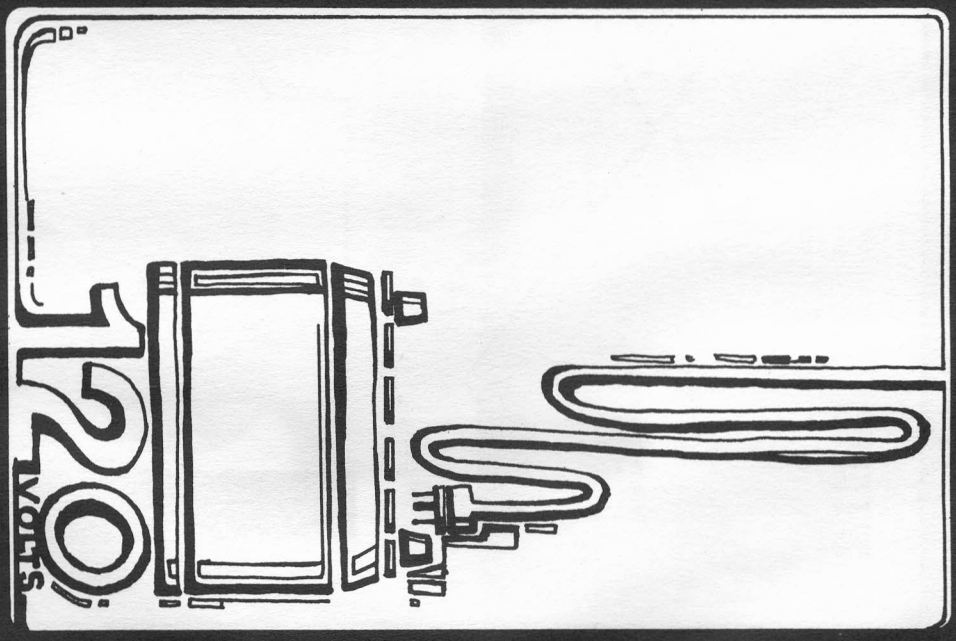


7

ELECTRICAL SYSTEM

ELECTRICAL SYSTEM.

Your Airstream is equipped with the latest development in trailer electrical systems . . . the exclusive AIRSTREAM UNIVOLT System. This system enables you to use all your lights and appliances, including the fans and water pump, whether you are operating self-contained on battery power or you are hooked up to 120-volt city power. The UNIVOLT system converts 120-volt power to 12-volt power through a special high capacity combination 12-volt DC power supply and battery charger. This combination unit contains all solid state circuitry and is protected from damage by internal automatic resetting circuit breakers.

The 12-volt light bulbs give the same light as you would expect from regular household bulbs. Additional 120-volt AC convenience outlets are provided for operation of appliances such as T.V., toaster, etc., when trailer is hooked up to 120-volt city power. Another feature of the UNIVOLT system is the CENTRAL CONTROL panel which is discussed later in this chapter.

LIGHTS.

The ceiling light fixtures are operated by 4-position switches located in the fixtures. Starting from the off position and turning clockwise, the switch turns on first one bulb, then three bulbs, then four bulbs, then off. Naturally, when operating on the battery, you wish to conserve power so you will want to use only one bulb in the ceiling fixtures whenever possible. The cone lights in the bedroom have individual 4-position switches for each light fixture, which allows you to select any one of three different light levels.

TO OPERATE SELF-CONTAINED.

The UNIVOLT system is automatically on self-contained battery power whenever the trailer is disconnected from the city power. In case you are connected to city power and wish to operate on self-contained battery power, all you need to do is disconnect the power supply cable from the city power receptacle. Whenever this cable is not being used, store it in the space provided on the hose storage compartment lid.

When the UNIVOLT system is on self-contained battery power, the only items which are inoperable are the 120-volt convenience outlets, the electric operation of the refrigerator, and the air conditioner (if you have this optional accessory).

When your towing vehicle is hooked up to your Airstream, the UNIVOLT system will automatically draw power from your vehicle battery as well as your trailer battery.

TO OPERATE WITH CITY POWER.

To operate the UNIVOLT system in your Airstream from 120-volt AC city power, plug the power supply cable into the city power receptacle. **MAKE CERTAIN THAT THE TRAILER PARK SERVICE IS 120 VOLTS, NOT 220 VOLTS.** **NOTE:** You don't need to uncoil the total power supply cord. Just open the storage compartment lid, uncoil the needed amount of power cord, pull this cord out through the access door on the bottom of the storage compartment and plug into city power. It is necessary to ground the service coming into your Airstream to prevent a possible shock to anyone touching your trailer, and as long as you are hooked into electrical service that accepts the three-prong grounded plug, you should not have a problem with polarity or grounding. In older parks and many other locations you will not be able to tie into three wire grounded

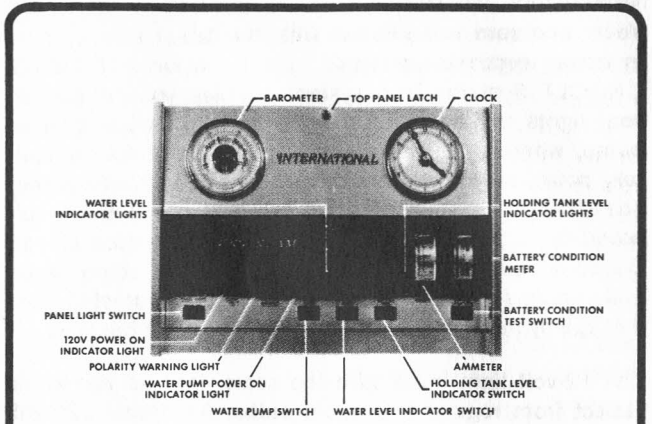
service. In this event, follow the procedure outlined later in this section.

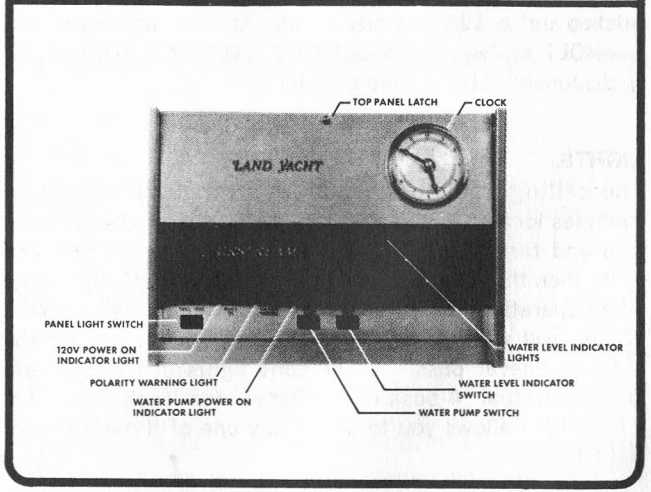
BATTERY CHARGING WHILE TOWING.
As you drive, the battery in your Airstream and towing vehicle are under constant charge by your towing vehicle's generator or alternator. The batteries cannot be overcharged as the charge rate is controlled by your vehicle voltage regulator.

BATTERY CHARGING WHEN HOOKED UP TO 120 VOLTS.
When your Airstream is hooked up to 120-volt city power, the UNIVOLT system automatically charges the trailer battery (and towing vehicle battery, if hooked up), but the speed of this charge depends on how much power is being used for lights and appliances. Normally the system will provide substantial current for lights and appliances while maintaining your battery at full charge condition.
The system incorporates a unique voltage-sensing section in the charger circuit that automatically controls the charging current. When the battery is fully charged, shut-off is complete; it is impossible to overcharge.

BATTERY CHARGING AT SERVICE STATIONS.
If your battery needs charging and 120-volt power is accesible, we recommend using the automatic built-in charger in your UNIVOLT system, but if this is not possible and you must have the battery charged at a service station, make certain they give the battery a **slow** charge, since a quick charge can drastically shorten the life of the battery. Another practice that can shorten battery life is allowing it to completely discharge too many times.

BATTERY WARRANTY.
The battery in your Airstream is warranted for 24 months.





For service or replacement, go to any service station or dealer who sells and services this brand.

CENTRAL CONTROL PANEL.

A feature of the Airstream UNIVOLT system is the CENTRAL CONTROL panel located in the front roof locker. On the front face and behind this panel are various controls, connections and readout devices which will simplify the use of the various systems in the trailer. Specific information on servicing and trouble shooting can be found in control panel service manual. Following are the various items located on the CENTRAL CONTROL panel.

PANEL LIGHT SWITCH. This switch operates a light which illuminates the switch panel.

CLOCK.

This clock is operated by a "C" cell battery which should last from 9 to 12 months. To replace battery or reset time unlatch and open top panel.

BATTERY CONDITION TESTER (standard on International models).

By pressing the button switch under the words BATTERY CONDITION, the needle will indicate whether your battery is in good, fair or bad condition. When the needle shows good condition, the battery is at 12 to 13 volts, fair condition is 11 to 12 volts, and bad condition is 10 to 11 volts. When the battery condition is bad, you should take every reasonable step to conserve power by using as few lights as possible and not operating any unnecessary appliances, so as to be sure to have battery power remaining for such necessary functions as lights and the water pump. This tester will give an accurate reading only when trailer is unhooked from 120-volt city power, because when trailer is hooked up, the battery is being charged by the UNIVOLT system and this gives a false reading.

AMMETER (standard on International models).

Normally you will use the ammeter in conjunction with the battery condition tester so as to indicate whether the charge on the trailer battery is being increased or decreased. When the battery condition is bad you will want to limit the battery drain shown by the ammeter to the lowest convenient level. If you wish to operate the car engine to supply additional power from the auto generator to the trailer battery when the battery condition is bad, you can tell from the ammeter whether or not the car is supplying sufficient current to prevent the trailer battery from being drained further.

WATER PUMP SWITCH.

The water pump switch in your Airstream is located on the CENTRAL CONTROL panel. The indicator light above the switch will be lighted when the water pump switch is on.

WATER LEVEL INDICATOR.

A matter of importance to you when you are operating self-contained is the amount of water left in your water tank. This can be determined by pressing the button under the words WATER LEVEL on the CENTRAL CONTROL panel. When this button is pressed, if the tank is at least half full, the "½" light will be on; if the tank is at least one-quarter full, but not one-half full, the "¼" will be on; and if the tank is less than one-quarter full, the % light only will show. If the % light does not light, the tank is almost empty. In rare cases, when tank has been filled with highly pure water (such as from a mountain stream), the indicator lights may not work.

HOLDING TANK LEVEL (standard on International models).
To determine the level of the holding tank, press the button under the words HOLDING TANK. The "½" light will be on, if the holding tank is at least one-half full. The full light will be on if the holding tank is over three-quarters full.

POLARITY WARNING LIGHT.
There is a polarity light located on the CENTRAL CONTROL panel. Whenever you hook up your trailer to 120 volts, using an adapter which allows you to reverse the plug in the receptacle, be certain that the polarity light is off. If not, reverse the plug which should cause the light to go off. Occasionally, when you are hooked up directly through the 3-prong grounding plug without any adapter, the polarity light will glow. As long as you are using the 3-wire system, the trailer is adequately grounded, and there is no cause for alarm.

POWER ON.
Whenever you are hooked up to 120-volt city power the POWER ON light will glow. This light, and the previously discussed polarity light, are two excellent checks on a proper 120-volt connection.

LOCATION OF BASIC ELECTRICAL COMPONENTS.
The UNIVOLT is located at the rear curbside of the trailer, just outboard of the tub. It is accessible through the rear curbside access door. The 120 volt panel is located in the curbside of the front roof locker. The low-voltage panel is part of the CENTRAL CONTROL panel located in the center of the front roof locker. The battery is located in the trunk compartment at the rear of the trailer. It is mounted on a slideout rack for easy servicing.

circuit breaker

When you are operating your trailer on 120-volt city current, the wiring is protected by circuit breakers in the 120-volt panel box. In the event of failure of a 120-volt circuit, check the circuit breaker first. If the breaker continues to trip after you have reset it several times, your circuit may be overloaded with appliances, or there may be a short in the circuit. If lessening the load on the circuit does not solve the problem, consult an electrician. In models with factory-installed air conditioning, a separate 120-volt circuit with a separate circuit breaker is provided to avoid possible overloading of the appliance circuits.

A feature of your AIRSTREAM trailer is the MULTI-DOME system. This is a system of removable panels in the ceiling of the trailer. If there is ever the need, these panels can be removed and would expose almost all of the 12 and 120 volt wiring in your trailer.

WHEN THREE-WIRE GROUNDED SERVICE IS NOT AVAILABLE.

a. Attach the three-prong plug on your trailer power supply cable to a two-prong adapter. The third conductor line from the adapter has a ground lug. This is your ground line.

b. Clamp ground line to junction box or other ground such as a water pipe, then insert two-prong plug into the receptacle.

c. After cord has been connected, check the polarity indicator light. If the polarity warning light is on, pull out the plug, turn it over, and reinsert. The light will now be out, the polarity will be correct and your Airstream electrical system will be grounded.

An excellent additional ground is obtained through the front jack if an aluminum or steel jack pad is used. Do not block the jack pad with wood because this will eliminate this grounding feature.

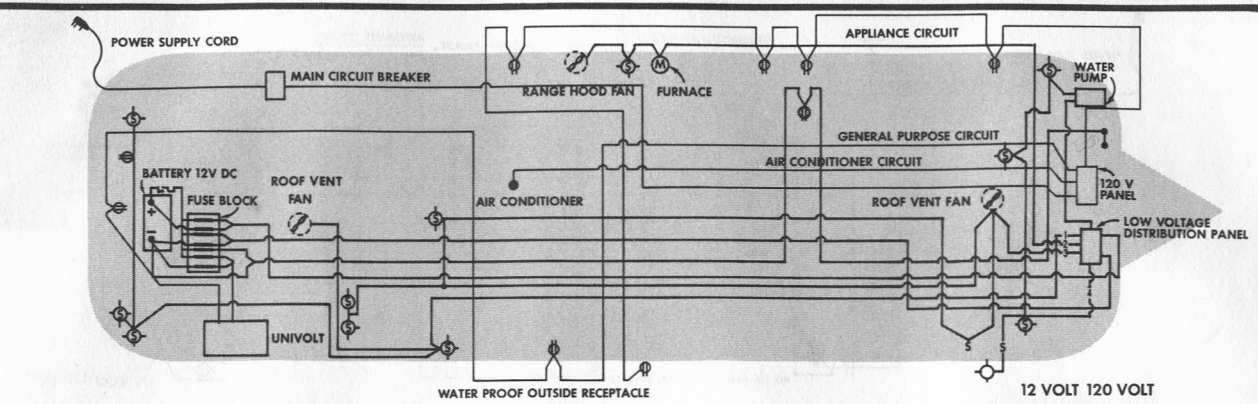
TROUBLE SHOOTING.

Trouble with the electrical system in your trailer is extremely unlikely. Your Airstream's UNIVOLT system and CENTRAL CONTROL are provided with a series of fuses and circuit breakers for your safety. Should electrical difficulties arise, you will normally be able to locate the source of the problem and correct it with the aid of the following checklist and circuit diagrams. More extensive trouble shooting instructions for the CENTRAL CONTROL are found in the CENTRAL CONTROL service manual.

For details on electric motor amperage, light bulb size, and fuse and circuit breaker location, refer to charts found in chapter 15.

The electrical diagram for your particular model Airstream is illustrated on one of the following pages. We suggest that you cross out the diagrams which do not apply to your Airstream to insure future reference to the proper diagram.

SYMPTOM	POSSIBLE CAUSE	REMEDY
No 12-volt power (Lights, appliances do not work)	1. Input line and/or battery not connected	1. Make necessary connections.
	2. Central control fuse blown	2. See items 3, 4, 5, and 6.
Blown fuse	3. Overloaded circuit (over 40 amps)	3. Turn off switches to reduce load. Open cover of CENTRAL CONTROL and replace blown fuse.
	4. Electrical short	4. Open cover of CENTRAL CONTROL, disconnect power lead from circuit breaker and touch to individual circuit terminals while watching ammeter. Ammeter will show discharge in the shorted circuit. From wiring diagrams check the circuit for defective wiring, lamps or motors.
	5. Shorted battery	5. Replace battery and fuse.
	6. Battery terminals not properly connected to UNIVOLT + and − terminals	6. Make proper connections; replace fuse.
Univolt automatic circuit breaker clicks on and off	7. Incorrect input line voltage (such as 230 volts or improper cycle power)	7. Connect to 120-volt, 60-cycle power.
	8. Shorted battery	8. Replace battery.
Dim lights or sluggish fan motor	9. 25- or 50-cycle power (some foreign countries)	9. Use 60-cycle power.
	10. Discharged battery (when operating without 120-volt line)	10. Charge battery.
UNIVOLT will not charge battery	11. Input line not connected	11. Connect input line.
	12. Battery not connected	12. Connect battery to UNIVOLT.
	13. Bad battery	13. Replace battery.
	14. Too many lights and appliances in use	14. Reduce electrical load.
Specific gravity of battery is too high (over 1.275)	15. Battery is low on water	15. Add distilled water to battery.



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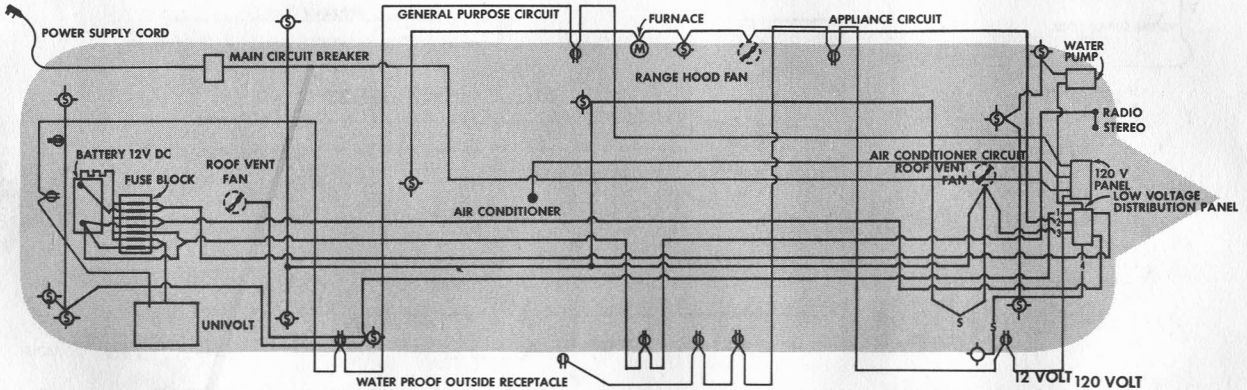
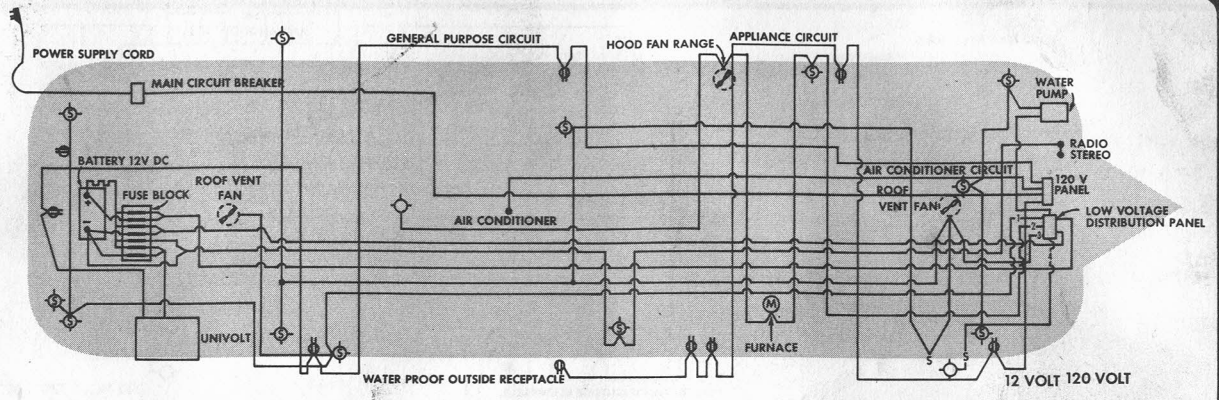
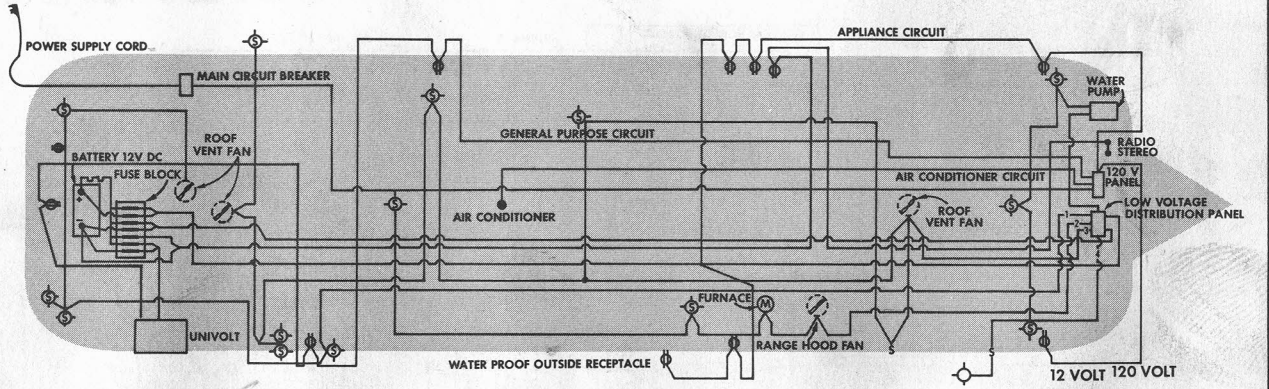


25 D (L.Y.) 27 T (INTL.)



27 T (L.Y.)



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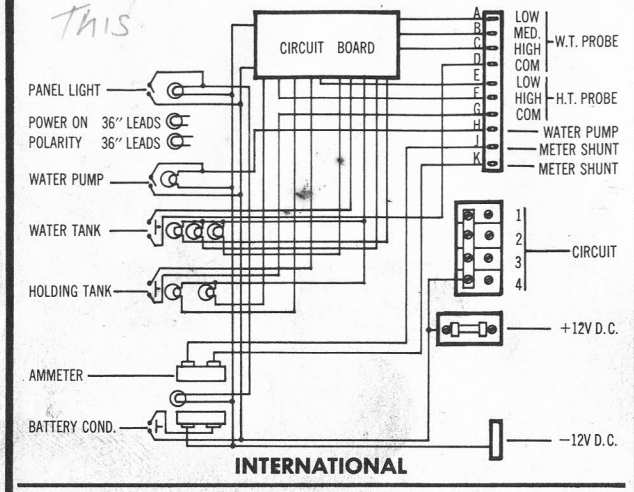
CENTRAL CONTROL PANEL SCHEMATIC



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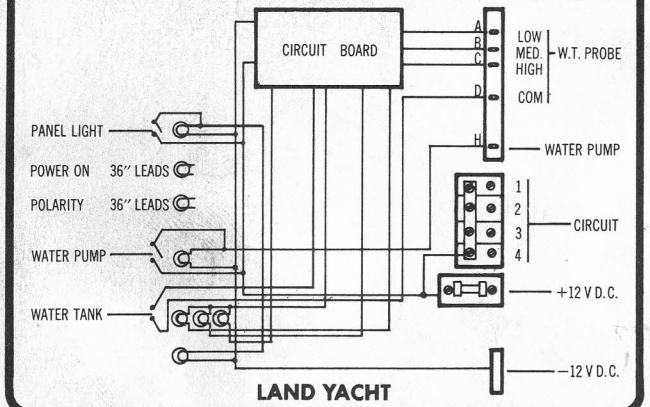

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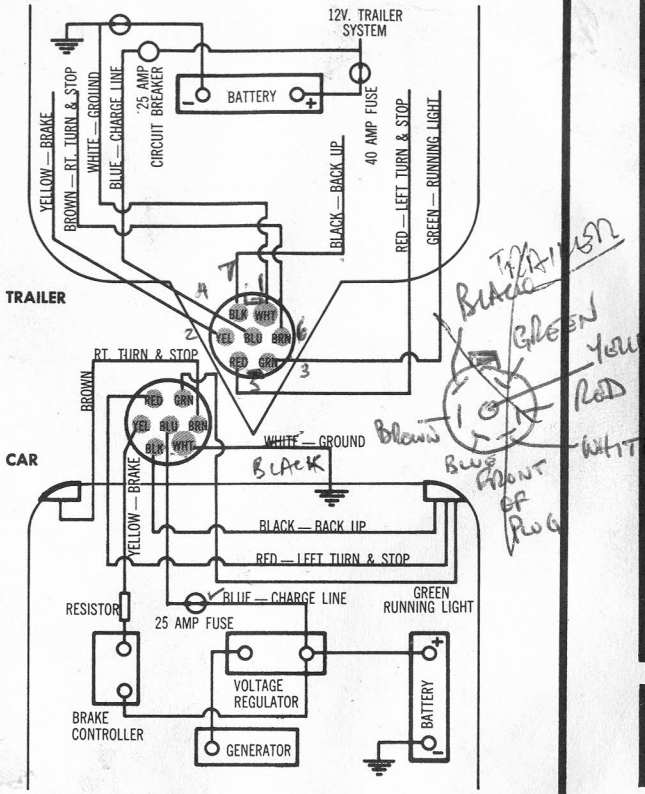
TRAILER-CAR ELECTRICAL CONNECTOR



NOTE: Polarity of trailer battery must match polarity of car battery.
e.g. If negative pole of car battery is grounded, negative pole of trailer battery must be grounded.

Spare 40 amp fuses should be carried (available at larger auto supply or truck parts stores).