SHASTA OWNERS MANUAI



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INTRODUCTION

GENERAL

Now that you've purchased your new Shasta, you're anxious to try it out. And we want you to. We also want you to enjoy every outing, be it an overnight, weekend, or cross-country excursion. Thus, we've included some tips and suggestions besides the basic operation and maintenance of the systems and appliances to help you get started. You may want to try a short trip first. The experience you gain and the hints other RV'ers are usually eager to share will help make your future RV'ing more enjoyable.

You bought your unit with the standard and optional equipment of your choice. There are countless other accessories available. Experience is invaluable before you invest in these. What may be a necessity for another RV'er may not be to you. Remember, your Shasta dealer will assist you in whatever he can.

THIS MANUAL INCLUDES MANY ILLUSTRATIONS TO ASSIST YOU. EXTERIOR FEATURES, OR COMPONENTS ACCESSIBLE FROM THE OUTSIDE OF THE VEHICLE, ARE ILLUSTRATED ON THE FOLDOUT CHART AT THE BACK OF THE MANUAL AND ARE IDENTIFIED BY A FIGURE NUMBER.

LICENSES

The vehicle licensing laws vary from state-to-state. Check with your state license bureau or nearest branch office for the requirements of your state. Be sure to renew your driver's license if it has or will expire during your trip.

INSURANCE

Personal liability, property damage, collision and theft of contents may be features of your automobile policy which apply to your Shasta unit. Talk with your insurance agent about details of your coverage. Always carry your policy card.

TOW VEHICLE SELECTION

GENERAL

Selection of an adequate tow vehicle is essential. If you plan to use an automobile or truck you already own, contact the vehicle manufacturer or representative for information. If you will be purchasing a new tow vehicle, be certain to tell your dealer the type and size of the RV you will be towing.

ENGINE SIZE

The engine must have enough horsepower to handle the tow vehicle, passengers, Shasta unit and all its cargo. Most automotive manufacturers offer a trailer towing package which may include: Larger alternator and battery, heavier ply tires, sideview mirrors, heavier electrical wires, larger engine and transmission cooling systems. Consult the tow vehicle manufacturer's owner's manual for recommendations.

NOTE: The use of heavier suspension components (springs, shocks, axles) or heavier ply tires DOES NOT increase the weight ratings printed on the tow vehicle's identification or certification plate. The Gross Axle Weight Rating (GAWR) of each axle is determined by the components within the axle system with the lowest load-carrying capacity. To avoid overloading, consult the Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR).

BRAKE CONTROL/VEHICLE OPTIONS

A brake control system must be installed in your tow vehicle to operate the electric brakes of your unit. Automotive air conditioning, automatic transmission, power brakes and power steering are features which could make your trips more enjoyable.

HITCH SELECTION

The travel trailer coupler fits a ball hitch and the fifth wheel, a pin-type connection. Ask your dealer about the proper class and type of hitch for your unit. For a travel trailer, a weight-distributing (load-equalizing) hitch may be recommended. This type of hitch helps keep both vehicles level by distributing part of the hitch weight forward to the tow vehicle's front axle and back, to the trailer's axle(s). The selection of the hitch is important since it affects towing and handling characteristics. The ball diameter and hitch weight for your unit are listed in the sales brochure; be certain your tow vehicle can carry the hitch weight. We encourage you to read the information supplied by the hitch manufacturer to achieve best possible performance.

NOTE: The fifth wheel unit can be towed only by a pickup truck. Be sure the truck can carry the hitch weight of your unit. Hitch weights are listed in the sales brochure.

Sway-control devices, also, are available to reduce sway caused by cross-winds, other vehicles passing you, or the tires dropping off the pavement.

TRAVEL PREPARATION

GENERAL

When planning a trip, determine various items of equipment, clothing, food and other supplies required for the length and destination of your trip. Each moment spent loading is time lost from the length of your stay. You may want to reduce loading time by purchasing plastic dinnerware, stainless steel flatware, pots, pans, towels and bedding, which can remain in your unit at all times. The following is a guide to help in your travel preparation.

CLOTHING

Compile a clothing list for each person. Consider the season and areas through which you intend to travel. Basic articles: Underwear, socks, footwear, shirts, blouses, trousers, slacks, dresses, shorts, sweaters, jackets or coats, rainwear and swim suits.

CAMP HYGIENE

Dishsoap, dishcloths and dishtowels; garbage and trash bags; mop, broom and dustpan.

PERSONAL HYGIENE

Toilet paper, soap, washcloths, towels, tooth-paste, toothbrush, deodorant, and shaving kit.

SAFETY

Flares and reflectors, first aid kit, tow rope and/ or chain.

FOOD AND WATER

Don't try to take enough food for an extended trip. Take what you need for two or three days and replenish supplies along the way. Take a basic supply of seasonings: sugar, salt, pepper and spices. Plan meals so that fresh or refrigerated items are used before they spoil. Fill your fresh water tank before leaving.

MEAL PREPARATION

Bottle cap and can opener; matches, lighter or igniter device; pots, pans, plates, glasses, and cups (paper or plastic are lighter and less likely to break while the vehicle is in motion); silverware and carving knife.

TOOL CHEST

Include an assortment of wrenches and screwdrivers, pliers, hammer, tire pressure gauge, small level, electrical and masking tape.

ADDITIONAL TOOLS

Hatchet, saw, shovel, and 12-volt portable tire pump.

EQUIPMENT

Fresh water hose (garden) and bucket; "Y" type water hose fitting; 20-foot 3-prong power cord; 3-prong adapter with grounding wire; fuses; wheel chocks, leveling ramp, blocks or jack stands.

SLEEPING GEAR

Sleeping bags are ideal for cold climates but are not as well suited for warm weather as are sheets and blankets. Take along an extra blanket or two for sudden drops in temperatures such as can be expected in mountain areas even during summer. Be sure to take pillows, pajamas and mattress pads, if normally used.

ENTERTAINMENT

Take along games and toys.

IMPORTANT DOCUMENTS

Carry your vehicle registration and insurance policy card(s). If you are borrowing a vehicle, it's best to have a notarized letter from the owner with you.

TOURIST INFORMATION

Obtain current road maps and tourist information from each state through which you intend to travel. You also may want to purchase a tourist guide book.

If you will be visiting federally-operated national parks, monuments and recreation facilities, you may wish to look into the Golden Age Passport and the Golden Eagle Passport. They can help families cut spending at those areas where fees are involved.

GOLDEN AGE PASSPORT — The Golden Age Passport is a free lifetime pass for persons 62 and over and covers all admission fees and a 50 percent discount on use fees (except fees charged by private concessionaires). It may be obtained only at park service offices and at parks where entrance fees are charged. It cannot be obtained by mail or at post offices. To obtain the Golden Age Passport you will need proof of age, such as a driver's license, or be prepared to sign an affidavit swearing that you are 62 or over. NOTE: Medicare cards are not accepted since in some cases they are issued to younger persons.

GOLDEN EAGLE PASSPORT — The Golden Eagle Passport costs \$10 and is designed for persons who plan to visit several parks or federally operated facilities in a single year. It covers all admission charges but does not cover use fees and is good only during the calendar year in which it is issued. It may be purchased in person or by mail at the National Park Service headquarters, Department of the Interior, Washington, D.C. 20240; at regional offices and at facilities where entrance fees are charged.

Both the Golden Age and Golden Eagle Passports cover admission fees for the permit holder and any persons accompanying him or her in a private vehicle. Where entry is not by vehicle, the passport covers the permit holder and members of his or her immediate family.

HOME SECURITY

Make arrangements for someone to check your house periodically. Stop mail and newspaper delivery. If you intend to be away for more than 2 weeks, request police surveillance. Carry an extra set of vehicle and house keys on a separate key ring.

TOWING HOOKUP

TRAVEL TRAILER

COUPLER — Turn the front jack crank clockwise to raise the coupler above the hitch ball. Maneuver the tow vehicle to position the ball directly under the coupler. Push the coupler lever down and then pull it up to its fullest extent (Figure 1). Turn the front jack crank counterclockwise to lower the coupler onto the ball. Secure the connection by pushing coupler lever down until the two latch

shoulders rest on the top surface of the coupler. For theft protection, you may purchase a locking device to insert through the coupler lever and the bracket holes.

FRONT JACK — Turn the crank counterclockwise (Figure 1) until the dolly wheel is off the ground. Remove the wheel and store. Continue turning the crank until the front jack is as high as possible to prevent it from hitting the ground while you are traveling.

SAFETY CHAINS, ELECTRICAL CONNECTION — Cross the safety chains under the "A" frame and attach them to the tow vehicle's hitch platform. Plug the pigtail (Figure 1) into the tow vehicle's electrical harness. Leave enough slack in the chains and pigtail to permit the unit to turn freely. Safety chains and pigtails should not be touching the ground.

BREAKAWAY SWITCH — This safety device (Figure 2) will automatically activate the electrical brakes of your unit if your trailer accidentally separates from the hitch.

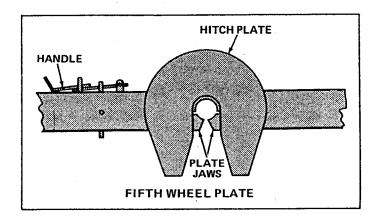
Attach the switch activating cable to either the tow vehicle bumper or the towbar portion of the hitch platform. DO NOT loop the cable around the hitch ball, this is the weakest part of the hitch platform. Adjust the cable length so it pulls the pin out of the switch before the coupler drops onto the safety chains. Allow enough slack so that both vehicles turn freely without pulling the pin from the breakaway switch.

NOTE: The tow vehicle battery will supply power for your unit's brakes if a separation occurs. However, if the pigtail also disconnects, the unit's brakes will not work unless an RV battery has been installed. Ask your Shasta dealer about a 12-volt RV battery.

HITCH BALL HEIGHT — When the loaded trailer is hitched to the tow vehicle, check the hitch ball height, which can be determined by measuring from the curved portion of the coupler to the ground (Figure 1). Adjust the equalizing bars of the hitch assembly to achieve proper height. A high hitch will transfer weight behind the axle(s), causing the unit to fishtail. A low hitch will transfer additional weight to the hitch. See the back of this manual for proper hitch ball height.

FIFTH WHEEL

HITCHING — Lower or remove the truck tailgate. Release the plate jaws by pulling the handle until a snap is heard. Back the truck up until the pin (Figure 3) is caught by the jaw plates; another snap will be heard. It may be necessary to turn the jack crank (Figure 4) clockwise to raise the unit or counterclockwise to lower the unit to align the pin with the jaw plates. Once connected, turn the jack crank counterclockwise to raise the jack stands as far as possible.

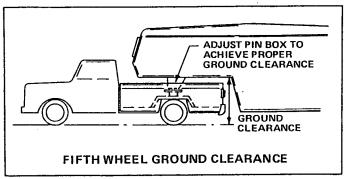


ELECTRICAL CONNECTION — Plug the pigtail (Figure 3) into the electrical harness of the truck. Be sure there is enough slack to allow the vehicle to turn without disconnecting the pigtail.

BREAKAWAY SWITCH — Attach the activating cable (Figure 3) to the truck body. DO NOT attach the cable to the plate handle, hitch plate base or plate mounting brackets. Adjust the cable so both vehicles may turn freely without pulling the pin from the switch.

NOTE: The tow vehicle battery will supply power for operation of the fifth wheel brakes if there is a separation. However, if the pigtail also disconnects, the fifth wheel brakes will not work unless an RV battery has been installed. Consult your Shasta dealer about an RV battery.

GROUND CLEARANCE — When the loaded unit is connected to the tow vehicle, check the ground clearance. The proper height is listed at the back of this manual. If the front of the unit is too high, weight will be transferred behind the axles causing the unit to fishtail. If the front of the unit is too low, additional weight will be transferred to the truck. To achieve proper height, adjust the pinbox by removing the bolts on each side; raise or lower the box until the proper holes are aligned, then re-insert the bolts.



PRE-TRAVEL CHECK

GENERAL

Whether departing from your home, rest area, or campsite, you should perform these pre-travel checks:

TIRES — should be inspected before each trip. Replace a tire when it is worn to 1/16" depth in two or more adjacent grooves, or to the level of tread indicators molded into the bottom of tread grooves. Check tire for uneven wear or excessive peeling or bulging.

When purchasing a new tire, be certain it is the same size and has the same ply rating and load range as the old tire. DO NOT mix radial ply with bias or bias-belted tires.

Each morning inspect tire condition and pressure on your RV and tow vehicle. Heat generated by surface friction will increase the tire's air pressure approximately 6 to 9 lbs. psi.; therefore, do not bleed air out of a hot tire. Inflate to recommended pressure as indicated on tire or in tire manufacturer's instruction booklet.

NOTE: Proper tire inflation is extremely important.

WHEEL LUGS — must be tightened before departure and the first 50, 150 and 300 miles during your initial trip and after each tire change. Thereafter, tighten lugs periodically and before using unit after a storage period.

LIGHTS — should be tested on both the Shasta unit and the tow vehicle, including brake lights, warning flashers, clearance lights, taillights and tow vehicle headlights. Clean all lens covers.

REARVIEW MIRRORS — should be adjusted so the driver can see both the right and left side of the unit.

POWER CORD (120-Volt Shoreline) — must be unplugged from the external source, pushed into its compartment and the cord hatch secured.

WATER FILL — hoses must be disconnected and the caps secured.

SEWAGE TERMINATION VALVES — must be closed and locked. The sewer hose must be removed from the termination valve outlet and stored in the rear bumper. Termination caps must be securely fastened to the termination valve outlet(s).

DOOR STEP — must be returned to its traveling position by lifting front edge of step and pushing it under the unit.

WINDOWS AND VENTS — should be closed and secured.

TV ANTENNA — must be cranked down to its traveling position.

LP GAS BOTTLES — and connections should be secured.

NOTE: Some states prohibit vehicles equipped with LP gas bottles from using tunnels. A few other states prohibit traveling with the Service valve open and the pilots lit. Check the regulations of the states through which you intend to travel.

AWNING - should be lowered and secured

(Figure 5). To raise awning, pull retaining pins out and slide awning up. Tighten wing nuts to secure at desired height. To lower awning, loosen wing nuts and slide awning down. Pull retaining pins and seat in latch hole.

PIGTAIL — should be properly connected to the tow vehicle's electrical harness.

HITCH AND COUPLER OR PINBOX — should be inspected to be sure they have not loosened.

SAFETY CHAINS AND BREAKAWAY SWITCH ACTIVATOR CABLE — must be properly attached to the tow vehicle.

FRONT JACKS — must be raised as far as possible.

DOLLY WHEEL - must be removed and stored.

AUTOMOTIVE SYSTEM — should have pretravel check as outlined in tow vehicle manufacturer's owner's manual.

INTERIOR DOORS AND DRAWERS — should be locked and secured. Loose items should be lashed down or stored away.

EXTERIOR ACCESS DOORS — for storageand equipment should be closed and locked.

REFRIGERATOR DOOR — should be secured with the travel latch.

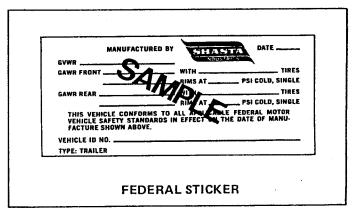
LOADING

GENERAL

Distribute your cargo evenly from side-to-side and front-to-back. Store heavier items on or close to the floor. Lighter items may be stored in cabinets, closets and drawers. A properly-loaded vehicle will handle more safely. You also will conserve gasoline and prevent excessive wear on your tow vehicle's automotive system if the unit is not overloaded.

FEDERAL STICKER

Found on the road side of your Shasta unit, the Federal Sticker lists the Shasta Serial Number, the front and rear Gross Axle Weight Rating (GAWR) and the Gross Vehicle Weight Rating (GVWR). Your tow vehicle also will have a Federal Sticker.



WEIGHT DETERMINATIONS

It is extremely important that you weigh your unit prior to leaving on a trip to determine whether your cargo load is within the allowable limits for the various suspension components of your Shasta unit and tow vehicle. Check the Gross Axle Weight Rating (GAWR) and the Gross Vehicle Weight Rating (GVWR) found on the federal stickers of the tow vehicle and Shasta unit.

DEFINITIONS

GAWR — The allowable weight, including cargo, which can safely be supported by each axle.

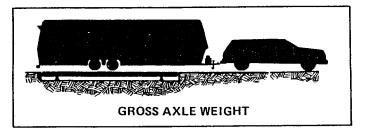
GVWR — The maximum permissible weight of your unit, all options and cargo.

GVW and GAW are found by weighing vehicle fully-loaded. GVW is the actual weight of the unit and all standard and optional equipment and cargo. GAW is the portion of the fully-loaded vehicle which is transferred to each axle.

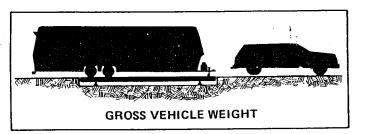
You can weigh your vehicle at a grain elevator, sand and gravel dealer or government weighing station (they are listed in the yellow pages of your telephone book). The small fee involved is a worthwhile investment.

TRAVEL TRAILER WEIGHING

STEP 1 — The Gross Axle Weight of the Shasta travel trailer is extremely important. The unit should be weighed, fully-loaded for a trip and connected to the tow vehicle. If the GAW exceeds the GAWR listed on the Federal Sticker, shift or remove cargo to achieve proper tolerance.



STEP 2 — You can find the Gross Vehicle Weight of the Shasta unit by weighing it fully-loaded, disconnected from the tow vehicle, with the axle(s) and front jack on the scale. If the figure exceeds the listed GVWR on the Federal Sticker, remove cargo to achieve proper tolerance.

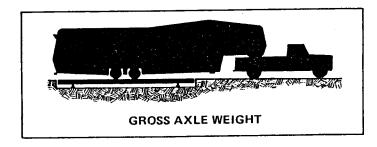


STEP 3 — Determine your hitch weight by deducting the Gross Axle Weight (Step 1) from the Gross Vehicle Weight (Step 2). If the hitch weight exceeds 15% of the GVW, shift part of the cargo toward the rear. If it is 10% or less, shift some cargo forward.

NOTE: See your tow vehicle's owner's manual for proper weight allowances and procedures for determining them.

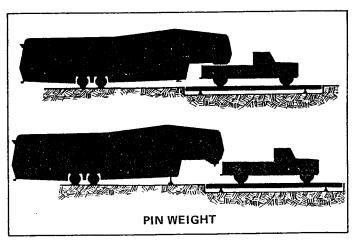
FIFTH WHEEL WEIGHING

STEP 1 — The Gross Axle Weight of your Shasta fifth wheel is extremely important. The unit should be weighed, fully-loaded for a trip and connected to the tow vehicle. If the GAW exceeds the GAWR listed on the Shasta unit Federal Sticker, shift or remove cargo to achieve proper tolerance.



STEP 2 — To determine the pin weight of the Shasta unit, weigh the tow vehicle, fully-loaded with cargo and passengers and the Shasta fifth wheel connected. Then disconnect the fifth wheel and weigh the tow vehicle alone. The difference will be the pin weight, which should not exceed 25% of the Gross Vehicle Weight of the fifth wheel. If it does, move articles to achieve proper tolerance. GAW plus Pin Weight equals GVW.

The procedure for finding fifth wheel GVW is the same as for travel trailers (Step 2).



NOTE: See your tow vehicle's owner's manual for proper weight allowances and procedures for determining them.

DRIVING

GENERAL

Get to know how your tow vehicle handles with the added weight of your Shasta unit. The brakes and steering operation will be different. Before leaving on a trip practice making right and left turns, braking, backing up and accelerating. Below are tips to help you in your driving.

CLEARANCE

Watch out for overhanging tree branches, awnings, or similar obstructions which can damage your vehicle's roof or equipment or accessories mounted on the roof. Refer to the brochure for the clearance measurements of the unit.

PULLING INTO TRAFFIC

Check for oncoming traffic in all directions. Signal before entering the traffic flow. Accelerate slowly and smoothly.

TURNING

The wheels of your Shasta unit are closer to the curb than your tow vehicle's wheels. Pull several feet farther into the intersection before turning left or right. This will help you avoid hitting curbs, parked cars or oncoming traffic.

PASSING

Avoid sudden maneuvers when passing a slower moving vehicle. Remember that additional time and distance are required to pass safely. Wait until the road is clear of oncoming traffic for at least 1/2 mile. Check the outside rearview mirrors and signal lane change before passing. When you have safe clearance, signal lane change and return to your original lane.

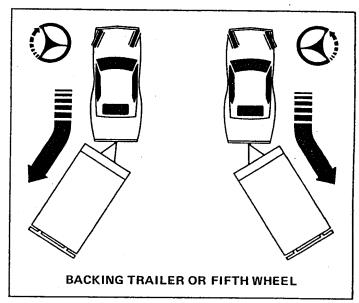
BRAKING

Allow a safe distance to stop; follow no closer than one combined tow vehicle-Shasta unit length for each 10 mph. Pump the brake pedal lightly to stop on wet or icy roads. If you start to slide, turn the steering wheel in the direction of the slide. DO NOT tromp the brake pedal — a panic stop may increase the slide and could cause your unit to jackknife.

BACKING

When backing your Shasta unit, place your right or left hand at the bottom of the steering wheel. To move your trailer to the left, move your hand to the left; to move the trailer to the right, move your hand to the right. If the trailer starts to jackknife, stop, pull forward and start again. This maneuver

may require stationing someone behind the unit to guide the driver.



DOWNGRADES

Speed should be reduced, shift the transmission to a lower range to assist in braking on long or steep downgrades.

UPGRADES

Reduce speed to 45 mph or less when climbing a steep upgrade. Shift the transmission to a lower gear to avoid engine overheating.

PARKING ON AN UPGRADE

Parking vehicles on an upgrade is not recommended. If it is necessary, apply the brakes and have a passenger place wheel chocks behind the tires of your Shasta unit. When in place, slowly release brakes until unit is stopped by chocks. Apply parking brake and place transmission in park position (place in gear for stick-shift vehicles).

FREEING A STUCK VEHICLE

To pull your unit out of the mud, sand or snow, apply light pressure on the accelerator pedal and move the gear selector rhythmically between 1st gear and reverse. If possible, keep front wheels pointed straight ahead. Avoid sharp turns which could cause the unit to jackknife. Once you start to move, do not stop until the tow vehicle and Shasta unit are on firm ground.

CHANGING TIRE

Turn on tow vehicle's hazard warning flashers. Set up flares or warning lights. Chock opposite tire and unhitch trailer from tow vehicle. Place scissorstype or hydraulic jack, on a block of wood, directly UNDER THE FRAME, close to the tire you intend to change. DO NOT use a bumper jack; it may damage the sidewalls or floor board. Raise the jack to take some of the weight off the tire. Loosen the lug nuts. Raise the tire until it clears the ground.

then remove lug nuts. Pull off the old tire and put spare on hub. Replace and tighten nuts. Lower the jack until the tire just touches the ground. Tighten lug nuts to a torque of 85 to 95 ft.-lbs. Lower and remove jack. Stop at the nearest service facility and have the torque checked.

You may have to replace the lug nuts after changing tires five times. These nuts may loose their self-locking feature after that many changes.

SWAYING OR FISHTAILING

If this happens, accelerate, then gradually slow down. If you have an automatic brake controller installed by your hitch assembly dealer, apply only the brakes of your Shasta unit. If your unit is still swaying, pull off the road and check the tire pressure, cargo location, or tow vehicle front end alignment and suspension.

CAMPING

CAMPSITE SELECTION

Some campgrounds do not accept reservations, but make one whenever you can. If possible, arrive early so you may inspect and choose a site during daylight hours. Try to avoid sites near a swamp, stream or other bodies of water which may harbor mosquitoes or other insects. Avoid parking under dead trees or loose limbs which might fall and cause injury or damage. Stay away from areas which show signs of flash flooding. DO NOT park on private property without first obtaining permission.

In winter, park behind a grove of trees, bushes or similar type of windbreak. Close the gap between the ground and the bottom of your vehicle's outside walls with plastic, canvas or similar material. This will cut down cold drafts which can affect interior temperatures.

COURTESY

Common courtesy will help make your stay more pleasant. Campsites are often close together and RV walls are not as thick as those in your home, so loud noises may disturb your neighbors. Follow the posted rules of the campsite. Open fires may not be permitted. If you can build a campfire, clear the area of flammable materials; never leave a campfire untended and always make certain the embers are completely extinguished.

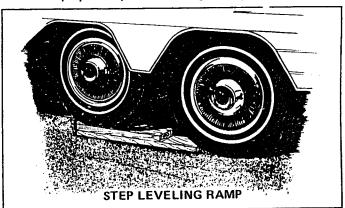
LIVING AREA

SETUP

You'll want your unit to be level for your own comfort (you don't want items sliding off counters and tables and out of cabinets). But more importantly, the unit must be level in order for your refrigerator and drainage system, both of which function by gravity, to operate properly. Place a level on the bottom of the refrigerator's freezer

compartment or in a normally level location inside the vehicle to determine levelness.

NOTE: Once the unit is level side-to-side and front-to-back, you may wish to permanently attach levels on the front and/or back and sides of the Shasta unit. This will allow you to tell at a glance if you've stopped on a level site and will help speed up the leveling process.



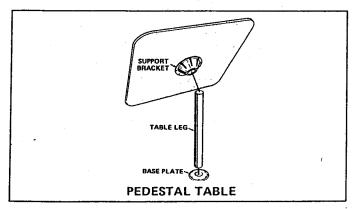
If the unit needs side-to-side leveling, dig a shallow hole under the tire(s) on the high side, or you may make a step leveling ramp using $1'' \times 6''$ or $2'' \times 6''$ boards of varying lengths. Pull forward or back onto the leveling ramp until the tire(s) on the low side are level.

To level a travel trailer from front-to-back, unhitch the unit from the tow vehicle, install the dolly wheel and crank the front jack down (Figure 1). Never rest the unit on the front jack without the dolly wheel attached, or without a board under it. If the ground is soft, also place a board under the dolly wheel. Disconnect the safety chains, the pigtail and breakaway cable from the tow vehicle. Crank the front jack up or down until the unit is level. Stabilizing jacks (available from your Shasta dealer) may be placed under the frame to eliminate sway when persons move about inside the unit. Lower the front jack about 2" below level. Place a jack under both main frame members - NEVER THE FLOOR - at the rear of the trailer. Raise each jack until it touches the frame. Raise the front jack about 2" above level and place jacks under the main frame members near the front of the unit. Raise the jacks until they touch the frame, then lower the front end to level.

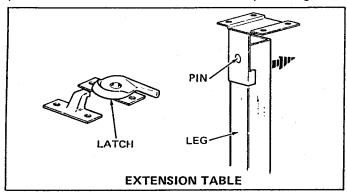
To level the fifth wheel, lower front jacks (Figure 4). Place a board under each jack skid on soft or frozen ground. Disconnect pin hitch, pigtail and breakaway cable. Drive tow vehicle away. Level unit by cranking jacks up or down. Install stabilizing jacks at the rear of the fifth wheel by lowering front jacks 2" below level and placing jacks under rear main frame members. Raise jacks until they touch the frame, then raise front jacks to level.

TABLES

PEDESTAL TYPE — Insert table leg into the base plate. Lower table support bracket onto the leg.



EXTENSION TYPE — Unfasten travel latch and swing table up. Release the table leg by depressing pin, swing leg down and lock pin in upright notch. Lower the table. To add table leaves, release latch located beneath table top and pull out the sliding portion of the table. Insert leaf and push together.

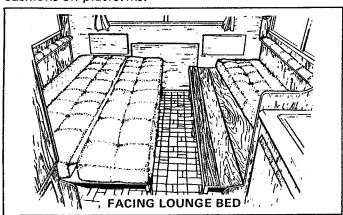


SWING DOWN TYPE — Rotate back of table up to the wall brackets. Insert bracket, located on back of table, into the wall support. Pull the leg toward the table hinge until it releases then swing it down to the locked position.

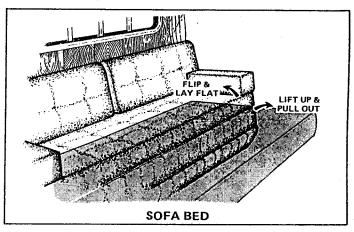
BEDS

LOUNGE TYPE — Remove table. Lift front edge of lounge platform and slide it out. Arrange cushions on platform.

FACING LOUNGE PLATFORM — Swing extension table down and latch in traveling position. Slide out each platform until they meet. Arrange cushions on platforms.

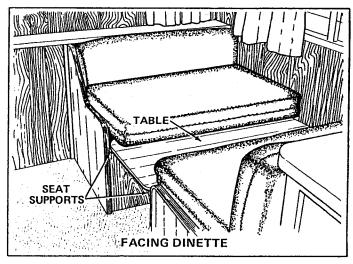


SOFA — To convert the sofa into a bed, remove extra cushions and armrests. Lift and pull outward on the bottom of the sofa. Fold the upper back cushion down to form a level mattress. The armrests may be used as pillows.



CABINET BUNK — Open both end cabinet doors. Release latches (one is located on each inside end of cabinet). Close and latch the cabinet doors. Swing cabinet face down so that it rests on its supports. Position the reinforcing board on top of the cabinet face. Arrange cushions on platform.

FACING DINETTE TYPE — For those with swing down tables, pivot the table downward to the dinette seat supports. Arrange cushions on platform. For those with pedestal tables, lift table and remove leg. Place table on seat braces and arrange cushions on top. Store the table leg under the bed or in a closet.



CARE OF CUSHION COVERS — Vacuum covers regularly. To remove grease spots, use a commercial degreaser. For other stains, use a cool, damp cloth. Covers should be dry cleaned only.

DRAPES, CURTAINS, VALANCES — Follow the instructions in the upholstery manufacturer's booklet.

CARE OF WOODWORK — Clean woodwork with regular household furniture polish. DO NOT

use water to clean wooden surfaces. Scuffs may be covered with furniture wax and stain mixture. Scratches may be covered with Putty Stic.

CARE OF WARDROBE, DRAWERS AND DINETTE STORAGE COMPARTMENT — Clean wood surfaces with household furniture polish. Wash plastic surfaces with warm water and liquid soap.

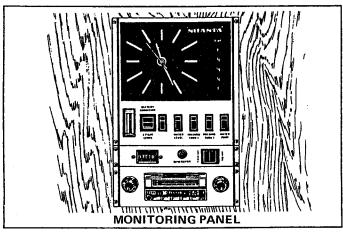
CARE OF FLOORING — Sweep and damp mop vinyl floors occasionally. Vacuum and shampoo carpet as required.

BASIC SYSTEMS

GENERAL

The basic utility systems in your unit can be classified under four general titles: Electrical, LP Gas, Fresh Water, and Drainage/Sewer. This section outlines these systems, describing their function, operation, and simple maintenance. This section is not intended as a service guide. Your unit has been engineered and built to provide trouble-free operation. Should a problem arise, we recommend that you contact your authorized dealer.

A monitoring panel on the kitchen overhead cabinet allows you to check some of these systems: the volume of fresh water, waste and gray water in your holding tanks, and the condition of your RV battery. The panel also may include a clock, the water pump switch, and a radio with tape deck or cassette.



ELECTRICAL

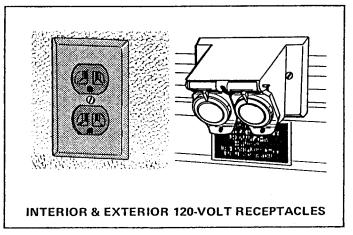
GENERAL

Your vehicle contains two separate electrical systems, providing you with power while you are camped or traveling. There is a 12-volt direct current system, similar to the one in automobiles, and a 120-volt alternating current system, similar to the one in houses. Your 120-volt system requires an external source of 120-volt electricity. This is provided either by a connection to a campsite or household receptacle, or by an optional generator. The 12-volt system is supplied by batteries and is

used when you are on the road or in campsites that do not provide 120-volt hookups. The 120-volt system is used when a 120-volt hookup is available, to reduce the load on your RV battery. Although most components in your vehicle, such as the water pump, range hood, and interior lights, operate only from a 12-volt source, your vehicle is equipped with a power converter which changes 120-volt AC to 12-volt DC power.

120-VOLT SYSTEM

The 120-volt system supplies power for an optional roof air conditioner, refrigerator, power converter for the 12-volt system, the exterior 120-volt receptacles (Figure 6) and 120-volt receptacles located throughout your vehicle used to operate regular household appliances. Whether you use the external 120-volt hookup or a generator, the electrical power source is connected directly into the main electrical service panel and is distributed through circuit breakers.

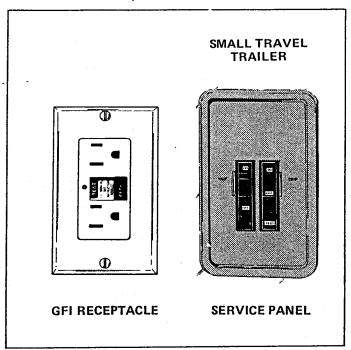


GROUND FAULT INTERRUPTER — Your unit has a Ground Fault Interrupter (GFI) mounted in the service panel which protects all receptacles on smaller travel trailers and the bath and exterior receptacles on larger travel trailers and all fifth wheels. This highly sensitive device continuously monitors the current flow in the circuit and will help protect against severe electrical shock if a ground fault develops. The GFI senses very small changes in the current flow and will break the circuit in a fraction of a second when a ground fault occurs, cutting off power to the receptacles protected by the device and preventing injury to a healthy person.

CAUTION: The GFI does not completely eliminate electrical shock. Small children and persons with heart conditions, or other disabilities that make them especially sensitive to electrical shock, may still be injured by a 120-volt receptacle even though it is protected by a ground fault interrupter.

Should a ground fault cause the GFI to trip, reset the breaker (some ground faults are self-clearing). If the breaker trips again, the GFI is per-

forming its protective function. Leave the GFI in the OFF position, unplug all appliances on that circuit and contact your authorized dealer.

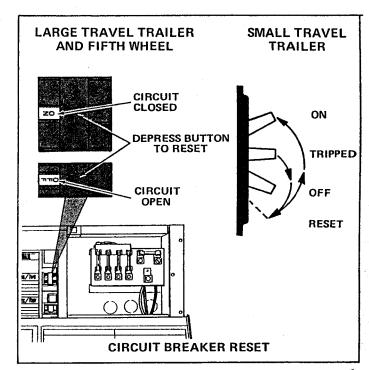


Test the GFI system at least once a month, preferably before each trip. With the Shoreline connected to an external 120-volt source and the GFI circuit breaker in the ON position, depress the TEST button. The breaker will trip if the GFI is operating properly. Power will be off at the receptacles. Plug a test light into these outlets to verify that power is off. To restore power, reset the breaker.

CAUTION: If the breaker does not trip to OFF when the TEST button is depressed, the GFI may not be working. DO NOT use any of the outlets. Set the breaker to OFF and contact your authorized dealer.

SHORELINE CONNECTION — The Shoreline (Figure 7) is a heavy-duty cable with a 3-prong grounding plug on one end, permanently attached at the other end to the Service Panel. It can be pulled from its storage compartment through a hatch in the sidewall of your vehicle and connected to an external receptacle. Some campsites and trailer parks still have two-slot outlets. If it is necessary to use a three-to-two adapter, be certain its grounding wire is fastened securely to the outlet grounding screw. If in doubt, you may attach a No. 6-AWG copper wire to the frame of vehicle and fasten it to an eight-inch copper or brass stake driven into the ground.

The 120-volt system is protected by the circuit breakers. If a circuit breaker opens, unplug all appliances on that circuit, allow a short period for the breaker to cool, then reset the breaker. Reconnect appliances. If the breaker continues to open, contact your authorized dealer.



GENERATOR

GENERAL — The generator (Figure 8) is a gasoline powered appliance which will supply 120-volt electricity. It can be operated when your vehicle is stopped or while you are traveling. It draws its fuel from the gasoline tank in the jack compartment. A remote generator starter switch is part of the monitoring panel; there also is a START/STOP switch mounted on the generator. An automatic transfer switch incorporated into the service panel prevents the simultaneous use of both the generator and the Shoreline connection. When the generator is started, the transfer automatically switches from Shoreline to generator power. Likewise, when the generator is shut down, the transfer automatically switches to Shoreline power.

CAUTION: When running, the engine powering a generator can discharge carbon monoxide gas, which can cause death if inhaled even for a short period. Although exhaust fumes are usually readily evident, carbon monoxide is particularly dangerous because it is colorless and odorless. When operating a generator, DO NOT open roof vents, windows, or doors which could draw fumes into your unit. DO NOT operate the generator where an object such as a tree, bush, or building may deflect exhaust fumes inside your unit. DO NOT operate the generator inside a building unless the exhaust is vented safely outside. DO NOT operate the generator where exhaust gas could accumulate and seep back inside an occupied vehicle, tent, or building.

STARTING — Before starting your generator, make sure the air intake and exhaust outlets are free of obstructions; check the oil level. Depress the generator START/STOP switch to START

and hold until the generator is running (when released, the switch will return to the neutral position). When using the generator for the first time, apply the electrical load gradually to break-in the engine. Operate the generator at one-half load for 30 minutes, then an additional 30 minutes at three-quarters load before applying a full electrical load.

If the generator cranks, but will not start, the fuse on the generator has probably blown. Replace the fuse with one of the same ampere rating.

SHUT DOWN — To shut down the generator, press the START/STOP switch to STOP and hold until the generator stops running.

CARE OF GENERATOR — The complete operation and care procedures for your generator are in the generator manufacturer's manual, but below are a few of the basic requirements:

Check the oil level daily or at least every 8 hours of operating time. Change oil in a new generator after the first 25 hours of operating time and every 100 hours, or six months, thereafter. Clean the cooling fins at least every 200 hours; remove any dust, dirt, or oil which may have accumulated. Check the air cleaning element every 100 hours; clean it by tapping against a flat surface. Change the air cleaning element at least every 200 hours.

The schedules above are only a guide; when the generator is used in extremely dusty or cold conditions, all maintenance steps may need to be more frequent.

12-VOLT SYSTEM

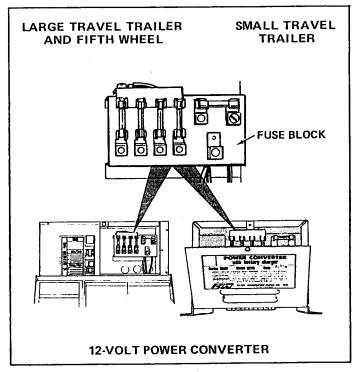
The 12-volt system, which includes the automotive battery and RV battery (Figure 9), plus the 12-volt converter, supplies power to the interior and exterior lights, the range hood, furnace blower, water pump, and monitoring panel. The 12-volt energy is supplied either by the automotive alternator (through the pigtail connection), RV battery, or power converter.

The automotive battery and alternator supply 12-volt power to the tow vehicle's lights and components and the RV's 12-volt system, including running lights, brakes, and appliances, when the pigtail is connected. The RV battery is charged by the alternator or by the power converter whenever you are using a Shoreline connection or generator.

BATTERY — Check the liquid level at least once a month. It must be above the plates. The battery manufacturer recommends using a good grade of drinking water, excluding mineral water. Keep terminals free of dirt and corrosion. You may use a battery hydrometer to check the charge level of the battery. When specific gravity is below 1.225, recharge the battery until 1.260 is indicated. To check the battery using the monitoring panel, dis-

connect the Shoreline and turn on at least three interior lights: a discharged battery will show full charge unless some electricity is being drawn.

CONVERTER — The power converter transforms 120-volt AC into 12-volt DC. The converter supplies power to all of the 12-volt systems when it is supplied by a 120-volt source. Each 12-volt circuit is protected by a fuse in the converter. Open the converter cover to expose the fuses. Some fuses protect circuits with more than one function, others may be for specific appliances; a listing of the circuits is on the inside of the cover. If a fuse breaks, turn off or unplug all appliances on that circuit. Replace the broken fuse with one of the same ampere rating. If the fuse continues to break, contact your authorized dealer.



FRESH WATER SYSTEM

GENERAL

Fresh water for your unit is supplied either by the vehicle's fresh water tank or an external pressurized source. Both supply water to the sinks, lavatory, tub/shower, toilet, and water heater.

CITY WATER

Connect a hose to a "city" pressurized water faucet and to the vehicle's water inlet (Figure 10). When using the city water hookup, the water tank and pump are bypassed. You cannot fill the water tank through the city water inlet.

Although a common garden hose can be used to fill the water tank and connect to city water, long time RV'ers recommend a hose specifically manufactured for this purpose.

CAUTION: In areas where city water pressure exceeds 60 pounds-per-square-inch, you should use a pressure regulator. Excessive water pressure may damage lines and connections. See your authorized dealer for further details.

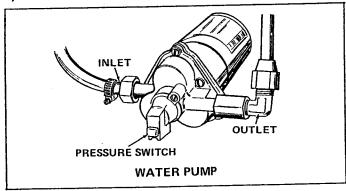
WATER TANK

Open the gravity water fill by unscrewing the cap (Figure 11). Use a hose or vessel to fill the water tank. The vent hole must be free of obstructions to properly fill the tank. Water will flow out the water fill when the tank is full.

SANITIZING WATER TANK — Sanitize your unit's water tank before initial use, after a period of nonuse, and whenever the tank is suspected of being contaminated. Remove the water tank drain cap (Figure 12). The cap is attached to a drain pipe which protrudes through the floor to the underside of the vehicle. When the tank is empty, replace the drain cap. Mix three gallons of water with 3/4 cup liquid household bleach. Pour the solution into the tank through the gravity water fill. Wait three hours. Drain and flush the tank with fresh, potable water. If chlorine taste lingers, pour one quart of vinegar and five gallons of water into the tank. Wait several days before draining the tank. Flush tank with fresh, potable water.

WATER PUMP

Your water pump is a 12-volt DC appliance, activated by a switch on the monitoring panel or one mounted in the kitchen area. You may leave the switch ON while camping. This arrangement is known as a demand system. When you want water, simply open a faucet; the pump will run only as long as needed. If the pump fails to start when the switch is ON, check the fuse located in the converter. If the pump continues to operate, whether the faucets are opened or closed, check the water tank, it may be empty, or there may be a leak in the system.



SINKS

Clean the kitchen and bathroom sinks with non-abrasive cleanser. Stainless steel cleaner may be purchased at most grocery stores. ABS cleaner, such as Aqua K-7, may be purchased from your authorized dealer.

LEAKS

Traveling over bumpy or rough roads can cause pipe fittings to loosen. Check pipe fittings regularly for signs of leakage.

DRAINAGE/SEWER SYSTEM

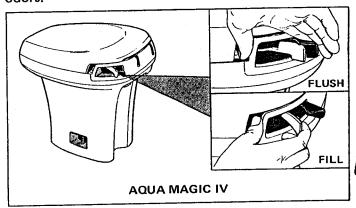
GENERAL

Your vehicle is equipped with a Drainage/Sewer system that functions much the same as the one in your home. It includes drain lines from the kitchen sinks, lavatory and tub/shower to a gray water holding tank and a marine type toilet that empties directly into a separate waste holding tank. The drainage system also includes vents which carry odors (caused by drain water and waste) out through the roof, while equalizing air pressure. The latter is necessary to maintain a water barrier against odors in the P-traps and to ensure smooth flow and escape for your drainage system.

TOILET

Your toilet is an Aqua Magic IV. The toilet's white lever adjusts the bowl's water level. The black lever controls the toilet's slide valve to the holding tank. To flush, pull the black lever forward, which simultaneously activates the white lever, and hold until all contents have been swept into the holding tank. Always open for a minimum of three full seconds. When you release the black lever, the bowl will automatically fill with water for next use. If you desire to add more water to the bowl, pull the white lever forward.

Before initial use and after emptying the holding tank, flush the toilet. When the bowl is filled, pour in an 8-ounce bottle of Aqua Kem concentrate, then flush the toilet again. This will help control odors.



CARE OF TOILET — Use Aqua Bowl Cleaner as directed. DO NOT use highly-concentrated or high-acid household cleaners (NO scouring powder). If the slide valve does not move freely, apply silicone spray.

HOLDING TANKS

All units have two holding tanks, one for gray water drainage from sinks, lavatory, and tub/shower,

and one for the toilet. Both should be emptied frequently at a specified dumping station. Many service stations also now have waste dumping stations. You can check the volume of waste in either tank by use of the monitoring panel. Avoid having to dump tanks too often by taking advantage of rest room facilities when available. You can prevent unnecessary accumulation of solids in the waste holding tank by not putting facial tissues or similar items into the toilet. Some campsites will have septic service for the disposal of sink water at each site.

EMPTYING HOLDING TANKS — Be certain your vehicle is level, since emptying of holding tanks is accomplished by gravity. Remove sewage drain hose (Figure 14) from its storage area in the rear bumper. Remove the termination cap from the termination outlet (Figure 15) and connect the sewage drain hose. If you leave the drain hose connected to the termination outlet when you are camped, DO NOT open the toilet dump valve until you want to empty the holding tank. The system is not like your plumbing at home, where waste is flushed directly into the sewer system. Instead, only liquid waste may drain out, causing solids to collect and harden in the bottom of the holding tank.

To drain the holding tank, pull out the "T" handle (Figure 15). Never open the dump valves on both holding tanks at the same time. This can cause waste to back up into the gray water tank. Close the valve after the tank has drained. Flush or pour about two gallons of water through the toilet into the waste holding tank and drain again. This flushes the tank and helps clean the drain hose. Repeat as necessary. Close and secure the dump valve handle, pushing it in until it seats. Remove hose, wash, and replace in its rear bumper holder. Replace termination outlet cap.

DRAIN PIPING

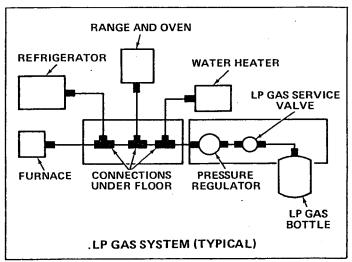
Use clear water to clean exterior pipe surfaces. DO NOT use harsh drain cleaner chemicals or solvents in drains.

LP GAS SYSTEM

GENERAL

The Liquefied Petroleum (LP) Gas System in your unit furnishes fuel for hot water, heat, cooking, and refrigeration. LP gas, a by-product of the petroleum refining process, provides a portable, efficient and inexpensive source of energy. It is stored in a bottle or bottles on the "A" frame of travel trailers or inside a front compartment on fifth wheels. Under pressure in the bottle, the LP gas turns to vapor; it is the latter which burns. Each bottle has a 20% liquid level gauge which allows space in the bottle for vapor expansion. The high pressure of the vapor in the bottle is reduced in two stages through a regulator (Figure 16). The tank pressure will vary

with temperature and altitude, but may be 100 to 250 pounds per square inch or more. It is reduced to about 12 psi in the first stage then to about 6-1/4 ounces in the second stage (the 6-1/4 ounces per square inch also is expressed as 11 inches of water column). The LP gas is propane or a blend of propane and butane, depending upon your locale.



The LP gas system is designed and built to rigid standards and tested before leaving the factory. Your Shasta dealer also tests the system prior to delivery to you. Except for a simple maintenance and occasionally tightening a connection, you should take your vehicle to an authorized Shasta dealer for LP gas problems. The LP bottles should always be filled by an authorized LP supplier.

NOTE: Shasta Industries is not responsible for personal injury or property damage resulting from improperly maintained LP gas appliances and systems.

LP gas burns readily and with intense heat. With proper care and maintenance, it is safe and efficient. However, there are certain characteristics of LP gas of which you should be aware. In its natural state, LP gas is odorless, but an additive gives it a distinctive garlic odor so that leaks may be readily detected.

WARNING: For your safety, if you smell gas:

- 1. Open all windows
- 2. DO NOT touch electrical switches
- 3. Extinguish any open flame
- 4. Close Service valve
- 5. Immediately call your gas supplier

LP gas is heavier than air and tends to collect in low pockets. As LP gas settles into any closed area, it displaces air and thus could cause suffocation if not detected. It could also create a fire or explosion hazard.

Before using any LP gas appliance, read the respective manufacturer's instruction manual.

CLIMATE DIFFERENCES

The appliances will not function if the LP gas

does not vaporize. Butane will not vaporize below 32 degrees F. (the freezing point of water), but propane will continue to vaporize down to 44 degrees below zero. Propane has become the main type of LP gas used in RV's in recent years. Your LP supplier will have the correct type or blend for your locale. If your travels will take you into an area where climate differs, ask your LP dealer for his recommendations. The names of LP suppliers can be found in the yellow pages of your telephone directory under "Gas-Liquefied Petroleum - Bottled & Bulk". Many campgrounds now have LP gas fill facilities, as do some service stations.

To operate any LP gas appliance, the LP gas bottle's Service valve(s) (Figure 16) must be OPEN. When first used, or after a refill, there may be some air in the gas lines which will escape when you first open a range burner or similar LP gas valve. The air may extinguish your match or igniter the first time or two, before you get ignition. Remember, too, that when you close the bottle's Service valve some of the gas will remain in the lines. To completely bleed the lines of gas, CLOSE the bottle's Service valve and light a range burner to use up the excess. When the flame burns out, turn the range burner OFF.

FILLING THE LP GAS BOTTLES

Before removing an LP gas bottle, be certain all burners and pilot lights are OFF. Close the Service valve and turn the gas line connector clockwise to disconnect. For a single bottle, loosen the wing nuts and remove bolts which hold the bottle to angle supports (Figure 17). For double bottles, turn the spinner nut counterclockwise enough to raise the "T" bar from both bottle handles, and remove empty bottle. Transport upright LP gas bottles in an upright position. (Some units may have LP gas bottles which are designed for horizontal installation; they should always be transported in a horizontal position.)

Take your bottle(s) to an authorized LP supplier for filling. He will connect the fill nozzle to the gas line connector. The Service valve and the 20% liquid level gauge must be open. When liquid appears at the liquid level gauge, the bottle is filled to its LP capacity. Close the Service valve and the 20% liquid level gauge. DO NOT use a wrench to tighten the Service valve or the 20% gauge; they are designed to be closed leak-tight by hand. If you cannot hand-tighten properly, the valve probably needs repair or replacement.

CAUTION: Avoid overfilling by insisting that the LP gas tank never be filled beyond the 20% liquid level. If the tank is overfilled, have the LP gas dealer bleed out the excess. Overfilling does not allow sufficient space for the liquid to expand. This can produce excessive pressure which can cause LP gas leaks, creating a potential fire or explosion hazard. DO NOT smoke, strike a match or ignite a lighter when the LP gas tank is being filled. A spark or

flame could ignite fumes. Be certain all burner and pilot flames are out and the Service valve is closed when filling your tow vehicle's gasoline tank.

LP GAS LINE CHECK

Always check the gas line connection after each refill and inspect other connections regularly, at least every 30 days or 5,000 miles of travel. To check, turn off all burners and pilot lights. Open all doors and windows. Open the LP gas bottle Service valve and use soapy water, a bubble solution or approved leak detector to test all line connections. Do not use products that contain ammonia or chlorine. Bubbles indicate a leak. Tighten the connections with two open end wrenches until bubbles stop. If leak persists, contact your Shasta dealer.

REGULATOR PRESSURE

Check the LP gas regulator at the beginning of each season, or whenever a problem is indicated. Correct line pressure is 11 inches of water column. Your Shasta dealer or LP gas supplier can perform this check.

LP GAS REGULATOR FREEZE-UPS

LP gas regulator freeze-up is a problem RV owners can prevent if they are aware of its causes. Freeze-up is usually caused by one of three things: moisture in the bottle(s), an overfilled bottle, or a greater vapor withdrawal demand than the bottle can deliver at a particular temperature. Consult your Shasta dealer or LP supplier for details about means of preventing regulator freeze-ups.

LP BOTTLE CARE

After each trip, inspect the LP gas bottles(s). Sand off traces of rust and apply a rust preventative paint. Always use white paint, which reflects heat. When the LP gas system is not in use, the Service valve should be closed.

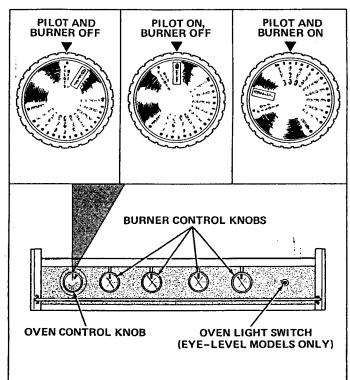
APPLIANCES AND ACCESSORIES

RANGE, RANGE HOOD, OVEN

GENERAL — Your Shasta travel trailer or fifth wheel is equipped with a three or four-burner range. Four-burner ranges also have ovens, either beneath the range or at eye level. Eye level ranges have a red button on the control panel which operates the oven light. Both range models have either power or gravity range hoods. The range burners and oven are LP gas appliances. You should read the manufacturer's manual for complete details on the operation and care of the range, range hood and oven.

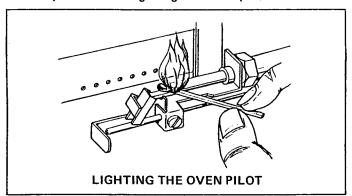
LIGHTING THE PILOTS — There are pilot burners on all LP gas ovens and the eye-level range/ oven also has a pilot for the range burners. All pilot lights, including the range burner pilot, are turned

on and off by the oven control knob. If you have the eye-level range/oven, you must light both the oven pilot and the range top pilot.

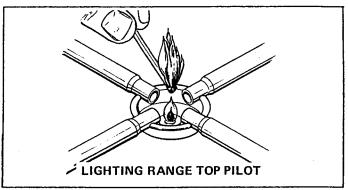


CAUTION: The oven control knob must be in the PILOTS OFF position unless the pilot or pilots are lit. Once lighted, the pilots will continue to burn when the oven control knob is in the OFF position.

To light the oven pilot, be certain the LP gas container Service valve is OPEN, then depress and turn the oven control knob from PILOTS OFF to OFF. Open the oven door and hold a lighted match next to the constant pilot area (it is near the rear of the oven compartment, just below the main oven burner). Relight the pilot if air in the line extinguishes the flame. When the pilot remains lit, adjust the oven control knob to the desired temperature. If the oven is part of the eye-level model, light the range burner pilot before lighting the oven pilot.



To light the range burner pilot (eye-level range/ oven models only) lift the main top panel and touch a lighted match to the pilot. Turn a range control knob full ON; if the burner lights, the pilot is operating properly.

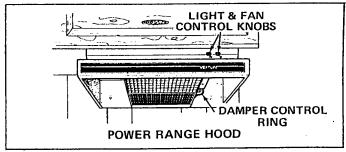


LIGHTING THE RANGE — Be certain the LP gas Service valve is OPEN. Light a match and hold it close to the range burner, then turn the burner's control knob to full ON. Air in the line may cause a blowing noise and may extinguish the match. When the line is free of air, the burner will light readily. Adjust the burner flame with the control knob.

CAUTION: When using the range burners or oven, open a window or vent. DO NOT use range and/or oven to heat the interior of your unit. Failure to heed these cautions could result in asphyxiation.

BROILER — Your oven is equipped with a broiler. To use it, light the oven and set the control knob to "B". Place the broiler pan in the area below the oven burner. Do not place meat too close to the flame, grease or fat may ignite. Use foil only as recommended: Never cover the holes in the broiler pan or the air openings in the oven bottom with foil. Always remove the broiler pan as soon as you have finished broiling. If the pan is not removed and the oven is used, the grease may bake onto the surfaces or the grease may ignite.

RANGE HOOD — Your unit will have a gravity or 12-volt range hood. The gravity hood is a vent, which allows fumes to escape through a damper. Raise the damper when cooking. The power range hood has a fan and a light, each controlled by a knob on top of the hood. To operate, pull ring on the right side of the filter to release damper. Turn fan ON to draw smoke and cooking fumes out of the unit. To secure the damper, push the ring in. Keep the damper closed when traveling.



CARE OF RANGE AND OVEN — Allow the range top to cool, then clean it with hot, soapy water. Use a damp cloth to clean chrome surfaces. Grease splatters, which may bake onto the surfaces, should be wiped off before they have time to harden. Use chrome polish to remove stubborn stains. Use a toothpick to clean clogged burner orifices. DO NOT use metal objects, such as an ice pick or wire, to unclog burners. They may distort the opening and adversely affect burner operation.

Clean the oven with commercial cleaner after each trip, or as necessary. DO NOT apply cleaner to aluminum gas tubing, thermostat sensing bulb or electrical components.

CARE OF RANGE HOOD — For metal surfaces, use the same procedure as for the range top. For the power hood, clean the plastic light cover by removing and washing it. If the light burns out, replace the bulb. To clean the power hood filter, push slot located in center front of screen and pull down. If not greasy, simply tap the filter to shake out the dirt. If the filter is greasy, run hot, soapy water over it until grease dissolves. Allow the filter to drain and dry, then replace by positioning the flanges and push into place. The gravity hood can be cleaned by gently rubbing a soapy cloth over the screen.

MICROWAVE OVEN — The microwave oven is a 120-volt unit used to cook, defrost or simmer foods in less time than other cooking methods. The control panel has a timer, Power Select heat control, Start button and an On/Off indicator light.

To use the oven, make sure the glass tray is in place and rotates freely on the magnetic turntable. Place container of food on the glass tray. Close the door securely. Slide Power Select Control up or down to desired position. Highest heat position is at top; lowest, at bottom. Determine proper time from cookbook or other guide and set timer. Timer provides up to 30 minutes. For times less than two minutes, turn timer past two minute mark and then back to desired time. When timer is turned ON, oven light turns ON. Press START button. The COOK indicator light turns ON, turntable begins to rotate and microwave energy begins cooking food.

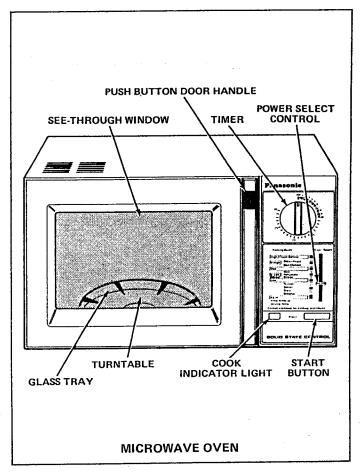
While the food is cooking, you may open the door to check it. As soon as the door is opened, six safety mechanisms automatically and instantly stop microwave power. The timer and oven light also turn OFF. To continue cooking, close the door and press the START button again. To change the cooking time, simply adjust the Timer. When time has elapsed, a bell rings and the unit shuts off. If additional cooking time is needed and the door has not been opened, reset the Timer and the oven will start. If door was opened, set Timer and press START button. ALWAYS SET THE TIMER AT ZERO WHEN YOU ARE NOT USING THE OVEN.

CAUTION: Do NOT use metal utensils if sparking occurs. Consult section in manufacturer's literature on cooking utensils. Also read the section on paper and plastic containers since some types may spark or catch fire. Do NOT pop corn or attempt to dry clothing or other materials in the oven; overheating may cause the food or fabric to ignite. NEVER place your watch directly on the turntable; the watch could be magnetized permanently, unable to run.

CARE OF MICROWAVE OVEN — Clean the outside and inside with a soft cloth, mild detergent and warm water. Thoroughly wipe the top, sides, shelf and back walls of the inside. Rinse well. Wipe spills off the inside every time you use the oven. To replace oven bulb, unplug the oven, loosen the screw on the rear access panel and open. Use a 25-watt "bayonet base" bulb. Fasten the rear panel and plug the oven in.

Occasionally, the glass tray, turntable and roller ring should be removed, when cool, for cleaning in warm, sudsy water. Note the position of the roller ring to be sure you re-install it correctly. While these parts are soaking, wipe the bottom of the oven with mild detergent water or a liquid window cleaner and wipe dry.

CAUTION: Do NOT dip HOT glass tray in water to cool or clean it; you may crack it instead.



WATER HEATER

GENERAL — The water heater is an LP gas appliance capable of heating 6 gallons of water to a pre-set temperature. It will fill automatically either from the fresh water tank or when the system is connected to a "city" water faucet. When filling the fresh water tank, open a hot water faucet briefly—with the pump switch ON—to allow the water heater to fill.

LIGHTING PILOT — Open gas bottle's Service valve. Turn the gas cock knob to OFF. Always wait 5 minutes to allow LP gas, which may have collected in the burner compartment, to dissipate. Your unit may be equipped with a Robertshaw "UNITROL" thermostat (Figure 18) or the ITT General Control Thermostat (Figure 19).

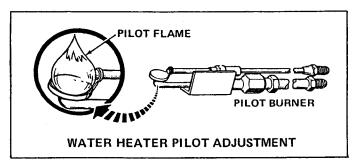
ROBERTSHAW "UNITROL" THERMOSTAT — Turn the gas cock knob counterclockwise to PILOT. Press and hold the reset button while you apply a lighted match to the pilot burner. Release the reset button after pilot has burned one minute (repeat procedure if pilot goes out). Turn the gas cock knob to ON.

ITT GENERAL CONTROL THERMOSTAT — Turn and hold the gas cock knob to the PILOT position as you hold a lighted match to the pilot burner. Release the gas cock knob after one minute (repeat procedure if pilot goes out). Turn the gas cock knob to ON.

TEMPERATURE CONTROL — Adjust the Temperature Control Dial (Unitrol), or the Temperature Selector Lever (ITT) to the desired temperature as marked on the control.

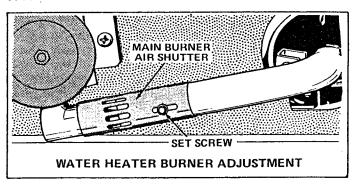
NOTE: The main burner will light automatically and burn as needed to maintain the temperature you have selected. It is a good idea to light the water heater the night before you leave and turn it off in the morning. The water will remain hot for some time while you are traveling.

PILOT ADJUSTMENT — Remove the pilot adjustment screw protective cap and turn set screw to adjust the flame so it is 1/2" high or has a yellow tip. The procedure for the ITT is the same, but the adjustment screw does not have a cap over it.



BURNER ADJUSTMENT — Loosen the set screw which holds the air shutter in place. Slide the main burner air shutter to the right until the flame has a yellow tip. Slowly slide the shutter to

the left until the yellow tip disappears. Tighten set screw.

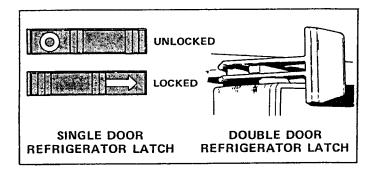


EXTINGUISHING BURNER — Turn the gas cock knob to OFF.

DRAINING — The water heater will have a drain cock or plug, which may be opened or removed in order to drain the water tank. To facilitate drainage, open all hot water faucets. When water ceases to drain, close the drain outlet.

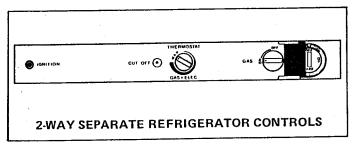
REFRIGERATOR

GENERAL - When you park your vehicle, even for a relatively short period, the refrigerator must be level since it functions on the gravity flow of chemicals. (If you must stop on an uneven site, turn the refrigerator control OFF.) Use a level on the freezer compartment floor to check levelness. Whenever possible, park the vehicle so the refrigerator side will be opposite the sun. Your refrigerator is either 2-Way or 3-Way. The 2-Way design uses LP gas and 120-volt electricity; 3-Way, can also use 12-volt electricity for power. The control panel is located inside or below the refrigerator door. Before starting on a trip, use the Shoreline connection to cool the refrigerator the night before. Keep items to be stored in your RV refrigerator in your home refrigerator or freezer until you are ready to leave. This will reduce the cooling load on your RV refrigerator and help keep perishable foods fresh longer. Always store food in sealable containers or suitable wrapping. When traveling, switch to LP gas or 12-volt operation. Use door latch during travel.



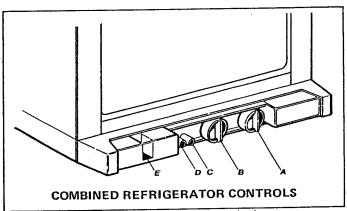
2-WAY SEPARATE CONTROLS - GAS OPERATION — Turn ELEC Control knob so OFF is at top and bottom. Slide interlock toward right. Turn GAS Control knob counterclockwise to ON position.

Turn thermostat knob clockwise to MAX position. Push and hold Cut-Off button for about 5 seconds (to clear gas line of air) before pressing Ignition button. Observe burner flame through window in the lower rear wall of the refrigerator liner. Continue operating Ignition button until burner lights. Hold Cut-Off button for 30 seconds, then make sure burner is still lit after Cut-Off is released. If burner fails to light or goes out, repeat above procedure. Later, adjust thermostat setting to meet your cooling needs.



2-WAY SEPARATE CONTROLS - ELECTRIC OPERATION — Turn GAS Control knob clockwise to OFF. Slide interlock toward left. Turn ELEC Control knob so ON is at top and bottom. Turn thermostat knob clockwise to MAX position. Later, adjust thermostat setting to meet your cooling needs.

COMBINED CONTROL - GAS OPERATION — Turn Combined Control, knob "A", to GAS position. Turn Thermostat, knob "B", to setting 4. Hold Cut-Off, button "C", in and push Piezo Lighter, button "D", several times or until the burner flame can be seen in Reflector "E". After burner ignites, continue holding "C" for 10 seconds. Release "C" and check in reflector to be sure the burner is still lit. If flame is out, repeat the above procedure. Later, adjust the thermostat "B" to a setting that meets your cooling needs.



COMBINED CONTROL - ELECTRIC OPERATION — Make sure the refrigerator cord is plugged into its 120-volt receptacle in the outside compartment; then check to see that the Shoreline is connected to outside power and the circuit breaker in the power center is ON. When the refrigerator also is equipped for 12-volt DC operation, the low voltage connection is made at the marked terminals

at the rear of the refrigerator. Turn the Combined Control knob "A" to the desired position for electric operation, then turn the Thermostat knob "B" to setting 4. Later, adjust the thermostat to a setting that meets your cooling needs.

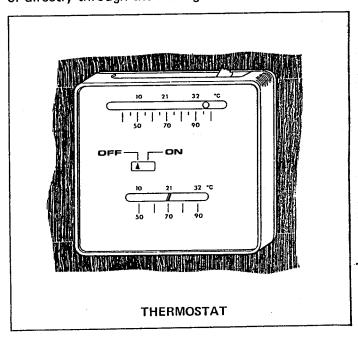
The refrigerator is the only 12-volt appliance that does not draw power from the converter. Even with the Shoreline connected, the refrigerator's only source of 12-volt power is the RV battery. When you are traveling, your automotive alternator will maintain a charge in the RV battery. When you are parked, switch to LP gas or 120-volt electricity to operate the refrigerator.

CARE OF REFRIGERATOR — Remove food and ice after each trip. Clean the interior lining of the refrigerator with a lukewarm, weak soda solution. The evaporator, ice trays and shelves, must, however, be cleaned with warm water only. Never use strong chemicals or abrasives to clean these parts or the protective surface will be spoiled. If the refrigerator is not in use for a period of weeks, it should be emptied and cleaned and the door left ajar. The ice trays should be dried and kept outside the cabinet.

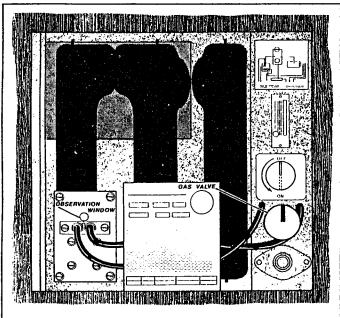
To defrost refrigerator freezer, remove food and ice. Turn the thermostat OFF. To speed up the defrosting process, fill the ice tray with hot water. When all frost is melted, empty the drip tray and dry the interior of the refrigerator with a clean cloth. Replace the drip tray and ice tray, replace all food stuffs and set the thermostat at MAX for a few hours. Later, reset the thermostat knob to its normal position.

FURNACE

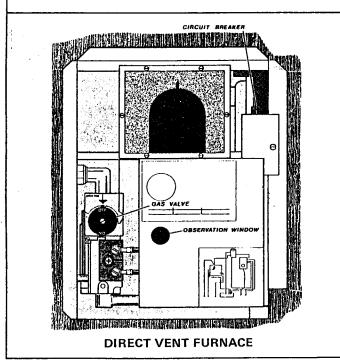
GENERAL — The furnace in your unit is an automatic ignition model, controlled by a wall thermostat. Heat is discharged through a duct system or directly through the front grille.



NOTE: Although the furnace's heat source is LP gas, the blower operates on 12-volt DC electricity. DO NOT operate the furnace for prolonged periods unless the Shoreline is connected, the generator is running, or the automotive alternator is supplying 12-volt power. If you do, you could run down your RV battery.



DUCT SYSTEM FURNACE



FURNACE IGNITION — Before lighting the furnace, be sure the LP gas bottle Service valve is OPEN and the thermostat ON/OFF switch is ON. Remove the front panel from the furnace. For front grille models, lift the grille then pull to remove. For larger furnaces, turn the handle at the top of the panel then pull out to remove. Turn the Furnace

Gas Valve ON (on larger models, push in on the Valve knob, then turn). Set the thermostat to the lowest temperature setting, then to the desired temperature. An automatic relay in your furnace provides a time delay. Therefore, when you turn up the thermostat there will be a pause prior to startup of the blower. At blower startup, your furnace air will enter your living quarters at room temperature. It will start warming quickly and continue getting warmer for the next several minutes.

If your RV is cold throughout, it may take from one to several hours to heat all interior walls, ceilings, floors and fixtures to a comfortable temperature. Once reached, your furnace will automatically maintain steady warmth.

On initial lighting, the burner may not ignite due to air in the gas lines. If this occurs, set the thermostat back to the lowest setting and wait 30 seconds; then reset the thermostat to the desired temperature.

NOTE: If the furnace does not light after several attempts, while allowing each time for a delay, pause, turn the thermostat and the furnace Gas Control Valve OFF and contact your RV dealer or service center. DO NOT attempt to repair or adjust the furnace yourself.

Front grille models are equipped with a manual circuit breaker (see illustration). If your furnace blower does not come on, reset the circuit breaker by depressing the button. If the problem persists, contact your RV dealer or furnace service center.

CAUTION: When changing your unit's electrical source as from 12-volt to Shoreline or generator, <u>turn the thermostat OFF</u>. This will preserve the life of your furnace's electronic system.

PREVENTIVE MAINTENANCE — Clean the complete furnace and air box passageways periodically to remove dust, lint and other foreign materials. Check the gas system for leaks at least once each year by using a soap and water solution. Do not check with a flame. Check and clean the blower wheel annually.

CARE OF FURNACE — Before each heating season, clean the circulating air blower, the combustion air blower, the inside of the furnace casing and the burners. Blow pressurized air through the slots and remove any contamination. Check all piping joints and furnace controls with a soap solution to detect leaks. The control compartment must be kept clean at all times. Check furnace Inlet/Exhaust Cover (Figure 20) on the outside of your unit periodically to be certain it is free of objects which might block the openings.

NOTE: Suburban Furnace Model N-30M (not illustrated) operates on 120-volt AC power only.

ROOF AIR CONDITIONER

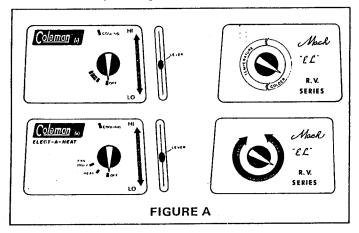
GENERAL — If you did not order the optional air conditioner at the time of purchase, your unit

is wired so that one can be installed later. Just order it from your RV dealer. The roof air conditioner will operate ONLY on 120-volt electricity.

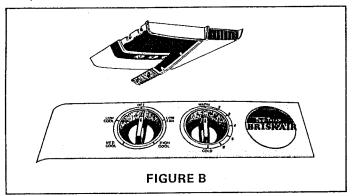
CONTROLS — The controls for the types of air conditioners installed at the factory are on a panel on the portion of the appliance which is attached to the ceiling inside your unit. You can select cooling, fan only, or — with the optional heat package — heating.

OPERATION — Refer to Figure A or Figure B for the controls installed on the roof air conditioner in your unit.

AIR CIRCULATION ONLY (Figure A) — Turn the Selector Switch to FAN (or to FAN ONLY with the optional heat package) and adjust the Damper Lever to the volume of air flow desired. (Figure B) — Place the Thermostat in the warmest position and select High Cool, Medium Cool, or Low Cool on the Selector Switch to circulate inside air without operating the compressor for cooling.



COOLING (Figure A) — Turn the Selector Switch to COOLING, then rotate the Thermostat to the position that is most comfortable to you and adjust the Damper Lever to the desired volume of air flow. The compressor will cycle on and off, automatically, to maintain the desired temperature. (Figure B) — Set the Thermostat to the desired temperature and place Selector Switch in desired position. When set at High Cool, Medium Cool or Low Cool, the blower will operate continuously and the compressor will come on when the desired temperature has been reached.



HEATING (Figure A) — If equipped with the optional heat package, turn the Selector Switch to HEAT and rotate the Thermostat to the position most comfortable to you and adjust the Damper Lever to the desired volume of air flow. The heater will cycle on and off automatically to maintain the desired temperature. (Figure B) — With the optional heat package installed, place the Selector Switch at LOW HEAT. Place Thermostat in WARM position. This will circulate the air and allow the heater to cycle on and off to maintain the desired temperature.

NOTE: On units that do not have the optional heat package installed, this position will circulate the inside air only.

AIR FLOW — On either model, adjust the louvers for the best air distribution.

CARE OF AIR CONDITIONER — Your air conditioner will operate more efficiently with a clean filter. Either replace or clean the filters every two weeks during times of heavy use. To clean, remove filters and wash with soap and warm water, let dry and reinstall. See your air conditioner manufacturer's operation instructions for details on operation and maintenance.

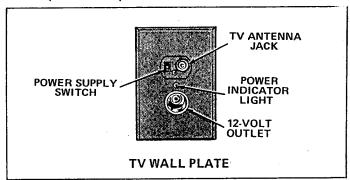
AM/FM/MPX STEREO RADIO AND 8-TRACK OR CASSETTE TAPE PLAYER

The tape player is equipped with an automatic head cleaner. Occasionally you will have to clean oxide off the tape playback gear, capstan shaft and the automatic track selector. To activate the capstan, depress the switch (located next to the capstan) with the eraser end of a pencil. Use a cotton swab, moistened with isopropyl alcohol to clean the playback head, capstan shaft and the automatic track selector.

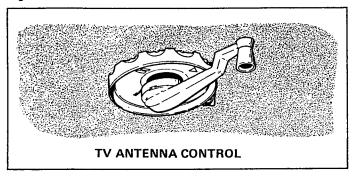
CAUTION: DO NOT use carbon tetrachloride to clean components of the tape player.

TV ANTENNA

Television reception will be better in many areas with an optional TV antenna. The TV antenna hookup includes an amplifying system, a coaxial connection for the antenna cable to your TV set, and a TV crank for inside control. The cable connection, amplifying system switch and power ON indicator light are on a wall plate. The "Skyliner" antenna is installed with 300-ohm cable and does not require an amplifier.



Simply turn the antenna crank handle in the UP direction until some resistance is felt. Pull down the rotating knob to disengage it from the ceiling plate and turn it until you find the best sound and signal.



Always lower the antenna before moving your unit. Turn the rotating knob so that its pointer lines up with the ceiling plate pointer. Turn crank handle in DOWN direction until some resistance is felt. Turn off the power switch.

MAINTENANCE

GENERAL

This section is to assist you in performing preventative maintenance. Negligence, misuse or installation of unauthorized equipment could affect the operation of your unit and may void your warranty.

ROOF

Coat all roof seams, roof edges and around vents with top quality roofing cement at least once each season. Coat awning rails with silicone. Coat window seams with rubber composition sealant.

BODY

Wash dust and dirt, road tar, bird and tree droppings, insects and other foreign material from exterior surfaces. Use a mild soap in cold or lukewarm water. Apply automotive type wax at least once a year.

CAUTION: To avoid marring body surfaces: DO NOT use abrasive cleaning compound or cloth; DO NOT wipe the surface with a dry cloth; DO NOT wash or wax your unit in the hot sun, wait until the surfaces have cooled. Wait 30 days after purchase before waxing your new unit.

FRAME

Inspect the frame for damage and rust. Remove dust and dirt and apply rust preventative paint.

WHEEL BEARINGS

Check wheel bearing lubrication often. Use a good grade of grease to pack them. Check for damage to the rims and hubs.

STORAGE

GENERAL

You should perform the following procedures if you will not be using your unit for an extended period.

LP GAS SYSTEM

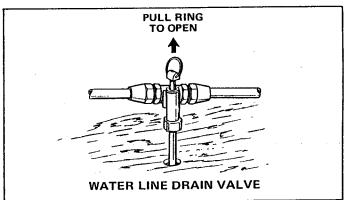
Close the LP gas container's Service valve. Extinguish all pilots and close all appliance LP gas valves (oven, water heater, refrigerator, furnace). Light a range burner (or range pilot on eye-level models) to consume any gas remaining in the lines. When the flame burns out, turn the range burner (or pilot) OFF.

WATER HEATER

Drain the water heater. To drain, see water heater DRAINING, in APPLIANCE section.

WATER TANK

To drain the water tank, switch the water pump ON and open all faucets. Remove the water tank's exterior drain cap. Open all hot and cold water line drain valves. When the tank is empty, close all faucets and drain valves, replace the drain cap.



WATER PUMP

When the water tank and water lines have been drained, remove the outlet hose from the pump. Turn the pump ON, allowing it to pump out any remaining water, usually about a cupful. Use a towel or rag to catch this water. You can reattach the outlet hose now or later.

ELECTRICAL SYSTEM

Turn OFF all circuit breakers at the Service Panel. Turn off generator at switch in generator compartment.

EXTERIOR

Place unit in a garage or other shelter. If this is not possible, cover with a tarpaulin or plastic.

INTERIOR

Close and secure all doors and windows. Open a roof vent or window slightly to allow circulation, but not so far that rain or snow can enter.

WINTERIZATION

GENERAL

You should make special preparations for storing your unit in cold winter climates. All systems and components should be inspected and, if necessary, repaired prior to storage. Winterize the unit before removing the RV battery.

NOTE: If you will be using your vehicle during cold weather, be certain to keep the fresh water system drained or use an approved, nontoxic RV antifreeze to prevent freeze-ups. Have an LP supplier add anhydrous methanol to your LP gas containers. Consult your authorized dealer for other winter usage information.

HOLDING TANKS should be drained and rinsed before antifreeze is allowed to run into them. The dump valve shafts should be inspected and lubricated if necessary. Be certain the dump valves are CLOSED.

FRESH WATER SYSTEM should be drained as described in STORAGE section, then pour six gallons of approved, non-toxic RV antifreeze into the gravity water fill. This will allow you to winterize the remainder of the fresh water system.

CAUTION: DO NOT use automotive antifreeze in the fresh water system; it is poisonous.

Winterize the fresh water system by briefly opening all water faucets and switching the water pump ON. Close the faucets when antifreeze flows out. Switch the water pump OFF.

WATER HEATER should be drained (see water heater DRAINING in APPLIANCE section). Although about two quarts of water will remain after the heater has been drained, there is ample room for expansion if it freezes. Add antifreeze to the water heater tank by opening a hot water faucet. When antifreeze appears at the spout, close the faucet.

AQUA MAGIC TOILET should be flushed until antifreeze is present in the bowl. Pour one gallon of antifreeze down the toilet to winterize the waste water holding tank. Block the white lever in the open position with a wad of paper.

DRAINAGE SYSTEM can be winterized by pouring one-half gallon of RV antifreeze into each drain.

SHOWER HEAD should be drained until antifreeze flows from spray nozzle.

LP GAS REGULATOR should be covered to keep moisture out of vent. LP gas system should be prepared as described in STORAGE section. Containers should have anhydrous methanol added by an LP gas supplier.

RV BATTERY should be recharged and water added, if necessary. Disconnect the battery cables and store battery in a cool, dry place. Check regularly and recharge as needed.

NOTE: DO NOT store battery in an area where it could be exposed to extreme heat or sparks. Be sure the room is properly ventilated to

prevent accumulation of hydrogen fumes given off by batteries.

WINDOWS should be masked with newspaper or similar material.

EXTERIOR VENTS (range hood, refrigerator, furnace) should be covered. Prop the refrigerator door open.

BODY should be cleaned and waxed; locks and hinges oiled. Remove snow accumulation with a long-handled broom.

FIRE SAFETY

Prevention is the best form of fire safety. Follow the instructions previously listed for the care, maintenance and operation of the various appliances in your vehicle. Make certain everyone in your party is familiar with the emergency features of the unit, the location of exits and the location and operation of fire extinguishers. A chemical fire extinguisher has been furnished with your unit. Check it regularly to be sure it is ready for immediate use. A fire extinguisher that is discharged, or partially discharged, should be replaced immediately.

EMERGENCY EXITS

Vehicles with one entrance door will have an emergency exit installed at one of the windows. To operate the emergency exit window, lift the two small levers located at the side or two latches along the bottom of the window and push out. The emergency exit is identified by a label on the window frame. Fifth wheels have an emergency dome exit installed above the upper level bedroom. To operate the dome exit, raise the handle and push the vent open. The dome exit is also identified by a label.

VISITING CANADA OR MEXICO

GENERAL

Passports or visas are not required for entry into CANADA or MEXICO. However, tourist cards are necessary for MEXICO if you will be staying more than 72 hours or travel farther than 40 miles from the border. Cards can be obtained at the port of entry or from a Mexican consulate. You should carry your birth certificate, voter's registration card, baptismal certificate or similar proof of identity when entering either country. Naturalized U.S. citizens should carry their naturalization papers or other proof of citizenship. Persons under 18 years of age should carry a notarized letter from their parents or guardians giving them permission to travel in CANADA or MEXICO.

The information in this section is general in nature and subject to change by the Canadian or Mexican government. For specific information, including rules for re-entering the U.S., as well as

points of interest and campsites, contact the consulate nearest the point at which you plan to enter the country.

VEHICLES

No special driver's license or permit is necessary in either country, but renew your license if it has or will expire during the trip. Proof of vehicle ownership is required at the border. If you are using someone else's unit, you should have a notarized letter authorizing its use. MEXICO requires a vehicle permit for every self-propelled vehicle. The permit can only be obtained from Mexican customs (Auduana) offices upon presentation of tourist card, vehicle registration, and title or notarized statement from owner.

CANADA requires a Canadian Non-Residential Interprovincial Motor Vehicle Liability Insurance card, which is only available from U.S. agents. All provinces in CANADA require evidence of financial responsibility if visitors are involved in an accident. Limits vary from province to province. Contact your insurance agent for details. Your insurance policy is NOT valid in MEXICO. Temporary insurance must be purchased from Mexican companies whose offices are located near the border.

CB RADIO

CB radio operation in CANADA requires a temporary license which can be obtained by writing Regional Director, Telecommunications Regulation Branch, Department of Communications, 20th

Floor, 2085 Union Avenue, Montreal, Quebec H3A 2C3, Canada. MEXICO currently prohibits the use of CB radios.

HUNTING AND FISHING

Each province has its own laws and license requirements. You must provide a written description and the serial number of each gun at the border. Revolvers, pistols and fully-automatic firearms are prohibited in CANADA. A license must be obtained from the province in which you intend to hunt or fish. Further information can be obtained by writing the Department of Lands and Forests, Wildlife Branch, in the province you intend to visit. Hunting and fishing laws in MEXICO are extremely complicated. Request further information from Secretaria de Communicaciones, Estados Unidos Mexicanos, Mexico DF.

DOGS AND CATS

CANADA requires a certificate, signed by a licensed veterinarian in the U.S. or CANADA, attesting that a dog has been vaccinated for rabies in the past 12 months. The certificate must contain a description of the dog and date of vaccination. Puppies under 3 months old need no certificate. There is no restriction on the entry of healthy cats.

A certificate, signed by a licensed veterinarian, describing the pet and attesting that it has had a rabies shot in the past 6 months, is required in MEXICO. A fee is charged for the required verification of the certificate by a Mexican consulate.

EMERGENCY CONTACTS

DOCTOR	NAME			_, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	NAME			
	ADDRESS				ADDRESS	·······	***	
	PHONE	(AC)		PHONE	(AC)	
RELATIVE	NAME		-		NAME			
	ADDRESS				ADDRESS			
	PHONE	(AC)		PHONE	(AC)	
POLICE	PHONE	(AC)		PHONE	(AC)	
FIRE	PHONE	(AC)		PHONE	(AC)	
INSURANCE	NAME				NAME			
AGENT	ADDRESS			,	ADDRESS			
	PHONE	(AC)	•	PHONE	(AC)	

SHASTA WARRANTY

GENERAL — Every Shasta product is backed by our position as an RV industry pioneer, achieved through four decades of experience in producing units noted for their quality and dependability. Our one-year limited warranty demonstrates our confidence in Shasta products and is a commitment to customers' continued satisfaction.

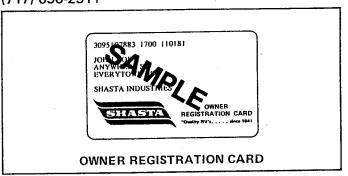
Every effort has been made to provide you with a safe, dependable recreational vehicle. Your Shasta RV complies with applicable federal and state regulations and the requirements of ANSI A119.2, the nationally-recognized "Standard for Recreational Vehicles — Installation of Plumbing, Heating and Electrical Systems". The Recreation Vehicle Industry Association (RVIA) periodically inspects Shasta production and assists in maintaining strict compliance with installation and safety standards for those systems. You, the owner, must perform periodic inspections of systems and provide a program of preventive maintenance as described in the Owner's Manual and instruction booklets.

WARRANTY SERVICE — Shasta recommends that warranty service be performed by the authorized dealer from whom you purchased your RV because of the dealer's continued and personal interest in your satisfaction. But if you are traveling or in the event that you move, service under the Shasta warranty will be performed by any authorized Shasta dealer in the United States or Canada. Whenever possible, make an appointment to avoid unnecessary delays.

Always carry your Owner Registration Card, which must be presented to obtain warranty service (carry your Temporary Owner Registration until you receive the plastic card from Shasta). The card is proof of purchase and provides the date of retail sale, which are necessary to determine warrantability. If you cannot locate an authorized dealer, contact the Customer Service Manager at the Shasta division nearest you:

Shasta of Indiana 812 Logan Street Goshen, IN 46526 (219) 534-1521 Shasta of Texas 729 E. Dallas Road Grapevine, TX 76051 (817) 488-9515

Shasta of Pennsylvania 40 Hess Road Leola, PA 17540 (717) 656-2511



Warranty Period — The warranty period shall begin on the date the title to the recreational vehicle is delivered to the first retail purchaser.

Who Is Covered — The first retail purchaser, provided terms of the warranty are met.

What Is Covered — Shasta warrants to owners that an authorized Shasta dealer will make repairs made necessary by defects in material or workmanship during the warranty period. Such repairs will be made without charge for parts and labor to the owner.

What Is Not Covered — The Shasta warranty does not cover the van chassis, tires, tubes, batteries or optional generators, repairs or adjustments required because of neglect, accident, misuse, failure to follow service and use instructions, normal wear and/or exposure, unauthorized repairs or unauthorized modifications to any part of the systems or body that might cause defective performance. Shasta does not assume responsibility for loss of use of the recreational vehicle, loss of time, inconvenience or expense due to equipment failures (refer to the warranty statement for other exclusions and limitations).

Other Warranties — Be certain to complete and submit to the appropriate manufacturers the warranty forms for van chassis, tires, tubes, batteries, and optional generators, which are not covered by the Shasta RV Limited Warranty. If service or parts are required for these products, refer to the factory-authorized service centers. If the list is not available, write or call the manufacturer concerned to obtain the location of the nearest authorized service center.

OWNER RELATIONS

Owner's satisfaction and goodwill are of primary concern to Shasta. We recognize that our continued success as a leading manufacturer of recreational vehicles depends upon your complete confidence in our products and service. A pleasant and effective relationship through our dealers is as important as maintaining the technical excellence of our product. Your authorized Shasta dealer will assist you in providing service, maintenance, selection of options and instructions concerning the operation of your recreational vehicle.

Occasionally, a warranty or service matter may not be handled to your satisfaction. Often it is the result of a misunderstanding and can be resolved at the dealer level. Discuss the situation with the dealership management. If you cannot find satisfaction at the dealer level, we invite you to contact your Shasta Customer Service Manager, who will make every effort possible to provide an agreeable solution. Write or telephone the Customer Service Manager at the nearest Shasta division. In most instances, we will eventually refer you back to the local dealer with our recommendations.

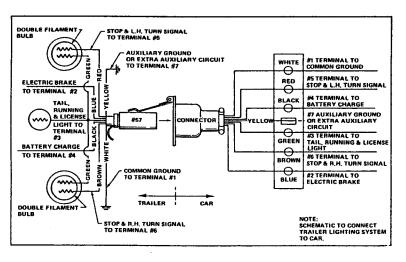
APPLIANCE IDENTIFICATION FORM

Should your unit or one of the appliances require warranty service, you will have to identify the manufacturer, model designator and serial number. Fill in this form as soon as possible. It will help you meet our identification requirement. Depending on your unit, certain items listed below may not be offered as either optional and/or standard.

EQUIPMENT	MANUFACTURER	MODEL DESIGNATOR	SERIAL NUMBER
Travel Trailer/or Fifth Wheel	SHASTA		
Furnace			
Range and Oven		•••	
Microwave Oven	* · · · · · · · · · · · · · · · · · · ·		
Converter/Power Center			
Refrigerator	***************************************		· · · · · · · · · · · · · · · · · · ·
Washer	***		
Dryer			
Water Pump			
Water Heater			
Roof Air Conditioner			Vince and the second se
Radio			
8-Track or Cassette Player			
Antenna			
Generator			
Toilet			
Door Key			<u></u>
Exterior Storage Compartment Keys			

SPECIFICATIONS

PIGTAIL WIRING DIAGRAM



TRAVEL TRAILER HITCH BALL HEIGHTS (see page 4)

Friendship	Shasta Travel Trailers			
14' 14"	235017-1/2"			
15' 14"	2400			
16' 14"	2500			
17-1/2' 16"	2550			
20' 15"	2600			
	2725			
Freedom	2800			
19' 17-1/2"	2900			
20' 17-1/2"	325018"			
21' 17-1/2"	33PS18"			
23' 17-1/2"				

FIFTH WHEEL GROUND CLEARANCE HEIGHTS

	(see page 4)	
28FW 55"	32FW 55"	35FW 55"
30FW 55"	33FW 55"	
LIGHT BULBS	FUSES	
LIGITI BOLDS	1 0313	

Clearance – 57
Turn & Stop – 1157
Interior – 1141
Range Hood – 1141

MISCELLANEOUS — See the advertising brochure for the exterior dimensions, weight ratings and wheel/ tire ratings which pertain to your unit.

MAINTENANCE RECORD

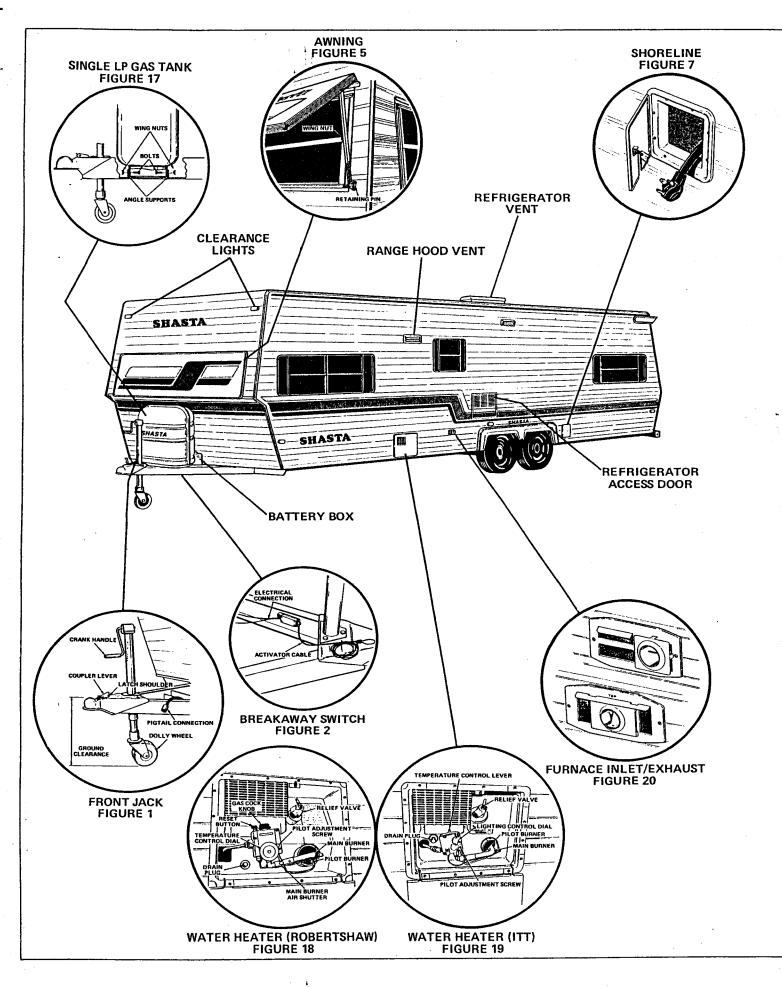
DATE	MILEAGE	SERVICE SHOP NAME & ADDRESS	DESCRIPTION OF SERVICE
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	·		

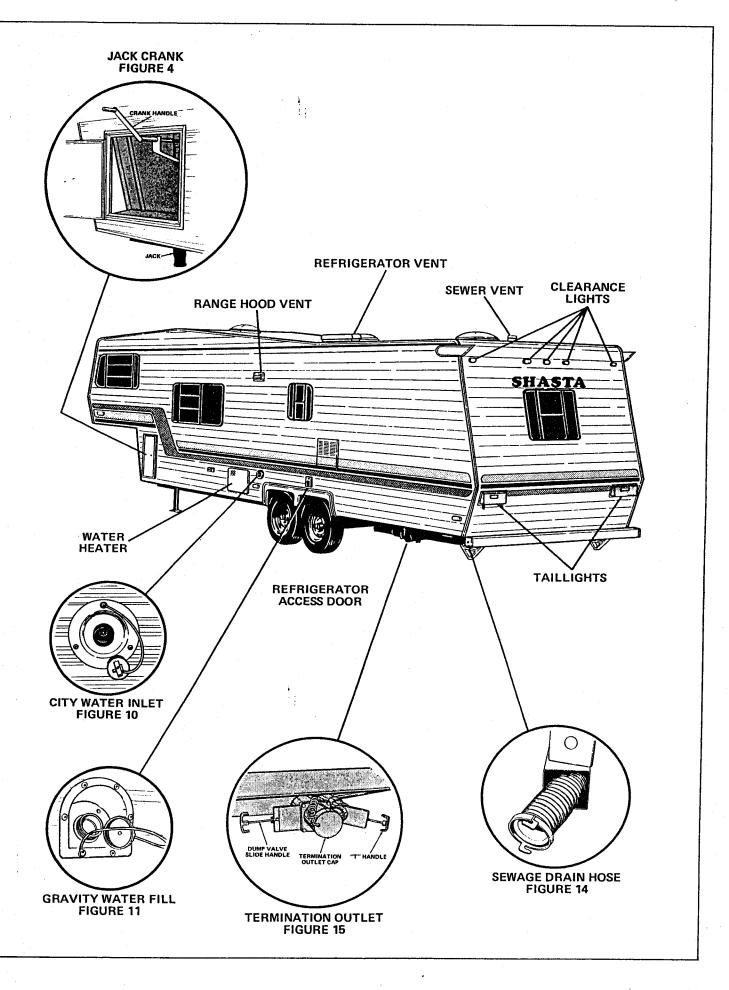
TRAVEL RECORD

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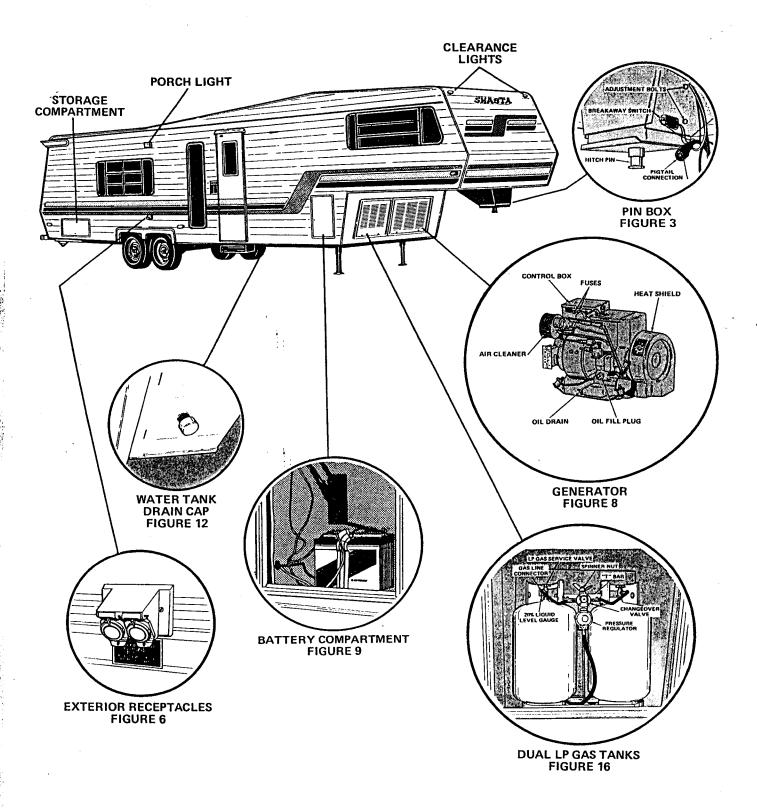
TRAVEL RECORD

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SHASTA TRAVEL TRAILER and FIFTH WHEEL



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VEHICLES SHOWN ARE FOR ILLUSTRATION PURPOSES ONLY; SOME ITEMS SHOWN ARE NOT AVAILABLE ON CERTAIN MODELS AND MAY BE OPTIONAL ON OTHERS.

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YOU'VE CHOSEN SHASTA ALL-AROUND VALUE!

As a new Shasta owner, you've made a sensible choice among recreational vehicles. Your Shasta is built with care and craftsmanship, and your choice of Shasta is backed by . . .

- Coachmen Industries, Inc., the world's largest full-line manufacturer of recreational vehicles.
- A coast-to-coast network of happy-to-serve-you dealers.
- Shasta's famous customer service. Your Owner Registration Card is your ticket to fast, dependable, one-stop service, nationwide and in Canada.
- The International Wings Of Shasta Owner's Club, to bring you the most pleasure in owning an RV.
- Traditional high trade-in value for any recreational vehicle built by Shasta!

SHASTA - Quality RVs Since 1941.