



XLIII/XLVII OWNER'S MANUAL

Excellence by Design

Marathon coaches are often custom-built to their owner's specifications. If your coach is a custom design, it may have components or component placement that differs from what is shown in this manual. In addition, the floor plans and mechanical systems of Marathon conversions are under constant refinement and improvement. Information contained in this manual is subject to change without notice.

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Marathon Coach, Inc.
91333 Coburg Industrial Way, Coburg, Oregon 97408
www.marathoncoach.com

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To the owner:

We at Marathon Coach, Inc., would like to congratulate and thank you for becoming a Marathon Coach owner.

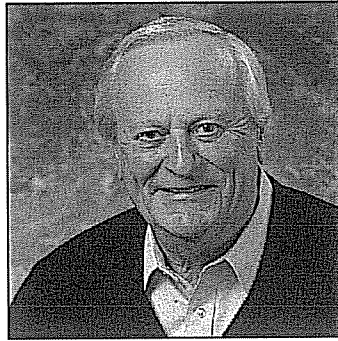
Much planning and effort have gone into producing what we feel is the best coach available today. Our aim is to deliver to you the most elegant and trouble-free touring experience possible. Providing you with knowledge of how to use the coach systems and furnishings is important in achieving our goals. This manual was written to help you understand, operate, and maintain your coach for many years to come.

Sincerely,

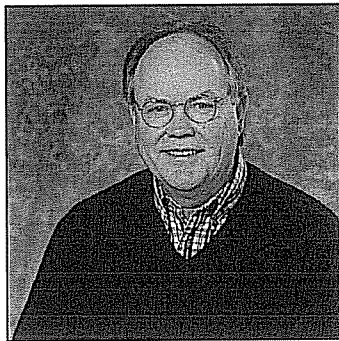
A handwritten signature in cursive script that reads "Bob Schoellhorn". The signature is written in black ink and is positioned above the printed name and title.

Robert A. Schoellhorn
Chairman and Chief Executive Officer

We Are Committed to Excellence



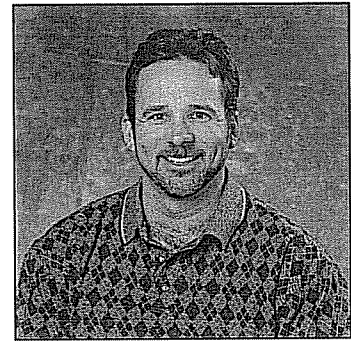
Bob Schoellhorn
Chairman
Chief Executive Officer



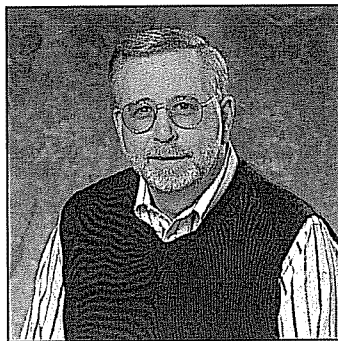
Charlie Myers
President
Chief Operating Officer



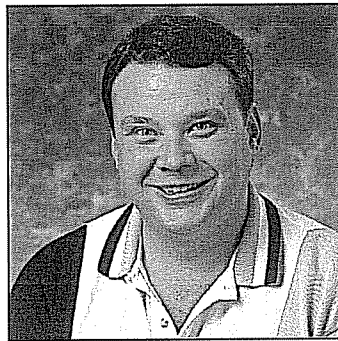
Steve Schoellhorn
Executive Vice-President



Stan Pickett
Executive Vice-President
Chief Financial Officer



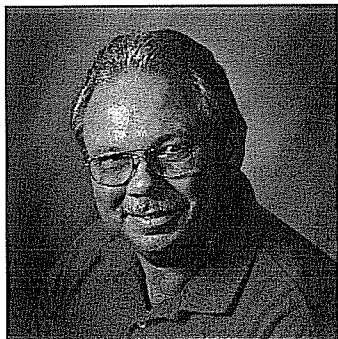
Carroll White
Executive Vice-President
Manufacturing Operations



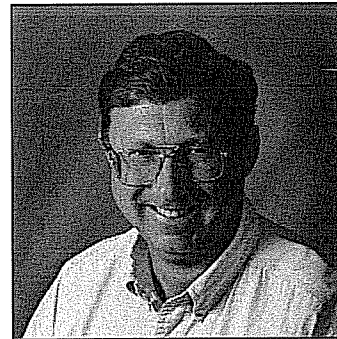
Brent Jackson
Vice-President
Manufacturing Technical
Support



Pat Sprenger
Service Manager
Coburg, Oregon



Bob Phebus
General Manager
San Antonio, Florida



Matt Matlach
Director of Operations
San Antonio, Florida



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24-Hour Emergency Service

(800) 365-0156

Service Center

(541) 343-0156

Service Manager

Pat Sprenger

Customer Technical Support

Leon Snider

(800) 365-0156

Business Offices

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Marathon Coach, Inc. • San Antonio, Florida

Service Center

(800) 437-8295

General Manager

Bob Phebus

Director of Operations

Matt Matlach

Assistant Service Manager

Ron LeClaire

24-Hour Detroit Diesel Service

(800) 445-1980

Allison Transmission

(800) 524-2303

West Coast 24-Hour Prevost Service

(800) 957-7386 • (800-993-7678)

East Coast 24-Hour Prevost Service

(800) 657-7386 • (800-657-7386)

United States

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Road Assistance Service: 800-463-7738 (Factory Line)

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North East Regional Field Service Manager

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800-537-7386

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South East Regional Field Service Manager

Robert Rayl
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Georgia, Tennessee

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Virginia, West Virginia

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Kevin Laughlin
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Illinois, Indiana, Kansas, Michigan, Missouri

North Central Regional Field Service Manager

Robert Hitt
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Iowa, Minnesota, Montana, Nebraska, North Dakota,
South Dakota, Wisconsin, Wyoming

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Don Arlett
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Arizona, Arkansas, Louisiana, Mississippi, New
Mexico, Oklahoma, Texas

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Mira Loma, CA 91752
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Robert Scott, Mgr.

Canada

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National Service Manager

Sylvain St-Amant

800-380-7738

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Prince Edward Island, Quebec

Regional Service Manager

Robert Dowd

888-387-7386

Ontario

Western Regional Service Manager

Dale Paziuk

888-397-7386

Alberta, British Columbia, Manitoba, Saskatchewan

Suppliers

Detroit Diesel Engine Help Line (24 hrs., 365 days)

800-445-1980

Allison Transmission U.S. Service Line

800-252-5283

Allison Transmission Canada Service Line

800-524-2303

Rockwell International Service Line

800-535-5560

Carrier Transicold Technical Support (Reg. hrs.)

800-450-2211

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Prevost Car Inc.

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Ste Claire, Quebec

CANADA, G0R 2V0

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Fax: 418-883-5158

Parts: 800-463-8878

Parts Fax: 418-883-4050

Service Center

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St-Nicolas, Quebec

CANADA, G7A 2N7

Main Office/Service:

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Fax: 418-831-9301



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CHAPTER 1 FIRE & LIFE SAFETY

Your Marathon coach is a complex machine and requires careful attention to ensure the safety of the occupants as well as the continued reliable operation of the coach. It's important to read and follow all the warnings and to perform the safety checks and maintenance described here.

Throughout this manual you'll find important safety information. Look for the following alert messages:

⚠ WARNING indicates a danger of severe injury or death if the instructions are not followed.

CAUTION alerts you to hazards or unsafe practices that could cause minor injury or product or property damage.

NOTE indicates helpful tips.

Marathon coaches are equipped with numerous built-in safety features. To preserve the highest possible level of personal safety, pay careful attention to the following reminders for proper use and maintenance of

your coach. Marathon recommends familiarizing yourself and occupants with all safety features and emergency procedures.

For detailed information on the various appliances and components supplied with your coach, see your owner's warranty file for product literature supplied by the manufacturer.

SMOKE AND CARBON MONOXIDE DETECTORS: PROTECT YOURSELF FROM THE DANGERS OF CARBON MONOXIDE
⚠ WARNING: Do not park your coach near sources of carbon monoxide gas. Read the following paragraphs carefully.

The carbon monoxide (CO) and smoke detectors installed in your coach are vital to occupant health, safety, and life. They are permanent fixtures and should never be removed or disconnected. Always test and maintain these devices according to the manufacturer's instructions as provided in your owner's warranty file.

it is extremely important to be knowledgeable and aware of hazards and safety precautions concerning these appliances. No portable gas barbecues are currently approved for use in or on an RV. Consumers who choose to use portable gas barbecues do so at their own risk.

Standard RV appliances that use LP gas are efficient and are safe when installed and used properly. These appliances are inspected, tested, and approved by certified testing laboratories. If your coach is equipped with an LP gas appliance, please observe all instructions and labels provided with it. Also be fully aware of the following precautions.

⚠ WARNING: Turn off all pilot lights and gas appliances during refueling of motor fuel tanks and LP gas containers.

⚠ WARNING: Liquid propane gas containers shall not be placed or stored inside the vehicle. Liquid propane gas containers are equipped with safety devices that relieve excessive pressure by discharging gas into 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.

⚠ WARNING: Portable fuel-burning equipment, including wood and charcoal grills and stoves, shall not be used inside the recreational vehicle. The use of this equipment inside the recreational vehicle may cause fires or asphyxiation.

⚠ WARNING: Do not bring or store liquid propane gas containers, gasoline, or other flammable liquids inside the vehicle or storage bays because a fire or explosion may result.



CHAPTER 2 COCKPIT & DRIVER CONTROLS

VEHICLE KEYS

You may receive four different kinds of keys with your coach.



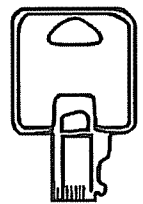
1. Ignition
2. Baggage compartment doors, front electric compartment door, steering compartment door
3. Engine compartment, engine right-hand side access door, engine left-hand side access door, engine oil reserve tank access door, coolant surge tank access door, fuel tank access door. On XLVII models only: sewer hose storage (in valance above rear axles).
4. Front entrance door

NOTE: To protect against theft, record the key numbers and keep them in a safe place. Do not keep them

in the coach. Deposit a duplicate of each key in a safe place so that you can obtain them easily in case of loss.

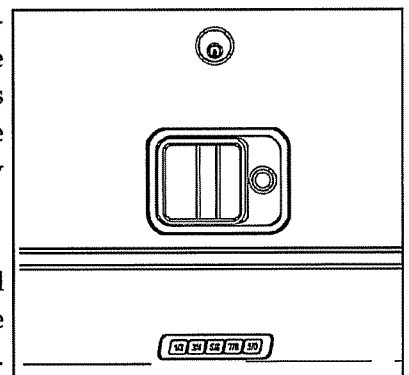
SAFE KEY

Your coach includes a safe for storing your valuables. The key for the safe will be provided on your key ring along with your vehicle keys. (Upgrades to larger, combination-type safes are available.)



ENTRANCE DOOR

To lock or unlock the entrance door from outside the vehicle, either turn the key in the door lock (counterclockwise to lock, clockwise to unlock), use the keypad (see "Keyless Entry," next), or use the remote control (key fob).



To open the door, pull on the lever. Close the door by pushing it shut.

easily figure out these types of codes.

To program your personal code, follow these steps:

1. Choose and memorize your five-digit personal code.
2. Enter the master code and, within five seconds, press button 1/2.
3. Within five seconds of pressing 1/2, enter your personal code, pressing each button within five seconds of the preceding digit. If the code is correctly entered, the keyboard light will immediately turn OFF.

The keyless entry system registers your personal code. To unlock the entrance door, you can use either code.

To erase your personal code, enter the master code, press button 1/2, and then wait six seconds.

For information about operating the remote unlock key fob and for more information on the keyless entry system, refer to the Prevest Owner's Manual.

SECURITY ALARM SYSTEM

Your coach is equipped with an alarm system that provides coverage for all windows and the entry door.

To activate the alarm system, press the **LOCK** button on the key fob. All exterior doors will lock, and an indicator light on the dashboard will illuminate for approximately 30 seconds. Thereafter, the indicator light will start to blink, acknowledging that the system is activated. The alarm system is now armed.

To disarm the alarm system, press once on the **UNLOCK** button on the key fob. The alarm is deactivated, and the front entry door will unlock. To unlock the exterior bay doors, press the **UNLOCK** button twice.

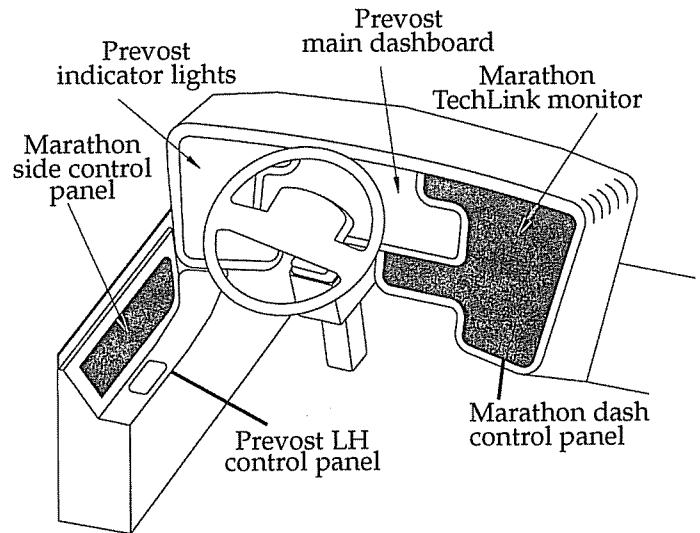
The key fob is also equipped with a panic button. In case of emergency, you can press the panic button to activate and sound the alarm. The panic button operates at any time, inside or outside the coach, as long as the key fob is within range.

CONTROL AND INSTRUMENT PANELS

⚠ WARNING: This section summarizes some of the controls found in the cockpit of your Marathon

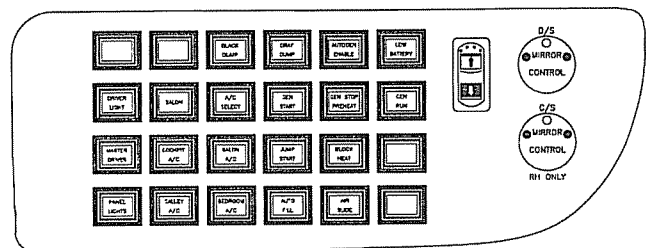
coach. It is only a summary. Before you operate the coach, you should read the detailed information about these and other controls in the Prevest Owner's Manual supplied with your coach. The Prevest manual also includes important warnings and cautions about the operation and use of these controls.

NOTE: The locations shown here are typical. Actual locations of individual dash components may vary.



This manual describes the controls found on the side control panel and the Marathon dash control panel (the areas shown in black in the drawing). For information about the other cockpit controls, refer to the Prevest Owner's Manual.

SIDE CONTROL PANEL



- **BLACK DUMP.** Press this button to activate the valve that dumps waste water.
- **GRAY DUMP.** Press this button to activate the valve that dumps gray water.
- **AUTO GEN ENABLE.** Indicates that the Auto Gen-

- **GPS.** Selects GPS Mapping display on TechLink screen.
- **AUX A/C.** Indicates that the auxiliary air conditioning is running.
- **GALLEY A/C.** Press for ON; press again for OFF.
- **SALON A/C.** Press for ON; press again for OFF.
- **BEDROOM A/C.** Press for ON; press again for OFF.
- **ANTENNA UP.** Indicates that the television or satellite antenna is in the up position.
- **INVERTER LOSS.** Indicates that power to inverter #1 has been lost. This is the inverter that powers the refrigerator. Push to reset and turn off this indicator light.
- **SHORE ON.** Indicates that the coach is connected to shore power.
- **SHORE OFF.** If the coach was connected to shore power, this indicates that the connection has been lost. Push to reset and turn off the indicator light.

STEERING COLUMN CONTROLS

This section presents an overview of the controls on your coach's steering column. For more detailed information, refer to your Prevost Owner's Manual.

- **Turn signal.** To signal a right turn, move the lever up to the highest position. To signal a left turn, move the lever down to the lowest position. When the turn is completed, the signal will cancel and the lever will automatically return to the initial position.
- **Lane change signal.** Move the lever up or down slightly and hold it there. When you release the lever, it will return to the initial position.
- **Headlight dimmer.** Push the lever toward the dash for high beam. Pull the lever toward the driver for low beam.
- **Headlight flasher.** To flash the high beams momentarily, pull the lever completely toward the driver and then release it.
- **Courtesy blinkers.** Press the button at the tip of the lever for clearance light courtesy blinkers.
- **Washer controls.** To activate the windshield washers, push the external ring at the end of the lever toward the steering column. When the ring is released, the washers stop immediately but wipers will cycle twice to dry the windshield.
- **Windshield wipers.** Turn the lever forward to activate the wipers on low speed; turn it to the second position for high speed. Turn the lever backwards to activate the intermittent mode.

DRIVER'S HORNS

To sound the coach's electric and air horns, press the button in the center of the steering wheel.

FOOT-OPERATED CONTROLS

⚠ WARNING: This section provides a summary of the foot-operated controls in your coach. It is only a summary. For important information and warnings, consult your Prevost Owner's Manual before operating your coach.

SERVICE BRAKES

To apply the service brakes, depress the brake pedal located immediately to the left of the accelerator pedal. The degree of foot pressure applied on the pedal determines the extent of brake application.

COMBINATION EMERGENCY AND PARKING BRAKES

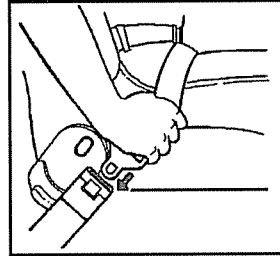
In normal operation, if the air pressure in both brake circuits drops below approximately 40 psi, the spring-loaded emergency parking brakes will immediately be applied at full capacity – to the drive axle on XLII coaches and to the drive and tag axles on XLVII coaches – to stop the coach. In an emergency, you can use the parking brakes as emergency brakes. You activate them by the control knob located to the left of the driver's seat.

To apply the spring-loaded parking brakes, pull up the control valve knob. They are not designed to be used as service brakes. In normal driving conditions, the control valve knob must be pushed all the way down.

- **Armrest.** Rotate the control knob to select the desired armrest angle. When the armrest is not in use, raise it parallel with the backrest.
- **Seat Cushion.** The seat cushion provides optimum comfort and support for any leg shape or size. It is adjustable to 50 millimeters (about 2 inches) in length.
- **Fore-and-aft.** To adjust the distance between the seat and the dashboard, pull the fore-and-aft handle up and slide the seat forward or backward.
- **Isolator.** This component reduces horizontal vibration, ensuring a smooth ride.
- **Backrest.** To select the proper backrest angle, lift this lever.
- **Air Side Bolster.** This feature supports the sides of the body.
- **Air Lumbar.** Adjust the upper and lower settings to provide back support and ensure comfort during lengthy trips.
- **Air Height.** Use this adjustment to move the seat up or down independently of other seat settings.
- **Adjustable Seat Recline.** Use this to recline the seat (four positions).
- **Adjustable Shock Absorber.** This lets you adjust the ride from stiff to soft in any increment.
- **Quick Air Release.** This exhausts all air from the suspension, allowing easy entry or exit. It returns the seat to its previous position.

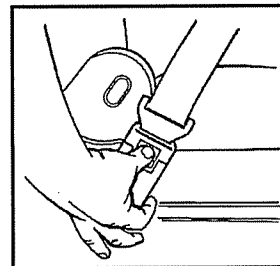
SEAT BELTS

Refer to your Prevost Owner's Manual for more detailed information, including important cautions and warnings.



Each seat is equipped with a retractable seat belt as required by state and federal law. To fasten the seat belt, pull it out of the retractor and insert the latch plate into the buckle until it clicks. No special adjustment is required

because the reel device is self-adjusting. If the seat belt operation becomes defective, have the unit replaced.



To unfasten the belt, press the red button in the center of the buckle and allow the belt to retract.

⚠ WARNING: Seating positions that are not provided with seat belts are NOT to be occupied when the vehicle is in motion.



CHAPTER 3 OPERATION & CARE OF YOUR COACH

PREPARING FOR COACH TRAVEL: SECURING THE COACH

Before you begin any trip with your coach, make sure that all loose objects inside the coach are secured.

⚠ WARNING: All unsecured or loose furniture must be secured or stowed before the vehicle is moved. Loose objects become lethal projectiles, possibly causing severe injury or death in the event of an accident or sudden stop.

Furniture and equipment will vary depending on a coach's design and options. Coaches manufactured by Marathon Coach, Inc., have built-in (or supplied) stowage and securing devices where necessary. If your coach has freestanding dinette chairs, for example, Marathon has provided an appropriate travel strap (usually with Velcro fasteners) to properly secure these chairs during travel. You must use these securing devices before any vehicle movement.

- Secure countertop decor items, doors, and travel

locks. It is the responsibility of the coach operator to secure or stow all loose objects before vehicle movement. Be particularly careful to clear and store any items on the galley countertop, dinette table, and salon end tables. Also, check that all doors, drawers, and cabinet doors are fully closed. To prevent damage and distractions while driving, be sure to engage all travel locks, such as pocket doors, refrigerator, trash compactor, dishwasher, and shower door. Make sure wine and glass storage travel locks are in place.

- Set the bath vent cover to **OFF**. To prevent possible damage to your bath vent cover (lid) from high wind or low overhead clearances such as tree branches, place the automatic vent control(s) in the **OFF** position. You may choose to leave the vent(s) operational at your own risk, but be aware of this hazard as you drive.
- Close roof hatches. In coaches equipped with an emergency escape or convenience roof hatch, the risk of damage to the hatch or coach contents is

ENGINE COMPARTMENT

- Oil level adequate
- Antifreeze level adequate
- Power steering fluid adequate
- Automatic transmission fluid level adequate
- Belts tight and not worn
- Hoses, wiring, and connectors in acceptable condition
- Knife switches set correctly
- Fuel filter free of contaminants
- Safety reflectors in good condition

FUEL DOOR(S)

- Fuel cap(s) on and secure
- No leaks in compartment or on the ground

TRAILER/TOW CAR (Towing configuration may vary)

- Hitch is free of cracks or stress fractures
- Tow bar connections sound to tow vehicle and the coach
- Freestanding support up and secured
- Electrical connections working
- Lights working (including brake lights)
- Transmission in Neutral
- Steering free and not locked (you may need ignition key in place to check this)
- Any cargo secured
- Doors on tow vehicle locked

OCCASIONAL INSPECTIONS**ITEMS TO CHECK EVERY FEW DAYS**

- Coolant levels (engine and generator)
- Holding tank levels (also black and gray tank chemical levels)
- Oil levels (engine and generator)

ITEMS TO CHECK OCCASIONALLY

- Refrigerant (air conditioning)
- Generator filters and air bags
- Generator exhaust lines in generator bay and under carriage.

For more information, see "Maintaining Your Coach" later in this chapter.

DRIVING THE COACH

Driving a coach is not like driving a car. A heavy vehicle like a coach requires a much longer stopping dis-

tance than a car does. The coach is a large vehicle; you must learn to manage your lane space and to use your mirrors regularly to gain information about your coach and the environment around it. Mirrors are extremely important. A large vehicle will off-track when it goes around a corner – that is, the rear wheels will not follow the same path as the front wheels but instead will cut across the corner. To avoid hitting objects with the rear of the coach, you must learn to make turns that accommodate off-tracking. Because of the coach's impaired visibility, large size, and off-tracking, backing a coach is not like backing a car. If a trailer or towed vehicle is involved, the technique is quite different.

For helpful introductory information about how to drive a large vehicle, consult the Prevost Owner's Manual and the commercial motor vehicle operator's manual from the Department of Motor Vehicles (or its equivalent) in your state.

FUELING THE COACH

We recommend that you refuel your coach only at truck stops. Gas stations are not set up to accommodate a vehicle as large as a coach. Many of them do not have the necessary clearance, especially vertical clearance. The pumps at gas stations are designed for typical small car tanks and operate much more slowly than those at truck stops. Although it is possible to fuel your coach at a gas station, filling the tank may take as long as 40 or 50 minutes.

⚠ WARNING: Fueling areas can be dangerous. Pay careful attention to the following safety procedures.

At the truck stop, follow these safety procedures:

- Don't smoke within 50 feet of the pumps.
- Shut off the engine before fueling.
- Do not fill unapproved containers.
- Keep all pets and children inside the vehicle.
- Remove the fuel cap(s) slowly to release pressure.
- Do not fully remove the cap until the hissing has stopped.
- To prevent splash-back, do not stand in front of the fuel tank spout while removing the cap or fueling.
- Do not overfill the fuel tanks.
- Drive slowly. Most truck stops have a 10 mph speed limit.
- Note the locations of fire extinguishers. If one is needed, break the glass to remove it. Look for

2. Flush water from lines:

- Turn on all water fixtures: galley sink, bathroom sink, shower, hot water dispenser (Insta-Hot), and refrigerator water dispenser.
- Flush the toilet.
- Turn on both water pumps in the water bay. Leave them on for 30 seconds or until water stops flowing.
- Turn off water pumps.
- Turn off 110 volt AC water heaters.

3. Open the PT lever on the water heater. Open the valve to drain water from the water heater. Leave the valve open.

4. Open the drain screw at the end of the hot water manifold and cold water manifold in the water bay. Leave drain screws open.

5. Remove and empty the fresh water filter, which is located in the water bay. Store the filter upside down on the water bay floor to protect the filter from airborne dirt.

6. Turn off the Inverter Disconnect, located in the inverter bay.

7. Turn off the 12V House Disconnect and 24V House Disconnect, which are located near the battery bay, usually in the first bay curbside.

CAUTION: When preparing your coach for use after a shutdown, be sure to close all drain valves and replace the fresh water filter.

WINTERIZATION

For winter use, keep the bay heat turned on and check it occasionally to see that it is functioning properly. The water heater will also help maintain a warm temperature in the water bay. Turn on the engine block heater when the engine is not running.

CAUTION: If you park the coach for a short time and leave it unoccupied, be sure that the following breakers at the AC distribution panel are ON to prevent damage from freezing: BAY HEAT, BLOCK HEAT, WATER HEATER, and 110V HEAT.

HOW TO HITCH A TRAILER

The first step is to attach the hitch (Marathon hitches are removable). To attach the hitch, follow these steps:

1. Remove the chrome cover from the hitch receiver. It is located just under the center of the coach's rear bumper.

2. Inspect the hitch receiver carefully for cracks or stress fractures.

CAUTION: If you find cracks in the hitch receiver, do not tow.

3. Slide the hitch into the receiver until you can insert the retainer pin.

4. Make sure that the retainer pin is fully seated and that the "keeper" of the retainer pin is set. It is set if you cannot remove the retainer pin. The hitch is now ready to accept a trailer.

NOTE: Be sure the size of the hitch ball matches the receiver on the tongue. For example, a 2-inch hitch ball goes with a 2-inch receiver.

Now you can hitch the trailer. Follow these steps.

1. Position the coach as needed. For greatest ease and safety, have someone outside the coach guide the driver (be sure both driver and helper understand the meaning of the hand gestures). A two-way radio will prove to be very useful. Back the coach so that the ball of the hitch is directly under the tongue of the trailer.

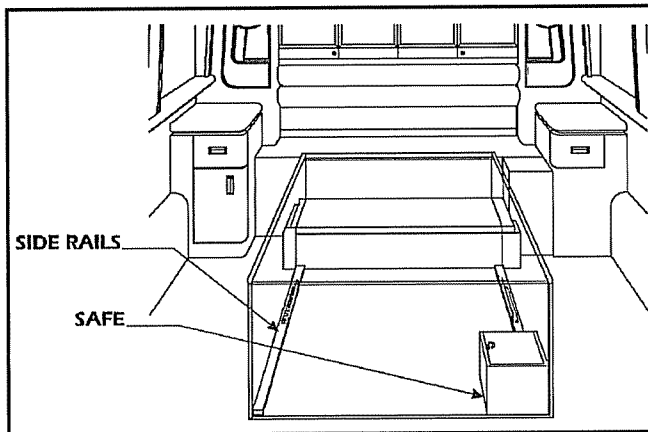
2. Open the trailer's hitch lock mechanism by moving the lever up. Remove the safety pin from the hitch lock mechanism.

3. Lower the trailer tongue onto the ball of the hitch. Keep your hands and fingers in a safe area.

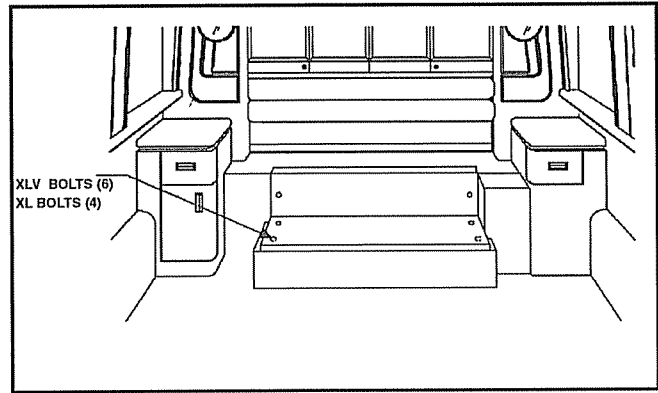
4. When the tongue is fully seated on the hitch ball, close the hitch lock mechanism by pushing the lever all the way down. If you cannot push the lever all the way down, the trailer is not properly seated. Raise the trailer and correct the problem.

5. Reinsert the safety pin and properly secure it so that it will not fall out.

3. Remove the vinyl hinge protector (attached with Velcro) to expose the hinge and the bolts below.
4. Remove the four bolts and nuts that attach the bedtop to the pedestal frame. Do not remove the screws that secure the hinge to the bedtop; it is not necessary to remove the hinge.
5. Release the bedtop from the pedestal frame by removing the screws at the head of the bedtop (the number and placement of screws may vary).
6. Remove and store the bedtop.
7. From inside the pedestal, remove the screws along the side rails of both sides of the pedestal (the screws that attach the pedestal frame to the floor).



8. Check the area around the safe (the safe surround) for additional screws, and remove them if necessary. The safe surround is attached to the pedestal and should come out, along with the pedestal, when the pedestal is removed in the next step. The safe itself is mounted to the coach floor and does not require removal.
9. Check the pedestal to ensure that it is completely loose. Remove it, clearing the engine step area.
10. Starting in the bottom corner, carefully peel back the carpeting from the engine step so that it is fully exposed.

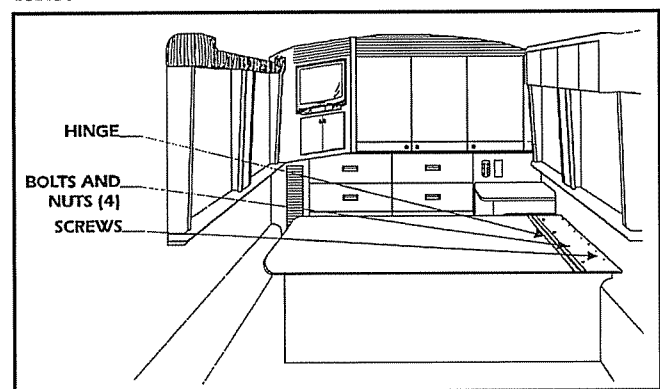


11. Remove the bolts that secure the engine step to the chassis. You may need to pry the cover loose with a large flat-tipped screwdriver. Now you can remove the engine cover to access the coach engine.

COACHES WITH CROSS BEDS (with Revolving Wardrobe Carousels)

The following instructions apply to coaches with cross beds and revolving wardrobe carousels. If your coach has a cross bed without a carousel, the procedure is somewhat different; see the next section. If your coach has a straight bed, see the preceding section.

NOTE: The first nine steps are the same as for a straight bed. We repeat them here for your convenience.



1. Remove and store the mattress.
2. Open the bedtop. You will see two air pistons near the inside of the four mounting brackets. Locate the retainer ring at the top of one of the air pistons. Insert the tip of a flat-blade screwdriver into the slot in the retainer ring. Keeping the bedframe supported, pop the retainer ring open and release the mechanism from the shock mount. Repeat for the other shock mounts. Place the shocks on the floor inside

COACHES WITH CROSS BEDS AND SHORT WARDROBE (No Carousel)

The procedure for coaches with cross beds and no carousel is similar to the one just described.

1. Follow steps 1 through 9 in the preceding section, ending with removing the bed pedestal.
2. Pull up the carpeting from around the engine step, exposing the engine cover.
3. Remove the bolts that secure the cover to the chassis. You may need to pry it loose with a large, flat-tipped screwdriver. Now you can remove the engine cover and access the coach engine.

MAINTAINING YOUR COACH**RECOMMENDED TIRE PRESSURE**

The following table lists the recommended tire pressure for Marathon coaches.

Coach Model	Front Axle Tire (psi)	Drive Axle Tire (psi)	Tag Axle Tire (psi)
XLII	125	120	95
XLVII	125	120	95
H3-45	125	120	100

NOTE: For information about releasing the front bumper of your coach for ease of maintenance, see the note earlier in this chapter.

GENERATOR MAINTENANCE

For information about maintaining your coach's generator, see the maintenance schedule in Chapter 4.

CARE AND CLEANING OF YOUR COACH'S INTERIOR**ACRYLIC AND BURL WOOD DASH PANELS**

- To dust acrylic, use a soft detail brush.
- To clean, shine, and eliminate static and dust build-up, use a soft cotton cloth and a mild dish soap solution or a non-abrasive plastic cleaner and polish such as Novus I.
- Do not use abrasive cloth, solvent, or cleaners that contain ammonia or vinegar.

PLASTIC LAMINATE

- To wipe and dust, use a soft cloth and glass cleaner or general-purpose cleaner such as 409.
- For pencil marks, use an eraser.
- For tougher stains, use a solvent, a spot remover, or lacquer thinner. Do not use these products on painted surfaces. Be careful around cabinet trim; most trim is wood painted to match the laminate.

SOLID-SURFACE MATERIALS (Avonite, Corian, Gibraltar)

For day-to-day cleaning, use a household detergent or non-abrasive cleanser. Any mild household cleaner can be used safely on solid-surface materials. Spills of strong chemicals – such as nail polish remover, paint thinners, or acid drain cleaners – should be wiped up immediately. We do not recommend that you attempt to repair deep scratches; contact a Marathon Service Center for repair of scratches. To buff minor scratches and scuffs (on matte finishes only), use a cleaning pad such as Scotchbrite. Then clean with a non-abrasive plastic laminate cleaner and polish such as Countertop Magic.

BATH SURFACES

- To clean toilet lids, use a soft cloth or sponge with a mild, non-abrasive cleaner. Toilet lids scratch easily, so handle with care.
- To clean glass shower doors, use glass cleaner. Rubbing alcohol works well for removing water spots.
- For other surfaces, use a liquid, non-abrasive cleanser.

WASHER AND DRYER

- Clean lint filter after each use.

MARBLE AND GRANITE

Sweep every day with a soft brush. Wipe with glass cleaner, making sure that the cleaner does not contain ammonia, vinegar, or bleach. For long-term maintenance, see your Marathon Service Center for information about products.



CHAPTER 4 POWER SOURCES

AVAILABLE POWER

Your Marathon coach uses four sources of electrical power:

- Shore power
- Generator power
- Inverter power
- Battery power

Shore power – 110 volt or 110/220 volt power – is obtained by plugging your shore cord into an external outlet. When the coach is connected to shore power, the shore cord delivers 110 volt and/or 220 volt power, the house batteries supply power to lights and other devices in your coach that need 12 volt or 24 volt power, and the inverter uses shore power to recharge the batteries continually.

When the coach is running on generator power, the generator delivers 110 volt and 220 volt power, the house batteries supply 12 volt and 24 volt power, and the inverter uses power from the generator to recharge the batteries.

When the coach is not connected to shore power and the generator is not running, the inverter delivers 110 volt and 220 volt power by converting 24 volts DC from the batteries into 110 volts AC, and the house batteries supply 12 volt and 24 volt power.

SHORE POWER

To operate your coach's electrical system from a park outlet, you must first determine what type of power the outlet supplies. Refer to the drawings to help you determine the type of power supplied.



**110 volt
15 amp,
20 amp**



**110 volt
30 amp
single phase**



**110 volt/220 volt
50 amp
single phase**

The shore cord includes a 50 amp plug. Your coach is supplied with two adapters: a 30 amp adapter and a 15 amp adapter. If a 50 amp receptacle is not available, attach the appropriate adapter to the shore cord plug.

NOTE: Generator power is adequate to run all the appliances in your coach. The T-50 Load Manager is not in effect when the generator is operating.

30 AMP AND 15 AMP POWER

Your coach is provided with two adapters for the shore cord: a 30 amp adapter (the standard power level at most parks) and a 15 amp adapter. If a 50 amp receptacle is not available, attach the appropriate adapter to your shore cord.

Each appliance draws a certain amount of current. You will not be able to run as many appliances on a 30 amp service as you would on a 50 amp service. If the coach is plugged into a receptacle of less than 50 amps, you will need to decide which appliances you want to run. Refer to the Appliance Load List (page 4-15) for amp ratings on each appliance.

NOTE: When the shore power you're using has less than a 50 amp service, you will need to change the shore amperage setting on both inverters from their default settings of 50 amps. Using your inverter control panels (located in the bedroom), reset to the following settings. You will find this menu item under the menu heading Inverter Mode.

When the coach is plugged into a 30 amp outlet, use the following setting on **both** inverters:

<p>Set shore cord size amps AC 15</p>
--

When plugged into a 15 amp outlet, use the following setting on **both** inverters:

<p>Set shore cord size amps AC 7</p>

GENERATOR POWER

Your coach is equipped with a turbo-charged, diesel-powered 20 kilowatt generator. This power plant produces 80 amps of 110/220 volt electricity, which is enough to run every electrical fixture in the coach.

To start the generator, preheat it by pressing and holding either of the **GEN START** buttons for 10 seconds; one button is located in the dash, and the second one is

in the DC breaker panel. The generator will start. When it is running sufficiently, the indicator will light. Within about 30 seconds, power will automatically transfer from the generator to the T-50 Load Manager.

Turning off the air conditioning units before transferring power is recommended. Air conditioner switches are located on the front dash. When the transfer is complete, turn them back on.

To stop the generator, press the **GEN STOP** switch.

AUTO GEN

The Auto Gen computer (inside the inverters) monitors the house batteries and automatically starts the generator to recharge the batteries if they drop below 21.8 volts. With this feature, you need not worry about house battery power if you leave the coach unattended. For more detailed information, refer to the owner's manual for the inverter supplied with your coach.

CAUTION: Set the Auto Gen switch in the generator to **AUTO GEN DISABLE** if you store your coach indoors and before working on or near the generator.

Perform Service at Intervals Indicated (X)	Before Starting	Every 50 Hrs. or 1 Month	Every 100 Hrs. or 3 Months	Every 150 Hrs. or 3 Months	Every 300 Hrs. or 6 Months	Every 500 Hrs. or Yearly
FUEL SYSTEM						
Check the fuel level and fill as necessary	X					
Check for any abnormal fuel injection sound	X (During operation)					
Check governor operation and adjust as necessary						X
Replace the fuel filter		X (Break-in period)			X	
Clean the fuel injection nozzles and check the injection spray condition					X	
Clean the injection timing						X
LUBRICATION SYSTEM						
Check crankcase oil level and add as necessary	X					
Replace the oil in crankcase		X (Break-in period)		X		
Replace the lube oil filter element		X (Break-in period)			X	
COOLING SYSTEM						
Check coolant level and fill as necessary	X					
Adjust water pump belt tension		X (Break-in period)	X			
Clean radiator fins and inspect hoses			X			
Check thermostat function						X
Flush cooling system						X

(Table continued on next page)

Consult operating instructions supplied with vehicle.
 Consult your local distributor/dealer for service.
 Read WARNING found at beginning of generator manual regarding moving parts.

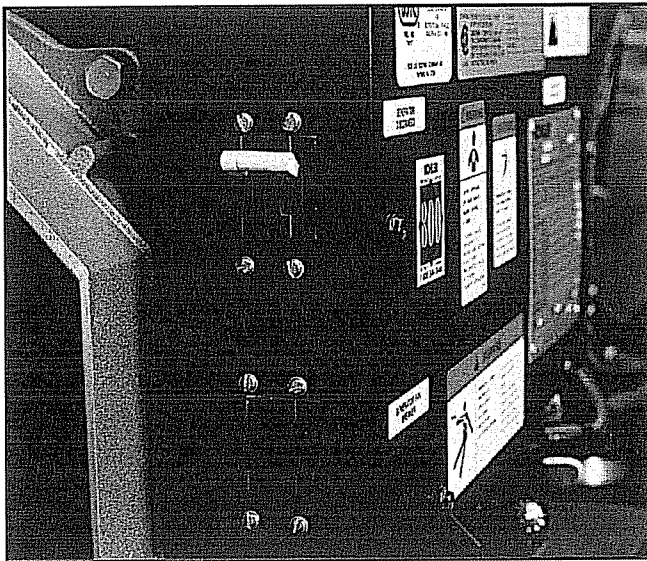
SERVICE PARTS

The following table contains a list of recommended spare parts. For a complete list, contact your Kohler generator distributor or dealer.

Model 20 EORZ	
Part Description	Kohler Part Number
Air cleaner element	258646
Fuel filter	225010
Fuel solenoid fuse (10 amp)	223316
Input fuse (15 amp)	283645
Oil filter	229841
Remote start fuse (15 amp)	283645
Spray paint (black)	221292
V-belt (alternator)	226929

For complete generator maintenance information, refer to the generator operator's manual provided in your owner's warranty file.

GENERATOR BREAKER PANEL

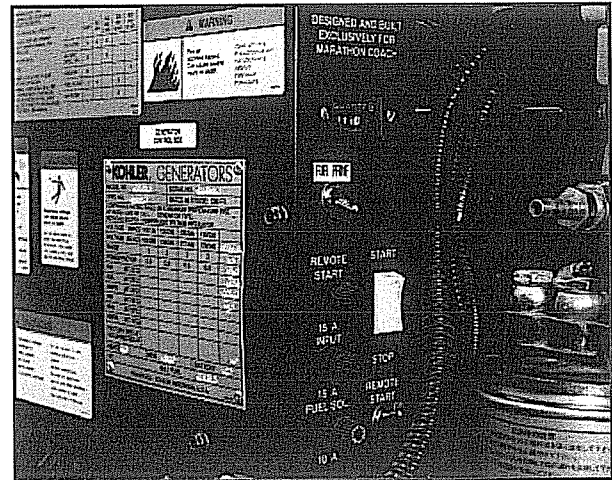


The generator fan circuit breaker activates the fan pull blower.

CAUTION: If this breaker is in the OFF position, no air will circulate. This could cause the generator to overheat.

The generator disconnect is the main power breaker to the generator. No AC power will pass from the generator when this breaker is in the OFF position.

GENERATOR CONTROL PANEL



The generator hours meter displays the hours of usage on the generator.

The three-position generator START/STOP switch is normally in the center position. When the outside temperature is lower than 70 degrees F, pre-heat the generator by holding this switch in the down position for 20 seconds. To start the generator, press this switch up. To stop the generator when it is running, press this switch down.

The Auto Gen disable switch prevents the generator from starting automatically. Be aware that the generator can be started manually from inside the coach or at the control box.

CAUTION: Never work on or near the generator without first disabling the Auto Gen Start.

If the generator regulator circuit breaker has been tripped, no AC power will be generated. Press to reset.

INVERTER POWER

4000 WATT SINEWAVE INVERTER/CHARGERS: OVERVIEW

Your Marathon coach is equipped with two 4000 watt inverterchargers. These units are typically mounted in the ceiling (or in some coaches, on the floor) of one of the bays. The inverterchargers are enclosed in a ventilated box. You will also find two knife switches mounted on the rear bulkhead. These are emergency disconnect switches for disabling the 24 volt DC power to each invertercharger unit.

In coaches that have Cruisair air conditioning, each inverter is wired to supply power to one air conditioner. One inverter operates the galley air conditioning, and the other operates the bedroom air conditioning.

Because the load of an air conditioner is heavy, you will be able to run both air conditioning units for only two hours at a time or run one unit for as long as four hours.

NOTE: The coach inverter/charger circuit is also equipped with inverter by-pass switches. These switches are for use only when there is an inverter failure or as directed by service personnel. When these switches are activated, they allow either shore power or generator power to pass into the coach, by-passing the inverter. Each switch is identified and labeled. The switch is not automatic; you must manually select the chosen power source (either shore power or generator power).

CAUTION: Be sure to familiarize yourself with these components and their functions before you use the vehicle.

GENERATOR MODE

When you start your coach's generator, power flows to the transfer switches, which shuttle it directly to the main and auxiliary AC breaker panels. At the same time, the generator supplies power to the inverter/chargers to charge the house batteries.

CONTROL PANEL OPERATION

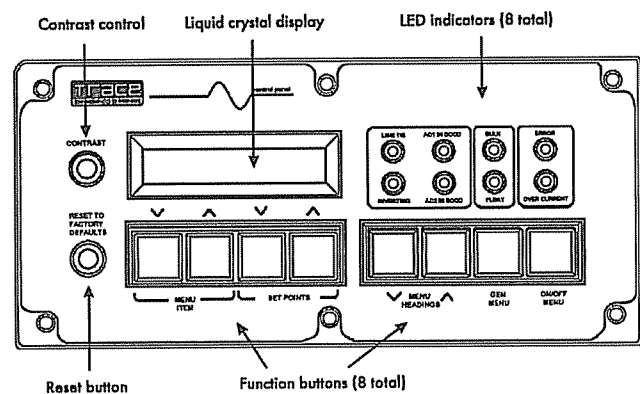
Each inverter/charger has two control panels: one mounted on the unit (in the underbelly) and one in the bedroom. Each inverter/charger can be operated from either control panel. All selectable features and adjustable settings are controlled via the eight function buttons on the control panel.

You can use the inverter control panels to check amperage and voltage, to change the amperage setting before plugging into shore power, to turn on the generator, and to turn Auto Gen on or off. The inverter/chargers are preset at the factory to handle other tasks automatically.

INVERTER LED INDICATORS

The Trace 4000 Series inverter includes eight LED indi-

cators that identify the various operating conditions of the inverter. Refer to the Trace Owner's Manual for more detailed information.



- **LINE TIE** (yellow). Sell mode has been enabled. (Used when you have an agreement to sell excess power to a local utility.)
- **INVERTING** (yellow). The inverter is providing AC power.
- **AC1 IN GOOD** (green). AC shore power is available at AC Input 1 terminals of the inverter.
- **AC2 IN GOOD** (green). AC generator power is available at AC Input 2 terminals of the inverter.
- **BULK** (yellow). The inverter is charging at a constant current. It will continue to charge until battery voltage reaches BULK VOLTS DC setting.
- **FLOAT** (green). Battery voltage has reached the float stage of the charging process. The inverter will provide a maintenance charge until another bulk charge cycle is initiated.
- **ERROR** (red). An operating error has occurred. Refer to your Trace Owner's Manual for a list of causes.
- **OVER CURRENT** (red). The output has exceeded the maximum output AC amps. A momentary over current condition may occur during motor startups and is acceptable. A sustained overcurrent condition will require a manual reset.

ERROR CAUSES MENU (5)

OVER CURRENT	Safe operating limits of the power devices were exceeded. This can occur in inverter or charger mode.
TRANSFORMER OVERTEMP	Transformer exceeded safe operating temperature.
HEATSINK OVERTEMP	Power devices exceeded safe operating temperature.
HIGH BATTERY	Battery voltage above safe limits.
LOW BATTERY	Battery voltage below safe limits.
AC SOURCE WIRED TO OUTPUT	Reports that an AC voltage source was connected directly to the AC output.
EXTERNAL ERROR (STACKED)	A problem has occurred with the series interface cable or one of the inverters in series.
MANUAL OFF	The unit was turned off.

TIME OF DAY MENU (6)

SET CLOCK HOURS	Sets the hour of the unit's internal clock. The setting is based on a 24-hour clock.
SET CLOCK MINUTE	Sets the minutes of the unit's internal clock.
SET CLOCK SECOND	Sets the seconds of the unit's internal clock.

GENERATOR TIMER MENU (7)

START QUIET TIME H:M	Sets start of quiet period. Generator will not run during this period unless battery voltage reaches LOW BATTERY CUTOFF VDC.
END QUIET TIME H:M	Sets end of quiet period.

SETUP MENU (8)

Contains settings used to install the inverter/charger.

MAIN AC BREAKERS

Main AC Breaker Box					
Load (watts)	Function	Main		Function	Load (watts)
		Phase B	Phase A		
100 amp					
1300	Bay Heat	20 amp GFCI	1 2 A A	20 amp remote	1920
1920	Spare	20 amp	3 4 B B	20 amp remote	1920
	Engine Outlet	15 amp	5 6 A A	15 amp	Spare
	Galley Heat	20 amp remote	7 8 B B	Spare slot	Optional Heat
		Spare slot	9 10 A A	Spare slot	
		Spare slot	11 12 B B	Spare slot	

BATTERIES

The following is a brief description of the batteries that are part of your coach's electrical system.

HOUSE BATTERIES

Six batteries, size 4D, supply power for the coach. They are located in the underbelly battery bay. The house battery 12 volt and 24 volt disconnect switches are located in the battery bay. The batteries are wired to produce 12 and 24 volts. Red terminals at the batteries indicate 12 volt power, and blue terminals indicate 24 volt power.

The batteries can be charged by the engine alternator when the engine is running, by the generator, or by the inverter/chargers when the coach is connected to shore power. Twelve volt power from the batteries is used to power all the lights, the switches, and some TechLink modules. Twenty-four volt power from the batteries is used by the Webasto furnace, the heat exchanger high-speed fans, and some TechLink modules and is converted into 110 volt power by the inverters to run motors, appliances, and heating elements.

You can check the condition of the house batteries at the inverter control panel using the Meters menu. For more information, refer to the section titled "Navigating the User Menu" (page 4-10).

CHASSIS BATTERIES

Four chassis batteries, size Group 31, are supplied by the Prevost factory and run the Prevost coach systems only. The chassis batteries are charged by the engine alternator when the engine is running.

For emergency starting if the chassis batteries are low, you can jump-start the coach with current from the house batteries. Press and release the button labeled **JUMP START**, located on the dash. Wait 10 seconds. Turn the ignition key and start the coach as usual.

You can check the condition of the chassis batteries at the voltmeter on the dash with the ignition key on. Voltage should be 24 to 28 volts.

CAUTION: Always set both main battery disconnect switches (12 volt and 24 volt) to the OFF position when you're parking the coach overnight or longer.

Disconnect switches are located near the batteries in the right side engine compartment.

GENERATOR BATTERIES

An automotive-type battery, size Group 24, is provided for starting the generator. It is charged by the same systems that charge the house batteries. Also, a solar panel on the roof of the coach provides a trickle charge to the generator batteries so that the generator can always be started and can recharge the house batteries.

For more information about the batteries supplied with your coach, see the manual "Battery Care and Maintenance" you received with your coach.

APPLIANCE LOAD LIST

Appliance	Load (watts)*	Current (amps)*
Air Conditioner (Cruisair)	1920	16.00
Cooktop, Gaggenau (4-burner, 220V)	5900	24.60
Cooktop, Gaggenau (2-Burner, 220V)	3000	12.50
Dishwasher	800	6.67
Heaters, Cadet (each)	960	8.00
Heaters, Water (each)	1500	12.50
Inverter/Charger, Trace (each)	4000	33.00
Microwave (Sharp)	1600	13.30
Refrigerator (JennAir)	1900	16.00
Televisions (20"), each	120	1.00
Trash Compactor (Broan)	1500	12.50
Vacuum (Eureka)	960	8.00
Washer/Dryer Combomatic (Splendide)	2040	14.00
Washer (Asko, 220V)	3000	12.5
Dryer (Asko, 220V)	3000	12.5
* watts = amps x volts		



CHAPTER 5

PLUMBING SYSTEM

The water and waste system of your Marathon coach contains three tanks:

- Fresh water tank: 140 gallons
- Gray water tank: 88 gallons
- Black (waste) tank: 68 gallons

FRESH WATER SYSTEM

When the water system is not connected to outside water (city water), the coach's water pressure is maintained by one 110 volt AC water pump located in the curbside water bay. The pump control switch is located on the switch panel in the driver's side water bay; an additional switch is located in the DC distribution

panel. The switch is lighted when its pump is operating. The pump keeps the system water pressure at 40 pounds per square inch (psi).

The water pump has a self-contained accumulator tank that maintains constant water pressure. Pressure in the accumulator is 11 to 15 psi and should not exceed 13 psi.

The mixer valve in your coach's shower faucet is equipped with an automatic thermostat. To prevent scalding, this thermostat has a preset temperature limit.

amount of water in the tank exceeds 78% of the tank's capacity. To restart the filling process, empty enough fresh water to lower the tank level to below 78%.

CHLORINATING THE FRESH WATER TANK

Most city water systems provide chlorinated water. If your coach's water system contains nonchlorinated water, you can chlorinate the fresh water tank to kill slime-forming organisms, bacteria, and fungi. You can use liquid chlorine bleach, such as Clorox or Purex, or purchase chlorine tablets from a water treatment company. To chlorinate the fresh water tank using liquid chlorine bleach, add one teaspoon bleach for each gallon of water, resulting in a concentration of about six parts per million (ppm). If you're using chlorine tablets, follow the manufacturer's instructions.

To chlorinate the tank, connect the fresh water tank fill hose to the city water inlet and then pour the bleach into the hose before connecting the other end to the fresh water source. (Bleach can also be added through the gravity fill located in the curbside water bay.)

DISINFECTING POTABLE WATER SYSTEMS

The following method is approved by the U.S. Public Health Service.

Disinfect your potable water system every six months and whenever any of the following applies:

- The system has not been used for a period of time.
- The system may have become contaminated.
- The coach will be stored for a long period such as over the winter.

To disinfect the system, follow these steps:

1. Empty the fresh water tank.
2. Using the gravity fill, pour four cups of liquid chlorine bleach (sodium hypochlorite solution), such as Clorox or Purex, into the tank. Or fill the fresh water filter housing three-quarters full with liquid chlorine bleach and reinstall the filter housing. Either technique will result in a residual chlorine concentration of 100 ppm (parts per million).
3. Fill the fresh water tank.

4. To distribute the chlorine solution through pipes and faucets, open each faucet, one at a time, and let the water run until you detect a distinct odor of chlorine.
5. Let the water in the fresh water tank stand at least one hour.
6. Drain the fresh water tank.
7. Refill the fresh water tank, run water through each faucet, and drain the tank a second time.
8. Refill the fresh water tank. Fresh water is now ready to use.

MAINTAINING THE FRESH WATER FILTER

All fresh water entering your coach is filtered through an Ametek fresh water filter. Depending on use and water quality, we recommend that you replace the main water filter every three months or 1,500 gallons of water. (See your owner's warranty file for more information on the Ametek water filter.)

To change the filter, follow these steps:

1. If the coach is connected to city water, close the city water inlet valve. Turn off the water pump using the switch located in the water bay.
2. Press the small red button on top of the fresh water filter to relieve the system's pressure.
3. Unscrew the water filter housing (turning it counterclockwise) until it can be removed. Take care to keep the filter housing as upright as possible to minimize spills. Also take care not to dislodge the large O-ring in the filter housing.
4. Empty the water from the filter casing and replace the filter cartridge. Reattach the filter housing to the water filter base, tightening the screw just enough to ensure that the filter casing will not leak.
5. Open the cold side of the swing-out faucet and turn on the water pump. After the water is flowing from the faucet, shut off the faucet. Turn on the pump; it should build up pressure and stop automatically.

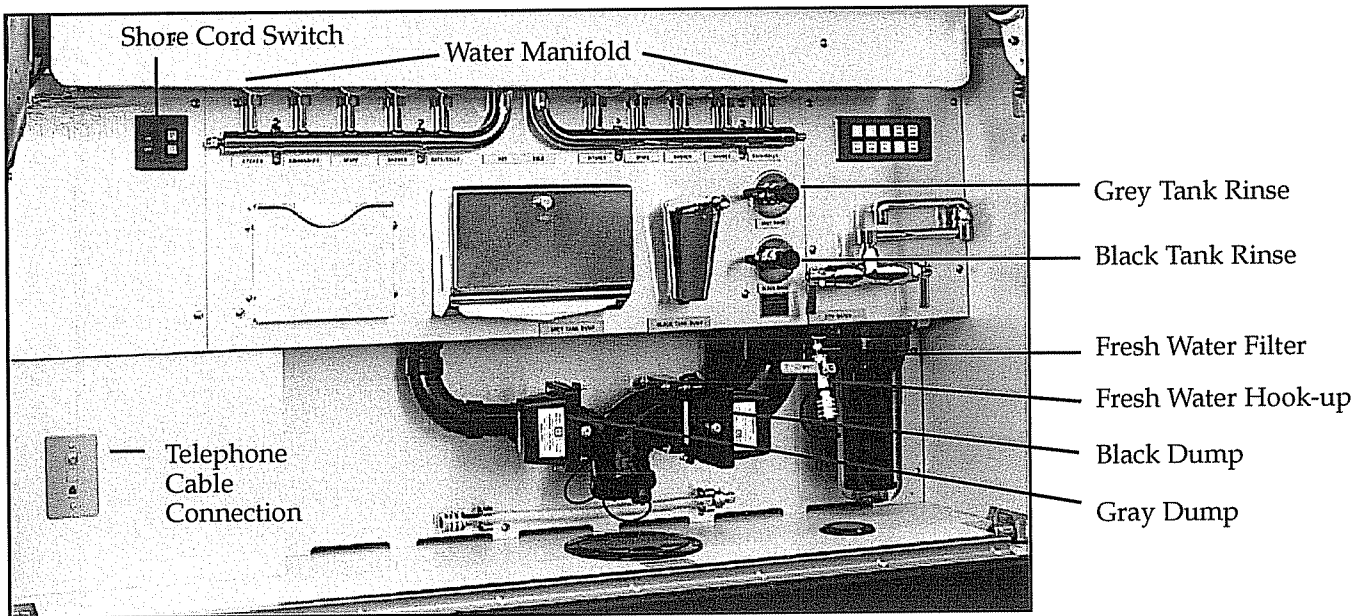
breaks down matter and disinfects the black tank to minimize odors. Avoid spilling the additive. Avoid contact with your skin. For more information, read the instructions and warnings on the bottle, especially if you are not used to using it.

The gray tank should not need any special treatment, because it normally contains soaps, detergents, and

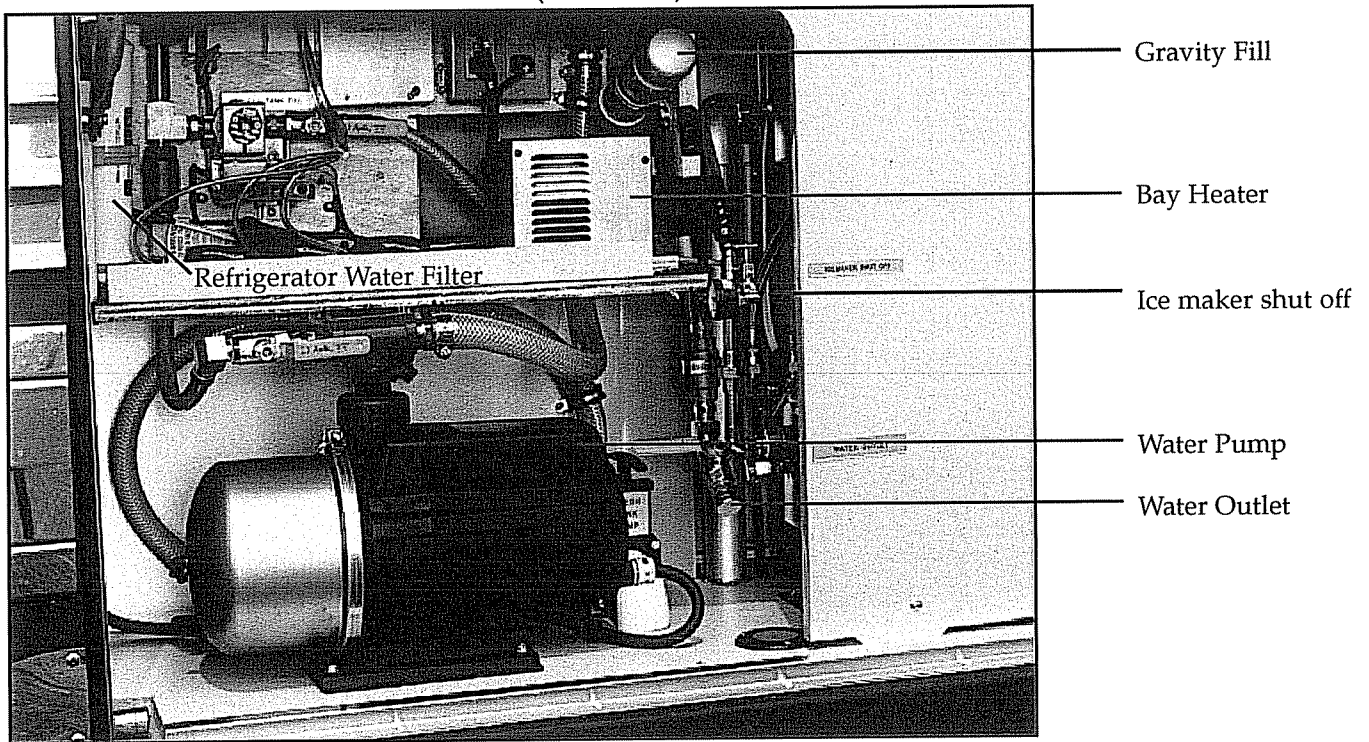
perhaps bleach from the sinks, dishwasher, and washing machine. These products tend to disinfect and minimize odors in the gray tank.

CAUTION: Do not use the hose that you used for flushing the waste tanks to flush the fresh water tank or for connection to city water. It is basic safety practice not to mix waste and fresh water components.

WATER BAY (Driver's Side)



WATER BAY (Curbside)





CHAPTER 6 HEATING SYSTEM

SYSTEM OVERVIEW

Your coach is equipped with several heating systems. The Prevest air conditioning systems – the driver's air conditioning and optional central over-the-road air conditioning – have heating functions in addition to cooling. For more information about these systems, refer to the Prevest Owner's Manual.

Your coach has three other heating systems: a 12 volt Webasto furnace, two to four 110 volt electric heaters, and a 110 volt electric heater in the water bay. Your coach may also be equipped with a heat pump.

THE 12 VOLT WEBASTO FURNACE

The 12 volt Webasto furnace heats coolant, which circulates through heat exchangers in the coach and through the water heaters in the water bay. A fan in each heat exchanger circulates warm air.

The Webasto furnace shares coolant with the engine, and it burns the same fuel as the engine. The Webasto furnace can also be used to preheat the engine block in cold weather, making the engine easier to start.

110 VOLT HEATERS

The 110 volt Cadet electric heaters are located in the galley and bathroom. Some floor options also allow for 110 volt heat in the bedroom.

BAY HEAT

A 110 volt electric heater in the water bay prevents the water system from freezing in cold weather.

HEAT PUMP

Coaches equipped with Cruisair air conditioning have a heat pump system. For more information, see Chapter 7, "Air Conditioning."

THERMOSTATS

For the locations of the 12 volt and 110 volt heating components and thermostats for your particular coach, see the Heating Layout drawing in Chapter 11, "Coach Documentation."



CHAPTER 7 AIR CONDITIONING

SYSTEM OVERVIEW

PREVOST AIR CONDITIONING

All Prevost coaches have driver's air conditioning systems that control the temperature in the cockpit area. Optional central air conditioning, or over-the-road air, controls the temperature throughout the coach interior while the coach is on the road. For more information, refer to the Prevost Owner's Manual.

CRUISAIR/ROOF AIR UNITS

As standard equipment, your Marathon coach comes with three 14,000 BTU Cruisair heat pump systems. Each is a split system with a condensing unit in the coach's underbelly and a cooling/heating unit (evaporator and fan) inside the coach. The heat pump pro-

vides cooling and heating, and a system of ductwork and registers discharges cool or warm air throughout the coach. Heating is efficient to an outside temperature of 40 degrees F; in colder weather, you will need supplemental 12 volt or 110 volt heat.

Instead of the Cruisair systems, some coaches are equipped with three units mounted on the roof. These units are operated in the same way as the Cruisair systems.

For the locations of air conditioning components and thermostats in your particular coach, refer to the Air Conditioning Layout drawing in Chapter 11, "Coach Documentation."

HOW TO OPERATE THE CRUISAIR AIR CONDITIONING

To operate the Cruisair system, you first set the desired temperature in the SMX control pad that controls the area you want to cool. (For information about network operation of the control pads, see the section "Using the SMX On-Line Control System" later in this chapter.)

1. Be sure that 110 volt power is available through the generator, shore power, or inverter where applicable.
2. Locate the A/C switches (**GALLEY A/C**, **SALON A/C**, **BEDROOM A/C**) on the main dashboard. Press the appropriate switch to supply power to the appropriate SMX control pad.
3. On the SMX control pad, press the **Heat** button, the **Cool** button, or both. If both buttons are pressed, the SMX control will supply heating or cooling as needed to maintain the set temperature.
4. Press the **Set** button to display the temperature setting.
5. To change the temperature setting, press the **Down** or **Up** button.
6. Press the **Temp** button to display the current room temperature.

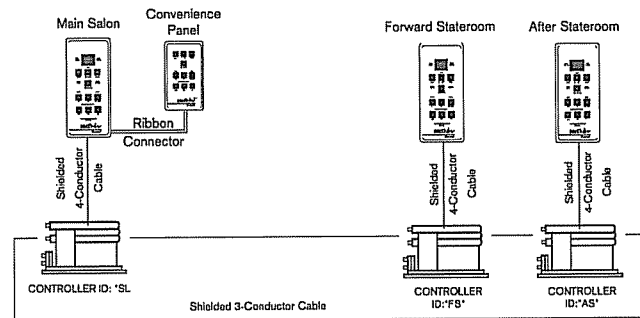
The SMX control pads have a permanent memory; once they are set, they remain set.

TURNING ON HEATING OR COOLING

1. Be sure that 110 volt power is available through the generator, shore power, or inverter where applicable.
2. Locate the A/C switches (**GALLEY A/C**, **SALON A/C**, **BEDROOM A/C**) on the main dashboard. Press the appropriate switch.
3. If the heat or cooling does not come on after you have set the temperature and turned on the switch, check the breakers in the AC breaker panel to be sure the appropriate breaker is on.

USING THE SMX ON-LINE CONTROL SYSTEM

If you like, you can operate your SMX control pads as an on-line network. A network consists of several SMX control pads connected in a serial chain as shown below. Each SMX control pad is assigned a controller ID code, which serves as the pad's unique "address" on the network.



You can control the air conditioning system from any SMX control pad on the network or from the convenience panel.

SMX CONTROL PAD ID NUMBERS

ID numbers are usually assigned when the system is installed, and you do not need to change them. You may, however, want to assign your own codes. For example, you can assign a two-letter code for the main salon (SL) or forward stateroom (FS), or you can use numbers.

To view or change an SMX control pad ID, follow these steps:

1. Enter the programming mode by pressing **OFF** and then **SET**.
2. Simultaneously press **DOWN** and **OFF**. If no ID has been assigned to this unit, the null sign (--) will appear in the display. If an ID has already been assigned, the current ID will appear.
3. Press the **UP** or **DOWN** key to scroll through the letter and number combinations until you see the one you wish to assign to this unit. If you scroll to the end of the list, you must reverse direction to get back to the starting point.
4. Press **OFF** to select the control pad ID and exit the programming mode.
5. Repeat steps 1 through 4 for each SMX control pad in the network.

6. Use the **UP** or **DOWN** button to scroll to the ID of the master.
7. Press **OFF** to select the master ID and exit the programming mode.
8. Simultaneously press **COOL**, **OFF**, and **HEAT** to return to local control mode.

If you have set up a connection that you want to disconnect, you can "unslave" the systems by using the galley master panel. Follow these steps:

1. Simultaneously press **SLOW**, **FAST**, and **FAN**.
2. Use the **UP** or **DOWN** button to scroll to the ID of the slave unit.
3. Again, simultaneously press **SLOW**, **FAST**, and **FAN**. A flashing decimal will appear in the center of the display to indicate that you are in the remote control mode.
4. To enter the programming mode, press and release the **OFF** button; then press and release **SET**.
5. Use the **UP** or **DOWN** button to scroll to the null sign (--).
6. Press **OFF** to exit the programming mode.
7. Simultaneously press **COOL**, **OFF**, and **HEAT** to return to local control mode.

For information about other options, refer to the SMX owner's manual.

OPERATING THE 12 VOLT HEAT SYSTEM WITH SMX CONTROLS

To operate 12 volt heat through the SMX control pad, first turn on the **12 VOLT HEAT** switch located in the DC distribution panel in the bedroom. Then press the heat button on the SMX control pad twice. This activates the Webasto furnace, and the heating indicator and the heating mode indicator LED on the SMX keypad will flash, confirming furnace operation.

To shut off the 12 volt heat system, press **OFF** or another desired function on the SMX control pad. Then turn off the **12 VOLT HEAT** switch in the rear DC distribution panel.

For more information about additional features of the SMX system, refer to your SMX owner's manual.

MAINTENANCE

Once a month, vacuum the louvered intake panels of the evaporator units. Once a year (before the start of the cooling season), have the system inspected and serviced by an authorized service center.



CHAPTER 8

ELECTRICAL SYSTEM

POWER SOURCES

Your Marathon coach has four sources of electrical power: 110 volt/220 volt shore power, 110 volt/220 volt generator power, 110 volt inverter power, and 12 volt/24 volt battery power. The 110 volt power is AC (alternating current); the 12 volt and 24 volt power is DC (direct current). Refer to Chapter 4, "Power Sources," for detailed information about how to use these systems.

CIRCUIT BREAKERS AND FUSES

Your coach's electrical system has circuit breakers and fuses to protect its circuits and to allow the power to be disconnected.

To disconnect AC power to the entire coach, turn off the 50 amp shore breaker, the 50 amp generator breaker, and the two 30 amp inverter breakers. These main power disconnects are in the underbelly inverter bay.

To disconnect AC power to the AC breaker panels, turn off the 100 amp main breakers in the main AC breaker panel and auxiliary AC breaker panel in the rear of the

coach. This disconnects the power to the 110 volt heaters, air conditioners, cooktop, and dishwasher. It does not disconnect the power to the inverter-supplied circuits.

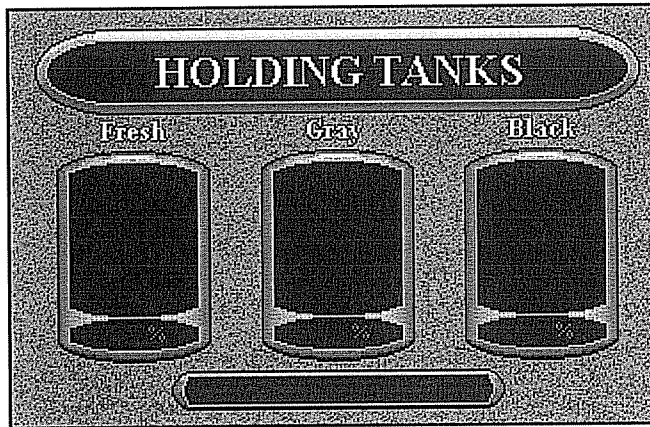
To disconnect AC power from the inverters only, turn off the two 30 amp inverter breakers (located in the underbelly inverter bay). This disconnects the power to the refrigerator, microwave, and 110 volt outlets.

To disconnect power to specific AC components or circuits, turn off the appropriate breaker in the main AC breaker panel or auxiliary AC breaker panel in the rear of the coach. To disconnect power to specific DC components, turn off the appropriate breaker in the DC breaker panel in the rear of the coach.

All the lights and DC components in the coach are protected by fuses, and some of them are protected by fuses on two circuits. Most of the fuses are located in the rear wardrobe, where you'll find two banks of fuse blocks and various TechLink modules. The remaining fuses are located in TechLink modules in the lower

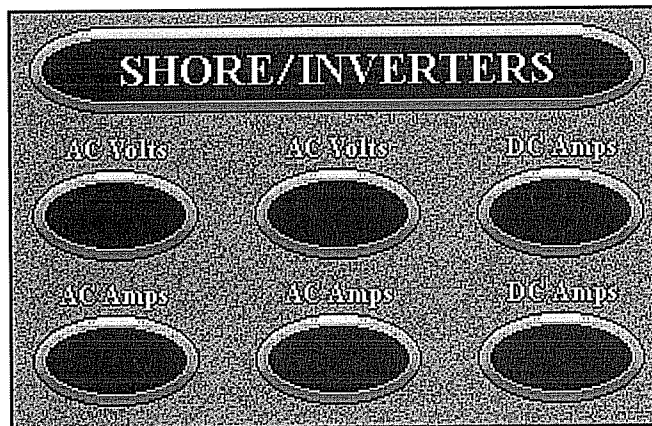
erage status. The two indicators in the right-hand row show the 24 volts DC and 24 VDC amperage status.

HOLDING TANKS DISPLAY



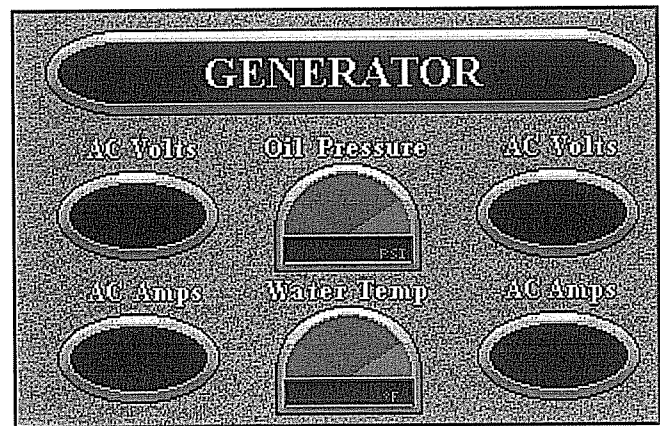
The HOLDING TANKS screen displays the fluid levels in each of the three holding tanks (fresh water, gray water, and black water) as well as the status of the water pump. The fluid levels are shown in two ways: as a bar graph and numerically. Both displays reflect the percentage of fluid remaining in each tank. The status of the water pump, displayed in the horizontal bar at the bottom of the screen, is shown simply as on or off.

SHORE/INVERTERS DISPLAY



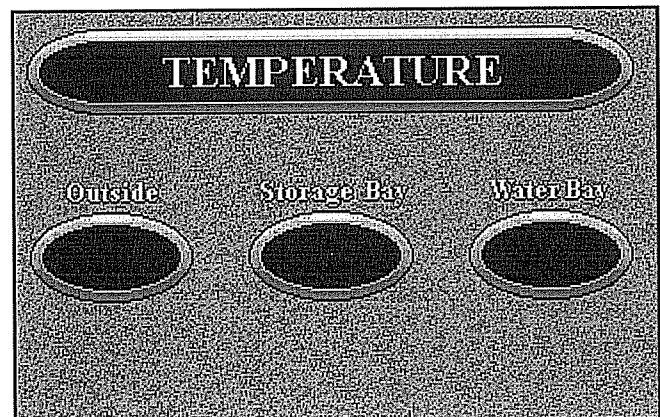
The SHORE/INVERTERS screen contains three columns of two indicators each. The left-hand column shows the Phase 1 shore supply voltage and amperage. The middle column shows the Phase 2 shore supply voltage and amperage. The right-hand column shows the DC amperage from the inverters; the top indicator shows the inverter #1 amperage, and the bottom indicator shows the inverter #2 amperage.

GENERATOR DISPLAY



The GENERATOR screen contains three columns of two indicators each. The left-hand column shows the Phase 1 generator voltage and amperage. The middle column displays oil pressure (in pounds per square inch) and water temperature (in degrees Fahrenheit). The right-hand column shows the Phase 2 generator voltage and amperage.

TEMPERATURE DISPLAY



The TEMPERATURE screen shows the temperature (in degrees Fahrenheit) in various locations inside and outside the coach. The **Outside** indicator displays the temperature outside the coach. The **Storage Bay** indicator shows the temperature inside the storage bay, and the **Water Bay** indicator shows the temperature inside the water bay.

AM/FM/cassette deck, a stereo TV, and two speakers. The coach's VCR can be played through the underbelly TV and can be operated by the remote control from outside the coach. Your coach also has a digital satellite receiver that can play through all the television sets.

Some coaches are equipped with an optional home theater system. A typical configuration includes a surround-sound receiver, a DVD/CD player, five ceiling speakers, and a powered subwoofer. Numerous other options are available. For information on the particular components in your coach, consult the owner's manuals included in your warranty file.

TV AND VCR COMPONENTS

You can play the VCR through the salon TV, the bedroom TV, and the underbelly TV. You can operate the VCR by using the remote control from anywhere in the coach and from outside the coach. The salon TV is played through the salon stereo speakers. Turn off the stereo when you're watching TV; if both stereo and TV are turned on, the stereo sound will override the TV sound. The coach can be connected to shore TV cable service, or the TVs can be viewed using a roof-mounted antenna controlled from inside the coach.

You select the cable or antenna source for each TV using conveniently located antenna/cable switches near each TV or VCR throughout the coach. The cable or antenna source can be set separately for each TV. Once it is set, the switches will retain their settings until you change them.

Antenna, Cable, or Satellite Input

To view the TV with TV cable service from a park outlet, connect the 25-foot coaxial cable (supplied with your coach) to the cable/phone inlet in the driver's side water bay. Connect the other end to the shore cable outlet provided by the park. If you view the TV with the roof-mounted antenna, you can control the position of the antenna using the antenna controller panel in the rear of the coach. To raise the antenna to the operating position, press and release the **RAISE** button. To adjust antenna reception, press and hold the **TURN** button while watching the picture on the TV. Release the button when the picture is clear. To turn the antenna in the opposite direction, press and hold the **RETURN** button. To lower the antenna to the travel position, press and release the **TRAVEL** button.

The **ON/OFF** switch for the digital satellite dish antenna is located in the rear of the coach. The position of the dish antenna is adjusted automatically. The dish antenna does not need to be raised or lowered for operation or travel. For detailed information, consult the owner's manual for your particular model.

For details about operating the TVs in various locations in the coach, see the appropriate "Operating" section at the end of this chapter.

AUDIO SYSTEM COMPONENTS

Use the controls on the receiver to adjust left-to-right **BALANCE**, front-to-rear **FADE**, and **VOLUME**. Adjust the volume so that the sound is clear and undistorted. Using a very high volume can damage any speaker.

Use of the **LOUDNESS** control is not recommended. **LOUDNESS** is used on some systems to enhance the bass for low-volume listening. Because the salon system includes a powered subwoofer, however, the loudness feature is unnecessary, and it can cause distortion of sound at medium and high volumes.

OPERATING THE AUDIO-VIDEO SYSTEMS

OPERATING THE COCKPIT AUDIO SYSTEM

To listen to AM/FM radio, a cassette, or a CD, turn on the dash audio system by pressing the **POWER/FNC** button located to the right of the volume knob. ("FNC" stands for "function.") Then select the desired source – tuner (AM/FM), tape, or CD changer – by pressing the **POWER/FNC** button. Each time you press the **POWER/FNC** button, the mode of operation changes in this order: tuner, cassette, CD changer. A blue oval in the upper-left corner of the stereo displays the mode as follows: **TUNE** (tuner), **TAPE** (cassette), and **CD-X** (CD changer, where X is the number of the last disk played). To turn off the dash audio system, press and hold the **POWER/FNC** button for at least two seconds.

NOTE: The cockpit stereo takes priority over the TV/video sound. If **AM/FM/CASS** is on, no sound will be heard through the TV.

OPERATING THE SALON AUDIO-VIDEO SYSTEM

To watch TV programs in the salon, select antenna (green position) or cable (red position) by pressing the **TV ANT/CABLE** button in the salon switch group.



CHAPTER 9 OPTIONAL EQUIPMENT

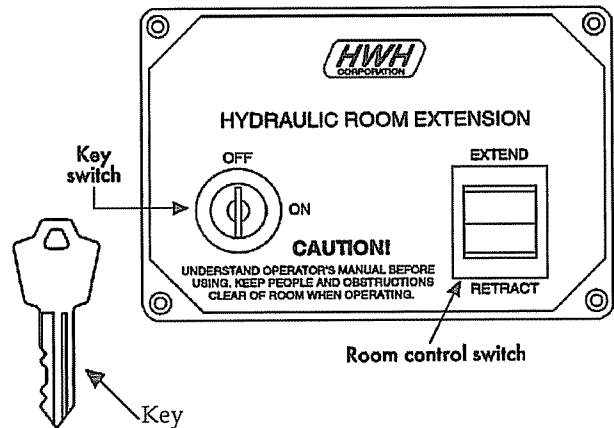
SLIDE-OUT ROOM

SYSTEM OVERVIEW

Some coaches are equipped with a salon slide-out room. Others have both a salon and a bedroom slide-out room.

The room is extended and retracted by hydraulic cylinders, which are powered by a 12 volt motor. When the room is fully extended or retracted, it is secured by safety locks: pins that are held in place by springs and are retracted by compressed air. To prevent damage to the coach, the transmission cannot be shifted into gear when either room is extended.

Controls to extend and retract the room are operated with a separate key and a switch, found on the Hydraulic Room Extension control panel. The control panel for the salon slide-out is located in the front of the coach, usually in the front overhead cabinet. The control panel for the bedroom slide-out is located in the rear of the coach, on a wall or in a cabinet next to the slide-out.



EXTENDING THE SLIDE-OUT ROOM

⚠ WARNING: When you're operating the slide-out, make sure that no one is near it, and keep obstructions clear. Any object obstructing slide-out movement can be crushed, causing injury, death, or vehicle damage.

To extend the slide-out, follow these steps:

1. Check the exterior of the coach to be sure that it is clear of people and obstructions. Close the bay doors under the slide-out, and make sure you have

ON and then OFF again. Repeat until the locks are engaged.

- Remove the key to prevent unintended operation of the slide-out.

RETRACTING THE SALON SLIDE-OUT ROOM MANUALLY

Use the following method if a hydraulic or electrical failure prevents the room from being retracted from the slide-out control panel.

⚠ WARNING: High forces are created when a winch is used, creating potential safety hazards. Failure to follow all cautions and instructions may cause failure of the winch or connections, resulting in damage or personal injury.

The manual retract winch is equipped for manually retracting the slide-out only. It is not to be used for any other application.

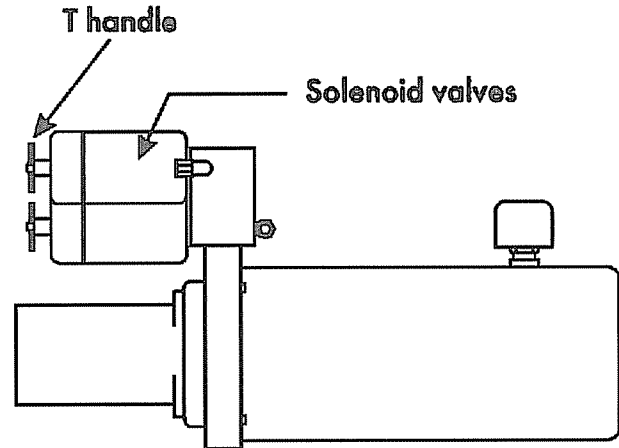
Maintain a firm grip on the winch handle at all times. Never release the handle when the ratchet lever is in the off position and the winch is loaded. The winch handle could spin violently and cause personal injury.

Check the winch and straps for damage or wear, and check for proper ratchet operation on each use of the winch. Do not use if the winch or straps are damaged or worn.

To retract the salon side-out room manually, follow these steps:

- Turn the coach ignition switch to the OFF position.
- Insert the slide-out key into the key switch on the slide-out control panel and turn the key switch to the ON position. You should hear a click as the room locks retract. If you do not hear the room locks retract, turn the key OFF and then ON again. Repeat until the locks are retracted.
- Locate the hydraulic pump unit in the underbelly. It is usually located in the first bay curbside, and the access panel extends through the wall of the second bay curbside.

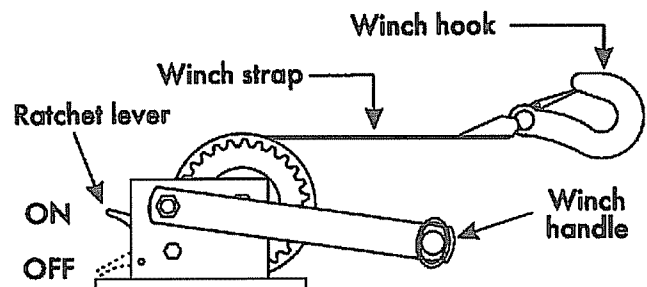
- Locate the T handles on the two solenoid valves (see the illustration).



- Open the solenoid valves completely by turning the T handles counterclockwise about six full turns. The T handles may turn easily at first but will become more difficult to turn as the valves approach being fully open.

NOTE: The slide-out room may move slightly as the solenoid valves are opened and internal pressure is released.

- Locate the manual retract winch (see the illustration). Place the ratchet lever in the OFF (down) position.



- Extend the winch strap by turning the winch handle slowly counterclockwise, keeping a firm grip on the handle.
- Connect the hook on the end of the winch to the room retraction loop directly in line with it.
- Place the ratchet lever in the ON (up) position.

PROBLEM	POSSIBLE CAUSE
The hydraulic pump will not activate when the room control switch is pressed.	<ol style="list-style-type: none"> 1. The room control key switch is in the OFF position or the ignition switch is not in OFF position. 2. The fuse is blown. 3. The pump relay or hydraulic pump is not properly grounded. 4. 12 volt power to pump relay is not present. Check the breaker. 5. There is a faulty wire, electrical connection, key switch, room control switch, pump relay, or pump motor.
The hydraulic pump activates, but the room will not extend.	<ol style="list-style-type: none"> 1. The extend solenoid valve is not properly grounded. 2. The reservoir oil supply is low. 3. The hydraulic line is pinched or broken. 4. There is a faulty wire, electrical connection, room control switch, extend solenoid valve, hydraulic pump, or hydraulic cylinder.
The hydraulic pump activates, but the slide-out will not retract.	<ol style="list-style-type: none"> 1. The retract solenoid valve is not properly grounded. 2. The reservoir oil supply is low. 3. The hydraulic line is pinched or broken. 4. There is a faulty wire, electrical connection, room control switch, retract solenoid valve, hydraulic pump, or hydraulic cylinder.
The slide-out creeps out after closing.	<ol style="list-style-type: none"> 1. A T handle on the extend solenoid valve is not closed completely. 2. The extend solenoid valve has an internal leak. 3. The hydraulic cylinder has an internal leak.

HWL LEVELING SYSTEM

⚠ WARNING: This section provides a summary only. If your coach is equipped with an automatic leveling system, refer to the HWL Operator's Manual provided in your owner's warranty file for important warnings and cautions as well as detailed information about operation.

SYSTEM OVERVIEW

The HWL leveling system is used only when the coach is parked. The computerized leveling system levels the coach by inflating and deflating the individual air bags. It automatically levels the coach and then rechecks for level every 30 minutes. If the coach has dropped out of acceptable leveling parameters, a compressor is activated to bring the coach back to level.

AUTOMATIC AIR LEVELING

CAUTION: Do not use automatic air leveling when the coach is parked on extremely uneven ground. Damage to the chassis and suspension may result.

NOTE: The coach can be leveled with the engine off or running. The operation will be faster with the engine running, because the system will use a large compressor to pressurize the air. If the engine is off, leveling will take more time because the system will use a smaller compressor.

NOTE: The leveling system will operate with the ignition key in any position. If the ignition key is in the ON position, the system will not operate unless the parking brake is set.

while the ignition key is in the ON position, the vehicle may return to travel height.

MANUAL AIR LEVELING

CAUTION: Do not operate the leveling system if the coach is moving faster than 5 miles per hour.

NOTE: The coach can be leveled with the engine off or running. The operation will be faster with the engine running, because the system will use a large compressor to pressurize the air. If the engine is off, leveling will take more time because the system will use a smaller compressor.

NOTE: The leveling system will operate with the ignition key in any position. If the ignition key is in the ON position, the system will not operate unless the parking brake is set.

NOTE: A yellow level indicator will be lit on the side or end that is low. Level the coach by lowering the high side or end rather than by raising the low side or end. If level cannot be achieved, raise the side or end and then adjust by lowering.

To level the coach manually, follow these steps:

1. Place the transmission in neutral, set the parking brake, and leave the engine running.
2. Press the **AIR** button to enter the manual air mode. The **AIR** operation indicator will be lit. If the ignition key is in the ON position, the four red warning indicators will also be lit.
3. Level the coach side-to-side first and then level the coach front-to-rear. To lower the coach, press the down arrow on the appropriate side or end. To raise the coach, press the up arrow on the appropriate side or end.
4. Turn the ignition key to the **OFF** position.
5. Turn off the leveling system by pressing the **OFF** button.

THE DUMP AND RAISE FUNCTIONS

⚠ WARNING: Refer to the HWH Operator's Manual provided in your owner's warranty file for important warnings and cautions as well as detailed informa-

tion about the operation of these functions.

The **DUMP** function momentarily lowers the coach for situations such as parking in the wind or driving under a structure with unusually low clearance. The **RAISE** function momentarily raises the coach for situations such as avoiding an obstacle on the ground. If the ignition key is in the ON position, the coach will return to travel height and the leveling system will shut off as soon as the **DUMP** or **RAISE** button is released.

Caution: Do not use the **DUMP** or **RAISE** button if the coach is moving faster than 5 miles per hour.

NOTE: The **DUMP** and **RAISE** buttons will operate with the ignition key in any position and with the parking brake set or not set.



CHAPTER 10 SCHEMATICS & DRAWINGS

PROPRIETARY INFORMATION

The following drawings are provided to assist you while servicing or repairing your Marathon coach. All drawings and schematics in this manual are the exclusive property of Marathon Coach, Inc. Any unauthorized use, duplication, or distribution without the express written consent of Marathon Coach, Inc., is strictly prohibited and could result in legal action.



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CHAPTER 11 COACH DOCUMENTATION

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Operator's Manual

STANDARD INTERFACE

Applicable to Marathon Coach Production Numbers
#0000 to #0000

Marathon Techlink™ System

Marathon Techlink™ system is the industry's first truly "intelligent" electrical system. Operating behind-the-scenes, the "brains" behind this powerful cutting-edge technology is the newly developed "neuron" chip. Each neuron chip is actually three separate microprocessors—tiny computers in and of themselves, independently operating on a single chip—functioning together to turn your coach into its own "local operating network".

Using "nodes" and "modules", the neuron chips control information through the use of data cables. Low voltage data and ribbon cables have now replaced most of the conventional electrical components and wiring found in typical conversions. The use of these new data cables allows for fewer conversion wiring connections—meaning lower wire complexity. This enhances the overall quality and reliability of our product.

Information is received from a switch group (by the action of "pressing a switch"), sending a signal along the data cables to a control module, which then determines which other modules to "route" the signal to. There are four types of modules, each responsible for a specific function: (a) one type controls all the lighting functions; (b) one type controls all switch group operations; (c) one type receives all the data for display and diagnostic purposes; (d) and the fourth type controls all the other equipment not controlled by the other three.

Here are some of the advantages and benefits associated with this new "open architecture":

Flexibility — We can now add or move connections and equipment anywhere along the data cables without any loss of signal strength, extensive rewiring or disassembly. We can now change switch functions by simply "reprogramming" the modules. This better enables the addition or modification of equipment "after-market".

Reliability — The new control panel terminal requires only the connection of a single pair of twisted wires. The entire electrical system has no single point of failure. During the engineering phase of design and construction we can test the electrical system before installation. The modulization of the entire system permits standardized testing methods and verification procedures during final testing, prior to delivery.

Serviceability — Your coach is now capable of running a self-diagnosis to determine overall system status. The service display screens allow our service personnel to access the data acquired from the coach self-diagnosis. Nodes and modules can quickly be tested for functionality. Repair or "reprogramming" can easily be performed at the factory or via remote access.

Future Upgrades And Options — Coaches equipped with the standard interface module can be upgraded to the on-board computer and touch screen control panels at any time. As future improvements are made and new features are incorporated, we will be able to “update” your system by simply “downloading” the new software. Consult your sales representative or our Service Center regarding future release dates, conditions and procedures for upgrades.

Marathon Techlink™ Standard Interface

■ *Standard Components*

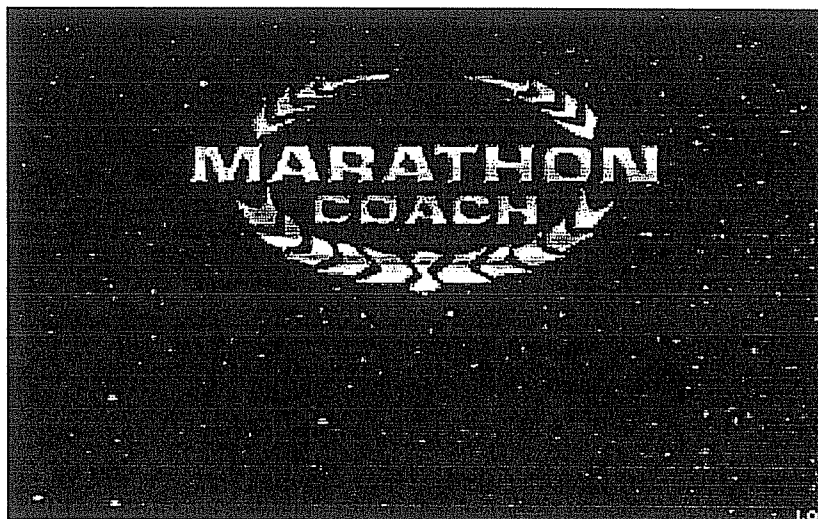
- (1) 10.4" Flat Screen Color Monitor (installed at dash)
- (1) Interface Module

■ *Standard Features*

- On-screen display of Generator status
- On-screen display of Fluid Levels
- On-screen display of Power Supply
- On-screen display of Climate conditions (current temperature)
- Flat screen monitor functions as a color back-up monitor
- System can perform a self-diagnosis

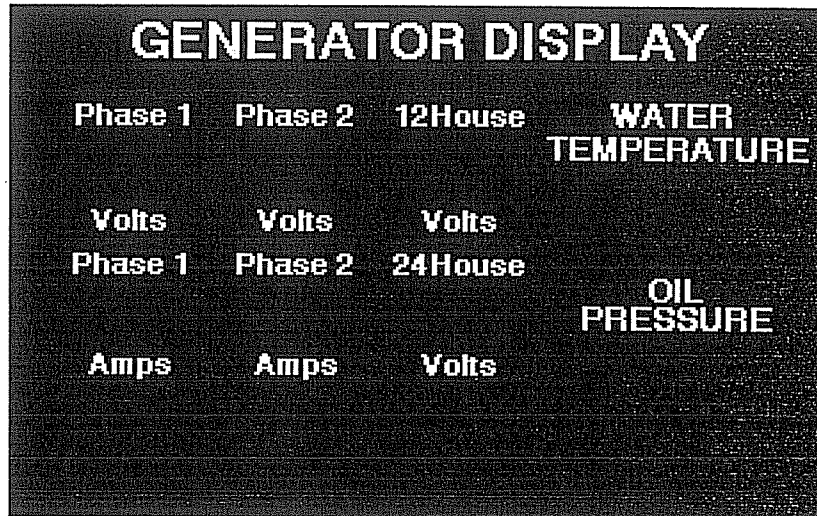
Techlink™ Standard Display Screens

■ *Start Screen*



Depress the switch labeled "SCREENS" (located in the switch group to the left of the monitor) to toggle through the following display screens. Refer to your Marathon and Prevest owners manuals for a complete description of all dash switch and indicator functions and operation.

■ **Generator Display**



DISPLAY

PHASE 1 VOLTS - This indicates the voltage coming into the coach from Phase 1 of the generator. Normal reading will be 100 to 125 volts.

PHASE 1 AMPS - This indicates the current being used from Phase 1 of the generator. Normal reading will be 0 to 50 amps.

PHASE 2 VOLTS - This indicates the voltage coming into the coach from Phase 2 of the generator. Normal reading will be 100 to 128 volts.

PHASE 2 AMPS - This indicates the current being used from Phase 2 of the generator. Normal reading will be 0 to 50 amps.

12 HOUSE VOLTS - Battery voltage of the house batteries, indicating the power available for interior lighting and 12 volt equipment (water pumps, etc.). Normal reading will be 10 to 14 volts

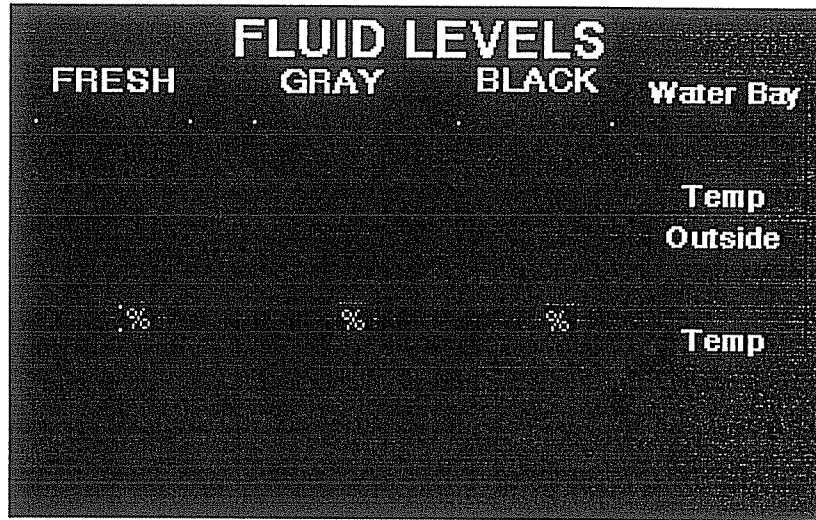
24 HOUSE VOLTS - Indicates the power available for the inverter, and the voltage of the battery charger. Normal reading will be 21 to 28 volts

WATER TEMPERATURE - Gauge showing current water temperature of the generator with numerical readout. Normal operating temperature is 150-195°F.

OIL PRESSURE - Gauge showing current oil pressure of the generator with numerical readout. Normal pressure is 40-90 psi.

good

■ *Fluid Levels*



DISPLAY

FRESH TANK - Graphic and numerical indicator showing percentage of tank full.

GRAY TANK - Graphic and numerical indicator showing percentage of tank full.

BLACK TANK - Graphic and numerical indicator showing percentage of tank full.

WATER BAY TEMPERATURE - Displays current temperature of Water Bay (°F).

OUTSIDE TEMPERATURE - Displays current outside temperature (°F).

PUMP #1 ON ~~(ENABLED)~~ *Running* /OFF - Indicator showing operational status of Water Pump #1.

PUMP #2 ON ~~(ENABLED)~~ *Running* /OFF - Indicator showing operational status of Water Pump #2.

Good.

■ *Power Supply*

POWER SUPPLY				
Phase 1	Phase 2	Inverter	12House	24House
Volts	Volts	Amps	Volts	Volts
Phase 1	Phase 2	Eng Alt	12House	24House
Amps	Amps	Amps	Amps	Amps

DISPLAY

PHASE 1 VOLTS - This indicates the voltage coming into the coach from Phase 1 of the shore cord. Normal reading will be 100 to 128 volts.

PHASE 1 AMPS - This indicates the current being used from Phase 1 of the shore cord. Normal reading will be 0 to 50 amps.

PHASE 2 VOLTS - This indicates the voltage coming into the coach from Phase 2 of the shore cord. Normal reading will be 100 to 128 volts.

PHASE 2 AMPS - This indicates the current being used from Phase 2 of the shore cord. Normal reading will be 0 to 50 amps.

→ INVERTER #1 AMPS - This displays the AC amps measured off the output from Inverter #1. Normal reading will be 0 to 30 amps.

→ INVERTER #2 AMPS - This displays the AC amps measured off the output from Inverter #2. Normal reading will be 0 to 30 amps.

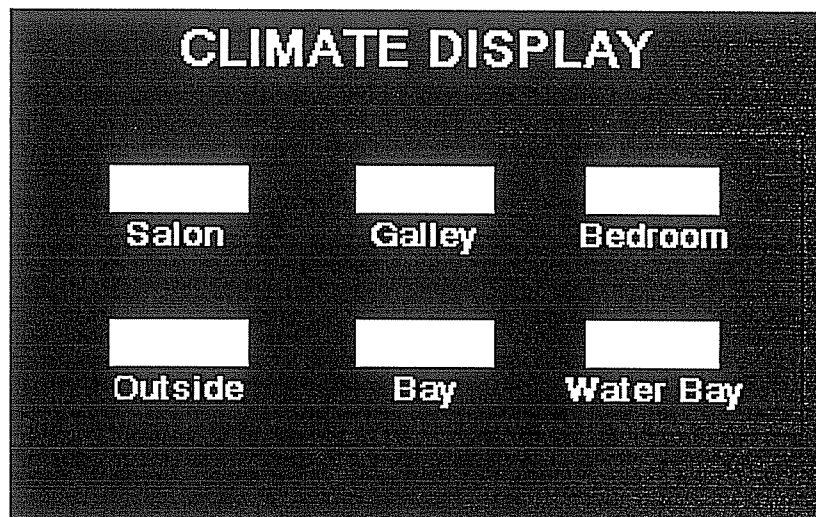
12 HOUSE VOLTS - Battery voltage of the house batteries, indicating the power available for interior lighting and 12 volt equipment (water pumps, etc.). Normal reading will be 10 to 14 volts

12 HOUSE AMPS - Indicates the current or power used from the house batteries for the interior lights and 12 volt equipment. Normal reading will be 5 to 80 amps

24 HOUSE VOLTS - Indicates the power available for the inverter, and the voltage of the battery charger. Normal reading will be 21 to 28 volts

24 HOUSE AMPS - Indicates the current going into or out of the house batteries. Normal charging will be 0 to 150 amps. Normal inverter use will be 0 to -100 amps.

■ *Climate Display*



SALON - Displays ambient temperature of the Salon (°F).

GALLEY - Displays ambient temperature of the Galley (°F).

BEDROOM - Displays ambient temperature of the Bedroom (°F).

OUTSIDE - Displays outside temperature (°F).

BAY - Displays temperature of the Storage Bay (°F).

WATER BAY - Displays temperature of the Water Bay (°F).

good



Operator's Manual

UPGRADE SYSTEM

Applicable to Marathon Coach Production Numbers
#0000 to #0000

Marathon Techlink™ Upgrade System

■ Upgrade Components

- (2) 10.4" Flat Touch Screen Color Monitors (one each at dash & bedroom)
- (1) Contec Pentium 100 On-Board Computer with an internal Modem (for remote access) and Keyboard
- (1) External CD-ROM Drive

■ Upgrade Features

- All features available in the standard system, *plus...*
- Touch-screen control of common coach functions.
- Remote Access - Modem connection allows instant remote access to your on-board computer at home or on the road for factory analysis of service screens resulting from coach self-diagnostic. This feature allows Marathon to monitor and reconfigure coach systems without customer inconvenience. Automatic file transfer and synchronization can quickly and easily allow data to be transferred to and from your coach.
- Retki™ GPS Land Navigation System - Complete detailed information for US city to city and state to state driving. A constellation of GPS satellites track your vehicle, displaying your real time and vehicle position, speed, heading and map position. The NavTech™ Navigable Database is divided into nine CD's. Each CD includes approximately 5 to 6 states of roadway information, including turn by turn route guidance information for metropolitan areas and route guidance information for inter-town travels. The database is guaranteed to be 97% accurate by Navigation Technologies, Inc. Updates are made available twice a year, please refer to your software documentation for operation and update ordering information.

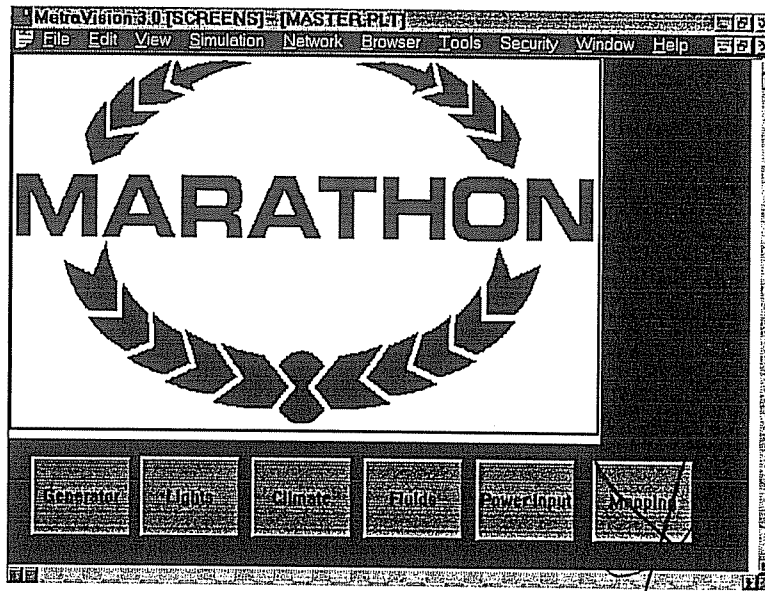
■ Additional Upgrade Options

- Mobile Satellite Telephone Systems - Westinghouse and Mitsubishi option packages available featuring voice, private dispatch, data and fax communication services throughout the North American continent and its surrounding waters. Cell compatibility currently available only with the Westinghouse product. Refer to your software documentation included with your system for operation information.

in the future
to be added

Techlink™ Upgrade Touch-Control Screens

■ Main Screen



TOUCH CONTROLS

GENERATOR - Touch to go to the Generator Control screen.

LIGHTS - Touch to go to the Lighting Levels screen.

CLIMATE - Touch to go to the Weather Station screen.

FLUIDS - Touch to go to the Fluid Levels screen.

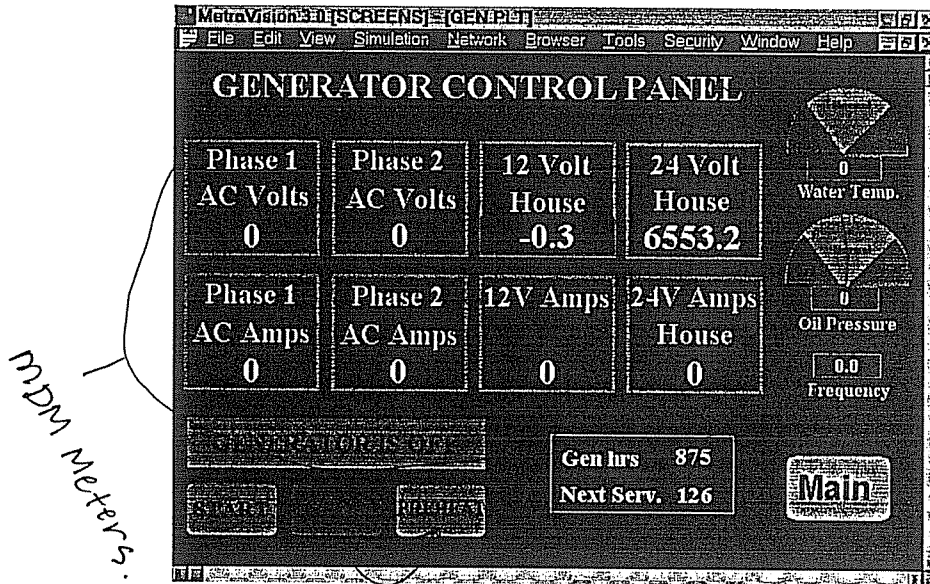
POWER INPUT - Touch to go to the Power Input screen.

MAPPING - Touch to go to the Satellite Mapping program.

Blind's via Touchscreen in the Lecture

Blind

■ **Generator Control Panel**



DISPLAY

PHASE 1 VOLTS - _____

PHASE 1 AMPS - _____

PHASE 2 VOLTS - _____

PHASE 2 AMPS - This indicates the amount of current or power being used by the appliances on Phase 2 of the main power supply. Normal reading is 0 to 50 amps.

12 VOLT HOUSE - _____

12 V AMPS - _____

24 VOLT HOUSE - _____

24 V AMPS HOUSE - _____

WATER TEMPERATURE GAUGE - Normal operating temperature is 150-195°F.

OIL PRESSURE GAUGE - Normal pressure is 40-90 psi.

FREQUENCY - This shows the frequency output of the generator displayed in Hertz (Hz) cycles per seconds. Normal reading is 60 Hz.

GENERATOR HOURS - Numerical indicator showing generator hours of operation since last service.

NEXT SERVICE - Numerical indicator showing hours of operation remaining before next recommended service.

GENERATOR IS OFF - (Running? preheat?) Indicator showing current operational status of the generator. _____

TOUCH CONTROLS

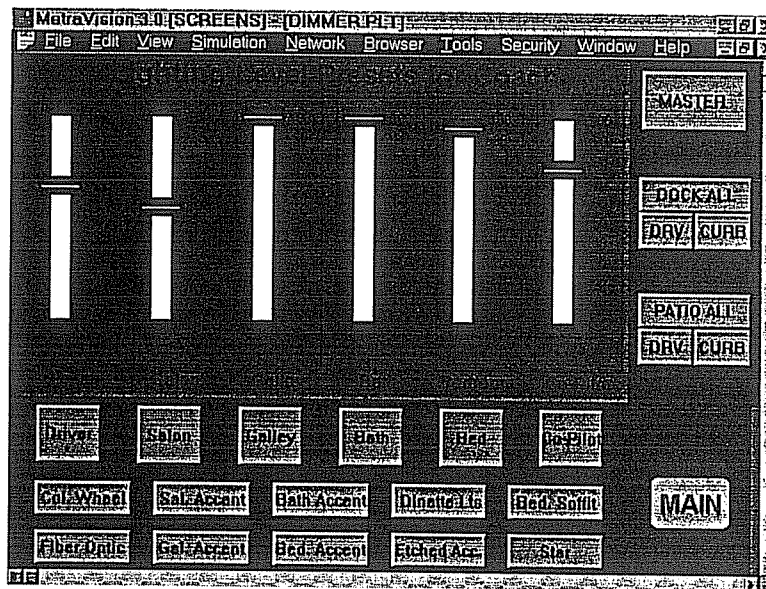
START - Touch to start the generator. Continue to touch button until gauges show that the generator is running.

STOP - Touch to stop the generator.

PREHEAT - Touch to preheat the generator This should generally be done in temperatures lower than 40°F.

MAIN - Touch button to return to the Main screen.

■ *Lighting Controls*



LIGHTING LEVEL PRESETS FOR COACH— DRIVER, SALON, GALLEY, BATH, BEDROOM, & CO-PILOT

The slider controls are used to set the lighting levels for 12V interior spotlighting. Set the slider bar to the desired level in each area. Touch the area control button below to turn lighting on and off.

TOUCH CONTROLS

COL. WHEEL - Turns ON/OFF the fiber optic color wheel for the Salon ceiling panel.

SAL. ACCENT - Turns ON/OFF 12V accent lighting in Salon.

BATH ACCENT - Turns ON/OFF 12V accent lighting in Bath.

DINETTE LTS. - Turns ON/OFF the spotlights in the dinette overhead.

BED. SOFFIT - Turns ON/OFF soffit lighting in Bedroom.

FIBEROPTIC - Turns ON/OFF the fiber optic lighting in the Salon ceiling panel.

GAL. ACCENT - Turns ON/OFF 12V accent lighting in Galley.

BED. ACCENT - Turns ON/OFF 12V accent lighting in Bedroom.

ETCHED ACC. - Turns ON/OFF colored accent lighting at etched glass window (Bedroom/Bath).

STAR - Turns ON/OFF star/moon lighting in the Bedroom ceiling panel.

MASTER - Turns OFF all coach interior lighting. Turns on minimal general lighting preset throughout coach (this preset is determined during production and supercedes, but will not overwrite, any level presets currently set on the control panel).

DOCK ALL - Turns ON/OFF all exterior docking lights.

DRV - Turns ON/OFF all driver's side docking lights.

CURB - Turns ON/OFF all curb side docking lights.

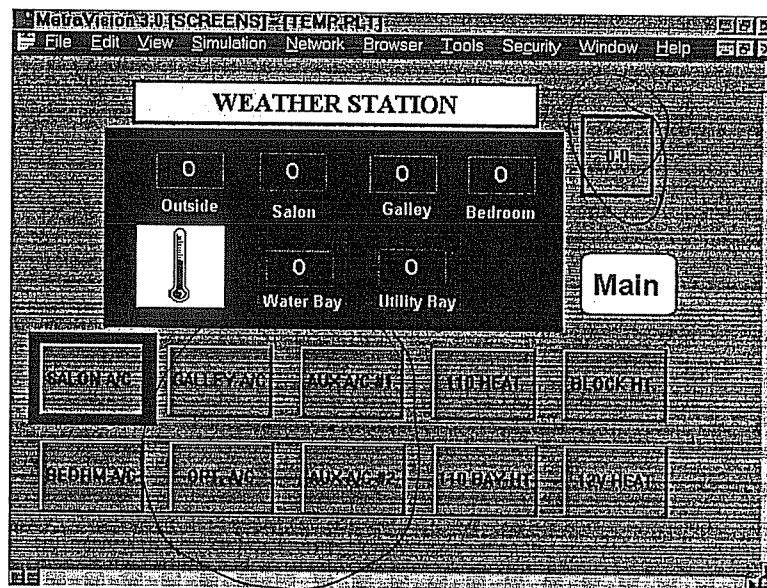
PATIO ALL - Turns ON/OFF all exterior patio lights.

DRV - Turns ON/OFF all driver's side patio lights.

CURB - Turns ON/OFF all curb side patio lights.

MAIN - Touch button to return to the Main screen.

■ *Weather Station*



*When
these
change
DATA C*

DISPLAY

SALON - Displays ambient temperature of the Salon (°F).

GALLEY - Displays ambient temperature of the Galley (°F).

BEDROOM - Displays ambient temperature of the Bedroom (°F).

OUTSIDE - Displays outside temperature (°F).

UTILITY BAY - Displays temperature of the Storage Bay (°F).

WATER BAY - Displays temperature of the Water Bay (°F).

TOUCH CONTROLS

SALON A/C - This button operates the remote breaker for air conditioning in the Salon. Press for "ON"; touch again for "OFF".

GALLEY A/C - This button operates the remote breaker for air conditioning in the Galley. Press for "ON"; touch again for "OFF".

BEDROOM A/C - This button operates the remote breaker for air conditioning in the Salon. Press for "ON"; touch again for "OFF".

OPT. A/C (4th Cruisair - Optional Equipment) - This button operates the remote breaker for an optional fourth air conditioning unit (installation locations will vary on conversions). Press for "ON"; press again for "OFF".

AUX. A/C #1 (MAC/MACH - Optional Equipment) - This button operates Unit #1 of your auxiliary air conditioning system (installation locations will vary on conversions). Press for "ON"; press again for "OFF".

AUX. A/C #2 (MAC/MACH - Optional Equipment) - This button operates Unit #2 of your auxiliary air conditioning system (installation locations will vary on conversions). Press for "ON"; press again for "OFF".

110 HEAT - Press to enable 110V heaters in coach. Set thermostats to desired level to activate 110V heaters.

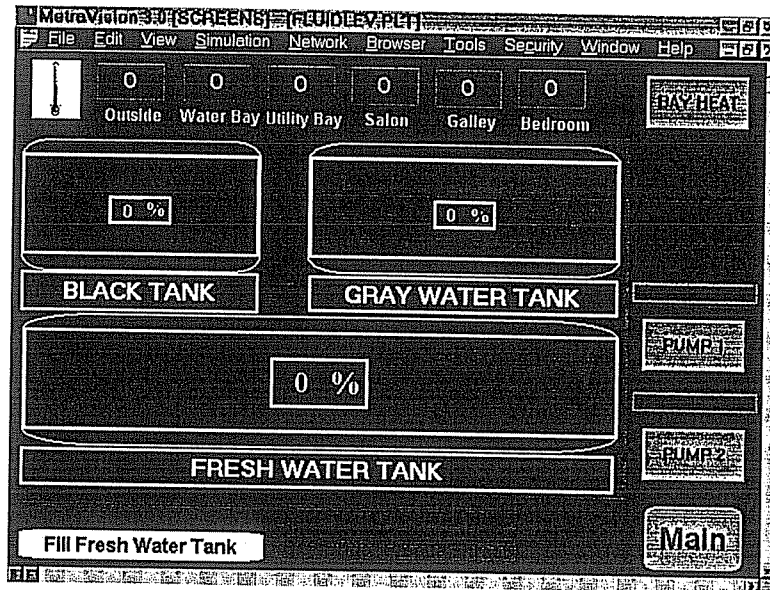
110 BAY HEAT - Press to enable 110V water bay heater. Set thermostat to desired level to activate 110V heater.

BLOCK HT. - Press to enable Webasto to heat the engine block.

12V HEAT - Press to enable 12V heaters (this would include any optional 12 volt bay heaters). Set thermostat to desired level to activate heater.

MAIN - Press button to return to the Main screen.

■ Fluid Levels



DISPLAY

OUTSIDE - Displays outside temperature (°F).

UTILITY BAY - Displays temperature of the Storage Bay (°F).

WATER BAY - Displays temperature of the Water Bay (°F).

SALON - Displays ambient temperature of the Salon (°F).

GALLEY - Displays ambient temperature of the Galley (°F).

BEDROOM - Displays ambient temperature of the Bedroom (°F).

BLACK TANK _% -

GREY TANK _% -

FRESH WATER TANK _% -

EMPTY BLACK WATER TANK -

EMPTY GREY WATER TANK -

FILL FRESH WATER TANK -

BAY UNDER FREEZE THREAT -

BAY HEAT - Press to enable 110V heater in the water bay. Set thermostat at bay to desired level to activate the unit.

PUMP #1 -

PUMP #2 -

MAIN - Touch button to return to the Main screen.

■ *Power Input*

Phase 1 AC Volts	Phase 2 AC Volts	12 Volt House	24 Volt House
0	0	-0.3	6553.2
Phase 1 AC Amps	Phase 2 AC Amps	12V Amps House	24V Amps House
0	0	0	0

POWER INPUT

MAIN

DISPLAY

PHASE 1 VOLTS - _____

PHASE 1 AMPS - _____

PHASE 2 VOLTS - _____

PHASE 2 AMPS - _____

INVERTER AMPS - This displays the AC amps measured off the output from the inverters _____

ENG ALT AMPS - This displays the amount of current being supplied from the engine alternator to the chassis batteries, house batteries, and (if applicable) the chassis air conditioning condensers.

12 HOUSE VOLTS - _____

12 HOUSE AMPS - _____

24 HOUSE VOLTS - _____

24 HOUSE AMPS - _____

MAIN - Touch button to return to the Main screen.