



OWNER'S SUPPLEMENT

TREK

Safari Motor Coaches
30725 Diamond Hill Rd.
Harrisburg, OR 97446
Service 1-800-344-6332

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The descriptions and specifications in this manual were in effect at the time of its approval for printing. The manufacturer reserves the right to change specifications or designs without notice and without incurring obligation.

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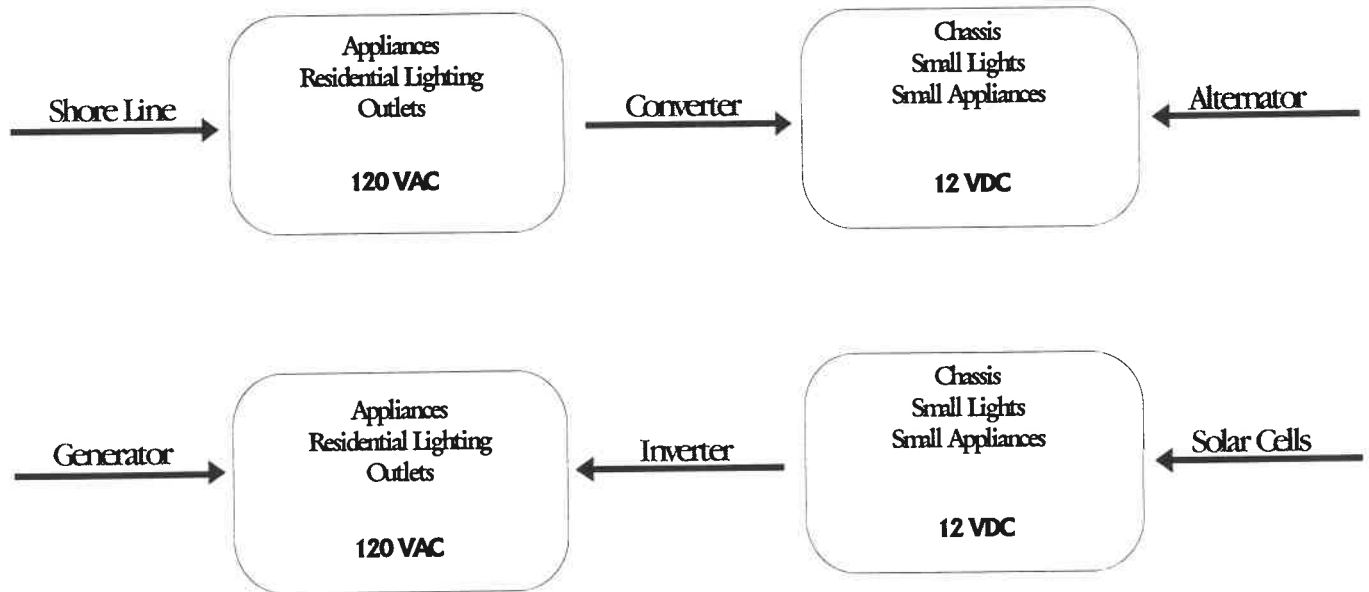
CHAPTER ONE

Electrical System

OVERVIEW

The electrical system in your Safari motor coach is designed to provide maximum flexibility and power with a minimum of fuss. Our engineers have produced a system which through a complex web of circuitry can operate virtually automatically, responding to your demands in the optimum manner. Included are mechanisms to prevent such problems as battery drain, and numerous safety features. The system is so automatic that you might be tempted to skip this part of the manual, but you will gain even more from a thorough understanding of this material.

Electrical System



Electrical System (Simplified)

The electrical system can be divided into two connected parts, the 120VAC and the 12VDC systems. 120VAC is the same type of electrical power found in homes, it provides substantial power for appliances and lighting. Examples in your coach of 120VAC appliances include the television, microwave oven, and "residential" lighting, as well as the three-pronged outlets scattered through the coach. 12VDC is suitable for low-power applications, such as small lights, fans, indicators, and appliances. The chassis uses 12VDC power to start the engine and to run the dash and lights.

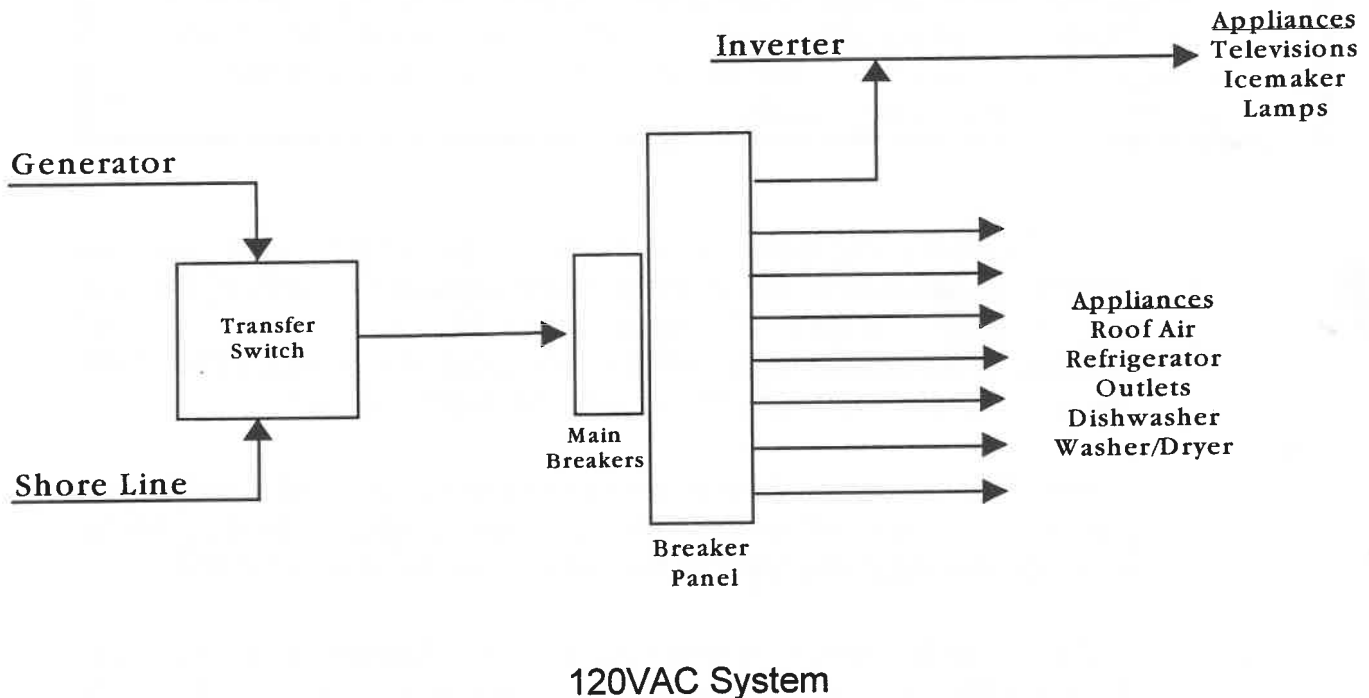
The two systems are connected by an optional inverter, which transforms 12VDC power into 120VAC, and a converter, which does the opposite. These devices are fully explained later in this chapter.

Your coach can draw on several sources of power. 120VAC power can be supplied by a "shore line" connection at your house or park site. It can also be produced by your generator. 12VDC power is generated by the alternator in your engine, and by the optional solar panel. Power is stored in two sets of batteries.

A simplified drawing illustrates the general layout of your system. More detailed drawings follow later in the chapter.

WARNING: Modifying the circuitry in your motor home may void the warranties of the coach and any appliances on that circuit.

WARNING: Whenever working with circuitry, always follow strict safety precautions. Never work on a live circuit. Always use proper tools and techniques. Never bypass breakers or fuses.



120VAC SYSTEM

The 120VAC system provides the same 60 hertz standard power found in all North American homes. Virtually any appliance you can run at home on a standard outlet you can use in your Safari, within the overall amperage limitations. The system is protected from overloads by a set of circuit breakers located on a single panel.

The system can take power from any of three sources: generator, shore line, or optional inverter. Power is drawn from the most appropriate source automatically.

CIRCUIT BREAKERS AND G.F.C.I.

Electrical System

The 120VAC system has two important safety mechanisms. First, a set of circuit breakers prevents any circuit from being overloaded. An overload can result from a short circuit, a faulty appliance, or too many appliances being run on the same circuit. The system is divided into several separate circuits, which decreases the load on each circuit and allows other circuits to operate if one circuit goes down.

WARNING: Never attempt to bypass the circuit breakers for any reason. Doing so will void the warranty both of your coach and any appliances on the circuit. Furthermore, a circuit without a breaker presents a serious safety hazard.

The breaker panel is labeled with the appliances and outlets on each circuit. In addition to the 20 amp circuit breaker for each of the four circuits, there is a large 30 amp main breaker which protects the full system. If an appliance or outlet is not receiving power, check both the main breaker and the breaker for that outlet's circuit.

Note that the optional inverter contains its own circuit breaker, and power from it is not channeled through the main panel. If the inverter is not producing power, check the breaker on the inverter itself.

G.F.C.I. refers to the Ground Fault Circuit Interrupt. This is a safety feature which halts power through a circuit if a short or other malfunction is detected. This is an important mechanism, designed to help prevent injury. The G.F.C.I. works in a manner similar to a circuit breaker. If a fault is detected in the circuit, a switch inside the G.F.C.I. is tripped, halting power flow. The circuit will not operate again until the switch is reset on the G.F.C.I. receptacle.

The bathroom outlet in your coach is protected by a G.F.C.I.. This G.F.C.I. receptacle also protects the outlets in the galley, the front television and the electro-majic bed, if installed. (Other outlets may also be protected by this G.F.C.I., according to the floorplan and installed options.) If power is not available at these outlets, check the G.F.C.I. outlet and reset the switch, if necessary, fully press the red button.

GENERATOR AND SHORE LINE

The generator runs on LP Gas, and provides a very efficient source of 120VAC power. For full specifications, instructions, and maintenance requirements on the generator, please refer to the manual in the warranty pack. This manual contains only an overview - it is not a substitute for the manufacturer's documentation.

You can start your generator using the remote switch on the monitor panel. Simply press the "start" button and hold it until the generator starts. To stop the generator, press the "stop" button until it comes to a complete halt.

If the generator does not start promptly, let off the button and try again.

***WARNING:** Continuous cranking can damage the generator starter.*

Do not neglect the maintenance of the generator. A full schedule is provided in the generator manual, and an hourmeter is mounted on the monitor panel by the start/stop button. If you are operating it in dirty or dusty conditions you should accelerate the schedule accordingly. Monitor the generator for signs of problems, such as odd noises, power loss, and overheating. If any such signs appear, have the generator serviced promptly.

***WARNING:** Never use your generator as an emergency power source for a residence. Plugging the house into a coach may allow electricity to flow back to the utility lines. This would present an extreme hazard to any technician working to restore power.*

***WARNING:** Never store anything in the generator compartment. Using this area for storage presents a fire hazard, and may prevent the correct operation of the generator.*

Your coach is provided with a 25 foot shore line. To utilize the power available from a house or campground, simply plug the line into the outlet and into the shore line receptacle in the service center. The 120VAC system automatically detects the presence of the shore power and acts to utilize it. There are no switches or breakers to bother with.

Electrical System

WARNING: Never substitute any other cord for the line provided. Do not use the line if there is any sign of damage to the line or the receptacle. If the line must be replaced, replace it with a line of at least the same rating.

INVERTER

The inverter transforms 12VDC power into 120VAC usable by the major appliances. The inverter allows the use of these circuits without the generator or shore line, using just the power stored in the house batteries. Not all circuits are connected to the inverter, and thus not all appliances can be run without a 120VAC power source - generator or shore line.

There are two circuits from the inverter. One circuit goes directly to the "inverter only" outlet. This outlet is not connected to the main 120VAC system, and thus only can run from the inverter. The second circuit runs through several appliances, including the televisions. This circuit can also draw from the other 120VAC sources.

The inverter has its own internal breakers, and thus power from the inverter is not channeled through the circuit breaker panel. If power is not reaching appliances served by the inverter, you probably must reset the inverter by pressing the reset button fully. The "inverter only" outlet offers a simple way to test the unit. If a small appliance plugged into this outlet doesn't work, then the inverter is not supplying power.

The power for the inverter comes from the house batteries, and you should keep an eye on the battery level as you use your appliances. The battery level can be checked using the monitor panel in the kitchen.

12VDC SYSTEM

The 12VDC system provides power for a variety of applications. Many of the lights use 12VDC, as do the fans, the water pump, leveler pump, and of course, the chassis accessories. In addition, 12VDC power is used to start the generator, ignite the furnace and power its fans, and run the indicator lights in the refrigerator and monitor panel. And through the optional inverter, the 12VDC system also can provide power for the 120VAC appliances.

The 12VDC system is divided into two sections. The "chassis" section powers the engine, running lights, dash accessories, and levelers. It includes the "chassis" battery and alternator.

The "house" section powers the 12VDC interior lighting, ceiling fans, generator, refrigerator, furnace, water heater, monitor panel, and water pump. It includes the set of "house" batteries, and also powers the optional inverter.

The two systems are connected by an isolator and boost switch, which allows the house system to supplement the chassis system, while simultaneously preventing the chassis battery from being drained by house demands. This is more fully discussed in the next section.

CHASSIS SYSTEM, ISOLATOR, AND BOOST

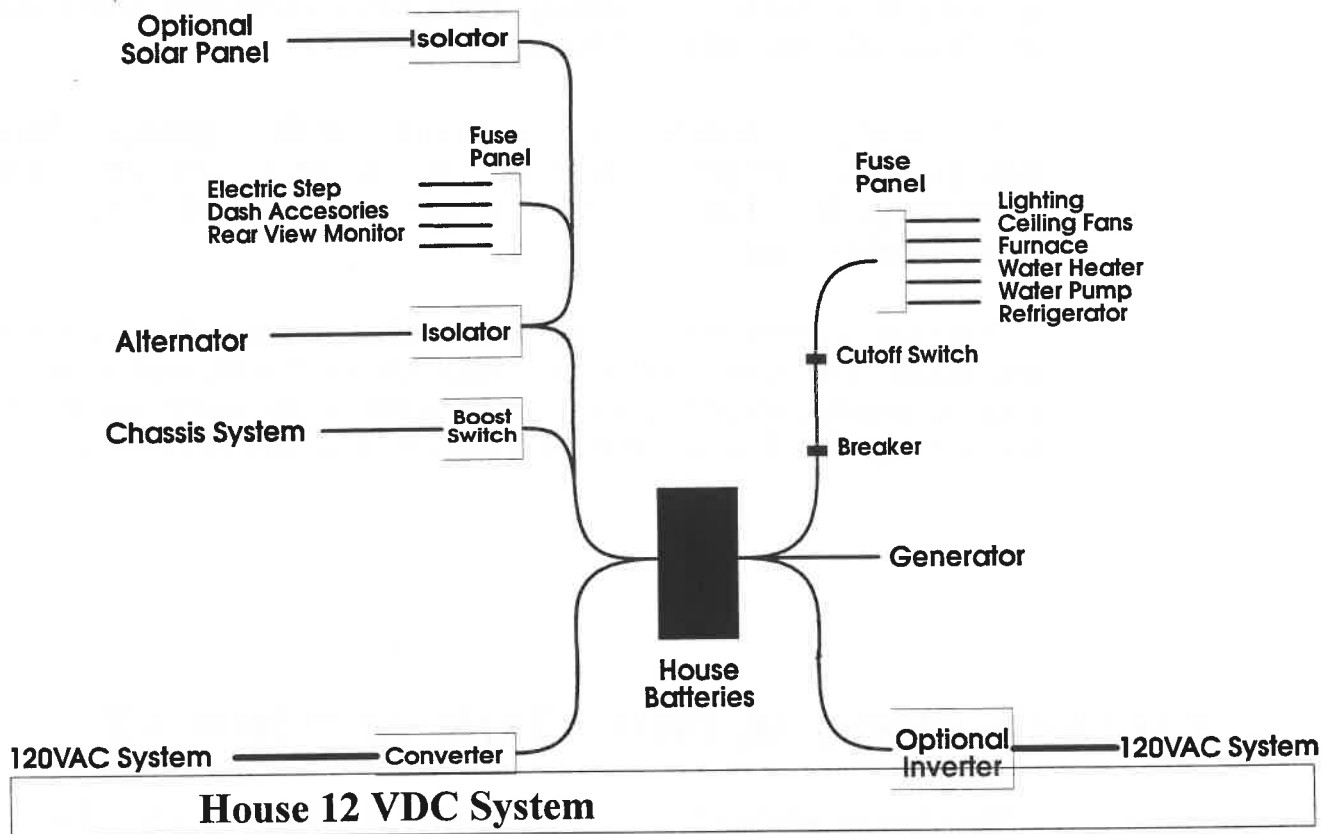
The chassis' electrical system is enhanced by Safari in several ways. The system provides power for starting the engine, and also powers the leveler pump. It is recharged by the alternator and the optional solar cell.

The optional solar cell provides a small amount of power during the daytime to charge the chassis battery. This helps to maintain the battery charge even when parked for extended periods. Although all solar cells produce a drain when in the dark, for this cell that drain is virtually unmeasurable.

Power from the alternator and the optional solar cell is channeled through isolators. These devices allow the chassis and house system to charge simultaneously while keeping the two systems separate. With the isolator, draining the house batteries will not affect the chassis battery, and vice-versa. With a small amount of care, at least one battery system will always be charged.

Should the chassis battery lose its charge and become unable to start the engine, it is possible to apply the house system to the task. A boost switch connects the two systems. By activating the switch, the starter can get power from the house batteries and converter.

Electrical System

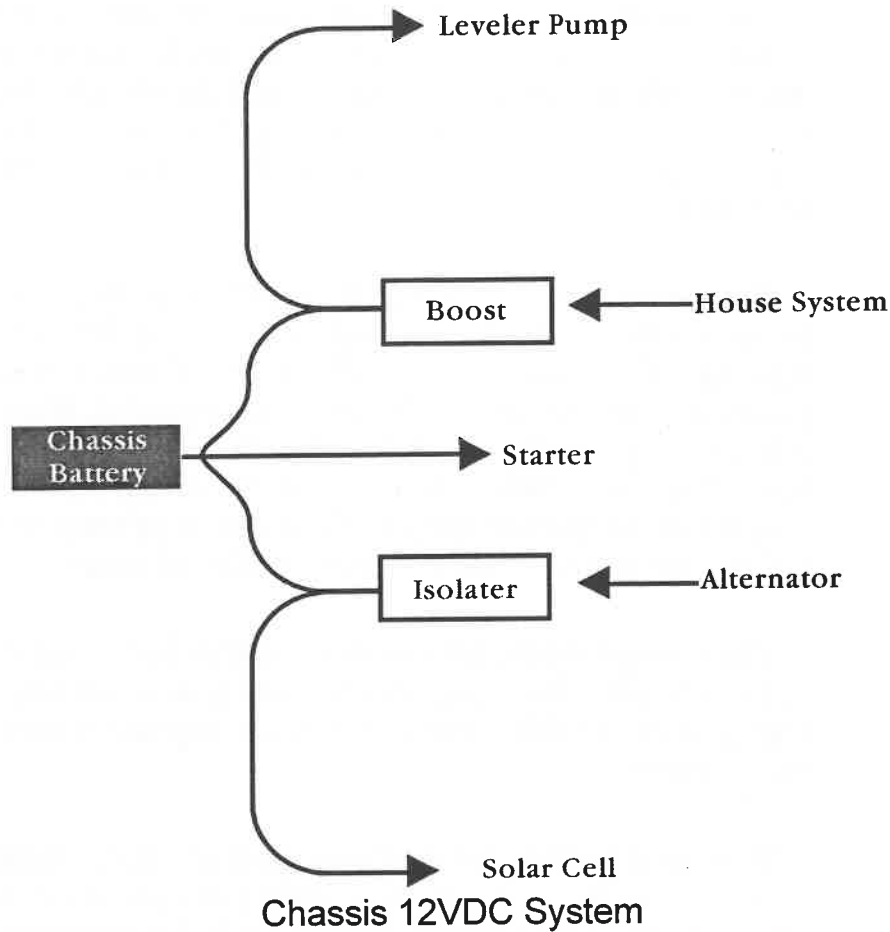


Since the house system can draw from the converter when 120VAC power is available, you can start the engine even if all of the batteries are drained. The converter supplies 12VDC power from a 120VAC source, either the shore line or generator. (Of course, starting the generator also requires the house batteries, but is easier to start than the chassis engine.)

The boost switch should only be activated for the time that the power is needed. Leaving the switch activated allows the chassis battery to drain along with the house batteries while you are using the 12VDC accessories and appliances. This could cause you extreme inconvenience.

HOUSE SYSTEM

The house 12VDC system provides the power for all 12VDC accessories and appliances, with the exception of the engine starter, leveler pump, and automotive functions. The system includes two batteries, designed to maintain their power even after repeated deep cycles. The



system includes two fuse panels, one for interior and ceiling appliances, and the other for exterior and chassis based items.

The system is charged by several sources. The alternator charges the system through the isolater. As mentioned above, the isolater keeps the house system separate from the chassis system, preventing the chassis battery from being drained by the house appliances. The converter provides power from a 120VAC source, either the generator or a shore line. It operates automatically according to the presence of 120VAC power. The optional solar panel also works to charge the house batteries.

The house battery system provides power directly to the optional inverter and generator starter. It also is hooked to the chassis system through the boost switch. These devices are all connected directly to the house batteries, with no intervening breakers or switches.

Electrical System

The remaining 12VDC appliances are served through two fuse panels. One panel sits on the front firewall, and serves circuits which run through the chassis. These include the electric step, dash accessories, rear monitor, mirrors, and cargo bay lights. This fuse panel is connected directly to the house batteries, with no intervening breaker or switch.

The second panel is located by the 120VAC breaker center. It serves circuits which run through the roof to the interior appliances and lighting. These include the ceiling fans, furnace, water heater, water pump, and refrigerator. This panel is separated from the batteries by a breaker and a cutoff switch. The breaker is located near the battery tray. The cutoff switch is mounted in the stairwell. When storing the coach you should use the cutoff switch to prevent the appliances and lights from draining the batteries in your absence.

The strength of the batteries can be checked using the monitor panel in the kitchen. The monitor can only give a general indication of the charge level of the battery, but is an important tool for your power management.

With up to four ways to recharge your batteries (shore line, generator, alternator, solar cell), you have plenty of options to assist your power management. One factor to remember is that recharging time is greatly affected by the load. The less drain from lighting and accessories, the faster the batteries will recover.

When using the amplified TV antenna, don't forget to turn it off when it's not in use. It will continue to draw power even when the television is off. Look for the red "on" light on the face of the antenna switch plate located in the overhead cabinet.

FUSES

Fuses offer a simple and effective method of protecting the 12VDC lines from overloads. By burning out during an overload, they stop the current and end the hazard the overloaded circuit might present to the appliances and to the coach. Fuses are an important safety feature, and should never be bypassed.

If power no longer flows to a particular 12VDC appliance or circuit, the fuse should be one of the first items to check. A fuse can be checked visually, and if you are in doubt, an ohmmeter will detect whether the fuse still conducts electricity. If the fuse is blown then there may be a problem in the system. Check the appliances on the circuit for signs of damage or defects and check the wiring for possible shorts. When replacing the fuse, always use a fuse of the same amperage rating - never higher.

CHAPTER TWO

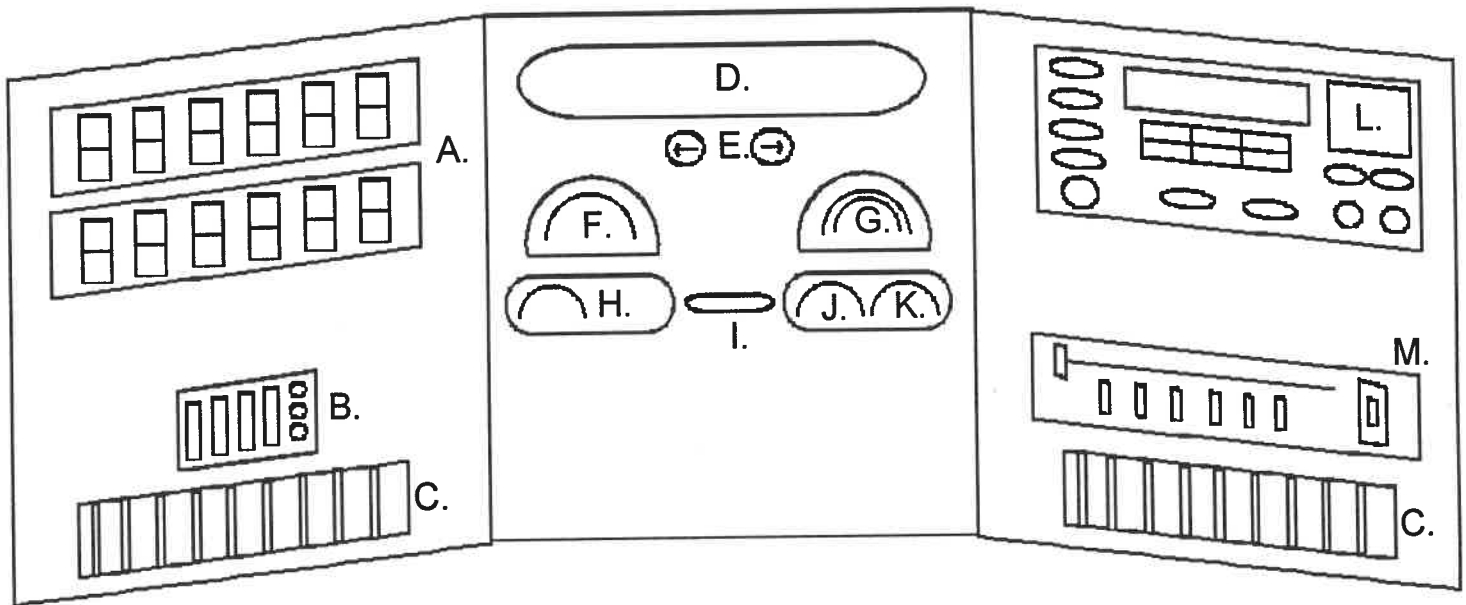
CHASSIS AND DASH

Your Trek was built on a chassis built by Chevrolet. Included in your warranty packet is a complete manual for this chassis, which includes instructions for the use and maintenance of the chassis. This section in this manual covers only the modifications made in the chassis and dash by Safari Motor Coaches. Please consult the chassis manual for general chassis information.

Safari does not modify any components that might affect the safety or performance of the chassis. We do not modify the fuel, braking, or electrical systems, and we strongly recommend that you follow the same policy.

Add-on electrical equipment, fuel tanks, steering stabilizers, anti-sway devices, and other after market offerings may sound like great items in the sales presentation. However, often they can cause more harm than good. Remember that ill-advised alterations can void your warranty.

CHASSIS AND DASH



MAIN DASH

A. - Switch Banks

Please refer to the switch bank section later in the chapter.

B. - Hydraulic Leveling System

Please refer to the operating instructions in the RCA manual, or for a quick reference see your Safari Owners Manual.

C. - Vents

For air conditioning and heating.

D. - Warning Lights

A variety of warnings lights will activate under certain conditions to warn you of potential problems.

E. - Turn Signals

When turning the signals indicate what your intentions are to other drivers.

F. - Speedometer

The speedometer indicates the forward speed of the vehicle.

G. - Fuel Gauge

The fuel reading will fluctuate when cornering, accelerating, braking, and when climbing or descending hills. The fuel tanks holds 60 gallons of fuel.

H. - DC Voltmeter

This indicates the proper functioning of the chassis DC system - particularly the batteries and the alternator. Check your chassis manual for normal voltage readings.

I. - Odometer

The odometer indicates the total distance that the vehicle has traveled.

J. - Transmission Temperature

The normal temperature should be between 180 and 200 degrees Fahrenheit. If it reaches the red area on the gauge, pull off the road, stop the vehicle, shift into neutral, and turn off the engine as soon as possible. If problems persist, check the transmission oil level.

K. - Coolant Temperature

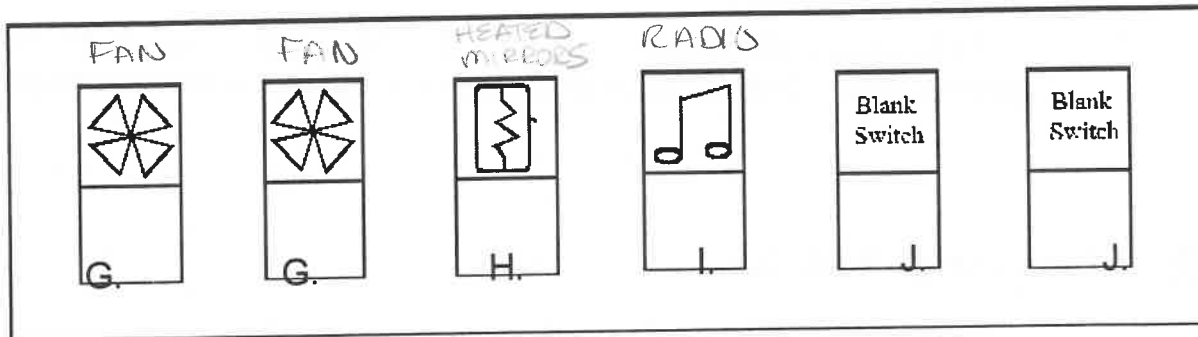
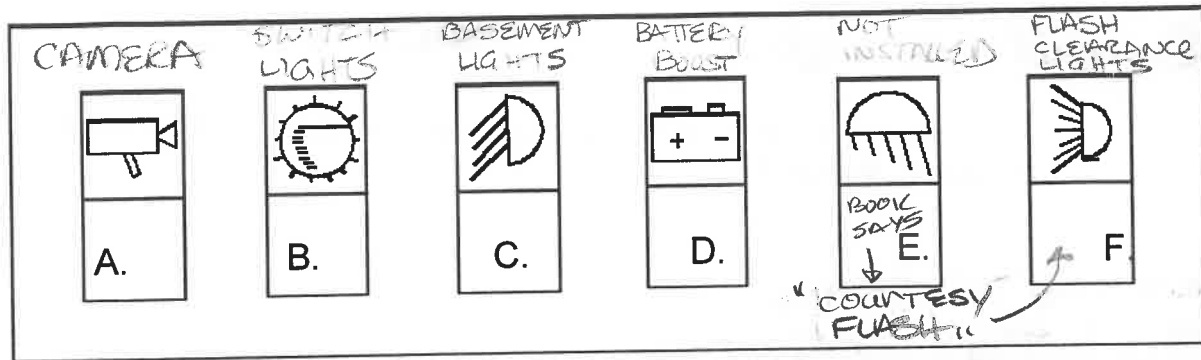
The normal operating temperature for the engine is 180 to 210 degrees Fahrenheit. Overheating can occur because of insufficient coolant or a problem in the cooling system. It can also occur in hot weather with slow or stop-and-go driving. If the temperature reading exceeds this level, pull over promptly and allow the engine to cool.

L. - Stereo

See the stereo manual for instructions on how to operate the stereo system.

M. - A/C and Heat Control

Please refer to operating instructions included in your owners manual.



SWITCH BANKS

SWITCH BANKS

In addition to the gauges and controls supplied by the chassis manufacturer, Safari adds controls for special features installed by our factory. These are located on the dash to the left of the steering wheel. Safari provides space for up to twelve switches, thus allowing the easy installation of after market accessories. These switches can vary according to the options installed on your coach.

A. - Rear Camera.

This switch also activates the inverter.

B. - Dash Switch Lights.

This switch illuminates the dash switches for nighttime convenience.

C. - Auxiliary Lights.

These lights are intended to augment the normal lights for use in inclement weather.

D. - Battery Boost.

This switch temporarily connects the house and chassis 12VDC systems, thus allowing the house batteries to be used to start the engine,

E. - Courtesy Flash.

This switch allows you to flash your running lights as a signal to other drivers.

F. - Clearance Lights

This switch will turn the clearance lights on and off.

G. - Dash Fans

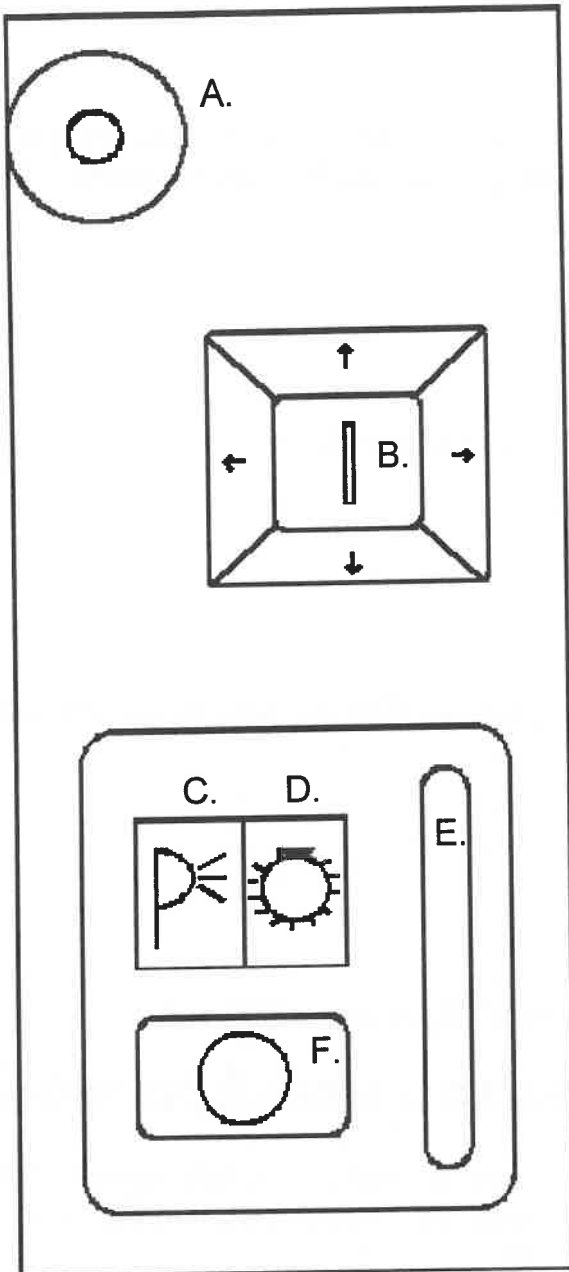
For cab air circulation and cooling.

H. - Mirror Heaters

This switch activates the heat for the mirrors.

I. - Dash AM/FM Radio

SIDE CONTROL



A. Level

B. Mirror Controls

C. Master Lighting

D. Parking Lights

E. Light Dimmer Switch

F. Off Button

A. - Level

The level is placed here to help in leveling the coach with the hydraulic system.

B. - Mirror Controls

One control operates both mirrors. The switch in the center of the square determines which mirror is being adjusted.

C. - Master Lighting

Press the master lighting symbol to turn on the headlights, parking lamps, sidemarker lamps, taillamps, and the instrument panel lights.

D. - Parking Lights

Press this button to turn on your parking lights.

E. - Light Dimmer Switch

The dimmer switch will brighten or dim the dash panel and instrument panel lights.

F. - Off Button

Press the bottom switch to turn off all of the lights

Other Controls and Accessories

On the steering column there are several items, turn signals, tilt and telescoping levers, and hazard flashers. The operation of these controls is detailed in the chassis manual.

OPERATION

Full instructions for the operation of the engine are given in the chassis manual. Read the manual and familiarize yourself with the procedures it details. This section is intended only to give an overview, and is not a replacement of the chassis manufacturer's book.

When starting the engine, first make sure the parking brake is on and the headlights are off. While starting you will want to minimize the load on the chassis batteries. Put the transmission in neutral and turn the key. Do not crank the starter for more than thirty seconds at a time. If the engine fails to start, wait before cranking again.

Check the engine oil pressure soon after starting. You should let the engine idle for three to five minutes before moving out, but do not idle the engine too long. Idling for more than about ten minutes can cause the fuel to not burn completely, which can cause various problems.

In cold weather the engine may be more difficult to start. Oil becomes thicker, making the engine crank more slowly. If you plan on traveling in cold areas (consistently below 20 degrees Fahrenheit), use the type of oil suggested in the chassis manual.

If the chassis batteries fail to provide enough power to crank the engine fast enough, you can press the boost switch and add the house batteries to add more power.

While running the engine, keep an eye on all the gauges provided. The normal operating ranges are given in the chassis manual.

Before shutting the engine down, allow it to idle for a few minutes to cool the combustion chamber, bearings, and shaft.

MAINTENANCE

A full service schedule is included in the chassis manual. This guide should be kept with the coach and referred to regularly. The schedule includes an inspection regimen which should be followed as stated in the manual.

Other Controls and Accessories

CHAPTER THREE

REFERENCE

This chapter provides charts and tables giving reference information. This information was correct at the time of printing, but is subject to change without notice.

LOCATOR GUIDE

The following table is designed to help you locate various items in your coach. The location of many items varies with the floor plan and with certain options.

The following abbreviations are used: DS - Driver's Side; PS - Passenger's Side.

REFERENCE

Appliances and Connections

House Service Center	All	DS, Behind Rear Wheels
LP Gas Tank	All	DS, Behind Front Wheels
Furnace	All	Under Refrigerator
Generator	All	DS, Behind Front Wheels

Electrical

Converter	All	DS, With Inverter
Inverter	All	DS, In Front of Rear Wheels
Transfer Switches	All	DS, Front of Rear Wheels
House Batteries	All	PS, Behind Rear Wheels
Chassis Batteries	All	PS, Behind Rear Wheels
12V Cutoff Switch	All	Step Well
Inverter-Only Outlet	All, If Option Installed	Galley
AC Breaker Panel	All	Bedroom Overhead Cabinet
Fuse Panel - House	All	Bedroom Overhead Cabinet
Fuse Panel - Chassis and Accessories	All	DS, Front Hood Access

Plumbing and Waste

Fresh Water Tank	All	Behind Rear Wheels
Black Waste Tank	All	Under Toilet, Between Rails
Grey Waste Tank	All	Under Floor, Between Rails
Tank Drain Valve	All	House Service Center
Low Point Drain Valve	All	House Service Center
Water Pump	All	Lower Galley Cabinet, Under Cover
Water Heater	All	Lower Galley Cabinet, Under Cover

Engine and Chassis

Fuel Tank	All	Between Rails, Near Front
Fuel Fill	All	DS, Back Corner or PS Front Corner
Oil Fill	All	Above Radiator
Oil Dipstick	All	Above Radiator
Transmission Fill and Dipstick	All	Rear Hood Access
Hydraulic Fluid Reservoir	All	Rear Hood Access
Fuel/Water Separator	All	Engine
Coolant Fill	All	Rear Hood Access
Oil Filter	All	DS Engine, Best Reached From Below
Air Filter	All	DS Engine, Best Reached From Below
Air Restriction Indicator	All	Rear Hood Access
Secondary Fuel Filter	All	PS Engine, Best Reached From Below

Miscellaneous

Monitor Panel	All	Side Entry or Kitchen
Water Pump Switch	All	Refrigerator Panel
Furnace/Front A/C Thermostat	All	Refrigerator Area
Generator Switch	All	Refrigerator Panel
Electric Step Switch	All	Above Doorway
Antenna Boost Switch	All	PS Front Overhead Cabinet

FUSES AND BREAKERS

The following tables list the purposes and requirements of the various fuses. These are subject to change without notice. The Accessory Fuse Blocks is located on the front firewall, accessible through the left hood access. The House Fuse Block and the AC Breakers are located in the bedroom overhead cabinet.

REFERENCE

Accessory Fuse Block

This set of circuits operates directly off of the house batteries. These circuits are "hot" regardless of the ignition key.

1	5 Amps	Battery Boost Solenoid
2	15	Cargo Bay Lights
3	30	Entry Step
4	5	Rear Camera
5	15	Cigarette Lighter
6	10	Mirror Heaters
7	5	Dash Fans
8		Spare
9		Spare

House Fuse Block

This set of circuits operates off of the house batteries. These circuits can be cut off using the 12VDC Cutoff Switch in the step well.

1	20 Amps	Living Room Lights
2	20	Kitchen Lights
3	20	Bedroom and Bath Lights
4	10	Power Vents
5	15	Water Pump
6	10	Water Heater
7	15	Furnace, A/C Thermostats
8	15	TV Antenna Boost
9	5	Refrigerator

AC Breakers

MAIN	30 Amp	
1	20	Roof Air Conditioner(s)
2	20	Bath G.F.C.I. Outlet, Television(s), Electro-Majic Bed (if installed),
3	20	Bedroom Receptacles, DS Living Room Receptacle, Converter
4	20	Refrigerator, Microwave Oven