



SECTION VIII

OWNER MAINTENANCE DATA

INTRODUCTION

This section provides general information for use in performing scheduled services as well as preventive and routine maintenance on your motorhome.

SPECIFICATIONS AND DATA

Table 8-1.

Engine Capacities and Specifications

Item	Specifications
Diesel Fuel Tank Capacity	
31' and 33' side bath units	235 gallons
All rear bath units	150 gallons
35' side bath unit	265 gallons
Cooling System Capacity	
w/front heater	46 quarts
w/front and rear heaters	60.2 quarts
Crankcase Capacity	
Dry	12 quarts
Refill	10.5 quarts
Oil Specifications	MS, Series 3
Operating Temperature Range	
30 degrees to 100 degrees F	SAE10W/30,
	SAE10W/40, SAE-30
0 degrees to 30 degrees F	10W-30 or -40
Frequency of Oil Change	Every 3 months,
	or 6,000 miles
Transmission Capacity	19 quarts
Tire Inflation Pressures	
(11 x 22.5, 16 ply tubeless)	
Front	105 lbs
Rear	75 lbs

Table 8-2

Generator Capacities and Specifications

Item	Specifications
Fuel Tank	Separate 30 gallon gas tank, fill through access panel, figure 8-1
Cooling System	Water cooled, 7 quarts

Crankcase Capacity 5 quarts w/o filter
 5-1/2 quarts w/filter change

Oil Specifications

30 degrees to 100 degrees F SAE30
 0 degrees to 30 degrees F SAE10W-30
 Below 0 degrees F SAE5W-20

Table 8-3

Motorhome Capacities and Specifications

Item	Specification
Potable Water Tank	96 gallons
Holding Tank, Sewage	32 gallons
Holding Tank, Waste	52 gallons
LPG Tank	180 lbs (45 gallons)
Water Pump	2.8 GPM
* Furnaces	16,000 BTU(2); 12,000 BTU(1)
Hot Water Heater	12 gallons
Batteries	4 6-volt batteries, series-parallel connected to supply 12V at 440 AH
Battery Chargers	2, 50 amperes output each
* Air Conditioners	
Rear (31', 33' units)	13,500 BTU(1)
Front (31', 33' units)	13,500 BTU(1)
All (35' unit, option)	13,500 BTU(3)
Automotive	18,000 BTU
Central (35' unit only)	14,000 BTU
** Hot Water Circulating Heaters	
Living Area	50,000 BTU
Driver's Area	90,000 BTU
*NEMA Rating	** SBBMA Rating

Table 8-4

12-Volt Lighting and Equipment, Current Usage

Item	(Qty)/Current (Amps)
Automotive Lighting	
Marker/Identification	(16)/9.6
Stoplights	(4)/7.2
Parking Lights	(4)/2.1
Headlights and Taillights	
Hi-beam operation	(6)/13.4
Lo-beam operation	(4)/9.2
Ignition	(1)/2.5

(continued)



Table 8-4

12-Volt Lighting and Equipment (Continued)

Item	
Instrument Panel.....	(1)/1.0
Stepwell, outside.....	(2)/2.5
Backup Lights.....	(2)/4.2
Interior Lighting	
Reading Spots.....	(7)/1.5 ea
Front Living area.....	(6)/7.8
Bathroom.....	(1)/1.3
Shower.....	(1)/1.0
Dinette.....	(2)/2.6
Kitchen.....	(1)/1.3
Bedroom.....	(4)/5.2
Windshield Wipers.....	(2)/8.0
Water Pump.....	(1)/6.2
Blower Motors	
Front Heater (Hi/Lo).....	(1)/9.0/4.5
Defroster (Hi/Lo).....	(1)/9.0/4.5
Foot Warmer (Hi/Lo).....	(1)/9.0/4.5
Rear Heater (Hi/Lo).....	(1)/9.0/4.5
LPG Furnace.....	(1)/7.3
Portable Fan.....	(1)/1.0
Duct Booster.....	(1)/1.0
Stereo System.....	(1)/7.3
Ceiling Vent.....	(1)/4.0

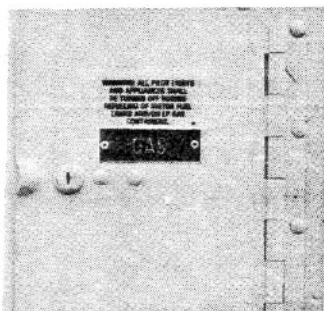


Figure 8-1. Generator Gas Tank Access Panel

CHANGING TIRES

The tires used on your motorhome are heavy-duty truck-type tires. These tires are **HEAVY** and may be difficult to handle. If at all possible, tire changes should be accomplished by a service station equipped to handle truck tires. However, if a situation arises where no service facilities are available, the following procedures may be used.

NOTE

These procedures apply only to front tire changes. A blown-out rear dual tire will not prevent you from driving to a service stop providing that you drive slowly (25 mph, maximum!). This will prevent tire overheat and possible blowout of the other tire in the pair.

WHEN A SPARE TIRE IS AVAILABLE

1. Drive motorhome out of traffic lane, if possible, onto a level surface.
2. Turn on hazard flasher and apply emergency brakes before leaving coach.
3. Turn off ignition and set transmission selector to Neutral (N) position.
4. Remove jackstand, lug wrench and handle from front right side storage compartment, figure 5-3.
5. Place wheel chocks against wheels on opposite side of work from flat tire.
6. Place jack under spring pad and raise jack slightly until securely in place. See figure 8-2 for location of typical jacking points.



Figure 8-2. Locating Tire Jack



CAUTION

Truck tires are heavy! Two people will make tire handling an easier chore!

7. Remove spare tire (if available) from tire mounting and place on ground near work area.
8. Loosen lug nuts slightly, then jack up coach until tire is clear of ground.

NOTE

Lug nuts on right side of coach are right-hand threaded (turn counterclockwise to loosen, clockwise to tighten); lug nuts on driver's side of coach are left-hand threaded (turn clockwise to loosen, counterclockwise to tighten).

9. Remove lug nuts and tire.
10. Install spare tire and replace lug nuts tightly.
11. Lower coach to ground and remove jackstand and handle.
12. Replace lug wrench, jackstand and handle in storage compartment and tie down to prevent road noise. Return damaged tire to holder and have it repaired as soon as possible.
13. Remove and stow wheel chocks.
14. Turn off hazard flasher before returning to traffic.

CAUTION

Check lug nuts for tightness every 1,000 miles. Lug nuts should be torqued to 450 to 475 foot-pounds.

WHEN NO SPARE TIRE IS AVAILABLE

To replace a front tire when no spare is available, remove one of the outer rear dual tires and use this as a spare. To remove the tire, it will be necessary to run the inside dual tire up on a small wooden ramp (contained in the left rear storage compartment, figure 4-8) which is high enough to raise the outer tire above ground level.

CAUTION

For added safety, place the tire jack, extended, beneath the frame member adjacent to the inside dual tire. Remove jack before driving off ramp!

Remove the tire to be used as the spare and back the coach off the ramp. Replace the front tire by following the instructions given previously.

CHANGING A REAR TIRE

Outer tires may be changed, if a spare is available, by driving the inner tire up on the tire ramp, and then removing and replacing the tire as previously described.

BATTERIES

Your motorhome is equipped with four 6-volt batteries, connected in a series-parallel arrangement to provide 12 volts for engine and motorhome use. Batteries are located in the front outside compartment on the driver's side, as shown in figure 4-1. A separate 12-volt battery is contained in the generator compartment and is used only to start the generator; it is also charged by the generator.

The four engine/motorhome batteries are charged by the engine alternator, while the engine is operating. In addition, the batteries are also charged by two 50-ampere battery chargers during the time that generator or shoreline ac power is furnished.

PERIODIC CHECKS

Check the level of the battery electrolyte on a regular basis. The intervals at which fluid is added depend on the battery usage, climate and proper use of the battery charger. Experience with coach operation will soon provide a guide as to how often the batteries should be checked. Add only colorless, odorless drinking water, or distilled water, as necessary, to bring the electrolyte level to the



split ring visible in the filler hole opening. (A small mirror and flashlight will help to check the level.)

CAUTION

Do not expose batteries to an open flame or electric spark — battery action generates hydrogen gas, which is flammable and explosive! Avoid contact with battery acid; this is a sulphuric acid that can cause personal harm. Flush exposed area immediately with water to neutralize and remove acid. Do not allow acid to come in contact with clothes, painted surfaces, etc., or these will be damaged. Also, do not wear metal rings, watches or jewelry when working on or near the battery, cables, solenoids, or chassis wiring. These can short out electrical wiring and cause injury.

To make sure that the batteries are always ready for use, periodically check and charge as necessary. Check batteries at least every two weeks in freezing weather; at least every four weeks in warmer weather. A fully-charged battery will not freeze under normal circumstances, so it is imperative that the batteries remain charged during winter. A safe level of charge is a specific gravity reading of 1.225 to 1.280. Always use a battery hydrometer which has a temperature correction scale.

BATTERY MAINTENANCE

A dirty battery will eventually dissipate its charge through conductive surface contamination. Clean battery top surface with a damp cloth and dry thoroughly. Check that terminals are tight and free of corrosion. To clean terminals, neutralize corrosive deposits with a solution of baking soda, rinse with clear water, and dry. Note that commercial type spray-on battery cleaners are available at automotive supply stores. Use as directed to keep the batteries clean. Spray-on cable and terminal protective coatings are also available, easy to use, and effective.

EXTERIOR CARE

Exterior paint finish life can be extended by

periodic cleaning and waxing. This will preserve the paint and allow easier removal of dirt and road tars. Use touch-up paint for small areas to keep the coach finish in like-new condition.

Frequent washing of the coach is necessary to prevent corrosion when parking where heavy salt sprays are evident. A clear acrylic spray may be used, with care, to control corrosive effects of salt spray on metal surfaces.

INTERIOR CARE

The interior can be kept in good condition with the use of approved cleaning agents for vinyl walls and ceilings, plastic fixtures, stainless steel, formica and so on. Never use abrasive cleaning agents on interior of refrigerators, or on sinks, as they can cause permanent scratches. Be sure that the cleaning agent will not damage the material. Note that some plastics are incompatible with certain cleaners. Read the directions on the container before using. For the most part, the cleaners and polishes that would normally be used in your home are equally well-suited for use in your motorhome.

FLUID LEVEL CHECKS

CRANKCASE OIL LEVEL

Oil level checks can be accomplished from inside the coach by unlatching and lifting away the hood ledge cover, shown removed in figure 8-3.

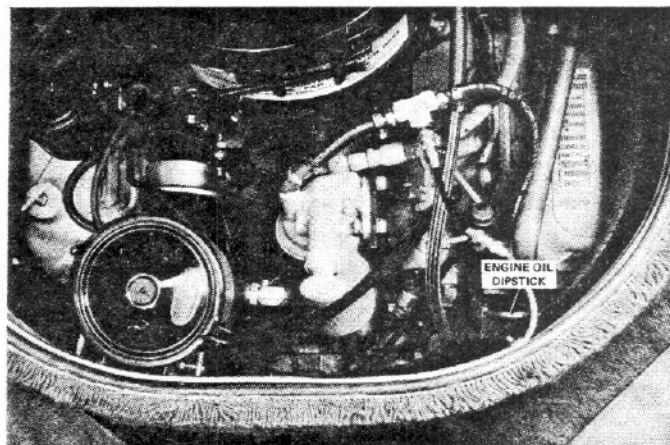


Figure 8-3. Oil Dipstick Location, Engine Hood Removed



The crankcase engine oil supply should be maintained at the proper level. If checking oil level immediately after engine has been operating, allow a few minutes for the oil to drain back into the crankcase before checking the dipstick reading.

The oil level may be checked, and oil added, from inside the coach. The best time to check the oil is before getting underway because the engine is cool and the dipstick reading will be most accurate. To check oil level, remove dipstick, wipe clean, and reinsert for an accurate reading. If oil reads at or below the "Add Oil" mark, add oil as necessary. Maintain oil level in the safety margin, staying between the "Full" and "Add Oil" markings.

POWER STEERING FLUID LEVEL

Regularly check hydraulic fluid level in the power steering pump reservoir, figure 8-4, at each fuel stop. Add power steering fluid (or automatic transmission fluid) as necessary to maintain the correct dipstick reading, depending on fluid/engine temperature. (Note that dipstick is attached to the bolt on top of the reservoir.) If the fluid is at normal operating temperature — about 150 degrees, and hot to the touch — the dipstick should indicate $\frac{1}{2}$ to $\frac{3}{4}$ full. If engine is cool, fluid level should read about $\frac{1}{2}$ full. Power steering fluid does not require periodic changing, as does automatic transmission fluid.

TRANSMISSION FLUID LEVEL

Check transmission fluid level, figure 8-5, with engine idling. Cold checks, or checks made with the engine off, will be misleading. Dipstick should read "Full".

WATER PUMP MAINTENANCE

Under normal usage, the water pump should

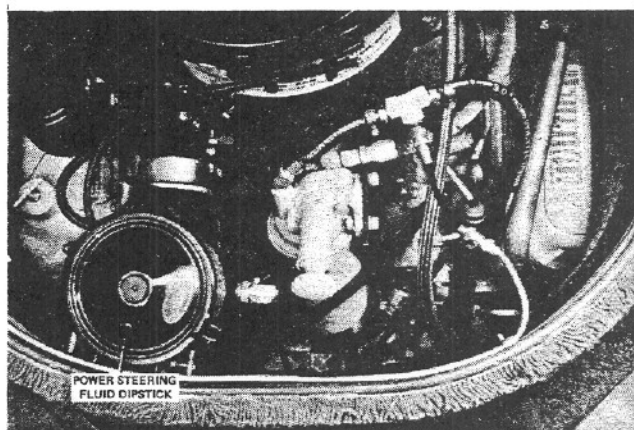


Figure 8-4. Power Steering Reservoir

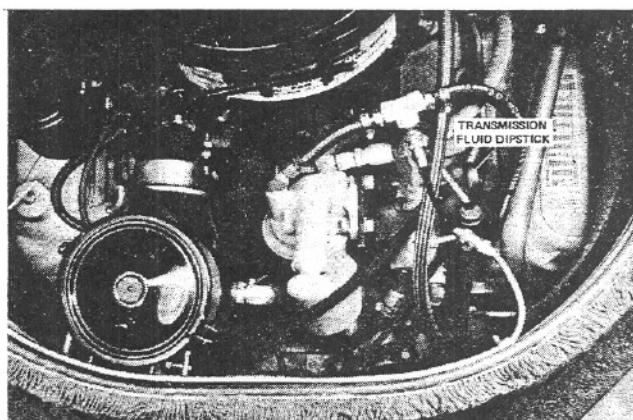


Figure 8-5. Transmission Dipstick Location

require no periodic maintenance other than ensuring that the input water supply is properly filtered of particles that could damage the pump mechanism. Pump failures can generally be tied in to the plumbing system, or to electrical supply lines, or to the pump electrical wiring. If the pump fails to operate properly, refer to the general troubleshooting guide given in table 8-5. Note that detail pump repairs and overhaul (noted by *) should be performed by a qualified repair facility.



Table 8-5. Water Pump Troubleshooting Guide

Symptom	Possible Cause	Corrective Action
Pump operates but no water flows through faucet.	Low water level in tank.	Add water to tank.
	Water lines are clogged.	Blow out water lines with compressed air.
	Kink in water hose.	Check water hose connections to tank and straighten or replace, as necessary.
	Air leak in suction line.	Replace suction line.
	Dirty or hard-to-open in-line check valve.	Replace check valve.
Pump cycles on and off when faucets are closed.	Defective pump valve.	* Replace pump valve.
	Water leak in plumbing.	Check for signs of leakage and tighten or replace fittings, pipe, etc.
	Defective toilet flush valve.	Repair flush valve.
Pump operates roughly and has excessive noise and vibration.	Internal leak in valve. Pump check valve not sealing.	Replace check valve.
	Intake line is restricted, kink in suction hose or fittings too small.	Check input hoses and straighten or replace, as necessary.
	Deformed or ruptured pulsation dampener in pump.	* Replace dampener.
	Loosened screws at pulleys and connecting rod.	Tighten screws.
	Worn connecting rod bearing.	*Overhaul required.
Pump fails to start when faucet is opened.	Clogged piping.	Blow out water lines with compressed air.
	No voltage to pump.	Check input wiring, circuit breaker and switches.
	Defective pressure switch.	*Replace pressure switch.
Pump fails to stop when faucets are closed.	Empty water tank.	Add water.
	Insufficient voltage to pump motor.	Check battery voltage. If voltage is OK, pump is defective.
	Defective pressure switch.	*Replace pressure switch.

WINDSHIELD WASHERS

Check reservoir fluid level periodically and use a prepared washer solution, if possible. During freezing weather, use a solution additive, or a solution specifically designed for cold weather usage. The washer reservoir is accessible through the front right storage compartment.

GENERATOR

Keep the generator operating at peak efficiency by following a regular schedule for inspections and servicing, based on operating hours. Keep an accurate logbook record of maintenance, service and hours of operation, following regular schedules for normal operating conditions; and a more frequent service schedule for operation under dusty or dirty conditions. Check condition of crankcase oil and change air filter frequently until the proper service/time periods can be determined based on your usage.

MAINTENANCE SCHEDULES

Use the generator maintenance schedule as a guide for routine and periodic maintenance. Neglecting generator maintenance can result in failures

or permanent generator damage. Refer to figure 8-6 for component location; refer to the generator service manual for detailed repair and maintenance.

Generator Maintenance Schedule

Frequency	Service
Daily, or before each startup	Check oil level Check fuel supply Clean radiator intake screen
Every 50 hours, or 6 months, whichever occurs first	Change lubrication oil Service air cleaner Check radiator coolant level Check fan belt tension Clean oil filter breather cap
Every 100 hours, or 8 months, whichever occurs first	Service spark plugs Check battery electrolyte level
Every 200 hours, or every year	Check and tighten electrical connections Clean crankcase breather cap Check and tighten mounting bolts Check generator brushes,

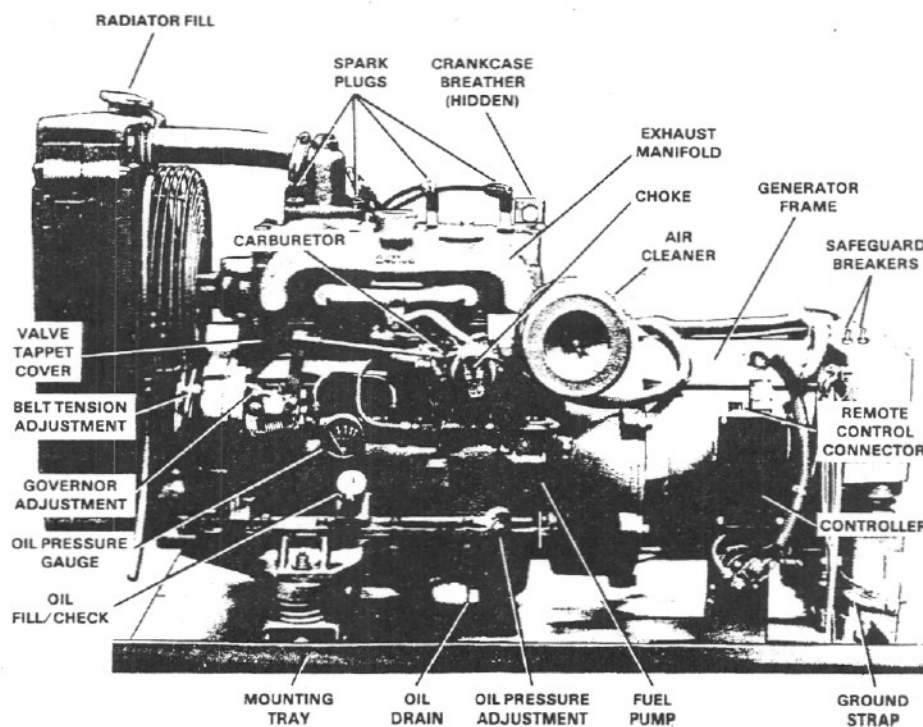


Figure 8-6. Generator Component Locations



commutator and slip rings
Check ignition timing
Replace air cleaner element
Tune-up engine
Every 500 hours,
or every 2 years Contact authorized service
 center for overall tuneup
 and preventive mainten-
 ance checkout

Periodically, perform a complete visual inspection of the generator when operating at full load.

CAUTION

Use extreme caution when observing an operating generator with tray extended.

1. Check for possible leakage from oil and fuel lines.
2. Inspect exhaust line, muffler, and connections for possible cracks or leakage.
3. Periodically check air shrouds for leakage and security. Check that cooling fins are clean.
4. Inspect electrical wiring for frayed wires, corroded connections and general wire damage.

BATTERY

Check the condition of the generator battery at least every two weeks. See that battery connections are clean and secure. A light coating of non-conductive grease will prevent corrosion at terminals. Keep the battery electrolyte at the proper level above the plates by adding water, as needed. Check specific gravity and recharge if hydrometer reads below 1.250. Refer to Battery Maintenance procedures provided earlier in this section.

AIR CLEANER MAINTENANCE

Proper maintenance of the air cleaner, figure 8-7, is extremely important. Allowing this vital element to become clogged with dirt restricts the flow of intake air into the engine. Inspect the element for tiny holes or tears which would allow particles of dust or dirt to enter the carburetor. These particles can also cause excessive wear of piston rings.

Operating with an over-rich fuel mixture caused

by a poorly serviced or clogged air cleaner leads to formation of harmful sludge deposits. It is a good practice to replace the element after 100-200 hours of usage, under normal conditions; and more often under dusty or dirty conditions.

Every 50 hours, or six months, remove the element and lightly tap rubber rim against a flat surface to dislodge any loose dust or dirt from the surface. Replace element if there are too many dark spots or extensive dark areas as these indicate dirt trapped within the filter material. It is not advisable to wash dry the element in any liquid or to attempt to clean it with an air hose as this will ruin or damage the paper fiber filter. When handling the element, use care to avoid crushing or bending as this will permit unfiltered air to enter the engine.

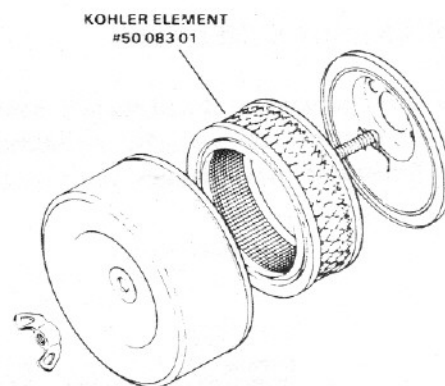


Figure 8-7. Air Cleaner

CRANKCASE BREATHER CAP

At every fourth oil change, or every 200 hours, remove the crankcase breather cap and service by soaking and swishing in a solvent, such as kerosene. After cleaning, allow five minutes for it to dry, then lightly re-oil with engine oil before reinstalling on breather tube.

LUBRICATION

The generator engine has a positive pressure lubrication system and low-oil pressure shut-down.



NOTE

The low-oil pressure shut-down feature protects the engine from internal damage due to oil pump failures or other malfunctions causing low oil pressure. It does not protect against damage due to operating with oil level below the safe range since it is not a low-oil level shut-down. The only protection against running out of oil is periodic checks and addition of oil to keep level constant.

OIL CHECK — To be on the safe side, check oil in engine crankcase daily, or before each start, to ensure that the level is in the safe range between the “L” and “F” marks on the dipstick, figure 8-8. Do not operate generator if level exceeds “F” mark, or is below “L” mark.

CAUTION

Do not check oil level while engine is operating. Engine must be stopped to obtain a true reading, as well as for safety reasons!

OIL CHANGE — On a new engine, change the oil after the first five hours of operation and, thereafter, at 50 hour intervals or every five months, whichever occurs first. Whenever possible, drain the oil while the engine is still warm. To drain, place a container below the unit, open the oil drain and allow sufficient time for the old oil to

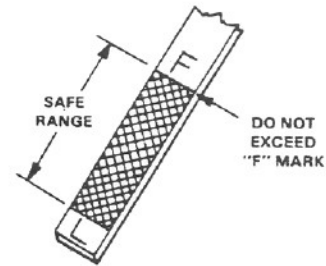


Figure 8-8. Oil Dipstick

drain completely. After draining, close drain plug and tighten securely. Note that the oil refill is 5 U.S. quarts.

OIL TYPE — The lubricating oil used must meet the requirements of the American Petroleum Institute (API) Service Classification SC, SD, SE, or CC (MS). Oil weight (SAE viscosity) is selected according to anticipated ambient temperatures. Use a straight-weight SAE30 oil when temperatures are above 30 degrees F (–1 degree C); use SAE-10W30 when temperatures are in the range of 30 degrees F (–1 degree C) to 0 degrees F (–18 degrees C); and use SAE5W-20 when temperatures fall below 0 degrees F (–18 degrees C). The API Service Classification and SAE viscosity numbers are stamped or printed on the oil can.

COOLING SYSTEM

To avoid having the inconvenience of the generator shutting down due to overheating, or becoming damaged as a result of an overheat condition, be sure to keep the cooling air inlets to the

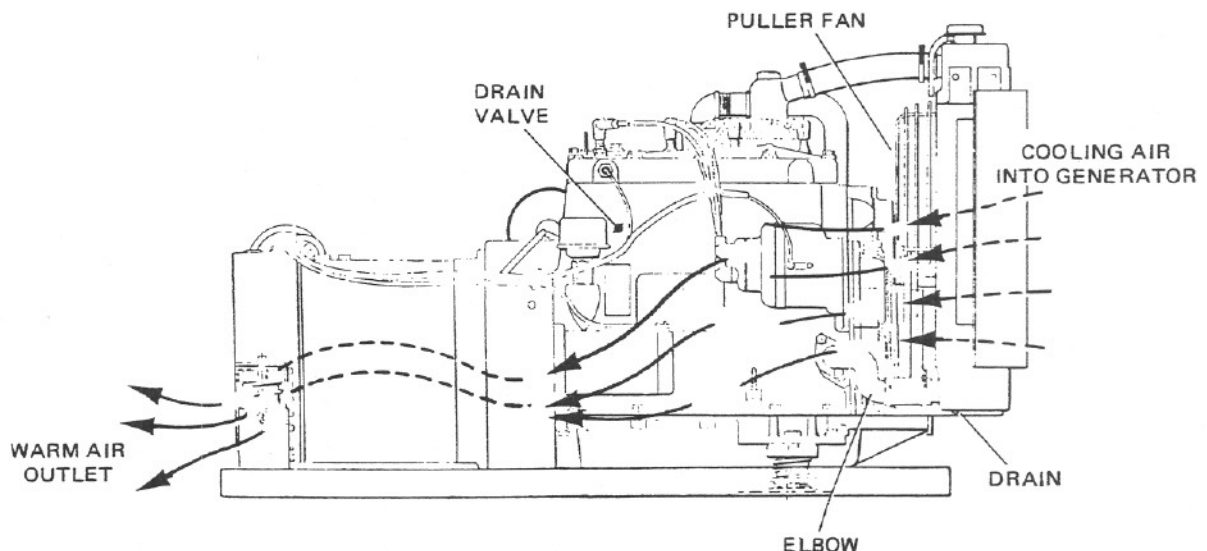


Figure 8-9. Generator Cooling System



compartment clean and unobstructed at all times.

Cooling system capacity is about 7 quarts of liquid. When operating in climates subject to freezing temperatures, make sure that enough anti-freeze solution is added to the coolant to prevent system freeze-up. As shown in figure 8-9, a drain petcock is provided on the underside of the radiator to drain the system. When draining the coolant, remove the radiator cap and open the block drain valve near the oil filler cap to prevent air pockets from forming and blocking water in passages in the block.

Check coolant level frequently and add water or anti-freeze as needed to maintain correct level.

Before adding anti-freeze, drain the coolant system completely to assure correct proportions of anti-freeze to water. For example, to protect a 7-quart capacity radiator system to -11 degrees with ethylene glycol, use a 40% solution, as shown in the chart given below. [This is figured as $.40 \times 7$ quarts = 2.80 or, rounded off, 3 quarts of anti-freeze to 4 quarts of water = 7 quarts total.]

For maximum protection always use a solution which will remain liquid below the lowest anticipated temperature.

Anti-Freeze Protection Chart

AntiFreeze Protects to:	Mixture Proportions (ethylene glycol)				
	10%	20%	30%	40%	50%
+16 degrees F (-9 degrees C)		x			
+3 degrees F (-16 degrees C)			x		
-11 degrees F (-24 degrees C)				x	
-31 degrees F (-35 degrees C)					x

GENERATOR TROUBLESHOOTING

Under normal conditions, generator service will

not be required on a regular basis. If operating under extremely dusty and dirty conditions, use dry compressed air to blow dust out of generator at frequent intervals. Do this with the generator set operating and direct the stream of compressed air in through the cooling slots at the end of the generator.

Refer to the generator service manual for repair and maintenance data. Generator repairs should be accomplished by a qualified repair agency.

GENERATOR OVERLOADS — If the rated capacity of the generator is exceeded, the safeguard circuit breakers, located on top of the generator end cover (figure 8-6), will trip to protect the generator against damage. This condition could be caused by a short in the coach ac supply circuits, or by operating too many appliances simultaneously, resulting in an overload condition. If the safeguard circuit breaker trips, the generator will continue running but no ac output will be supplied. Before resetting the circuit breakers, turn off some of the coach appliances and lighting to reduce the load to within the operating limits of the generator. If this is done, and the generator breakers still trip, a short circuit is indicated. Turn off the generator, locate and correct the cause of the short circuit.

STORAGE PROCEDURES

If the generator is to be out of service for a long period of time, perform the following procedures before placing the unit in storage:

1. Drain oil from crankcase (while hot) then flush with clean light-weight oil. Refill crankcase with regular-weight oil after flushing.
2. Drain fuel from carburetor bowl. This is necessary to prevent the gasoline from becoming "stale", which results in the formation of gum deposits.
3. Remove the spark plugs, pour about 1 tablespoon of oil into each hole, crank engine several times, then replace spark plugs.
4. Clean exterior surfaces of generator set then spread a light film of oil over any unpainted metallic surfaces which could corrode.



REFRIGERATOR

ROUTINE MAINTENANCE

To ensure that your refrigerator will provide trouble-free operation, the following routine maintenance procedures should be performed at least once each year.

1. Inspect electrical connections, 12-volt dc and 120-volt ac, for tightness and proper grounding. Intermittent refrigerator operation on electric power may indicate poor connections.

2. Inspect all gas connections for leakage, using a solution of soapy water. Tighten, as necessary.

3. Remove and clean the gas burner orifice, figure 8-10, as follows:

a. Turn off refrigerator gas supply.

b. Remove burner shield to gain access to burner gas supply tube.

c. Loosen burner tube connection fitting and CAREFULLY remove burner gas tube from burner.

d. Remove orifice and clean, using air pressure. Inspect orifice against light to see that opening is clean. **DO NOT CLEAN ORIFICE WITH A PIN OR SHARP OBJECT.** This will affect the size of the opening.

e. When clean, replace orifice and burner gas supply tube, then reassemble. Check for leaks with soapy solution before replacing burner cover. (Turn on gas supply and press safety valve button in to check.)

f. Start refrigerator and allow to operate for a while before checking appearance of flame. Flame should be "sharp" blue with no yellow coloring.

REFRIGERATION FAILURES

Not all refrigeration failures are caused by a defective cooling system. Before having the unit serviced, check the following:

1. If the unit has been operating on LP and a loss of cooling occurs, switch operation from gas to electric and see if cooling occurs. This will show if the problem is in the LP supply. Similarly, if cooling is inadequate on electric, try using LP.

2. When changing from gas to electric operation, or vice-versa, allow time for the refrigerator to cycle properly. Cooling should occur normally providing that the following have been checked:

a. Evaporator plate level in each direction.

b. Controls have been set to correspond to the power source used.

c. The LP supply is at the correct pressure and the electric supplies are within tolerance.

d. Upper and lower vents are not being obstructed, restricting ventilation.

3. If no cooling is apparent after a reasonable period of operation, the cause of failure may be due to a system blockage. This problem is caused by operating the unit for extended periods in an off-level condition. This does not mean that the unit has been damaged, but correction requires that the refrigerator be removed from the coach and placed on its left side for a minimum of one hour. This will allow the ammonia and water to mix with each other, which is necessary for operation of an absorption cooling system. Once the system blockage has been relieved, operate the unit on ac for a while to be sure that the problem has been corrected. Otherwise, cooling system service should be performed by an authorized refrigerator service center.

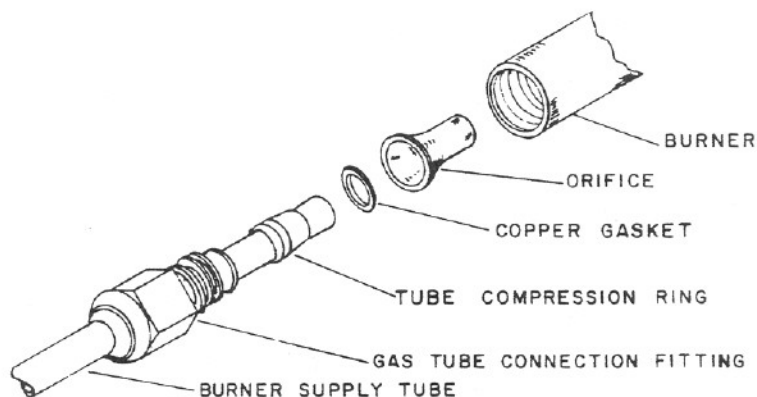


Figure 8-10. Cleaning Gas Burner Orifice



AIR CONDITIONING SYSTEMS

MAINTENANCE

Both roof air and central air conditioning units require periodic cleaning of the air filters. This is the only user maintenance recommended for these units. Under normal operating conditions, filters should be cleaned at least once each month. More frequent cleaning may be necessary in dusty areas. Adapt the following procedure to the type of filter used in your air conditioning unit:

1. Turn unit off.
2. Remove return air grilles and filters. Insert a smooth flat object, such as a table knife, between the center of the switch (or label) end of the grille and, with a twisting action, gently pry grille out until mounting holes are free of the corresponding holes in the plenum assembly. (The filter used in central air conditioning units is located behind the return air grille.)
3. Wash filters and grilles in warm soapy water. **DO NOT USE SOLVENTS!**
4. Rinse filters and grilles with fresh water and dry.
5. Replace filters and grilles in unit.

NOTE

When replacing the grilles be sure to install with notched (cutout) sides up toward the switch and label plates. If grilles are mounted incorrectly, mounting pins will not fit holes and pins may be broken.

CAUTION

Do not cycle compressor on and off rapidly or compressor damage may result. Once the compressor has been turned off, wait several minutes for system pressure to equalize before restarting unit.

To avoid damaging the air conditioning unit:

1. **DO NOT** turn the air control knob from a cool position to OFF and then immediately back to a cool position.
2. **DO NOT** turn air control knob from any

COOL position to a FAN ONLY position and then back to COOL.

3. **DO NOT** turn the temperature control from a colder setting to a warmer setting and then back again rapidly.

Periodically check for proper drainage in the condensing unit (central air conditioning system) drip tray by rapidly pouring two quarts of water directly into the tray. The water should drain completely within 30 seconds. If not, clean tray and check drain holes for obstructions.

TUB/SHOWER MIXING VALVE

The water mixing valve used in the tub/shower contains a spool valve, figure 8-11, which requires periodic cleaning. Water mineral deposits which can accumulate in the valve body and spool valve can affect the normal operation of the mixing unit. To gain access to the valve body, remove the four screws which hold the faceplate to the shower wall. (Water supply must be turned off.) Remove the control knob, then lift off the faceplate.

To remove the spool, unscrew the large center screw and carefully withdraw the spool from the valve body. Inspect O-rings for damage and replace, if necessary. Flush out spool of any foreign material, then replace in valve. Replace faceplate and secure with four screws. Replace knob.

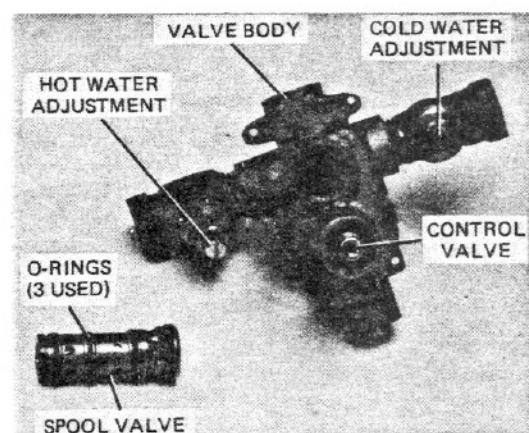


Figure 8-11. Tub/Shower Mixing Valve



AQUA MAGIC TOILET MAINTENANCE

No routine maintenance is required. If the bowl sealing blade fails to operate freely after extended usage, restore the original smooth operation by applying a light film of silicon spray to the blade.

To clean the toilet, use Thetford Aqua Bowl or any other high-grade, non-abrasive cleaner. Do not use highly concentrated or high-acid household cleaners. They may damage the rubber seals.

SUBURBAN DYNA-TRAIL FURNACE

MAINTENANCE

The Suburban Dyna-Trail furnace units do not

normally require routine maintenance or cleaning. However, if, for any reason, the main burner has been allowed to operate with a high yellow flame, a soot formation is sometimes deposited inside the combustion chamber. This carbon deposit may be of such quantity that cleaning will be required. To clean the combustion chamber, there is an access hole on the front of each radiation chamber. A vacuum cleaner is ideal for cleaning out carbon deposits. The blower motor is the sealed, permanently-oiled type and requires no oiling.

Before assuming that the furnace is defective, check the following possible causes and corrective actions. If these fail to correct the trouble, refer to the furnace service manual for detailed repair and maintenance data.

Possible Cause

Corrective Action

Thermostat off.

Check to be sure that thermostat is calling for heat. Check for defective thermostat wiring.

Gas supply shut off.

Check that manual gas valve is in open position, with lever parallel to gas line.

Poor electrical connections
or low battery voltage.

Check battery supply voltage. If battery is low, there will be sufficient power to run the blower, but not at full speed. This will prevent the air-operated microswitch from being actuated, gas will not flow to the main burner, and the spark will be missing. Be sure that the terminal wiring and connections are not loose or broken.