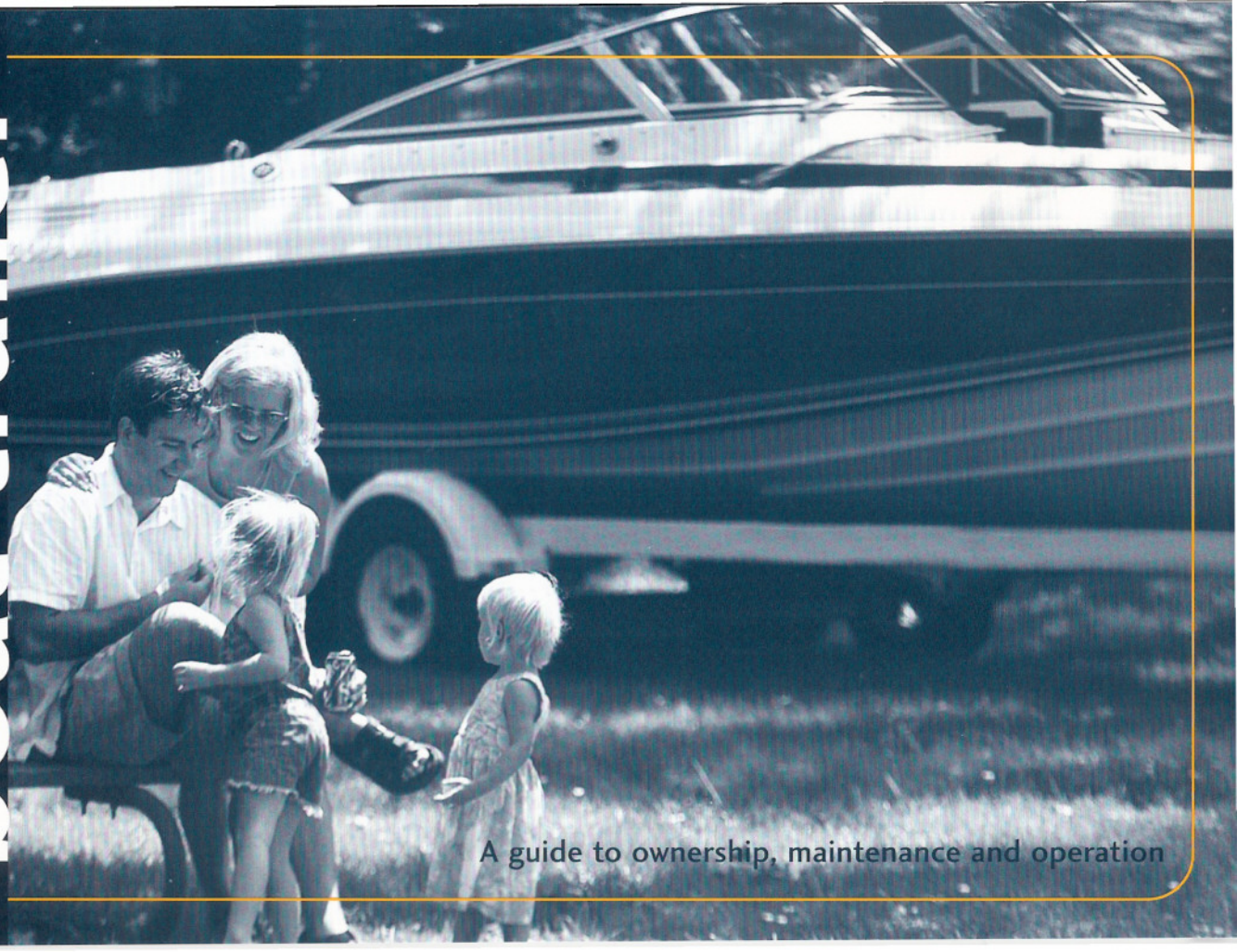


you and your boat trailer



A guide to ownership, maintenance and operation

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welcome

to the wonderful world of recreational boating!

With the purchase of your new, professionally built boat trailer you have added an exciting new dimension to your boating enjoyment. You can now cruise, fish, waterski, explore and gain access to almost any of the country's thousands of recreational waterways. Your new trailer makes any river, lake or coastal area in the country "home water."

The manufacturer of your trailer has provided you with a vehicle designed for many years of convenient, trouble-free service. Now it is up to you to give it proper care and maintenance to be sure it will continue to perform safely and satisfactorily.

The purpose of this booklet is to help you do just that. Please read and follow its warnings and instructions carefully. Because all trailers are not exactly alike, be sure to read and comply with any warning labels and information supplied by the manufacturer about your specific model. It's the best way to obtain peak performance.

Happy trailering!



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National Marine Manufacturers Association
231 S. LaSalle, Suite 2050, Chicago, IL 60604

Trailer checklist

IMPORTANT

Before towing this vehicle, be sure to read and familiarize yourself with the instructions and warnings supplied with it.

Familiarize yourself with the checklist provided by the trailer manufacturer.

Before you tow the trailer check to be sure that:

1. The coupler and hitch ball are the correct rating and size
2. Coupler and safety chains are safely and correctly secured to hitch or tow vehicle
3. All fasteners are properly tightened
4. Winch line is properly secured
5. Boat is securely tied down to trailer
(winch line is not a tie-down)
6. Wheel lug nuts are properly tightened
7. Wheel bearings are properly adjusted and maintained
8. Load is within maximum load carrying capacity
9. Tires are properly inflated
10. All trailer lights and turn signals are working properly
11. Trailer brakes are properly adjusted and working (if trailer is equipped)
12. The trailer jack is locked in the travel position
13. All gear is stowed and no persons are in the boat while towing

By law all trailers are equipped to meet applicable federal safety standards. Check state and local requirements regarding brakes and any additional equipment that may be required.

Selecting the right trailer

WARNING

The total weight of your boat, engine, fuel, batteries, water, gear and trailer must not exceed the trailer's Gross Vehicle Weight Rating (GVWR). Over-loading can cause serious injury or property damage.

	MFD. BY/FABRIQUE PAR: XYZ TRAILERS, INC.	MAX. LOAD CAPACITY KG(LB) 1769(3900)
	GVWR/PNBV: 2268KG (5000LB) GAWR/PNBE: 1134KG (2500LB) WITH ST205/75 14 C TIRES 14X6.00 RIMS, AT 342KPA (50PSI) COLD DUAL	
VIN/NIV 1TPSB262951052917 TYPE - TRA/REM	THIS VEHICLE CONFORMS TO ALL APPLICABLE U.S. FEDERAL MOTOR VEHICLE SAFETY STANDARDS IN EFFECT ON THE DATE OF MANUFACTURE SHOWN ABOVE. THIS VEHICLE CONFORMS TO ALL APPLICABLE STANDARDS PRESCRIBED UNDER THE CANADIAN MOTOR VEHICLE SAFETY REGULATIONS IN EFFECT ON THE DATE OF MANUFACTURE / CE VEHICULE EST CONFORME A TOUTES LES NORMES QUI LUI SONT APPLICABLES EN VERTU DU REGLEMENT SUR LA SECURITE DES VEHICULES AUTOMOBILES DU CANADA EN VIGUEUR A LA DATE DE SA FABRICATION.	
VIN/NIV 1TPSB262951052917	VIN/NIV 1TPSB262951052917	MODEL 3900
VIN/NIV 1TPSB262951052917	VIN/NIV 1TPSB262951052917	VIN/NIV 1TPSB262951052917

Note: Maximum load carrying capacity is the gross vehicle weight rating (GVWR) less the weight of the empty trailer.

The key to trouble-free trailering is properly matching the boat and trailer. A proper match is one in which the trailer is designed and built to carry the full weight of your boat, engine and gear, and which provides proper support for the boat hull. Too high a capacity trailer built for heavier loads can damage light boats, aluminum in particular.

Trailer & Tire registration

Federal law requires the completion of trailer and tire registration information. Forms are provided to you by the trailer manufacturer and dealer to complete and send in to comply with these requirements.

The primary purpose of these forms is to make it possible for the manufacturer to contact first purchasers of its products if it becomes necessary to issue a defect notification concerning the tires and/or trailer. Be sure to complete these registration forms and mail them in accordance with instructions. Doing so ensures you will be notified in the unlikely event that a recall of your trailer or tires becomes necessary.

Note: Trailer laws covering such items as brakes, license plates, etc., will vary from state to state. Be sure that your trailer is in full compliance with your state laws, as well as in states you plan to travel. Your trailer dealer can assist with this information. If not, contact your nearest state motor vehicle department.

GVWR & load capacity

Check the metal or plastic VIN certification label attached by the manufacturer to the left forward side of your trailer. It shows the maximum load-carrying capacity of the trailer. This label is required to show the Gross Vehicle Weight Rating (GVWR), which is the load-carrying capacity PLUS the weight of the trailer itself. Be sure that the total weight of your boat, engine, fuel, all gear and trailer do not exceed the GVWR.

If you don't know the correct weight of your boat and engine, don't guess—have it weighed. This can usually be done at a local lumber yard, feed and fertilizer store, truck weigh station, etc.

Be especially careful not to overload your trailer by putting heavy baggage, camping gear, etc., in the boat. If you must carry such equipment in your boat while trailering, go to the next larger-capacity trailer.

Note: Be aware that many boats may have water ballast systems that must be drained before the boat can be loaded on the trailer.

Weight distribution

WARNING

Fishtailing caused from improper tongue weight (not enough) on the tow vehicle hitch ball can cause loss of control of the tow vehicle and result in serious injury and/or property damage.

Improper weight distribution can cause a boat trailer to “fishtail” (sway from side to side) as it moves down the highway, putting excessive strain on both trailer and towing equipment, increasing gas consumption, and possibly causing an accident. The most effective way to guard against fishtailing is to make sure that the weight load on your trailer is properly distributed.

It is extremely important that five to seven percent of the total weight of your loaded trailer is felt at the trailer-coupling ball when the tongue is parallel to the ground. A bathroom scale may be used for this determination. Check the information supplied by the trailer manufacturer to see if there is a specific percentage for your particular model. For example, if the loaded weight of a trailer, boat and gear is 2,000 pounds, the weight on the

Weight distribution continued

tongue should not be more than 140 pounds and not less than 100 pounds.

Note: The five to seven percent guideline will hold true until you get into larger-sized boats (4,000 pounds and heavier). It may become necessary to strike a balance between sufficient tongue weight to properly tow and not too much tongue weight to create undue stress on the tow vehicle. When in doubt, consult your dealer or trailer manufacturer. Also, check your tow vehicle owner's manual for the vehicle's towing information.

If the weight on the coupling ball does not fall within the proper range, you should take immediate steps to achieve it. If only a small adjustment is required, you may be able to solve the problem simply by shifting some of the gear in your boat (gas tank, anchor, fishing tackle) from back to front or vice versa. If this is not adequate, the undercarriage of some trailers (axle or axles) can be moved backward or forward, as required.

The importance of adequate tongue weight on the hitch ball cannot be overemphasized.

Boat supports

CAUTION

Improper adjustment of boat supports or improper boat positioning on the trailer may cause damage to your boat hull.

Most of the weight of your boat and engine rests on the transom (stern) supports. These supports must be positioned so that the boat's transom rests directly on them. If the boat overhangs these supports the hull can become deformed and damaged.

An aluminum boat should have long, straight longitudinal bunks or a long series of closely spaced rollers. This will spread the support across the boat hull. Single rollers should be avoided. Roller heights must be adjusted so that boat weight is evenly distributed on them. If one roller is set higher than the rest, it can cause damage to the boat bottom.

Side supports should run parallel to the keel and support the hull. If center supports are used, they should not put undue pressure on the hull where the hull can flex. Side supports need only be tight enough to keep the boat centered.

Trailer hitch

WARNING

Do not exceed the maximum trailer weight rating or the maximum tongue rating of your hitch. This can cause a failure of the hitch and can lead to an accident, causing serious injury.

There are two basic types of trailer hitches: a weight-carrying hitch and a weight-distributing hitch. Generally, for towing lighter rigs with a passenger car, a weight-carrying hitch is adequate. A weight-distributing hitch may be recommended for heavier rigs. Before deciding which type of hitch to use, consult the manufacturer's recommendations for your car or truck.

Be sure that the total weight of your boat and trailer combination does not exceed the hitch's load capacity; the maximum weight it can handle is stamped on the hitch. Also, be sure the hitch ball is the size to match the coupler on your trailer. The correct ball diameter is marked on the trailer coupler.

The hitch also should provide a place for attaching the trailer's safety chains, two rings or holes on either side of the hitch ball. A truck or van using a "step bumper" as the hitch platform will need to have chain attachments such as eye bolts as well as a hitch ball installed according to the Society of Automotive Engineers SAE J684 Standard. Installing a light or heavy-duty hitch can be a major undertaking. The hitch and its installation should meet the SAE J684 Standard. It is recommended that this installation be completed by a professional. Consult your tow vehicle dealer.

To ensure that the boat is riding properly on the trailer supports, the trailer should be in a level position when hitched to the tow vehicle. More important, if the coupler is much lower than the rear end of the trailer, it may prematurely activate the surge brakes. This can be corrected in a number of different ways. For example, you may install air-pressure shock absorbers on the tow vehicle, or switch from a weight-carrying hitch to a weight-distributing hitch. Again, consult your tow vehicle dealer.

Safety chains continued

Most hardware stores carry a type of chain known commonly as “Proof Coil.” A $\frac{3}{16}$ -in. trade size proof coil chain satisfies the requirement for a Class 1 trailer; $\frac{1}{4}$ -in. trade size proof coil satisfies the requirement for Class 2 and Class 3 trailers. For Class 4 trailers, the breaking strength of a chain must equal the GVWR of the trailer. All chain attachments, including hooks, must be at least as strong as the chains. Harness snaps and small “S” hooks, which don’t have the necessary strength, should not be used. No welding operation should be performed on the chain after its manufacture.

Note: Safety cables may be substituted for safety chains provided each cable and attaching hardware have a minimum breaking strength equal to or greater than the trailer’s Gross Vehicle Weight Rating (GVWR).

Trailers with brakes have a third chain or cable called the break-away chain. This chain automatically activates the trailer brakes if the coupler detaches from the tow vehicle. Attach this cable or chain with enough slack to permit tight turns.

Trailer lights

United States and Canadian federal safety regulations spell out lighting requirements for trailers used on all public roads. Compliance with applicable federal regulations is the trailer manufacturer's responsibility, but it is the trailer owner's responsibility to maintain these lamps and reflectors to ensure they are in proper operating condition.

WARNING

To reduce the risk of serious injury or property damage, make certain that all trailer lights are in proper working order.

Keeping your trailer's lighting system in good operating condition requires some very basic maintenance:

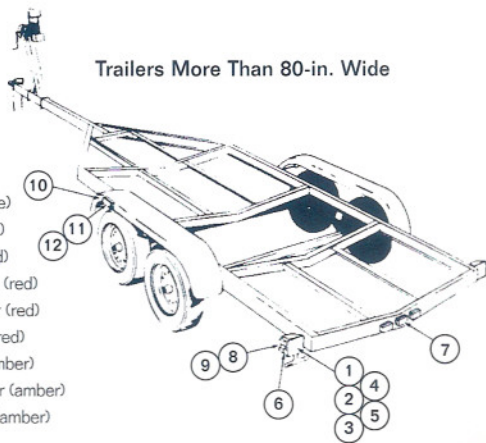
- Check each light for burned out bulbs, broken lenses, and loose connections.
- Check the tow vehicle electrical wiring as well as the trailer electrical harness for frayed wires and loose connections.
- Check that all ground connections are clean and tight; lubricate with a silicone spray.

- Check operation of all lighting and signaling functions—tail, stop, turn, etc.
- After each use, particularly in salt water, wash down all lamps to remove dirt, grime or corrosive elements that may cause premature failure.

If your tow vehicle has a separate turn signal from its stoplight, you will need an electronic tail lamp converter for your trailer lamps to operate properly. These are available at most marine and automotive stores as well as hitch installation locations.

LEGEND

- 1 Stop lamp (red)
- 2 Tail lamp (red)
- 3 Turn signal lamp (red or amber)
- 4 License plate lamp (white)
- 5 Rear reflex reflector (red)
- 6 Rear clearance lamp (red)
- 7 Rear identification lamps (red)
- 8 Rear side reflex reflector (red)
- 9 Rear side marker lamp (red)
- 10 Front clearance lamp (amber)
- 11 Front side reflex reflector (amber)
- 12 Front side marker lamp (amber)



Trailer jacks

WARNING

A wheel-equipped jack is intended for lifting and minimal positioning of the trailer coupler over the hitch ball. The jack is not intended to be wheeled excessively and should never be rolled over bumps or through other obstructions. In the case of a swing-up style jack, failure to properly secure the plunger pin in the proper position may result in serious injury or property damage.

With the exception of trailers carrying lightweight boats, it is generally necessary to use a jack to lift the coupling of a loaded trailer from the hitch ball and to move the trailer about when it is disconnected from the towing vehicle. The trailer tongue should be lowered to a minimum height before moving the trailer around on the jack wheel.

Like any mechanical assembly, a jack requires maintenance to function properly over a long period of time. Follow the manufacturer's recommendations for lubricating drive gear, rack and pinion, casters and jack wheel bearing.

If your trailer jack is designed to swing up out of the way when the trailer is hooked up to your tow vehicle, be certain it is in its fully locked position before attempting to move the trailer tongue.

Be sure to block the trailer wheels before trailer is detached from the tow vehicle to eliminate dangerous trailer movement.

Trailer winch assembly

WARNING

Be cautious of your trailer winch. High forces are created when using a winch, creating potential safety hazards. It should be operated and maintained in accordance with manufacturer's instructions. Failure to properly operate the winch may result in serious injury.

- Check for proper ratchet operation on each use of the winch. Do not use if damaged; seek immediate repairs.
- Never use the winch handle as a handle for pulling or maneuvering
- Maintain a firm grip on the winch handle at all times. Never release handle when ratchet lever is in unlocked position with a load on the winch or handle will spin violently, which could cause personal injury.
- Never use the winch handle as a handle for pulling or maneuvering the trailer or other equipment. Never pull on the winch handle against a locked ratchet.
- Never exceed rated capacity of the winch. Excess loads may cause premature failure and result in serious personal injury.
- Never apply a load on winch with line or strap fully extended. Keep at least three full turns of line on the reel.

- Secure the boat properly. When winching operation is complete, do not depend on the winch to support load. Use tie-downs to accomplish this.
- Using a winch line or line hook which is damaged or worn can result in serious personal injury or damage to the boat.
- Never allow children or anyone who is not familiar with the operation of the winch to use it.

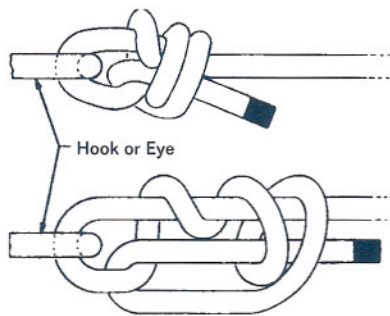
All but the smallest trailers are normally equipped with a winch assembly to aid in loading your boat on the trailer. (Electric winches are available for use with larger boats.) Industry standards require that the minimum breaking strength of the winch rope or cable must be at least 150% of the winch capacity and the winch hook must have at least 150% of the minimum breaking strength of the winch rope, or 125% of the minimum breaking strength of a steel cable.

Ideally, your winch assembly should be located so that it will pull the boat on a straight line onto the trailer and draw the bow firmly against the bow stop on the winch stand. Boat trailer winches are designed to load and unload boats. It is also designed to hold the bow in place in addition to the system of tie-downs on the trailer (see section on "Tie-Downs"). Your trailer dealer should ensure

Trailer winch assembly continued

that your winch assembly is properly positioned, but it's a good idea to check frequently to be sure nothing has shifted. The bow of your boat should be held firmly in place, and the stern or transom of the boat should rest directly over the transom supports of the trailer.

The bow stop of the winch stand must be adjusted so it is located directly above the boat bow eye and the winch strap must attach to the boat bow eye below the bow stop to secure the boat from moving forward in the event of a sudden stop.



Before Applying Load:

- Pull both ends to tighten.
- Cinch knot as securely as possible against hook or eye.

Check the winch line frequently. Its strength can deteriorate significantly from exposure to weather, ozone and ultraviolet light. If it becomes frayed, "whiskered" or worn, replace it immediately with a new cable or strap that properly matches the winch and hook (see page 6). Attach it to the winch as the winch manufacturer recommends, and keep at least three turns of line on the winch drum at all times. To avoid fraying or wear, be sure the line does not rub against edges of the winch stand or trailer when winching your boat onto the trailer.

Most knots are not adequate to fasten synthetic rope to winch hooks. The special knot as shown makes a connection nearly as strong as the rope.

A winch is a simple mechanism but requires maintenance if it is to function properly. Bearings should be oiled regularly. A heavy grease should be applied to the gears to give it a free running drive and to minimize the effort for cranking the boat onto the trailer.

Tie-downs

WARNING

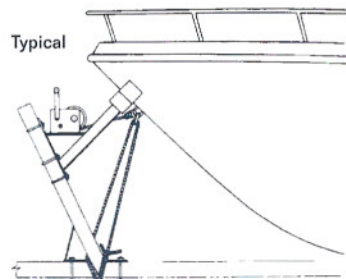
Failure to tie down the bow independently from the winch line could allow your boat to shift while traveling, causing loss of control of the tow vehicle and resulting in serious injury or property damage.

Ensuring that your boat is held securely in place on the trailer's hull supports, especially when underway, is extremely important. If it is not properly secured, your boat can be damaged as it bounces against the hull supports—or it may slide or fall off the trailer while being towed. Depending upon the boat and trailer you purchased, all the necessary tie-downs for holding the boat on the trailer may not be provided by your dealer. Regardless of your trailer's make or model, there are two key areas to consider:

1. Bow Tie-Downs: A bow stop to hold the front of the boat in place is located on the winch stand. It should be positioned so that the winch line pulls the boat bow forward against the bow stop. A separate tie-down should then be attached to hold the boat down to the trailer. Do not rely on just the winch strap to hold the boat in place.

Besides keeping your boat from sliding if the winch releases, bow tie-downs keep the boat on the trailer during quick stops. Be certain that lines do not pass over any edge that will cause chafing.

2. Rear Tie-Downs: As noted previously, it is very important to be sure that the transom of the boat is resting securely on the supports provided at the rear end of the trailer, and that it remains in place when parked or underway. Special rear tie-downs are available for this purpose. Check often to be sure the rear tie-downs are securely locked in place and that they are tight enough to prevent any movement of the boat. Check by rocking the boat on the trailer. If it does not remain firmly in place on the supports, the tie-downs should be tightened or re-rigged.



Tires

WARNING

Keep tires properly inflated. Failure to maintain correct tire pressure may result in tire failure and loss of control resulting in serious injury or property damage.

Burdened by the weight of their loads, infrequent use, potholes, the sun's blistering UV rays, winter's freezing temperature and submersion in water, boat trailer tires do not have an easy life.

The most common cause of trailer tire trouble is under-inflation. It is important, therefore, that you always maintain correct air pressure, as indicated by the tire manufacturer on the tire's sidewalls or on the trailer manufacturer's certification label or the tire inflation pressure label (see example).

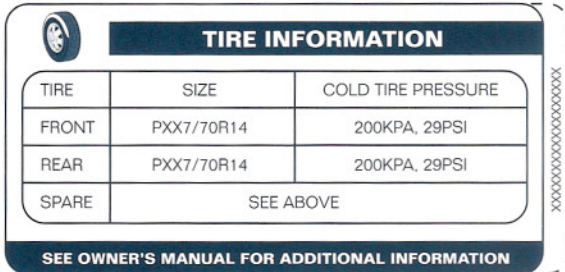
Always check air pressure when the tires are cold, before you've moved the trailer. Tires heat up and the air pressure increases after traveling only a short distance.

When your trailer tires become worn or damaged, replace them promptly with the same type, size and capacity (not necessarily

the same brand) as the original tires. For example, some trailers are not designed for use with radial tires. If the original tires on your trailer were not radials, do not replace them with radials.

For safety and convenience, it is recommended that you always carry a spare wheel and tire.

Example: Tire Inflation Pressure Label



TIRE	SIZE	COLD TIRE PRESSURE
FRONT	PXX7/70R14	200KPA, 29PSI
REAR	PXX7/70R14	200KPA, 29PSI
SPARE	SEE ABOVE	

Wheels & hubs

WARNING

Maintain proper torque on lug nuts or wheel bolts. Failure to do so may result in serious injury or property damage.

WARNING

Keep wheel bearings lubricated. Failure to properly lubricate may cause bearing failure and possible wheel loss resulting in serious injury or property damage.

Because they are often exposed to water, trailer wheels and tires require more attention than the wheels and tires on your tow vehicle. The three major items to check are lug nuts, lubrication and tire pressure.

Lug Nuts/Wheel Bolts

Loose lug nuts can lead to loss of a wheel! Before each trip, check for loose or missing lug nuts. When tightening lug nuts, use a wrench of the right size, and torque the nut to the manufacturer's specifications. Be certain a replacement nut is

an exact match for the original. While the threads of the lug nut may match, the nut may be a size that does not hold the wheel securely against the hub, even when fully tightened. Also, ensure that the wheel bolts and nuts are clean and grease free.

Lubrication

Even if your trailer is equipped with water-protected hubs, it is a good idea to avoid submerging them if at all possible, when launching or loading your boat. Water can penetrate the smallest openings. When a warm hub is submerged in cold water, the water is drawn into the hub around the seals.

Your best protection against wheel bearing damage from water is to always keep your hub assembly fully lubricated. If your trailer uses conventional wheel bearing grease, remove all old grease and water from the hub and bearings, then repack the bearings with a quality wheel bearing grease and fill the hub cavity with grease to allow as little room as possible for air or water.

Wheels & hubs continued

Attention should be given to wheel bearings that have been submerged. When water contacts bearing surfaces without the wheel being turned, rust and bearing damage may begin.

Bearings should be inspected after long periods of non-use and before long trips.

When on a trip, make it a habit to check the wheel hubs periodically and each time you stop for fuel. If the hub feels abnormally hot, visit or call the nearest service station for advice.

Wheel Mounting procedures

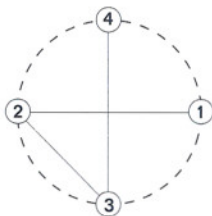
WARNING

Improper wheel fastening can result in wheel separation from the vehicle causing serious injury and/or death.

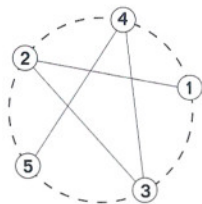
Proper mounting practice is as easy as 1,2,3,4...

1. Fit

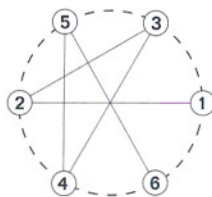
- Wheel should fit flat against the hub
- All surfaces should be clean and free of contamination or foreign material
- There should be no fit interference at the hub face or hub diameter



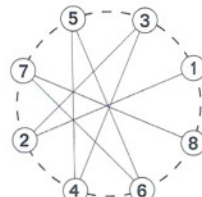
4-lug Pattern



5-lug Pattern



6-lug Pattern



8-lug Pattern

2. Fasten

- Avoid cross-threading by starting each lug nut by hand

3. Tighten*

- Apply torque to the lug nuts in a star pattern as shown below
- Gradually increase torque on the lug nuts until each lug nut has achieved the specified torque

* Do not use an impact wrench without proper torque attachment

4. Confirm

- A second check verifying the torque should be performed using a dial or digital torque gauge

Brakes

WARNING

Trailer brakes must be maintained in good working condition. Loss of adequate braking could result in serious injury or property damage.

In most states, trailers with a Gross Vehicle Weight Rating (GVWR) over 3,000 pounds are required by law to have brakes. (Auto manufacturers generally recommend brakes with even lighter trailers.)

Note: Check your state braking requirements and other states that you plan to travel in to ensure your trailer complies with these laws.

Most trailer brakes are designed to operate automatically when the tow vehicle's brakes are applied. These are known as "surge brakes." When the tow vehicle slows down or stops, the forward momentum (surge) of the trailer against the hitch ball applies pressure to a master cylinder in the trailer coupler. This pressure activates the trailer brakes through a hydraulic system, much like the brakes on your automobile.

Some trailer drum brakes do not have an automatic brake lining adjustment system. They should be adjusted regularly to compensate for wear, depending on how often you use your trailer (typically after the first 300 miles and every 2,000 miles thereafter). Trailer drum brake adjustment must be checked regularly to prevent braking failure. Trailer disc brakes are self-adjusting and do not need to be periodically adjusted. Using pads or shoes without enough brake lining material can result in brake damage, create excessive heat and potentially cause the loss of braking capability.

Try out your brakes before each trip and after each time your trailer wheels are pulled for lubrication. On a regular basis, have your brake linings inspected, necessary adjustments made and any damaged or worn parts replaced. Wet brakes usually do not operate very well. If your wheels have been in water, several brake applications at slow speeds will dry them out.

If your trailer is not equipped with self adjusting brakes, the brakes will require regular adjustment from time to time to ensure that they are working properly.

Attaching your trailer to the tow vehicle

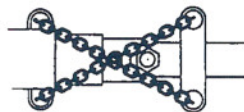
When hitching your trailer, you should always observe each item of the "Trailer Checklist" printed in the front of this booklet.

Hitching your trailer to your tow vehicle can be a one-person job, but it is easier if you have a second person to help you. Here are the basic steps:

1. Raise the front end of the trailer so the coupler is higher than the hitch ball. Make sure the coupler latch is open.
2. Back your tow vehicle as close as possible to the trailer. Do not pull the trailer to the tow vehicle. The trailer will not brake even if the trailer has brakes.
3. Place the coupler over the hitch ball and lower the coupler until it is around the ball and not riding on top of the ball.
4. Lock the coupler to the hitch ball. To be sure it is in the locked position and securely in place, raise up on the trailer tongue. If it comes loose from the ball, unlock and go back to step 3.
5. Be certain the jack is fully raised and locked in the travel position.
6. If you have a weight-distributing hitch with spring bars, follow above procedures, and attach spring bar chain or cable to the trailer and tighten until the tow vehicle is in a normal level position.

7. If your trailer has a surge brake break-away cable or chain, attach it to tow vehicle, making sure there is enough slack for tight turns.
8. Attach the safety chains (see "Safety Chains" section).
9. Connect trailer wiring harness to lighting system connection of tow vehicle and check for proper operation of the lights (see "Trailer Lights" section).

BEFORE TRAILERING—AVOID ACCIDENTS



- Hitch only to ball size marked on coupling
- Be certain ball clamp captures ball and lever or handwheel is fully clamped
- Cross safety chains under coupling
- Allow only enough slack for turns

Trailing tactics

With a boat and trailer in tow you are operating a vehicle combination that is longer, heavier and sometimes wider and taller than your tow vehicle. This means you will have to make a few adjustments in your normal driving practices to compensate for the differences. Here are a few tips to follow when trailering.

Take a “Shakedown Cruise”: Before you make your first trip with your trailer, make at least one short trial run to familiarize yourself with its handling characteristics and to be sure everything is working properly—lights, brakes, hitch, etc.

Slow Down: Going fast is a major cause of vehicle/trailer combination accidents. Slower speeds are not as hard on the vehicle, trailer, and boat. Slow down for curves, bad weather, bad roads, and highway exits. Also, many states have lower speed limits for vehicles towing trailers.

Pass and Stop with Extra Care: You’ll need more time and space when passing and stopping, especially if your trailer is not equipped with brakes. Pass with care and return to the right lane.

Check Rear View Mirrors: You may need to install extended outside rear view mirrors on both sides of the tow vehicle. Make it a habit to check the mirrors at frequent intervals to be sure your trailer and boat are riding properly.

Swing Wider When Turning: Trailer wheels swing closer to the inside of turns than the wheels on your tow vehicle when turning. This means you should swing wider around curves and corners.

Going Downhill: Swaying happens more often going downhill. Slow down before starting down a hill. Shift into a lower gear and let the engine help you control your speed. Going too fast can make the trailer sway and can lead to loss of control.

Watch the Wind: Be prepared for sudden changes in air pressure and/or wind buffeting when larger vehicles pass you from either direction. Slow down a little and keep a firm hold on the steering wheel.

Conserve Fuel: Wind resistance against the boat and trailer can reduce your gas mileage significantly, especially at higher speeds. “Streamline” your rig with a boat cover, and make sure any doors, hatches or windows (port holes) are closed securely.

Trailer tactics continued

Avoid Sudden Stops and Starts: Even if your trailer has brakes, a sudden stop could cause it to skid, slide or even jackknife. (Be especially careful to avoid the necessity for quick stops while turning.) Smooth, gradual starts and stops will improve your gas mileage and put less strain on your tie-downs.

Signal Your Intentions: Well before you stop, turn, change lanes or pass, use your signal lights to let other vehicles know what you intend to do.

Shift to Lower Gear: If your tow vehicle has a manual transmission, traveling in lower gears when going up steep hills or over sand, gravel or dirt roads will ease the load on your engine and transmission.

Always Be Courteous: Make it as easy as possible for faster-moving vehicles to pass you. Keep to the right side of the road and be prepared to slow down if they need extra time to return to their proper lane.

Don't Tailgate: Allow extra distance between you and the vehicle ahead. Coming to a stop or slowing requires more time and distance while trailering.

If a Problem Occurs: The general rule is stay cool. Don't panic and don't do anything any more suddenly or violently than you have to. A sudden bumping or "fishtailing" may be due to a flat tire. Do not panic brake or accelerate to attempt to "drive out of it." Stop slowly and in a straight line. If conditions permit, allow your vehicle to coast to a very slow speed and try to avoid braking when the towing vehicle and trailer are not in line.

If your trailer begins to "fishtail" as you accelerate to highway speed, back off a little and it should cease. If it begins again as you accelerate, stop and check your load. It probably is not evenly distributed side to side or it is too far back so the hitch load is low. Redistribute your load before continuing.

Launching your boat

WARNING

To reduce the risk of serious injury, do not step inside or on the trailer frame during the launching or loading procedures.

WARNING

To reduce the risk of serious injury if the winch line or hook breaks, stand to one side when winching the boat onto your trailer.

Until you develop your own boat launching techniques, here are a few helpful tips:

1. **Check the ramp first.** Whether you're launching from an unimproved or a surfaced ramp, check the grade, width, surface condition and water depth before starting your launching procedure.

Note: Some surfaced ramps become very slippery when wet. Make sure your tow vehicle is powerful and heavy enough to pull your boat out of the water.

2. **Prepare for Launching.** Attach a bow line to your boat and detach trailer tie-downs. If your boat is an outboard or stern drive, tilt up the lower unit. To avoid flooding and swamping your boat, be sure the hull drain plug is in place and tight. If your trailer has a tilt bed, release tilting mechanism.
3. **Back trailer to the ramp.** Have someone stand to one side of the ramp to direct you. Backing up a trailer can be tricky. A good way to simplify the procedure is to grasp the steering wheel with one hand at its lowest point (at 6 o'clock). When you want the trailer to go right, move your hand on the wheel to the right; to make the trailer go left, move your hand to the left.
4. **Launching.** Back trailer into the water. Set parking brake on and gear shift in park. Unlock winch and push boat slowly off the trailer into the water. Be sure to have a firm hold on the bow line.
5. **Final Step.** Detach winch hook and line from the boat, crank it back up and lock it in place. Using the bow line, walk the boat to the loading site, away from the ramp. Park your car and trailer where they will not obstruct access to the ramp.

Launching your boat continued



To re-load the boat on the trailer, simply reverse the above procedures. Before loading, clean any dirt or sand off rollers or bunks. Sand on bunks or rollers can abrade the boat's bottom while trailering.

Be certain all boat tie-downs are properly fastened before departing from the launching ramp area.

Note: Wet brakes may not function. A few brakings at slow speed will help to dry them out.

Trailer & boat storage

When your trailer will not be in use for several months, you can ensure it will continue to give you good performance by taking the following steps:

1. If at all possible, park your trailerable boat in a protected area, your garage, carport, etc.
2. If you must park the trailer outdoors, install a boat cover that is tight enough for adequate protection but not air-tight; if parking on grass or dirt, place boards beneath the tires.
3. Service or repack wheel bearings according to manufacturer's instructions.
4. For prolonged storage, jack up the trailer and place blocks under the trailer frame to take most of the weight off trailer springs and tires.
5. Loosen tie-downs and winch line, but be sure the boat is resting properly on hull supports.
6. If the boat has a drain plug, remove it and elevate the trailer tongue slightly (just an inch or two) to allow water to drain out and keep the boat dry. Tie the plug to something obvious, so you will remember to replace the drain plug before you take your next trip!
7. While boat is in storage, it is a good time to touch up rust spots, nicks and chips on the trailer.
8. Lubricate moving parts—rollers, winch, wheel hubs, etc.
9. Tighten any loose nuts and bolts, including lug nuts on wheels according to manufacturer's specifications.

Trailer tips



1. Before your trip, do a final “walk around” inspection to verify the security of the boat to the trailer as well as the trailer to the tow vehicle, and that all lights are working properly.
2. The jack and lug wrench that came with your tow vehicle may also work on your trailer, but don't count on it! Check to be sure.
3. Your trailer will look better and last longer if you wash it with mild detergent several times a year. If you boat on salt water, the trailer should be rinsed off with fresh water after every trip. An annual waxing with an auto wax also will help to keep your trailer bright and clean.
4. Invest in a spare tire and wheel that can be mounted to your trailer's frame by means of a spare-tire carrier.
5. Carry a Trailer Travel Kit, which should include a lug wrench, wheel chocks, bearing grease, extra line (for tie-downs), extra light bulbs, wheel bearings and road flares.
6. Some insurance policies do not provide coverage when towing a trailer. Check your policy or call your insurance agent to be sure you are fully covered.
7. Take time to practice turning and backing up before you head to the ramp. Shopping mall parking lots (after hours) make for safe practice areas.

Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying your trailer manufacturer.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or the trailer manufacturer.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1.800.327.4236 (TTY: 1.800.424.9153) or write to:

Administrator
NHTSA
1200 New Jersey Avenue S.E.
Washington, DC 20590

You can also obtain other information about motor vehicle safety at **SaferCar.gov**.