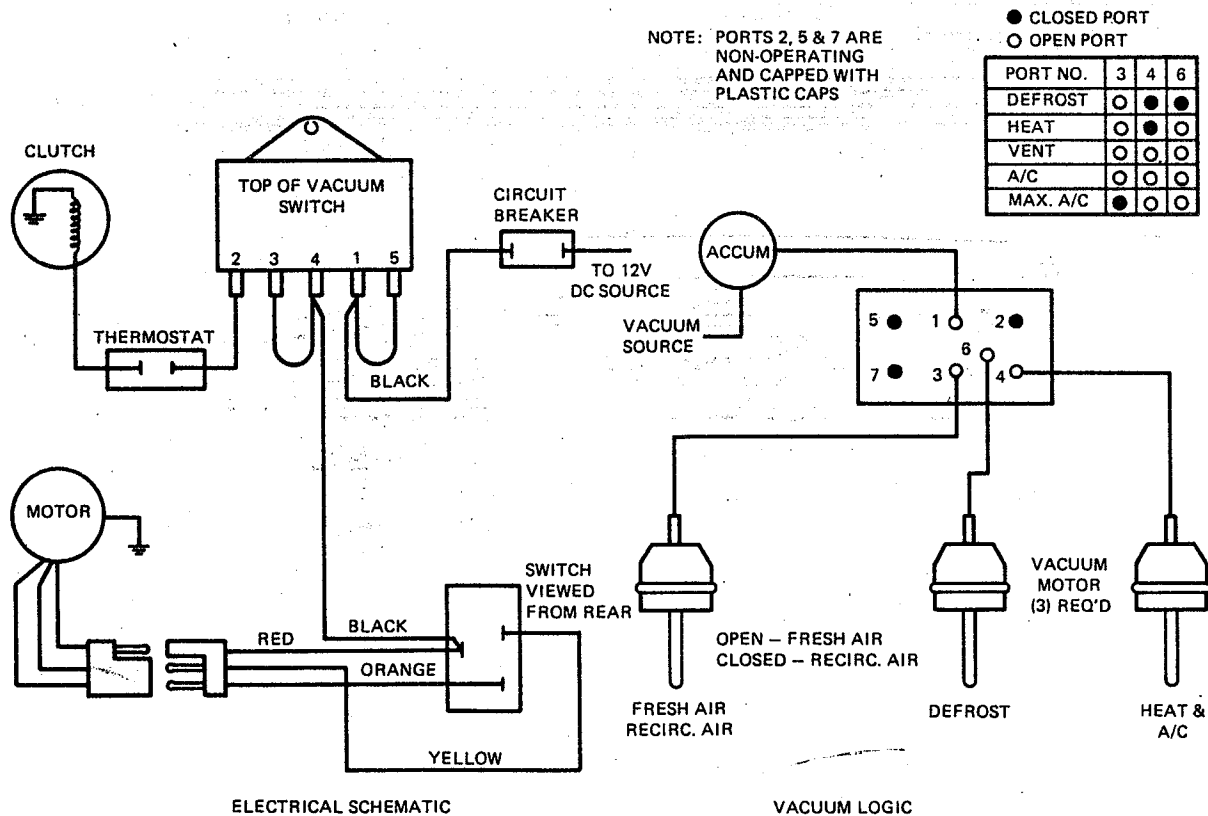


FIGURE 9-6 Typical Mark IV heater and air conditioner

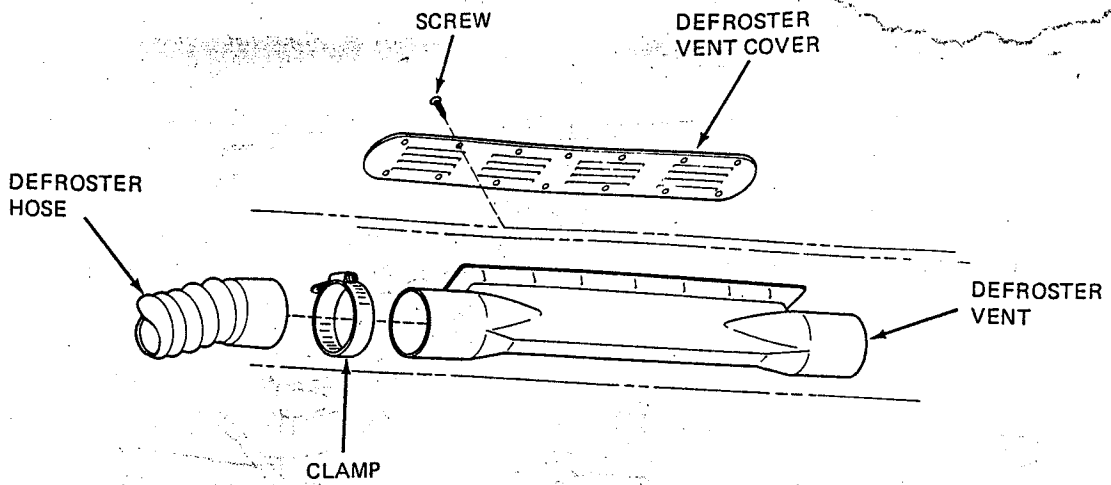


FIGURE 9-7 Defroster vent replacement

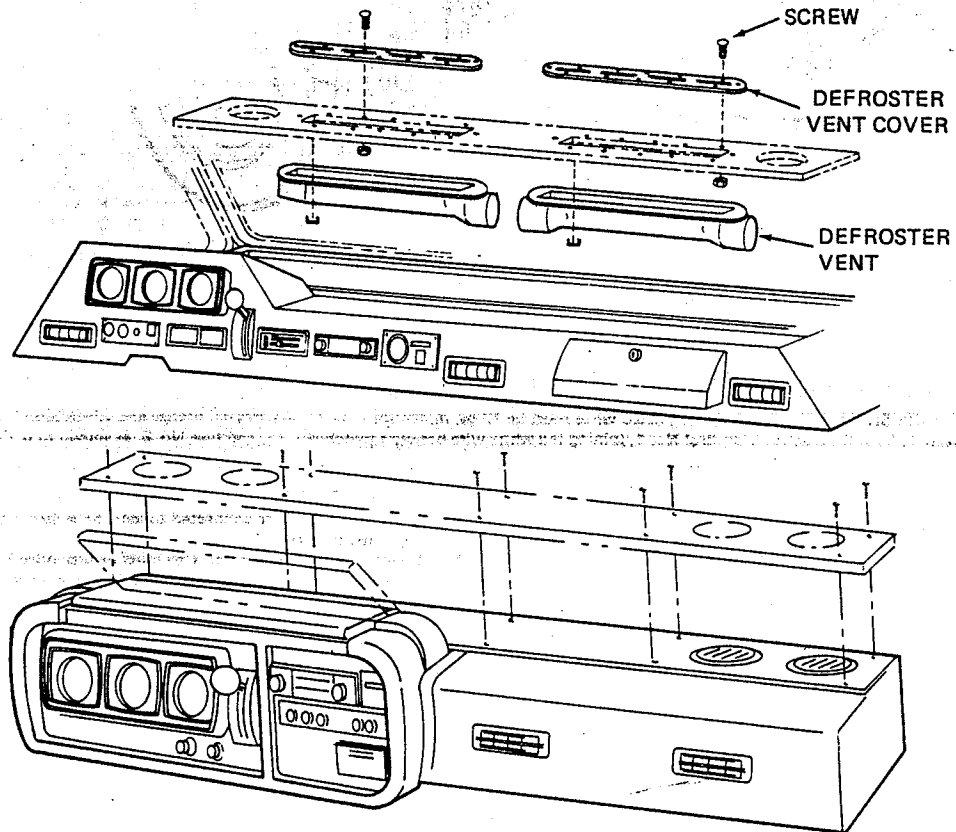
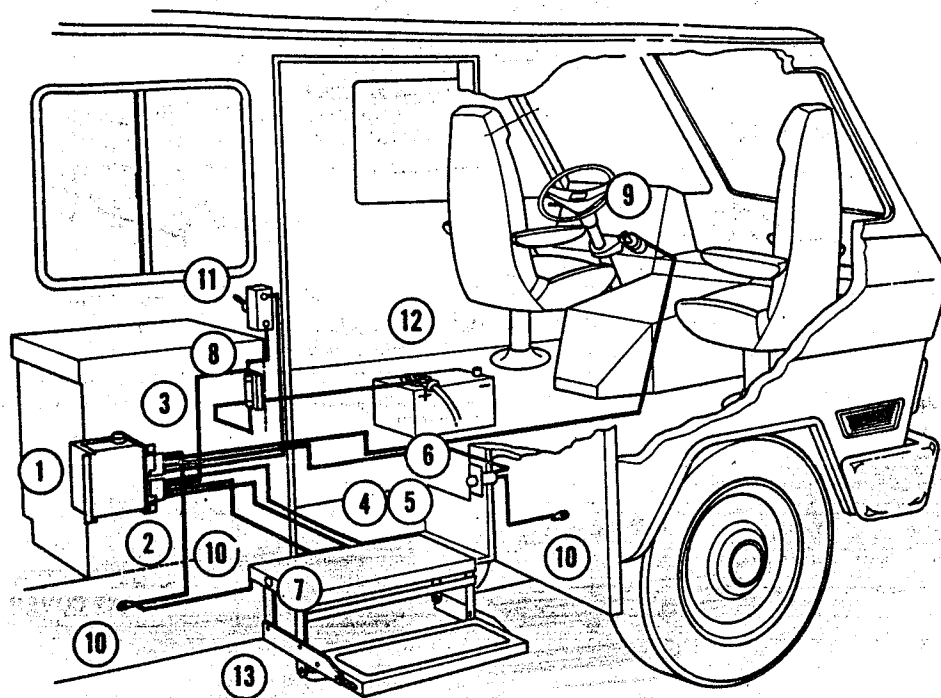


FIGURE 9-8 Defroster access panels



IMPORTANT WIRE SIZE NOTE: The following listed wires must be 12 ga. minimum — all white wires, all orange and white/black motor wires and the red wire leading from the electronic control No. 1, joining the white wire between switch No. 11, and fuse No. 8, as shown in wiring layouts.

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Electronic remote control unit No. 6020-050 2. Plug No. 6020-028 (orange, black, red, white/black) 3. Plug No. 6020-007 (white, brown, yellow, green) 4. Motor plug No. 6020-030 5. Motor No. 6020-001 or assembly No. 2000-049 6. Automatic door switch No. 6020-015 7. Understep courtesy light No. 6020-011 8. 20 amp. fuse(s) or circuit breakers (not supplied by Kwikiee Ent. Inc.) | <ol style="list-style-type: none"> 9. Ignition switch—wire connected to ignition switch must be hot only when switch is on. 10. Direct chassis ground note: step must be grounded by a No. 12 wire minimum. If step is not attached directly to chassis — A GOOD GROUND MUST! 11. Kill switch No. 6020-010 12. White wire(s) 12 ga., must be connected directly to the battery terminal ONLY, by use of screw or clamp. 13. Lectro-Matic Step No. 2950 |
|---|---|

FIGURE 9-9 Entrance door step (electric)

- NOTE:**
1. No other devices (heater, fan, burglar alarms, etc.) can be incorporated in the same circuit with electronic control unit or step. This may cause the step or control unit to malfunction.
 2. If control unit is mounted outside of coach the warranty is void.

Locate control unit No. 6020-050 inside coach. Then follow sequence as listed below.

1. Unplug both (4-wire) plugs from control unit (see Figure 9-9), then turn kill switch on for the remainder of test sequence.
2. First check power source with volt meter, white wire to green ground wire. Reading should be about 12 VDC. This must be operative before further checks are made. (See Figure 9-9.)
3. To check door switch. Check white wire to brown wire with volt meter. Reading to be about 12 VDC with door open, and zero volts with door closed. (See Figure 9-9.)
4. To check ignition wire circuit. Check yellow wire to green wire with a volt meter, this should read about 12 VDC only when ignition switch is on, and zero volts when ignition switch is off. (See Figure 9-9.)
5. To check motor. (a) be sure motor case has a good ground connection to coach chassis. Then

as follows, (b) jump white wire to white/black wire; step should go down; (c) jump white wire to orange wire, step should go up. (See Figure 9-9.)

6. Red wire should read about 12 VDC at all times. Check with volt meter from red wire to green wire. (See Figure 9-9.)
7. To check understep light. Jump white to black. Light should go on. (See Figure 9-9.)
8. If all the above check out O.K. and step does not work when control unit is plugged in, control unit is most likely defective.

RADIO, STEREO, 8-TRACK TAPE PLAYER

Refer to Figure 9-10.

Removal

1. Either remove screws holding dash board top and remove top, or raise hinged dash board top.
2. Remove antenna lead-in by unplugging from back of radio.
3. Remove all electrical connections to radio.
4. Remove control knobs by pulling off from front of radio.
5. Remove hex nuts and washers.
6. Remove bezel.
7. Remove radio from back-side of dash board.
8. Remove washers and nuts.

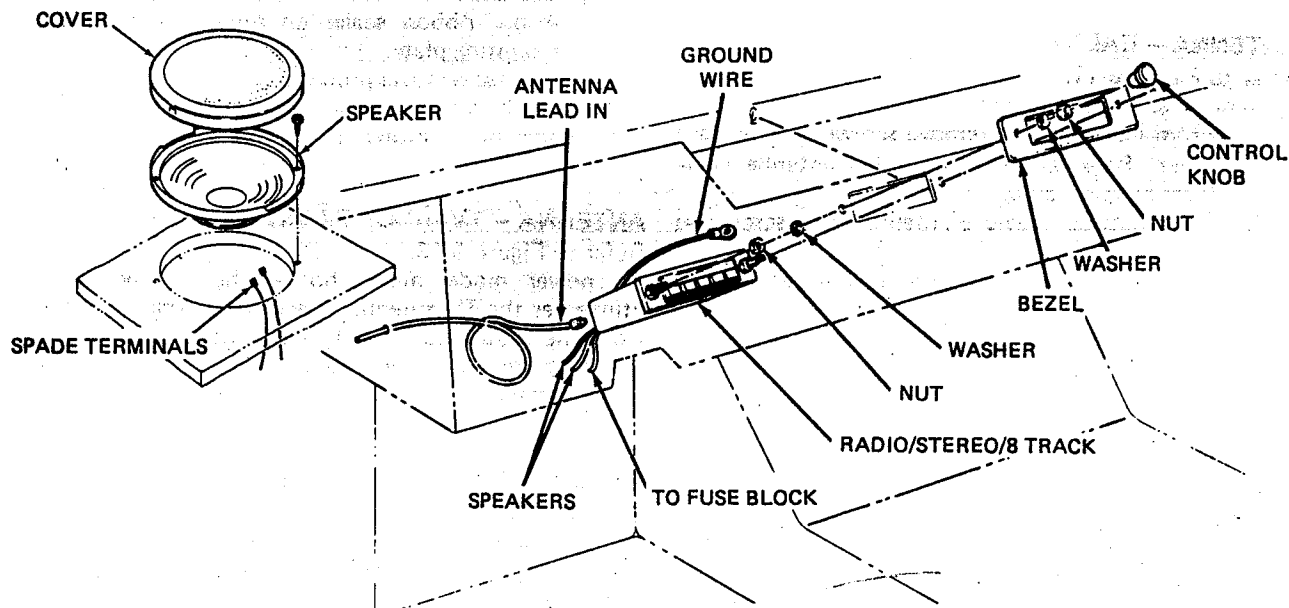


FIGURE 9-10 Radio, stereo, 8-track player and stereo speaker

Replacement

1. Assemble washers and nuts.
2. Install radio in dash board.
3. Install bezel. Secure with washers and hex nuts.
4. Install control knobs by pushing on.
5. Install antenna lead-in by plugging into back of radio.
6. Connect electrical connections to radio.
7. Check for proper operation.
8. Reinstall dashboard top.

STEREO SPEAKER

Refer to Figure 9-10.

Removal

1. Disconnect spade terminals from speaker. Mark for proper replacement.
2. Remove speaker cover. Cover may be removed by prying up and unsnapping from speaker.
3. Remove screws.
4. Remove speaker.

Replacement

1. Place speaker in panel. Secure with screw.
2. Place speaker cover over speaker and snap into place.
3. Connect spade terminals to speaker.
4. Check for proper operation.

ANTENNA - RADIO

Refer to Figure 9-11.

Removal and Replacement

1. From inside vehicle remove screws holding dash cover. Raise cover and unplug antenna cable from back of radio.
2. From outside - remove antenna brace screw and antenna attaching screw.
3. Pull out antenna and disconnect antenna lead.
4. Reverse procedure for installation.

ANTENNA - TV

Refer to Figure 9-12.

Removal

1. Loosen set screw and remove crank knob.
2. Remove screws and remove inside ceiling plate.
3. From topside of vehicle, remove screws and antenna mounting plate.
4. Remove lead-in wires from antenna by loosening wing nuts.
5. Remove antenna assembly.

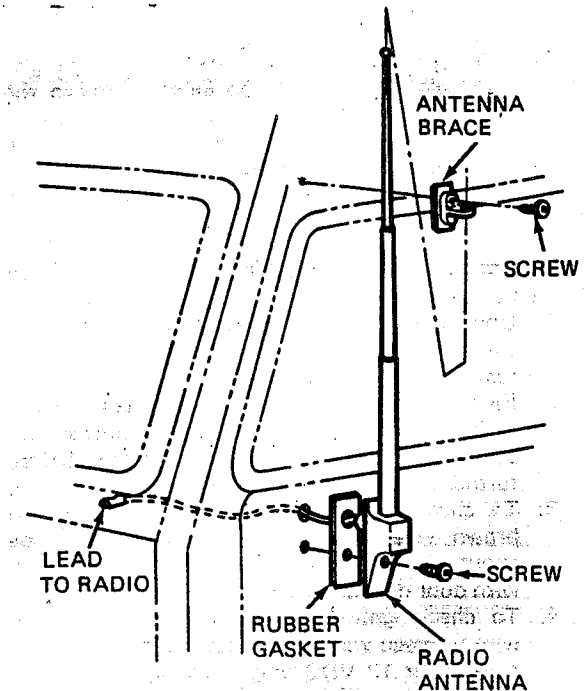


FIGURE 9-11 Radio antenna

Replacement

1. Apply ribbon sealer on underside of antenna mounting plate.
2. Reverse removal procedure.
3. Apply roof sealer over tops of screw and around edge of mounting plate.

ANTENNA - TV (ROOF RACK)

Refer to Figure 9-13.

On newer model motor homes the luggage rack is utilized as the TV antenna. The luggage rack is insulated from the motor home body with rubber cushions and rubber grommets. The lead-in wires from the TV set are connected to terminals on the luggage rack.

LUGGAGE RACK AND LADDER

Refer to Figure 9-13.

The luggage rack is assembled directly to the roof studs with screws and appropriate silicone water proofing sealant, rubber grommets or rubber pads.

Removal

1. Remove screws holding luggage rack to motor home roof.

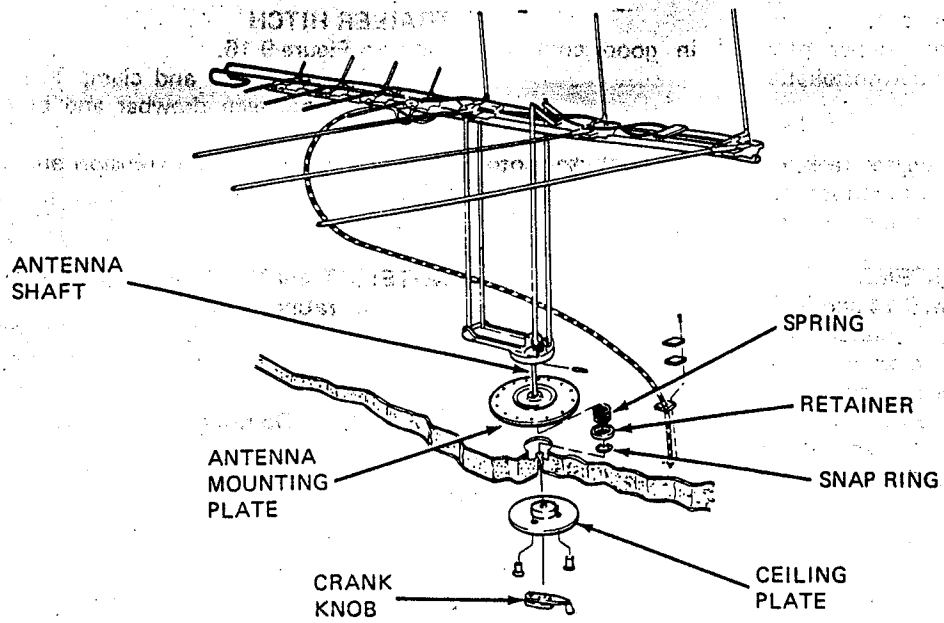


FIGURE 9-12 TV antenna

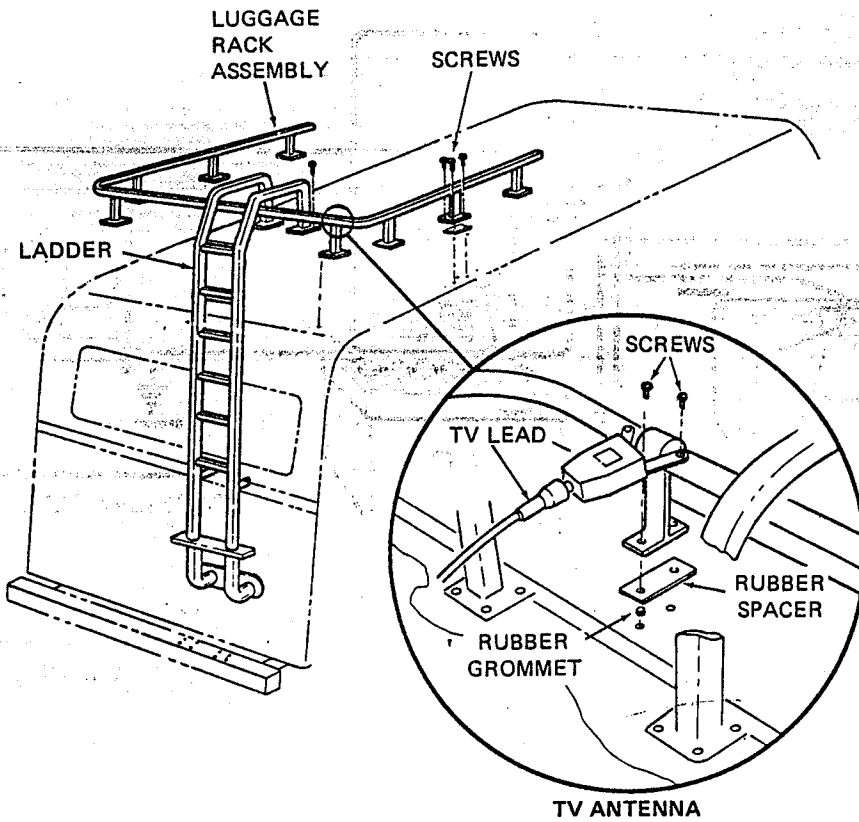


FIGURE 9-13 Roof rack, ladder assy. and T.V. antenna assy.

2. Remove rack.
3. Examine rubber pads. If in good condition save for new installation.

Replacement

1. Install luggage rack, over rubber pads, to motor home roof with screws.
2. Seal entire area with silicone sealant.

MONITOR SYSTEMS

Refer to Figures 9-14 and 9-15.

Removal and Replacement

1. Remove 4 screws in monitor panel.
2. Remove all leads.
3. Install new panel.

TRAILER HITCH

Refer to Figure 9-16.

1. Position hitch and clamp in place. Allow 1/8" gap between drawbar and bumper for bumper cover.
2. Weld to frame extension and bumper or cross member.
3. Remove clamp.

NOTE: Trans-Van trailer hitches have maximum load ratings as follows:

Class 1	100 lbs.
Class 2	300 lbs.

WARNING: Do not exceed maximum load ratings.

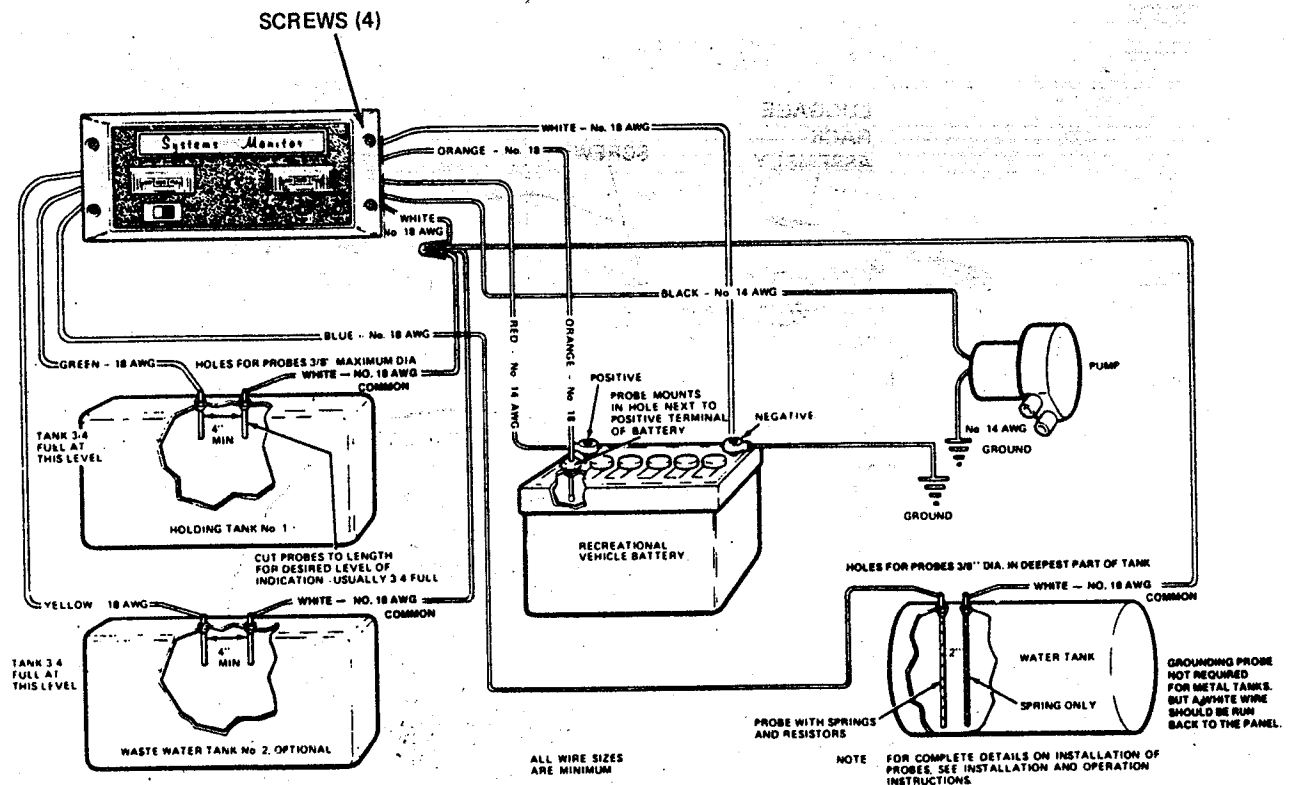


FIGURE 9-14 Monitor system

TO MONITOR

FIG. 1

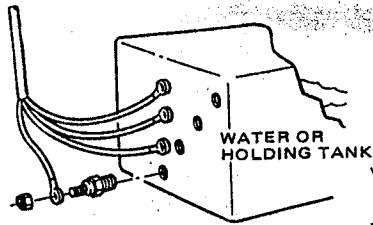
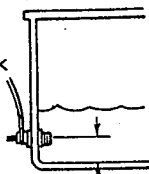


FIG. 2



NOTE 2

The bottom probe (the ground) should be mounted as near the bottom of tank as possible — leave room for a good seal on the probe itself.

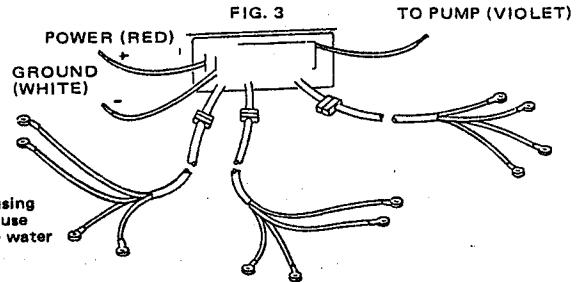
NOTE 1

Drill 3/8" diameter holes in the side of the tank in a diagonal direction and evenly spaced as shown in the illustration. (See legend for wiring hook-up)

LEGEND

RED	POSITIVE
WHITE	NEGATIVE
YELLOW	FRESH WATER HIGH
VIOLET	FRESH WATER MED.
BLUE	FRESH WATER LOW
WHITE	FRESH WATER GRD
PINK	GREY WATER HIGH
GREY	GREY WATER MED.
BLACK	GREY WATER LOW
WHITE	GREY WATER GRD
GREEN	HOLDING TANK HIGH
RED	HOLDING TANK MED.
BROWN	HOLDING TANK LOW
WHITE	HOLDING TANK GRD
VIOLET	PUMP

FIG. 3



NOTE 3

When splicing wires directly to unit (not using wiring harnesses), clip off connectors and use the legend for identifying hook-ups to the water or holding tanks.

FIGURE 9-15 Monitor system (probe installation)

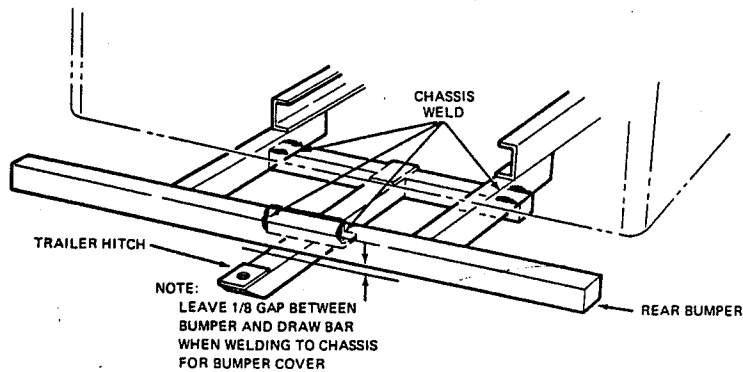
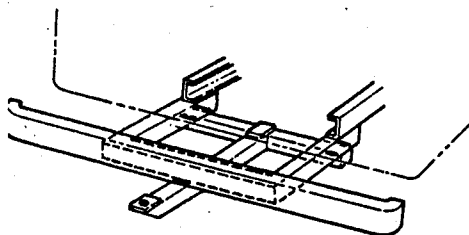


FIGURE 9-16 Rear bumper, trailer hitch

