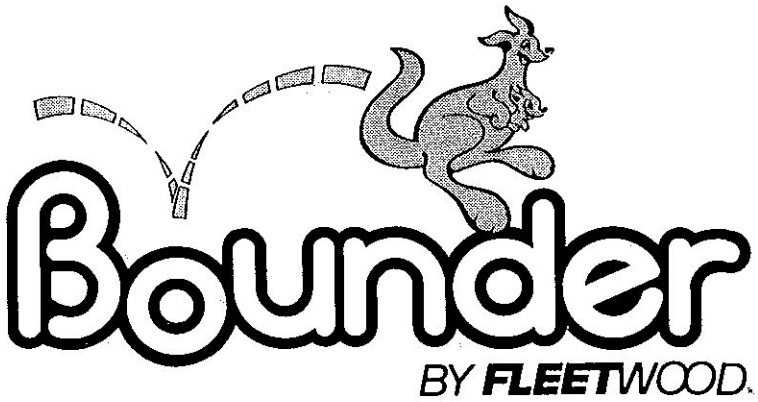

1987

FULL ONE-YEAR/15,000 MILE
WARRANTY

FOR MOTOR HOMES MANUFACTURED BY SUBSIDIARIES OF FLEETWOOD ENTERPRISES, INC.
SOLD IN THE UNITED STATES AND CANADA

COVERAGE PROVIDED

Your new motor home, including the structure, plumbing, heating and electrical systems, and all appliances and equipment installed by the manufacturer, is warranted under normal use to be free from manufacturing defects in material or workmanship.

The warranty extends to the first retail purchaser and his transferee(s) and begins on the date of original retail delivery or the date the motor home is first placed into service as a rental, commercial or demonstrator unit (whichever occurs first). The warranty extends for a period of one year from such date or until the unit has received 15,000 total miles of use as determined by the mileage shown on the odometer (whichever occurs first). Written notice of defects must be given to the selling dealer or the manufacturer not later than ten (10) days after the expiration of the applicable warranty period.

OWNER'S OBLIGATIONS

The owner is responsible for normal maintenance as described in the Owner's Manual; however, minor adjustments (such as adjustments to the interior of exterior doors, LP regulator pressure, cabinet latches, TV antenna control, etc.) will be performed by the dealer during the first 90 days of warranty coverage. Thereafter, such adjustments are the responsibility of the owner as normal maintenance unless required as a direct result of repair or replacement of a defective part under this warranty.

If a problem occurs which the owner believes is covered by this warranty, the owner shall contact the SELLING DEALER, or other authorized dealer, giving him sufficient information to resolve the matter. The owner shall deliver the motor home to the DEALER or manufacturing plant location for warranty service.

DEALER'S OBLIGATIONS

By agreement with the manufacturer, the dealer is obligated to maintain the motor home prior to retail sale, to perform a detailed predelivery inspection and to repair or replace any parts necessary to correct defects in material or workmanship.

WHEN THE DEALER DOES NOT RESOLVE THE PROBLEM

If the dealer is unable or unwilling to resolve a problem which the owner is convinced is covered by the warranty, he should contact the MANUFACTURING PLANT at the address listed below and provide the manufacturer with a description in writing of the problem and attempts made to resolve it.

MANUFACTURING PLANT OBLIGATIONS

Upon receipt of notice of a claim, where the dealer was unable or unwilling to resolve the problem, the manufacturing plant will repair or replace any parts necessary to correct defects in material or workmanship, or will take other appropriate action as may be required.

WHEN THE MANUFACTURING PLANT DOES NOT RESOLVE THE PROBLEM

If the representatives of the manufacturing plant are unable to resolve the problem and the owner is convinced that it is covered by the warranty, the owner should call the toll-free number listed below to describe the problem and the attempts made to resolve it.

WHAT IS NOT COVERED BY THE EXPRESS WARRANTY

THIS WARRANTY DOES NOT COVER:

1. THE AUTOMOTIVE SYSTEM (INCLUDING THE CHASSIS AND DRIVE TRAIN), TIRES AND BATTERIES, WHICH ARE COVERED BY THE SEPARATE WARRANTIES OF THE RESPECTIVE MANUFACTURERS OF THESE COMPONENTS.
2. DEFECTS CAUSED BY OR RELATED TO:
   A. ABUSE, MISUSE, NEGLIGENCE OR ACCIDENT;
   B. FAILURE TO COMPLY WITH INSTRUCTIONS CONTAINED IN THE OWNER'S MANUAL'
   C. ALTERATION OR MODIFICATION OF THE MOTOR HOME;
3. NORMAL DETERIORATION DUE TO WEAR OR EXPOSURE, SUCH AS FADING OF FABRICS OR DRAPES, CARPET WEAR, ETC.
4. NORMAL MAINTENANCE AND SERVICE ITEMS, SUCH AS LIGHT BULBS, FUSES, WIPER BLADES, LUBRICANTS, ETC.
5. MOTOR HOMES ON WHICH THE ODOMETER READING HAS BEEN ALTERED.
6. TRANSPORTATION TO AND FROM DEALER OR MANUFACTURING PLANT LOCATION, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOSS OF USE, TOWING CHARGES, BUS FARES, CAR RENTAL, INCIDENTAL CHARGES SUCH AS TELEPHONE CALLS OR HOTEL BILLS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES.

   SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY UNDERTAKING, REPRESENTATION, OR WARRANTY MADE BY ANY DEALER OR OTHER PERSON BEYOND THOSE EXPRESSLY SET FORTH IN THIS WARRANTY.

Brand Name _____ Model _____ Serial No. _____

CORPORATE HEADQUARTERS:

Consumer Affairs Department
Fleetwood Enterprises, Inc.
P.O. Box 7300
Riverside, California 92523
From California: (800) 442-4804
From Outside of California: (800) 854-4755

printed in USA

SAFETY REGULATIONS REGARDING LP GAS SYSTEMS AND LP GAS APPLIANCES

The manufacturer of this recreational vehicle is required to furnish the following consumer information as provided by the National Fire Prevention Association and the American National Standards Institute. The information and warnings found here may also be found in other sections of this Owner's Manual. Please see sections titled "Liquid Petroleum Gas System" and "Appliances" for other safety and operating information.

WARNING:
LP GAS CONTAINERS SHALL NOT BE PLACED OR STORED INSIDE THE VEHICLE. LP GAS CONTAINERS ARE EQUIPPED WITH SAFETY DEVICES WHICH RELIEVE EXCESSIVE PRESSURE BY DISCHARGING GAS TO THE ATMOSPHERE.

WARNING:
IT IS NOT SAFE TO USE COOKING APPLIANCES FOR COMFORT HEATING. COOKING APPLIANCES NEED FRESH AIR FOR SAFE OPERATION. BEFORE OPERATION:

1. OPEN OVERHEAD VENT OR TURN ON EXHAUST FAN, AND
2. OPEN WINDOW.

THIS WARNING LABEL HAS BEEN LOCATED IN THE COOKING AREA TO REMIND YOU TO PROVIDE AN ADEQUATE SUPPLY OF FRESH AIR FOR COMBUSTION. UNLIKE HOMES, THE AMOUNT OF OXYGEN SUPPLY IS LIMITED DUE TO THE SIZE OF THE RECREATIONAL VEHICLE, AND PROPER VENTILATION WHEN USING THE COOKING APPLIANCES(S) WILL AVOID DANGERS OF ASPHYXIATION. IT IS ESPECIALLY IMPORTANT THAT COOKING APPLIANCES NOT BE USED FOR COMFORT HEATING AS THE DANGER OF ASPHYXIATION IS GREATER WHEN THE APPLIANCE IS USED FOR LONG PERIODS OF TIME.

WARNING:
PORTABLE FUEL-BURNING EQUIPMENT, INCLUDING WOOD AND CHARCOAL GRILLS AND STOVES, SHALL NOT BE USED INSIDE THIS RECREATIONAL VEHICLE. THE USE OF THIS EQUIPMENT INSIDE THE RECREATIONAL VEHICLE MAY CAUSE FIRES OR ASPHYXIATION.

WARNING:
DO NOT BRING OR STORE LP GAS CONTAINERS, GASOLINE, OR OTHER FLAMMABLE LIQUIDS INSIDE THE VEHICLE BECAUSE A FIRE OR EXPLOSION MAY RESULT.

A warning label has been located near the LP gas container. This label reads: DO NOT FILL CONTAINER(S) TO MORE THAN 80 PERCENT OF CAPACITY.

Overfilling the LP gas container can result in uncontrolled gas flow which can cause fire or explosion. A properly filled container will contain approximately 80 percent of its volume as liquid LP gas.

The following label has been placed in the vehicle near the range area:
IF YOU SMELL GAS:

1. Extinguish any open flames, pilot lights and all smoking materials.
2. Do not touch electrical switches.
3. Shut off the gas supply at the tank valve(s) or gas supply connection.
4. Open doors and other ventilating openings.
5. Leave the area until odor clears.
6. Have the gas system checked and leakage source corrected before using again.

LP gas regulators must always be installed with the diaphragm vent facing downward. Regulators that are not in compartments have been equipped with a protective cover. Make sure that regulator vent faces downward and the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.

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INTRODUCTION

Welcome to the recreational vehicle life-style and the growing family of motor home owners. We sincerely thank you for choosing Bounder!

Your motor home has been designed to provide you with many years of carefree, pleasant traveling and vacationing. This manual describes many features of your motor home and provides an operating guide so that you can obtain the best performance from those features. Your motor home has been designed to conform with, or exceed, the American National Standards Institute A119.2, NFPA 501C, Canadian CSA Standard Z-240 (units built for Canada only), and applicable motor vehicle standards. These standards establish the plumbing, heating, electrical and other requirements for quality and safety. Compliance with these standards is indicated by the seal attached just outside the entry door. This seal is the outward sign of internal quality.

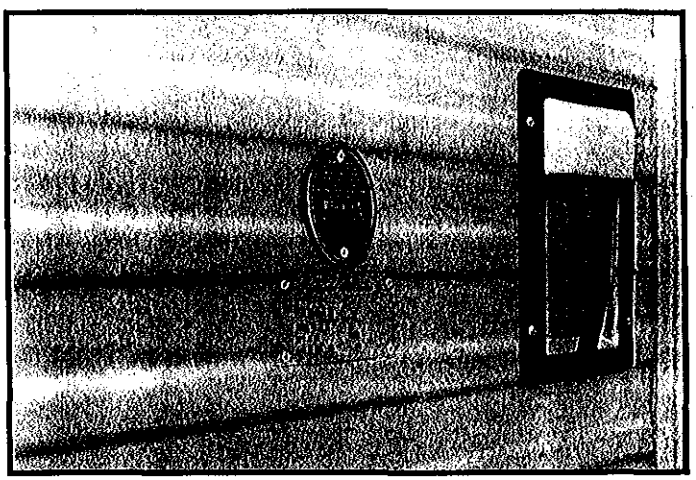
Like all finely crafted equipment, your motor home will require care and regular maintenance in order to retain its maximum performance characteristics. The dealer will give you basic operating and maintenance instructions; however, supplement this instruction by reading all instructional material furnished with the motor home in the Owner's Information Package and Chassis Operator's Manual. If, after taking delivery of your new motor home, you feel it requires additional conditioning or adjustment, please return it to your dealer as soon as possible. This Owner's Manual, along with the information provided in your Owner's Information Package and Chassis Operator's Manual outlines important areas of maintenance and provides a maintenance schedule for you to follow to ensure safe, trouble-free service from your motor home. Study these instructions carefully. A good working knowledge of your motor home and how to care for it will help you enjoy many miles and years of recreational living.

If you have any questions regarding operation, maintenance, or service, please contact your dealer immediately so he can assist you. Your dealer's Service or Sales Department will handle any normal problems which might occur. Customer service is of utmost importance to your dealer, and is just as important to the manufacturer. Your motor home is covered by one of the most comprehensive warranty programs in the industry, and this manual contains a section outlining the warranty and explaining your rights and obligations, as well as the rights and obligations of the dealer and manufacturer, under the terms of the warranty. Please read this section carefully. You will be better informed in case you have a warranty-related problem, and your dealer will be better able to get you on the road again. If, for some reason, a problem is not handled to your satisfaction:

1. Discuss any warranty-related problems directly with the manager or owner of the dealership, giving him an opportunity to help his service department resolve the matter for you.
2. If a problem arises that cannot be resolved to your satisfaction by your local dealer, contact the factory service manager. The factories are listed in this manual. Please contact the one nearest you.
3. We sincerely believe that your dealer and factory representative will be able to solve any problem which might arise. If their combined efforts are not satisfactory, please send a letter describing the circumstances to:

   Fleetwood Enterprises, Inc.
   Consumer Affairs Department
   P.O. Box 7300
   Riverside, CA 92523

   Please include the brand name and serial number of your motor home. The serial number is located on the identification tag next to the entry door.



Serial Number Location

4. If you wish to call for assistance, please use these toll-free telephone numbers:

   From California: (800) 442-4804
   From outside California: (800) 854-4755

NOTE: Some equipment and features described or shown in this manual may be optional on some models. This instructional manual is of general nature only. Because of the continuous program of product improvement conducted by Fleetwood it is possible that recent product changes may not be included in this manual. Specifications may change without notice. The instructions included in this manual are intended as a guide, and in no respect extend the responsibilities of the manufacturing subsidiary, parent company or affiliates beyond the standard written warranty as presented in this manual.

Photographs or illustrations in this manual are representative of function and may or not be specific in their depiction of actual equipment, fabrics, interior or exterior decor or design options as installed on or in your motor home.

NOTE: This product is designed for recreational use and short term occupancy only. It is not designed or intended to be used as permanent housing. Use of this product for long term or permanent occupancy may lead to premature deterioration of interior finishes, fabrics, carpeting, and drapes. Damage or deterioration due to long term occupancy may not be considered normal and may under the terms of the warranty, constitute misuse, abuse, or neglect, and may therefore reduce your warranty protection. This manual contains a discussion of long term occupancy problems. Please refer to that section before considering this product for long term occupancy.

The motor home has been thoroughly inspected before shipment. YOUR DEALER IS RESPONSIBLE FOR PERFORMING A COMPLETE PRE-DELIVERY INSPECTION OF THE CHASSIS AND ALL MOTOR HOME COMPONENTS AS SPECIFIED IN THE PRE-DELIVERY CHECKLISTS SUPPLIED BY THE MOTOR HOME MANUFACTURER AND THE CHASSIS MANUFACTURER. YOU SHOULD RECEIVE A COPY OF THESE COMPLETED CHECKLISTS FROM YOUR DEALER WHEN YOUR MOTOR HOME IS DELIVERED TO YOU.

AS A PART OF THE PRE-DELIVERY INSPECTION PROCEDURE, THE DEALER IS TO ROAD TEST THE MOTOR HOME, NOTING AND CORRECTING ANY STEERING PROBLEMS BEFORE DELIVERY. THEREFORE, FLEETWOOD AND ITS SUBSIDIARIES WILL NOT BE RESPONSIBLE FOR FRONT END ALIGNMENT AFTER THIS PRE-DELIVERY INSPECTION IS DONE.

PLANNING AND PREPARATION

Each year millions of Americans embark on trips using some type of recreational vehicle. Proper planning of your trip will ensure a pleasurable experience. A thorough knowledge of your RV is important if you are going to get the most out of the convenience and safety items built into your vehicle. Be as familiar with it as you are with your personal car or truck. The booklets included in your Owner's Information Package cover details of operation for the major appliances and equipment built into your motor home for your comfort, convenience and safety. Later sections in this manual will also explain how to operate, maintain, and service important components and systems in your motor home.

LOADING AND WEIGHT DISTRIBUTION

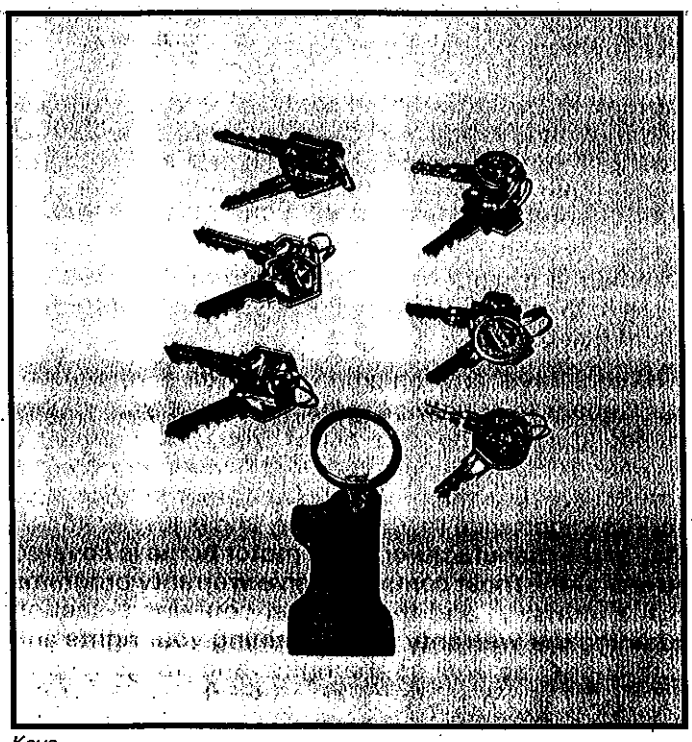
Proper loading is one of the most important considerations when traveling in an RV. Your motor home is built to safely carry a certain maximum load. For safety's sake, NEVER OVERLOAD THE MOTOR HOME. This manual contains a detailed section that explains proper loading and weighing of the vehicle.

HAVE IT ALL UNDER CONTROL

Remember, your new motor home is a large vehicle and requires different driving skills than a passenger car. Later in this manual we'll outline some tips on how to become familiar with the handling characteristics and driving techniques that you need to know to be a safe motor home driver. Of course, don't overlook the laws of your state or province that govern driving a motor home. Your state or provincial Motor Vehicle Department can provide you with the applicable vehicle codes that spell out your rights and responsibilities as a motor home owner.

INSPECT AND MAINTAIN

Follow a consistent schedule of inspection and maintenance for your motor home. Your continuing safety and comfort depend on it. This manual includes a section outlining maintenance intervals. Adherence to these schedules will minimize the possibility of failure of any important system or part of your motor home. The time spent inspecting and maintaining your motor home will provide you with many years of recreational pleasure.



Keys

KEYS AND LOCKS

The keys to your motor home are pictured above. Record all key numbers and keep them in a safe place at home and in the motor home.

THE OWNER'S INFORMATION PACKAGE

This package contains very valuable documents about your motor home and its components and systems. This Owner's Manual is in this package. Since this owner's manual does not cover every possible detail of equipment and options installed on or in your motor home, there are booklets and instructional material in the package that will help you operate, maintain and troubleshoot those items. Be sure you read all this information. Keep it handy for reference. If you ever decide to sell or trade your motor home, be sure the new owner gets all the material in this package.

Owner's Information Package

Emergency And Identification Information

Before we show you how things work, take a few minutes to fill in the information on these two pages. It'll be a handy reference for you in the future.

Your Name _____

Model _____

Serial Number _____

Date Purchased _____

Dealer Name _____

Address _____

_____

Telephone _____

Contact _____

Insurance Policy

Company _____

Agent Name _____

Telephone _____

Policy Number _____

Range/Oven

Manufacturer _____

Model _____

Serial Number _____

Refrigerator

Manufacturer _____

Model _____

Serial Number _____

Furnace

Manufacturer _____

Model _____

Serial Number _____

Water Heater

Manufacturer _____

Model _____

Serial Number _____

Air Conditioner

Manufacturer _____

Model _____

Serial Number _____

Microwave Oven

Manufacturer _____

Model _____

Serial Number _____

Stereo

Manufacturer _____

Model _____

Serial Number _____

Generator

Manufacturer _____

Model _____

Serial Number _____

Miscellaneous

Key Number _____

BOUNDER MOTOR HOME SPECIFICATIONS

AUTOMOTIVE	26 DB	27 EB	30 FB	31 KB	34 SB	34 WB
Engine — 454 CID V-8, Gas	•	•	•	•	•	•
Wheel Base	170"	178"	178"	178"	178"	208"
GVWR–	14,500	14,500	14,840	14,840	14,840	14,840
Front GVWR–	5,000	5,000	5,000	5,000	5,000	5,000
Rear GAWR	9,840	9,840	9,840	9,840	9,840	9,840
Auxiliary Start Circuit	•	•	•	•	•	•
Automotive Heater and A/C Combo	•	•	•	•	•	•
Auxiliary Battery — 200 Amp	•	•	•	•	•	•
Spare Tire	•	•	•	•	•	•
Undercoating	•	•	•	•	•	•
Roof Reinforced for Air Conditioner	•	•	•	•	•	•
Patio Receptacle	•	•	•	•	•	•
30M BTU Furnace	•	•	•	•	•	•
Fire Extinguisher	•	•	•	•	•	•
Smoke Detector	•	•	•	•	•	•
Radio AM/FM/MX Cassette	•	•	•	•	•	•
Isolator 70 Amp	•	•	•	•	•	•
Steel Surface on Raised Floor	•	•	•	•	•	•
Double Swivel Visors w/Map Pocket	•	•	•	•	•	•
Engine Cover Convenience Tray	•	•	•	•	•	•
DIMENSIONS						
Overall Length	27'11"	27'9"	30'8"	31'10"	34'0"	34'10"
Overall Height with A/C±	10'11"	10'11"	10'11"	10'11"	10'11"	10'11"
Overall Width (Maximum)	96"	96"	96"	96"	96"	96"
Overall Height (Interior)	78"	78"	78"	78"	78"	78"
Interior Width	90½"	90½"	90½"	90½"	90½"	90½"
LIQUID CAPACITIES (GALLONS)						
Fresh Water — Gals. Approx.	77	77*	101	101	101	101*
Waste Holding — Gals. Approx.	59	59*	59	59	59	59
Gray Water Holding — Gals. Approx.	47	47*	47	47	56	47
Appliance LPG Tank	20	20	20	20	20	20
Fuel Tank (Usable) — Gals. Approx.	90	90	90	100	100	100
SLEEPING ACCOMMODATIONS						
Sleeps	3	3	5	5	5	5
STRUCTURAL						
Sidewalls/Vacubond	•	•	•	•	•	•
Roof/Vacubond	•	•	•	•	•	•
Rear Wall/Vacubond	•	•	•	•	•	•
Floor — Truss	•	•	•	•	•	•
APPLIANCES						
6 Gallon (Approx.) Water Heater (DSI)	•	•	•	•	•	•
10 Cu. Ft. (rated) LP/Electric Refrigerator	•	•	•	•	•	•
Large Oven w/Blk Glass Door, 4-Burner Range	•	•	•	•	•	•
Lighted/Power Range Hood	•	•	•	•	•	•
110/12V AC/DC Converter — Central Elec. Panel w/Charger	•	•	•	•	•	•
Microwave Oven	•	•	•	•	•	•
INTERIOR						
Power Bath Vent	•	•	•	•	•	•
Monitor Panel	•	•	•	•	•	•
Wardrobe Light	•	•	•	•	•	•
Wall to Wall Carpet	•	•	•	•	•	•
Marine Toilet	•	•	•	•	•	•
Radius Corner Cabinetry	•	•	•	•	•	•
Recessed Cabinet Door Hardware	•	•	•	•	•	•
Flex-O-Lator® Dinette	•	•	•	•	•	•
Velvet Feature Fabrics	•	•	•	•	•	•
Woven Wood Shades, All Windows+	•	•	•	•	•	•
Molded Tub/Shower Enclosure	•	•	•	•	•	•
Sealy® Mattress	•	•	•	•	•	•
OPTIONS						
13.5M BTU Roof Air	1	1	2	2	2	2
4.0 KW Onan Generator	•	•	N/A	N/A	N/A	N/A
6.5 KW Onan Generator	N/A	N/A	•	•	•	•
VCR and 2 Color TV Sets	•	•	•	•	•	•

Specifications were current at the time this information was published. Fleetwood reserves the right to change specifications without notice and at any time. Subsequent refinements would be evident in the actual product. Similarly, prices are also subject to change at any time and without notice.

– Gross Vehicle Weight Rating (GVWR): Definition — The value specified by the manufacturer as the maximum loaded weight of a single vehicle. (NHTSA)

± Less 9" if not equipped with roof air conditioner.

+ Except driving area.

* Estimated for publication.

All tank sizes are approximate.

All dimensions are nominal.

TRAVEL CHECK LIST

FOOD - BEVERAGES

_____ Bread
_____ Milk
_____ Sugar
_____ Coffee
_____ Tea
_____ Salt
_____ Pepper
_____ Catsup
_____ Mustard
_____ Eggs
_____ Bacon
_____ Butter
_____ Cheese
_____ Lunch Meat
_____ Meat Dinners
_____ Potatoes
_____ Vegetables
_____ Fruit
_____ Cereals
_____ Cookies
_____ Beverages
_____ Soups
_____ Crackers
_____ Pancake Mix

GALLEY

_____ Dishes, Cups
_____ Silverware
_____ Tumblers
_____ Coffee Pot
_____ Pots, Covers
_____ Pans, Covers
_____ Utensils, Flipper
_____ Paper Plates, Cups
_____ Napkins
_____ Paper Towels
_____ Can Opener
_____ Bottle Opener
_____ Sponges
_____ Dish Towels
_____ Dish Drainer
_____ Liquid Detergent
_____ Soap Powder
_____ Window Cleaner
_____ Wax Paper/Foil
_____ Plastic Bags
_____ Large Trash Bags
_____ Portable BBQ
_____ Charcoal Starter Fluid
_____ Clothesline
_____ Clothes pins
_____ Matches
_____ Water Pail
_____ Candles

TOILETRIES - PERSONAL

_____ Face Soap
_____ Wash Cloths
_____ Hand Towels
_____ Bath Towels
_____ Bathmat
_____ Rubber Shower Mat
_____ Facial Tissues
_____ Bathroom Tissue
_____ Toothbrushes
_____ Toothpaste
_____ Hair Brush
_____ Combs
_____ Chapstick
_____ Suntan Lotion
_____ Razor & Blades
_____ Nail Clippers
_____ Insect Repellent
_____ First Aid Kit
_____ Snake Bite Kit
_____ Sunglasses

CLOTHING

_____ Underwear
_____ Jackets
_____ Sweaters
_____ Various Shoes
_____ Socks
_____ Bathing Suits
_____ Hats, Caps
_____ Rainwear
_____ Handkerchiefs
_____ Pajamas

SLEEPING GEAR

_____ Pillows
_____ Pillow Cases
_____ Sheets
_____ Blankets
_____ Sleeping Bags

RELAXING - ENTERTAINMENT

_____ Playing Cards
_____ Jigsaw Puzzles
_____ Games
_____ Books, Magazines
_____ Writing Pads, Pencils
_____ Canopy or Awning
_____ Battery Radio
_____ Folding Chairs

SPORTS

_____ Fishing Rods
_____ Tackle Box, Bait
_____ Baseball Bat, Gloves
_____ Football
_____ Frisbee
_____ Hiking Boots
_____ Backpack
_____ Hunting Knife
_____ Pocket Knife
_____ Pocket Compass
_____ Swim Fins
_____ Air Pump
_____ Kite & String
_____ Copy Peterson's "Field Guide"

MISCELLANEOUS

_____ Road Maps
_____ Directory, Trailer Camps
_____ Camera & Film
_____ Sewing Kit, Patches
_____ Clothes Hangers
_____ Firewood

TOOLS

_____ Screwdriver
_____ Adjustable Wrench
_____ Pliers
_____ Small Saw
_____ Hammer
_____ Hatchet
_____ Folding Shovel
_____ Lantern, Fuel, Mantles
_____ Flashlight
_____ Spare Batteries, Bulb
_____ Spare 12V Bulb
_____ Spare 12V Fuses
_____ Voltmeter
_____ Circuit Test Light
_____ Jumper Cables
_____ Tire Air Gauge
_____ Water Can
_____ Gas Can
_____ Holding Tank Disposal Hoses(s)
_____ Water Drain Pail
_____ Flares or Reflectors
_____ Holding Tank Chemicals
_____ Fresh Water Hose
_____ Fill Water Tank
_____ Fill LPG Tank
_____ Check Tires
_____ Check Wheel Lugs
_____ Check Batteries
_____ Check Running Lights
_____ Check Brakes

TRAVEL CHECK LIST

FOOD - BEVERAGES

_____ Bread
_____ Milk
_____ Sugar
_____ Coffee
_____ Tea
_____ Salt
_____ Pepper
_____ Catsup
_____ Mustard
_____ Eggs
_____ Bacon
_____ Butter
_____ Cheese
_____ Lunch Meat
_____ Meat Dinners
_____ Potatoes
_____ Vegetables
_____ Fruit
_____ Cereals
_____ Cookies
_____ Beverages
_____ Soups
_____ Crackers
_____ Pancake Mix

GALLEY

_____ Dishes, Cups
_____ Silverware
_____ Tumblers
_____ Coffee Pot
_____ Pots, Covers
_____ Pans, Covers
_____ Utensils, Flipper
_____ Paper Plates, Cups
_____ Napkins
_____ Paper Towels
_____ Can Opener
_____ Bottle Opener
_____ Sponges
_____ Dish Towels
_____ Dish Drainer
_____ Liquid Detergent
_____ Soap Powder
_____ Window Cleaner
_____ Wax Paper/Foil
_____ Plastic Bags
_____ Large Trash Bags
_____ Portable BBQ
_____ Charcoal Starter Fluid
_____ Clothesline
_____ Clothes pins
_____ Matches
_____ Water Pail
_____ Candles

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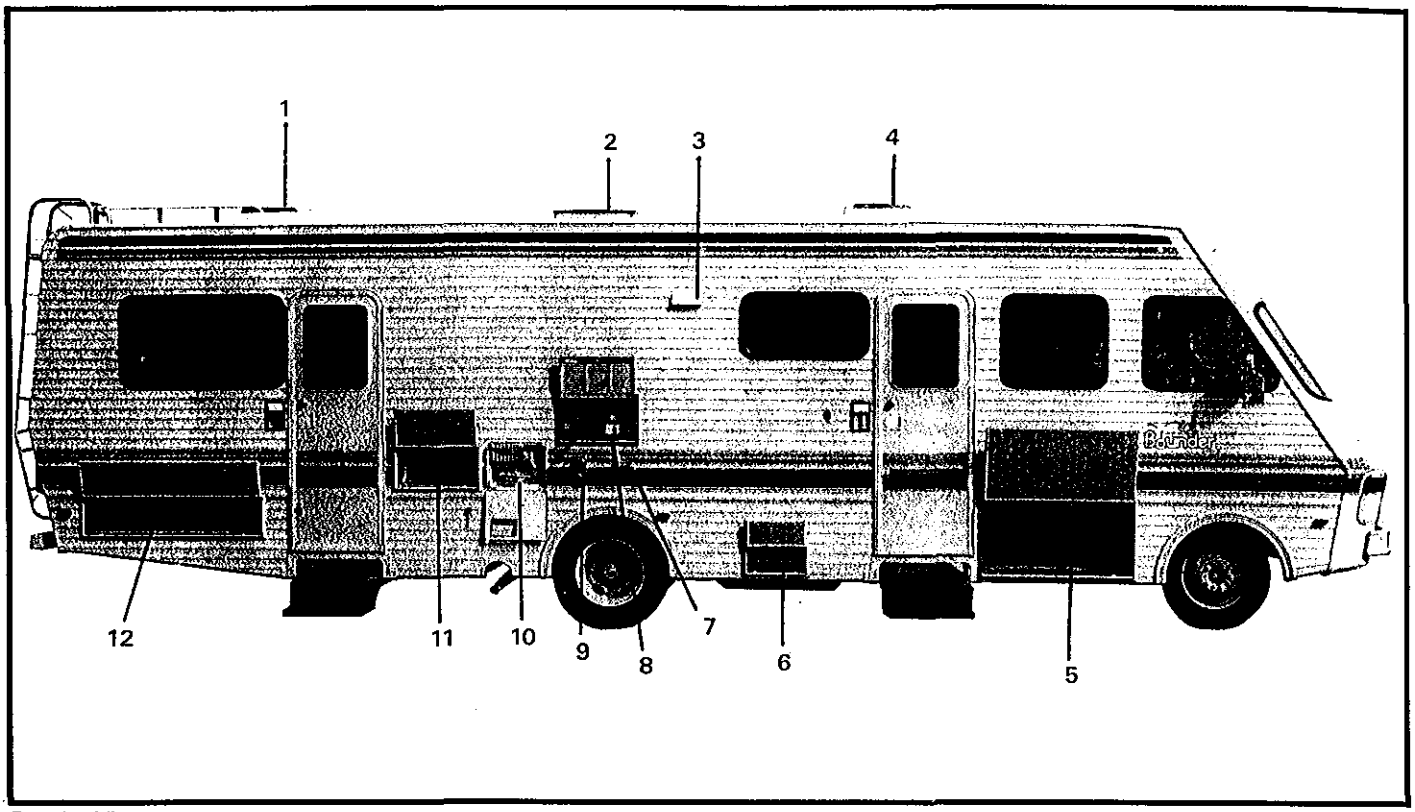
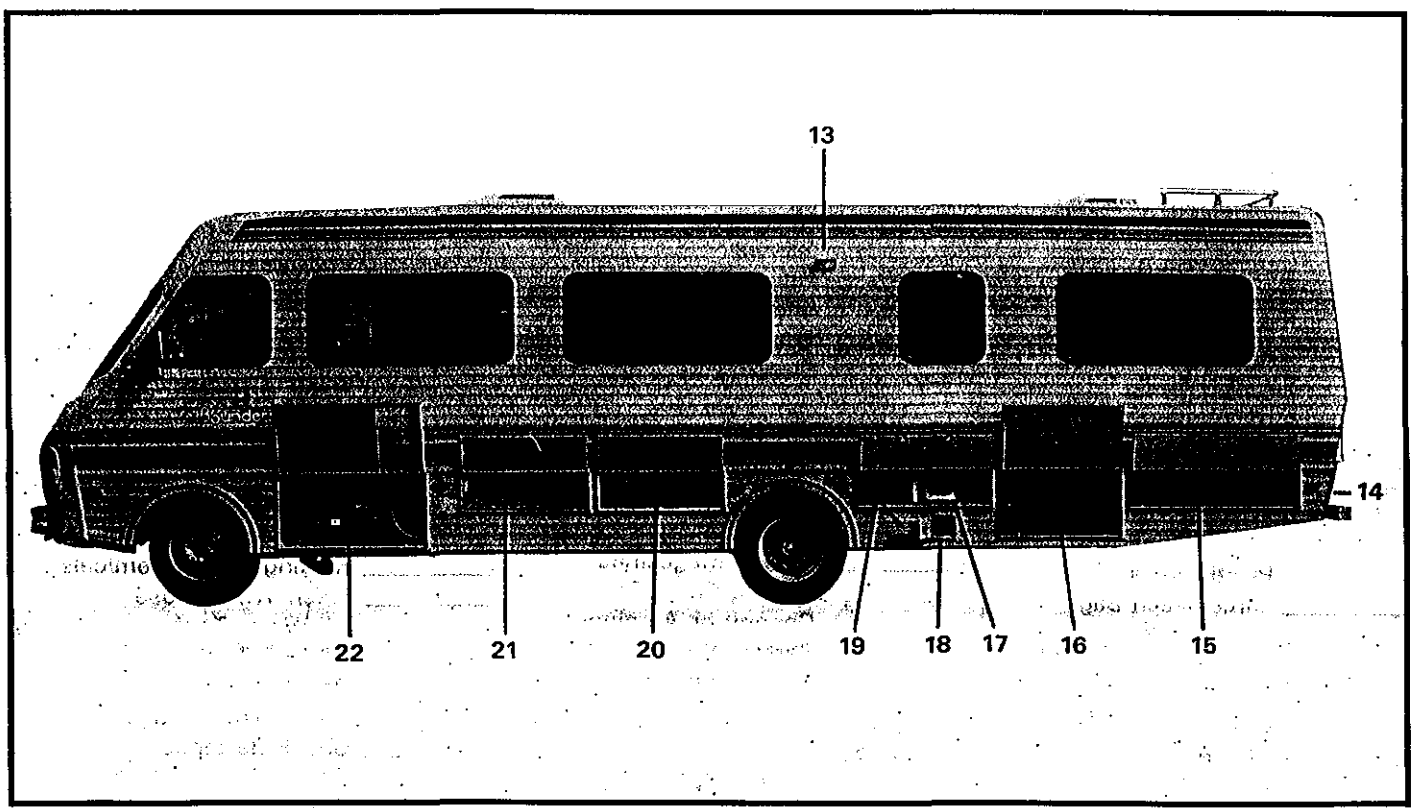
_____ Tire Air Gauge
_____ Water Can
_____ Gas Can
_____ Holding Tank Disposal Hose(s)
_____ Water Drain Pail
_____ Flares or Reflectors
_____ Holding Tank Chemicals
_____ Fresh Water Hose
_____ Fill Water Tank
_____ Fill LPG Tank
_____ Check Tires
_____ Check Wheel Lugs
_____ Check Batteries
_____ Check Running Lights
_____ Check Brakes

EXTERIOR WALKAROUND



Exterior View



Exterior View

1. Roof Air Conditioner — Rear
2. Refrigerator Roof Vent
3. Range Hood Vent
4. Roof Air Conditioner — Front
5. Exterior Storage Compartment
6. LP Gas Compartment
7. Patio Receptacle
8. Refrigerator Compartment
9. Furnace Vent
10. Water Heater Compartment
11. Water Utility Compartment
12. Exterior Storage Compartment
13. Patio Light
14. Rear Exterior/Interior Storage Compartment
15. Exterior Storage Compartment
16. Exterior Storage Compartment
17. Water Utility/Holding Tank Drain Valves
18. Sewer Hose Compartment
19. Electric Utility Compartment
20. Fuel Filters
21. Water Tank/Drain Valves
22. Generator Compartment (optional)

ON THE ROAD

MOTOR HOME LOADING

A motor home chassis (springs, wheels, tires, axles, and frame) is designed to carry a certain maximum load. This load includes everything; the weight of the empty motor home itself, your belongings, fuel, fresh water, waste water and anything else that may be in or attached to the motor home. The maximum load for which the motor home is designed is called the GROSS VEHICLE WEIGHT RATING (GVWR).

Another critical weight factor is the GROSS AXLE WEIGHT RATING (GAWR). This is the maximum weight a specific *axle* is designed to carry and each axle has its own GAWR. The GAWR's do not necessarily add up to the GVWR. Be careful, neither the axle loads nor the vehicle loads must ever exceed their respective weight ratings.

In addition to knowing the overall weight that can be safely loaded in or attached to the motor home, you must know how to distribute the weight so that correct amounts of weight are placed on the axles. The allowable carrying capacity of the motor home is found by weighing the motor home empty, and subtracting this weight from the GVWR.

CARRYING CAPACITY

During the design and development of our motor homes, the number and size of storage compartments, the liquid tank capacities and number of belted seating positions are maximized for value and convenience. If the motor home operator fills all liquid tanks to capacity, fills all storage compartments and cupboards to maximum volume and fills all available seating positions with passengers, the motor home will probably be overloaded. According to National Highway Traffic Safety Administration figures, an average vehicle occupant weighs 150 pounds, each gallon of gasoline weighs six pounds (6.0 lbs.) and each gallon of water weighs over eight pounds (8.3 lbs.).

The operator is responsible for analyzing the conditions in which the motor home will be utilized for each trip. The number of passengers and placement of cargo will affect the amount of water and cargo that you can carry (See Loading Tips). For convenience, the passenger capacity for camping use and the passenger capacity for day use are shown on a permanent table in the driver's area or adjacent to the main entry door. The smaller passenger capacity for camping provides reasonable cargo capacity for trips taking more than one day. The larger passenger capacity for day use provides less cargo capacity for trips or activities not involving overnight stays. It may be necessary to reduce the amount of water carried and unload some cargo items normally carried for camping in order to provide carrying capacity for the additional day use passengers.

The number of safety belted seating locations may be greater than the number of passengers permitted by the label. These extra seating locations, if provided, are to permit a choice of seats while traveling. It is not safe to exceed the labeled passenger capacity unless the axle loadings and total weight are checked against their ratings on a public scale.

Thoughtful consideration of the weight placed in the motor home can yield important benefits:

- maximum flexibility in the use of the seating and liberal storage facilities provided in the motor home;
- operation without unsafe loading;
- improved handling characteristics and ride comfort;
- better fuel mileage and reduced tire wear.

NOTE: CARRYING CAPACITIES OF YOUR MOTOR HOME ARE SPECIFIED ON A LABEL AFFIXED TO THE INSIDE OF A WARDROBE DOOR. THE LABEL INCLUDES ALL *FACTORY INSTALLED* OPTIONS. IF OTHER EQUIPMENT SUCH AS LEVELING JACKS, AWNINGS, ROOF PODS, ETC., ARE INSTALLED AFTER THE MOTOR HOME LEAVES THE FACTORY, THE WEIGHT OF THESE ITEMS MUST BE SUBTRACTED FROM THE TOTAL OF THE PASSENGER AND CARGO CARRYING CAPACITIES. IF YOU TOW A TRAILER, THE TONGUE WEIGHT OF THE TRAILER MUST BE SUBTRACTED FROM THE TOTAL OF THE PASSENGER AND CARGO CARRYING CAPACITIES.

DETERMINING AND DISTRIBUTING YOUR MOTOR HOME LOAD

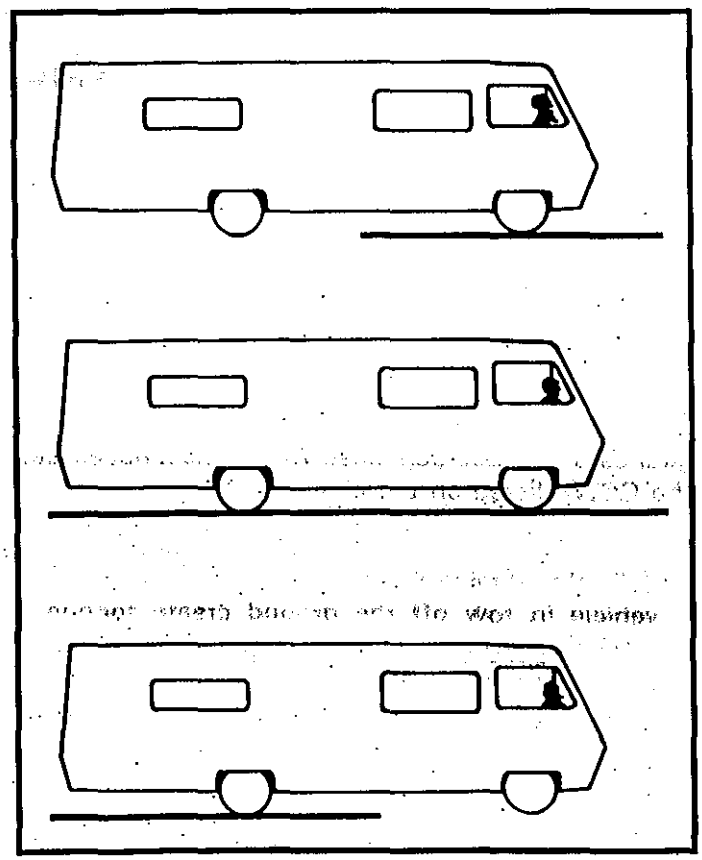
The Gross Vehicle Weight Rating (GVWR) and the Gross Axle Weight Rating (GAWR) for your motor

home are shown on the certification tag posted on the driver's door or in the driver's compartment. Remember, these ratings are for a fully loaded vehicle. You must compare the GVWR to the loaded weight of your motor home. If the loaded weight of your motor home exceeds the GVWR, the motor home is overloaded and you'll have to remove items to bring the weight down to or below the GVWR. If the loaded axle weight on any axle exceeds the GAWR, the axle is overloaded and you'll have to redistribute cargo to bring the weight down to or below the GAWR.

Weighing Your Loaded Motor Home

The following weighing procedure will help you determine whether your loaded motor home (complete with cargo, fluids, passengers, and driver) is within GAWR and GVWR limits. When you arrive at the weigh station, the attendant will guide you through the correct positioning of the motor home on the scales. Generally, the sequence is as follows:

1. Drive the front wheels onto the scale platform and take a reading. This is the front Gross Axle Weight (Reading 1).
2. Drive the entire vehicle (both axles) onto the scale and take a reading. This is the Gross Vehicle Weight (Reading 2).



3. Drive forward until only the rear axle is on the platform and take a reading. This reading is the rear Gross Axle Weight (Reading 3).
4. Compare reading 2 with the GVWR (Gross Vehicle Weight Rating) of your vehicle. This rating is located on the certification tag. If the reading exceeds the GVWR rating, you will have to reduce the total vehicle load.
5. If reading 2 is less than the GVWR of your vehicle, check readings 1 and 3 to verify that each is less than the GAWR on the certification tag. If either exceeds the GAWR for the axle, redistribute enough of the load to ensure that loads on the front and rear axles are within the required limit.
6. Since the placement of cargo on each side of the motor home is important, each side of the motor home should also be weighed. This will require positioning both wheels on each side down the center of the scale platform and taking a reading for each side. The attendant will help you with proper positioning.

Periodically re-weigh your motor home. Different traveling configurations may change your loading and weight pattern.

WARNING: DO NOT EXCEED THE RATED LOAD OF THE MOTOR HOME, OR THE RATED LOAD OF ANY AXLE.

NOTE: THE PASSENGER AND CARGO CARRYING CAPACITIES OF YOUR MOTOR HOME ARE SPECIFIED ON A LABEL AFFIXED TO THE INSIDE OF A WARDROBE DOOR. THE LABEL INCLUDES ALL FACTORY INSTALLED OPTIONS. IF OTHER EQUIPMENT SUCH AS LEVELING JACKS, AWNINGS, ROOF PODS, ETC., ARE INSTALLED AFTER THE MOTOR HOME LEAVES THE FACTORY, THE WEIGHT OF THESE ITEMS MUST BE SUBTRACTED FROM THE TOTAL OF THE PASSENGER AND CARGO CARRYING CAPACITIES.

Loading Tips

After you have determined how much weight you can safely carry and selected those items to make up that weight, make a list and keep it for future reference. Load the motor home and distribute the load so that you get proper weight on the axles. Do not load heavy items near either end of the motor home or on the rear bumper. Adjust cargo storage to keep the side to side wheel loads as equal as possible. Carry only as much

water as needed for travel use or to balance the load. Whenever possible, empty the holding tanks before traveling.

WARNING: DO NOT INSTALL ANY TYPE OF WEIGHT CARRYING RACK OR FRAME TO THE REAR BUMPER OR ANY CHASSIS OR BODY COMPONENT OF THE MOTOR HOME. DAMAGE TO THE MOTOR HOME BODY AND UNSTABLE HANDLING CHARACTERISTICS MAY RESULT.

WARNING: EXCEEDING THE GAWR OR GVWR OF YOUR MOTOR HOME CAN CAUSE UNDESIRABLE HANDLING CHARACTERISTICS AND MAY CREATE A SAFETY HAZARD. MODIFICATION OF YOUR VEHICLE BY ADDITION OF RACKS NOT SPECIFIED BY THE MANUFACTURER TO CARRY ADDITIONAL EQUIPMENT OR VEHICLES IS NOT RECOMMENDED, MAY CREATE A SAFETY HAZARD, AND MAY VOID YOUR WARRANTY.

Make a loading diagram of your properly loaded motor home. It will help you locate where specific items are stored, and will help speed the loading process. Store emergency items in a readily accessible location. Include tools, first-aid kit, rain gear, flashlight, highway warning devices, and an electric cord with light.

WARNING: DO NOT STORE OR CARRY LP GAS CONTAINERS, GASOLINE, OR OTHER FLAMMABLE LIQUIDS INSIDE YOUR MOTOR HOME.

Trailer Hitches And Towing

If you expect to pull a trailer with your motor home, please use these guidelines when choosing a hitch and trailer:

* Hitch classification: Class II
* Limit the vertical hitch load (tongue weight of the trailer) to a maximum of 250 pounds. Heavier vertical hitch loads can cause damage to your motor home rear frame and body, cause unstable driving and handling characteristics, and may restrict your rights under the Ownercare warranty.
* Do not tow a trailer weighing more than 3500 pounds, or more than recommended by the chassis manufacturer, whichever is less. Heavier trailers can cause damage to the motor home structure or drive train, cause unstable driving or handling characteristics, or restrict your rights under the Ownercare warranty.
* Check the following chart (provided by the chassis manufacturer) to determine the Gross Combined Weight Rating (GCWR) of the motor home chassis. The GCWR is the total weight of the fully loaded motor home with driver, all passengers, all cargo and the fully loaded trailer.

Chassis Manufacturer	Engine	Axle Ratio	GCWR
Chevrolet	7.4L (454) V8 Gas	4.73	14,000
Chevrolet	"	4.10	15,500
Chevrolet	"	4.56	17,500
Chevrolet	"	4.88	18,500

* Alternate gear ratios may be retrofitted for special towing needs. Contact your local chassis manufacturer dealer for chassis recommendations. Exceeding these GCWR's may cause damage to your motor home drive train or chassis, unstable driving and handling characteristics, and may void your warranty.
* Weigh your motor home fully loaded with driver, passengers, cargo, and the fully loaded trailer attached. Do not exceed the Gross Axle Weight Rating (GAWR) of any axle, and do not exceed the Gross Vehicle Weight Rating (GVWR) of either the motor home or the trailer, or the Gross Combined Weight Rating (GCWR) of the motor home. If any of these ratings are exceeded, weight must be eliminated or shifted until scale weights are equal to or less than ratings.

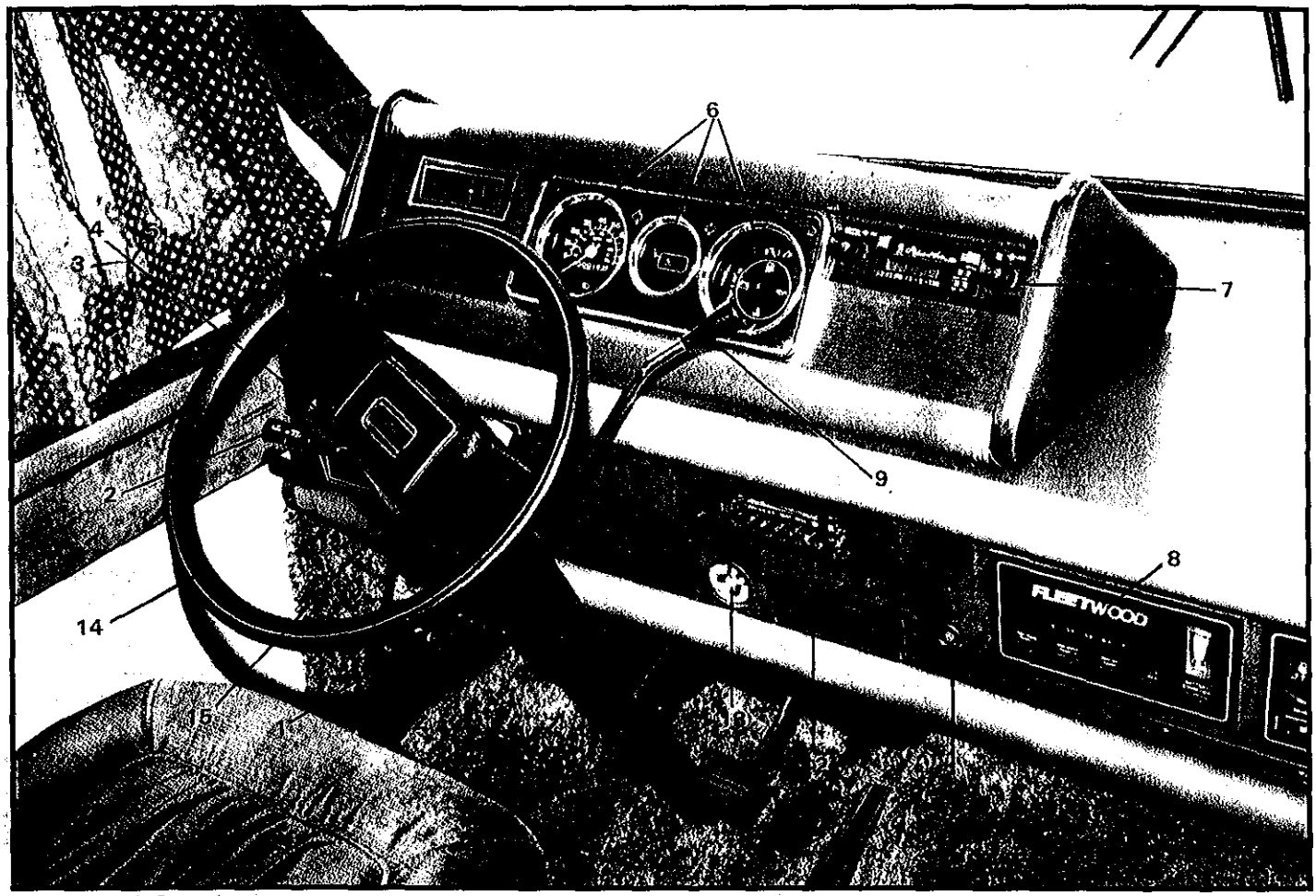
Towing Automobiles

If you plan to tow an automobile with your motor home, the tongue weight must not exceed 250 pounds. The Gross Combined Weight must not exceed the GCWR listed on the chart.

CAUTION: Towing devices (other than wheeled dollies) that raise the front or rear wheels of the vehicle in tow off the ground create tongue weights in excess of the 250 pounds maximum, and must not be used.

COCKPIT AND DRIVER'S CONTROLS

The main instrument cluster and switches are located on a hinged panel directly in front of the driver. The panel lifts up allowing access to fuses, wiring and instruments below and behind the panel. See "ELECTRICAL SYSTEM" for fuse locations and specifications.



Instruments & Controls

1. Parking Brake—The parking brake lever is located on the floor near the left driver wall. Pull the lever up to set the brake, push down to release.
2. Cruise Control — The cruise control is located on the turn signal lever.

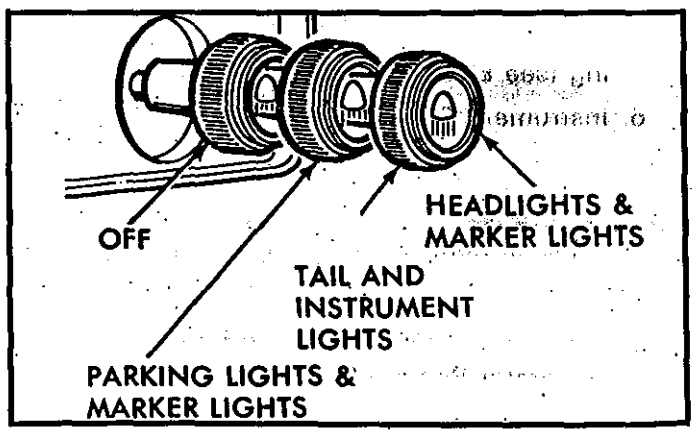
   To engage: Rotate the activator/speed control arm dial to the click/detent. Accelerate to approximately 30 MPH, push the engage button on the end of the control arm. The cruise control will smoothly accelerate to the set cruise speed. Turn dial up or down to change speed.

   To disengage: Step on brake pedal (tap the pedal to activate the stop light switch.) When the brakes are applied, the cruise control automatically disengages. You may also disengage the system by turning the control dial to "OFF".

   To reengage: Turn control arm "ON", press engage button on the end of the control arm.

WARNING: Do not use the cruise control on slippery roads or in congested traffic.

3. Headlight Switch — The three-position light switch controls the headlights, taillights, parking lights, sidemarker lights, instrument lights and dome lights as shown. Instrument light intensity can be varied by turning knob clockwise or counterclockwise. Full counterclockwise position turns on interior light.



The headlight circuit is protected by a circuit breaker in the light switch. An overload on the breaker will cause the lights to "flicker" on and off. If this condition develops, have your headlight wiring checked immediately.

4. 2-Speed Windshield Wiper/Washer with Delay—Turn inner knob clockwise for wiper action. The wiper blades are mounted on "articulated" arms that allow the blades to follow a wiping path as wide as possible.

   OFF—No wiper action.

   1st notch—Wiper delay ON. Turn outer knob clockwise for longer delay between wiper strokes.

   2nd notch—Slow wiping action.

   3rd notch—Fast wiping action.

   To WASH, press outer knob, then release. One press of washer knob cycles wipers once. The washer nozzles are located on the wiper arms close to the wiper blades. They move with the blades and provide continuous washer coverage.

NOTE: Windshield wipers are controlled by separate motors, and do not necessarily wipe in synchronization. When wipers are turned OFF, one or the other wiper blade may lag behind before stopping. On DELAY setting, wiper blades will not necessarily operate in sync.

5. Auxiliary Start Switch—The Auxiliary Start System permits using the auxiliary battery (see Electrical System) to start the motor home engine if the vehicle battery is discharged. To use the Auxiliary Start System:
   * Be sure the vehicle is stopped, shift to "P" (PARK) and apply the parking brake.
   * Press and hold the Auxiliary Start switch on the instrument panel.
   * Start engine with ignition switch.
   * Release Auxiliary Start switch.

   The Auxiliary Start System has no effect on the vehicle except to aid in starting the motor home engine. If the vehicle alternator is operating properly, the batteries will be recharged while driving (see Electrical System).
6. Instrument Cluster
7. Radio/Tape Player
8. Monitor Panel
9. Transmission Selector—Pull transmission lever toward you and move to desired position. Please refer to the Chassis Operator's Manual for more details on transmission operation.
10. Generator Remote Start/Stop Switch
11. Cigarette Lighter
12. Heater/Air Conditioner Controls—The cockpit Heater/Air Conditioner controls are located on the lower right instrument panel. These controls operate the heating and air conditioning systems for the driver/cockpit area only.

    Cool/Heat Lever—Push this lever to the left or right for cooling/heating.

    Function Selector Buttons

    OFF—No heating or cooling, but fan runs at low speed for continuous circulation of outside air through the instrument panel outlets.

    MAX A/C—Air conditioner compressor is on, inside air is recirculated through the system for maximum cooling.

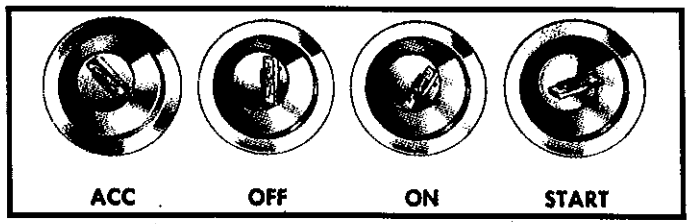
    A/C—Air conditioner compressor is on, outside air is circulated through instrument panel outlets.

    VENT—A/C compressor is off, outside air is circulated through the instrument panel outlets.

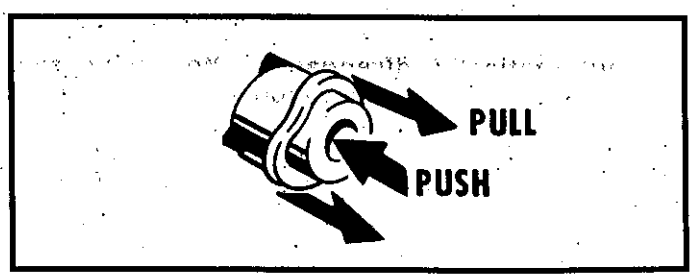
    HEAT—A/C compressor is off, outside air is circulated through the heating system, and distributed to floor outlets.

    Heated air is circulated to defroster outlets.

    Fan Switch—Sets fan speed to any of 4 speeds. The fan switch does not affect the fan if the OFF function button is pressed.
13. Ignition Switch—Operation of the ignition switch is shown below.



14. 6-Position Tilt Steering Wheel—Pull the tilt lever towards the steering wheel to release. Release lever at desired tilt angle.
15. Hazard Warning Flasher—Flashes front & rear for emergency parking. Press center button to engage, pull outer collar to turn off.

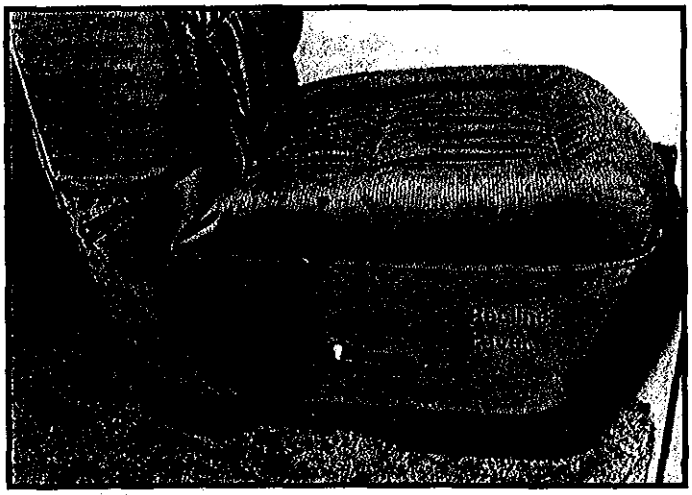


Driver/Passenger Seats

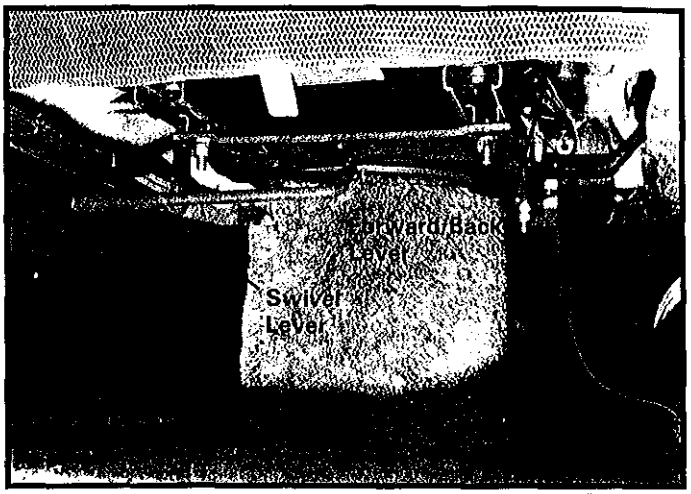
The driver's and passenger's seats offer three position/comfort adjustments:

CAUTION: Do not adjust the seat position while the vehicle is in motion.

* Forward/Back—The forward/back lever is located under the front left of the seat. Pull the lever toward the left outside of the seat to unlock. The sliding track has 11 positions approximately ¾" apart. Release the lock lever to secure the seat position.
* Swivel—The swivel lock lever is located under the front right of the seat. Lift the lever forward and up to swivel. The seat locks in the center, forward position. When unlocked, the seat will swivel freely around to the center position.
* Recline—The recliner lever is located on the right side bottom of the seat. Push the lever down to recline. The angle is continuously variable. Release lever at desired angle.



Seat Controls



Seat Controls

Seat Belts

Seat belts are an important safety feature of your vehicle. For your protection, always use your seat belts. The driver's seat and all other seats designed to carry passengers while under way have been equipped with seat belts.

WARNING: ALL RIDERS SHOULD BE FURNISHED WITH AND USE SEAT BELTS WHILE THE VEHICLE IS IN MOTION. SEATS WHICH ARE NOT EQUIPPED WITH SAFETY BELTS SHOULD NOT BE OCCUPIED WHILE THE VEHICLE IS IN MOTION AND WILL BE LABELED: "NOT FOR USE WHILE THE VEHICLE IS IN MOTION." IT IS NOT POSSIBLE TO BELT IN PERSONS USING BEDS.

Adjust seat belts as follows:

Pivot buckle at right angles to the belt and pull to the desired length.

To fasten belt, be sure it is not twisted, then push the tongue end of one belt into the buckle of the mating belt. Be sure it latches. Adjust the belt snugly as low on the abdomen as comfort will allow, for greatest safety.

To release the belt, depress the button in the center of the buckle and slide the tongue out of the buckle.

Never use a belt for more than one person at a time.

Child Restraint

All vehicle occupants, and especially children, should be restrained whenever riding in vehicles. Holding a child in your arms is not a substitute for a child restraint system. In an accident, a child held in a person's arms can be struck or crushed by any unrestrained rider. An unrestrained child could also be injured by striking the interior, or by being thrown from the vehicle during a sudden manuever or impact. A child restraint system can help protect a child in a vehicle. Note that some states require the use of child restraint systems.

Children small enough for a child restraint system should be restrained that way if at all possible. However, the following may provide some degree of protection if a child restraint is not used:

* Infants who cannot sit up should be placed in a padded baby carrier. Put it crossways on the vehicle seat and securely restrain it with the vehicle's seat belts.
* Children who can sit up by themselves should be restrained with the seat belts provided. Never let a child stand or kneel on any seat.

When using any child restraint system, be sure to read and follow all instructions on installation and use that come with the system.

adjustment mechanism. If the belt still has too much slack or does not fit the child restraint as it should, twist the buckle end of the belt several times to shorten it before rebuckling. Once installed, push and pull the child restraint in all directions to be sure it is secure. If it comes loose, flip the end of the belt with the adjustment mechanism over before rebuckling.

If the child restraint is still not secure, use a different seating position in the vehicle and/or contact your dealer and the child restraint manufacturer for help.

Sun Visors

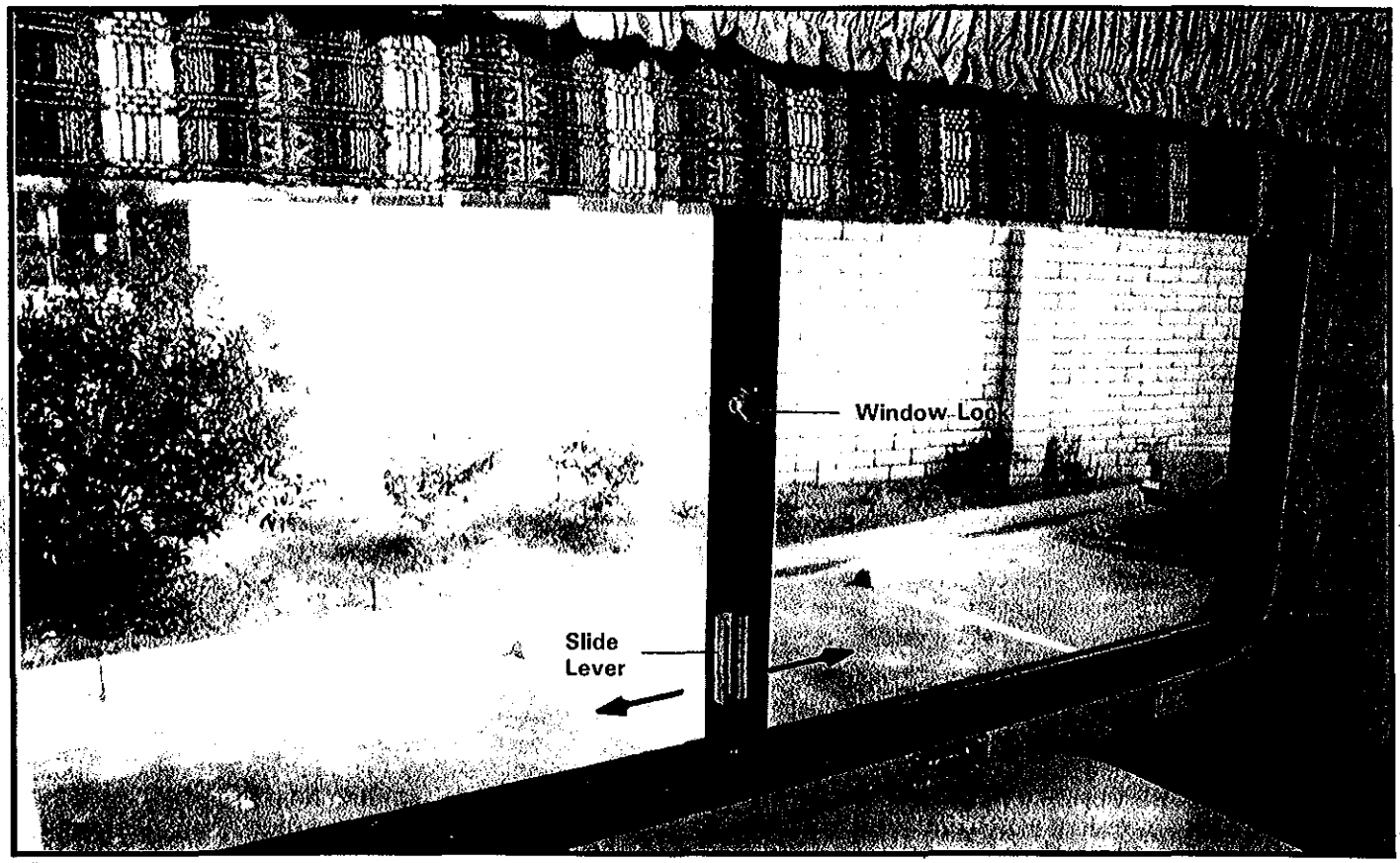
The sun visors at the driver's and passenger's positions swing down and adjust to provide relief from glare and bright skies. The visors do not adjust to shade the side windows.

Swivel tension may be adjusted with a flat blade screwdriver at the tension adjusting screw.

Front/Side Slider Windows

Turn lock, slide window and/or screen to open and close.

NOTE: Screens are not removable for cleaning. They may be pushed out of their frames if the window must be used for emergency exit. In this case, the screens will be destroyed and will probably have to be replaced.



Window Locks

DRIVING AND PARKING

Once you become accustomed to the feel of the controls and the reference points from the driver's seat, you will find driving the motor home comparable to driving your family car. Become familiar with the position of the motor home in traffic, and be cautious when maneuvering to allow for the length and width of the vehicle. Always allow extra room to corner and to change lanes. Learn to use the side mirrors to view the road behind. Check them often.

Drive with consideration on the highway, observing all speed and safety regulations. The best cruising speed of your motor home will vary with road and weather conditions.

Remember that your motor home is heavier than a car, making it less maneuverable and harder to stop. Also, because of its greater side surface area, it is more easily affected by cross winds. Allow extra distances for passing and stopping, and drive at a moderate speed, particularly in traffic and in gusty wind conditions.

Driving on winding or mountain roads is not difficult if done with reasonable care. Observe proper vehicle speeds when ascending or descending hills and always operate in the proper transmission range. Downshift on hills to avoid overheating or undue engine loads. Downshift when descending grades. Engine braking power will help control vehicle speed, and relieve some of the strain on the brakes.

Road conditions, terrain, weather, and other driving factors are sometimes unpredictable, and mountain driving or desert temperatures can put extreme demands on drivetrain components—especially the transmission. Under extreme heat conditions you may need to turn off the vehicle air conditioner to improve engine and transmission cooling.

Allow for the extra height of your motor home and avoid areas having low overhead clearance. Check for low-hanging tree branches or other obstructions whenever you drive or park. Avoid low roofs when pulling in for service. Always check overhead clearances of overpasses and bridges. This may be particularly important if you drive with the overhead vents open or if the motor home is equipped with a roof air conditioner, roof rack, CB or TV/radio antenna.

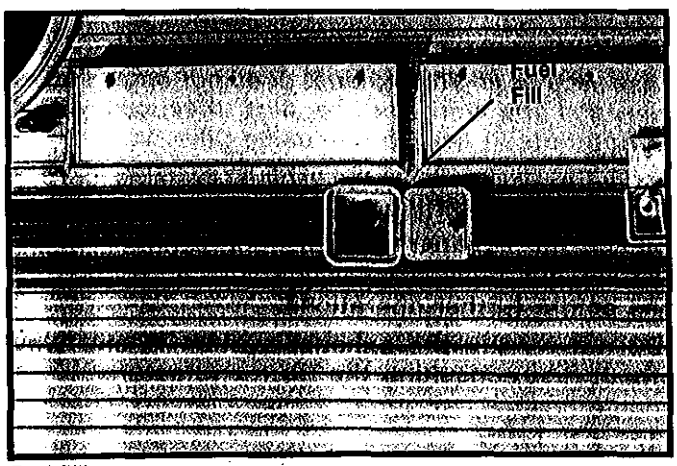
When parking parallel to a curb, be sure to allow for poles or obstructions as the front and rear portions of the motor home swing wider than an automobile. When parking on an incline, turn the front wheels into the curb in the direction of the roll to aid the parking brake. Always shift the transmission to PARK ("P") and set the parking brake when parking.

FUEL AND FUEL SYSTEMS

Your motor home engine may be run on either unleaded or regular fuel. See the Chassis Operator's Manual in the Owner's Information Package. Since the generator fuel supply is the same as the motor home engine fuel supply, consult the operating instructions for the generator before deciding on a fuel type.

Fuel Fill

The fuel filler cap is located on the side of the coach as shown in the illustration. Modern fuel systems may build up vapor pressure within the tank as the gasoline warms during use or hot weather. Under certain conditions, sudden release of this pressure when removing the gasoline cap can spray gasoline from the fill opening, causing a possible hazard.

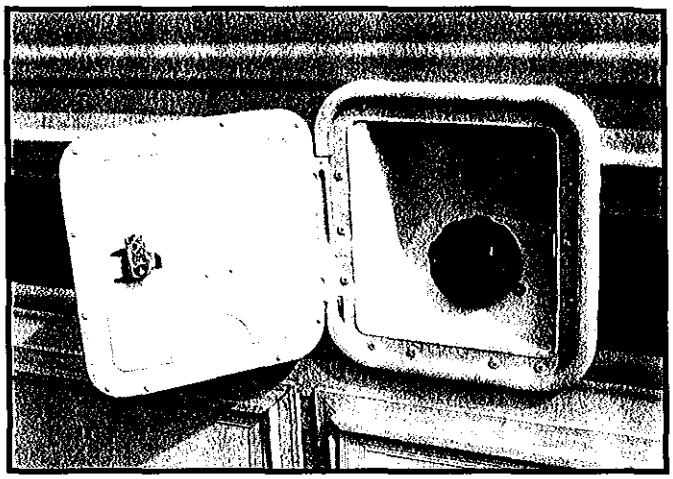


Fuel Fill

WARNING: WHEN REMOVING THE GASOLINE CAP, ROTATE IT SLOWLY ONLY FAR ENOUGH TO ALLOW PRESSURE TO RELEASE. AFTER ANY "HISSING" SOUNDS STOP, COMPLETE THE REMOVAL OF THE CAP.

To protect the gasoline system from excessive pressure or vacuum, or from sudden release of pressure, replace lost caps with caps of the same design available from your Fleetwood motor home dealer.

Clean up fuel spills immediately. Raw fuel spilled on the motor home could damage the exterior finish, and is a serious fire hazard.


Fuel Fill

Fuel Types And Vapor Lock

Today's automotive fuel and emissions systems are sophisticated and highly engineered to meet Federal and state emissions standards. They are also sometimes sensitive to fuel types and blends, particularly blends that are optimized for climatic conditions. Fuel refiners change the additives in the fuel to compensate for temperature variations during winter or summer months. This compensation changes the "vapor pressure" of the fuel. This means that the fuel vaporizes easier during the winter than it does during the summer when higher air temperatures help the fuel vaporize in the engine. Since colder temperatures reduce the fuel's ability to vaporize and burn in your engine, additives help raise the volatility of the fuel. This helps the engine start easier and run smoother during winter months. Under the best of conditions, the refiners supply their gas station customers with the correct fuel for their location and seasonal conditions. Sometimes though, fuel blended for winter is supplied during summer months.

What this all means is that there is a possibility of "vapor lock" during summer driving. This condition is a combination of new engine design (with attendant higher temperatures under the hood), and excessive fuel vaporization caused by the vapor pressure of the fuel you are using. If your engine and fuel system are properly tuned and maintained, you should not experience vapor lock. If vapor lock occurs, the fuel itself could be the cause. If at all possible, check with the gas station attendant as to the fuel blend

before filling your fuel tank. If you purchase your fuel from nationally recognized fuel dealers, your chances of vapor lock can be reduced. If you store your motor home during the winter months, avoid storing large quantities of winter blended fuel in the tank. When you take the vehicle out of storage in the spring or summer, this fuel may cause vapor lock until it is used up.

Alternative Fuel Types

Gasohol, a mixture of 10% ethanol (grain alcohol) and 90% gasoline may be used in Chevrolet gasoline engines without voiding the warranty. However, because of the composition of gasohol, engines will tend to operate leaner with gasohol than with gasoline. This can result in driveability conditions usually associated with leaner mixtures. Also, the increased volatility of gasohol can contribute to hot weather driveability problems (vapor lock) if adjustments are not made to the gasoline blend during the refining process.

The higher octane rating of gasohol compared to most unleaded gasolines could help reduce the tendency for spark knock. But, gasohol contains less energy than gasoline, and fuel economy may or may not be quite as good. However, in some instances depending on the engine design and calibrations, and certain operating conditions, it is possible to get improved fuel economy. Exhaust emission levels may change up or down with the use of gasohol, again, depending on the calibration of the engine. At the present time however, the EPA has not restricted the use of gasohol.

If gasohol is spilled on a painted surface, some dulling or softening of the paint may result.

OVERHEATING

The engine and cooling system in your vehicle should be operated and serviced as recommended in your Chassis Operator's Manual.

Variable Speed Engine Fan

The Chevrolet chassis is equipped with a variable speed fan clutch. When the engine is under load or requires maximum cooling, the fan suddenly adjusts and turns faster. The fan requires a lot of horsepower, and becomes very noisy at high speed. Maximum cooling is required only a small percentage of the time. When the engine doesn't need maximum cooling, the fan just idles along. This conserves fuel and the fan is less noisy.

High speed fan noise can sometimes be misinterpreted as transmission slippage. This is not the case. When the engine is hot and requires extra cooling, the fan turns at full speed. High engine speed and temperature conditions, such as pulling away from a stop after long freeway driving, can cause loud fan noise until the engine cools down. This fan noise indicates that the fan is doing what it is supposed to do. This noise is not a defect in the fan or the transmission.

CARBON MONOXIDE SAFETY PRECAUTIONS

Carbon monoxide is a colorless, tasteless, odorless gas. It is a by-product of combustion in engine(s). The engines in your motor home and generator system produce it constantly while they are running. CARBON MONOXIDE IS DEADLY. Please read and understand the following precautions to protect yourself and others from the effects of carbon monoxide poisoning.

WARNING: EXHAUST GASES ARE DEADLY. DO NOT BLOCK THE TAILPIPES OR SITUATE THE VEHICLE IN A PLACE WHERE THE EXHAUST GASES HAVE ANY POSSIBILITY OF ACCUMULATING EITHER OUTSIDE, UNDERNEATH, OR INSIDE YOUR VEHICLE OR ANY NEARBY VEHICLE THROUGH WINDOWS OR OTHER OPENINGS REMOTE FROM THE EXHAUST OUTLET. OPERATE THE ENGINE(s) ONLY WHEN SAFE DISPERSION OF EXHAUST GASES CAN BE ASSURED, AND MONITOR OUTSIDE CONDITIONS TO BE SURE THAT EXHAUST CONTINUES TO BE DISPERSED SAFELY.

Beware of exhaust gas (carbon monoxide) poisoning symptoms:

Dizziness
Intense Headache
Weakness and Sleepiness
Vomiting
Muscular Twitching
Throbbing in Temples

If symptoms indicate the possibility of carbon monoxide poisoning, turn off the engine immediately, get out into fresh air at once, and summon medical assistance.

WARNING: DO NOT UNDER ANY CIRCUMSTANCES OPERATE ANY ENGINE WHILE SLEEPING.

You would not be able to monitor outside conditions to assure that engine exhaust does not enter the interior, and you would not be alert to exhaust odors or symptoms of carbon monoxide poisoning.

After traveling, inspect the exhaust systems for road damage before starting any engine.

Check the exhaust system during routine maintainance, and repair any leaks, damage, or obstructions before further operations.

Do not modify the exhaust system in any way without first consulting the RV manufacturer.

SAFETY TIPS

Read and understand the Chassis Operator's Manual.

When backing the motor home, have a person stand to the rear on the driver's side to guide you.

Before departing on a trip, check your routes. Remember, some tunnels prohibit motor homes with LP gas systems.

Drive at moderate speeds, particularly in traffic and in gusty wind conditions.

Allow extra distance for passing and stopping.

While traveling, make sure all occupants use their seat belts.

While traveling, make sure all doors are closed and cabinets, drawers, and loose objects are secure.

Instruct your family on what to do in case of fire, and hold fire drills periodically.

Maintain proper charge in the fire extinguisher.

Gas detectors are available from RV equipment dealers, and may be considered as safety accessories.

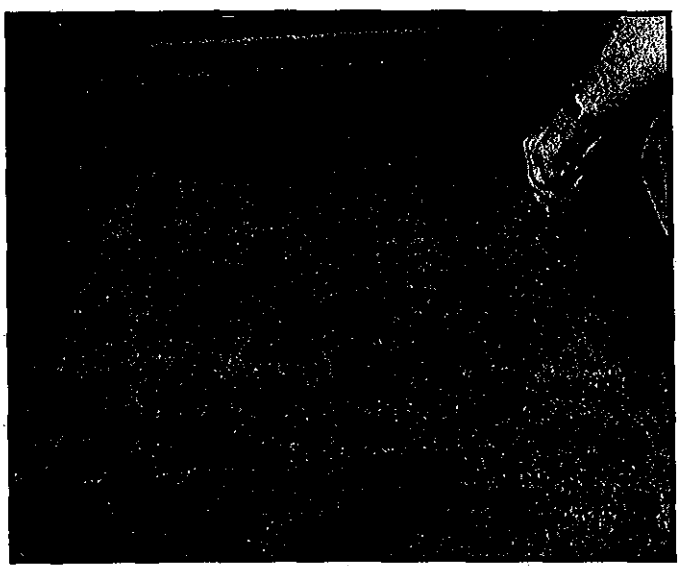
Keep a well stocked first-aid kit handy.

Keep a tool box handy.

Check tires often while traveling. Inside rear duals should receive special attention, as these tires may go flat and not be noticed. Running a flat on an inside dual could lead to a tire fire that would be extremely difficult to extinguish. Make it a habit to check tire pressures with an accurate tire gauge before each trip, and when re-fueling give each tire a sharp rap on the tread surface with a hammer or similar object. Properly inflated tires produce a "bung" sound when rapped. If the tire is flat, the sound will be a dull "thud".

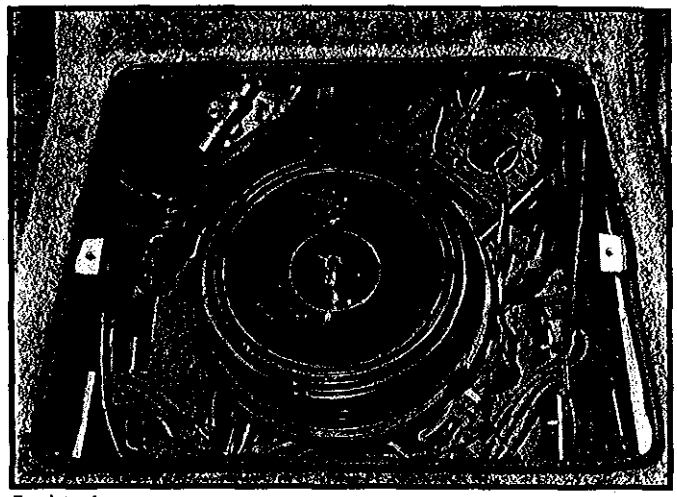
Engine Access

The top of the engine may be accessed for service by removing the engine cover. Remove the two access cover screws as shown, and lift off the cover. When replacing the screws, be careful to get them in straight.



Engine Access

WARNING: WHEN INSTALLING THE ENGINE COVER, BE SURE THE COVER IS FULLY SEATED ON THE GASKET SEAL AND SECURED BY THE COVER SCREWS. DO NOT ALLOW CARPETING, FLOOR MATS OR OTHER MATERIAL TO INTERRUPT THE SEAL BETWEEN THE COVER AND THE ENGINE COMPARTMENT. IF THE ENGINE COVER IS NOT INSTALLED CORRECTLY, ENGINE EXHAUST GASES COULD LEAK INTO THE PASSENGER COMPARTMENT CREATING A SAFETY HAZARD, IF THE ENGINE MUST BE RUN WITH THE ENGINE COVER OFF FOR MAINTENANCE PUPROSES, BE SURE THE VEHICLE INTERIOR IS ADEQUATELY VENTILATED.



Engine Access

TIRES

Your motor home is equipped with truck tires. Under normal circumstances and with proper maintenance, you should receive thousands of miles of trouble-free service.

For safety, motor home stability, and maximum tire life, proper inflation pressure must be maintained. The load range and maximum inflation pressure are stamped on the tire side wall.

WARNING: CHECK TIRE PRESSURES OFTEN. ALWAYS CHECK PRESSURE WHEN TIRES ARE COLD, AND DO NOT BLEED AIR OUT OF WARM TIRES. FOLLOW THE TIRE PRESSURE INSTRUCTIONS IN THE CHASSIS OPERATOR'S MANUAL.

WARNING: KEEP TIRES PROPERLY INFLATED. A TIRE THAT IS RUN LONG DISTANCES OR AT HIGH SPEEDS WHILE SERIOUSLY UNDER INFLATED WILL OVERHEAT TO THE POINT WHERE THE TIRE MAY LOSE AIR SUDDENLY AND/OR CATCH FIRE, POSSIBLY RESULTING IN DAMAGE TO THE VEHICLE AND ITS CONTENTS AND/OR PERSONAL INJURY.

Tire Replacement

Replacement tires must be the same size and have at least the same weight carrying capacity as the original equipment. The original equipment tires supplied on your motor home have weight carrying

capacities to support gross axle weight ratings (GAWR) as stated on the Federal Certification Tag located on the sidewall near the driver's seat.

For example, if your motor home has a front GAWR of 5,000 pounds, each front tire must have a minimum single capacity of 2,500 pounds. For a rear GAWR of 9,840 pounds, each rear tire must have a minimum capacity of 2,460 pounds in dual configuration.

Refer to the Federal Certification Tag for specific axle capacities for your motor home.

Changing A Flat Tire

CONSULT THE CHASSIS OPERATOR'S MANUAL FOR INFORMATION ON TIRE CHANGING.

Even with good tire maintenance and normal driving, you may experience a flat tire. The best way to solve this problem is to summon professional help through your auto club, travel service, or a local truck service facility. If none of these is available, and circumstances require you to change the tire yourself, there are several items that you MUST be aware of before you attempt to change a flat tire:

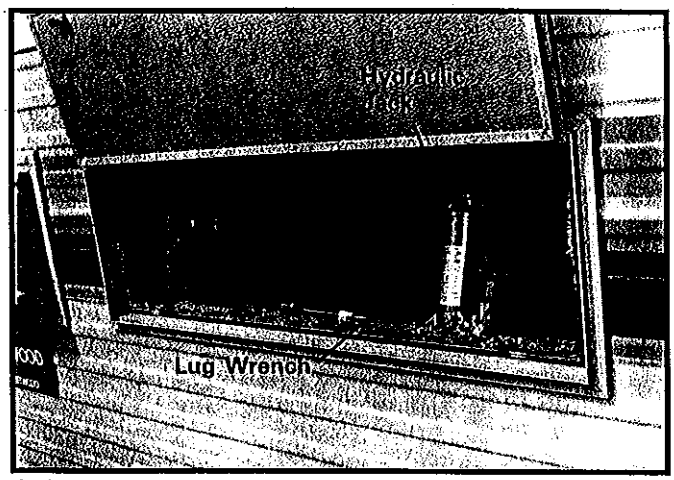
* Your motor home is built on a truck chassis, and therefore rides on truck wheels and tires. These tires and wheels can weigh up to 100 pounds or more each. IF YOU ARE NOT PHYSICALLY CAPABLE OF LIFTING AND MOVING 100 POUNDS OR MORE, DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO CHANGE A FLAT TIRE.
* Truck tires and wheels are installed with the wheel nuts tightened very tightly. IF YOU ARE NOT CAPABLE OF BREAKING LOOSE NUTS THAT HAVE BEEN TIGHTENED UP TO 180LB./FT. OF TORQUE, AND THEN RETIGHTEN TO THIS TORQUE, DO NOT UNDER ANY CIRCUMSTANCES ATTEMPT TO CHANGE A FLAT TIRE.
* The motor home itself with all of your travel gear is extremely heavy. The axle jack furnished with your motor home is capable of lifting the weight on one wheel, or about one-fourth of the total gross weight of the vehicle. The ground or road surface under the vehicle may not support the weight of the vehicle on the small surface area of the jack. A strong board or other flat surface may be necessary under the jack to spread the load and stabilize the jack.

WARNING: TO AVOID PERSONAL INJURY AND/OR PROPERTY DAMAGE IF A BLOWOUT OR OTHER TIRE DAMAGE OCCURS, TRY TO OBTAIN EXPERT TIRE SERVICE HELP. IF YOU MUST REMOVE WHEELS AND CHANGE THE TIRE WITHOUT PROFESSIONAL HELP, TAKE OFF THE TIRE AND RIM ASSEMBLY AND PUT ON THE SPARE TIRE AND RIM ASSEMBLY FOLLOWING THE INSTRUCTIONS IN THE CHASSIS OPERATOR'S MANUAL. DO NOT REINFLATE A TIRE THAT HAS BEEN FLAT, OR IS SERIOUSLY LOW ON AIR. HAVE THE TIRE REMOVED FROM THE WHEEL AND CHECK THE TIRE FOR DAMAGE. NEVER ADD AIR TO TIRES UNLESS AN ACCURATE PRESSURE GAUGE IS USED.

Required Tools and Equipment

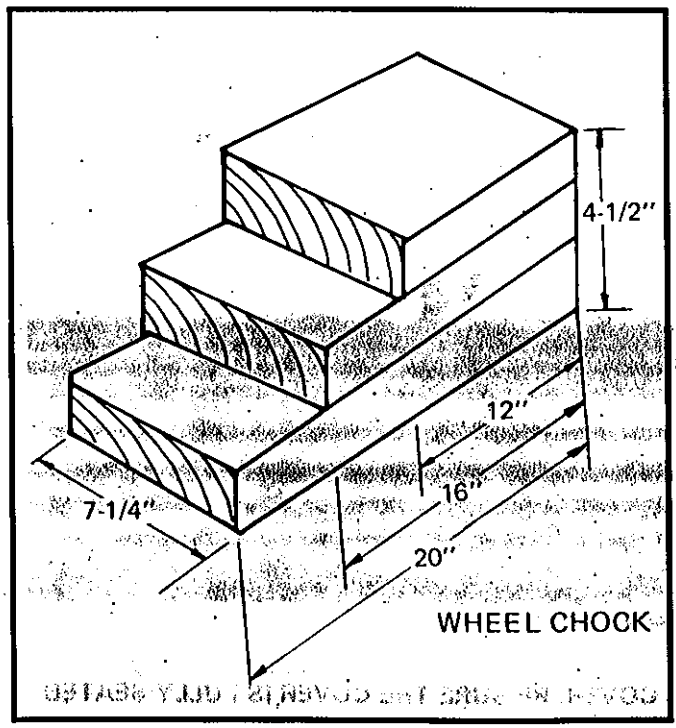
* Hydraulic jack with minimum 6-ton capacity.

WARNING: THE JACK IS DESIGNED FOR USE AS A TOOL FOR TIRE CHANGING ONLY. IT IS NOT INTENDED FOR USE AS A LEVELING DEVICE OR AS A LIFT FOR SERVICE PURPOSES.



Jack

* Lug wrench to fit wheel nuts, with at least a two-foot breaker bar handle.
* Torque wrench with at least 300 lb./ft. capacity.
* Wheel blocks.
* Board or other flat surface to place under the jack.
* Wheel chock.

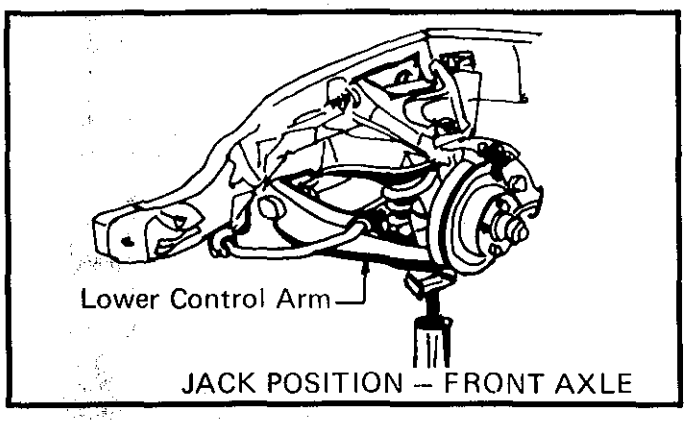


WARNING: DO NOT CRAWL UNDER VEHICLE.

CONSULT THE CHASSIS OPERATOR'S MANUAL FOR INFORMATION ON TIRE CHANGING.

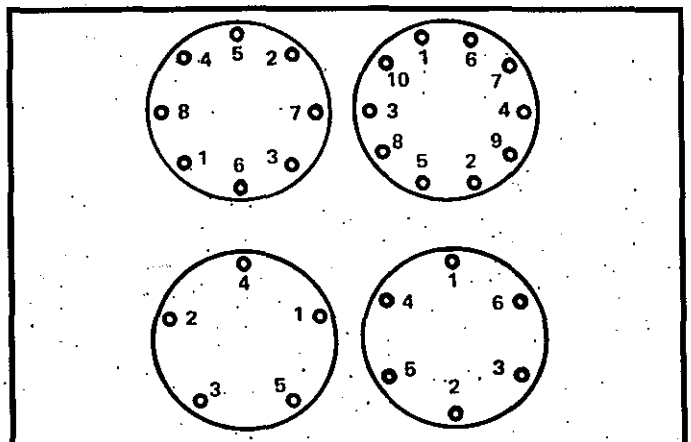
To Change A Front Wheel:

1. Move the vehicle to a level, firm surface.
2. To provide clearance for the jack, carefully drive the flat tire up on the wheel chock.
3. Turn off the engine, place the transmission selector in "P" and set the parking brake.
4. Block both the front and back of the wheel in the opposite corner from the wheel to be changed.
5. On questionable surfaces, use a board or other solid, flat, material under the jack to provide a firm base and minimize the possibility of shifting.
6. Slide the jack under the front lower control arm (see illustration), and turn the screw extension up until it touches the control arm surface.



JACK POSITION – FRONT AXLE

7. Begin jacking until the jack is firmly positioned, but do not lift the tire off the ground.
8. Loosen but do not remove the wheel nuts.
9. Raise the vehicle until the tire clears the ground.

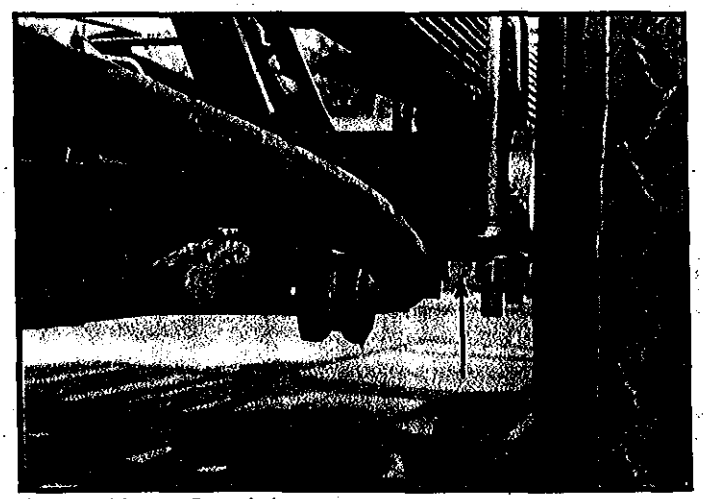

WHEEL NUT TIGHTENING SEQUENCES
Motor Home Wheel
Nut Torque – 130–180 lb. ft.
(180–240 N m)

10. Remove wheel nuts and wheel. Put spare wheel in place.
11. Replace wheel nuts. Carefully tighten the nuts snugly with the wheel and tire off the ground.
12. Lower the vehicle until the tire contacts the ground. Do not put the full weight of the vehicle on the tire.
13. Tighten the wheel nuts following the sequence shown in the diagram, to the specified torque.
14. Completely lower and remove the jack. Remove blocks, boards and other tools.
15. Drive the vehicle off the chock.
16. Check the tightness of the wheel nuts often until you get to a tire service center. Have the wheel nut torque and air pressure checked by professional tire service personnel.

To Change A Rear Wheel:

(If only one tire is flat on a rear dual, drive 25 MPH or less for no more than 5 miles to a tire service center, checking the tire often.)

1. Move the vehicle to a level, firm surface.
2. Turn off the engine, place the transmission selector to "P" and set the parking brake.
3. Block the front and back wheel in the opposite corner from the wheel to be changed.
4. On questionable surfaces, use a board or other solid, flat, material under the jack to provide a firm base and minimize the possibility of shifting.
5. Position the jack as shown in the illustration. Screw the extension out until it touches the torsion bar hanger. Be sure the jack is centered so the vehicle will not slide off the jack. Place the jack so it can be operated without getting under the vehicle.


Jack Position – Rear Axle

6. Begin jacking until the jack is firmly positioned but do not lift the tire off the ground.
7. Loosen, but do not remove the wheel nuts.

8. Raise the vehicle until the tire clears the ground.

9. Remove wheel nuts and wheel(s). Remember, with dual wheels, both wheels will be loose. Remove and replace wheels and nuts carefully.

10. Put spare wheel in place. Replace outside dual, if necessary. The dual wheels MUST line up properly. A special alignment stud and hole are machined into the wheel mounting flange. If the stud and hole are not aligned, the wheel will wobble enough to cause damage to tires and bearings.

11. Replace wheel nuts. Carefully tighten the nuts snugly in sequence shown in the diagram.

12. Apply the specified torque to all nuts in sequence. Dual wheel nuts must be tightened with both wheels off the ground.

13. Lower the jack. Remove jack, blocks, boards and other tools and equipment.

14. Check the tightness of the wheel nuts often until you get to a tire service center. Have the wheel nut torque and air pressure checked by professional tire service personnel.

TOWING

If your motor home ever needs to be towed, please follow these instructions:

* Secure any loose or protruding parts of the disabled vehicle.

* Inspect points of attachment to the disabled vehicle. If attachment points are damaged or deteriorated, select other attachment points at a substantial frame structural member.

* Never allow anyone to go under a vehicle while it is being lifted by towing equipment unless the disabled vehicle is adequately supported by safety stands.

Do not tow the motor home from the rear. Towing from the rear will cause the front tires and suspension to be seriously overloaded, possibly resulting in tire or front suspension failure. The rear frame extensions are not designed to withstand the loads imposed by lifting from the rear.

If the rear wheels are disabled, place the motor home on a flat bed trailer, or use a heavy duty dolly under the rear wheels and tow from the front.

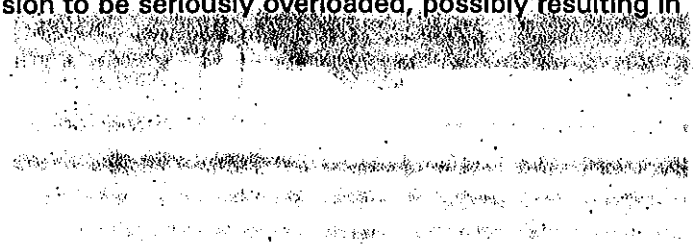
NOTE: IF YOUR MOTOR HOME MUST BE TOWED, PREVENT DAMAGE BY HAVING THE TOW TRUCK DRIVER FOLLOW THE INSTRUCTIONS IN THE CHASSIS OWNER'S MANUAL.

Lifting Procedure

1. Remove the front bumper and air dam, if installed.
2. Attach "J" hooks to the inboard ends of the lower control arms.
3. Position a 4" X 4" length of wood across hitch chains just behind the bumper frame extensions.
4. Position the lower sling crossbar directly under the bumper frame extensions.
5. Attach safety chains which are completely independent of the primary lifting and towing attachment around the frame side rails.
6. Lift the vehicle until the wheels are a minimum of 4" off the ground. Be sure there is adequate ground clearance at the rear of the vehicle.

The vehicle may be towed on the rear wheels with the parking brake released and the transmission in neutral provided a speed of 35 MPH and a distance of 50 miles is not exceeded. If this speed or distance must be exceeded, disconnect the driveshaft or place the rear wheels on a dolly. DO NOT TOW ANY VEHICLE AT SPEEDS OVER 50 MPH.

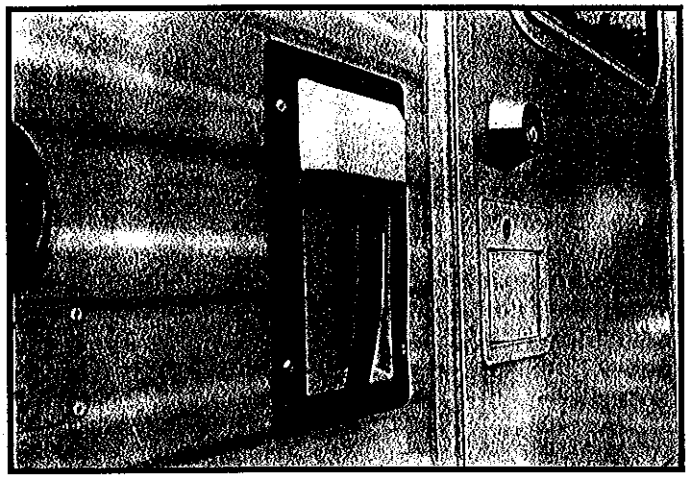
The safety of the operator and all others in the vicinity of the tow truck and the towed vehicle must be considered at all times during a towing operation. DO NOT ALLOW ANY PERSON TO RIDE IN THE TOWED VEHICLE. Safe operating speeds depend on weather, road, traffic, visibility conditions, and the condition of the towed vehicle. Avoid panic stops. Obey all state and local laws regarding items such as warning signals, night illumination, speed, etc.



ENTRY ASSIST HANDLE

A lighted entry assist handle is located outside each entry door. A push-on/push-off switch is located at the top of the handle.

Replace the 12-volt light bulb with a type 1141.



Assist Grip

ENTRY STEP

Double entry steps are located under each entry door. When retracted, the lower step folds over the top step.

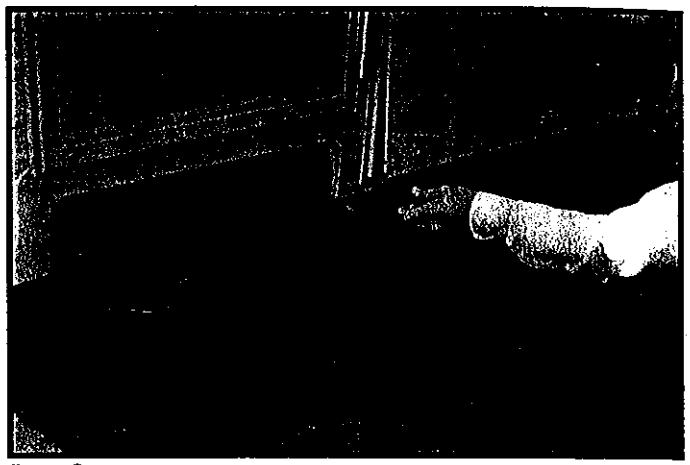
To extend the step:

Pull complete step assembly out; let it down completely.

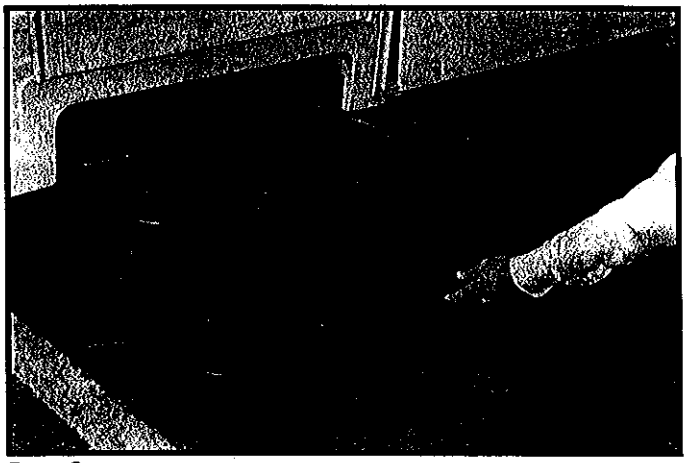
Unfold bottom step from over top step; lower completely.

Reverse to retract.

Entry Step



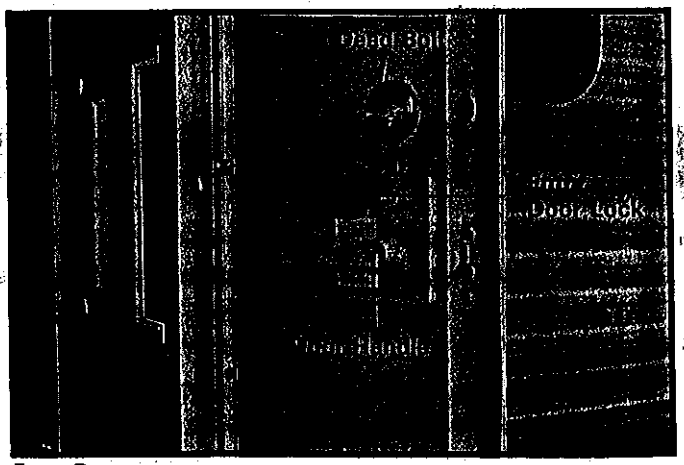
Entry Step



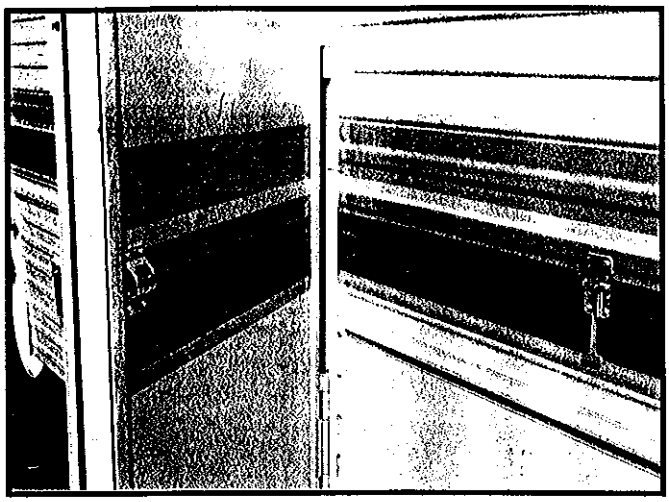
Entry Step

ENTRY DOORS, SCREENS, AND LOCKS

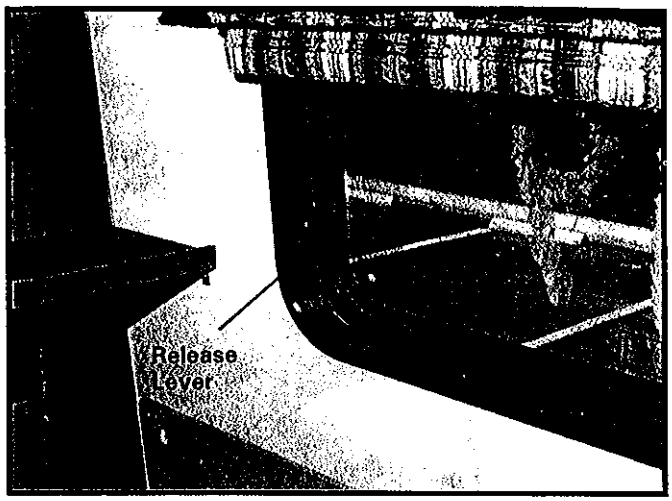
Entry door locks and deadbolts are keyed separately. Be sure to record all key numbers and keep them in a safe place.



Entry Door



Holdback

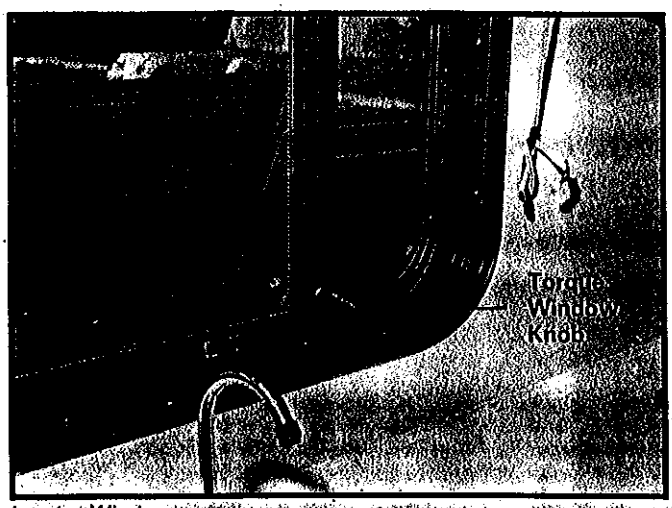


Emergency Exit Window

The screen door may be separated from the main entry door by depressing the catch. A holdback mechanism will secure the main door against the side of the motor home. Extend the tongue of the holdback and slip it into the receptacle in the door.

WINDOWS

Windows in your motor home are either slider or torque pane type. Slider windows may be locked by turning the lock knob. Torque windows may be opened and adjusted by turning the knob located at the bottom corner of the window.



Interior Window

EMERGENCY EXIT WINDOW

A special emergency exit window is located at the rear of the motor home. This window provides an emergency means of escape if the motor home doors are blocked or disabled for any reason or in case the motor home must be evacuated under emergency conditions. To release the window, pull the two red handles on either side of the window and push the window out. The window will swing free.

STORAGE

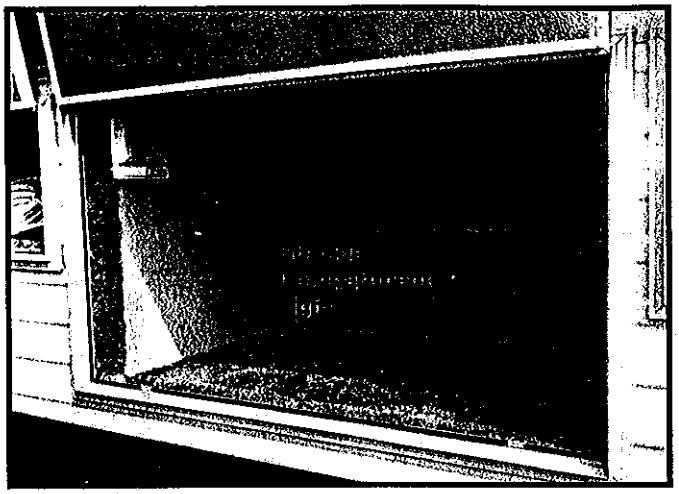
Exterior Compartments

Exterior storage compartments in the Bounder maximize available space and should accommodate most of your storage needs. All of the storage compartments can be locked. (The LP gas compartment is required by fire-prevention regulations to be unlocked at all times.) They have been designed to remain secure while the vehicle is in motion. A 12-volt light in each storage area aids nighttime access to your equipment and supplies. Be sure to turn the light off after use—your battery could discharge rapidly if you don't. The rear compartment on some Bounder models is also accessible from inside the motor home under the bed.

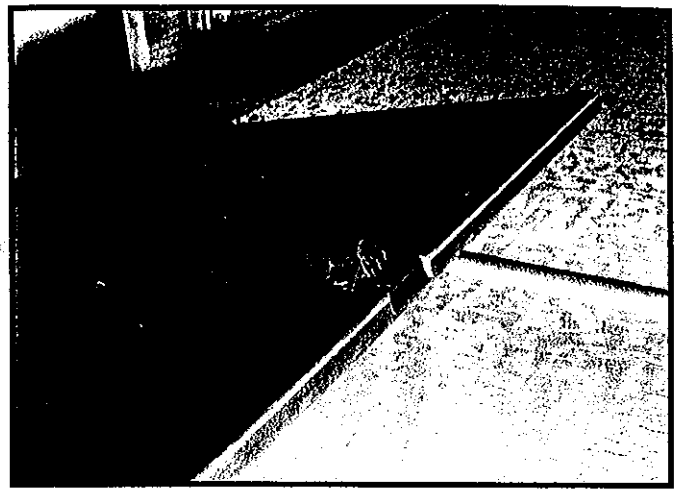
The exterior compartments are large. This may be a temptation to you to load them completely full of everything you can think of. Please note that if all compartments are filled with heavy, or densely packed items, your motor home could be overloaded. Refer to the section in this manual that discusses capacity and weighing. Follow the loading and weighing instructions in that section.

When storing equipment and supplies:

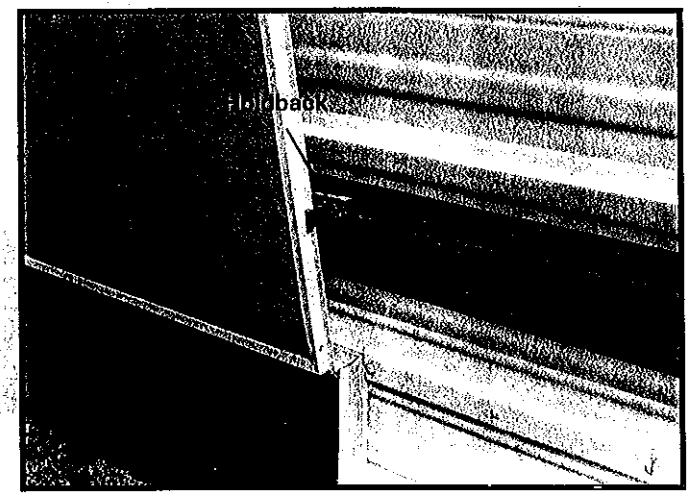
* Always keep tools and equipment stored in areas where they will not shift while traveling.
* Whenever possible, place heavy articles in storage compartments which are low and in the best location for better weight distribution. See "WEIGHING" section.



Storage Compartment



Interior Latch



Holdback

* Pack articles carefully in the storage compartments to minimize shifting. If necessary, use straps to prevent movement.

* Be sure liquid containers are capped and cannot tip or spill. Secure all glass containers and dishes before traveling.

* Exterior storage compartments may not be watertight in all climate conditions. Carry any articles which could be damaged by water inside the motor home.

WARNING: OUTSIDE STORAGE COMPARTMENTS ARE NOT SEALED, VENTED ENCLOSURES, AND MAY BE ACCESSIBLE FROM INSIDE THE MOTOR HOME. DO NOT STORE FLAMMABLE, VOLATILE LIQUIDS, HAZARDOUS CHEMICALS OR EQUIPMENT IN THESE AREAS.

Interior Storage

Interior storage areas may be found in a number of places in your motor home—overhead compartments, wall closets, under the dinette, under the bed, lavy and galley cabinets. Most of the closets and cabinets have hidden latches along one edge of the door. Press the latch button to open the door. Overhead doors may have friction supports to hold them open.

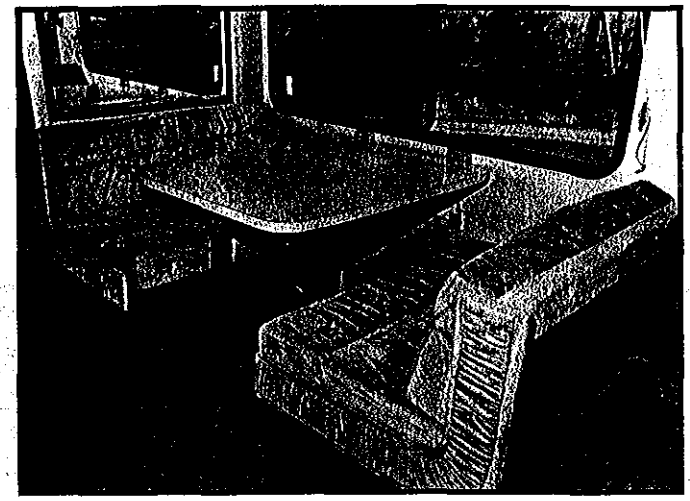
Drawers rest in detent notches when they are closed. To open drawers, lift up slightly, then pull open.

Closets may be equipped with 12-volt lights that may be switched to turn ON when the closet door is opened. Be sure the light goes OFF when you close the closet door—your battery could be discharged rapidly if it stays ON. If the light stays on when the door is closed, the door switch requires adjustment.

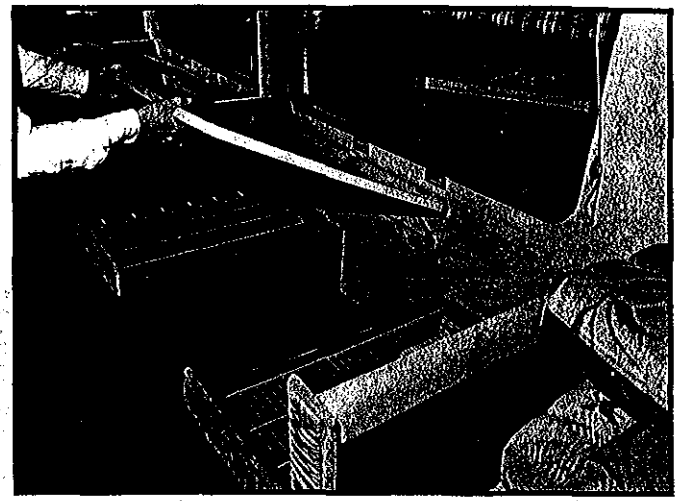
The same loading considerations apply to interior storage areas as to exterior. Even though your Bounder has a lot of storage space, use good sense when loading. Consult the section on capacity and weighing.

INTERIOR AND FURNISHINGS

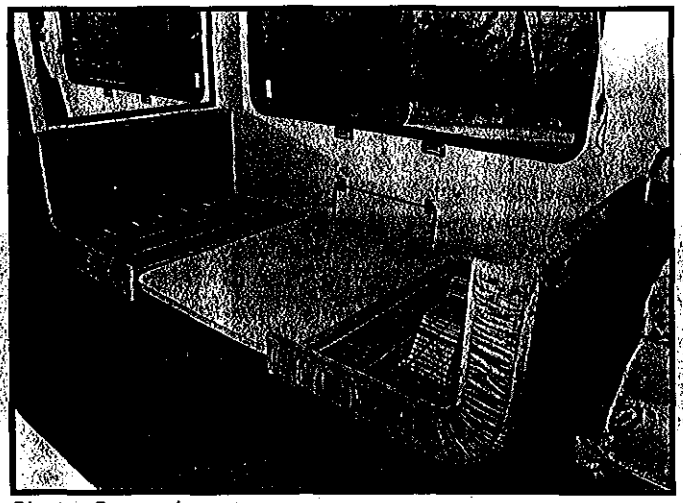
The materials used inside your motor home have been selected for durability and comfort. With reasonable care, these materials will stand up under years of recreational living. The MAINTENANCE SECTION in this manual outlines care requirements for the various upholstery fabrics, floor, cabinet, and wall finishes.



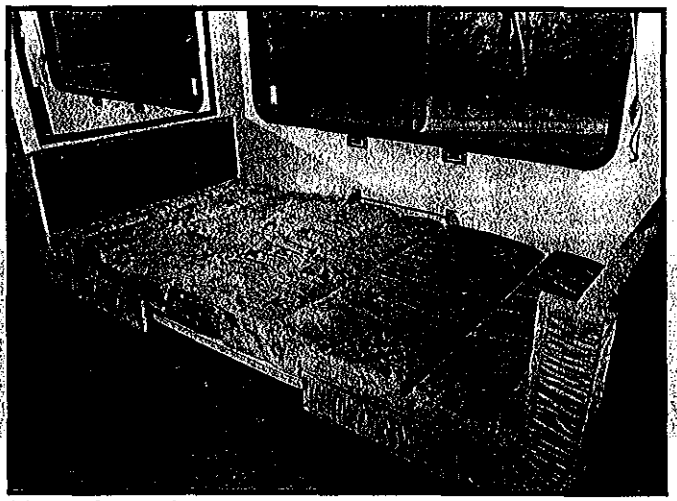
Dinette Conversion



Dinette Conversion



Dinette Conversion



Dinette Conversion

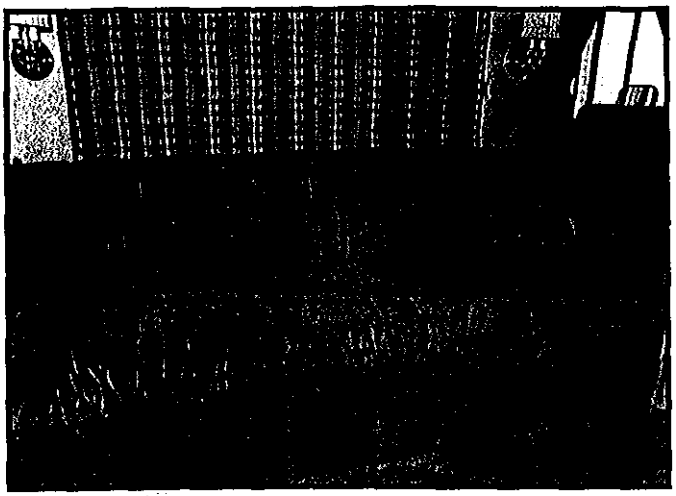
Dinette Conversion

To convert the dinette into a bed:

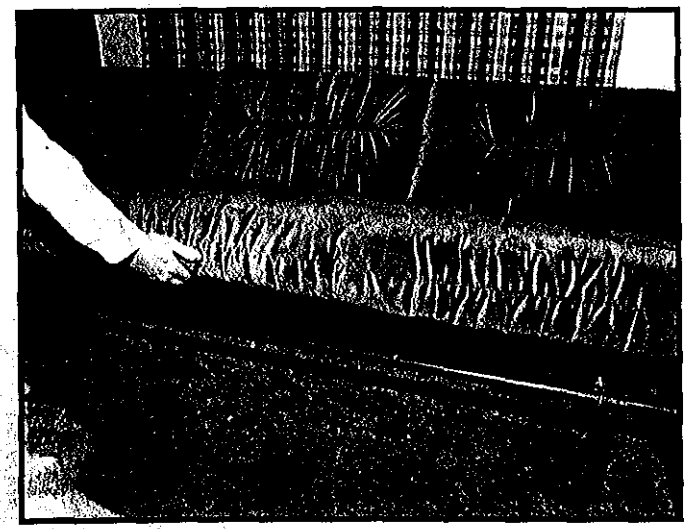
* Unsnap and remove cushions.
* Reach under the table, unscrew the table leg latch and store it between the seats.
* Raise front portion of table several inches to disengage inserts from the wall supports.
* Lower table top to the dinette frame to complete bed base.
* Slide seat and back cushion into place over bed base.

The under-seat storage may be reached by raising the cushion frame.

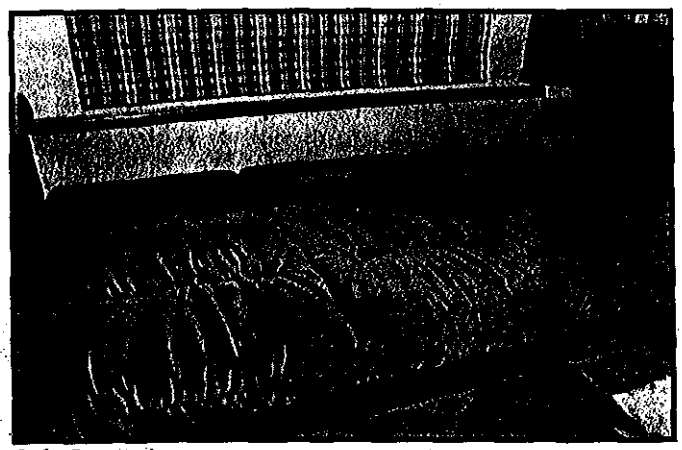
The seating angle of the dinette may be changed by pulling the front of the dinette seat frame up and forward slightly.



Sofa Conversion



Sofa Conversion



Sofa Conversion

Sofa/Lounge Conversion

To convert a sofa/lounge into a bed:

* Remove sofa bolsters.
* Lift front of sofa frame up and out.
* Push the back of the lounge back and down.
* Push the seat belts through the space between the lounge back and seat.

To restore the sofa/lounge:

* Pull the seat belts back up through the space.
* Lift the front edge of the sofa frame up, and push it back. The sofa back will come up.
* Push the sofa into position.

WARNING: NEVER RIDE IN A SEAT NOT FURNISHED WITH A SEAT BELT. ALWAYS USE SEAT BELTS WHILE TRAVELING.

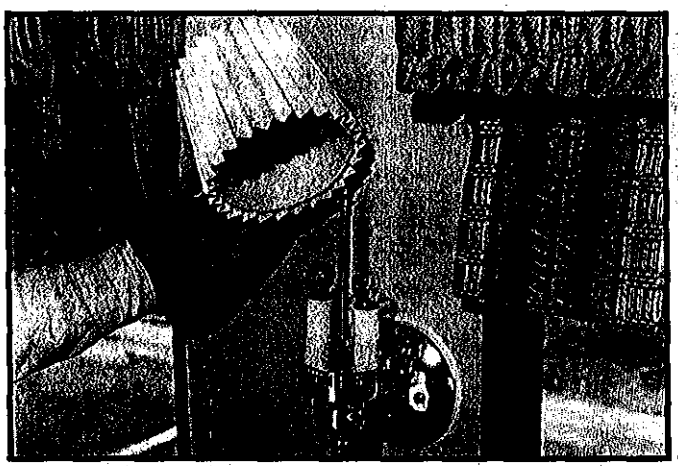
Folding Curtition

The folding curtition(s) allow you to separate areas in the motor home for privacy or heating/cooling management. The curtition glides on nylon rollers and does not require lubrication. It is held closed by a magnetic catch. When the curtition is open while traveling, be sure to reattach the holdback strap to keep the curtition from sliding back and forth.

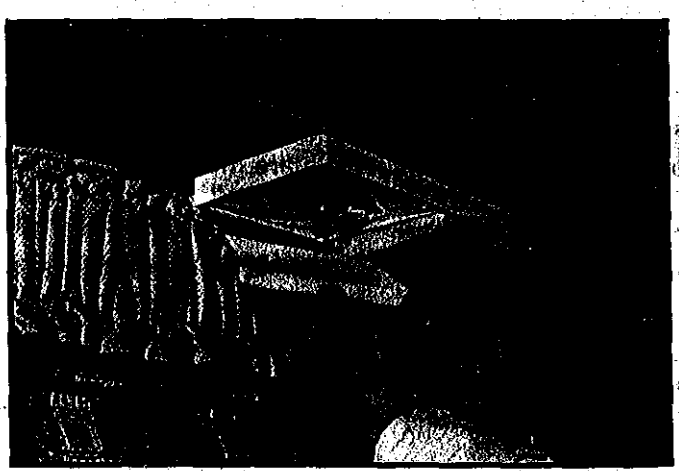
Interior Lighting

Both decorative and "utility" style 12-volt lighting fixtures are used in your Bounder.

Decorative light fixtures feature two-way operation. Turn the switch knob for either one or two bulb



Decorative Light



Utility Light

brightness. The shade may be removed for cleaning or bulb replacement. Replace the bulbs with type 1076 dual bayonet.

Utility style fixtures may be either single or dual. A slide switch selects either single or dual brightness. Clean the lenses in soapy water. Replace the bulbs with type 1141.

Overhead Vents

Overhead vents located in the galley and bathroom areas help circulate fresh air through the motor home, and exhaust galley and bathroom odors and vapors from cooking and bathing.

Turn the crank in the center of the vent to open and adjust it. Some vents may also be equipped with a 12-volt fan. A toggle switch controls fan operation. Be sure to turn the fan OFF before closing the vent.

If you travel in heavily wooded areas or other places where overhead clearance is restricted, close the vents or lower them so they don't strike overhead obstructions.

The vents may be cleaned from the top of the motor home. Use soapy water on the vent cover. The screens may be vacuumed or lightly brushed to remove accumulations of leaves or other debris.

Lubricate the gears and mechanism yearly with a light, water resistant grease.

EFFECTS OF PROLONGED OCCUPANCY

Your motor home was designed primarily for recreational use and short term occupancy. If you expect to occupy the motor home for an extended period, be prepared to deal with condensation and the humid conditions that may be encountered. The relatively small volume, and tight, compact construction of a modern recreational vehicle mean that the normal living activities of even a few occupants will lead to rapid saturation of the air contained in the motor home and the appearance of visible moisture, especially in cold weather. If you know the signs of excessive moisture and condensation, you can minimize their effects.

Just as moisture collects on the outside of a glass of cold water during humid weather, moisture can condense on the inside surfaces of your motor home during use in cold weather when humidity of the interior air is high. This condition is much greater in a recreational vehicle than in most houses because the insulated walls of the vehicle are much thinner than house walls, and the small size and tight construction of the vehicle allow a quick buildup of high moisture levels in the inside air.

The air inside a recreational vehicle can contain a surprisingly large amount of water vapor. Estimates indicate that a family of four can vaporize up to three gallons of water daily through breathing, cooking, bathing, and washing. Unless this water vapor is carried outside by ventilation, or condensed by a dehumidifier, it will condense on the inside of the windows and walls as moisture, or in cold weather as frost or ice. It may also condense out of sight within the walls or the ceiling where it will manifest itself as stained panels. Appearance of these conditions indicates a condensation problem.

CONTROLLING MOISTURE CONDENSATION

You can reduce or eliminate interior moisture condensation during cold weather by taking the following steps:

Ventilate with outside air.

Partially open one or more roof vents and one or more windows to provide controlled circulation of outside air into the interior. While this ventilation will increase furnace heating load, it will greatly reduce, or eliminate, water condensation.

Note: Even when it is raining or snowing, ventilation air from outside will be far drier than interior air and will effectively reduce condensation.

Install tight fitting storm windows to reduce or eliminate condensation on window glass.

The interior surface of the storm window will be at least 20 degrees warmer, reducing moisture condensation. **DO NOT COVER THE EMERGENCY EXIT WINDOW.** This window must be left accessible at all times for emergency exit.

Reduce moisture released inside the motor home.

Run the range vent fan when cooking and the bath vent fan (or open the bath vent) when bathing to carry water vapor out of the motor home. Avoid making steam from excessive boiling or use of hot water. Remove water or snow from shoes before entering to avoid soaking the carpet. Avoid drying overcoats or other clothes inside the motor home. **WARNING: DO NOT HEAT THE MOTOR HOME INTERIOR WITH THE RANGE OR OVEN.** In addition to the hazards of toxic fumes and oxygen depletion which make heating by the range or oven very dangerous, open flames add moisture to the interior air, increasing condensation. Do not use an air humidifier inside the motor home. Water put into the air by the humidifier will increase condensation.

Ventilate closets and cabinets

During prolonged use in very cold weather, leave cabinet and closet doors partially open to warm and ventilate the interiors of storage compartments built against exterior walls. The air flow will warm the exterior wall surface, reducing or eliminating condensation and preventing possible ice formation.

Install a dehumidifier appliance.

During prolonged, continuous use, a dehumidifying appliance may be more comfortable and effective in removing excess moisture from the interior air. While use of a dehumidifier is not a "cure-all", and ventilation, storm windows, and moisture reduction continue to be important, operation of the dehumidifier will reduce the amount of outside air needed for ventilation. Heating load on the furnace will be reduced, and the interior will be less drafty.

FIRE SAFETY

The hazard and possibility of fire exists in all areas of life, and the recreational life-style is no exception. Your motor home is a complex machine made up of many materials—some of them flammable. But like most hazards, the possibility of fire can be minimized, if not totally eliminated, by recognizing the danger and practicing common sense safety and maintenance.

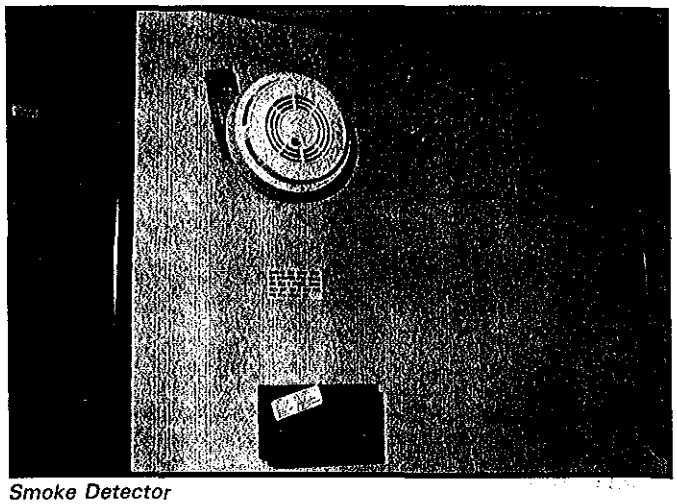
Fires are generally caused by unattended food cooking on the stove or in the oven, faulty or damaged wiring and electrical devices, fuel leaks (both gasoline and LPG), or carelessness. Under the right circumstances, almost anything can be destroyed by fire. The fire extinguisher furnished with your motor home is rated for Class B (gasoline, grease, flammable liquids) and Class C (electrical) fires since these are the most common types of fires in vehicles. Read the instructions on the fire extinguisher. Know how and when to use it.

Consider these fire safety suggestions:

* If you experience a fire while traveling, **MAINTAIN CONTROL OF THE VEHICLE UNTIL YOU CAN SAFELY STOP IT. EVACUATE THE VEHICLE AS QUICKLY AND SAFELY AS POSSIBLE.**
* If you experience a fire while camped, **EVACUATE THE VEHICLE AS QUICKLY AND SAFELY AS POSSIBLE.**
* Consider the cause and severity of the fire and the risk involved before trying to put it out. If the fire is major or fuel-fed, stand clear of the vehicle and wait for the fire department or other emergency assistance.
* If your motor home is damaged by fire, do not drive it or live in it until you have thoroughly examined it, found the cause of the fire, and fixed it.

Smoke Detector

A smoke detector is furnished with your motor home as a warning device. See "APPLIANCES" section. Instructions for its operation and testing are included in your Owner's Information Package. Read these instructions and follow the test procedures outlined.



Smoke Detector

NOTES

PLUMBING SYSTEMS

The plumbing systems in your motor home are constructed of thermoplastic materials. Holding tanks and piping components are strong, lightweight, and corrosion resistant.

FRESH WATER SYSTEM

Fresh water is available from either an external "city water" hookup or onboard storage.

The external system is pressurized by the water system at an RV park or city water supply. When you use this system, the onboard pump is isolated from the city water pressure by a check valve. A manual valve also isolates the onboard fresh water storage tank. This valve can be used to fill the tank from the city water supply. More on that later.

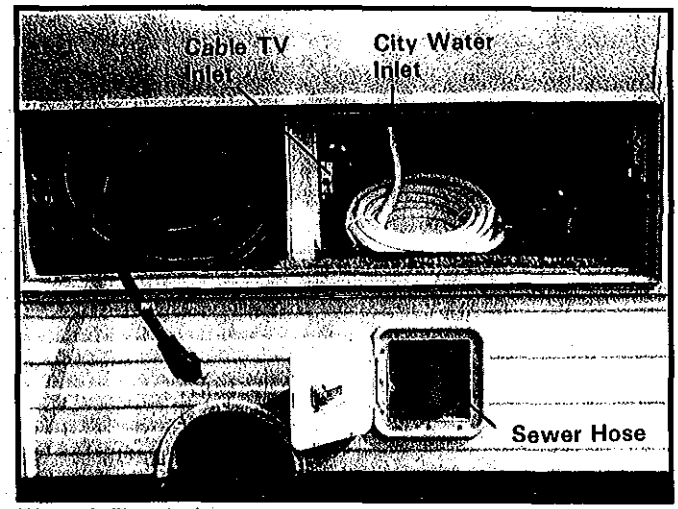
Connect the city water system as follows:

* Turn valve clockwise to CLOSE it.
* Remove the protective cap over the city water inlet.
* Connect one end of a potable water hose to park or city water supply. This will usually be a faucet or valve similar to your garden hose valve at home. "Potable water" hoses are available at RV supply stores.
* Run the city water supply for a few seconds to clear the line.
* Turn the supply OFF.
* If a potable water hose is not already connected to the inlet, connect the hose to the inlet fitting.
* Turn the supply ON. Open all faucets and clear the lines. Close faucets.
* To fill the fresh water tank from the city water supplym open the water tank fill cap and vent to eliminate excess pressure buildup. Open the tank fill valve. Be careful when you do this. Monitor the filling of the tank continually. The flow and pressure at some park and city water supplies could damage the tank if left unattended. After filling the tank, close the valve.

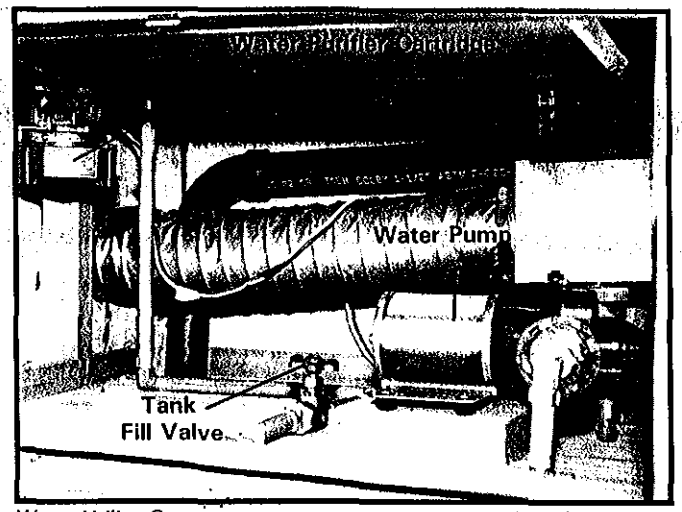
Disconnect the city water as follows:

* Close the park or city water supply valve.
* Remove the hose from the city water supply valve.
* Now, you can either coil & store the hose leaving it connected to the motor home inlet, or disconnect the hose from the inlet, coil & store it, and replace the inlet protective cap. If you are going to store the motor home for a long period of time, it's best to remove the hose and cap the inlet. We'll cover long term storage later.

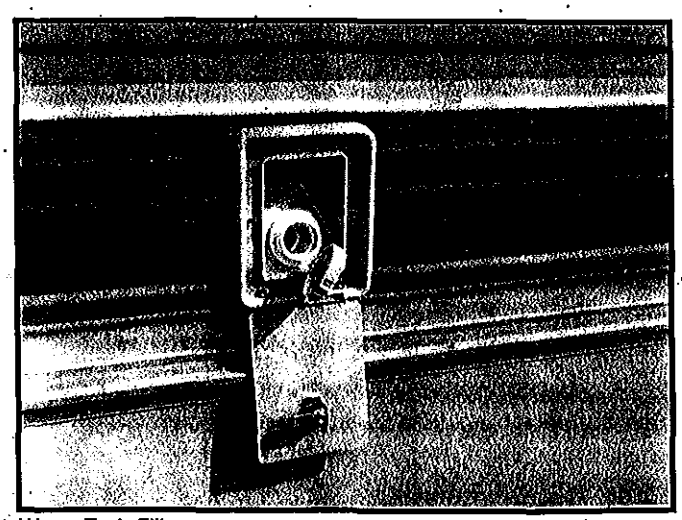
The onboard water storage tank may also be filled through a special filler cap outside the motor home. To fill the fresh water tank, open the spout and fill the tank with the hose. After filling the tank, close the spout.



Water & Electrical



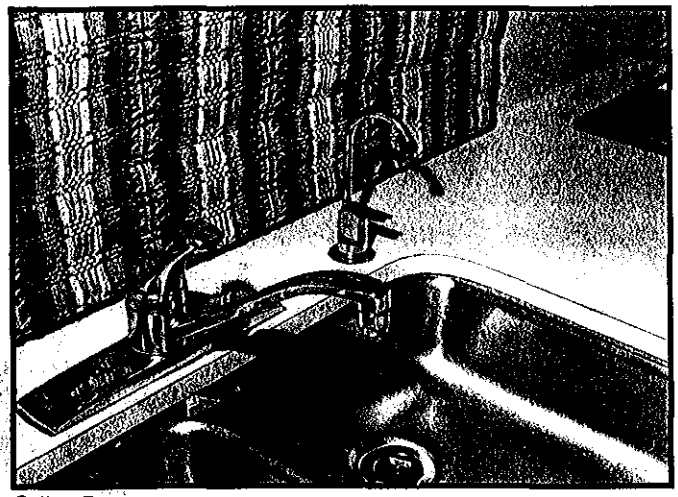
Water Utility Compartment


Water Tank Fill

Avoid leaving water in the tank when the motor home is not in use. Turn the water pump OFF before draining the water tank. Whenever possible, drain the fresh water tank before traveling. Water in the tank will reduce the carrying capacity of the motor home. See "WEIGHING AND LOADING" section.

Water Purifier System

The water purifier system in some Bounder models can help provide consistent drinking water quality as you travel. A special filter is part of this system. The filter cartridge is located in the water utility compartment, and is easily replaced. Your Owner's Information Package contains detailed operating and maintenance instructions concerning this system.



Galley Faucets

Please note that the special faucet at the galley is the only outlet for the purified water. Although purified water is not available at the standard galley and lavy outlets, the water available at these outlets is filtered by the water pump filter.

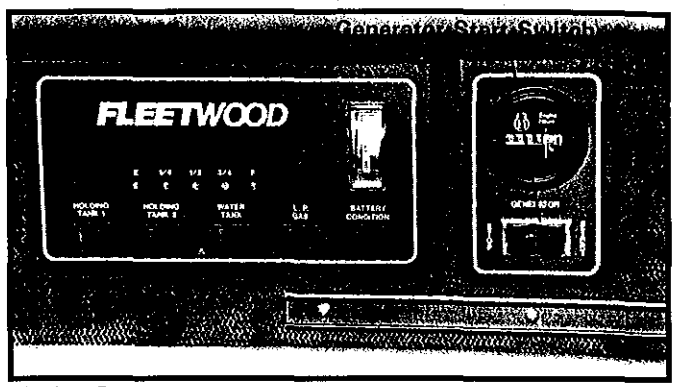
The Water Pump

The onboard fresh water system is pressurized by a self-priming, 12-volt DC pump. The pump operates automatically when the pump power switch is ON and a faucet or valve is opened. When the faucet or valve is closed, the pump shuts off. A built-in check valve prevents back flow and protects the pump and fresh water tank from excessive city water system pressures up to 200 psi. The pump stroke will overcome air trapped in the lines thus preventing air lock. At free flow, the pump draws approximately 7 to 7-½ amps, and can run dry for extended periods without damage. A 10-amp fuse at the converter panel protects the pump circuit. See ELECTRICAL SYSTEM.

Turn the pump ON to pressurize the system. When a faucet is opened after the initial filling of the tank, the water may sputter for a few seconds. This is normal and is not cause for concern. The water flow will become steady when all air is bled from the water lines.

The Monitor Panel

The monitor panel allows you to conveniently check the approximate levels in the fresh water tank and the holding tanks. Electrical probes installed in the tanks measure the levels at various points in the tanks. To check tank levels:



Monitor Panel

* Press "WATER" or "HOLDING TANK 1" or "2" rocker switches. HOLDING TANK 1 is the black water (toilet waste) tank, and HOLDING TANK 2 is gray water (sink and shower wastes).
* The "E" or empty indicator light will always be lit. If the tank is full, all lights will be on. Lights are sequential, and indicate level in approximately ¼ tank increments. If the tank selected is approximately ½-full, for example, lights "E", "¼", and "½" will be on.
* Erroneous indications can be caused by:
  a. Water with low mineral content. Level is measured by a very low level electrical signal traveling through the liquid. Some water, very low in mineral content used in the fresh water tank, may not conduct the signal properly. This condition may be infrequent, but can exist. Check the panel reading when the fresh water tank is filled.
  b. Material trapped on the sides of the holding tanks may give a full reading when the tank is actually empty.

Sanitizing The Fresh Water System

Sanitize the fresh water tank and piping at least once a year, and whenever the motor home sits for a prolonged period. This will help keep the tank and lines fresh, and will discourage the growth of bacteria and other organisms that can contaminate the water supply. Use a chlorine/fresh water rinse as follows:

1. Prepare a solution of ¼-cup household liquid chlorine bleach (5% sodium hypochlorite) to one

gallon of water for each 15 gallons of tank capacity.

2. Close drain valves and faucets, pour chlorine solution into the fresh water tank filler spout, and complete filling with fresh water.
3. Turn water pump switch ON. (Be sure you have 12-volt DC power.) Open all faucets individually until water flows steadily, then turn off. This will purge any air from the lines.
4. Top off water tank with fresh water and wait three hours.
5. Drain the entire system by opening all fresh water tank valves, faucets, and plumbing line drain valves.
6. Flush the system with drinking quality water. Let the fresh water flow through the system for several minutes to flush out the chlorine solution.
7. After you stop the flushing, close the tank valve, the faucets, and drain valves. You can now fill the tank with fresh water, and the system is ready to use.

Troubleshooting The Fresh Water System

Water system problems usually fall into two categories: inherent system problems, and problems caused by neglect. System problems are usually the result of road vibration, and campsite water pressure variations. Problems of neglect usually stem from failure to clean filters, improper winterization, and poor battery maintenance. Most water system problems can be avoided by conscientious maintenance.

Leaks

Vibration, flexing and twisting while traveling can work pipe fittings loose. Check all plumbing for leaks at least once a year. If the water pump runs when a faucet is not open, suspect a leak. Be sure the tank drain valves are tightly closed. Leaks occur most often around threaded fittings. If necessary, tighten or clean and tighten the fittings. Do not overtighten fittings. Connections at galley and lavy fixtures should not be tightened with a wrench. They will normally seal with hand-tightening. If a leak persists at one of the fittings, disconnect it completely and check for mineral deposits or other foreign matter at the seating surfaces. Clean the surfaces thoroughly and reinstall the fitting.

Connections at the water tank, pump and valves are made with special clamps. If these need replacing, your RV supply dealer should be able to get them for you.

Leaks caused by freezing damage can be prevented by proper winterization of the system. See WINTERIZATION section of this manual. Freezing damage is usually extensive and may include a burst water tank, split piping, and a damaged water pump, toilet, and water heater. If you experience this type of damage, repairs can best be made by an authorized Fleetwood RV Service Center.

Clogged Water Filter

Dirt, mineral scale, or organic matter are filtered out of the fresh water system by an in-line water filter on the inlet side of the water pump. If you suspect a clogged filter, it is easily removed and replaced.

* Loosen the clamps at the inlet and outlet ends of the filter.
* Pull the lines off the filter. Remove the old filter.
* Install the new filter and tighten the clamps securely.
* Operate the water pump and check for leaks.

Excessive Water Pressure

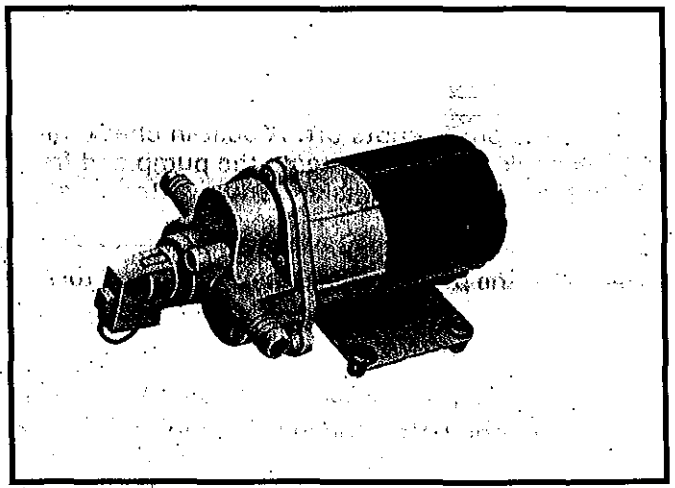
Some campground water systems may operate at pressures that can damage the water system in your motor home or cause water pump failure. Your RV supply dealer can advise you on the best choice regarding water pressure regulators.

Water Pump Troubleshooting

The water pump in your motor home is a durable device that will operate for years with little attention. Most water pump problems can be solved by a common-sense approach. The following is a discussion of possible trouble spots and what to do.

Pump motor does not operate

* Your motor home has two water pump switches—one MASTER switch and one in the pressure sensing assembly on the pump head. Be sure the "WATER PUMP" master switch is open. Even though the pump operates automatically when a faucet is opened, the pump master switch has to be on for that to happen.
* Check battery condition if the 12V converter is not operating. If the battey is discharged, the pump won't run.



Water Pump

* Check the fuse. The water pump fuse is located on the electrical converter panel. If it is blown, there is a reason for it. Check the pump wiring for shorts. Do not replace the pump fuse with a fuse rated for more than 10 amps.
* Check for disconnected or corroded wires or terminals. Clean and reconnect if necessary.
* In cold weather, check for pump freeze up. If water is frozen in the pump, thaw it by placing a lighted bulb near the pump head. **DO NOT USE A TORCH OR OTHER OPEN FLAME.**

Pump motor runs but no water flows

* Be sure there is water in the fresh water tank. Check level at the monitor panel. See MONITOR PANEL.
* Check inlet and outlet hoses and fittings. Look for kinked or collapsed hoses, or loose clamps that could be letting air into the system. Avoid storing anything in the water pump area. A heavy item could flatten a hose or damage the inlet or outlet hoses and fittings.

Pump runs but water sputters

* This is normal after an initial filling of the fresh water tank and lines. It should stop after a few seconds.
* If sputtering continues, the water rank may be almost empty. Add water if necessary.
* If sputtering continues, check for air leaks in the inlet side of the pump.

Pump cycles on and off when all faucets are closed

* Check for leaks in the water lines.
* Be sure tank drain valves are tightly closed.
* The pump may have an internal leak. Refer pump repairs to an authorized Fleetwood RV Service Center.

Pump does not shut off

* Water tank may be empty.
* Check battery condition. A low battery will allow the pump to run but not develop enough pressure to shut off.
* The pump switch mechanism may be stuck. Gently tap the switch cap on the end of the pump with a screwdriver handle.
* If the switch mechanism needs replacing, refer repairs to an authorized Fleetwood RV Service Center.

Pump head leaks

* Tighten screws in the pump head assembly. DO NOT OVERTIGHTEN.
* The head may be cracked. This can be caused by stress failure, but is more likely caused by water freezing in the pump head. Refer repairs to an authorized Fleetwood RV Service Center.

Pump does not prime

* Water tank may be empty.
* Filter may be clogged.
* Inlet hoses may be kinked or collapsed.
* Failure to prime may be caused by internal pump valve failure or foreign material lodged in a valve seat. These conditions require pump disassembly. Refer these repairs to an authorized Fleetwood RV Service Center.

THE WASTE WATER SYSTEM

The waste water system in your motor home is made up of sinks, tub, shower, toilet, plumbing drain and vent lines, a "gray water" holding tank and a "black water" holding tank. The holding tanks make the system completely self-contained and allow you to dispose of waste water at your convenience. A flexible sewer hose is required to connect the holding tank outlet to the inlet of an approved waste water dump station or sewer system.

The drain plumbing is very similar to that used in your home. The system is trapped and vented to prevent waste gases from backing up into the motor home. The drain plumbing is made of ABS plastic, and is durable and resistant to most chemicals. All drain plumbing except the toilet connection terminates in the gray water holding tank. The toilet is mounted on the black water tank and flushes directly into it.

Toilet

Your motor home is equipped with a marine-type toilet.

To operate the Aqua Magic IV:

* To flush, pull the black lever located on the right side of the toilet forward until rinse clears the bowl, then release the lever slowly.
* The water fill lever (white lever) can be operated independently of the flush to adjust the level of water in the bowl.

To operate the SL model;

* Depress the small pedal to add water to the bowl to desired level. Release pedal slowly.
* To flush, depress large pedal until rinse clears the bowl. Release pedal slowly.

If your motor home is equipped with a toilet other than these models, please follow the operating instructions found in your Owner's Information Package.

Toilet Maintenance

The toilet does not require any routine maintenance. Clean the unit with a high grade, non-abrasive cleaner. DO NOT use highly concentrated or high acid

household or toilet bowl cleaners. These products can damage the finish and valve components in the flush seal.

The Aqua Magic IV has a removable seat to facilitate cleaning. To remove seat:

* Open both seat and cover.
* Grasp assembly on both sides and pull up and away from you at approximately 45°.
* To reinstall, place legs of assembly in rear slots of cover until you feel the engagement.

Toilet Troubleshooting

Water keeps running into the bowl

* On SL models, clean out foreign material in the groove where the valve blade seats in the bottom of the bowl. Use a bent coathanger, or screwdriver to scrape the groove. Do not damage the blade seal.
* On Aqua Magic IV models, be sure the levers return all the way. If they don't, there may be foreign matter on the waste blade valve or seal in the bottom of the bowl.

Toilet leaks, water on floor

* Check water inlet connection. Tighten, or clean and tighten if necessary.
* Refer other toilet leaking conditions to an authorized Fleetwood RV Service Center.

Foot pedal hard to operate or blade sticks (SL models only)

* Spray light film of silicone on blade.

Poor Flush

* The levers (AM IV) or pedal (SL) must be held fully open during the flush. Two to three seconds is required for a good flush.
* Be sure there is enough water in the bowl to carry waste into the holding tank.

Dumping The Holding Tanks

The holding tanks terminate in a valve arrangement that permits dumping each tank separately or together. The valves are called "knife valves". A blade closes the opening in the sewer drain pipes. The blade is connected to a T-handle that is pulled to release the contents of the tank(s). During self-containment use, the sewer line is securely capped to prevent leakage of waste material onto the ground or pavement. DO NOT PULL THE HOLDING TANK KNIFE VALVE OPEN WHEN THE PROTECTIVE CAP IS INSTALLED ON THE PIPE. Always ensure that the tank is evacuated into an acceptable sewer inlet or dump station.

WARNING: HOLDING TANKS ARE ENCLOSED SEWER SYSTEMS AND AS SUCH MUST BE DRAINED INTO AN APPROVED DUMP STATION. BOTH TOILET AND GRAY WATER HOLDING TANKS MUST BE DRAINED AND THOROUGHLY RINSED REGULARLY TO PREVENT ACCUMULATION OF HARMFUL OR TOXIC MATERIALS.

Whenever possible, dump the holding tanks before traveling. Waste water and sewage in the holding tanks reduce the carrying capacity of the motor home. See "WEIGHING AND LOADING" section.

Dump the holding tanks only when they are at least 3/4 full. If necessary, fill the tanks with water to 3/4 full. This provides sufficient water to ensure complete flushing of waste material into the sewer line.

The holding tank drain valve outlet is set up to be used with a removable termination fitting that locks onto the outlet with a clockwise twist. The sewer drain hose is clamped to this fitting, and is always ready when you need to drain the holding tanks. When you are operating self-contained, or you store the motor home, a protective cap is installed in place of the termination fitting. Your dealer may have delivered the motor home to you with the sewer hose already connected to the termination fitting.

The hose is compressed and stored in the "Sewer Hose" compartment (You can store a backup sewer hose in the rear bumper—a good idea on a long trip). When you want to drain the holding tanks:

* Open the compartment, extend the hose, and insert the end of the hose into the sewer or dump station inlet, pushing it firmly far enough into the opening to be secure. In some cases, adapters may be necessary between the line and the inlet. Arrange the sewer hose so it slopes evenly.
* Dump the black water holding tank first. Unlatch the black water knife valve (the large one) by removing the wire clip or unscrewing the lock nut. Grasp the handle firmly and slide the valve open with a quick, steady pull.
* Allow enough time for the tank to drain completely. Rinse and flush the tank through the toilet. When the tank is empty, push the handle in to close the valve. Reset the locking device. Even if you are parked at a site with a semi-permanent sewer hookup, keep the black water knife valve closed to allow the waste to build up. The outlet will probably clog if you leave the knife valve open continually. Run enough water into the tank to cover the bottom. This will aid the break up of solid wastes.
* To dump the gray water tank, repeat the steps above for the small knife valve. This tank is dumped last to aid in flushing the outlets and hose. The gray water knife valve may be left open in a semi-permanent hookup.
* Remove the sewer hose and replace the cap.
* Rinse out the sewer hose with fresh water and remove the sewer hose from the dump station.
* Replace sewer or dump station covers.
* Recompress the sewer hose into its compartment, close the compartment door.

PLEASE. . . PRACTICE GOOD HOUSEKEEPING WHEN DRAINING WASTES AT A CAMPSITE OR DISPOSAL STATION. LEAVE THE SITE IN GOOD ORDER. ABOVE ALL, DO NOT POLLUTE.

Holding Tank Care and Maintenance

Since holding tanks don't rely on any sophisticated mechanical devices for their operation, they are virtually trouble-free. The most common problem is also an unpleasant one—clogging. You can minimize the chances of clogging by keeping the following considerations in mind;

* Keep the black water tank knife valve closed. Fill tank to at least ¾ full before dumping. Be sure to cover the tank bottom with water after dumping.
* Use only toilet tissue formulated for use in septic tank or RV sanitation systems.
* Keep both knife valves closed and locked, and the drain cap tightly in place when using the system on the road.
* Use only cleaners that are approved for use in septic tank or RV sanitation systems.
* Use a special holding tank deodorant chemical approved for septic tank systems in the black water holding tank. These chemicals aid the breakdown or solid wastes, and make the system much more pleasant to use.
* Do not put facial tissue, paper, ethylene glycol-based or other automotive antifreeze, sanitary napkins, or household toilet cleaners in the holding tanks.
* Do not put anything solid in either tank that could scratch or puncture the tank.

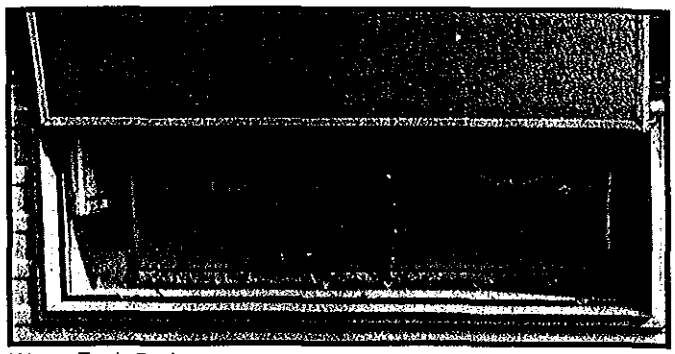
If the drain system does get clogged:

* Use a hand-operated probe to loosen stubborn accumulations. Seriously clogged P-traps may require disassembly. Be careful not to overtighten when reassembling.
* Do not use harsh household drain cleaners.
* Do not use motorized drain augers.
* Sometimes the holding tank valve will get clogged. In this case, a hand-operated auger may be necessary. Be ready to close the valve quickly once the clog is cleared. If the seal gets damaged, it is easily replaced.

WATER SYSTEM WINTERIZING

If the motor home is to be stored unheated in temperatures below freezing, the fresh water and waste systems should be winterized. The following guidelines will familiarize you with the items that need attention. A detailed storage procedure is outlined in the **"PREPARING THE MOTOR HOME FOR LONG TERM STORAGE"** section.

* Drain the fresh water tank by opening the water tank drain valve.
* Turn water pump on (12-volt DC power on.) Open a cold water faucet. When the flow of water stops, turn the pump off.



Water Tank Drain

* Open all hot and cold water faucets. Open the drain valves on HOT and COLD water pipes. These valves are located in the water utility compartment and drain out the bottom of the motor home.
* Drain the water heater by opening the drain valve at the bottom of the heater and open the safety valve. Open the hot water faucets.
* Depress the flush pedal or pull the flush levers on the toilet. When each faucet has been opened, drained, and closed, close the water line drain valves.
* Drain the waste water system by following the normal procedure for draining the holding tanks.
* Install all protective caps:
    * Water tank fill
    * City water inlet
    * Waste tank drain outlet

CAUTION: DRAINING THE WATER SYSTEM ALONE WILL NOT PROVIDE ADEQUATE COLD WEATHER PROTECTION. IF THE MOTOR HOME IS TO BE UNHEATED DURING FREEZING TEMPERATURES, CONSULT YOUR DEALER FOR THE BEST WINTERIZING PROCEDURE FOR YOUR CLIMATE. YOUR DEALER CAN WINTERIZE YOUR MOTOR HOME FOR YOU OR CAN SUPPLY YOU WITH ONE OF THE SPECIAL ANTIFREEZES WHICH ARE SAFE AND APPROVED FOR USE IN RV WATER SYSTEMS. FOLLOW THE INSTRUCTIONS FURNISHED WITH THE ANTIFREEZE.

WARNING: DO NOT USE AUTOMOTIVE OR WINDSHIELD WASHER ANTIFREEZE IN THE MOTOR HOME WATER SYSTEM. THESE COULD BE HARMFUL IF SWALLOWED.

If the motor home is to be stored during freezing temperatures, see **"PREPARING THE MOTOR HOME FOR LONG TERM STORAGE"** section of this manual.

ELECTRICAL SYSTEM

The electrical systems in your motor home are designed and built in accordance with all regulations, codes, and standards in effect at the time the motor home was built.

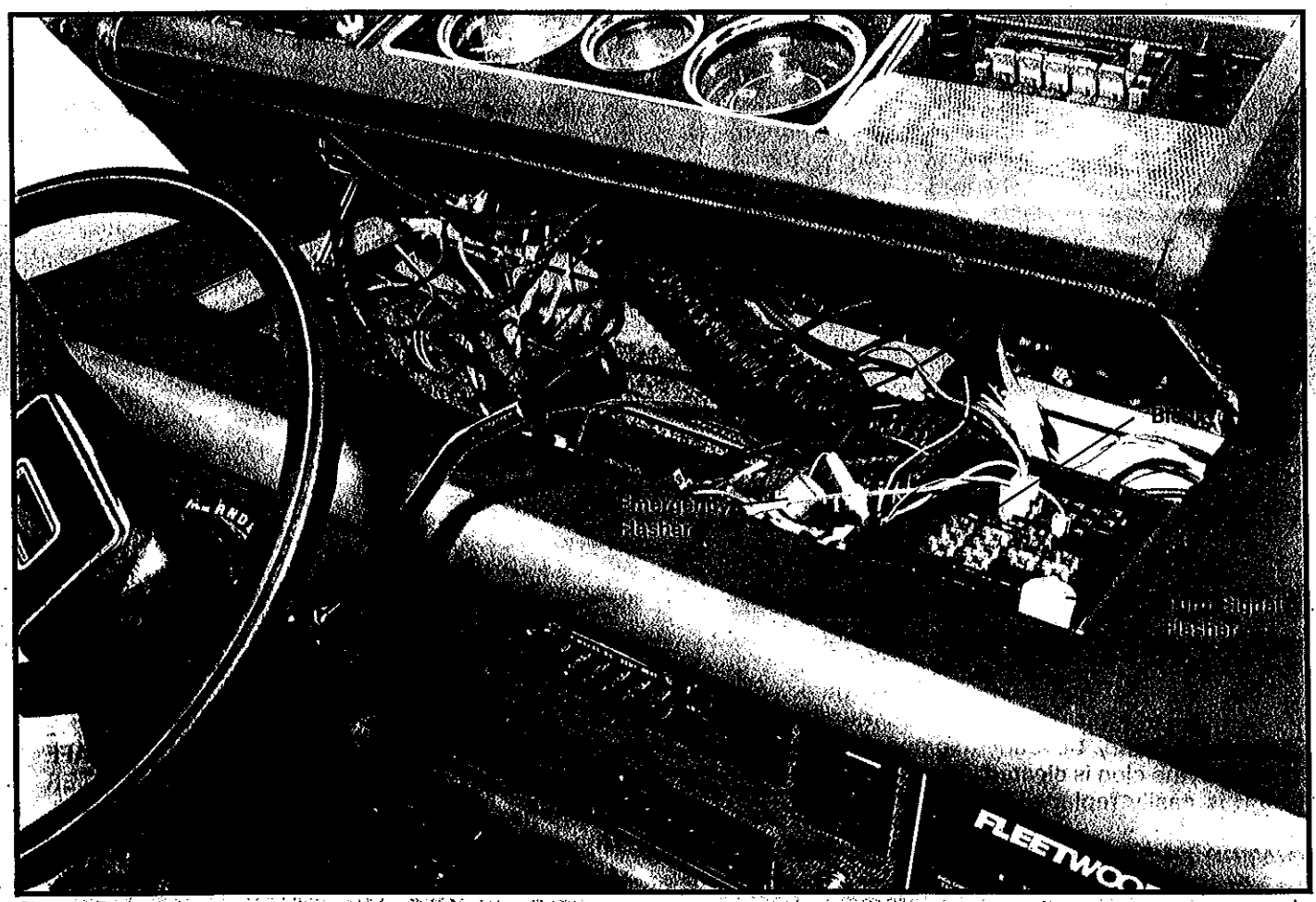
CHASSIS ELECTRICAL SYSTEM

This is the vehicle electrical system. It includes the vehicle battery, charging system, ignition system, cockpit controls and instruments, cockpit heater/air conditioner, and the headlights, taillights, turn signals, and other vehicle lights and accessories.

Chassis Bulbs & Fuses

The following chart lists the chassis/exterior bulbs and replacement types:

BULB	TYPE
Headlight	
Upper	2A1 Sealed beam
Lower	1A1 Sealed beam
Parking light/turn signal	2057
Tail/stop/turn signal	1207
Backup light	1141
Clearance light (all)	1895
Storage compartment light	1141
Entry door light	1141
Patio light	1003



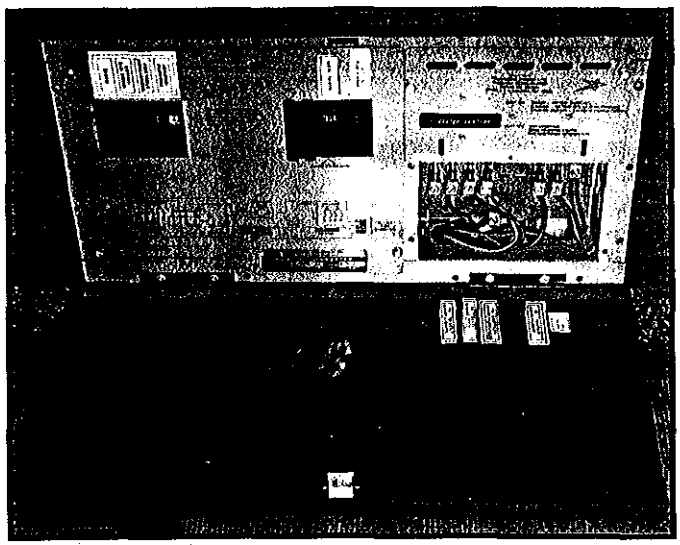
Chassis Fuses

Fuses for the chassis electrical system are located under the cockpit instrument panel. Note that some fuses are located in the fuse block to the right. Others may be found in the 12-volt power leads of the related equipment and accessories.

12-volt Coach System

All 12-volt lighting fixtures and convenience outlets, 12-volt powered vents, fans, motors, and 12-volt accessories are included in this system. The fresh water pump and any 12-volt entertainment equipment are

connected to this system. The 12-volt power source is a special deep-cycle 12-volt lead-acid storage battery located behind the front bumper. Twelve volt power is also provided by an AC/DC converter. The battery's charge is maintained by the motor home engine alternator, or by the charging circuit included in the converter.



Converter

The converter is the nerve center of the 12-volt DC (as well as the 120-volt AC system.) Fuses for the 12-volt DC circuits are located at the converter panel. These fuses are glass, automotive type and should always be replaced with the same type and amperage rating.

WARNING: DO NOT INSTALL 12-VOLT FUSES WITH AMPERAGE RATINGS GREATER THAN THAT SPECIFIED ON FUSEBOX.

Auxiliary Battery

The auxiliary battery is the primary source for normal living-area needs. Sensing and switching circuits permit the vehicle alternator to charge all batteries as required and prevent the living area 12-volt requirements from depleting the vehicle battery. The auxiliary battery used in your motor home is designed especially for RV use. It is a "deep-cycle" type that can tolerate the wide fluctuations in charge conditions encountered in recreational living.

NOTE: All living area radios and tape decks draw from the auxiliary battery, and extended usage may discharge it.

Battery condition can be checked on the Monitor Panel. To check the battery charge:

1. Unplug the 120-volt AC power cord to turn the power converter off.
2. Press "BATTERY" rocker switch on the panel.
3. Turn on a light or any 12-volt appliance. The battery must be checked with a load.
4. Read battery condition on the meter. Red is poor, yellow is fair, and green is good.

Battery Inspection and Care

WARNING: DISCONNECT THE 120-VOLT ELECTRIC CORD AND THE POSITIVE TERMINAL FROM THE MOTOR HOME BATTERY BEFORE WORKING ON EITHER ELECTRICAL SYSTEM.

WARNING: REMOVE RINGS, METAL WATCHBANDS, AND OTHER METAL JEWELRY BEFORE WORKING AROUND A BATTERY. USE CAUTION WHEN USING METAL TOOLS. IF THE TOOL CONTACTS THE POSITIVE BATTERY TERMINAL OR METAL CONNECTED TO IT, A SHORT CIRCUIT COULD OCCUR WHICH COULD CAUSE PERSONAL INJURY OR FIRE.

WARNING: DO NOT ALLOW BATTERY ELECTROLYTE TO CONTACT SKIN, EYES, FABRICS, OR PAINTED SURFACES. THE ELECTROLYTE IS A SULFURIC ACID SOLUTION WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. WEAR EYE PROTECTION WHEN WORKING WITH BATTERIES.

Check the external condition of the battery periodically. Look for cracks in the cover and case. Check the vent plugs. Replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current to flow between the terminals and discharge the battery. To clean the battery, wash it with a diluted solution of baking soda and water to neutralize any acid present, then flush with clean water. Acid foaming around terminals or on top of the battery is normal acid neutralization. Avoid getting the soda solution in the battery. Be sure the vent caps are tight. Dry the cables and terminals. Don't use grease on the bare metal inside the cable terminals to prevent corrosion. Grease is an insulator. Electricity will not flow through it. A plastic ignition spray will protect the terminals after you have cleaned and reinstalled them.

To prevent the battery from shaking in its carrier, be sure the hold-down strap is properly installed. Check it often. Keep the carrier and cover clean and free of corrosion and chemical accumulation.

If you ever have to remove the auxiliary battery, remember that it is removed from under the front of the motor home. The battery is very heavy. Before you loosen or remove the battery carrier bracket bolts, support the battery carrier tray with a floor jack.

Battery Charging

Normally the battery will be kept charged by either the motor home charging system while on the road, or by the AC/DC power converter when plugged into AC service. On those occasions when the battery needs to be charged from a different charging source, please follow these safety guidelines:

WARNING: NEVER EXPOSE THE BATTERY TO OPEN FLAME OR ELECTRIC SPARK. CHEMICAL ACTION IN THE BATTERY GENERATES HYDROGEN GAS WHICH IS FLAMMABLE AND EXPLOSIVE. DO NOT ALLOW BATTERY ELECTROLYTE TO CON-

TACT SKIN, EYES, FABRICS, OR PAINTED SURFACES. THE ELECTROLYTE IS A SULFURIC ACID SOLUTION WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. WEAR EYE PROTECTION WHEN WORKING WITH BATTERIES.

* Do not smoke near batteries being charged or which have been recently charged. Please note that batteries are being charged while you drive, and while you are connected to 110-volt AC power through the converter/charger circuit.
* Do not break live circuits at the terminals of the battery. Use care when connecting or disconnecting booster leads or cables on fast chargers. Poor connections are a common cause of electrical arcs which can cause explosions.
* Check and adjust the electrolyte level before charging. Fill each cell to the indicator with distilled water.
* Do not charge the battery at a rate that causes the electrolyte to spew out the vent caps. Always remove vent caps before charging the battery.

Selecting a Replacement Battery

When the battery requires replacement, always choose a battery with the same physical and electrical characteristics as the original equipment. In all cases, do not use a regular automotive battery for replacment. Your dealer or an authorized Fleetwood Service Center can advise you on proper battery selection.

120-Volt AC System

This system provides grounded electrical service for appliances such as air conditioners, TV, microwave ovens, etc. The 120-volt system also provides a power source for the converter. Your motor home is equipped with a heavy duty power cord to connect to an external 120-volt, 30 amp AC service. The cord and connector are molded together to form a weather proof cable assembly. Do not cut or alter the cable in any way. Do not remove the ground pin in the cable connector, or defeat the ground circuit in the motor home. If you have to use adapters to plug into an electrical service, be sure the ground is maintained.

WARNING: DO NOT OPERATE THE 120-VOLT ELECTRICAL SYSTEM WITHOUT A PROPER GROUND.

The Power Converter

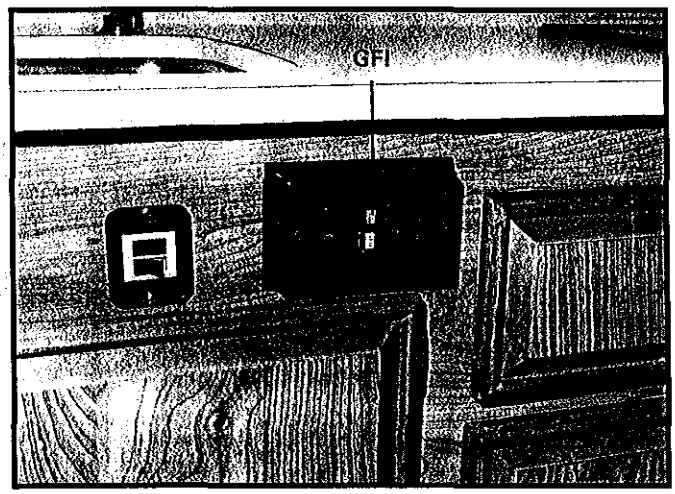
The converter will supply 12-volt requirements when your motor home is operating on 120-volts AC. Thus you will not have to worry about running the battery down. When you are plugged into 120-volt AC service, the converter automatically switches the load from the battery to the converter. The onboard battery will gradually be brought up to a full charge and maintained by the battery charger as long as 120-volt power is available.

Maximum battery charge rate is rated at 10 amps. Note that because the converter uses a special sensing circuit connected to the battery which draws a very small amount of current, the battery may become discharged if the motor home is not used for an extended period of time, or if the converter is not connected to a 120-volt AC source. Some accessories or equipment such as clocks, radios, or the refrigerator may draw small amounts of current even when turned "OFF". The following chart specifies current draw for these devices.

	Temporary Storage	Turned Off
Radio memory (electronic tuning)	.25	.25
LP leak detector	.80	0.
Dometic AES refrigerator	1.0	0.
Water heater (auto ignition)	3.0	0.
Power step	.75	0.
Total current draw in amps	5.8	.25

If the motor home is to be unused for longer than 10 days, disconnect the battery.

If the power converter malfunctions or requires service, refer repairs to an authorized Fleetwood Service Center.



GFI

Ground Fault Interrupter

Bathroom, galley, and patio outlets are protected by a Ground Fault Interrupter (GFI). This device is provided in compliance with ANSI A119.2/NFPA 501C requirements, and is intended to protect you against electrical leakage shock possible when using electrical appliances in the bathroom or damp areas. The materials used to insulate these appliances and devices can deteriorate over time or develop cracks or weak spots that could allow electric current to "leak" through the insulation. Should a circuit or appliance (electric shaver, hair dryer, etc.) develop a potential shock hazard of this type, the GFI device will disconnect the outlet, protecting you from injurious shock caused by leakage to ground.

Your Owner's Information Package contains instructional material about the GFI. Please read this information. Test procedures are outlined there that must be followed and documented.

NOTE: If the patio outlet doesn't work, check the GFI. Reset it if necessary. If the GFI continues to trip, have the electrical system checked at an authorized Fleetwood Service Center.

ENTERTAINMENT EQUIPMENT

Instructional material for the optional entertainment system is included in your Owner's Information Package.

If additional entertainment equipment requiring 12-volt DC power is installed in the motor home, obtain the 12-volt DC source from the Fused Battery Circuit at the power converter. If you install entertain-ment equipment requiring 12-volts DC, be sure to install a choke filter with an amperage rating matched to the current requirements of the equipment.

TV ANTENNA

The roof-mounted antenna is designed for reception of VHF and UHF television signals.

Operating and maintenance instructions are included in your Owner's Information Package.

When getting ready to travel, remember to lower the antenna and secure it to prevent damage to the antenna, motor home roof, or objects in the path of the antenna, such as overhead wires. DO NOT TRAVEL WITH THE ANTENNA RAISED.

NOTE: The antenna booster power supply must be turned off to prevent battery drain. A red indicator light will glow when the unit is on.

TV "GHOSTS" AND FM "FLUTTER"

The television and radio systems in your motor home have been chosen to provide good performance under many varied signal conditions. Occasionally, though, you may experience "ghosts" on TV, or "flutter" when listening to FM broadcasts. In many cases, multipaht distortion is responsible for these phenomena.

Both television and FM signals are broadcast at very high frequencies — from 50 million cycles per second up to the microwave region. These signals are easily reflected by buildings, hills, towers, aircraft, and even other vehicles. Consequently, at any location, a TV or FM signal could be occurring at your antenna from not only the broadcast tower, but also via several different reflected paths. In some cases, a reflected signal could be an advantage — you may be situated in the shadow of a hill or mountain and the only signal you can receive is a reflected one.

Television and FM signals are exceedingly complex. When mixed with reflections of themsleves, their complexity increases even more. Phase cancellations and beat-frequency components add up to cause the interference associated with mutipath distortion. This type of distortion is compounded by the fact that your vehicle may be moving, causing an infinite series of direct and reflected signals. The fault is normally not with your receiver, although receivers with inadequate multipath compensation circuitry may compound the problem. Neither is your antenna system usually at fault. The idea that antennas, whether amplified or unamplified, "pull in" a signal is a popular misconception. An antenna does not pull a signal out of the air by virtue of its "power". The antenna only responds to signals present at the antenna elements. A good antenna design can improve the rejection of multipath signals, though.

Since distance from the broadcast tower is critical to reception clarity, remember that TV and FM signals have a range of only about 75 miles under the best of atmospheric and geographic conditions. The good reception you get at parks located at great distances from broadcast facilities is probably the result of satellite, microwave or other cable distribution systems. The antenna on your RV is no competition for these very expensive installations. The very best RV antenna systems compromise performance and efficiency for light weight and compactness. The amplifiers used in these systems attempt to overcome these compromises by presenting a reasonably good signal to the TV or FM radio terminals. But these antennas have a usable range of only about 50 miles under the best of conditions. Beyond that distance, or in marginal conditions, antenna performance falls off rapidly. In that case, the amplifier only amplifies the noise, or "snow" being picked up by the antenna elements.

Minimizing Multipath Distortion and Improving Signal Quality

There is obviously very little that you can do about geography while you travel — except enjoy it. But if multipath distortion becomes a nuisance, try these tips:

* Re-orient the receiving antenna. Sometimes turning the antenna will pick up the stronger of either the direct or reflected signal. Try turning or rotating the antenna throughout its range. You may find your signal in a very unexpected direction.
* With FM stereo signals, switch the unit to MONO, if possible. Some of the phase and noise components of a stereo signal will disappear in MONO mode.
* Reduce the treble setting to reduce background noise. Although not yielding the best high-frequency performance, at least you may be able to reduce the irritation of the distortion.

GENERATOR POWER PLANT

Your motor home may be equipped with a gasoline-powered generator which will provide complete electrical self-containment when regular public utility AC power is unavailable. Controls are at the generator and at a remote control panel located inside the motor home.

The 120-volt output of the generator is connected directly to a receptacle located inside the power cord storage compartment. With the generator power plant operating and the power cord plugged into this receptacle, power is available at all of the 120-volt power outlets in the motor home, just as if the cord were connected to an external source. Gasoline for the generator is taken from the main fuel tank through a special feeder tube which is higher in the tank than the feeder tube to the engine. This arrangement prevents the generator from running the motor home fuel tank dry.

NOTE: Refer to your Generator Power Plant Manufacturer's Instruction Manual (provided in your Owner's Information Package) for service information before starting the generator. Do not start unit with a heavy power load. Always wait at least three minutes after starting generator before turning on (or plugging in) heavy electrical loads, such as the roof air conditioner.

Generator Start/Stop/Hour Meter

To start the generator, hold the switch in the START position until the unit starts, then release the switch. If the unit is slow to start, DO NOT hold the switch in the START position for more than 10 seconds. Release the switch, wait 15 seconds, then repeat. This will help avoid overheating and damaging the generator starting system. If this system fails to start the generator, manual starting instructions are discussed in the generator power plant manufacturer's instructions. To stop the unit, hold switch to the STOP position until the engine stops. Be sure to hold it until the engine stops. If you release the switch too soon, the engine will continue to run.

Generator Operating Safety Precautions

* Read and understand the generator operating, maintenance and safety instructions furnished in your Owner's Information Package.
* Do not smoke or use an open flame near the generator unit or fuel tank.

WARNING: DO NOT BLOCK THE GENERATOR VENTILATING AIR INLETS OR OUTLETS. THE AIR-COOLED ENGINE REQUIRES A CONSTANT SUPPLY OF COOLING AIR. RESTRICTED VENTILATING AIR INLETS OR OUTLETS CAN CAUSE ENGINE FAILURE OR FIRE FROM ENGINE OVERHEATING.

* Do not use generator ventilating air for heating any interior living space. Ventilating air can contain high concentrations of lethal gases.

WARNING: DO NOT PLACE FLAMMABLE MATERIAL OR STORE ANY OTHER MATERIALS IN THE GENERATOR COMPARTMENT.

* Check engine fuel lines often. Fuel leakage in or around the compartment is an extreme fire hazard. Do not use the generator until fuel leaks are repaired.

WARNING: EXHAUST GASES ARE DEADLY. INSPECT THE GENERATOR EXHAUST SYSTEM THOROUGHLY BEFORE STARTING THE GENERATOR ENGINE. DO NOT BLOCK THE TAIL PIPE OR SITUATE THE MOTOR HOME IN A PLACE WHERE THE EXHAUST GASES HAVE ANY POSSIBILITY OF ACCUMULATING EITHER OUTSIDE, UNDERNEATH, OR INSIDE YOUR VEHICLE OR ANY NEARBY VEHICLES. OUTSIDE AIR MOVEMENTS CAN CARRY EXHAUST GASES INSIDE THE VEHICLE THROUGH WINDOWS OR OTHER OPENINGS REMOTE FROM THE GENERATOR EXHAUST. OPERATE THE GENERATOR ONLY WHEN SAFE DISPERSION OF EXHAUST GASES CAN BE ASSURED, AND MONITOR OUTSIDE CONDITIONS TO BE SURE THAT EXHAUST GASES CONTINUE TO BE DISPERSED SAFELY.

* Be aware of exhaust gas (carbon monoxide) poisoning symptoms:

  Inability to think coherently
  Dizziness
  Vomiting
  Intense headache
  Muscular twitching
  Weakness and sleepiness
  Throbbing in temples

* If symptoms indicate the possibility of carbon monoxide poisoning, turn off the generator immediately, get out into fresh air at once, and summon medical assistance.

WARNING: DO NOT UNDER ANY CIRCUMSTANCES OPERATE THE GENERATOR WHILE SLEEPING. YOU WOULD NOT BE ABLE TO MONITOR OUTSIDE CONDITIONS TO ASSURE THAT GENERATOR EXHAUST DOES NOT ENTER THE INTERIOR, AND YOU WOULD NOT BE ALERT TO EXHAUST ODORS OR SYMPTOMS OF CARBON MONOXIDE POISONING.

* Check the generator exhaust system after every 8 hours of operation and whenever the system may have been damaged, and repair any leaks or obstructions before further operation.

WARNING: DO NOT OPERATE THE GENERATOR WHEN PARKED IN OR NEAR HIGH GRASS OR BRUSH. EXHAUST HEAT MAY CAUSE A FIRE.

* Do not modify the generator installation or exhaust system in any way without first consulting both the generator and RV manufacturers.
* Disconnect the generator starting battery before performing any maintenance on the generator.
* Allow the generator to cool sufficiently before performing any maintenance on the generator.
* Do not use the generator as an emergency power source to a general residential or industrial utility line.

NOTES

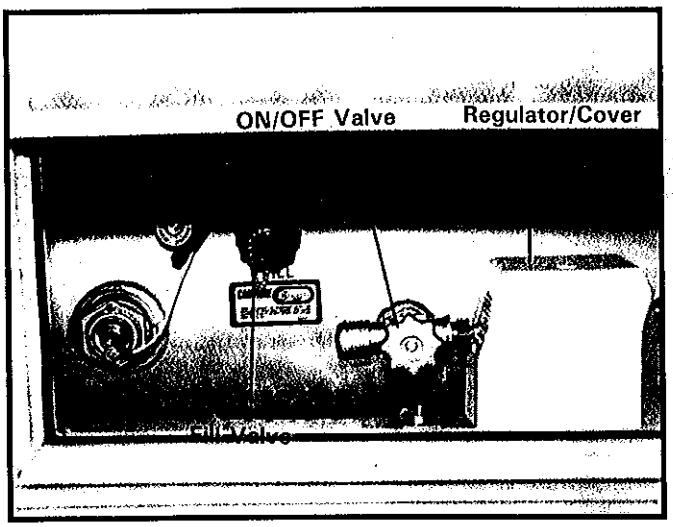
LIQUID PETROLEUM GAS SYSTEM

Liquefied petroleum (LP) gas is provided from an approved storage tank to operate your range, oven, furnace, water heater, and as an alternate energy source for the refrigerator. With proper handling precautions, it is safe and provides modern conveniences wherever you travel. LP gas is stored in a special tank mounted on the motor home chassis. It is stored as a liquid under pressure and vaporizes under the control of a pressure regulator.

WARNING: LP GAS IS FLAMMABLE AND POTENTIALLY EXPLOSIVE. USE PROPER HANDLING, LIGHTING, AND VENTILATING PROCEDURES.

FILLING LP GAS TANKS

To fill the chassis-mounted storage tank, drive the vehicle to an LP gas supplier or one of the service stations which sell LP gas.



LP Tank

WARNING: TURN OFF LP GAS MAIN VALVE BEFORE FILLING LP GAS TANKS OR ENTERING AN LP GAS BULK PLANT OR MOTOR FUEL SERVICE STATION.

LP GAS REGULATOR

The regulator reduces the high pressure of the gas from the tank to a low, even pressure to service the appliances in the motor home. The regulator is protected from freezing road spray and other foreign matter by a water-resistant cover.

WARNING: DO NOT ATTEMPT TO ADJUST THE REGULATOR. IT HAS BEEN PRESET BY THE MANUFACTURER OF THE REGULATOR. IF ANY ADJUSTMENT IS REQUIRED, IT MUST BE MADE BY A QUALIFIED LPG SERVICE TECHNICIAN USING SPECIAL EQUIPMENT.

USING LP GAS SYSTEM AT LOW TEMPERATURES

Your gas system will function at low temperatures, provided the system components are kept at a temperature above the boiling point of the gas. NOTE: Butane vaporizes at about 32°F and propane vaporizes at about -40°F. Choose a type of LP gas which has a boiling point approximately 40°F lower than any temperature you expect to encounter. Ask your LP gas supplier or your motor home dealer for information on products available in your area.

If, despite precaution, the gas flow to your appliances should fail at low temperatures, ice may have built up in the regulator. Try melting the ice by warming the regulator using a small light bulb. **DO NOT USE AN OPEN FLAME.** Once flow is restored, make certain that the regulator cover is properly installed to prevent water from entering the regulator which will cause it to freeze again. If the problem persists, ask your LP gas supplier to service the tank or regulator, removing the moisture or adding an ice-inhibitor as required.

LP GAS SYSTEM LEAK CHECKS

For your safety, check for leaks in your gas system each time the tank is filled or before each trip. Always check the system any time you detect a garlic-like odor. To perform a leak check, open the tank valve and spread a non-ammoniated, non-chlorinated soap solution or an approved leak detection solution only over all connections. Escaping gas will create bubbles showing the location of the leak.

WARNING: NEVER CHECK FOR LEAKS WITH AN OPEN FLAME. DO NOT CHECK COPPER PLUMBING LINES FOR LEAKS USING AMMONIATED HOUSEHOLD TYPE DETERGENTS. THESE CAN CAUSE CRACKS TO FORM ON THE LINE AND BRASS FITTINGS. IF THE LEAK CANNOT BE LOCATED, TAKE THE UNIT TO AN LP GAS SERVICE REPRESENTATIVE.

Keep the tank valve closed and turn off all appliances if the unit is not being used.

WARNING: DO NOT USE PLIERS OR A WRENCH TO TIGHTEN VALVES. IF A VALVE IS NOT LEAK-TIGHT WHEN CLOSED BY HAND, SEE AN LP GAS SERVICE REPRESENTATIVE.

LP Gas Leak Detector

An LP gas detector senses the presence of LP gas and automatically sounds an alarm and turns off the gas flow. You may want to consider this type of device as an accessory add-on.

LIGHTING LP GAS APPLIANCES

Detailed operating information for the LP appliances can be found in your Owner's Information Package. Please read and follow these instructions.

Air trapped in the gas lines may delay the initial lighting of any appliance. To purge some of the air from the gas system, light a burner on the range. The other appliances will then light more quickly.

ALWAYS FOLLOW THE APPLIANCE MANUFACTURER'S LIGHTING AND OPERATING INSTRUCTIONS.

LP GAS SAFETY PRECAUTIONS

WARNING: LP GAS IS FLAMMABLE AND POTENTIALLY EXPLOSIVE. USE PROPER HANDLING, LIGHTING, AND VENTILATION PROCEDURES.

The distinctive odor of LP gas indicates a leak.

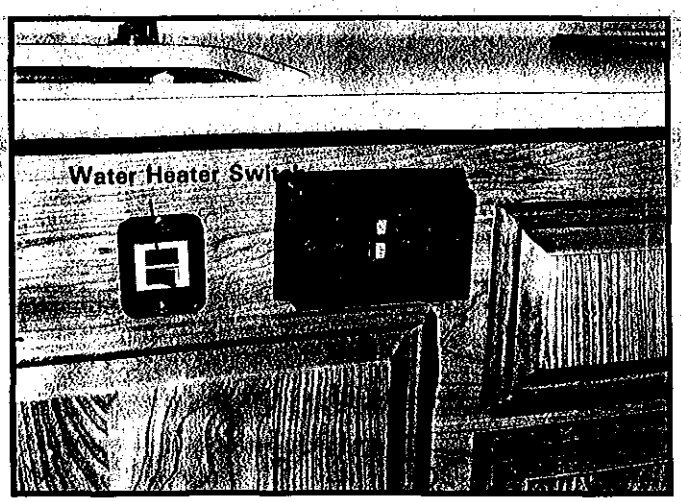
1. IF YOU SMELL GAS:
   - *Extinguish all open flames, pilot lights and all smoking materials.
   - *Do not touch electrical switches.
   - *Shut off the gas supply at the tank valve(s) or gas supply connection.
   - *Open all doors, windows, and vents.
   - *Leave the area until the odor clears.
   - *Have the gas system checked and the cause of the leak corrected before using the system again.
2. Inspect the entire LP gas system for leaks or damaged parts before each trip.
3. Always be careful when drilling holes or fastening objects to the motor home. A gas line could be punctured by a nail or screw.
4. Do not restrict access to LP tanks. In an emergency, the tank service valve must be easily accessible.
5. Do not carry or store filled or empty LP gas containers inside your motor home. LP gas containers are equipped with safety devices that relieve excessive pressure by discharging gas to the atmosphere, and leaks can occur at valves and fittings.
6. Do not use any LP gas tank other than the one furnished with your motor home without being sure that all connecting components are compatible.
7. **WARNING: Turn off LP gas main valve and individually turn off all gas appliances before entering an LP gas bulk plant or motor fuel service station.**
8. **WARNING: DO NOT FILL LP GAS CONTAINERS TO MORE THAN 80% CAPACITY. OVERFILLING CAN RESULT IN UNCONTROLLED GAS FLOW WHICH CAN CAUSE FIRE AND EXPLOSION. A PROPERLY FILLED CONTAINER HOLDS ABOUT 80% OF ITS VOLUME AS LIQUID.**
9. Never check for leaks with an open flame. Use an approved leak detection solution or a non-ammoniated, non-chlorinated soap solution only. If the leak cannot be located, take the unit to an LP gas service representative.
10. LP gas regulators must always be installed with the diaphragm vent facing downward. Make sure that the regulator vent faces downward and that the cover is kept in place to minimize vent blockage which could result in excessive gas pressure causing fire or explosion.

APPLIANCES

The appliances installed in your motor home are tested by independent laboratories and comply with rigid standards established by these organizations. All appliances installed by the manufacturer in your motor home are covered under Fleetwood's Ownercare Warranty program. Each appliance is also warranted by its manufacturer, and a warranty registration card for each appliance is included in your Owner's Information Package. Fill out the designated portions of the cards and mail them to the respective appliance manufacturers. Please consult the manufacturer's instructions for additional detailed information.

WATER HEATER

The water heater operates on LP gas, and is much like the one in your home. It contains an automatic shut off valve which stops the gas supply if the water temperature rises too high. The water heater is reached through an access panel on the outside of the motor home. **CAUTION: DO NOT LIGHT WATER HEATER UNTIL IT IS FILLED WITH WATER.** Turn on the hot water faucet at the galley sink. If water flows continuously, the heater is full. For detailed operating instructions, refer to the manufacturer's instruction manual.



Water Heater Switch

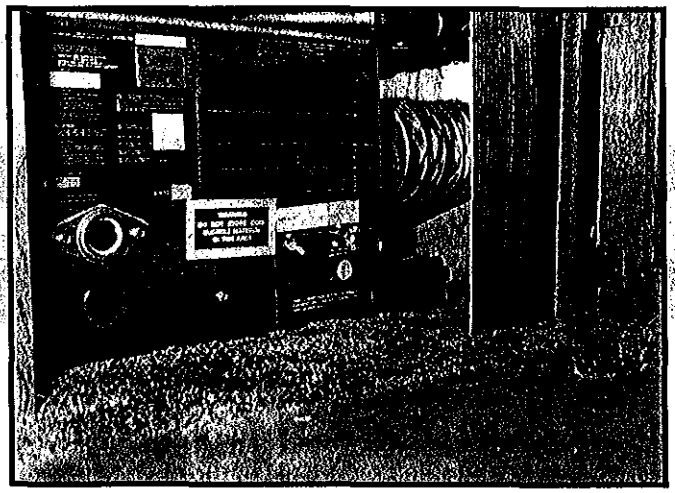
Occasionally you may experience "weeping" of the pressure/temperature relief valve on the water heater. This is not a defect. It is caused by the normal expansion of water while it is being heated in the closed water system of your motor home. The water heater tank is designed internally with an air gap at the top of the tank to reduce this weeping phenomenon. In time, though, the heating and expansion of the water will absorb this air. To replace the air, and reduce relief valve weeping:

* Turn off the water heater.
* Turn off incoming water supply.
* Open a faucet in the motor home.
* Pull the handle of the relief valve straight out and let water flow until it stops.
* Release the relief valve handle and let the valve snap shut.
* Turn on the water supply.
* Close the faucet when water flows continuously without sputtering.
* Turn on the water heater.

FURNACE

The furnace is a forced-air unit fueled by LP gas. All furnaces are equipped with a wall thermostat for individual temperature settings. The operating manual included in your Owner's Information Package contains detailed operating and maintenance instructions.

WARNING: PORTABLE FUEL-BURNING APPLIANCES ARE NOT SAFE FOR HEATING INSIDE THE MOTOR HOME. ASPHYXIATION OR CARBON MONOXIDE POISONING CAN OCCUR.


Furnace

RANGE

The gas oven and burners are operated with LP gas. The basic operation is the same as the range in your home. For additional information, please refer to the operating manual in your Owner's Information Package.

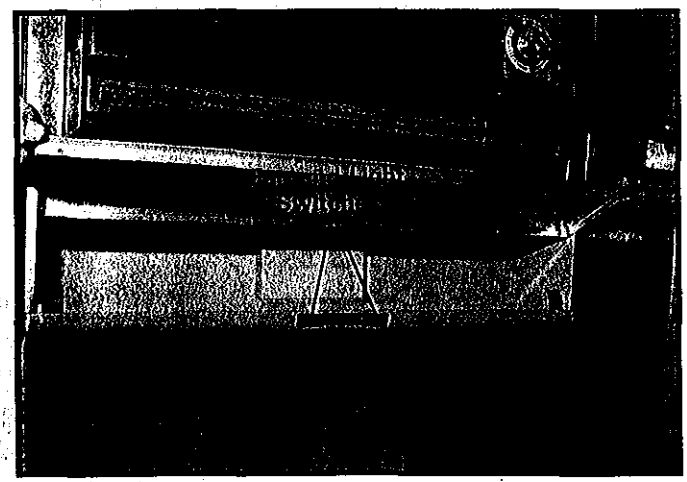
A warning label has been located in the cooking area to remind you to provide an adequate supply of fresh air for combustion. Unlike homes, the amount of oxygen is limited in an RV due to the size and construction of the vehicle. Proper ventilation when using the cooking appliances will prevent the dangers of asphyxiation.

WARNING: DO NOT USE OPEN FLAMES TO WARM THE LIVING AREA. GAS COMBUSTION CONSUMES THE OXYGEN INSIDE THE MOTOR HOME.

RANGE EXHAUST HOOD

The exhaust hood allows vapors and cooking odors to escape, and provides a vent for the galley area. Rocker switches for the fan and light are located on the front of the hood. A spice rack/storage area is located behind the front panel above the switches. The hood has a grease filter screen which requires periodic cleaning. To clean, remove the screen and wash in soapy water. Rinse with water and let the screen drain dry. The fan blades may also be cleaned with soapy water. Replace the cleaned filter in the exhaust hood.

Replace the light bulb with a type 912. To replace the light bulb, remove the filter screen. Pull the bulb straight out from its socket. It does not twist out. Push the new bulb straight in—do not twist. Replace the filter screen.



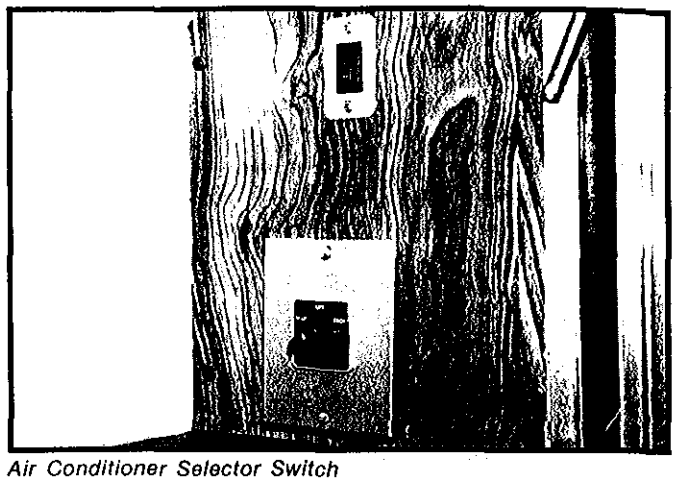
Range Hood

AIR CONDITIONER

The optional roof-mounted air conditioner(s) can operate when the motor home is connected to 120-volt AC power from either a public utility or the generator. Be sure to turn the circuit breaker(s) ON.

A rotary switch selects which air conditioner you can use depending on the power source involved. If the generator is running, either or both air conditioners can be operated together. Turn the rotary switch to position 1 or 2 and turn the A/C unit(s) ON. If you are plugged in to power at a park, one but not both air conditioners can be run. Turn the switch to *either* position 1 or 2 to select the A/C unit.

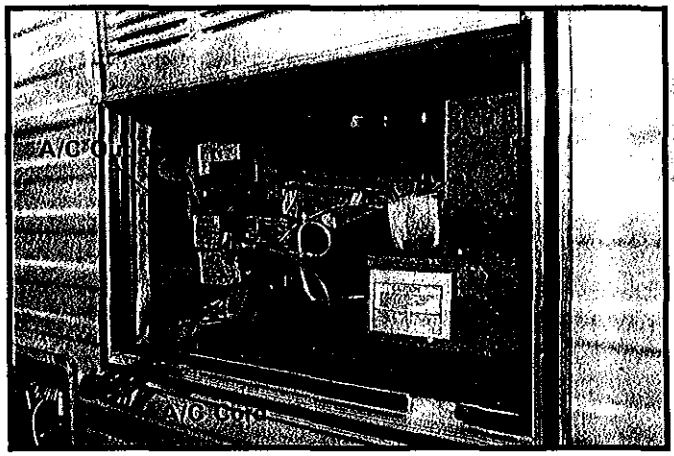
For best performance, park the motor home in the shade and close curtains. Close doors and windows and turn the temperature control knob for desired coolness. Refer to the air conditioner manufacturer's instructions for detailed operation and preventive maintenance requirements. Remember that this appliance requires a large portion of your available electric power.



Air Conditioner Selector Switch

REFRIGERATOR

The refrigerator may be operated from either LP gas or 12-volt/120-volt electric power. Consult the operating instructions furnished in your Owner's Information Package. Before operating the refrigerator when the motor home is parked, make sure it is level. If it is not level, the refrigerant will not circulate, cooling action will stop, and the refrigeration system may be damaged.



Refrigerator

SMOKE DETECTOR

A battery-powered smoke detector complying with ANSI A119.2/NFPA 501C is mounted on the wall in the living/cooking area of your motor home. Please read the smoke detector Owner's Manual for details on testing and caring for this important safety device.

Test the smoke detector after the motor home has been in storage, before each trip, and at least once a week during use. Depress and hold the test button on the cover for up to 20 seconds. The horn should sound a loud alarm. This indicates that the detector is functioning properly. If the horn does not sound, check that the battery is inserted properly and is fresh. If the battery is dead, replace it promptly and re-test the detector.

If the smoke detector fails to operate with new batteries, replace it with a new unit, available through an authorized Fleetwood Service Center.

MAINTENANCE

Your motor home has been engineered with the latest technology to provide you with many years of trouble-free service with a minimum amount of maintenance. This section will familiarize you with the areas of your motor home that require scheduled care. A few minutes spent taking care of your motor home on a regular basis will pay for itself in extended service and will protect your investment. If you are mechanically inclined and regularly perform routine maintenance and repairs on your car or truck, you may want to do the mechanical work on your motor home. If you prefer, your dealer can perform these services for you. His trained personnel will assure that your motor home is maintained and repaired in keeping with original performance expectations.

This section is intended to provide the owner and operator with service and maintenance information for the motor home. Major components and systems are described and maintenance and inspection procedures are given. In addition to providing information for proper maintenance of the motor home, some inspection and diagnostic procedures are included to help detect and identify common problem conditions which may occur.

While the information contained in this section is intended to establish proper maintenance and inspection procedures, there may be times when more detailed diagnostic and repair procedures may be required. Consult your dealer or an authorized Fleetwood Service Center in these situations.

CHASSIS AND VEHICLE IDENTIFICATION

Your motor home is built on the Chevrolet P-Series truck chassis. Several numbers are used to identify the vehicle and components used on the vehicle. The V.I.N. or Vehicle Identification Number is the 17-digit legal identification of the completed vehicle and is the number on the vehicle registration. The V.I.N. is found on the DOT certification tag attached to the left sidewall of the motor home driver compartment. Refer to this information when ordering parts from the chassis manufacturer or chassis dealer service center. The 12-digit Fleetwood Identification Number (F.I.N.) is located on the plate just outside the main entry door and on the outside left front side of the motor home. Use this number when ordering parts through your Fleetwood dealer or Service Center.

LUBRICATION

Various components of the motor home chassis must have the proper lubrication to operate as designed. This lubrication must be done in accordance with the intervals specified in the appropriate Maintenance Schedule for the vehicle.

Following are charts which list the recommended fluids and lubricants, component fluid capacities and lubrication points.

USAGE	FLUID/LUBRICANT
Power steering system and pump reservoir	Power steering fluid, GM Part No: 1050017 or equivalent
Manual steering gear	Lubricant, GM Part No. 1051052 or equivalent
Differential — Standard or Locking	SAE-80 GL-5 or SAE-80W-90 GL-5 gear lubricant (SAE-80W — GL-5 in Canada) Do not use additive with Eaton locking differential
Brake system and master cylinder	Delco Supreme 11 fluid or DOT-3
Propeller shaft slip joint	Chassis Grease, GM Part No. 1051344 or equivalent
Hood Latch Assembly a. Pivots and spring anchor b. Release pawl	 a. Engine Oil b. Chassis Grease
Hood and Door Hinges	Engine Oil

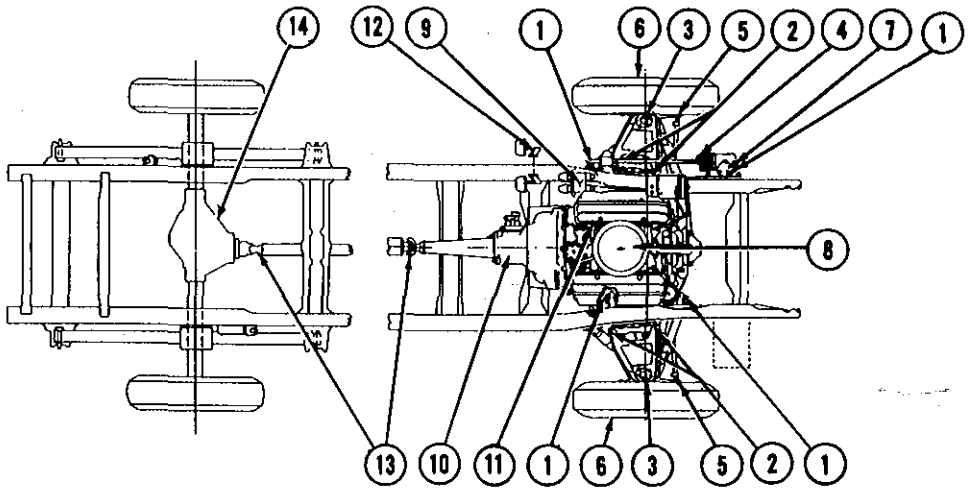
RECOMMENDED FLUIDS AND LUBICANTS

Automatic Transmission Shift Linkage	Engine Oil
Chassis Lubication	Chassis grease, GM Part No. 1051344 or equivalent
Engine Oil (Gasoline)	"SF" or "SF/CC" or "SF/CD" Engine Oil
Automatic Transmission	DEXTRON® -II Automatic Transmission Fluid
Parking Brake Cables	Chassis Grease, or GM part No. 1051052 or equivalent
Front Wheel Bearings	Wheel bearing lubricant, GM Part No. 1051344 (One Pound) or Exxon Ronex MP Grease or equivalent
Body door hinge pins, tailgate hinge and linkage folding seat, fuel door hinge	Engine Oil
Windshield Washer Solvent	GM Optikleen washer solvent, part No.1051515 or equivalent
Engine Coolant	Mixture of water and high quality Ethylene Glycol base type antifreeze, GM Part No. 1052753 or equivalent
Key Lock Cylinder	WD-40 Spray Lubricant or equivalent

LUBRICANT CAPACITIES

USAGE		U.S. MEASURE
Differential		
8-1/2 In. Ring Gear		4-1/4 pts.
8-7/8 In. Ring Gear		3-1/2 pts.
10-1/2 In Ring Gear (Chev.)		6-1/2 pts.
10-1/2 In Ring Gear (Dana)		7.2 pts.
9-3/4 In Ring Gear (Dana)		6.0 pts.
12-1/4 In Ring Gear (Dana)		26.8 pts.
Engine Crankcase		
Code	7.4L V8 — Drain & Refill	6 qts.
W	Change — w/Filter	7 qts.
Transmission Automatic		
350C — Total		10 qts.
— Refill		3 qts.
475 — Total		11 qts.
— Refill		3.5 qts.

LUBRICATION POINTS



① Lower Control Arms
② Upper Control Arms
③ Upper and Lower Control Arm Ball Joints
④ Intermediate Steering Shaft (PA10)
⑤ Tie Rod Ends
⑥ Wheel Bearings
⑦ Steering Gear
⑧ Air Cleaner — Element
⑨ Master Cylinder
⑩ Transmission — Automatic
⑪ Carburetor Linkage — V-8
⑫ Brake Pedal Spring
⑬ Universal Joints*
⑭ Rear Axle

*On some models, universal joints are sealed with no provision for lubrication. On models which have lubrication provisions, use high temperature lubricant (GM Part No. 1051344 or equivalent).

NOTES

WHEELS AND TIRES

The factory installed tires and wheels are designed to operate satisfactorily with loads up to and including the full rated load capacity when inflated to the recommended inflation pressures.

Correct tire pressures and driving techniques have an important influence on tire life. Heavy cornering, excessively rapid acceleration, and unnecessary sharp braking increase tire wear.

(TIRE & WHEEL LOAD LIMITS ARE SHOWN BELOW. VEHICLE LOADING MUST BE LIMITED SUCH THAT NEITHER THE WHEEL OR TIRE INFLATION PRESSURE OR LOAD LIMITS ARE EXCEEDED)

RADIAL TIRE SIZE AND LOAD LIMITS — LBS.

TIRE SIZE	LOAD RANGE	INFLATION PRESSURE — PSI						
		36	44	51	58	65	73	80
METRIC RADIAL TIRES USED AS SINGLES								
LT215 / 85R16	C	1532	1742	1940				
LT215 / 85R16	D	1532	1742	1940	2127	2315		
LT235 / 85R16	D	1742	1984	2205	2425	2623		
LT235 / 85R16	E	1742	1984	2205	2425	2623	2844	3042
METRIC RADIAL TIRES USED AS DUALS								
LT215 / 85R16	C	1389	1587	1764				
LT215 / 85R16	D	1389	1587	1764	1918	2105		

TIRE SIZE	LOAD RANGE	INFLATION PRESSURE — PSI							
		45	50	55	60	65	70	75	80
RADIAL TIRES USED AS SINGLES									
8R19.5	D			2110	2270	2410	2540	2680	2800
RADIAL TIRES USED AS DUALS									
8R19.5	D	1850	1990	2110	2230	2350	2460		

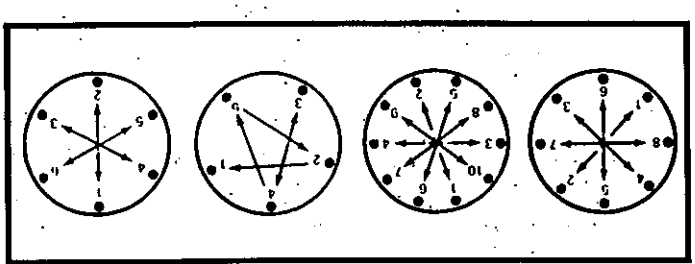
BIAS TIRE SIZE AND LOAD LIMITS — LBS.

TIRE SIZE	LOAD RANGE	INFLATION PRESSURE — PSI									
		30	35	40	45	50	55	60	65	70	75
BIAS TIRES USED AS SINGLES											
7.50-16	C	1620	1770	1930	2060						
7.50-16	D	1620	1770	1930	2060	2190	2310	2440			
7.50-16	E	1620	1770	1930	2060	2190	2310	2440	2560	2670	2780
8-19.5	D,E					2110	2270	2410	2540	2680	2800
BIAS TIRES USED AS DUALS											
7.50-16	C	1430	1565	1690	1815						
7.50-16	D	1430	1565	1690	1815	1930	2040	2140			
8-19.5	D			1850	1990	2110	2230	2350	2460		
8-19.5	E			1850	1990	2110	2230	2350	2460	2570	2680

WHEEL CODE AND LIMITS

CODE	WHEEL SIZE	MAX. LOAD LBS.	MAX. PRESSURE PSI
AA	16x6.5L	3045	90
AF	16x6K	2440	75
BF	16x6.5L	2780	85
ZT	19.5x6	2540	80
ZY	19.5x6	2780	95

Tire/Wheel Load and Inflation Pressure Charts (Continued)



NOTICE: USE A TORQUE WRENCH TO TIGHTEN LUG NUTS. TIGHTENING BY HAND OR WITH AN IMPACT WRENCH **IS NOT** RECOMMENDED.

SERIES	DESCRIPTION	TORQUE (FT. LBS.)
	1/2 In. Bolts (5)	75-100
Single Wheels	9/16 In. Bolts (8)	90-120
Dual Wheels	9/16 In. Bolts (8)	110-140
	Heavy Duty 5/8 In. Bolts (10)	130-180

Wheel Nut Tightening Sequence and Torque Specifications

Tire Inspection and Rotation

Front and rear tires perform different jobs and can wear differently depending on the type of roads driven, individual driving habits, etc. To obtain maximum tire life, inspect tires for wear and damage at intervals shown in the Maintenance Schedule. If general tread wear indicates only 1/16" between any two adjacent tread ribs, replace the tire. Look for abnormal wear patterns such as cupping or feathering of the tread or rapid wear on either the inside or outside of the tread surface. If these conditions exist, an inflation, bearing adjustment or alignment problem is evident. Refer repairs to an authorized Fleetwood Service Center. Replace the tire if cuts, bulges, peeling tread or other signs of damage or failure are evident. Remove stones and other objects lodged in the tread. Be certain to check wheel nut tightness (using a torque wrench) and to adjust the tire pressures, front and rear, after rotation to agree with the recommended pressures. Recheck the torque at 100 and 1,000 miles of operation after wheel installation and once every 6,000 miles thereafter.

The outer tire on a dual wheel will skid or drag on a turn because of the difference in the turning radii of the inner and outer tires. This results in faster wear of the outer tire. In general, position the tire with the largest diameter or least wear at the outside of each dual wheel. In addition, when vehicles are operated continuously on high crown roads an increase in air pressure of from 5 to 10 PSI in the outside tire of each dual produces maximum tire life.

Due to their design, radial tires tend to wear faster in the shoulder area particularly in the front positions. This makes regular rotation especially necessary. Consult your dealer for proper tire rotation procedures.

With dual wheel installations, measure the circumference of each tire that is to be installed on the rear axle with a steel tape. If all tires do not measure the same, install the two larger tires on one side and the two smaller tires on the opposite side.

Inflation Pressure

Tires must be inflated to the maximum cold inflation pressures for the tires when the GVWR or an axle GAWR is reached. Improper tire inflation pressures for the load the vehicle is carrying can adversely affect tire life and vehicle performance. The most common cause of tire failure is improper inflation.

Too low an air pressure can result in tire overloading, abnormal tire wear, adverse vehicle handling, and reduced fuel economy. The tire flexes more and can build up excessive heat, weakening the tire and increasing susceptibility to damage or failure. Too high an air pressure can result in abnormal wear, harsh vehicle ride, and increased susceptibility to damage from road hazards. Lower inflation pressures should be used only with reduced vehicle loads and the rear tire pressure should be equal to or greater than the front pressure on single wheel application. After determining the load on each tire by weighing the vehicle on a scale, the correct cold inflation pressures for the actual tire loads can be obtained from the Tire/Wheel Load and Inflation Pressure Charts shown. Refer to the Owner's and Driver's Manual for additional information on inflation pressure. Keep an accurate tire gauge in your tool kit. Check tire pressures cold. DO NOT BLEED AIR OUT OF WARM TIRES.

Wheel and Tire Balancing

From the standpoints of tire wear and vehicle ride and handling ease, maintain proper balance of wheel and tire assemblies. The two types of balancing systems in current use balance wheels either on or off the vehicle. The "on the vehicle" type, however, is the more desirable in that all rolling components (brake drums, bearings, seals, etc.) are included in the balancing procedure and thereby have any existing unbalance corrected. Because of the specialized equipment required, wheel and tire balancing should be performed by a qualified service shop.

Tire Replacement

When replacing tires, be sure to consult your Owner's and Driver's Manual for information regarding the proper tire selection. Use of the incorrect size or type tire may affect load carrying capacity, ride, handling, speedometer/odometer calibration, vehicle ground clearance, and tire clearance to the body and chassis. If replacing only a single tire, it should be paired on the same axle with the least worn tire of the others.

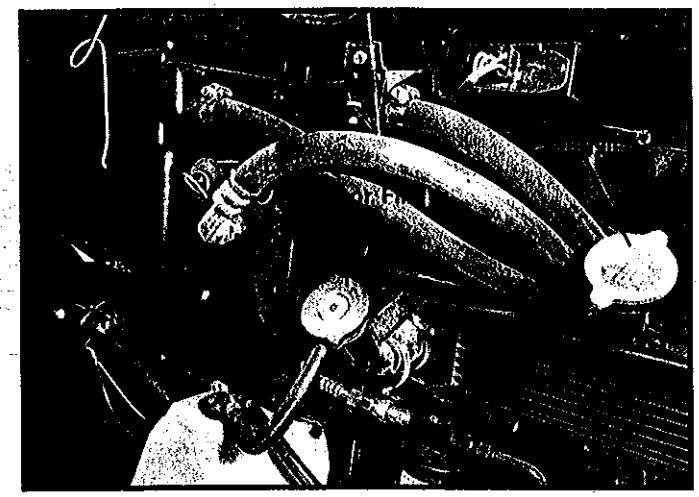
WARNING: DO NOT MIX DIFFERENT TYPES OF TIRES ON THE SAME VEHICLE SUCH AS RADIAL, BIAS, AND BIAS-BELTED TIRES EXCEPT IN EMERGENCIES, BECAUSE VEHICLE HANDLING AND TIRE LIFE MAY BE SERIOUSLY AFFECTED AND MAY RESULT IN LOSS OF CONTROL OR TIRE FAILURE.

Wheel Stud Bolt Replacement

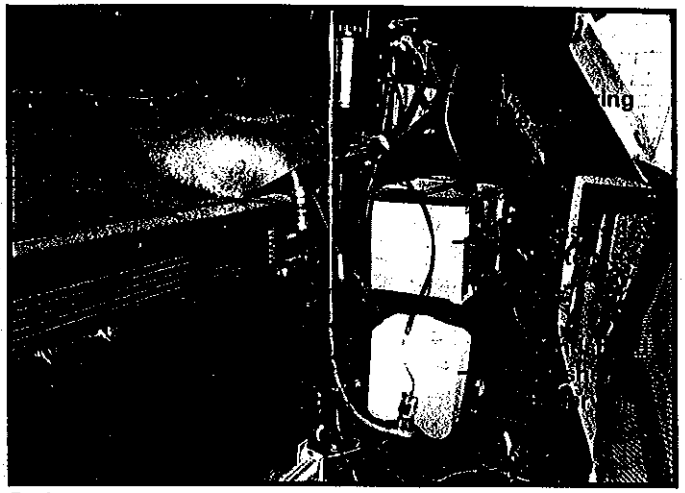
When one wheel stud bolt is broken on axles using five to nine bolt wheels, replace all stud bolts. When one stud bolt is broken on an axle using ten bolt wheels, replace the broken bolt, plus the adjacent bolt on each side. The additional stress placed on the bolts adjacent to the broken bolt weakens them and is the reason for replacement.

ENGINE

Your motor home is equipped with the 7.4L (454 CID) gasoline engine. This engine is designed to operate on either unleaded or regular gasoline. It is equipped with an electronic ignition system which has no breaker points or condenser.



Engine



Engine

Engine Oils

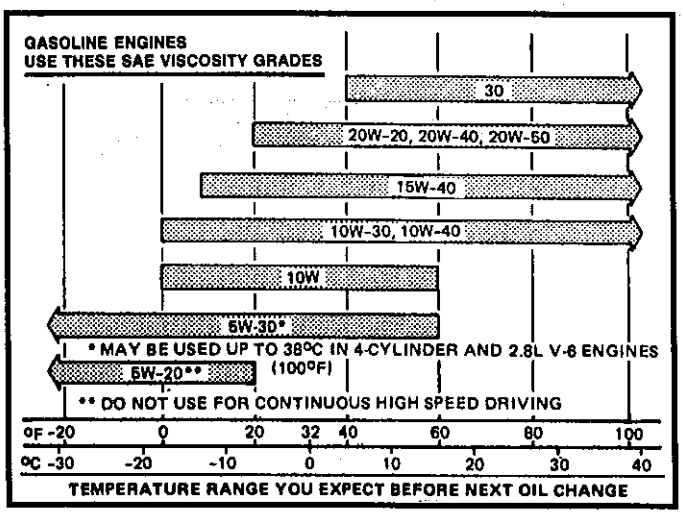
Engine oils are labeled on the containers with various API (American Petroleum Institute) designations of quality. For gasoline engines, Chevrolet recommends the use of an oil with the API designation "SF", either alone or shown with other designations such as "SF/CC". Oils which are *not* labeled "SF" should not be used. Using oils of a quality other than those recommended for Chevrolet gasoline engines could cause engine damage.

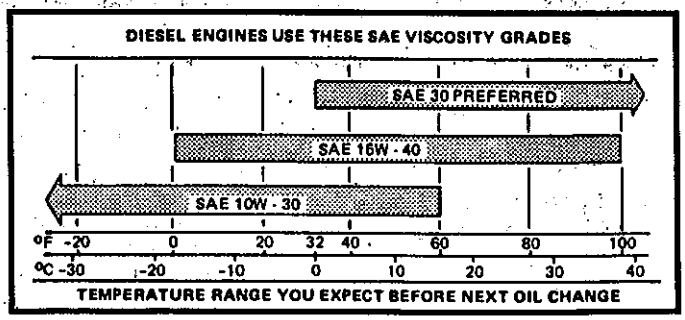
Viscosity

Engine oil viscosity (thickness) has an affect on fuel economy. Lower viscosity engine oils can provide better fuel economy; however, higher temperature weather conditions require higher viscosity engine oils for satisfactory lubrication. *Using any oils with viscosities other than those recommended could cause engine damage.*

When choosing an oil, consider the range of temperature your vehicle will be operated in before the next oil change. Then, select the recommended oil viscosity from the chart.

For temperatures above 0°F, SAE 10W-30 is preferred for a single choice multi-viscosity oil. However, for heavy or extended expressway driving in summer temperatures, there can be an advantage to a single-viscosity straight SF/CC 30 weight oil.





Synthetic Engine Oils

Synthetic engine oils and conventional, mineral-oil-base engine oils have some similarities. They are both blends of base oils and additives. In fact, most of the additives used in synthetic engine oils are identical to those used in conventional engine oils; in at least one so-called synthetic oil, mineral oil is used as the base.

The mineral oil used in conventional engine oils is a mixture of hydrocarbons (hydrogen and carbon) obtained from crude oil pumped from the ground and refined by physical separation processes such as distillation and solvent extraction. The base oil used in most synthetic engine oils is obtained by chemical reaction processes involving materials produced from the same crude oil. For example, an acid and an alcohol can be obtained from crude oil and reacted to produce an ester - a commonly used synthetic base oil - which is a fluid composed of hydrogen, carbon and oxygen.

The performance quality of a finished engine oil, either conventional or synthetic, depends on a careful selection of the base oil and additives to produce the desired characteristics.

Information currently available on synthetic oils does *not* justify any additional lengthening of the oil change intervals. Any engine part failures caused by using an oil beyond the recommended change intervals *will not* be covered under the New Vehicle Warranty.

Checking Oil Level

To provide proper lubrication for the engine and to help prevent engine damage, check the oil level periodically to insure that there is an adequate amount of oil. Also, the engine oil must be drained and replaced with fresh oil, and the oil filter replaced at the intervals recommended in the appropriate Maintenance Schedule.

* **Warm** -The best time to check the engine oil level is when the oil is warm, such as during a fuel stop. First, allow a minimum of 10 minutes for the oil to drain back to the oil pan. Then pull the dipstick out, wipe it clean, and push it back down all the way.

* **NOTE:** Failure to allow sufficient time for the oil to drain back into the oil pan can give an erroneous low oil reading, and the appearance of excessive oil consumption.

  Now pull the dipstick out and look at the oil level on the dipstick. Some dipsticks are marked with "Add" and "Full" lines. Others are marked "Add 1 Qt." and "Operating Range". In all cases, keep the oil level above the "Add" line. Push the dipstick back down all the way after taking the reading. Add oil if needed.

* **Cold** - If you check the oil level when the oil is cold, do not run the engine first. The cold oil will not drain back to the pan fast enough to give a true oil level.

  A good method of checking oil is as follows: At the end of a day's driving, pull the dipstick out slightly from the tube so that the tube is not sealed by the cap at the top of the dipstick. Leave the dipstick in this position overnight. Before starting the engine again the following day, seat the dipstick and check the oil level. This method will allow the oil to drain down easily and provide a more accurate reading.

Changing the Oil

Oil can be drained from the engine through the drain hole in the bottom of the oil pan. Fresh oil is added through the fill tube at the top of the engine and near the radiator. Generally, the recommended oil change interval is 3,000 miles or 2 months, whichever comes first. More frequent intervals are recommended if any of the following severe operating conditions are encountered:

* Frequent long runs at high speeds and high ambient temperatures.
* Operating in dusty areas.
* Towing a trailer.
* Idling for extended periods and/or low speed operation.
* Operating when outside temperatures remain below freezing and when most trips are less than 4 miles.

NOTE: Refer to the Owner's and Driver's Manual and Vehicle Maintenance Schedule for the oil type, viscosity and alternate change intervals recommended for the operating conditions encountered.

Changing the Oil Filter

The oil filter is a spin-on type which can be removed with a band-type filter wrench. Install the replacement filter hand tight following the instructions with the filter.

ENGINE FUEL SYSTEM

Fuel Filters

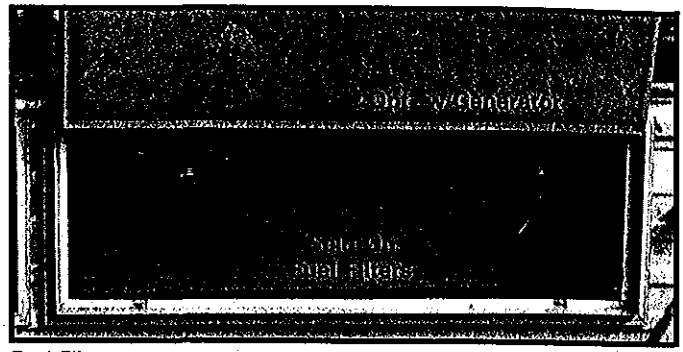
An engine fuel filter is located in the carburetor fuel inlet. This fuel filter element is pleated paper. Elements are placed in the inlet hole with the gasket surface outward. A spring holds the element outward, sealing it by compressing a gasket surface against the inlet fitting.

Replace the carburetor inlet fuel filter at the intervals shown in the Maintenance Schedule. A plugged filter and/or check valve will restrict fuel flow.

After assembling any filter element in the carburetor, always start the engine and check for leaks in the fuel line and fittings before installing the air cleaner.

Additional fuel filters for the engine and generator are located in the compartment on the left side of the coach. They are spin-on types, and are easily replaced. Use caution to avoid fuel spillage.

Inspect and maintain the fuel system in accordance with the Maintenance Schedule. Check fuel lines for signs of leakage, damage or deterioration. Tighten clamps if they are loose. Replace filters in the fuel line and the evaporative control system at the recommended intervals.



Fuel Filter

Air Cleaner Element Replacement

Paper Element -

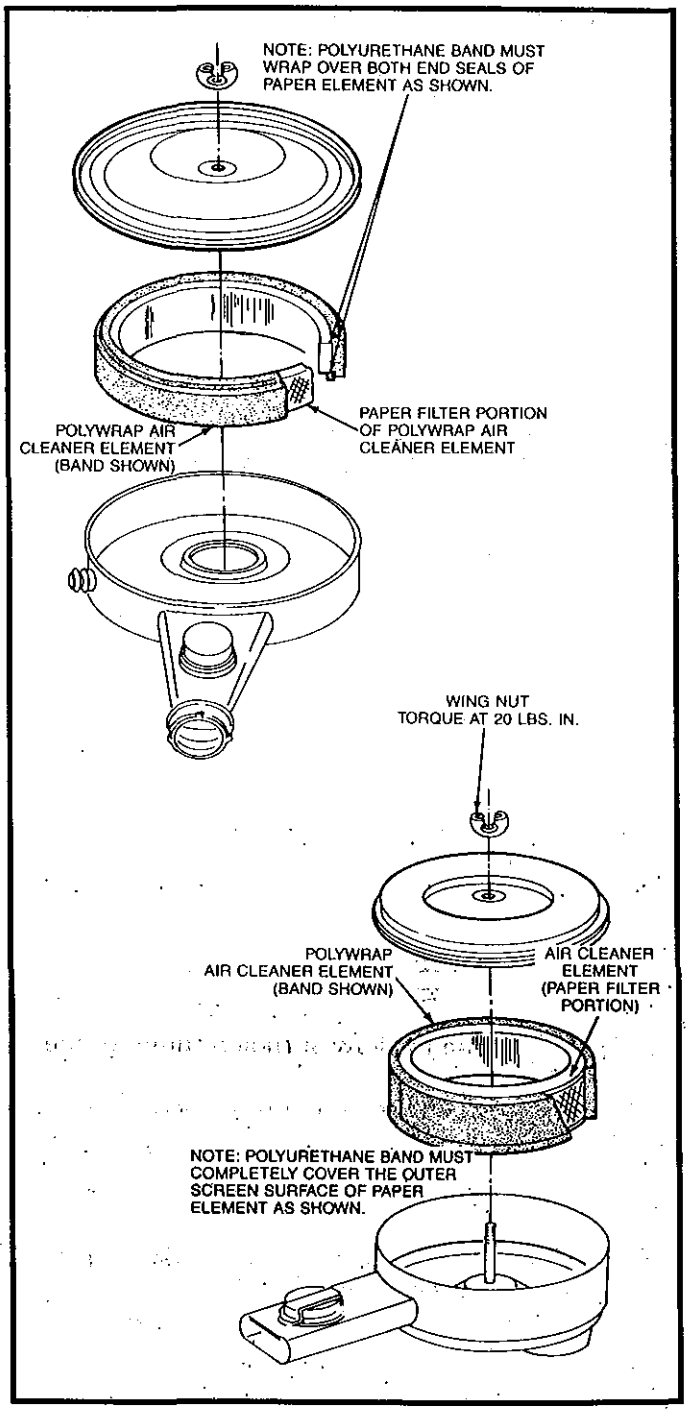
1. Remove the air cleaner cover.
2. Remove the element.
3. Install a new element in the air cleaner with either end up.
4. Install the air cleaner cover. Do not overtighten wing nut.

Polywrap Element -

1. Remove the air cleaner cover.
2. Remove the element.
3. Remove the polywrap band from the paper element and discard the element.
4. Clean the bottom section of the air cleaner and inspect the cover seal for tears or cracks. Replace the seal if damaged.
5. Inspect the band for tears and replace if damaged.
6. If the band is serviceable, wash it in kerosene or mineral spirits and squeeze out the excess solvent.

NOTE: Never use a hot degreaser or any solvent containing acetone or similar solvent; also, never shake, swing or wring the element to remove excess solvent as this may tear the polyurethane material. Instead, "squeeze" the excess solvent from the element. Squeezing will avoid damaging the element material.

7. Dip the band into light engine oil and squeeze out the excess oil.
8. Install the band around the outer surface of the new paper element.
9. Install the element in the bottom section of the air cleaner with either end up.
10. Install the air cleaner cover. Do not over-torque the wing nut(s).



COOLING SYSTEM

Maintenance and Inspection

Check the coolant level, appearance, and strength periodically. Drain and replace at the intervals recommended in the Mainteance Schedule, or sooner if it is dirty. Check hoses regularly for signs of damage or deterioration, and tighten hose clamps if necessary.

Check hoses for cuts or abrasion damage. If the hoses have become hard and brittle and show signs of cracking as a result of engine heat, replace them. Replace hoses if they are soft and spongy, or swollen as a result of exposure to oil and grease. Any flaking or deterioration of the inner lining of the hose is also a reason for replacement. Such particles can clog the cooling system, reducing its efficiency.

Wash the radiator cap with clean water and pressure-check every 12 months.

Coolant Level

The need for additional coolant can be detected by observing the level of coolant in the "see through" reservoir while the engine is at normal operating temperature. The radiator cap need not normally be removed.

The coolant level should be at the "Full Cold" mark when the system is cool or at ambient temperature. After the vehicle has been driven sufficiently to obtain normal operating temperatures, the level should be above the "Full Cold" mark.

Remove the radiator cap periodically to observe coolant level in the radiator.

WARNING: TO HELP AVOID THE DANGER OF BEING BURNED, DO NOT REMOVE THE RADIATIOR CAP WHILE THE ENGINE AND RADIATOR ARE STILL HOT. SCALDING FLUID AND STEAM CAN BE BLOWN OUT UNDER PRESSURE IF THE CAP IS TAKEN OFF TOO SOON.

Maintain coolant levels in the radiator to the top of the filler neck. Be sure the recovery bottle is at its appropriate mark when checking.

Regardless of whether freezing temperatures are expected or not, maintain cooling system protection to at least -34°F, to provide adequate corrosion protection and loss of coolant from boiling.

When adding solution due to loss of coolant for any reason or in areas where temperatures lower than -34°F occur, use a sufficient amount of an ethylene glycol base antifreeze that meets GM specification 1825-M.

NOTES:

* Alcohol or methanol base antifreeze, or plain water, are not recommended for your engine at any time. They will not provide proper protection against corrosion.
* Additives in addition to a good quality ethylene glycol-base antifreeze meeting the GM specification are *not* required or recommended. Many of the claims for additives are associated with better heat transfer or cooling, but these claims are not supported by test data. In some instances, the ingredients may be incompatible with the recommended coolant. Also, when used alone with water as is sometimes suggested, the additive may not provide the corrosion protection given by the recommended coolant solution.

Flushing Cooling System

Various methods and equipment may be used to perform this service. If special equipment such as back flusher is used, follow equipment manufacturer's instructions.

ENGINE ELECTRICAL

Battery Inspection and Care

WARNING: DISCONNECT THE 120-VOLT ELECTRIC CORD AND THE POSITIVE TERMINAL FROM THE MOTOR HOME BATTERY BEFORE WORKING ON EITHER ELECTRICAL SYSTEM.

WARNING: REMOVE RINGS, METAL WATCHBANDS, AND OTHER METAL JEWELRY BEFORE WORKING AROUND A BATTERY. USE CAUTION WHEN USING METAL TOOLS. IF THE TOOL CONTACTS THE POSITIVE BATTERY TERMINAL OR METAL CONNECTED TO IT, A SHORT CIRCUIT COULD OCCUR WHICH COULD CAUSE PERSONAL INJURY OR FIRE.

WARNING: DO NOT ALLOW BATTERY ELECTROLYTE TO CONTACT SKIN, EYES, FABRICS, OR PAINTED SURFACES. THE ELECTROLYTE IS A SULFURIC ACID SOLUTION WHICH COULD CAUSE SERIOUS PERSONAL INJURY OR PROPERTY DAMAGE. WEAR EYE PROTECTION WHEN WORKING WITH BATTERIES.

Check the external condition of the battery periodically. Look for cracks in the cover and case. Check the vent plugs. Replace them if they are cracked or broken. Keep the battery clean. Accumulations of acid film and dirt may permit current to flow between the terminals and discharge the battery. To clean the battery, wash it with a diluted solution of baking soda and water to neutralize any acid present, then flush with clean water. Acid foaming around terminals or on top of the battery is normal acid neutralization. Avoid getting the soda solution in the battery. Be sure the vent caps are tight. Dry the cables and terminals. Don't use grease on the bare metal inside the cable terminals to prevent corrosion. Grease is an insulator. Electricity will not flow through it. A plastic ignition spray wil protect the terminals after you have cleaned and reinstalled them.

To prevent the battery from shaking in its carrier, be sure the hold-down strap is properly installed. Check it often. Keep the carrier and cover clean and free of corrosion and chemical accumulation.

If you ever have to remove the auxiliary battery, remember that it is very heavy. Before you loosen or remove the battery carrier bracket bolts, support the battery carrier tray with a floor jack.

Battery Charging

Normally the battery will be kept charged by either the motor home charging sysetem while on the road, or by the AC/DC power converter when plugged into AC service. On those occasions when the battery needs to be charged from a different charging source, please follow these safety guidelines:

WARNING: NEVER EXPOSE THE BATTERY TO OPEN FLAME OR ELECTRIC SPARK. CHEMICAL ACTION IN THE BATTERY GENERATES HYDROGEN GAS WHICH IS FLAMMABLE AND EXPLOSIVE.

* Do not smoke near batteries being charged or which have been recently charged.
* Do not break live circuits at the terminals of the battery. Use care when connecting or disconnecting booster leads or cables on fast chargers. Poor connections are a common cause of electrical arcs which can cause explosions.
* Check and adjust the electrolyte level before charging. Fill each cell to the indicator with distilled water.
* Do not charge the battery at a rate that causes the electrolyte to spew out the vent caps. Always remove vent caps before charging the battery.

Selecting a Replacement Battery

When the battery requires replacement, always choose a battery with the same physical and electrical characteristics as the original equipment. Your dealer or an authorized Fleetwood Service Center can advise you on proper selection for both the automotive and auxiliary battery.

When handling a battery, observe the following safety precautions:

1. Hydrogen gas is produced by the battery. A flame or spark near the battery may cause the gas to ignite.
2. Battery fluid is highly acid. Avoid spilling battery fluid on clothing or other fabrics. Flush any spilled electrolyte with large quantities of water immediately.

Jump Starting

NOTE: Do not push or tow the vehicle to start. There are no provisions in the GM automatic transmission for engagement of the transmission to turn over the engine. Efforts to push or tow the vehicle to start it will have no effect.

Both booster and discharged battery should be treated carefully when using jumper cables. Follow the conditions and procedure outlined below, being careful not to cause sparks. **Departure from these conditions or procedure could result in a) serious personal injury (particularly to eyes) or property damage from such causes as battery explosion, battery acid, or electrical burns; and/or b) damage to electronic components of either vehicle.**

CAUTION:

* **Be sure the jumper cables and clamps to be used for jump starting do not have loose or missing insulation. Do not proceed if suitable cables are not available.**
* **If either battery has filler caps, check the fluid level. (Do not check with an open flame.) If low, fill to the proper level with clear drinking water. Replace all caps before jump starting.**
* **Do not route the cable (or attach the clamp) on or near pulleys, fans, or other parts that will move when the engine is started.**

1. Set the parking brake firmly and place the automatic transmission in PARK. Turn off the ignition, turn off lights, and all other electrical loads.
2. Only 12-volt batteries can be used to start the engine. Do not use 24-volt charging equipment. Using such equipment can cause serious damage to the electrical system or electronic parts.
3. Attach the end of one jumper cable to the positive terminal of the booster battery and the other end of the same cable to the positive terminal of the discharged battery. Do not permit vehicles to touch each other as this could cause a ground connection and counteract the benefits of this procedure.
4. Attach one end of the remaining negative cable to the negative terminal of the booster battery, and the other end to a solid engine ground (such as A/C compressor bracket or generator mounting bracket) at least 18 inches from the battery of the vehicle being started. **DO NOT CONNECT DIRECTLY TO THE NEGATIVE TERNIMAL OF THE DEAD BATTERY.**

5. Start the engine of the vehicle that is providing the jump start and turn off electrical accessories. Then start the engine in the vehicle with the discharged battery.
6. Reverse these directions exactly when removing the jumper cables. The negative cable must be disconnected from the engine that was jump started first.

TRANSMISSION

Maintenance and Inspection

Check the automatic transmission fluid level regularly (at each engine oil change) and change it at the intervals recommended in the Maintenance Schedule for your vehicle. Typically, the recommended interval for changing the fluid and service screen is every 24,000 miles (Heavy-Duty Emissions equipped vehicles) or every 12,000 miles if the vehicle was subjected to severe use.

In addition, check the oil (fluid) cooler lines, electrical lines, vacuum lines, control linkage and transmission periodically for leaks, damage or deterioration.

NOTE: Transmission problems can be the result of poor engine performance. If the engine requires a tune-up, this should be done before checking the transmission.

Fluid Level and Appearance

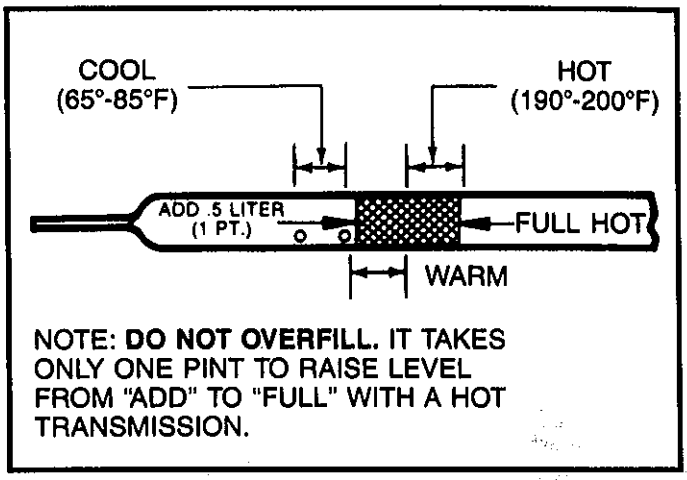
Many times a transmission malfunction can be traced to an incorrect fluid level or improper reading of the dipstick. A fluid level which is too high or too low can cause overheating and clutch plate damage. In addition, overheating can be caused by excessive clutch plate slippage which can result from improperly installed plates, an out-of-adjustment selector linkage or the manner in which the vehicle is operated. Transmission fluids currently in use may appear to be darker and have a stronger odor. This is normal, and not a positive sign of required maintenance or transmission failure.

When the dipstick is removed, note whether the fluid is full of air bubbles. Fluid with air bubbles indicates an air leak in the suction lines, which can cause erratic operation and slippage. Water or ethylene glycol antifreeze in the fluid imparts a milky, gray or pink cast to the fluid and can cause spewing of fluid from the transmission breather. Coolant in the fluid, whether water or antifreeze, can cause damage to the nylon parts or clutch plates in the transmission. Water in the transmission fluid can turn to steam when the transmission is at operating temperature, causing the fluid to "boil over" with the risk of fire. If the fluid becomes contaminated with coolant, the most common cause is a leaking transmission cooler core. In addition to finding and fixing the leak, the transmission should be disassembled, cleaned and the clutch plates replaced with new ones.

Glycol test kits on the market can be used to detect antifreeze in the transmission fluid. While generally reliable, certain kits may produce positive test results because of additives used in some transmission fluids. Follow the kit manufacturer's instructions.

Capacity

The fluid capacity of the transmission is listed in the Maintenance and Lubrication Section of this manual. To bring fluid level from ADD mark to FULL mark requires one pint of fluid. Check fluid level at every engine oil change.



NOTE: **DO NOT OVERFILL.** IT TAKES ONLY ONE PINT TO RAISE LEVEL FROM "ADD" TO "FULL" WITH A HOT TRANSMISSION.

Fluid level should be to FULL mark with transmission fluid at normal operating temperature of 200°F. With fluid at room temperature, 70°, level will be between the two dimples on the dipstick. Fifteen miles of highway driving will bring the transmission fluid up to normal operating temperature.

WARNING: AT NORMAL OPERATING TEMPERATURES, THE DIPSTICK WILL BE EXTREMELY HOT TO THE TOUCH. USE CARE TO AVOID BURNS.

To determine proper level, proceed as follows:

1. Run engine until it is at operating temperature.
2. Apply the parking brake and block the vehicle wheels.
3. With the selector lever in the PARK position, start the engine. DO NOT RACE ENGINE. Move the selector through each range.
4. Immediately check the fluid with the selector lever in PARK, engine running at SLOW IDLE and the vehicle on a LEVEL SURFACE. The fluid level on the dipstick should be at the "FULL HOT" mark.
5. If additional fluid is required, add sufficient fluid to bring the level to the "FULL HOT" mark on the dipstick.

TRANSMISSION AT ROOM TEMPERATURE (65° to 85°F) — Automatic transmissions are frequently overfilled because the fluid level is checked when the fluid is cold and the dipstick indicates fluid should be added. However, the low reading is normal since the level will rise as the fluid temperature increases. A level change of over ½ inch will occur as fluid temperature rises from 60° to 180°F.

Overfilling can cause foaming and loss of fluid through the vent. Slippage, transmission failure or fire can result.

Fluid level too low can result in transmission charging pump cavitation, a loss of main and lubrication oil pressure and clutch plate damage. It can cause slipping, particularly when the transmission is cold or the vehicle is on a hill.

Check the transmission fluid level with the engine running, the shift lever in PARK, and the vehicle level.

If the vehicle has recently been operated for an extended period at high speed or in city traffic in hot weather or the vehicle is being used to pull a trailer, an accurate fluid level cannot be determined until the fluid has cooled down, usually about 30 minutes after the vehcile has been parked.

Remove the dipstick and touch the transmission end or the dipstick cautiously to find out if the fluid is cool, warm or hot.

Wipe the dipstick clean and reinsert it until the cap seats. Remove the dipstick and note reading.

1. If the fluid feels cool, about room temperature (65° to 85°F), the level should be between the two dimples below the "ADD" mark.
2. If it feels warm the level should be close to the "ADD" mark (either above or below).
3. If it feels hot (cannot be held comfortably), the level should be between the "ADD" and "FULL" marks.

Changing Fluid

1. Raise the vehicle.
2. With a drain pan placed under the transmission oil pan, remove the oil pan attaching bolts from the front and side of the pan.
3. Loosen pan rear attaching bolts approximately four (4) turns.
4. Carefully pry the transmission oil pan loose with a screwdriver, allowing the fluid to drain.
5. Remove the remaining bolts and remove the oil pan and gasket.
6. Drain the fluid from the oil pan. Clean the pan with solvent and dry thoroughly with clean compressed air.
7. If required, remove the screen/filter-to-valve body bolts. Remove screen/filter and gasket.
8. Thoroughly clean screen assembly in solvent and dry thoroughly with clean compressed air. Paper or felt-type filters should be replaced.
9. Install, as required, a new gasket or "O" ring onto the screen filter assembly. Lubricate "O" rings with petrolatum. If required, install the screen/filter attaching bolts and torque.
10. Install a new gasket on the oil pan and install the pan. Torque the attaching bolts to 12 ft. lbs.
11. Lower the vehicle and add the proper amount of DEXRON-II automatic transmission fluid or its equivalent through the filler tube.
12. With the selector lever in PARK position, apply the parking brake, start the engine and let idle (carburetor off fast idle step). DO NOT RACE ENGINE.
13. Move the selector lever through each range and, with the selector lever in PARK range, check fluid level.
14. Add additional fluid to bring the level between the dimples on the dipstick (cool level).

HEATING AND AIR CONDITIONING

The heater system consists of a heater core housed in a case which, typically, includes an air inlet, blower motor assembly, air distribution ducts and doors to control the flow of air through the case.

Troubleshooting the System

Problems of too little or no heat, poor air circulation, or inadequate defrosting action are sometimes encountered with a heater system.

Refrigeration Section

WARNING: BECAUSE OF THE NATURE OF REFRIGERANT-12 AND THE HIGH PRESSURES WHICH ARE PRESENT IN THE REFRIGERANT SECTION OF THE SYSTEM, PERSONAL INJURY CAN RESULT IF ESTABLISHED DIAGNOSTIC AND SERVICE PROCEDURES ARE NOT FOLLOWED. THEREFORE, ALL SUCH WORK REQUIRED ON THE SYSTEM SHOULD BE REFERRED TO A QUALIFIED SHOP WITH THE NECESSARY TRAINED PERSONNEL AND EQUIPMENT.

The following procedures are intended to identify or avoid potential problem conditions.

Inspection

Perform the following checks regularly:

1. Check outer surfaces of radiator and condenser cores to be sure they are not plugged with dirt, leaves or other foreign material. Be sure to check between the condenser and radiator as well as outer surfaces.

2. Check the metal tubing lines to be sure they are free of dents or kinks which can cause a loss of system capacity due to a line restriction.
3. Check the flexible hose lines for brittleness or deterioration which can be the source of a system leak.
4. Check for proper drive-belt tension.

Operational Quick Checks

The following checks may indicate if the amount of refrigerant (charge) in the system is low. The ambient temperature must be above 70°F.

NOTE: Engagement of the compressor clutch in both of the tests below indicates that the clutch electrical circuit is OK. If the clutch does not engage, then check for a blown fuse, loose connections or damaged or deteriorated wires. If these checks are OK, then the problem may be in the compressor clutch or switch. Take the vehicle to a qualified shop for further testing.

Vacuum System Diagnosis

If the air is not flowing through the proper outlets (floors, dash, or defroster), then there may be a problem in the vacuum system, or with the diverter doors. Check the doors to see that they operate properly and do not bind.

Next check all vacuum hoses and connections between the vacuum source, A/C control and vacuum motors for leaks. If any hoses are damaged or deteriorated, they should be replaced. If the hoses are OK, the problem may be in the control assembly or vacuum motor(s). Take the vehicle to a qualified shop for further testing.

Electrical Circuit Diagnosis

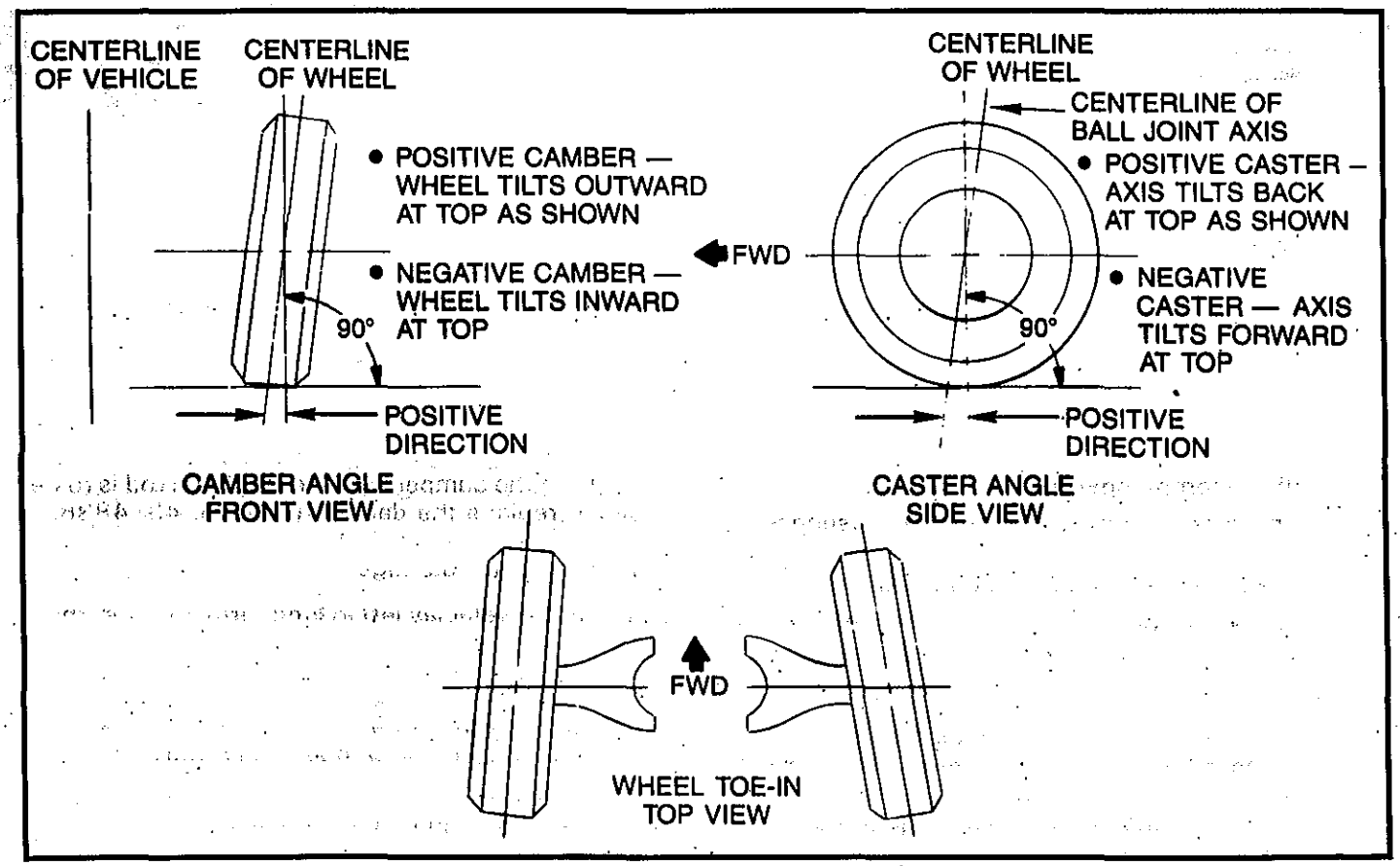
The blower electrical circuit and motor is OK if the blower operates at all of the designated speeds. If the blower does not work at all, then check for a blown fuse, loose connections, and for damaged or deteriorated wires. If these checks are OK and/or the blower does not operate at all speeds, then the problem may be in the switch, relay or motor. Take the vehicle to a qualified shop for further testing.

STEERING AND SUSPENSION SYSTEM

Front Suspension and Alignment

The term "front alignment" refers to the angular relationships between the front wheels, the front suspension attaching parts and the ground.

The pointing in or "toe-in" of the front wheels, the tilt of the front wheels from vertical (when viewed from the front of the vehicle) and the tilt of the suspen-



sion members from vertical (when viewed from the side of the vehicle), are all involved in front alignment.

Caster

Caster is the tilting of the front steering axis either forward or backward from the vertical (when viewed from the side of the vehicle). A backward tilt is said to be positive (+) and a forward tilt is said to be negative (−).

Camber

Camber is the tilting of the front wheels from the vertical when viewed from the front of the vehicle. When the wheels tilt outward at the top, the camber is said to be positive (+). When the wheels tilt inward at the top, the camber is said to be negative (−). The amount of tilt is measured in degrees from the vertical and this measurement is called the camber angle.

Toe-In

Toe-in is the turning in of the front wheels. The actual amount of toe-in is normally only a fraction of an inch. The purpose of a toe specification is to ensure parallel rolling of the front wheels.

Toe-in also serves to offset the small deflections of the wheel support system which occurs when the vehicle is rolling forward. In other words, even when the wheels are set to toe-in slightly when the vehicle is standing still, they tend to roll parallel on the road when the vehicle is moving. Excessive toe-in or toe-out will cause tire wear.

Maintenance and Inspection

Several factors can affect front alignment, including tire inflation pressures, wheel bearing condition, steering and suspension components. The following checks can indicate problems that should be corrected.

1. Check all tires for proper inflation pressures and approximately the same tread wear.
2. If the unit is equipped with air suspension components, be sure to inspect them according to the literature included in the Owner's Information Package. Be sure to keep them inflated to the recommended pressures.
3. Check front wheel bearings for looseness.
4. Check for looseness of ball joints, tie rod ends and steering relay rods and damper.
5. Check for excessive run-out of wheels and tires.
6. Check for a difference in the ride height between right and left sides of the vehicle.

NOTE: Excessive or unevenly distributed loads also affect ride height and alignment. This should be taken into consideration when making the check. Also, if the motor home is equipped with air bag cylinders, it is important that the cylinders be inflated to the proper pressure for the load being carried in order to maintain adequate ride height.

7. Check for steering gear looseness at frame.
8. Check for improperly operating shock absorbers. There may be evidence of a leaking shock(s).
9. Check for loose control arms.
10. Check for loose or missing stabilizer bar attachments.
11. Steering and vibration complaints are not always the result of improper alignment. Also check tires for "lead" due to worn or improperly manufactured tires. "Lead" is the deviation of the vehicle from a straight path on a level road without hand pressure on the steering wheel.

Lubrication of Steering Linkage

The steering linkage under normal conditions should be lubricated with any water resistant EP type chassis lubricant every 7,500 miles or six months, whichever occurs first when operating in dusty or muddy conditions.

Steering Damper Check

This type of steering damper is nonadjustable, nonrefillable and is not repairable. At each lubrication interval make check No. 1 and No. 2 on the steering damper system.

Check 1

Check the damper attachments to be sure they are properly and securely installed. Tighten, if loose. Replace the damper assembly if the rubber bushings are badly worn.

Check 2

Inspect the damper for evidence of fluid leakage. A light film of fluid is permissible on the body of the damper near the shaft seal. Replace a dripping damper.

Check 3

Turn the steering wheel so as to extend the piston rod from the damper body. If the piston rod is rusted badly, replace the damper (Part No. 4984838). If rust is light, clean the rod. Use care so that the rod surface is not damaged.

NOTE: On vehicles left in long term storage, the piston rod may become quite rusted. The rod must be cleaned before the vehicle is moved. Failure to clean the rod will destroy the seals with first inward movement of the rod — making replacement of the damper a certainty.

If the damper is not functioning properly, and/or is noisy, refer to a qualified service shop.

Maintenance and Inspection

Complaints of faulty steering are frequently the result of problems other than the steering gear or pump. Those areas of the steering system which can be easily checked and quickly corrected without disassembly and overhaul of any major components should be attempted first.

Conditions such as hard or loose steering, road shock or vibrations are not always due to the steering gear or pump, but are often related instead to such factors as low tire pressure and front end alignment. Check and correct these factors before adjustment or disassembly of the power steering gear or pump.

Many factors affect operation of the steering system. The most common are:

1. Fluid level and condition.
2. Drive belt tension.
3. Loose component mountings.
4. Loose pump pulley.

Check and correct these factors before making any further diagnosis of the steering system.

After the source of the problem has been found, determine the cause. For example, if the oil level in the reservoir is found to be low, refill and check the entire hydraulic system for oil leaks. Refilling the reservoir will not necessarily correct the problem.

Leakage Check

If you suspect leakage in the power steering system, follow the guidelines listed below. In some cases you will be able to locate the leak easily, but seepage leaks may be more difficult.

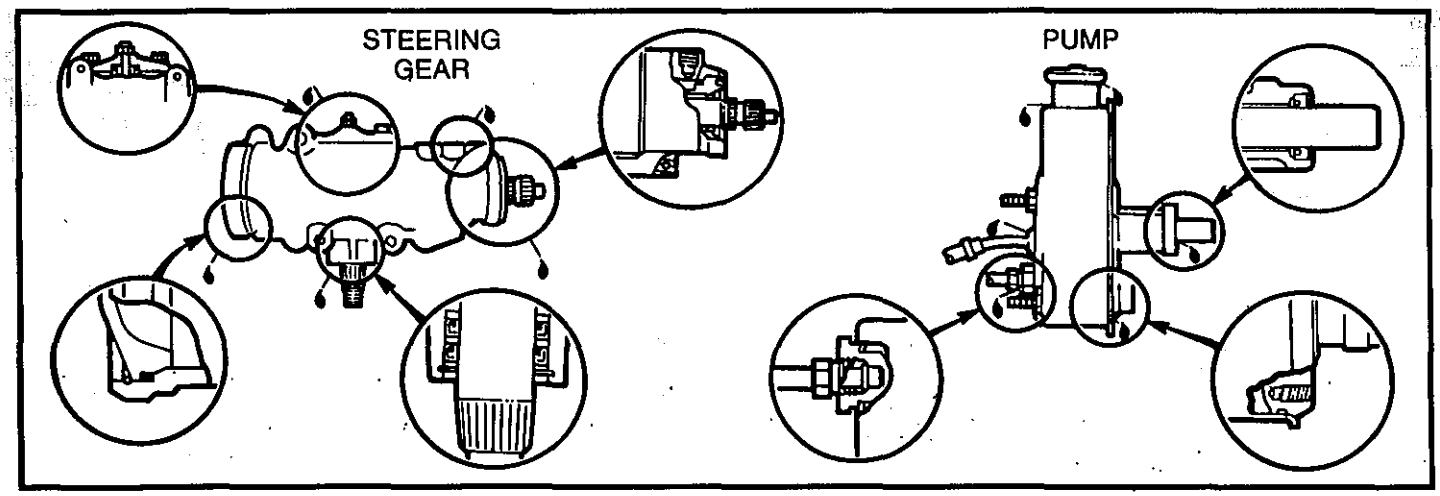
A. With the vehicle's engine off, wipe the complete power steering system dry (gear, pump, hoses and connections).

B. Check oil level in pump's reservoir and adjust as required.

C. Start engine and turn steering wheel from stop to stop several times. Do not hold in corner for any length of time as this can damage the power steering pump. It is easier if someone operates the steering wheel while you search for the seepage.

D. Find the exact area of leakage. Potential leak points are shown.

Some leaks can be corrected easily (see Quick Fixes). Refer more extensive leaks to a qualified service center for repair.



Quick Fixes

The purposes of this section is to acquaint you with the types of leakage which can be repaired very easily. It contains information on reservoir oil level, the hoses and the hose connections.

An overfilled pump reservoir can be cause for leakage complaint. The oil in the steering system expands during normal use. If the pump reservoir is overfilled, the excess is forced through the breather cap hole and may be sprayed over the engine by air blast. Operate the engine and steering system until normal operating temperature is obtained. Remove the reservoir cap and check the level on the dipstick. Adjust the oil level as required.

If either the return hose or pressure hose leaks, replace the hose.

After the source of a leak has been found and corrected, refill the system with Power Steering Fluid. Avoid the use of automatic transmission fluid in the power steering system since it does not contain the additives necessary for good seal life. In an emergency situation, automatic transmission fluid can be used to "get home". However, replace it with power steering fluid as soon as is practical.

Pump Belt Tension Adjustment

1. Loosen pivot bolt and pump bracket adjusting nuts.

NOTE: Do not move pump by prying against reservoir or by pulling on fillerneck. Damage to the pump could occur.

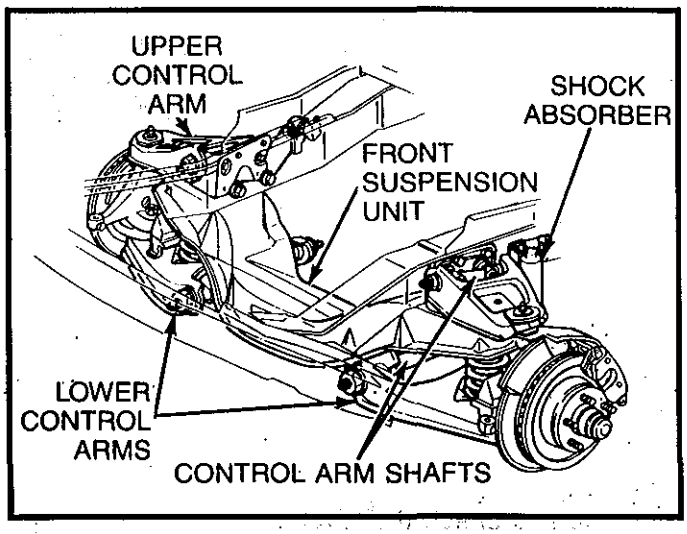
2. Move pump, with belt in place until belt is tensioned to the specifications.
3. Tighten the pump bracket adjusting nut. Then tighten the pivot bolt nuts.

Suspension System

The function of the suspension is to support the vehicle body and chassis over the tires and wheels, and to absorb and cushion road shock. The springs in the suspension cushion the ride while the shock absorbers dampen or control the excess up and down motion caused by variations in the road surface. Although the design of the front and rear suspension systems is different, their functions are similar.

Maintenance And Inspection

The front suspension must be lubricated periodically in accordance with the Maintenance Schedule. Grease fittings are indicated in the lubrication section of this manual.



When the suspension is being lubricated, check the components for obvious signs of damage or wear. Leakage from the shock absorbers may indicate a need for replacement.

Wheel Bearing Lubrication

As a part of normal service, remove, clean, inspect, and lubricate the front wheel bearings once each year, or 20,000 miles, whichever comes first.

Shock Absorber Diagnosis

Before assuming that shock absorbers are defective, check the following:

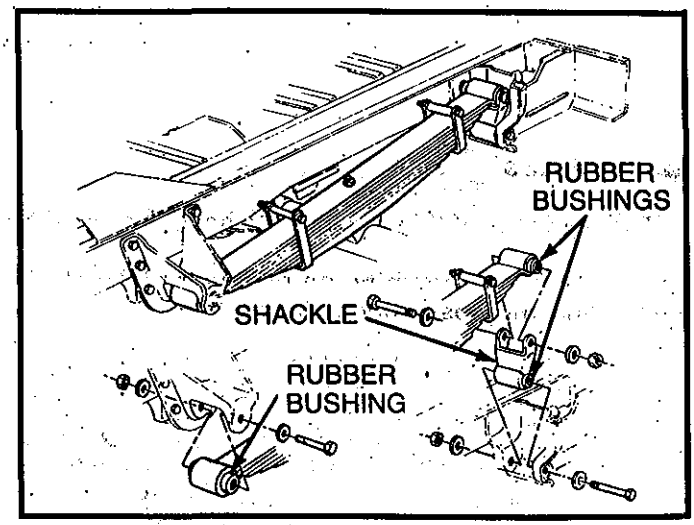
* Tire pressure—Check tire pressure. Be sure it meets specification. Poor vehicle control and ride complaints are often caused by improper tire inflation.
* Vehicle load conditions—Unusual load conditions can affect the ride and handling of the vehicle. Check the distribution of the weight in the motor home. Reposition the load as necessary. See "Loading And Weighing" section of this manual.
* Ride and handling check—After completing the above, drive the vehicle to see if the problem has been corrected. If the problem still exists, the shock absorbers may be the cause. Refer service to an authorized Fleetwood Service Center.

Rear Suspension

No lubrication is required in the rear suspension. However, inspect the suspension components periodically. Look for worn or damaged parts such as weak or broken spring leaves, leaking shock absorbers, or loose or broken mounting bolts. Check for even ride height left to right. Replace any worn or damaged parts.

Check and re-tighten the U-bolts attaching the rear axle to the leaf springs after the first 500 miles of vehicle operation. Recheck the U-bolt torque each 10,000 miles thereafter. Torque specifications are listed in the chart.

If the unit is equipped with air suspension components, be sure to inspect them according to the literature included in the Owner's Information Package. Be sure to keep them inflated to the recommended pressures.



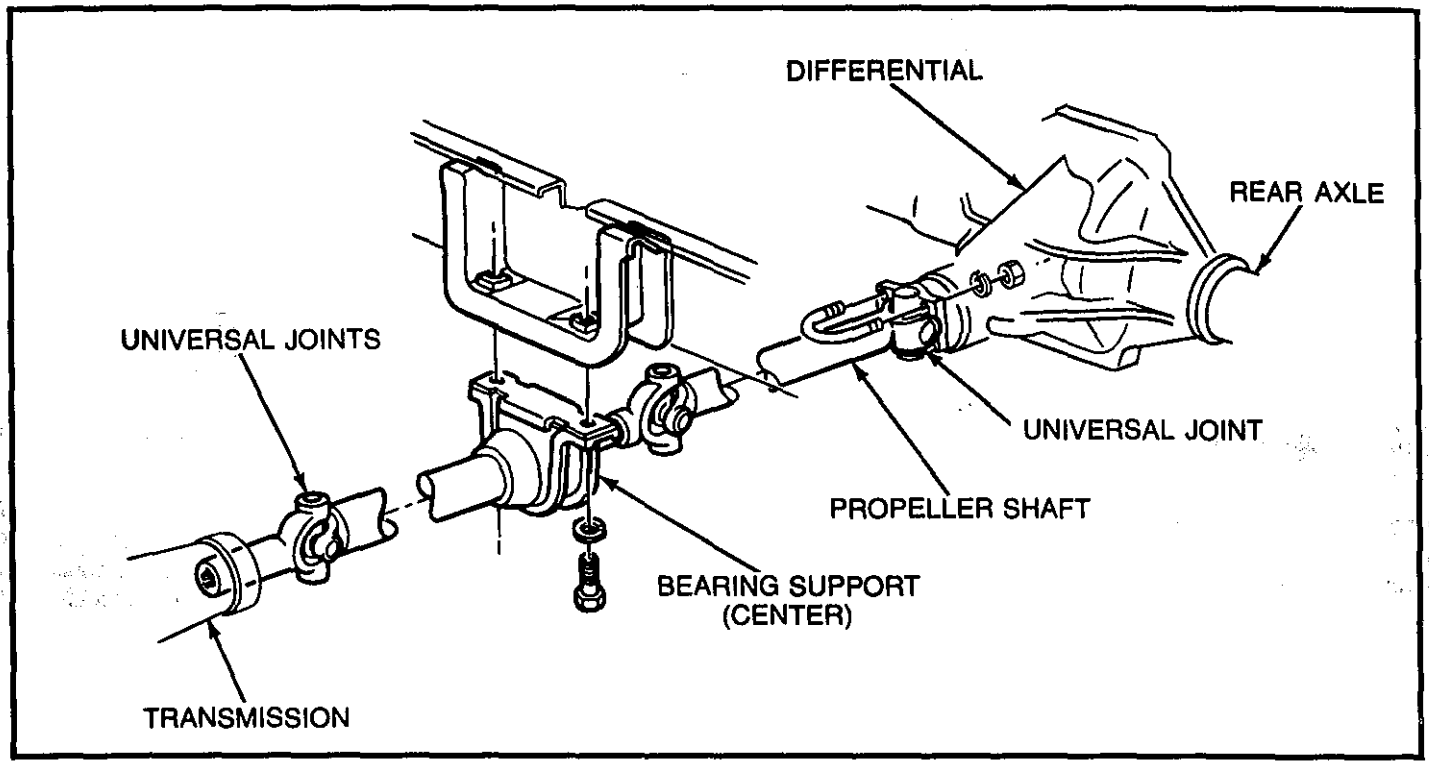
DRIVE SHAFT AND UNIVERSAL JOINTS

The drive shaft is a steel tube used to transmit power from the transmission to the differential. A universal joint and splined slip yoke are located at the transmission end of the shaft, where they are held in alignment by a bushing in the transmission rear extension. The slip yoke permits fore and aft movement of the drive shaft as the differential assembly moves up and down. The spline is lubricated internally by transmission lubricant or grease. An oil seal at the transmission prevents leaks and protects the slip yoke from dust, dirt and other harmful material.

The drive shaft is a balanced unit. Keep it free of undercoating and other foreign material that could upset shaft balance.

On models that use two- or three-piece shafts, the shafts are supported in rubber cushioned ball bearing assemblies. These center bearings are permanently lubricated and sealed.

Generally, the drive shaft and universal joints require little maintenance. Inspect them periodically, or during chassis lubrication. If the area around the universal joint caps appears dry, the bearings may need relubrication or the universal joints may need to be replaced. A failing universal joint often squeaks on start up or klunks with direction change.

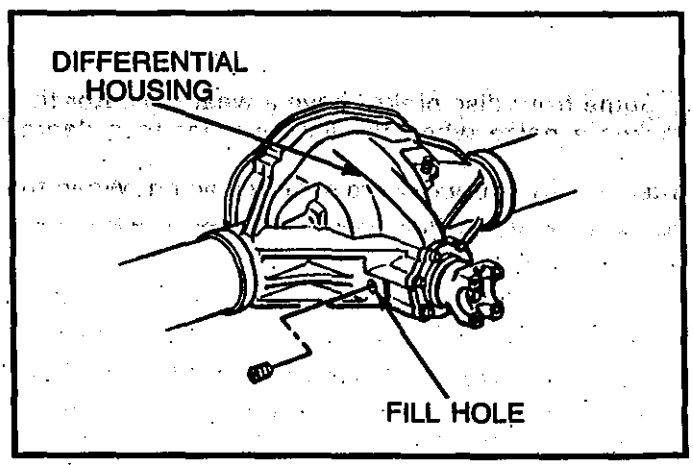


REAR AXLE

The rear axle assembly consists of the drive pinion, ring gear, differential and axle shafts in one housing. The drive pinion transfers power from the drive shaft to the ring gear which drives the axle shafts and rear wheels.

The differential requires little maintenance. Check the fluid level during chassis lubrication. Change the fluid as shown in the Maintenance Schedule for the vehicle.

To check differential fluid level, remove the plug. If the fluid level is sufficient, fluid will seep out of the opening. If it doesn't, add fluid as necessary. Replace the plug, making sure it is properly seated.



BRAKES

There are two brake systems on the motor home, the service brakes and the parking brakes.

Filling the Master Cylinder

The master cylinder must be kept properly filled to insure adequate reserve and to prevent air from entering the hydraulic system. However, because of expansion due to heat absorbed from the brakes and from the engine, the master cylinder must not be overfilled.

The master cylinder is located under the floor on the driver's side of the engine(P-Series). The position of the master cylinder on the P-Series may require the use of a flashlight and mirror to check the fluid level.

Thoroughly clean the reservoir cover before removal to avoid getting dirt into the reservoir. Remove the cover and diaphragm. Add fluid as required to bring the level to ¼" (plus or minus ⅛") from the lowest portion of the top of each reservoir. Use DOT No. 3 Hydraulic Brake Fluid or equivalent.

Do not use shock absorber fluid or any other fluid which contains mineral oil. Do not use a container which has been used for mineral oil or a container which is wet from water. Mineral oil will cause swelling and distortion of rubber parts in the hydraulic brake system and water will mix with brake fluid, lowering the fluid boiling point. Keep all fluid containers capped to prevent water contaminatiom.

Brake Hose Inspection

Inspect the flexible hydraulic brake hose which transmits hydraulic pressure from the steel brake pipe on the frame to the rear axle and to the calipers regularly in accordance with the Vehicle Maintenance Schedule. Check for road hazard damage, cracks and chafing of the outer cover, and for leaks and blisters. A light and mirror may be needed for an adequate inspection. If any of the above conditions are observed on the brake hose, have it replaced.

Lining Inspection

Inspect the brake linings per the Vehicle Maintenance Schedule and any time that the wheels are removed (tire rotation, etc.)

Some front disc brakes have a wear indicator that makes a noise when the linings wear to a degree where replacement is required. The spring clip is an integral part of the inboard shoe and lining. When the lining is worn, the clip contacts the rotor and produces a warning noise.

Brake Drum Inspection

Whenever brake drums are removed, they should be thoroughly cleaned and inspected for cracks, scores, deep grooves and out-of-round.

A cracked drum is unsafe for further service and must be replaced. Do not attempt to weld a cracked drum.

If brake linings are to be replaced, a grooved drum should be turned or replaced for use with new linings. A grooved drum, if used with new lining, will not only wear the lining, but will make it difficult, if not impossible, to obtain efficient brake performance.

An out-of-round drum makes accurate brake shoe adjustment impossible and is likely to cause excessive wear of other parts of brake mechanism due to its eccentric action. An out-of-round drum can also cause severe and irregular tire tread wear as well as pulsating brake pedal. When the braking surface of a brake drum exceeds the factory specification limits in taper and/or out-of-round, have it turned to true up the braking surface, or have it replaced.

PARKING BRAKE

Adjustment of the parking brake cable is necessary whenever holding ability is not adequate or whenever the center brake cables have been disconnected. An improperly adjusted parking brake cable may also cause the brakes to drag.

The service brake must be properly adjusted as a base for parking brake adjustment; conversely the parking brake must be properly adjusted for the service brake to function as intended.

Inspection

If complete release of the parking brake is not possible without forcibly returning it to its released position, or if application effort is high, check the parking brake assembly for free operation. If operation is sticky or binding is experienced, correct as follows:

1. Clean and lubricate brake cables and equalizer with Delco Brake Lube (or equivalent).
2. Inspect brake assembly for straightness and alignment (replace if necessary).
3. Clean and lubricate parking brake assembly with Delco Brake Lube (or equivalent).
4. Check routing of cables for kinks or binding.

Cable Adjustment

1. Turn adjusting knob on parking brake lever counterclockwise to stop.
2. Apply parking brake.
3. Loosen nut at intermediate cable equalizer and then adjust nut to give light drag at rear wheels.
4. Readjust parking brake lever knob to give a definite snap-over-center feel.

NOTE: This fastener is an important attaching part in that it could affect the performance of vital components and systems, and/or could result in

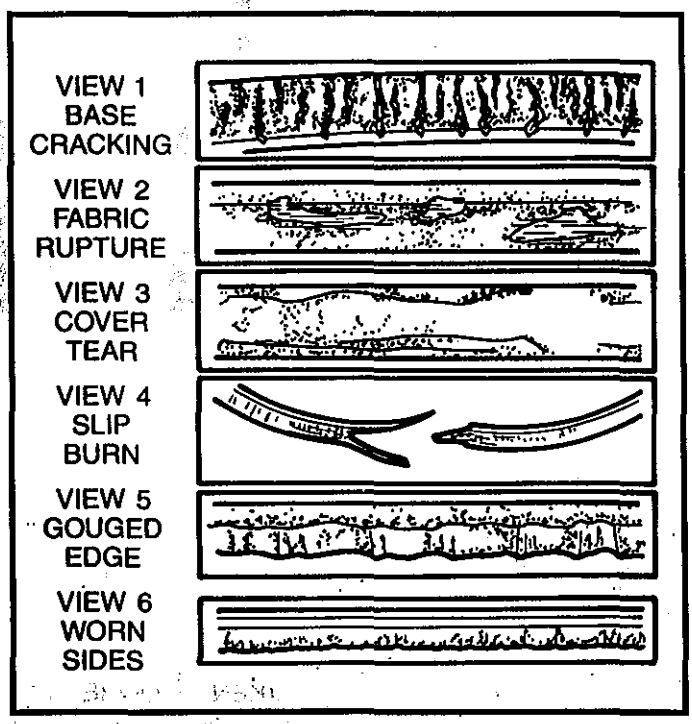
major repair expense. It must be replaced with one of the same part number or with an equivalent part if it becomes worn or damaged. Do not use a replacement part of lesser quality or substitute design.

DRIVE BELTS AND SPECIFICATIONS

Proper care and maintenance of drive belts is an important part of good engine maintenance. Proper belt tension and the condition of the pulley grooves are of primary concern.

Since belts and pulleys wear with use, look at all frictional surface areas for signs of wear. Normal wear can be recognized as even wear, belts will eventually show evidence of base cracking (see below). Replace belts before or as soon as cracking becomes evident. Unusual signs of wear indicate some corrective action is necessary.

When checking, remember failed or partially failed belts shown to be defective may have been damaged by a bad pulley, a misaligned drive or by some faulty mechanical component.



Base Cracking

Excessive cross-checking (View 1) extending into the rubber on the base of a belt and showing little or no side wear indicates that the belt has run a relatively short time and that it must be replaced. Small cracks only in the cover material do not indicate belt failure.

If the belt fails after three or four seasons of use, the belt should not be classified as being defective. However, if the base of the belt also shows cross-checking, the belt has been exposed to weather to the extent that the inner fabric is beginning to rot.

Fabric Rupture

A fabric rupture (View 2) can be caused by operating a belt over a badly worn pulley, by too much tension which forces the belt down into the groove, or by foreign objects falling into the pulley groove while the drive is operating.

Cover Tear

A tear in the cover of a belt (View 3) is normally a result of the belt accidentally coming into contact with some part of the application. It is no fault of the belt or its construction.

Cover tears are usually caused by belts running too loose, allowing them to "throw-out" centrifugally and rub other parts of the application. Proper belt tension will prevent this from happening.

NOTE: A slight raveling of the belt covering at the splice location does not indicate imminent belt failure. Simply cut off loose raveling.

Slip Burn

This belt (View 4) was ruined by operating too loose. The belt slipped under load. And when it finally grabbed, it snapped.

Proper belt tension would have avoided this failure.

Gouged Edge

A gouged edge in a belt (View 5) can be caused by a damaged pulley or interference with some part of the application.

Check the condition of the pulley. Make sure the belt does not rub on any part of the application while operating.

Worn Sides

Badly worn belt sides (View 6) result from long operation without enough tension. The sides will be worn and slightly burned around the entire circumference.

Check for proper belt tension. Also check the pulleys for incorrect alignment.

Excessive Stretch

A belt that stretches excessively is one that stretches beyond the adjustment provided to take up normal belt stretch.

Lumpy Belts

Lumpy belts usually occur and are more noticeable on variable speed drives and other high-speed belt installations. The result is excessive vibration. If belts are not relieved of tension while the engine or vehicle is stored, they will often cause temporary vibration upon start up. Give them time to straighten out.

Internal Cord Failure

Failure of one or more of the internal tension cords will result in the belt rolling out of the pulley groove. Cords can be broken by prying the belt over the pulley.

Improper Length

It is possible that an improper length belt could accidently be installed on an engine. Always check to be certain that the belt length is correct before the belt is installed.

BELT REPLACEMENT

Here are a few service tips for replacing belts.

Replace Belts in Matched Sets

Never replace just one belt on a 2-groove, single pulley setup.

Never install one belt from a different set of matched belts. Install a complete, matched belt set.

Check Condition of Pulleys

Always check the condition of pulleys before replacing belts. Inspect the pulleys for chips, cracks, bent sidewalls, rust, corrosion, etc. Replace any pulleys found to be defective.

Check Pulley Alignment

Misaligned pulleys result in shortened belt life.

Check the alignment between pulleys as follows:

1. Position a straightedge or cord line to touch both pulleys at all points.
2. Rotate each pulley a half revolution and note whether the contact of either pulley with the straightedge or cord line is disturbed. If so, this indicates a bent shaft or warped pulley.

Belt Installation

Use the following procedure when installing new belts:

1. Move the belt tension adjustment to the position where it provides the most slack. In some cases it may be necessary to remove the accessory to install the belt.
2. Examine pulleys for chips, cracks, bent sidewalls, rust, corrosion or other damage.
3. Check pulley alignment.
4. Place belts in the pulley grooves by hand.

NOTE: Never pry or force a belt onto the pulley with a screwdriver, crowbar, wedge, etc., since both belt and drive can be damaged.

Belt Tension Adjustment

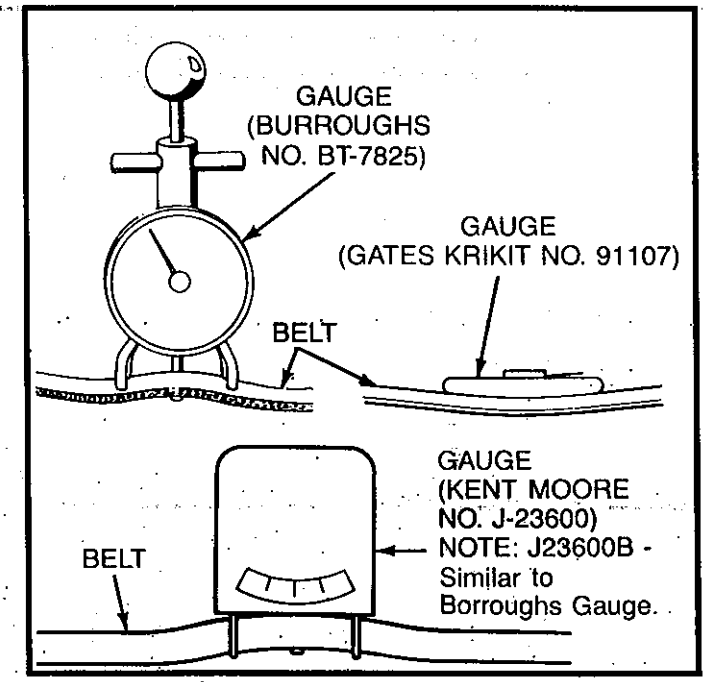
To carry their full load, belts must grip the entire area of contact with the pulley. When operated too loose, belts can slip, heat, burn, or grab and snap. More belts fail from under-tightening than from over-tightening.

When operated too tight, belts can damage the engine by causing side loading on the crankshaft, crankshaft bearings, and accessory bearings. Excess tension also stretches and weakens belts.

Proper Belt Tension (V-Belts):

When installing V-belts, keep the following in mind:

New drive belts will stretch after the first few hours of operation. Run the engine for 15 seconds to seat the belts, then re-tension them. Retighten fan drive, pump drive and battery-charging generator drive belts after ½ hour or 15 miles and again after 8 hours or 240 miles of operation. Thereafter, check the tension of the drive belts every 200 hours or 6,000 miles and adjust them if necessary.



Adjust the belt tension so that a firm push with the thumb at a point midway between two pulleys will depress the belt ¼ - ⅜ inch. If a V-belt tension gage is available, adjust the belt tension as outlined in the belt tension chart.

NOTE: When installing or adjusting accessory drive belts, be sure the bolts in the accessory adjusting pivot point and in the adjusting slot are tightened properly.

Do Not Use Belt Dressing

Belt dressing is not recommended for belts at any time. Most dressings contain chemicals which tend to soften belts. While this softening process does increase the friction between the belt and pulley grooves, the result is only temporary.

Belt Cleaning Instructions

Remove all grease and oil as quickly as possible before they can penetrate the belt and cause deterioration.

Clean the belts by wiping them with a clean cloth. Use a non-flammable cleaner or solvent to remove excess grease and oil. Water and a detergent soap can also be used, but they are not as satisfactory as a non-flammable cleaner.

WARNING: TO REDUCE THE RISK OF PERSONAL INJURY, DO NOT ATTEMPT TO CLEAN THE BELTS WHILE THE ENGINE IS RUNNING AND NEVER USE FLAMMABLE CLEANING SOLVENTS!

"HOT START" PROBLEM CONDITIONS

The following information has been extracted from three GM Service Bulletins relating to "hot start" problems. Problem conditions and corrective procedures are described.

Reference: GMC Dealer Service Technical Bulletin No. 78-T-1 (October, 1977)

(All Gasoline Engine Models)

A hard "hot start" condition can be caused by heat expansion of the starter solenoid "S" terminal, resulting in an internal open circuit.

To overcome the excessive "S" terminal expansion:

1. Remove ground cable from battery negative (-) post.
2. Remove heat shield from starter motor (where applicable).
3. Disconnect wire from "S" terminal, remove and discard existing nut which retains the stud to soleniod case and replace with flat washer, GM Part No. 131015 or equivalent, nut, GM Part No. 2030900 or equivalent, and torque nut to 12 to 17. lb.
4. Re-connect wire to "S" terminal with existing nut. Torque nut 12 to 17 in. lb.
5. Reinstall heat shield (where applicable).
6. Reconnect ground cabel to battery negative (-) post.

Reference: Chevrolet Dealer Service Technical Bulletin No. 78-T-28 (April, 1978)

(P-Series Motorhomes with Mark IV Engines)

High ambient and/or underhood temperatures can lead to component overheating. The two starting system components, most vulnerable to adverse thermal effects, are the battery and the starter motor solenoid as follows:

1. Batteries subjected to long term storage or operating conditions which do not keep the battery adequately charged may be marginal because of sulfation. When operated in high ambient temperatures, electrolyte temperatures may be excessive. During engine off hot soak periods, marginal batteries adjacent to radiators may approach the boiling point of the electrolyte (about 230°F) depending on state of discharge.

NOTE: some motor home body builders install batteries in a tray near the radiator, while others use a sliding shelf away from engine temperatures. The trade-off, however, is longer battery cables and a higher voltage drop. Battery thermal guards or heat shields, reflective paints, and/or battery relocation are appropriate where evidence indicates battery thermal problems.

2. The starter motor solenoid, in close proximity to the exhaust pipe, is subject to radiant heating, which ultimately increases coil resistance. The resistance increase, decreases current flow to the point where the coil cannot be energized with the available applied voltage.

   In some cases, the battery voltage available for solenoid operation is adequate when the coil is relatively cool, but insufficient when the coil is hot. Typically the voltage drop across the ignition switch, neutral start switch circuit, to the solenoid, should not exceed 2 volts. This, normally, would allow approximately 8 volts for solenoid operation. Unfortunately, the ignition/start circuit voltage drop can exceed 4 volts, due to switch contact resistance, wire lengths, etc. Since the soleniod requires a minimum of 7 volts for positive operation, a marginal or "no start" situation can occur.

   On "hot start" complaint vehicles that exhibit symptoms related to inoperative solenoids, the use of magnetic switch, GM Part No. 001486 or equivalent, is recommended. It is, in effect, a high current relay whose contacts are connected across the solenoid "S" and B" terminals. The coil of the magnetic switch is connected in series with the ignition/neutral start switch circuit. Maximum available voltage is, therefore, applied to the soleniod, since the voltage drop in the magnetic switch contact circuit is virtually zero. Service Bulletin No. 78-T-28 distributed to GM Dealers describes in detail, the procedure for installing the magnetic switch.

In field situations where it is impractical to install a magnetic swicth, use of reflective paint to reduce heat absorption is an alternative. Remove dirt from the starter motor and solenoid. With the starter motor installed on the engine, apply reflective paint - Krylon #1402 High Temperature (1200°F) Aluminum Paint, or equivalent - to all accessible surface areas of the starter motor and solenoid. This is a temporary measure since any accumulation of dirt will reduce its effectiveness.

Reference: Chevrolet Dealer Service Technical Bulletin No. 80-T-27 (March, 1980)

(G- and P-Series Models Produced Prior to March 15, 1980 - Approx.)

On some 1970-80 vehicles, the starter motor may not engage after the engine has been turned off and allowed to "hot soak" for a short period of time (10-15 minutes). This condition can result from increased starter solenoid resistance when the solenoid temperature increases. Increased resistance causes reduced current flow to a point where the solenoid may not "pull in". The symptoms are "no clicking noise" and no cranking when the ignition key is turned to the start position.

If normal diagnosis of battery or wiring does not disclose any out-of-line conditions, the problem may be caused by the solenoid return spring. This problem can be corrected by installing a new shorter return spring, GM Part No. 1978281 or equivalent. Or, install a new high-heat resistant solenoid, GM Part No. 1114458 (brown color) or equivalent, which incorporates the shorter return spring.

EXTERIOR

Some exterior parts of your motor home are made of fiberglass. The finish on these parts is durable, but not indestructable. Any material and finish will deteriorate in time. Exposure to sunlight, moisture and air-borne pollutants can chemically alter the composition of the base and finish materials and cause dulling and fading of the finish. Generally, changes in the finish due to weathering are cosmetic—they are on the surface of the part and do not affect its strength. Weathering can take several forms:

* Chalking—The surface finish has broken down into a fine powder. It usually will wash off.
* Fading—The color of the finish has changed. This can be caused by chemicals spilled on the surface, staining it, or by changes in the pigments used in the finish.
* Yellowing—Usually caused by chemical changes in the material and pigments.

The best insurance against these effects is routine maintenance. If the finish is not washed thoroughly and waxed, the surface can deteriorate very rapidly. You may then have to buff or paint the surface to restore the finish. The following maintenance guidelines can help you reduce these weathering effects:

1. Wash the exterior of the motor home monthly, at least. Wash with a mild soap. Avoid strong alkaline cleaners and abrasives.
2. Wax the exterior at least once a year—twice, if possible—with a wax formulated for fiberglass. When waxing, always read and follow the instructions and precautions on the container. Some cleaners and waxes are recommended for use on only certain types of surfaces. Sometimes one part may weather more rapidly than others. In cases where this has happened, a light rubbing compound may be required. Always follow rubbing compound with a high-quality wax.
3. Store the motor home away from direct sunlight.

Stains

Staining can generally be caused by two types of substances—water soluble and non-water soluble. Water soluble stains can usually be washed away with water and mild detergents or a fine cleanser. If you use a cleanser powder, first mix it with water forming a runny paste. Start with a small test spot to be sure the finish will not be damaged. Continue with light, circular rubbing motions. Follow the washing with wax.

Non-water soluble stains are usually oil-based. Removal of this type of stain may require the use of highly flammable or poisonous solvents. Refer this type of service to your dealer or an authorized Fleetwood Service Center. Wash the exterior of the motor home as you would your car or truck. Never use strong solvents or harsh abrasives to clean the exterior metal or fiberglass surfaces. A good quality automotive wax-polish will help maintain the finish.

Windows, Doors, Vents & Locks

Keep moving parts of windows and latches adjusted and maintained. Lubricate the windows with a light oil or powdered graphite at least once a year. Check and tighten the screws holding the windows in place periodically. Check the weather sealant. See SEALANT RENEWAL. Clean screens by gently wiping with a damp cloth or soft flat brush.

Inspect the sealants around doors and windows every three months. See SEALANT RENEWAL.

Lubricate locksets, latches and hinges in entry doors and exterior storage compartments at least annually with powdered graphite. If the motor home is located at a beach or is exposed to salt air, more frequent lubrication may be required. Record the identification number of the keys in the records space provided in this manual. This information will help you get duplicate keys in the event of loss.

Sealant Renewal

The adhesives and sealants used in the construction of your motor home were developed to remain waterproof under sustained effects of weather and vibration. However, even the finest materials will eventually dry out and lose their effectiveness under constant heat of the sun and attack by other elements. This section outlines the procedures that you must follow to maintain the weatherproof integrity of your motor home. Leak damage caused by neglect to follow these procedures may affect your warranty coverage.

Your dealer can perform the resealing inspection and work for you, and he has current information on sealants used in your motor home, and can recommend the appropriate sealants for you if you prefer to do this work yourself. Always use the recommended sealants.

Roof Resealing

Inspect the roof at least every six months, paying particular attention to the seams where the pieces of sheetmetal and/or fiberglass are joined. Carefully inspect the flange connections between air conditioners, vents, skylights, etc. If signs of cracking, weathering, or drying are evident, reseal as follows:

1. Remove any loose or cracked material down to bare metal or fiberglass. Use a wooden or plastic tool that will not gouge, pierce or otherwise damage the roof or wall surfaces.
2. Clean all areas requiring repair with a stiff wire brush. This is to be done dry. DO NOT WASH WITH SOAP AND WATER, OR SOLVENTS. Be sure the surface is as dust-free as possible.
3. Check and tighten any loose screws, bolts, or other fasteners. Be careful not to overtighten, or stripping will occur.
4. Apply the new sealant in a continuous bead along the seams and flanges, being careful not to leave any voids. Apply enough sealant to flow over the heads of all fasteners. Do not smooth out sealant by tooling.
5. Allow at least 48 hours for the sealant to set completely (firm and tack-free) when firmly pushed with the thumb) before washing or waxing the motor home.

Door & Window Re-Sealing

Inspect the sealants around windows and doors at least every three months. If any of the following defects are evident during inspection, the affected areas must be resealed:

Excessive amount of sealant protruding from joints

Sealant cracked or peeling

Voids in sealant

NOTE: Do not seal the bottom flanges of windows and doors. Two sealant voids have been intentionally left in the bottom flange sealant to provide exterior drainage in the event of leakage.

If you find any of the above defects:

1. Use a plastic scraper to remove excess sealant.
2. Clean all areas to be resealed with mineral spirits and clean rags.

WARNING: MINERAL SPIRITS IS A FLAMMABLE LIQUID. USE EXTREME CARE WHEN HANDLING AND USING. DO NOT EXPOSE TO OPEN FLAME, SPARKS, OR SMOKING MATERIALS. DO NOT USE IN UNVENTILATED AREAS.

Make sure that all areas to be resealed are absolutely dry before new sealant is applied.

INTERIOR

Upholstery & Drapes

Professionally dry clean only. Frequent vacuuming or light brushing between cleanings will help prevent accumulation of dirt and grime. Use of water-based or detergent based cleaners may cause shrinking. Water stains may become permanent.

WARNING: DO NOT USE LACQUER THINNER, NAIL POLISH REMOVER, CARBON TETRACHLORIDE, SPOT REMOVER, GASOLINE, OR NAPHTHA FOR ANY CLEANING PURPOSE. THESE PRODUCTS MAY CAUSE DAMAGE TO THE MATERIAL BEING CLEANED, AND MAY BE HIGHLY FLAMMABLE OR POISONOUS.

Wall & Ceiling Panels

The paneling and the ceiling of your motor home may be any of several finishes and textures. Never use harsh detergents or abrasive cleaners on walls or ceilings. Most surfaces will clean with a soft cloth moistened with mild liquid detergent in warm water. Do not use large amounts of water which could saturate the material.

Floors & Carpeting

Vinyl flooring requires only washing and periodic waxing. Vacuum carpeting regularly, and clean it with a quality carpet cleaner.

PREPARING THE MOTOR HOME FOR LONG-TERM STORAGE

STORAGE CHECKLIST

The following checklists will help you perform the steps necessary to prepare your motor home for storage. Storage conditions vary, and several checklists are provided: a) Short-term Storage Above Freezing, b) Long-term Storage Above Freezing, c) Winter Storage Below Freezing. Use the checklist that applies to the storage conditions you anticipate. These checklists can not include every detail required and you may want to expand them to suit your needs.

Short-term Storage (less than 60 days) Above Freezing

* Wash the motor home exterior and underside. Hose off accumulations of mud and road salts. Rinse the exterior weekly to remove accumulations of dust and debris.
* Inflate tires to maximum rated cold pressure.
* Park the motor home as level as possible front to rear and side to side. Block wheels front and rear, and leave the parking brake OFF.
* Check the charge in both the vehicle and auxiliary batteries with a hydrometer. Hydrometer reading should be 1.255. Add colorless, odorless drinking water if necessary, and charge to a reading of 1.255.
* Remove battery cables. Clean terminals, top and sides of batteries and battery boxes. Reinstall cables, dress with a plastic ignition spray.
* Drain holding tanks, toilet, and living area water systems. Turn off water pump and water heater master switches.
* Turn off LP gas at tank valve.
* Turn off refrigerator and furnace.
* Turn all range and oven burner valves and pilot valves (if equipped) off.
* Remove all perishables from refrigerator and galley cabinets. Block refrigerator open to reduce odor buildup. An open box or tray of baking soda in the refrigerator will help absorb odors.
* Open closet doors, drawers, and cabinets so air can circulate through them.
* Slightly open one window toward the front and one toward the back for ventilation.
* Close all roof vents. Be sure vent fan and range hood fan switches are off.
* Cover exterior vents (water heater, furnace, range hood, refer to prevent insects from getting in. Be sure to remove all covering material before using appliances or vents.
* Cap or close holding tank drain, city water inlet and fresh water fill spout.
* Turn off all radios, TVs, interior and exterior lights.
* Close drapes and curtains.
* Check motor home weekly. Start and run the engine for about 15 minutes weekly. Check engine oil, transmission fluid, coolant levels.

Long-term Storage Above Freezing

* Perform all the preceding, except run engine to normal operating temperature. Drain engine oil, replace filter, refill engine with fresh oil. Operate air conditioner to lubricate compressor seals.
* Remove windshield wiper blades and store them inside the motor home.
* Disconnect batteries and check charge (Specific Gravity) with a hydrometer every 30 days. Recharge if necessary.
* Rather than run the engine every week, run the engine every 30 days. Turn the vehicle air conditioner ON during this run. Check fluid levels as for Short-term Storage.
* Shield tires from direct sunlight.
* Check tire inflation pressures every 30 days. Maintain maximum rated cold inflation pressure.
* Remove high grass or weed growth.

WINTERIZATION AND WINTER STORAGE

Winter in most parts of North America can be harsh, and can take its toll on almost all types of vehicles and equipment. The rigors of winter should not discourage you from enjoying the RV life-style, though. Thoughtful planning and preparation for the winter season can help eliminate equipment failures and breakdowns, and can extend the life of your motor home and its systems.

Your dealer can advise you concerning specific winterization procedures and products for your climate area or the areas through which you will be traveling. Your dealer may also provide winterization service for all appliances and systems in the motor home. Before the winter traveling season starts, service the motor

home chassis thoroughly. Follow the lubrication schedule and be sure all chassis components are ready for the stress of winter driving. Thoroughly wash and wax the motor home body. Check undercoating, and re-apply if necessary. Check windshield wiper blades and replace them if they are broken, torn or fatigued. Check tires, brakes, and lights. A "physically fit" motor home will stay in shape much better through the winter.

If you choose not to travel during the winter and will be storing your motor home during periods of freezing temperatures, follow a thorough Winter Storage procedure.

Winter Storage Below Freezing

Protecting the plumbing systems in your motor home is the most important aspect of long-term winter storage. Extensive damage to the plumbing fixtures and components, as well as other potential problems can be avoided by proper draining and antifreeze protection. The following is a procedure checklist you can follow if you prefer to winterize your vehicle yourself. (See PLUMBING Section)

Water System Winterizing

* Perform a complete chassis service and lubrication as outlined in the Chassis Operator's Manual.
* Drain the fresh water tank by opening the water tank drain valve.
* Turn water pump on (12-volt DC power on.) Open a cold water faucet. When the flow of water stops, turn the pump off.
* After opening hot and cold water faucets, open the drain valves on HOT and COLD water pipes. These valves are located in the water utility compartment and drain out the bottom of the motor home.
* Drain the water heater by opening the drain valve at the bottom of the heater and open the safety valve. Open the hot water faucets.
* Open all cold water faucets, and depress the flush pedal or pull the flush levers on the toilet. When each faucet has been opened, drained, and closed, close the water line drain valves.
* Drain the waste water system by following the normal procedure for draining the holding tanks. (See PLUMBING Section)
* Apply graphite lubricant to the knife valve actuator rod.
* Be sure ALL water from ALL plumbing fixtures has been drained.

CAUTION: DRAINING THE WATER SYSTEM ALONE WILL NOT PROVIDE ADEQUATE COLD WEATHER PROTECTION. IF THE MOTOR HOME IS TO BE UNHEATED DURING FREEZING TEMPERATURES, CONSULT YOUR DEALER FOR THE BEST WINTERIZING PROCEDURE FOR YOUR CLIMATE. YOUR DEALER CAN WINTERIZE YOUR MOTOR HOME FOR YOU OR CAN SUPPLY YOU WITH ONE OF THE SPECIAL ANTIFREEZES WHICH ARE SAFE AND APPROVED FOR USE IN RV WATER SYSTEMS. FOLLOW THE INSTRUCTIONS FURNISHED WITH THE ANTIFREEZE.

WARNING: DO NOT USE AUTOMOTIVE OR WINDSHIELD WASHER ANTIFREEZE IN THE MOTOR HOME WATER SYSTEM. THESE COULD BE HARMFUL IF SWALLOWED.

* When filling the plumbing systems with antifreeze, be sure to open and operate all fixtures and valves allowing the antifreeze solution to flow freely.
* Pour a cup of antifreeze solution down each drain.
* Install all protective caps:
  * Water tank fill
  * City water inlet cap
  * Waste tank drain outlet cap
* After the water systems are completely fulled with antifreeze, remove the water purifier filter cartridge.

General Vehicle Winter Storage Checklist

* Thoroughly service the motor home chassis as discussed above.
* Perform steps as listed under Long-term Storage checklist.
* Check engine coolant level and antifreeze protection. Drain and flush engine cooling system and add antifreeze to protect the system to the lowest expected storage temperature (at least -20°F).
* Close and cover all vents to prevent entry of snow or small animals and insects.
* Service and winterize the AC generator (if equipped) as outlined in the generator operating manual included in your Owner's Information Package.
* Check the sealant around all roof and body seams and windows. Reseal if necessary. See "SEALANT RENEWAL" section.
* Lubricate all locks and hinges with light oil or graphite.
* If you expect to store the motor home for an extended period, you may want to support the weight of the motor home on appropriate blocks or jack stands. This will take the weight off the tires and reduce the formation of flat spots. Do not use hollow core concrete blocks for blocking. Cover the tires with cloth or cardboard. You may also choose to coat them with a special tire dressing to reduce deterioration from ultraviolet

rays and weather. If you block the vehicle this way, you may reduce tire pressure to about 10-20 psi. Be sure to reinflate the tires up to the specified pressure before you remove the blocks or jack stands.

* Winterize the LP gas system. Your LP dealer or service station can perform this for you. Cover the regulator to prevent moisture from entering and freezing in the vent opening.
* During extended storage, charge and remove both the vehicle and auxiliary batteries. Store them in a cool, dry place, and check the charge and water level every 30 days.
* Remove all perishables and canned goods.
* Clean refrigerator, and prop door open to allow circulation of air.
* Remove, clean and replace air conditioner filters.
* Cover the air conditioner shroud(s).
* Mask the windows on the inside to reduce curtain, drape, and carpet fading.
* Thoroughly clean the interior of the motor home, including carpets, counter tops, lavy, tub & shower, and galley.
* Remove batteries in clocks or other battery-powered devices.
* Remove snow accumulations as often as possible.

REACTIVATING THE MOTOR HOME AFTER STORAGE

If the motor home was properly and carefully prepared for storage, taking it out of storage will not be difficult. You should not experience any but minor surprises such as animal nests underneath or minor body scratches, and of course dirt accumulations on the outside. The following procedure checklist assumes that you stored the motor home with care. If you didn't, and extensive freeze damage or other serious deterioration has occurred, please consult your dealer or an authorized Fleetwood Service Center for advice.

* Thoroughly inspect the outside of the vehicle. Look for animal nests in wheel wells, under the hood, or in other out of the way places.
* Open all doors and compartments. Check for animal or insect intrusion, water damage, or other deterioration.
* Remove all appliance vent, ceiling vent and air conditioner coverings. Be sure all furnace, water heater, and refrigerator openings are clear and free of debris or insect nests, webs, etc.
* Check tire pressures. Reinflate to specified cold pressure.
* Check charge level in batteries. Refill and recharge as necessary. Reinstall batteries if necessary. Be sure cable ends and terminals are clean and free of corrosion.
* Check all chassis fluid levels—engine oil, engine coolant, power steering fluid, brake fluid, transmission fluid, rear axle oil.
* If the motor home has been stored on blocks or jacks, remove these.
* Disconnect vehicle air conditioner clutch wires. Turn A/C compressor by hand a few turns to loosen the seal. If you can turn the compressor, reconnect the wires. If the compressor cannot be turned by hand, do not reconnect the clutch wires, and do not operate the vehicle air conditioner until the system is checked by a qualified air conditioning technician.
* Remove masking from inside windows.
* Open vents and windows for ventilation.
* Be sure all 12-volt DC and 120-volt AC circuit breakers are off.
* Start engine. Check instruments for proper readings. If oil pressure indicator does not indicate sufficient oil pressure, shut down engine immediately. Have problem diagnosed by your dealer, or other qualified chassis technician.
* Be sure all other engine instruments indicate proper readings. Run engine up to operating temperature. Shut engine down. Check all fluids. Top off if necessary.
* During engine run, check the operation of headlights, taillights, turn signals, backup lights, clearance lights, license plate light, emergency flashers. Operate the vehicle air conditioner.
* Drain, flush, and sanitize the fresh water system as outlined in the "PLUMBING" section.
* Drain the holding tanks as outlined in the "PLUMBING" section. Inspect the drain hose for leaks. Replace if necessary—repairs are usually not effective.
* Install a new water purifier cartridge.
* Operate all faucets and fixtures in the fresh water system. Check for leaks at all joints and fittings. Repair if necessary.
* Inspect the LP gas system. Remove the regulator cover, check for damage. Inspect all pipes and fittings in the system. Check for leaks as outlined in the "LP GAS" section. If the LP tank shows sings of rust or corrosion, sand and paint it as necessary.
* Turn on 12-volt DC circuit breakers and inspect fuses. Operate all 12-volt lights and accessories.
* Install new batteries in battery-operated devices.

* Check monitor panel operation.
* Open and operate vents and vent fans, including the range hood fan.
* Operate each LP gas appliance. Observe all burner/pilot flames for proper color and size. In any case, have the LP gas regulator adjusted for proper pressure.
* Inspect the 120-volt electrical system—power cord, converter, all outlets, and any exposed wiring. If defects are found, refer service to your dealer or an authorized Fleetwood Service Center.
* Prepare the AC generator for operation following instructions in the generator operating manual in your Owner's Information Package.
* Turn on 120-volt AC circuit breakers.
* Start and run generator.
* Operate 120-volt AC appliances and air conditioners. Be sure to uncover air conditioner shroud(s).
* Inspect and clean the interior.
* Check the sealant around all roof and body seams and windows. Reseal if necessary. See "SEALANT RENEWAL" section.
* Lubricate all exterior locks, hinges, and latches.
* Reinstall windshield wiper blades. Check wiper/washer operation.
* Wash and wax the exterior. Inspect the body for scratches or other damage. Touch up or repair as necessary. Flush the underside thoroughly.
* Run thorough operational checks of steering, brakes, engine and transmission. Operate vehicle slowly during these checks to allow sufficient circulation of fluids and reseating of components.

Your motor home should now be ready for a new traveling season. If you choose, your dealer can double check your preparation and correct any defects or make any necessary adjustments.

NOTES

MAINTENANCE CHART

Service to be Performed	Service Interval				
	Each Trip	1,000 Miles	3 Months	6 Months	10,000 Miles Yearly
Wash Exterior	X				
Inspect Tires	X				
Rotate and Balance Wheels				X	
Lubricate Locks					X
Lubricate Hinges					X
Inspect and Clean Vents					X
Clean Battery Cables and Terminals			X		
Inspect Suspension					X
Service Chassis (See Chassis Manual)				X	
Torque Lug Nuts (See Chassis Manual		X			
Sanitize Water Tank			X		
Clean Drapes and Interior Fabrics					X
Service Power Plant (See Power Plant Manual)					
Check all exterior seams, roof, window, sidewall, windshield, etc.			X		
Reseal roof if necessary				X	
Reseal windows, sidewalls, doors				X	

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