



SECTION III

LIVING AREA FACILITIES

INTRODUCTION

This section provides information on operation of the appliances and systems which contribute to the comfortable living conditions within your motorhome.

SOFA

To convert your sofa into a large double bed, on coaches that are so equipped, pull platform outward, lower and lock the supporting legs at each corner, and arrange rear cushions to completely cover platform area.

VACUUM CLEANER

The vacuum cleaner system, figure 3-1, is completely self-contained and supplied with a long flexible hose and wand, carpet, upholstery and crevice tools. Install the flexible hose end-fitting into the corresponding intake hole, accessible when the spring-loaded door is swung aside. The disposable paper bag, located in the compartment to the right of the intake, is easily removed and replaced when the compartment door is opened (vacuum cleaner should be off when changing bags). A new bag is installed by sliding the cardboard ring on the bag over the intake tube. Clean or replace foam filter

periodically to keep system operating efficiently. Note that vacuum cleaner will shut off automatically when the bag is full.

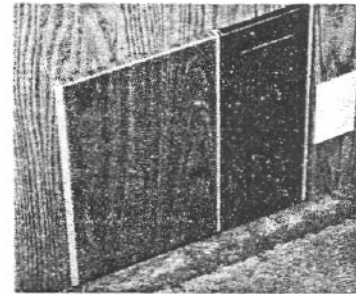


Figure 3-1. Vacuum Cleaner System

DINETTE AREA

The dinette area, figure 3-2, includes a convertible dinette, thermostat, door chime, Lifeguard One and Weather Center, on the rear wall. The table is wall-mounted by two hooks and brackets and supported by a single folding leg. To convert the dinette to a bed, fold leg upward, lift table upward and outward from wall brackets and carefully lower it to rest on overhang edges at front of each dinette seat. Unhook seat back cushions from each dinette seat and place sideways across the gap formed by the table surface, completing the bed conversion.

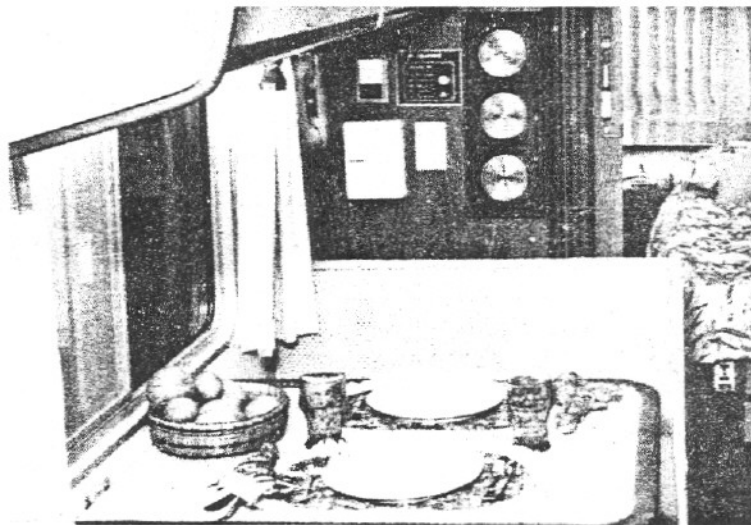


Figure 3-2. Dinette Area



GALLEY FACILITIES

The galley, figure 3-3, includes a double sink, toaster compartment, food center, refrigerator/freezer, gas range and oven. The dual Power Line monitor, The Thermometer and Clock, and The Monitor panels are located on the left galley wall. A monitoring and switching panel is also located in this area. The refrigerator operates from the LP gas supply or from the 120 volts ac supply. The range and oven also operate from the LP gas supply. Operating procedures for these appliances, given in the following paragraphs, assume that the main LP valve is on. An LP leak detector, located under the refrigerator, continuously monitors the area for LP leakage, shutting off the LP supply and sounding an alarm if leaks are detected.

REFRIGERATOR

Understanding just how the refrigeration process operates will help to explain one of the important reasons why it is necessary to level a parked motorhome. The gas-fired (or electrically-heated) boiler converts the ammonia-water solution to distilled ammonia vapor, which is carried to the finned condenser, where it liquifies. The liquid flows to the evaporator, where it creates a cooling effect by evaporating into a circulating flow of hydrogen gas. If the evaporator coil is not level, the liquid accumulates, forming pockets which do not readily evaporate and impair or block gas circulation, inhibiting the cooling process.

When the coach is parked, it must be leveled to assure comfortable living accommodations. If the refrigerator is properly installed, with the freezer shelf parallel to the ground level, the refrigerator will then also perform well. This can easily be checked by placing a bubble level on the freezer shelf. When the vehicle is moving, the continuous rolling and pitching movement will not affect the refrigerator as long as the movement passes either side of level; but when the coach is parked, the refrigerator must be leveled.

The operation of a thermostatically-controlled fan in the refrigerator compartment is controlled by the REFRIG FAN ON-OFF switch located on the wall panel above the sink. Refer to figure 3-4 for location of refrigerator controls for gas and electric operation.

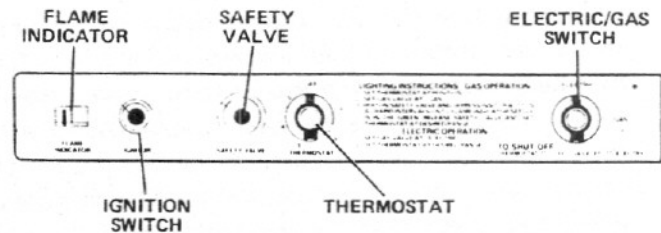


Figure 3-4. Refrigerator Operating Controls

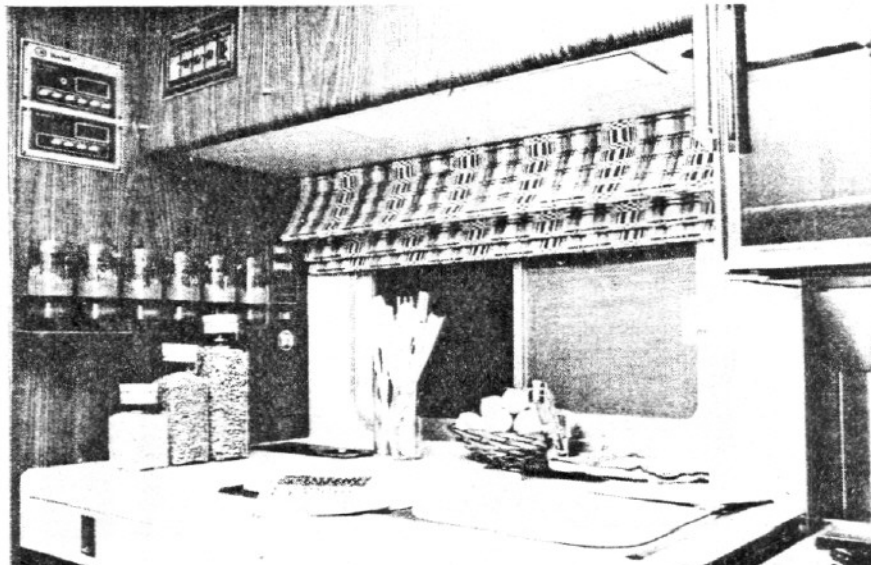


Figure 3-3. Galley Facilities



GAS OPERATION — Proceed as follows:

1. To start the refrigerator, set **ELECTRIC/GAS** switch to **GAS** position. This opens the LP valve and disables the electric circuits.
2. Set **THERMOSTAT** position to number 4 setting.
3. Operate **IGNITION** switch to **ON** position and observe that **FLAME INDICATOR** signal is lit when pilot is ignited. Note that the pilot ignition is automatic and will re-light in the event of flame-outs.
4. Adjust the **THERMOSTAT** to the desired setting after the refrigerator has been operating for a while.

NOTE

After LPG tank has been refilled, or after a long shutdown period, gas lines may become filled with air. If this occurs, repeat step 3 until the air has been evacuated from the lines and gas reaches the burner.

ELECTRIC OPERATION — The refrigerator will operate from the 120-volt ac generator or shoreline supply, whichever is available.

To operate, set the **ELECTRIC/GAS** switch to **ELECTRIC** position and adjust **THERMOSTAT** as desired.

USING THE REFRIGERATOR

FOOD STORAGE COMPARTMENT — To maintain required low temperatures for food storage, the food storage compartment is completely closed and unventilated. Consequently, foods having a strong odor, or foods liable to absorb odors, should always be covered. Cover vegetables and salads to retain crispness. The coldest locations within the refrigerator are beneath the cooling evaporator and on the lowest shelves; the least cold locations are on the upper door shelves. Consider this when storing different types of food.

DEFROSTING — Keep the refrigerator operating at maximum efficiency by periodic defrosting and cleaning. Wash ice trays and shelves with warm water. **DO NOT** use strong chemicals or abrasives. During extended periods of storage, empty and

clean refrigerator and leave door slightly ajar to reduce buildup of musty odors.

After a period of operation, frost may gradually accumulate on the freezer plate and cooling fins in the food compartment. If frost accumulations are not removed periodically, refrigerator operation may be impaired. Frost buildup on the freezer plates acts as an insulator and prevents the cooling plates from efficiently removing the heat created by door openings and the storage of foods. It is a good practice to defrost the refrigerator on a regular basis, or as needed, to maintain efficient operation.

To defrost, set **THERMOSTAT** to **OFF**, empty the ice cube trays and refill with hot water, placing them on the cooling plate (for fast defrost). When all frost has melted, empty the drip tray from beneath the finned evaporator and wipe up excess moisture with a clean cloth. Replace the drip tray, all food stuffs and place the refrigerator back into operation. Set **THERMOSTAT** to coldest setting and allow the refrigerator to operate continuously for a few hours at maximum cooling before the **THERMOSTAT** is returned to normal position.

FROZEN FOOD COMPARTMENT — Quick-frozen soft fruits and ice cream should be placed in the coldest part of the compartment, at the bottom of the aluminum liner or, in models with a shelf, on or just below the shelf. Frozen vegetables may be stored in any part of the compartment.

The freezer compartment is not designed for deep or quick freezing of foodstuffs. Meat or fish foods, whether raw or prepared, provided they are pre-cooled in the refrigerator, can be stored in the frozen food storage compartment about three times as long as in the normal temperature compartment. To prevent dehydration, keep food in covered dishes, in plastic bags, or wrapped tightly in aluminum foil.

ICE MAKING — Place ice trays in direct contact with freezer shelf for fastest ice making. Fill trays with water to within 1/4 inch from the top. To release ice cubes pull handle upwards. Return unused cubes to the tray. Refill tray with water, dry outsides, replace in frozen storage compartment. Clean compartment with dry cloth.



The ice-making process can be accelerated if the thermostat is set to MAX position. It is a good idea to do this for a few hours before an anticipated need for ice, but be sure to turn back the thermostat to its original setting when the ice is formed, or the foodstuffs in the cabinet may also become frozen. (Ice-making time is also reduced if unused cubes are left in ice trays when they are refilled with water.)

REFRIGERATOR SHUTDOWN — For temporary shutdown, set thermostat to zero position and turn off the gas valve. If the cabinet is to be shut down over a period of weeks, it should be emptied and cleaned, and the door left ajar. Ice trays should also be dried and kept outside the cabinet.

CAUTION

If the refrigerator is used only intermittently it should be checked at least once each year.

CLEANING — Clean cabinet interior lining with a lukewarm weak soda solution. Clean evaporator, ice trays and shelves with warm water only. DO NOT use strong chemicals or abrasives to clean these parts or protective surfaces may be damaged. Always keep cabinet clean.

CAUTION

Do not use refrigerator for storage of flammable fluids.

GAS RANGE AND OVEN

The gas supply for the range burners and oven, figure 3-5, is provided from the LPG tank. Make sure that the main valve (on tank) is turned ON before lighting pilots.

CAUTION

It is a good safety practice to leave oven control in TOP AND OVEN PILOTS OFF position (maximum counter-clockwise) when oven is not in use or while unit is in motion.

LIGHTING PILOTS — To light range and oven pilots, set oven control to OVEN OFF position then hold a match near range pilot (lift up burner

top surface to gain access to burner pilot); and then hold a match to oven pilot (located above and to the right of oven main burner).

LIGHTING RANGE BURNER — Once the range pilot is lit, light the desired range burner by pushing in and turning the respective burner control knob counter-clockwise.

NOTE

The oven in your motorhome has an automatic lighting device. There will usually be a short delay (30 to 40 seconds) after the oven is turned on before the burners will light. This is a normal condition and is not a sign of an oven malfunction.

LIGHTING OVEN BURNER — Once the oven pilot light is lit, turn oven control to desired temperature setting and oven burner will light automatically and maintain correct temperature.

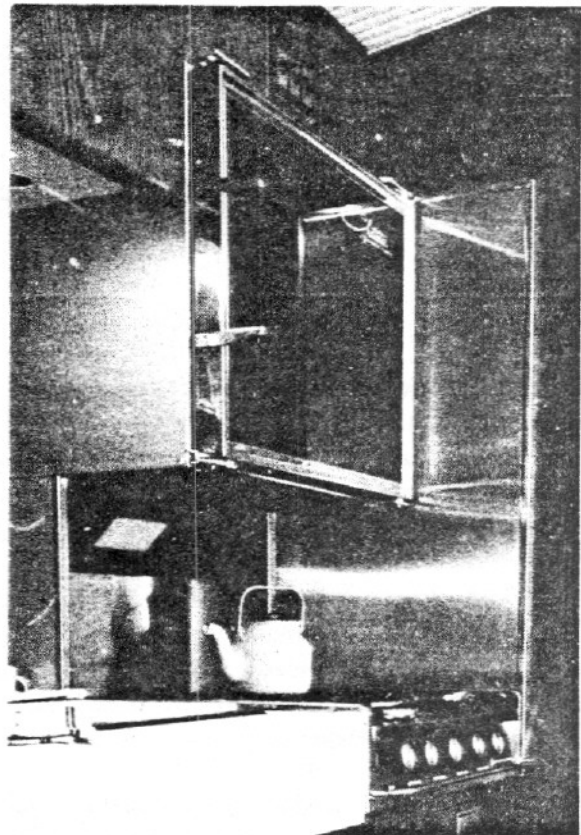


Figure 3-5. Gas Range and Oven.



SHUT OFF RANGE AND OVEN BURNERS —

Turn oven control to TOP AND OVEN PILOTS OFF position (maximum counter-clockwise).

GALLEY SINK

The heavy-gauge stainless steel sink provides maximum durability with minimum care. After use, rinse sink thoroughly with warm water and wipe dry with a cloth to avoid streaks and spots. For stubborn stains, a mild abrasive cleaner can be used with care. Be sure to wipe in the direction of the steel finish to help maintain the original appearance. Always wash counter surfaces before applying a complete wax coating; regular cleaning prevents wax buildup.

CAUTION

Abrasive cleaners will scratch sink counter top surface.

Boiling water will not harm stainless steel; however, salt, mustard, mayonnaise, ketchup and other similar food acids can cause pitting. If any of these are spilled on the surface, clean off immediately.

FOOD CENTER

A built-in variable-speed motor-driven counter unit, figure 3-6, may be used with mixing and blending attachments for a large variety of food preparation tasks. The food center is designed for

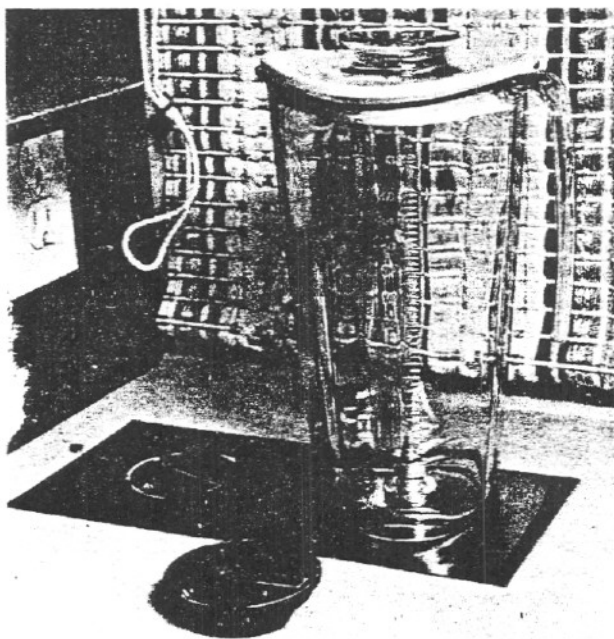


Figure 3-6. Food Center

ac operation and is operable only when the generator is on; or when coach systems are connected to an external shoreline hookup.

BATHROOM

WATER PUMP SWITCH

Two WATER PUMP ON-OFF switch/indicators are provided for separate control of water pump operation. One switch is located on the monitor and control panel in the galley area; the second is located in the bathroom. The pump may be operated ON or OFF from either location. The indicator is lit whenever power is being supplied to the pump. Setting either switch ON pressurizes the water system, with the pump operating on demand to maintain system pressure constant. Continuous or erratic pump operation can indicate an empty water tank, system leakage, or air lock in hot or cold water lines. (Air locks are normally caused by movement of water in the tank during pump operation.) Since tank water level and water pressure can vary with road movement, leave water pump switch OFF while the coach is moving. The water pump and air accumulators are located under the bath vanity, in side-bath units; or under the left bed, in rear-bath units.

TUB/SHOWER UNIT

The combination tub/shower unit, figure 3-7, includes a pressure-balancing single mixing valve, tub water outlet with shower head diverter button, shower head and drain lever.

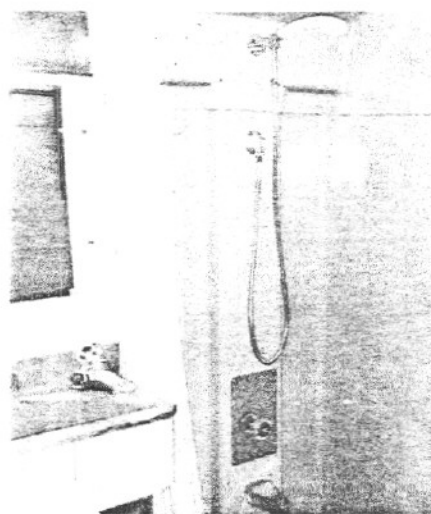


Figure 3-7. Stall Shower



TOILET

The toilet (marine type), figure 3-8, operates from the fresh water supply, flushing wastes directly into the sewage holding tank. Two foot pedals are located at the bottom of the bowl. The smaller right-hand pedal (bowl fill) controls the amount of water delivered into the bowl; while the left-hand pedal (bowl drain) opens the sliding valve to the tank. To prepare the toilet for use, depress the bowl fill pedal until the water level in the bowl is as high as needed. After use, depress bowl drain pedal until water swirls, draining wastes into tank, then release pedal. A water-saver feature, consisting of a manually-operated spray hose, is located at the side of the bowl.

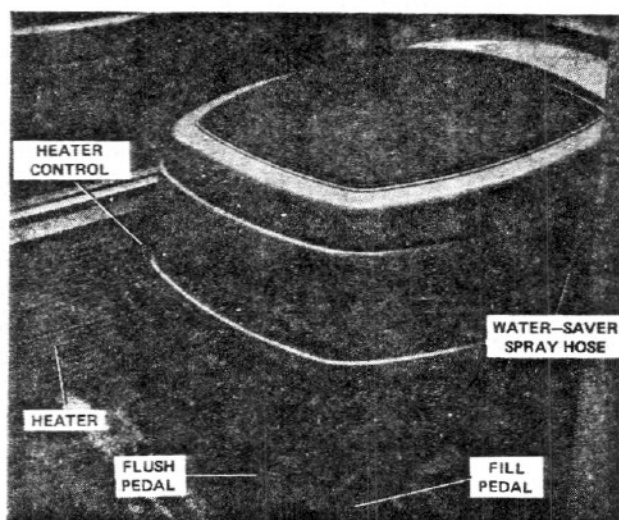


Figure 3-8. Toilet

ROOF VENTS AND EXHAUST FANS

BATHROOM — To operate the combination vent/exhaust fan in the bathroom ceiling, figure 3-9, turn handle to open roof vent, then press switch to turn on fan motor.

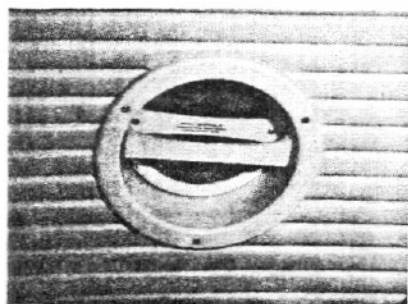


Figure 3-9. Bathroom Vent/Exhaust Fan

HALLWAY — Lighted exhaust fans in the hallway, figure 3-10, are controlled by separate switch panels above the driver and above the oven. A typical panel, shown in figure 3-11, includes switches for LID, LIGHT and FAN control.

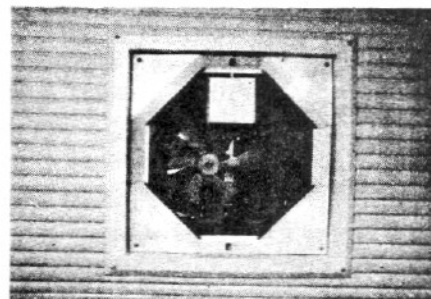


Figure 3-10. Hallway Lighted Vent/Exhaust Fan

The LID UP-DOWN switch raises or lowers (closes) the outside vent; the FAN ON-OFF switch controls fan operation; and the LIGHT ON-OFF switch controls the operation of the built-in ceiling light.

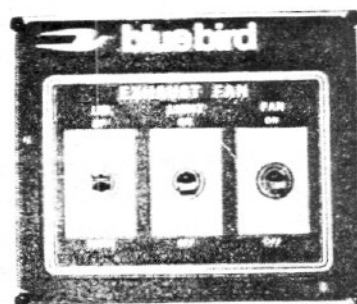


Figure 3-11. Exhaust Fan Control Panel

HEATING SYSTEMS

Three gas/hot air furnaces are used in the coach, each with a separate zone thermostat, figure 3-12.



Figure 3-12. Heater Thermostat



One furnace is located in the living room; another is in the galley area; and the third in the bedroom. The living room furnace is also used to supply hot air to the bathroom via a separate duct booster fan controlled by a thermostat in the bathroom. In addition, separate heating is also provided by circulating hot-water heaters which function through engine coolant heat exchange when the engine is operating and the **WINTER-SUMMER HEAT SELECTOR** dash switch is in **WINTER** position.

HOT AIR FURNACE OPERATION

To operate the furnace, proceed as follows:

1. Turn manual valve to **OFF** position and wait five minutes. Set thermostat to lowest setting.
2. Open manual valve. Correct operating characteristics depend on this valve being fully opened; never operate with valve partially open!
3. Set thermostat at desired position. Main burner will light within 15 seconds and furnace will then operate automatically.

When coach temperature drops below the thermostat setting, the internal relay contacts close to operate the main burner. The air flow created by the blower closes an air-actuated switch that, in turn, energizes the main burner gas line solenoid valve which then lights from the electronic ignition.

CAUTION

Do not store items in or near the burner compartment.

When the coach temperature exceeds the thermostat setting, the relay contacts open. This shuts off the burner gas supply but the blower continues to operate until residual heat within the furnace is dissipated, when a thermostatically-controlled relay turns off the blower. Air for the sealed combustion chamber is pulled in from outside the coach, routed around the heat exchanger, then exhausted through the same vent. Recirculated fan-forced air blowing across the heat exchanger is used to heat the coach interior.

HOT-WATER HEATING SYSTEMS

Two sources of hot-water heating are provided which depend on heat generated from engine

operation. A hot-water heater, at the right front corner of the coach, is controlled by the **FRONT HEAT** switch on the dashboard; and three chassis heaters, (50,000 BTU) under the front dinette seat, front sofa and curb-side bed, are controlled by the **CHASSIS HEAT** thermostat, located on the curb-side wall, above the half-closet, nearest the entry door.

The engine coolant is normally routed through the engine cooling system and the hot water heat exchanger, which also can be heated electrically to provide the hot water supply for the coach. However, by operating the **WINTER-SUMMER HEAT SELECTOR** switch, the engine coolant can also be diverted through the previously-mentioned area heaters, via solenoid valves. Note that the coolant level in the engine radiator should be checked after these valves are opened. If the coolant in the heater lines has evaporated during the summer, the radiator will lack sufficient coolant and may overheat.

Chassis heater blower motors (dinette seat, front sofa and curb-side bed) are controlled by **ON-OFF HEAT** switches adjacent to the heater louvers. The front heater is equipped with three squirrel-cage dual-speed blowers, operated from separate dash controls. One blower provides defroster air; one provides air to the driver's side; the third provides air to the co-pilot's side. Use **DEFROST HI-OFF-LOW** switch for setting the defroster blower speed; use the left and right **HI-OFF-LOW HEAT** switches to control air flow to the driver's and co-pilot's sides, respectively. To supply heat, the dash **FRONT HEAT** switch must be **ON**.

NOTE

If additional defrosting action is needed, turn auto air conditioning temperature control to **OFF** and turn auto air conditioning fans to high-speed. This will circulate additional warm air about the windshield area.

Engine heat is picked up by the engine coolant which is pumped through the heaters inside the body and back into the engine. A typical heater (inside the body) consists of a heat exchanger, or core, and fans which move the air across the core. Air moving across the core picks up heat from the



engine coolant and transfers it into the living room.

HEATING SYSTEM OPERATION

Satisfactory performance of this type of heating system depends on the following basic factors:

1. Engine Coolant Temperature — This can be altered by thermostat rating, which should never be higher than that recommended by the engine manufacturer.
2. Coolant Flow — This varies with the engine speed. Setting the AUX. PUMP dash switch to ON turns on the auxiliary pump in the coolant lines to increase the coolant flow through the system. (This feature may also be used to reduce engine overheating.)
3. Proper Fan Operation — All fan motors are two-speed and can easily be checked for proper operation by listening to the motor speed change as the switch is operated.

Under extremely cold weather conditions, turning on the heater fans will lower the engine temperature noticeably as heat from the engine is being transferred into the body. However, as the air temperature within the body rises, the engine temperature will also increase. More heat will be generated by the engine which it is also used to move the coach. Be sure that the engine radiator is full and that all coolant flow valves are open. Warmup engine to operating temperature and set heating system switches as follows:

- a. WINTER-SUMMER HEAT SELECTOR to WINTER position;
- b. AUX. PUMP to ON;
- c. FRONT HEAT switch to ON;
- d. Left and right HEAT blower switches to HI or LOW;
- e. Thermostat to desired temperature.

The engine is designed to operate on a continuous duty cycle and may be used to provide a constant heat supply. This, however, should be done only if no other source of heat is available.

DUCT BOOSTER

The duct booster system, installed in the hot air duct between the living room furnace and bathroom, is controlled by a separate thermostat in the bathroom. Note that the living room furnace must

be on for the duct booster to operate.

HOT WATER SUPPLY HEATER

The hot water supply heater core is also a part of the engine cooling system loop. When the engine is operating, the heat exchanger ensures a constant supply of hot water. In addition, the water supply can be electrically heated by electric coils in the heater unit. The 120 volt, ac-operated, heater is controlled by an ON-OFF switch/indicator on the bottom of the roadside bed; or by the circuit breaker in the rear curbside closet. This heater can operate only when the shoreline is connected, or when the generator is on.

CAUTION

Be sure that the electric heater core is turned OFF if there is insufficient water in the tank.

ROOF-AIR CONDITIONING

Conditioned air is maintained throughout the coach by ceiling-mounted air conditioner units. Each unit provides dual low- and high-speed fan or cooling operation for high velocity air movement through individually-controlled outlets. Air conditioning cool-down occurs faster if all windows, doors and vents are closed.

Maximum air conditioning efficiency also depends on the outside temperature and operating voltage level. Because the air conditioners represent the largest load for the electrical system, never start more than one unit simultaneously. (Air conditioner starting current can be two to three times the normal operating current.)

CAUTION

To ensure the full efficiency of the air conditioning units, periodic removal and washing of the air conditioner filters is recommended. This is easily done by removing the filters from the retaining screens, washing in a warm soapy solution, rinsing and drying with paper toweling, then replacing filters and screens.

If an external ac hookup is being used, and the system is not operating efficiently, this may be



caused by lower shoreline supply voltage. (Check power line voltage monitors.) Turning the generator on and switching over to generator operation will supply enough power to ensure correct air conditioner operation.

Before starting the generator, check that each air conditioner is off to prevent the generator from starting under load. Allow generator to warm up to the proper voltage and frequency before turning on the air conditioner(s).

Two remote ON/OFF switches for REAR and FRT. A.C. operation are located on the wall next to the driver.

SYSTEMS MONITORING AND CONTROL PANELS

Systems monitoring and control panels are located in the galley walls, above and to the side of the sink, figure 3-3. Additional monitoring equipment is provided on the dinette wall, figure 3-2, and beneath the refrigerator.

THE THERMOMETER AND THE CLOCK, AND THE MONITOR PANELS

Both of these units, figure 3-13, are solid-state with large digital LED readouts. Operating procedures for each unit follows:

THE THERMOMETER AND THE CLOCK

The Thermometer and The Clock panel provides a digital display of inside and outside temperature; digital time display; and an alarm function. (The temperature monitoring section of this unit is the same as The Thermometer, located on the bulk-head panel over the driver.) Operate the panel controls as follows:

1. Monitor inside or outside temperature (F) by pressing the TEMP IN or TEMP OUT buttons. Note that there is an internal adjustment, at the rear of the unit, which may be used to calibrate the temperature readings.

2. Set alarm as follows: press ALARM DISPLAY button then operate the FAST and SLOW buttons to set the alarm time. Note that this is a 24-hour alarm, so observe the lit PM indicator to the left of the display. After setting the alarm,

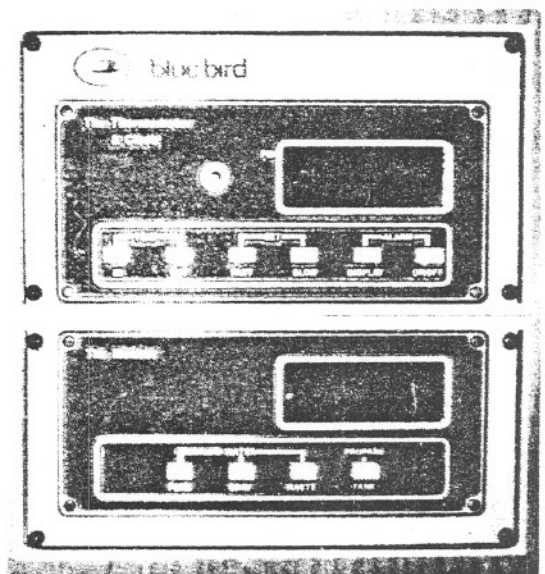


Figure 3-13. The Thermometer and the Clock, and The Monitor

press ALARM DISPLAY button again to return to the normal time mode. To activate the alarm feature, press the ALARM ON/OFF button in to ON; to shut off the alarm, press ALARM ON/OFF button out to OFF.

THE MONITOR

The Monitor panel provides an illuminated readout of the content level of the pure water, gray and waste water tanks, and the LPG tank level. Operate The Monitor as follows:

1. Monitor PURE, GRAY or WASTE TANK levels by pressing in the respective button. The content level remaining in the tank is indicated by five sets of lit readings. The E lamp, at the left of the display, is lit all the time; if the next indicator is lit, the level is approximately $\frac{1}{4}$ tank; if the center indicator is lit, tank level is between $\frac{1}{2}$ and $\frac{3}{4}$ full; if the $\frac{3}{4}$ indicator is lit, tank level is between $\frac{3}{4}$ and full; and if the F indicator is lit, tank level is full. If only the E indicator is lit, the tank level is between empty and $\frac{1}{4}$.

2. LPG tank level can be monitored in the same manner as the water tanks level by pressing in the PROPANE TANK button. Note that this display is pre-calibrated. However, if it is necessary to re-calibrate the display, this can be done when the tank is full by setting a rear-panel adjustment.



SWITCHING AND MONITOR PANEL

The switching and monitor panel, figure 3-14, monitors the battery voltage level, activating an audible alarm if a low-voltage condition is present (BATTERY LOW VOLTAGE). It also monitors the refrigerator temperature when the REFRIG. ALERT switch is ON. Normally, the ON indicator is lit; if the refrigerator temperature increases to an unsafe level, the WARM indicator lights to indicate an alarm condition. The thermostatic refrigerator fan is controlled by the REFRIG. FAN ON-OFF switch. The indicator above the switch is lit when power is being supplied to the fan. However, the fan will not operate until vent column temperature reaches approximately 100 degrees F.

Water pump operation may also be controlled from this panel with the WATER PUMP ON-OFF switch; the ON indicator will be lit when power is being supplied to the pump. GENERATOR START-STOP operation is controlled by depressing the switch upward to start the generator, operation being indicated by the indicator in the center of the switch being lit; press switch downward to STOP operation and hold until light is off.

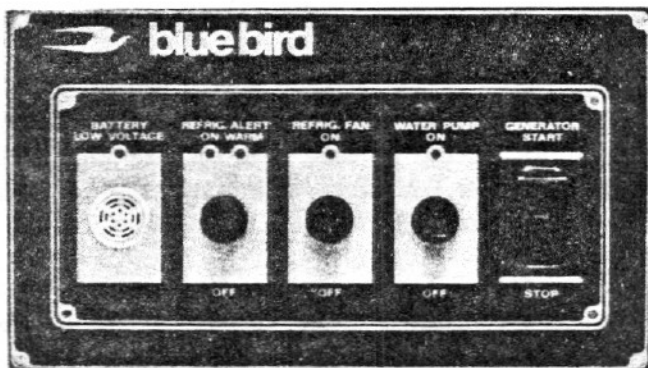


Figure 3-14. Switching and Monitor Panel

LP GAS LEAKAGE DETECTOR

The Control 4 LP gas leakage detector, figure 3-15, is located beneath the refrigerator. In the event of an LP leak, the unit sounds an alarm and closes down the main LPG supply by activating a solenoid valve located in the gas line just after the low pressure regulator. If it is necessary to reset the solenoid (red band is visible inside clear plastic valve housing), open the refrigerator vent air intake door, remove plastic housing by gripping locking levers and lifting upward, push valve plunger down

until it remains down, then replace the cover. For continuous operation, set OFF-ON switch ON; to test alarm operation, press PUSH AND HOLD TO TEST switch.

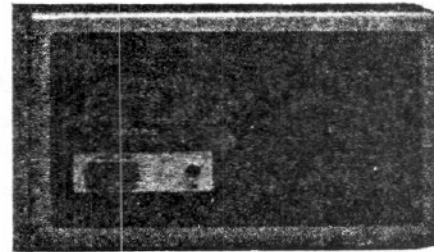


Figure 3-15. LP Gas Leakage Detector

POWER LINE MONITOR

A dual-channel power line monitor, figure 3-16, on the side galley wall, continuously monitors ac line voltage and shoreline hookup(s) polarity. Each channel includes an expanded-scale ac voltmeter, reading from 90 to 130 volt ac; a POLARITY NORMAL indicator, lit whenever the shoreline hookup is properly connected and grounded and line polarity is compatible with coach wiring; and a POLARITY REVERSED indicator which lights when hookup is reversed. Note that shaded area on the meter face indicates normal voltage range.

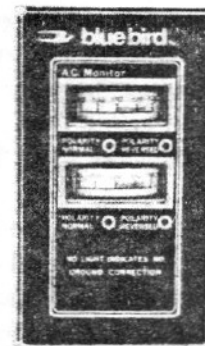


Figure 3-16. Power Line Monitor

LIFEGUARD ONE

Lifeguard One, figure 3-17, is a gas leak detector designed to sense dangerous concentrations of LP gas or carbon monoxide within the coach. Propane has a Lower Explosive Level (LEL) of 21,000 PPM and butane has an LEL of 18,000 PPM. Threshold Level Value (TLV) is the maximum permitted level of toxic gas in a work area, as published by safety and health authorities (OSHA). The allowable TLV for propane is 1,000 PPM; the TLV for carbon monoxide is only 50 PPM!

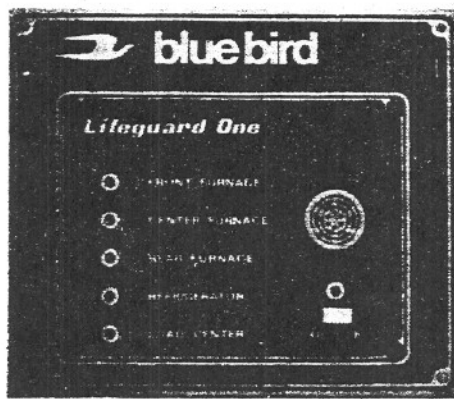


Figure 3-17. Lifeguard One Gas Level Alarm

Lifeguard One has been factory-calibrated to an alarm point of 2,000 PPM propane for standard conditions (temperature, 20 degrees C \pm 2 degrees; relative humidity 65% \pm 5%). This provides for a minimum of false alarms consistent with providing reasonable safety.

Carbon monoxide, a product of combustion, is also sensed by Lifeguard One and, for this reason, a sensor is also placed at the load center to provide an alert in the event of a short circuit causing an electrical fire. The sensors have a long life and high reliability. In normal use, recalibration or replacement will not be necessary for 5 years or longer.

To turn on the unit, set ON-OFF switch to ON and observe that POWER ON indicator is lit. Propane level sensors are located in key areas through the coach, in the vicinity of the gas appliances being monitored. Excessive propane PPM conditions are indicated by the sounding of the audible alarm and lighting of an indicator associated with the danger area. Lifeguard One, if left turned off for a period of time, has a warmup period of about one minute. During this time, the alarm may sound. This is a normal response and should stop once the unit has warmed up.

ELECTRONIC DOOR CHIME

The door chime is located on the dinette wall beneath Lifeguard One. It is a highly sophisticated musical tone generator similar to The Horn.

The unit contains a circuit board micro-computer "chip" which is programmed with both music for the tunes, and the play-out program.

When the entry door button is pressed, the micro-computer is activated and tests the selection switches to find out which tune is required. When this is done, it proceeds to retrieve the tune from "memory" and then generates the audio/tune output. Since this is all done electronically (in a fraction of a second) the unit cannot go out of tune. The audio signal is amplified and processed to sound similar to a chime, and then connected to the speaker. When the end of a tune is reached, as long as the entry button is not being pressed, the micro-computer shuts down to save power use.

The operating controls are concealed behind the lower access panel, as shown in figure 3-18. The panel may be removed at any time to change the tune played, or the speed, volume, or tone.

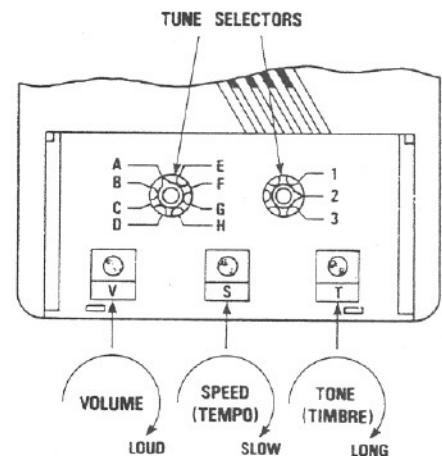


Figure 3-18. Electronic Door Chime Controls

TUNE SELECTION — The desired tune is selected by setting the two operating controls to the positions corresponding to the following selections:

Tune	Set
Greensleeves	A1
God Save the Queen	B1



Tune	(continued)	Set
Rule Britannia		C1
Land of Hope and Glory		D1
Oh Come All Ye Faithful		E1
Oranges and Lemons		F1
Westminster Chimes		G1
Sailor's Hornpipe		H1
Cook House Door		A2
Star Spangled Banner		B2
Beethoven's Ode to Joy(9th)		C2
William Tell Overture		D2
Soldier's Chorus (Faust)		E2
Twinkle, Twinkle Little Star		F2
Great Gate of Kiev		G2
Maryland/Tannenbaum		H2
Beethoven's Fate Knocking		A3
The Marseillaise		B3
Glorious Things/Deutschland		C3
Bach's Tocata in D Minor		D3
Mozart Sonata		E3
Colonel Bogie (Bridge Over River Kwai)		F3
Mendelssohn's Wedding March		G3
The Lorelei		H3

On all selections, except A1 and A2, the second pushbutton will only play tune A3. If A1 or A2 is selected, then it will play B3.

The knob designated S sets playing speed for the selected tune; the T knob sets the tone and may be adjusted for a pizzicato sound (plucked strings); or, set for normal audio tones. The knob marked V sets the volume. When set to the fully counter-clockwise position, no sound will be heard, but the unit will still be operational.

After setting all controls, replace access panel.

DIGITAL INSIDE/OUTSIDE THERMOMETER

The digital thermometer on the center panel above the driver, figure 3-19, is a "slave unit", with digital readout based on the output received from The Thermometer and The Clock panel. A rear-panel adjustment assures that both readings correspond. Depending on whether INSIDE TEMP. or OUTSIDE TEMP. is selected, either one or both readings can be displayed separately or alternately. The temperature reading displayed is indicated by the associated light being illuminated.

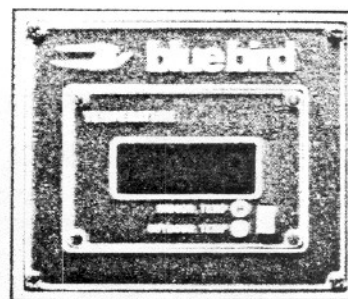


Figure 3-19. Digital Inside/Outside Thermometer

PORTABLE FAN

The portable oscillating fan is shown in figure 3-20. The 12-volt hookup cable is coiled within the base section when the fan is not in use.

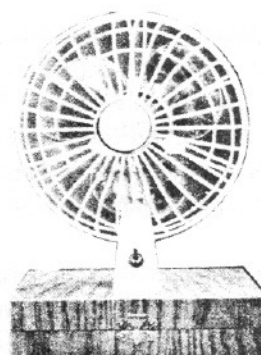


Figure 3-20. Portable Oscillating Fan

SECURITY TIMER

The "Watchdog" security timer, figure 3-21, is a randomly-switched electrical timer which can be used to control the on-off operation of an appliance, light, etc., to give your coach that "lived-in" look when it is unoccupied. The three-position switch may be set to OFF, to shut off the controlled appliance; to ON, for manual control; or to SECURITY, for random operation.

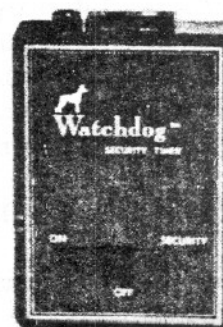


Figure 3-21. Security Timer

BURGLAR ALARM/ANTI-THEFT FEATURES

The security of your motorhome and contents are assured by an intruder alarm system which protects windows and entry door. Each window is protected by a magnetic proximity switch which triggers an alarm if the window is opened. The entry door uses a door jamb switch which operates when the door is opened. When the system is "secured" it may be activated from outside the coach by a key-switch adjacent to the entry door. From inside the coach, a master burglar alarm switch may be operated at the front instrument panel.

In addition to the alarm system, an anti-theft switch for the ignition circuits (A/T switch on dashboard) can be operated so that the unit cannot be started.

FIRE EXTINGUISHER

A portable, multi-purpose dry chemical fire extinguisher is located beneath the forward part of the dinette seat, in side-bath units; and in back of the driver's seat, in rear-bath unit. A second fire extinguisher is located in an outside coach compartment. To use, release the clamp and remove the fire extinguisher from the bracket, pull safety pin from handle, squeeze handle and apply chemical under flame.

CENTRAL AIR-CONDITIONING SYSTEM

The controls for the central air-conditioning

system (used in 35-foot coaches) are shown in figure 3-22. Operation is as follows:

OFF—START—RUN Switch — Applies power to system for fan operation (START position); and next activates compressor (RUN position).

NOTE

Do not turn the compressor off and on without allowing a few-minutes delay between switching. This will prevent overloading the compressor motor.

FAN Switch — Variable-speed fan motor control. Set as desired for normal operation; set between mid-range and HIGH for higher cooling capacity. **THERMOSTAT Control** — Clockwise rotation provides greater cooling; set as desired.

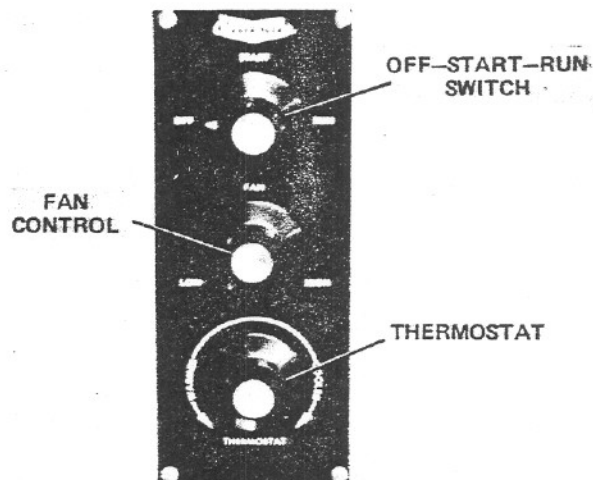


Figure 3-22. Air Conditioner Controls

