

**1976  
AVION  
TRAVEL TRAILER**

**Operation and Service Manual**

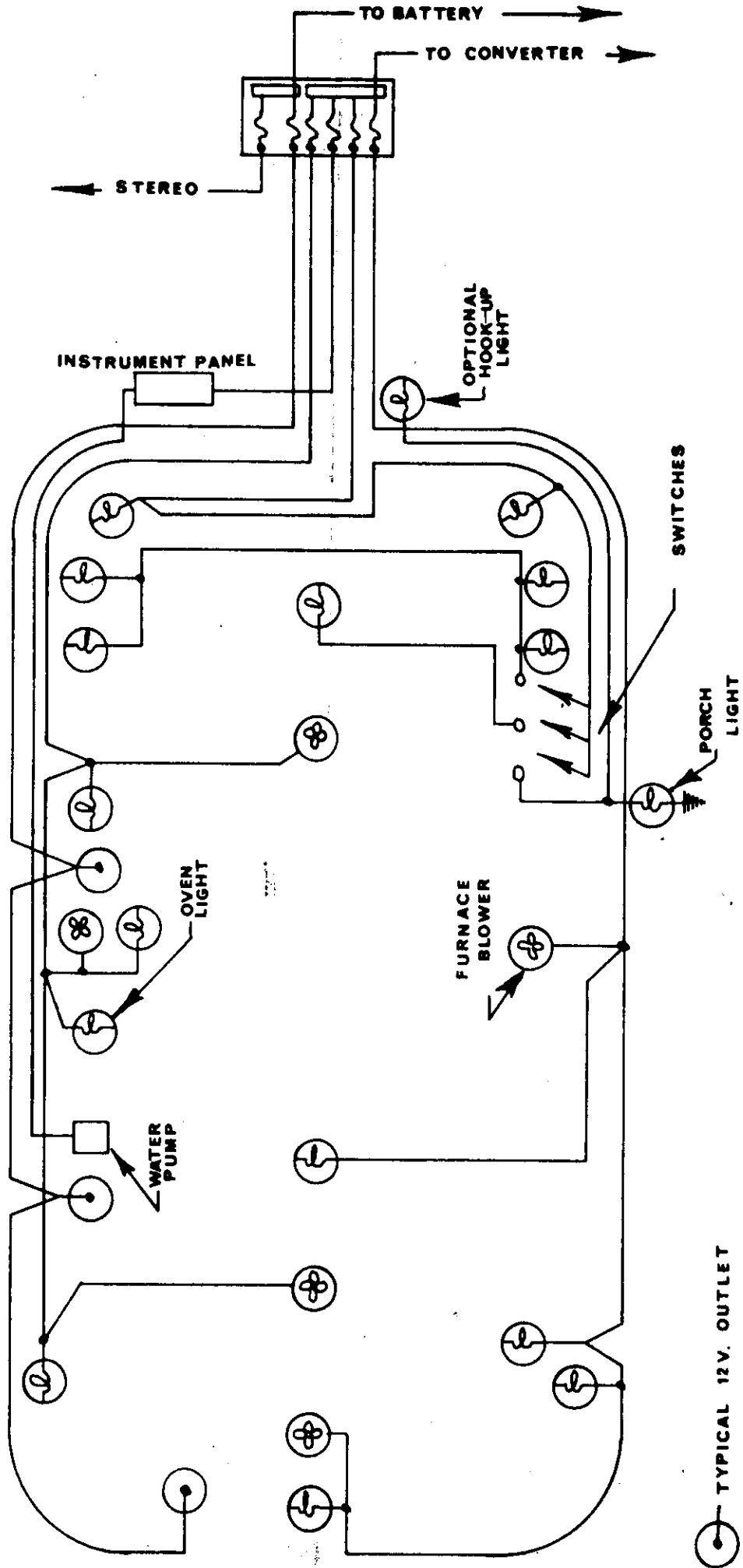
**Keep this book with your Avion at all times**

**AVION COACH CORPORATION**  
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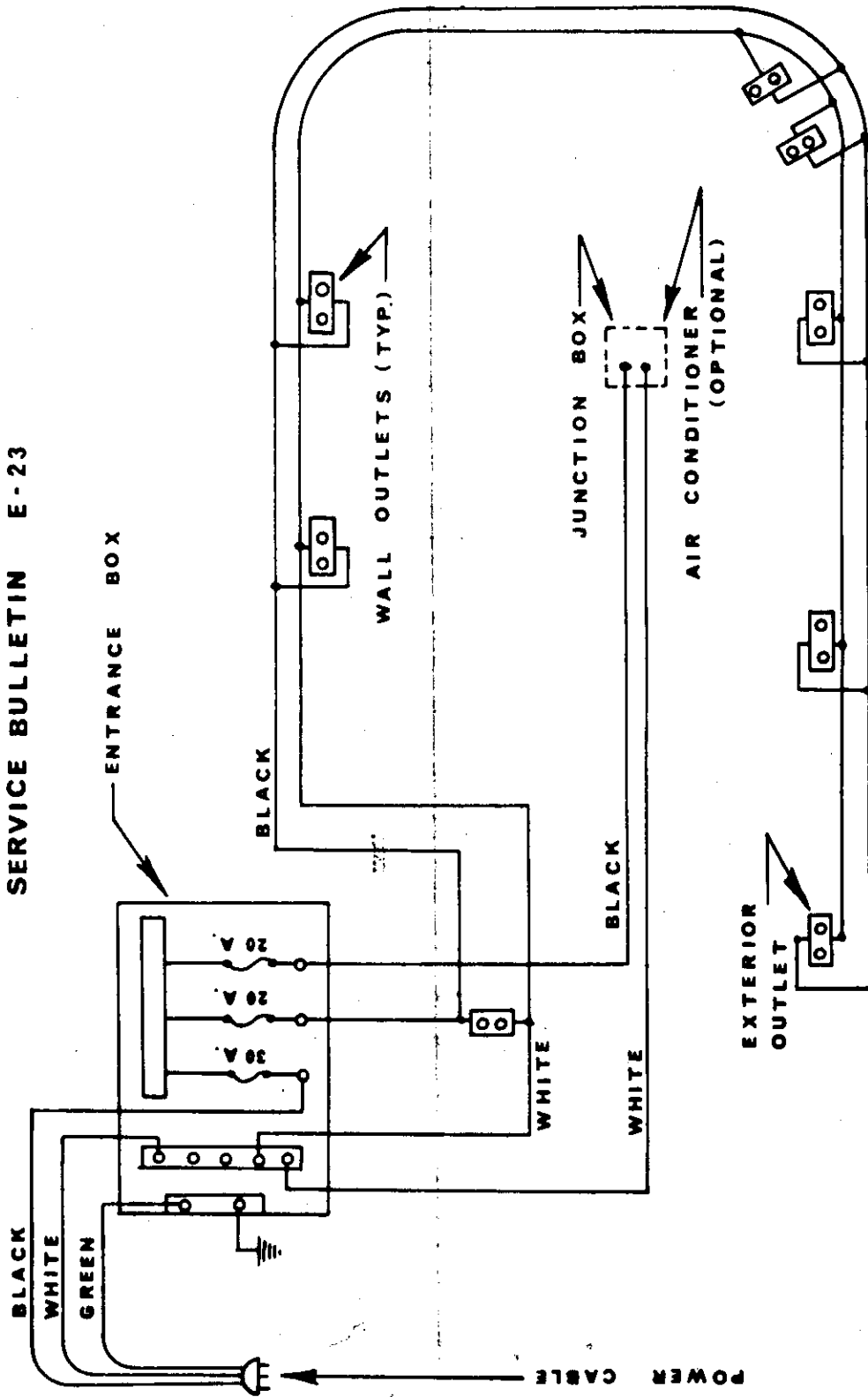
# 1974 AVION TRAVEL COACH

12 VOLT INTERIOR WIRING DIAGRAM  
SERVICE BULLETIN E-23



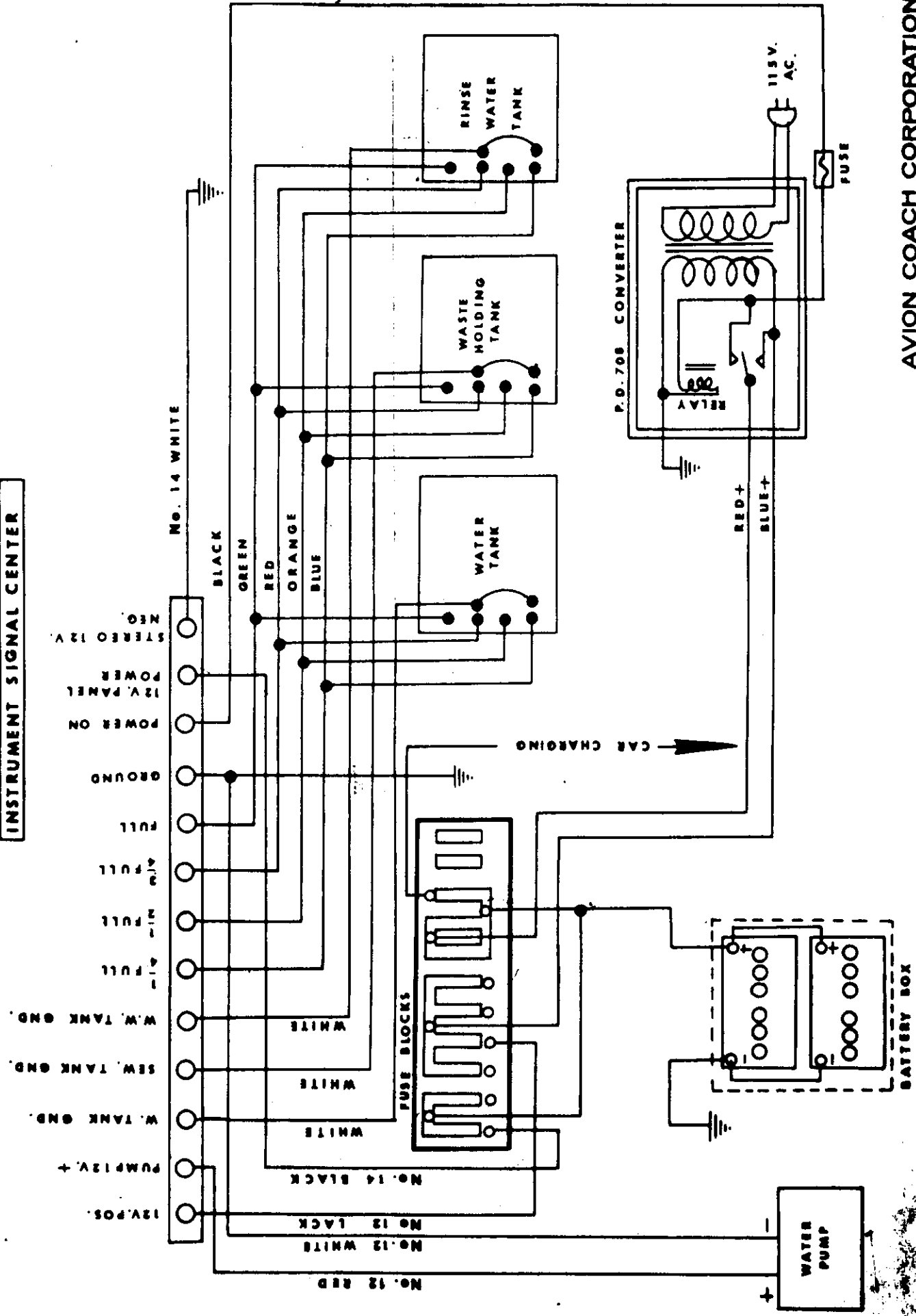
- TYPICAL 12V. OUTLET
- ⊕ TYPICAL LIGHT
- ⊕ TYPICAL FAN

**1974 AVION TRAVEL COACH**  
**115 VOLT INTERIOR WIRING DIAGRAM**  
**SERVICE BULLETIN E-23**



# 1974 AVION TRAVEL COACH

## INSTRUMENT SIGNAL CENTER



## Electrical Systems (cont'd)

senses the state of the battery charge and will automatically charge and shut off as required. The converter is protected by a built-in circuit breaker. If a short, or overload is occurring, a 7 to 10 second clicking sound will be heard as the automatic reset breaker clicks off and on. The converter may be disconnected from the 120-volt source by removing the cord from the wall outlet adjacent to the unit. The converter is located on the trailer floor at the right front corner.

Two fuse blocks are provided to protect the 12 volt system. They are located inside the coach, underneath the front shelf. Circuits and fuse sizes are shown below.

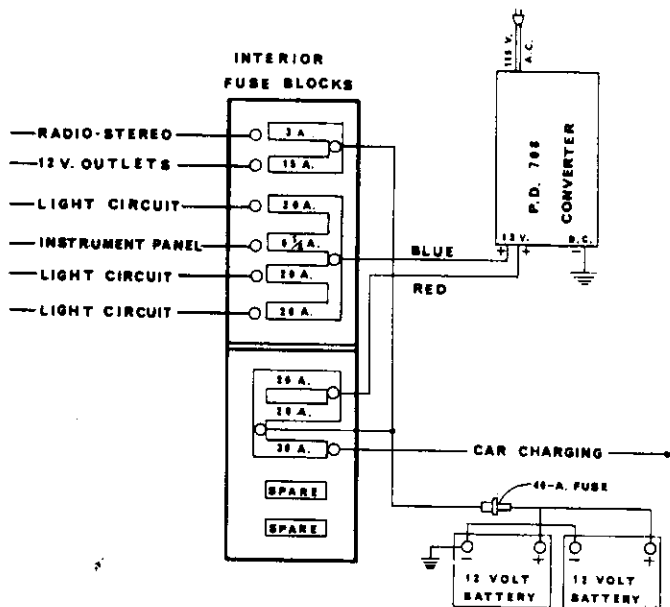
The battery-to-converter circuit is protected by two 20 A. fuses in parallel. Both fuses must be in place at all times so that the load is divided between them. Two extra clips are provided for spare fuse storage.

### 12-VOLT INTERIOR LIGHTING SYSTEM

A 12 volt utility, or cigarette lighter, outlet is provided in the bathroom. If the trailer is equipped with a T.V. antenna an extra 12 volt outlet is provided at each antenna jack.

Use #1141 12-volt bulbs for ceiling and cornice light replacement. Clear bulbs are available at auto service stations. Frosted bulbs may be obtained from Avion Dealers, or Avion Service Corporation.

Replacement bulbs for the two 12v. recessed lights under the front end cabinet are W-1383. These are available from Avion Service Corporation.



LaGrande models are provided with a dimmer switch for the living room ceiling light. Push in on the switch knob to turn the light on or off. Turn the knob to adjust brightness when the trailer is connected to 115 volt service. The dimmer does not work when the trailer is operating from the self-contained batteries.

Two 18" ceiling vents are provided for maximum air circulation in the living and bedroom areas. Both are equipped with power fans. A 6" exhaust fan is installed in the ceiling of the bathroom. It is opened by pushing the handle upward and closed by pulling it down. Do not operate fan motors unless vents are fully opened.

The bathroom mirror is illuminated by two fixtures, and hinged at the top to allow adjustment.

(C) **Interior 120-volt** — The numerous wall outlets in your coach are located to provide convenient electricity for the various 110-120 volt appliances such as an iron, toaster, percolator, etc. These outlets can be used whenever the 25 ft. Power Cord is plugged into a 120-volt AC source. The power cord is stored in a compartment on the left side of the trailer. When connecting it to an outlet, arrange the cord so that the weight of it does not cause a poor connection. The cord storage door has a slot in it so that the storage door may be kept closed while the cord is in use. An exterior outlet is located in the drop door compartment located near the rear of the trailer on the right side.

The 120-volt system is protected by circuit breakers. These are located in a box at the back of the bathroom closet. The main breaker is 30 amps. Turning it off will disconnect all 120-volt wiring in the trailer. Separate breakers are provided for: (1) Appliance Circuit; (2) Air Conditioning Circuit.

### 5. WATER SYSTEM

Your Avion is equipped to provide water service from a city water system or from the self-contained water tank.

Connection to a city water supply is made through a water hose connected from the city supply to the water fitting on the trailer. This fitting is located in the storage compartment on the left side of the coach. The hose may be stored without disconnecting it. A pressure reducing valve protects against excessive city pressures.

The molded plastic fresh water tank is located below the floor at the rear axle. A hot air duct connects the tank compartment with the forced air furnace for cold weather operation.

A cut-out in the trailer floor provides access to the tank fittings and drain valve. In twin-bed models the opening is located under the left or off-door bed. On double bed models the opening is under the double bed.

## 4. ELECTRICAL SYSTEMS

Each Avion coach is provided with three separate electrical circuits: (A) 12-volt exterior light and brakes; (B) 12-volt interior lighting system; (C) 120-volt interior system.

(A) **Exterior Lights** – The cluster lights and clearance lights are I.C.C. regulation approved. Check these lights periodically to be sure that the bulbs are burning. Replacement bulbs are G.E. type 1895 or equivalent.

The tail lights and turn lights are in single lamps at the rear of the coach. They use double filament bulbs, G.E. type 1157 or equivalent.

Power for the lights and brakes is supplied from the automobile battery, through the 7-wire connector. The coach wires appear in a heavy cable at the trailer hitch.

### WIRING CODE FOR AVION COACHES

#1 – White	connects to:	Brake – Ground
#2 – Blue		Brake – Hot
#3 – Green		Clearance Lights
#4 – Black		Battery Charging by Tow Vehicle
#5 – Red		Left Turn Light
#6 – Yellow (Brown)		Right Turn Light
#7 – Black-Center Post		Backup Lights

The black wire from the No. 4 terminal is connected to the positive terminal of the two self-contained trailer batteries. This wiring is correct for all tow vehicles with standard “negative ground” systems.

**Brakes** – Your coach is equipped with 12-volt electric brakes. The 25 ft. and 28 ft. tandem axle models are equipped with 10” brakes. The 31 ft. tandem axle model is equipped with 12” brakes.

These brakes have been adjusted at the factory for smooth, positive braking. If brake adjustment becomes necessary it should be done by your dealer’s service department or by a competent automotive mechanic. The method of adjustment is the same as most automotive brakes.

## INTERIOR LIGHTING

(B) **Interior Lights** – The lights, fans and water pump are operated on 12-volts direct current. This energy may be provided by the standard equipment batteries which are located at the front of the trailer, or by the converter.

Two 12-volt batteries are provided to give a greater amount of reserve energy for self-contained operation. These batteries are connected in parallel. Should one battery fail to function, the other battery will continue to provide power, to the limit of its capacity. If, for any reason, one battery is removed from the circuit, be sure that it is correctly re-connected, as illustrated on page 10.

The batteries should be checked periodically to be sure that they are at the proper charge level. Use a hydrometer to test the individual battery cells. A fully charged battery will have a specific gravity reading of 1.260 to 1.280 at 80 degrees fahrenheit.

When checking a battery, be sure that the level of the electrolyte (water) is adequate to cover the tops of the separators. Permanent damage may occur from charging and/or from traveling with plates not fully covered. When the electrolyte is low, add filtered or distilled water to obtain the proper level. Keep the battery terminals clean by wiping with a cloth wetted in baking soda or ammonia and water. Inspect wires and battery terminals for corrosion or poor connections.

To prevent damage to the batteries, never allow them to become fully discharged. The specific gravity should not be allowed to drop below 1.150. Be sure that the 120-volt power cord is fully plugged into the outlet whenever AC service is available. Use of 120-volt service will not only save battery energy, but it will also provide automatic charging to keep your batteries in top condition.

All trailer models are equipped with two General Battery TITAN 85 A.H. Recreational Vehicle Batteries. These batteries carry a 24 month service adjustment policy and a 90 day warranty against defects in workmanship or material.

For information as to the nearest Titan Battery dealer or distributor, see the Yellow Pages or call collect GENERAL BATTERY CORP., AC 215-929-0771.

The Titan Battery Stock No. is RVS-24-6. A copy of the battery Owner’s Guide is included in each warranty package.

The converter, or charger, provides 12-volt direct current whenever the power cord is plugged into a standard 110-120-volt 60 cycle AC source. It also provides the energy to charge the batteries. As a battery charger, the unit

# SECTION VI

## TROUBLE SHOOTING

### AIR CONDITIONER

**Trouble: Will not run.**

**Cause and Remedy:**

- a. Power Cord not making good connection at parking area service receptacle. Make sure that plug is fully inserted and the weight of the cord does not pull it from the receptacle.
- b. Circuit breaker is in "Off" position. Reset.

**Trouble: Does not cool properly.**

**Cause and Remedy:**

- a. Dirty filter. Clean and replace.
- b. Low voltage from source and compressor will not run. Move to spot where voltage is proper.

### BATTERY

**Trouble: Batteries do not charge while coach is being towed.**

**Cause and Remedy:**

- a. Blown fuse. Replace with correct size.
- b. Poor connection at hitch. Clean 7-wire connector contacts and reconnect.
- c. Charge wire not "Hot". Rewire car so charge wire is "Hot".

**Trouble: Batteries do not charge when 25 ft. Power Cord is connected to 120-volt source.**

**Cause and Remedy:**

- a. Power cord is not making good contact at receptacle. Check connection.
- b. Blown fuse. Replace with correct size.
- c. Low line voltage at 120-volt source. Use outlet nearer to power source.
- d. Circuit Breaker is in "Off" position. Check and reset.

**Trouble: Both batteries dead, power cord not plugged in.**

**Cause and Remedy:**

- a. Check for light or fan left turned on while trailer was unattended for an extended period. Turn off the fixture or appliance which was accidentally left on. If unable to find the cause of discharge, remove the battery fuses until a service man can correct the trouble.

Recharge dead batteries as soon as possible. Allowing them to remain in a state of discharge for any length of time will cause permanent damage.

When plugging in the trailer power cord to charge dead batteries, be sure to do so at a time when the batteries can be observed during the charging cycle. Inspect the battery cases periodically for signs of heating or boiling of the electrolyte. **IF HEATING OCCURS, DISCONTINUE CHARGING AT ONCE TO AVOID CAUSING PERMANENT DAMAGE.**

Contact your local auto service station, or your nearest Avion Dealer for assistance in recharging batteries that have a tendency to heat up. This condition may be a sign of temporary battery damage.

**Trouble: One battery dead.**

**Cause and Remedy:**

- a. Poor battery connections. Clean terminals and tighten connections.
- b. Defective battery. Replace. See warranty procedure on page 10.

### BRAKES

**Trouble: No brakes.**

**Cause and Remedy:**

- a. Broken wire in brake circuit. Use continuity tester or voltmeter to trace brake wires and splice.
- b. Poor connection between car and coach. Clean terminals and check for broken wire at the 7-wire connector.

**Trouble: Unequal brakes.**

**Cause and Remedy:**

- a. Broken wire at brake drum. Locate and splice.
- b. Improper shoe adjustment. See a service shop.

**Trouble: Poor brakes, brakes inadequate.**

**Cause and Remedy:**

- a. Inadequate voltage to brake magnets. Check brake control for good connection to battery.
- b. Brake shoes need adjusting. See service shop.

**Trouble: Brakes lock and will not release.**

**Cause and Remedy:**

- a. Short in break-away switch. Replace.
- b. Break-away switch pin has been pulled. Replace pin.
- c. Incorrect brake adjustment. Too much shoe clearance. Have brakes re-adjusted.

## Trouble Shooting (cont'd)

### CONVERTER

#### Trouble: Loss of D.C. power.

##### Cause and Remedy:

- a. Power cord may be disconnected. Check service receptacle and plug.
- b. Breaker off. Check breaker box in coach closet and reset.

#### Trouble: Circuit breaker feeding power converter circuit continues to break.

##### Cause and Remedy:

- a. Bad diode in converter. Have converter replaced or repaired.

#### Trouble: Converter does not charge batteries.

##### Cause and Remedy:

- a. Blown fuses. Disconnect wire from battery positive post. Replace fuses, then reconnect wire.

### FUSES

#### Trouble: Replaced fuses continue to blow.

##### Cause and Remedy:

- a. Loose wiring connections. Tighten all wire clamps and terminals.
- b. Poor fuse contact. Inspect fuse clips to be sure they are not bent. In the battery circuit two 20 amp fuses are used in parallel. When replacing these fuses, disconnect the wire from the positive battery terminal to prevent throwing the full load into a single fuse while making the replacement.
- c. Improper fuse size. See page 10 for recommended fuse sizes.
- d. Incorrect wiring of batteries or fuse block. Refer to wiring illustration on page 10.
- e. Short in wiring. See nearest Avion Dealer.

### REFRIGERATOR – DOMETIC

#### Trouble: Refrigerator does not freeze satisfactorily.

##### Cause and Remedy:

- a. Jet orifice clogged. Remove burner barrel, unscrew jet and blow clear or wash in alcohol. **Do not** use a pin or wire to clean orifice.
- b. Check the leveling of the refrigerator.
- c. Flame has gone out. 1) Gas in the bottle is used up – refill. 2) Feeler point of the flame failure device is not heated enough by flame – refer to figure “5” in the Dometic Instruction Booklet. 3) Clogged by-pass screw – clean or exchange it.

- d. Air circulation around cooling unit is restricted. Be sure that refrigerator is properly ventilated.
- e. The evaporator is heavily coated with frost. Defrost by setting thermostat to zero.
- f. Flue baffle not inserted into the central tube of the cooling unit.
- g. The thermostat is incorrectly used. See paragraph on thermostat in the Instruction Booklet.
- h. Gauze in burner head clogged. Clean.
- i. Burner damaged. Replace.
- j. Burner may be dislocated. Relocate.
- k. Wrong gas pressure at burner. Have pressure checked at burner and at the gas bottle. Pressure at the burner must not fall below 11” W.C. when thermostat is set on “Max”.
- l. Improper operation of the thermostat. Thermostat will have to be changed.

#### Trouble: Odor from fumes.

##### Cause and Remedy:

- a. The flame touches side of the boiler due to dislocation of the burner. Relocate. Burner dislocation may also cause smoke and discoloring of walls and ceiling.
- b. Burner damaged. Replace.
- c. The flame touches flue baffle. 1) Burner damaged. Replace. 2) Flue baffle too low. Correct the position of baffle.
- d. Flue tube is dirty. Clean flue as follows: Remove burner barrel and cover the jet. Remove flue top and baffle. Clean flue with special flue brush. Clean baffle and burner head before putting them back in place.

### TIRES

#### Trouble: Overheating or wearing unevenly.

##### Cause and Remedy:

Improperly inflated. Refer to inflation information on page 16.

#### Trouble: Flat tire.

##### Cause and Remedy:

On a tandem axle coach with the exclusive chain hooks, supplied as standard, it is possible to “chain up” the axle with the flat and drive to a tire repair station on three wheels. The flat tire may be left on or removed from the trailer while “limping in” when the axle is chained up. By utilizing the chain hooks it is also possible to remove a flat tire and replace it with a spare when no jack is available.

*continued on next page*