# TRAILERING 3

A correctly selected trailer supports the boat properly, makes towing safer, and makes loading and unloading easier. Improper trailering may cause serious traffic accidents and is one of the major causes of boat damage. The warranty does not cover damage of this type. Familiarize yourself with proper towing procedures before towing your boat on the road.

**IMPORTANT:** Your boat's trailer was specifically designed to transport your boat properly. Do not use any other trailer with your boat. Your dealer can help you with the proper towing vehicle connections. Check with local authorities for registration and licensing regulations in your area. Your boat trailer has to be registered and licensed. Some regions also have brake requirements of which you should be aware.

**⚠WARNING**

Overloading trailer can lead to frame or component failure or loss of tow vehicle control. To prevent accidents and injury, total weight of trailer, boat, engines, fuel and gear must not exceed trailer weight rating.

## GROSS VEHICLE WEIGHT RATING

The trailer should be able to accommodate the weight of the boat, engine(s), full fuel tank, and any other equipment that will normally be carried. Check the certification label on the frame of the trailer for the gross vehicle weight rating (GVWR). The total weight of your boat, engine(s), fuel, gear, and trailer should not exceed the GVWR.

## WEIGHT DISTRIBUTION

If your towing vehicle is equipped with a weight distribution hitch, it must be capable of handling the GVWR. The weight on the trailer should be evenly distributed and the boat should be level. If too much weight rests on the hitch, the front end of the vehicle will sway or over-steer. Insufficient tongue weight will cause the trailer to fishtail. In either case, the vehicle will be hard to handle and could become uncontrollable at high speeds.

Regulations usually require that trailers above a specified weight rating be equipped with brakes. Requirements vary; check with your dealer for additional information.

## HITCH

**⚠WARNING**

Overloading can cause hitch failure, leading to injury-causing accidents. Total weight of the loaded trailer must not exceed capacity marker on hitch of tow vehicle.

Hitches are divided into classes that specify the gross trailer weight and maximum tongue weight for each class. Always use a hitch with the same class number as the trailer. Most boat trailers connect to a ball hitch that is bolted or welded to the towing vehicle. Be certain that the towing vehicle is equipped with a hitch capable of handling the GVWR. The two basic types of trailer hitches are a weight-carrying hitch, which is adequate for some of the smaller models, and a weight-distributing hitch for heavier models.

The trailer hitch coupler must match the size of the hitch ball. The correct ball diameter is marked on the trailer coupler. When it is latched, the coupler should fit snugly on the ball. The height of the vehicle hitch must also match the recommended trailer hitch height. (see trailer specifications sticker for recommended height) Here are the recommendations for the following prefixes which determine the trailer's type: 6830, 6808, 6813, 6910, 6916, 6918, 6922, 6925, 6928 are equal to +/- 16" from ground level. All others are equal to +/- 18" from ground level.

## SAFETY CHAINS OR CABLES

Safety chains or cables provide added insurance that an unhitched trailer will not become completely separated from the towing vehicle while it is being towed. Crisscross the chains or cables under the trailer tongue to prevent the tongue from dropping to the road if the trailer separates from the hitch ball (Figure 3-1). Safety chains or cables should have a minimum breaking strength equal to the upper limit of the GVWR.

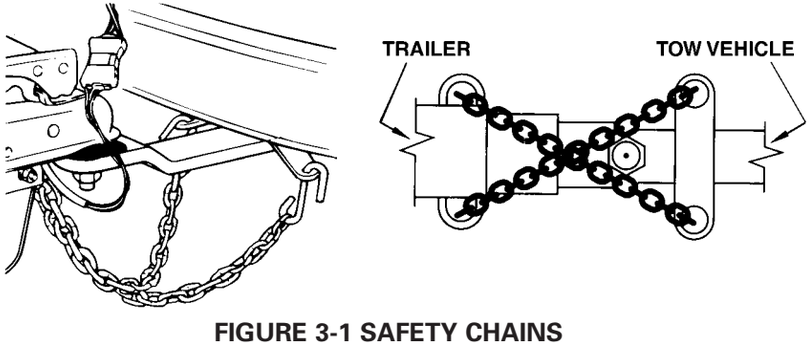


**FIGURE 3-1 SAFETY CHAINS**



## BRAKES

**⚠WARNING**

**Property Damage! Personal Injury!** Failure to use brakes when required can result in an injury-causing accident. Observe conditions carefully and be prepared to stop. Maintain brakes properly to assure they are in good working order.

Your boat trailer may be equipped with surge brakes. Trailer brakes help relieve stress on the towing vehicle by transferring some of the braking action to the trailer wheels. As the towing vehicle slows and decelerates, the momentum of the trailer applies pressure through linkage to the trailer's master cylinder mounted on the tongue near the coupler. This hydraulic pressure is transmitted through the brake lines to the wheel brake assemblies to assist with slowing or stopping the vehicle and the trailer. A shock absorber assures smooth and even operation of the brakes by preventing intermittent application of the brakes.

Some trailers are equipped with disc brakes. The wiring harness for these trailers incorporate 7 connector plugs (Figure 3-2). The towing vehicle's wiring harness plug must be wired properly to release the disc brakes when backing up. See your dealer for proper wiring set-up.

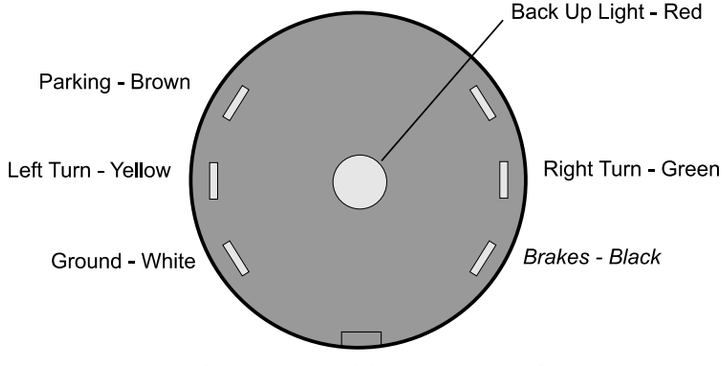


**FIGURE 3-2 DISC BRAKE PLUG**

## TURNING WHILE TOWING A TRAILER

When you are towing a trailer, be aware that the trailer will track in a tighter turn than the towing vehicle's (Figure 3-3). When making a turn, be careful that the trailer does not strike another vehicle or object. Turns made when you are towing a trailer should be made at appropriate speeds.

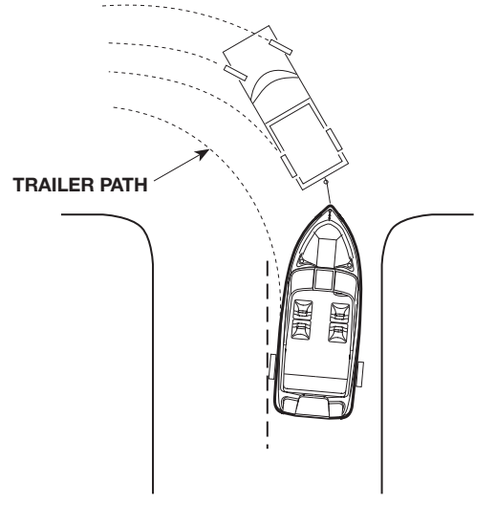


**FIGURE 3-3 TURNING WITH TRAILER**

## BACKING UP A TRAILER

Practice backing up with a trailer before you get into a confined launch site. Get accustomed to using the trailer in an open area. Take someone with you who knows how to back up a trailer. Backing up a trailer works in the opposite way as backing up a car. If the trailer needs to travel to the right, turn the steering wheel to the left and vice versa (Figure 3-4). Do not turn the wheel too far or over-steer. Turn the wheel gradually until you get the feel of safe backing up.

Some trailers are equipped with disc brakes. In order to be able to back up the trailer, the tongue back-up pin (Figure 3-5) must be installed. Refer to your Trailer Owner's Manual for additional information.

## LAUNCHING GUIDELINES

Before launching your boat, stay to one side and watch a couple of launchings to notice any problems on the ramp and the effects of the wind and the current on launching.



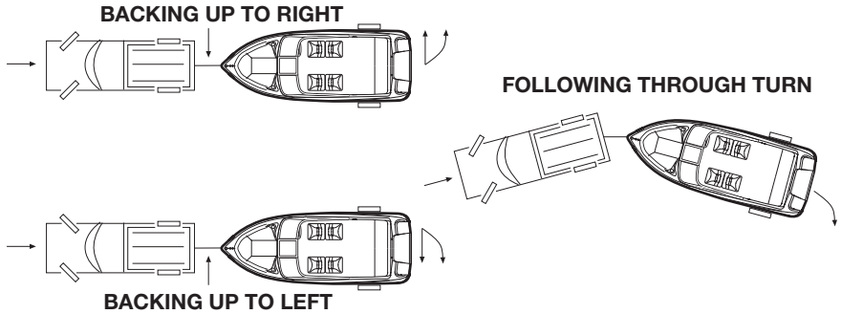


**FIGURE 3-4 BACKING A TRAILER**

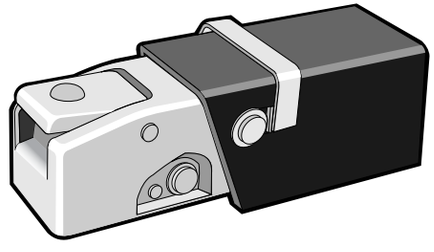

**FIGURE 3-5 BACK-UP PIN**

It's a common courtesy to prepare the boat for launching away from the ramp. This includes removing tie-downs, disconnecting the traffic lights of the trailer, securing loose gear, loading personal gear and making sure the brass drain plug behind the boat is installed and secured.

Ask an individual at the launch ramp to give you directions. Back up slowly down the ramp. Always remember to launch the boat at a right angle to the shoreline. When launching from a trailer, tilt the engine(s) up to avoid damage.

When the boat's transom is in several inches of water, stop the towing vehicle. If the vehicle has a manual transmission, leave it in gear. If it has an automatic transmission, shift to PARK. Be careful that the exhaust pipe from the towing vehicle is not submerged in water. Turn off the engine and set the parking brake. Place blocks behind the vehicle's back wheels.

Do not detach the winch cable from the bow eye until a mooring line has been secured to one of the boat's cleats. Otherwise, the boat could slide off the trailer and float away. Attach one line to the bow and one line to the stern to help control the boat. See the mooring information in Chapter 7 for suggested securing procedures.

After moving the boat down and off the trailer into the water, secure it to the dock or have someone hold the mooring lines. Pull the towing vehicle away from the launch ramp. You should park only in designated areas. When parking, be sure the towing vehicle and trailer do not block other boaters from approaching the launch ramp or hinder their ability to maneuver a boat and trailer when launching.

Move in to your boat, look behind the boat to see if it is clear of obstacles or debris, then lower the outdrive unit into the water and start the engine. Take the necessary precaution to manoeuvre the boat out of the launch area.

## LOADING YOUR BOAT ON THE TRAILER

Loading your boat is similar to launching except loading is done in reverse.

1. Back the trailer into the water.

2. When the trailer is in enough water so the boat will “float on” the trailer bunks:

   - STOP the towing vehicle.
   - Leave manual transmission in gear or place automatic transmission in park.
   - Turn off the engine.
   - Set the parking brake.
   - Place blocks behind the vehicle’s back wheels.

3. Tilt the boat’s drive up to the high tilt position to avoid damage while loading.

4. Pull boat up onto trailer and secure safety chain.

5. After securing the boat to the trailer, start engine on towing vehicle and pull trailer out of the water to boat securing area. (If blocks are connected with a rope to the trailer tongue, you will not need to remove them before pulling trailer out.)

6. On all boats except pontoon boats, open the drain plug to allow bilge to drain. Keep plug open to prevent accumulation of water in bilge. Be sure to close drain plug before next boat usage, to prevent flooding.



7. Use tie-downs to secure boat on trailer. Use stern tie-downs to prevent the boat from shifting.

8. If your trailer is equipped with a transom-saver motor support bar, make sure it is well attached to your motor before you go.

9. Wipe hull down to prevent water spots and keep hull clean.

10. Make sure all cargo, lids, and canvas are secure or tied down before trailering on the road. Place loose gear in towing vehicle.

11. Reconnect trailer lights. Check that lights are working.

12. Check tires for proper inflation (check tire rating on sidewall). Under-inflated tires heat up rapidly and may blow out or cause uncontrolled swaying. Also, make sure lug nuts are tight.

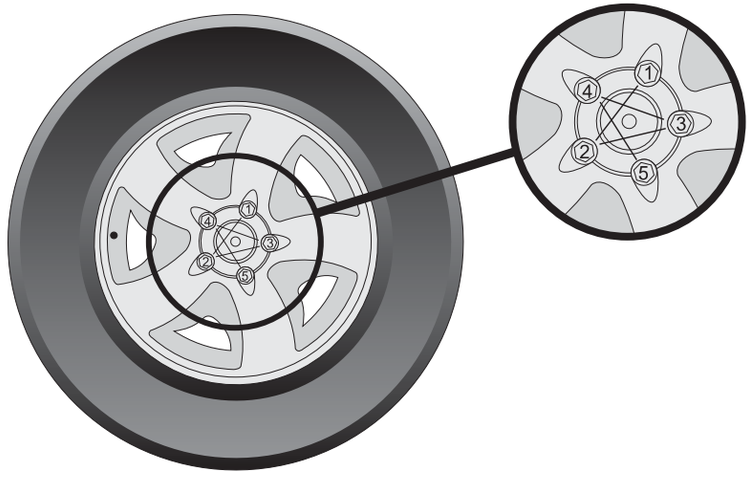


**FIGURE 3-6**

13. Before use and after the first 100 miles, torque the lugnuts to 90-95 ft./lbs. Lug nuts must be tightened in a star criss-cross pattern (Figure 3-6) to ensure uniform pressure and alignment. Apply torque evenly by repeating star pattern until desired torque is reached.

14. Be sure the coupler is secured to the trailer hitch and safety chains or cables are attached.

15. Check the brakes for proper operation prior to departure. See Owner’s Manual for brakes or trailer for complete instructions.

16. Check the springs and under-carriage for loose parts.

17. Carry a spare tire for both the trailer and towing vehicle. On extended trips, carry spare wheel bearings, seals, and grease. Carry the proper tools to complete the repairs.

18. When traveling, check the wheel hubs during stops at petrol stations, restaurants, or other places. If the hub feels abnormally hot, the bearing should be inspected before continuing the trip.

**Note:** All trailers used in salt or brackish waters must be rinsed off completely with fresh water immediately after use, to prevent rust and corrosion. Failure to rinse the trailer could cause cosmetic trailer damage that is not covered by your warranty.

## WHEEL BEARINGS

The best protection you can give to your wheel bearings is to keep the hubs fully lubricated at all times. Periodically add fresh grease to the bearing buddy hubs with a water resistant wheel-bearing grease. Fill the hubs with grease to the manufacturer's specifications, as detailed in the trailer owner's manual.



# ELECTRICAL SYSTEM 4

This section of the manual includes information about your boat's electrical system. Your boat is designed with a safe electrical system to protect you from hazardous shocks and was checked carefully before it was shipped to your dealer. To protect yourself from electric shock, always have a qualified technician make any modifications to the system. If you have questions, see your dealer for more information.

## 12-VOLT DC BOAT SYSTEM

The 12-Volt DC electrical system is a 12-Volt, 2-wire, negative ground type system. The hot wire is positive, feeding the lights and appliances, for instance, and the negative return is by an insulated wire to the negative terminal of the battery.

## 12-VOLT TROLLING MOTOR SYSTEM

The 12-Volt DC electrical system is a 12-Volt, 2-wire, negative ground type system. The hot wire is positive, feeding trolling motor and lights (if so equipped), and the negative return is by insulated wire to the negative terminal of the battery. (See Bow Panel Installation Sheet in your owner's package for wiring diagram.)

The 12-Volt plug is located on the bow of your boat (Figures 4-1 and 4-2).

**FIGURE 4-1**
**12- VOLT "MARLAN" STYLE PLUG**


**FIGURE 4-2**
**12- VOLT "ECONO" BOW TROLLING PANEL**

## 12 OR 24-VOLT TROLLING MOTOR SYSTEM

The 12 or 24-Volt electrical system is a 12 or 24-Volt, depending on selection, negative ground type system. Each hot wire is 12-Volt, feeding the trolling motor, and the negative return is by two insulated wires to the negative terminal of the batteries. (See Bow Panel Installation Sheet in your owner's package for wiring diagram.)

The 12 or 24-Volt plug is located on the bow of your boat (Figures 4-3 and 4-4).