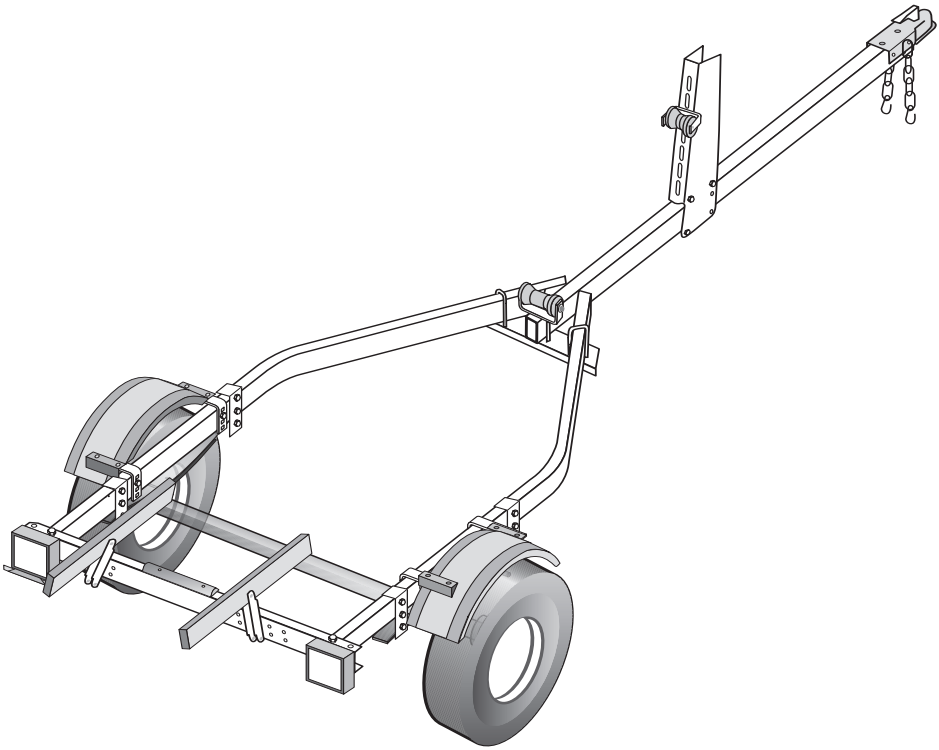
Trailer Assembly & Safety Instructions



TIE DOWN ENGINEERING, Inc.
5901 Wheaton Drive
Atlanta, Georgia 30336
800•241•1806
www.tiedown.com

Assembly Instructions P/N 15371 062305,A268

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INTRODUCTION

THANK YOU for purchasing a Tie Down Engineering trailer Tie Down produces some of the most refined trailers on the market today, Tie Downs' commitment to quality and service is unsurpassed and its dedication to continuous improvement and ingenuity continues as it has since 1957.

REGISTRATION

Federal law requires the completion of trailer and tire registration information. The primary purpose of these forms is to protect you in the unlikely event of a recall on either the trailer or the tires. These forms also allow Tie Down to contact first purchasers if it becomes necessary to issue service bulletins or defect notifications. To initiate the warranty of your product, it is imperative that you complete your Warranty and Tire Registration Forms at the time of purchase. The upper portion of the warranty card is for your records, send the lower portion to:

TIE DOWN ENGINEERING, Inc.
5901 Wheaton Drive
Atlanta, Georgia 30336
www.tiedown.com

NOTE: Warranty is void if Warranty and Tire Registration Forms are not mailed and postmarked within fifteen (15) days of purchase.

These forms include the following information:

The original purchaser (you),
The product model code,
The date of manufacture
The serial number (V.I.N.),
The date of sale,
The selling dealers' name and address,
and the tire D.O.T serial numbers.

All of this information must be included to initiate the warranty of your product. If you have any questions concerning the warranty contact the selling dealer.

SAFETY PRECAUTIONS

Read and understand this manual carefully and in its entirety before operating or transporting the trailer. Pay attention to all WARNINGS, CAUTIONS, and NOTES indicated by BOLD and UNDERLINED type.

Tie Down Engineering reserves the rights to discontinue models, change specifications, or change designs at any time without notice and without incurring obligations In this manual, Right and Left are determined by the forward direction of travel.

Imprinted on the trailer serial data plate located on the left frame member is the gross vehicle weight rating (GVWR) for the trailer. This capacity includes the boat, motor, fuel, and gear.

Assembly Instructions of the Tie Down Trailer

Important Notes before assembly

- Read all instructions before attempting assembly of your trailer
- Familiarize yourself with the "exploded" drawing as to how the trailer is assembled.
- It will help in the assembly if you have a large flat area to work in.
- You will need a way to elevate the trailer at least 24 inches in order to install the fenders and wheels.
- Every effort was made to insure that all parts are packed correctly. Should you have a problem with a shortage of parts, contact Tie Down Engineering at 1-800-241-1806.

Tools required

Minimum required is two adjustable wrenches and a hammer. Preferred tools include 9/16" wrench and deep socket, 1/2" wrench and deep socket, 3/4" wrench and deep socket, Ratchet wrench for sockets,

Assembly Instructions

1. Layout the tongue (2), frames (3), rear cross member (4), front cross member (5) on a clean flat surface, using the exploded drawing as a guide. Two small holes in the center of the rear cross member (4) need to face up.

2. Attach coupler (1) to the tongue using a 3/8" x 3" hex head bolt and nut in the rear hole. Use two 3/8" x 3/4" hex head bolts and nuts in the front holes, one on each side of coupler. Attach a safety chain to each side of the tongue below the coupler using a 3/8" x 3-1/2" hex head bolt and nut. Use flat washers provided on each side on outside of chain.

3. Attach rear cross member (4) to frame sides (3), using two 1/2" x 4" hex head bolts w/nuts and washers. Use the two inner holes to mount rear cross member to the two frames.

4. Attach tongue (2) to frames (3) using a 1/2" x 4" hex head bolt and nut with washers on each side.

5. At this time it would be helpful to turn the trailer upside down. It would also be helpful to elevate trailer at least 24" using block stands.

6. Attach front cross member to frames just behind where the tongue is attached to the frames. Use two U-bolts w/nuts and washers, 3/8"x2"x4".

7. Bolt two spring hangers (6) to each frame side (use outer most holes) using a 3/8"x3-1/2" hex head bolt w/nuts in the hole that goes through the frame, and a 1/2" x 3-1/2" hex head bolt in the holes through the spring hanger that are closest to the frame.

8. Attach springs (10) to the hangers with the "hole" end of the springs to the front of the trailer. Insert a 1/2" x 3-1/2" hex head bolt through the spring hanger and spring eye, secure

with nut. Lay spring on rear hanger and insert a 1/2" x 3-1/2" hex head bolt through spring hanger so that the "slipper" part of the spring rests between the two 1/2" bolts.

9. Attach axle (8) to springs (10). Place spring pad (11) centered on spring so that the pin is in the center hole of the spring pad. Spring pad must be flush with the spring. Use two U-bolts with nuts and washers on each spring/axle connection. Axle has two holes that are centered on the spring pin, opposite the spring pad.

10. Attach two fender brackets (7) to each frame. Short side of bracket should rest inside frame. Use a 3/8" x 3" hex head bolt and nut to attach fender bracket to frame.

11. Attach fenders (12) to fender brackets using 3/8" x 1" carriage bolts and nuts, four per fender. Bolt heads should be on "top" of fender.

12. Attach hubs to axle using hardware provided in each hub kit. Instructions Included.

13. Attach wheels (13) to hubs using the lug nuts provided.

14. At this time turn trailer over to its normal upright position.

15. Attach roller bracket (17) to the rear of the tongue using two 3/8" x 4" hex head bolts w/nuts and washers. Roller bracket rests on top of Tongue and bolts attach to the cross member mounted below the frames.

16. Attach roller to bracket using a the 1/2" rod and cap nuts. Hint; place a cap nut on a hard surface cap side down. Place the 1/2" rod on cap and use hammer to force the cap nut onto one side of the rod. Place rod through bracket and roller. Place a cap nut on other end of the rod and hammer on.

17. Attach bow stand (14) with four 3/8" x 3" hex head bolts and nuts. Later you will adjust bow stand to fit your boat.

18. Attach bow roller bracket (15) to bow stand using two 3/8" x 3/4" hex head bolts and nuts.

19. You may wish to do this last when you have your boat on the trailer to see where the bow stand should be on the tongue and where the roller should be on the stand for a correct fit with the boat. Roller is attached with a 3/8" x 4" hex head bolt and nut.

20. Attach bunk board brackets to rear cross member. Before attaching, measure your boat to see how far apart the bunks should be for a proper fit. The rear cross member has many places to mount the bunk brackets for a correct fit. Using two 1/2" x 1" hex head bolts w/nuts and washers attach the bunk brackets to the cross member so that the slotted part of the bracket is at least one inch above the cross member. Attach bunks (21) to the brackets using a 3/8" x 2-1/2" hex head bolt w/nut on each.

21. Attach keel pad (22) onto rear cross member using two self-taping screws.

22. Lighting is installed using instructions provided with lighting kit.

23. Go over trailer checking all nuts and bolts for correct installation and all nuts being tight. Check lug nuts on wheels to insure proper installation. Read all safety information provided. If you have any assembly or usage questions, contact Tie Down Engineering at 1-800-241-1806. Enjoy your new trailer!

NOTE: The Warranty is void if the gross vehicle weight rating (GVWR) of the trailer is exceeded.

TRAILER ADJUSTMENT

INTRODUCTION

Your trailer should be adjusted for your boat before or at the time of purchase by your authorized Tie down Dealer. This section outlines a general method for determining if your trailer has been adjusted properly. If you suspect that your trailer is improperly adjusted, contact your Tie down Dealer to have it readjusted.

NOTE: Attempting to adjust your trailer to your boat could result in voiding your warranty, and create an unsafe condition.

1. General Hull Position

The hull position of the boat on the trailer should be set for you by your authorized Tie down dealer at the time of purchase.

The trailer should by adjusted so that the hull of the boat sets securely on the rollers or bunks of the trailer. If the trailer has keel support, the keel should be cradled in the neck of the keel rollers. The bow of the boat should be resting snugly against the winch pad with enough clearance from the towing vehicle to allow for turns. The rollers or bunks should be flush against the hull of the boat and between the stakes. The transom of the boat should be within 2-3 inches of the rear rollers or the tail end of the bunks.

2. Winch Height

Check the winch height on a level surface. Release the winch 2 turns and lock. Push the boat back from the bow block. The winch line connecting the winch to the bow eye should be level when the line is taut. A level bow line will allow the boat to be pulled directly into the bow block. Bow eye of boat should be directly under bow block.

The bow of the boat should be resting snugly against the winch pad with enough clearance from the towing vehicle to allow for turns. The transom of the boat should be within 2-3 inches of the rear rollers or the tail end of the bunks. This clearance is determined by the position of the winch stand on the frame.

3. Roller Position

The rollers should be positioned for stabllity and support. The boat should be centered on the trailer and the supported weight should be balanced between the sides of the trailer. Make sure that none of the chine rollers are resting on any stakes of the hull. The rear rollers should be within 2-3 inches of the transom of the boat. Each roller set on one side of a crossmember should be an equal distance from the center of the trailer as the opposing set on the other side of the crossmember should also be the same distance above the crossmember as the opposite side.

4. Bunk Position

The bunks, as with rollers, should be positioned for stability and support. The boat should

be centered on the trailer and the supported weight should be balanced between the sides of the trailer Make sure that none of the bunks are resting on any stakes of the hull. The rear of the bunks should be within 2-3 inches of the transom of the boat. Each bunk on one side of a crossmember should be an equal distance from the center of the trailer as the opposing bunk on the other side of the crossmember. Each bunk on one side of the crossmember should also be the same distance above the crossmember as the opposite side.

5. Tongue Weight

CAUTION: Improper tongue weight or weight distribution may result in "Fishtailing" and or up Jack-knifing," creating a potentially hazardous situation. If you should experience "Fishtailing" or "Jack-knifing," slow down accordingly and contact the nearest authorized Tie down dealer as soon as possible. Do not attempt to adjust trailer.

The tongue weight should be approximately 5 to 10% of the Gross Vehicle Weight of the boat and trailer; and should not exceed the capacity of the tow vehicle hitch or the coupler. Check the tow vehicle manufacturers recommended maximums for towing capacity and tongue weight.

The tongue weight should be measured on a commercial scale, although, for smaller trailers it can be measured on a bathroom scale.

The tongue weight of the boat is adjusted by the position of the axle and spring assemblies of the trailer If the axle and spring assemblies are moved forward, the tongue weight decreases. Moving the axle and spring assemblies to the rear increases the tongue weight

SAFE TRAILER OPERATION

Safe operation of your trailer requires forethought and readiness. Develop a series of successive steps for preparing your trailer for transport that can be followed consistently Anticipate potential problems and correct them before using your trailer Allow time to check for the proper functioning of your trailer to prevent possible accidents.

This manual can be used as a guide to develop your own strategy for preparing for the safe transport of your trailer.

WARNING: Loose wheels can come off and cause severe personal injury or death. Always check lug nuts on all wheels and tighten if necessary each time the trailer is used.

TRANSPORTING

1. Trailer Hookup

1.1 Couplers

Couplers are designed for specific trailer loads and hitch ball sizes. Do not use a hitch ball of a size different than is marked on the coupler. Trailer coupling should be permanently marked with:

(a) Coupling manufacturer's name, initial, or trademark;

(b) Part, Style or model number
(c) S.A.E. coupling designation and gross trailer weight
(d) and the hitch ball diameter for which the coupling is designed.

In this manual, "coupler" will be used as a generic term for both couplers and actuators. Actuators are couplers that have mechanisms for applying trailer brakes. When "actuators" is used, it will be in specific reference to brake actuating couplers.

The gross vehicle weight of the trailer and the load being carried (Watercraft, gear; fuel, etc.). The GVWR should not exceed the trailer gross vehicle weight rating (GVWR) marked on the trailer coupler. The following lists the coupler classes, GVWR, hitch ball sizes, and ball shank sizes that are available on trailers.

CLASS	MAX. GVWR	BALL DIAMETER	SHANK SIZE
1	2,000#	1-7/8 "	3/4"
2	3,000	2"	3/4"
3	5,000#	2"	3/4"
4	7,500#	2-5/16"	1"
4	10,000#	2-5/16"	1-1/4"
4	13,000#+	2-5/16"	1-3/8"

Before coupling you trailer to the towing vehicle:
-Check that the hitch ball size and ball shank size are properly matched to the trailer coupler;
-Make sure the hitch ball is securely fastened to the tow hitch;
-and be sure the tow hitch has a rated capacity that is greater than the trailer GVWR.

Hitching the trailer to a tow vehicle can be done with one person, but it is easier if you have someone to help you. Here is a guide of the basic steps to coupling a trailer to a towing vehicle.

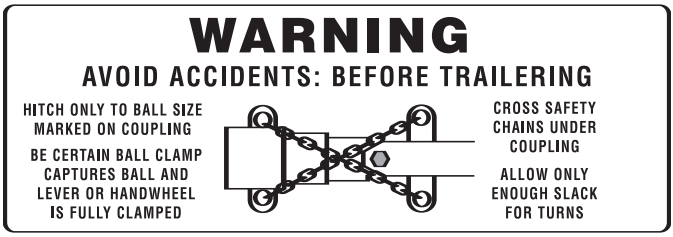
I. Back your vehicle up to the trailer so that the hitch ball is as close as possible to the trailer coupler.
2. Check the coupler locking device and make sure it released.
3. Raise the front end of the trailer; position the coupler directly over the hitch ball, then lower the coupler until it completely covers the ball.
4.Check to make sure that the ball clamp is below the ball and not sitting on top of the ball.
5. Lock the coupler to the hitch ball. Lift the tongue of the trailer to check if the coupler is locked. If the coupler comes loose from the ball, start at step #3 again.

NOTE: Class 1, 2, & 3 couplers have adjustment nuts on the bottom of the ball clamp. This nut should be adjusted the first time the coupler is locked onto the hitch hall and checked periodically for tightness. Class 4 actuators are self-adjusting on 6000# actuators and need no adjustment on the larger actuators.

6. If your trailer is equipped with a tongue jack, raise it to the transport position.

7. If your trailer has surge brakes, attach the break-away cable to the tow vehicle. Make sure there is enough slack in the break-away cable to allow for tight turns.
8. Attach safety chains to tow vehicle (See Safety Chains" for proper connection).
9.Connect trailer wiring harness to the lighting hookup of the tow vehicle and check operation.

1.2 Safety Chains
Safety chains are provided on your trailer as added protection should the trailer become detached from the towing vehicle. To function properly the chains should be attached as illustrated below.



Be sure that the safety chains are in good condition. Chains that show wear or damage should be replaced immediately. Chains are available from your Tie down Dealer. Ask your Tie down Dealer for the proper size chain for the GVWR of your trailer.

1.3 Lights
The lights should be checked for proper operation each time the trailer is used. Lights should be connected to the towing vehicle with the appropriate connection to match that of the trailer. Some vehicles may require a towing package to be installed for the lights to work properly This package may be required on vehicles where the current draw from the trailer is greater than the vehicle's electrical system can handle. A special adapter is also necessary on vehicles that have separate blinker lights that are not in conjunction with brake lights.

Check your trailer wiring at least once a season for worn, cracked or melted wiring. Replace wiring harness if damaged.

1.4 Wiring Harness

Yellow	Left side stop light & turn indicator
Green	Right side stop light & turn indicator
Brown	Market; parking, & running lights
White	Ground

1.5 Load Equalizing Hitches
If you plan on towing your trailer with a vehicle equipped with a weight distributing (equalizing) hitch, refer to your DICO Installation Instruction and Service Manual for your brakes.

2. Safety Checks

2.1 Tires and Wheels

Check tires for proper inflation and be sure wheel lug nuts are tight each time you use your trailer. Check the air pressure in your tires when they are cold because tires heat up during use, causing the pressure to increase. Inflate tires to the recommended pressure indicated on the sidewall of the tire. Under inflation is the most common cause of tire trouble.

WARNING: Loose wheels can come off and cause severe personal injury or death. Always check lug nuts on all wheels and tighten if necessary each time the trailer is used.

2.2 Tie-downs

Tie-downs help hold your boat securely to the trailer. If tie-downs are not firmly and properly secured, the boat could be damaged from bouncing on the trailer or it could fiLl' off the trailer altogether.

It is important that the transom of your boat resting completely on the trailer supports and that the boat is securely locked in place with tie-downs. Tie-downs should be sized so that their strength is at least equal to the empty weight of the trailer.

2.3 Secure Covers

Be sure that all protective covers such as tarpaulins, canvas, etc. are secured before transporting. Covers that come off during transport could impair the driving of passing or following vehicles.

2.4 Obstacles

Check your trailer for obstacles that have attached themselves or become wedged in the frame, fenders, rollers, etc. These obstacles could become dislodged during transport and cause serious damage or harm to passing or following vehicles or persons.

3. Transporting

3.1 General Rules

Familiarize yourself with the trailer. Take the boat and trailer on a short trip to get used to the way it handles and to be sure everything is working properly.

Although all Tie Downs' trailers are engineered and designed to be towed at the legal maximum posted highway speed, we recommend for greater safety that highway speed not exceed 45 m.p.h. (Refer to Section 5 page 3).

Allow Extra Space when following, passing, or stopping.

Check Side View Mirrors often to be sure that the trailer and boat are riding properly Be aware of what is behind you.

Take Wider Turns on corners and curves. You need to compensate for the added length of your trailer.

Be Aware of Wind, wet pavement and sudden changes in air pressure from passing vehicles. Slow down accordingly

Avoid Sudden Stops and Starts. Sudden stops can cause the trailer to slide or "jack-knife". Sudden starts can put undue strain on the tie-downs and hitch.
Signal Early, Indicate your intention well before you stop, turn, or change lanes so that others will have time to react.

Use a Lower Gear. Because of the increased load the vehicle has to pull, a lower gear will help in traveling up hills or over rough roads. In some cases, gas mileage can be improved by using a lower gear since this will not "lug" the engine.

Be Prepared. Always be prepared by carrying a spare tire for the trailer, a jack, a wheel block, flares, first aid kit, and other essential gear that will aid in case of an emergency or breakdown.

3.2 Traveling Down Hills

It is important to follow a few guidelines when towing trailer down a hill or slope.\par

1. Anticipate Hills. Prepare for a decent before you reach the crest of the hill.

2. Slow down before you start your decent. Trying to slow your speed as you go down a hill can cause weaving or "jackknifing". Remember, the trailer is trying to push your vehicle down the road.

3. Us a lower gear unless you have "surge brakes." See 3.3 "Trailers with brakes." Before you start your descent, shift to a lower gear. Shifting to a lower gear will allow a more controlled descent than "riding the brakes" will. Brakes can get overheated on long hills; a lower gear will aid in preventing this.

3.3 Trailers with Brakes

Most states require trailers with a Gross Vehicle Weight Rating (GVWR) of 1,500 pounds or more to have brakes on all wheels.

Trailers with brakes that actuate automatically when the tow vehicle slows down are called "surge brakes". As the tow vehicle slows down, the momentum of the trailer against the ball hitch on the tow vehicle applies pressure to a master cylinder in the trailer coupler. This pressure activates the trailer brakes through a hydraulic system similar to the brakes on a car.

Surge brakes usually do not have automatic brake lining adjustment. Consequently surge brakes should be adjusted for wear regularly Have your trailer brake lining inspected on a regular basis and have the necessary adjustments and replacement of worn parts made each time.

<u>Caution:</u> DO NOT use a lower gear when descending a hill if the trailer being towed has hydraulically actuated brakes ("surge brakes").

Descending hill with a trailer with surge brakes is different than with other trailers. Using a lower gear can cause pressure against the hitch which will activate the trailers brakes. Continuous activation of the trailer brakes for the duration of a downhill run can cause the brakes to overheat and "fade" or fail entirely.

When towing a trailer with surge brakes, slow down as you approach the crest of a hill. Maintain a slow, controlled downhill speed with repeated applications of your tow vehicles brakes, allowing enough time between breaking for the brake linings to cool off.

<u>Caution:</u> Wet brakes may increase the distance usually required to stop the vehicle and trailer.

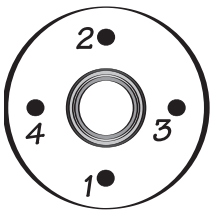
After pulling your trailer from the water, pump the brakes several times while you are moving to aid in drying the water from the brake linings.

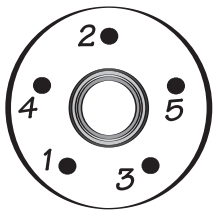
3.4 Changing a Tire

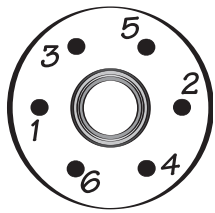
It may be necessary to change a tire and wheel on your trailer because of damage to the tire. If this should occur, use the following steps as a guide:

1. Be sure that your trailer and tow vehicle are off the roadway, clear of traffic
2. Put the tow vehicle in "Pard" and set the parking brake.
3. Turn on your emergency flashers.
4. Put out flares.
5. Leave the trailer coupled to the tow vehicle.
6. Block the tire opposite the one to be changed so that it cannot move.
7. Loosen the lug nuts on the wheel to be changed, but do not remove them.
8. Jack up the frame of the trailer near the "flat' tire until the wheel is just free to spin.
9. Remove the tire and wheel and replace it with a spare that is properly inflated. Sec inflation table on tire.
10. Tighten the lug nuts on the wheel.

<u>NOTE:</u> Use the tightening pattern shown below to insure the even tightening of the lug nuts on the wheel.







11. Lower the jack until it is free of the frame.\par
12. Check the lug nuts and tire inflation on all wheels and tires.

LAUNCHING WATERCRAFT

1. Preparing for Launching

1.1 Check Ramp

Before you launch you boat, check the ramp area. Here are some questions you should ask yourself to prepare for launching:

1. How steep is the ramp?
2. is the surface adequate to support the weight of the trailer and vehicle?
3. Is the ramp wide enough?
4. Is the ramp long enough?
5. How deep is the water at the end of the ramp?

Caution: Some ramps are very slippery.

1.2 Lights

Trailers without submersible lights need to have the lighting systems unplugged from the towing vehicle before loading.

NOTE: Hot light bulbs may break if submerged in water.

2. Launching

Develop a technique for launching your boat that is consistent and safe. Listed below are some suggestions that may help in developing your own personal launching plan.

1. BACK THE TRAILER TO THE TOP OF THE RAMP
   - -Have someone outside the vehicle to guide you in backing up to the ramp.
   - -Stop the vehicle when the rear of the trailer is a few feet from the edge of the water.
   - -Put the vehicle in "lark", and set the parking brake.

2. PREPARE FOR LAUNCHING.
   - -Attach a bow line to the boat.
   - -Remove the tie-downs.
   - -On outboards and stern drives, tilt up the lower unit.
   - -Be sure that the hull drain plug is tightly in place.

3. LAUNCHING
   - -Back trailer into the water. If possible, avoid submerging trailer wheels.
   - -Put the vehicle in "Park", and set the parking break.-Have someone keep a firm hold on the bow line.
   - -Remove the safety hook from bow eye if present.
   - -Hold the winch handle tightly in one hand and then unlock the winch.

-Slowly let the boat into the water by turning the winch handle. If the boat does not move, let out 6 to 10 inches of winch line, hold the winch handle and push the boat down the trailer.
-Detach winch hook from the boat, then crank the winch line in and lock it in place.
-With the bow line, walk the boat to the loading area away from the ramp.

Caution: If the winch handle slips from your hand, do not try to grab the handle. The spinning handle can cause injury.

4. REMOVING THE TRAILER FROM THE WATER.
-Unlock the parking brake and drive the vehicle and trailer to the parking area.

LOADING WATERCRAFT

1. Preparing for loading

1.1 Check ramp

Before you load your boat, check the ramp area. Here are some questions you should ask yourself to prepare for loading:

1. How steep is the ramp?
2. Is the surface adequate to support the weight of the trailer and vehicle?
3 Is the ramp wide enough?
4. Is the ramp long enough?
5. How deep is the water at the end of the ramp

Caution: Some ramps are very slippery

1.2 Lights

Trailers without submersible lights need to have the lighting systems unplugged from the towing vehicle before loading.

NOTE: Hot light bulbs may break if submerged in water.

2. Loading

As with launching, develop a technique for loading your boat that is consistent and safe. Listed below are some suggestions that may help in developing your own personal loading plan.

1. BACK THE TRAILER TO THE RAMP
-Have someone outside the vehicle to guide you in backing up to the ramp.
-Back the trailer into the water If possible, avoid submerging trailer wheels.
-Put the vehicle in "Park" and set the parking brake.

2. REMOVING THE BOAT PROM THE WATER.
-On outboards and stern drives, tilt up the lower unit
-With the low line, walk the boat to the loading ramp and line the boat up with the trailer.
-Attach the winch hook to the boat.
-Crank the boat onto the trailer

-Attach the safety hook to the bow eye.
-Unlock the parking brake and drive the vehicle and trailer to the top of the ramp.

3. PREPARE FOR TRANSPORTING.
-Remove the bow line from the boat.
-Secure the boat to the trailer the tie-downs
-Remove drain plug if the boat needs draining
-Final preparations for transporting - securing boat canopy, loading or organizing inside of boat, and final trailer checks - can be done in parking area away from the ramp.

Note: Remember to hook up the lighting harness to the tow vehicle and check lights for proper function before transporting.

-Trailer is ready for transport.

STORAGE

When your trailer will not be used for several months, it is recommended that you use the following steps to insure that your trailer will continue to perform well:

1. Wash the trailer with soapy water to remove dint and road tar.
2. Touch up rusty or bare areas with paint or liquid galvanizing.
3. When possible, park your trailer in a covered and protected area.
4. Lubricate your bearings with water-resistant wheel bearing grease.
5. Be sure trailer is level, then jack up the trailer and place blocks under the frame to take the weight off the springs and tires.
6. Loosen the tiedowns and the winch line to let the boat rest completely on the trailer.
7. Be sure to lubricate moving parts like the winch, rollers, etc.
8. Check for any loose bolts and nuts, and tighten if necessary Check all lug bolts and or nuts.

GENERAL CARE

Your Tie down trailer is designed for years of trouble fee towing when cared for properly. Maintaining your trailer regularly will help in extending the service life of the trailer as well as preserving its smooth operation. Generally, the more often you maintain the trailer, the longer it will last.

COMPONENT CARE

1. Wheels, Tires & Axles

1.1 Wheels & Tires

Trailer tires and wheels usually require more attention than tires on your vehicle because they are often exposed to water.

Tires need to be check for wear each time the trailer is used. Unusual tire wear should be checked by an authorized Tie down dealer or distributor. The laws pertaining to tire wear on motorized vehicles also apply to trailers. Worn tires should be replaced.

Check the air pressure in each tire with a tire pressure gauge. Fill the tires with air to the recommended tire pressure indicated on the sidewall of the tire. It is best to fill the tires before transporting because tires heat up during travel causing the air pressure to increase. The most common cause of abnormal tire wear is inadequate air pressure in the tires.

Each time your trailer is used, check and make sure that the lug bolts on each wheel are tight. Wheels and loose or missing lug nuts can break loose.

Warning: Loose wheels can come off and cause severe personal injury or death. Always check lug nuts on all wheels and tighten if necessary each time the trailer is used.

1.2 Axles & Spindles

1.2.1 Checking Bearings

Wheel bearings have been tightened to the proper torque at the factory but bearing should be checked periodically To maximize bearing life, check bearing adjustment after the first 50 miles and then every two to three years thereafter.

Follow this procedure to check bearings at the beginning of each season and whenever bearing problems are suspected:

NOTE: DO NOT disassemble hubs within the warranty period so as not to void warranty.

1. Couple trailer to a towing vehicle.
2. Set parking brake on vehicle and block the tires on the trailer.
3. Use a jack to lift one wheel of the trailer off the ground to where you can just spin the tire.
4. Spin the wheel and listen for any noise. Rotate the wheel back and forth, keeping your hand on the tire to feel for vibration cause by roughness, or grinding in the bearing.
5. If the wheel will not spin or has even resistance while spinning, see if the brake shoes are dragging. Smooth and noiseless operation indicates that bearings are working properly.
6. Grip each side of the tire with your hands. Rock the tire from side to side to see if it moves. If the tire and wheel do not move, the wheel bearing is adjusted correctly
7. Visually check bearing seals for leakage. A film of oil around the seal area is normal, but excessive grease usually means the seal is leaking. On axles with brakes, it is necessary to remove the brake drum hub to check the seals.

if you suspect that the bearings are worn, out of adjustment, leaking, or are not working properly, have them checked by an authorized Tie down Dealer or Distributor.

2. Brakes
Brakes should be checked periodically for wear and adjustment. A yearly check-up on your brakes by an authorized Tie down Dealer or Distributor is recommended.

3. Rollers
The rollers should be checked and lubricated at the beginning and end of each season. Rollers that are worn or damaged should be replaced.

4. Bunks
Check bunks for wear and damage each season. Worn carpet should be replaced or repaired. Damaged or broken bunks should he replaced as soon as possible after such an occurrence.

5. Couplers, Chains & Jack
Check the couplers, chains, and tongue jack each time they are used. Replace damaged couplers, and worn or damaged chains. Lubricate the working mechanisms on the jack at the beginning and end of each season. Replace worn or damaged parts on the jack.

6. Winch
Most trailers are equipped with a winch that needs very little maintenance. The bearings of the winch should be oiled regularly and a heavy grease applied to the gears. This will extend the life of the winch and will minimize the effort necessary to pull the boat onto the trailer Replace the winch and cables if it is damaged or worn.

7. Lights & Wiring
The lights should be checked for proper operation each time the trailer is used. If a bulb fails, replace it with a new light of the same kind. Always keep spare bulbs and fuses on hand.

Check your trailer wiring at least once a season for cracked, weak, or melted wiring. Replace wiring harness if damaged.

At the end of each season, remove the light lenses and apply a thin coating of rust inhibitor to the internal metal components.

8. Surface Finish
The trailer should be washed at least once a season with soapy water. The more the trailer is used the more it should be washed. Trailers that are subjected to salt water should be rinsed after every use.

Rust spots on the trailer frame should be sanded off and that area of the frame should be refinished. If the trailer is painted, use Tie down White paint. Galvanized trailers should be retouched with liquid galvanizing. Both Tie down White paint and liquid galvanizing are available from your authorized Tie down Dealer or Distributor.

TIE DOWN LIMITED TWO-YEAR WARRANTY

TIE DOWN MANUFACTURING COMPANY warrants each new Tie down Boat Trailer to be free of defects for a period of two years from the date of purchase. TIE DOWN shall repair or replace, without charge, any covered products or parts the TIE DOWN Manufacturing finds to be defective because of imperfect workmanship or materials, within a reasonable time after the trailer is returned to any Tie down Boat Trailer authorized distributor or dealer.

WHO IS COVERED: This warranty is extended to the original consumer purchaser only and does not extend to any other persons to whom the trailer may be transferred. The warranty does not apply if the trailer was purchased for resale or business use.

WHAT IS NOT COVERED: Provisions of this warranty shall not apply to any product which is found to have been altered or modified in any way, nor shall the warranty apply to any malfunction which was caused by damage, unreasonable use or failure to provide reasonable or necessary maintenance. The Warranty will not cover damage caused by overloading the trailer beyond stated capacities or the use of improperly installed weight distribution hitches in conjunction with hydraulic surge brakes. Due to corrosive conditions that a trailer is exposed to, rust formation on painted surfaces is not covered. Our galvanized trailers are highly recommended for use in or around salt water areas. This Warranty does not cover winches, lights, couplers, brake systems, tongue jacks, springs, and tires or wheels, as these items are warranted separately by their respective manufacturers. NO TRANSPORTATION CHARGES WILL BE PAID BY TIE DOWN. OTHER LIMITATIONS: RACES, BEARINGS AND SEALS ARE COVERED FOR 90 DAYS FROM DATE OF PURCHASE. ANY IMPLIED WARRANTIES, OBLIGATIONS OR LIABILITIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED IN DURATION TO THE TWO YEAR DURATION OF THIS WRITTEN LIMITED WARRANTY Some states do not allow limitations on how long any implied warranty lasts, EXPRESSED OR IMPLIED, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. TIE DOWN MANUFACTURING COMPANY SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY EXPRESSED OR IMPLIED.
Some states do not allow limitations of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

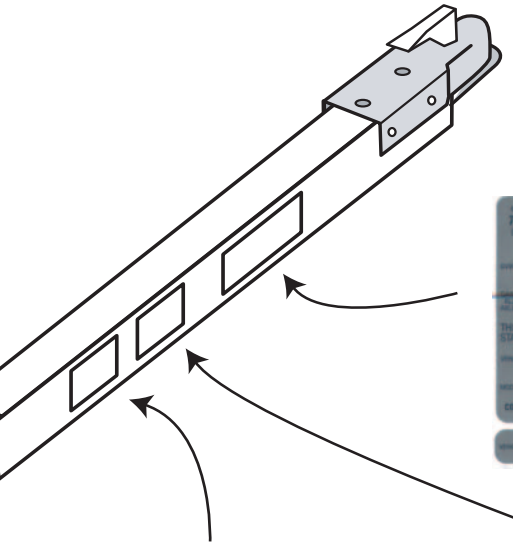
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

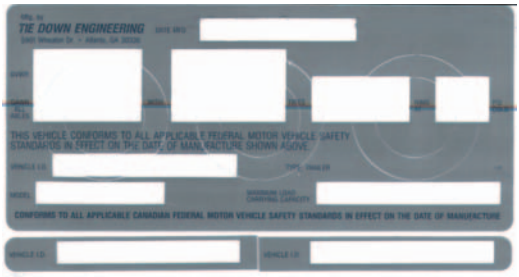
Important Information

Congratulations on purchasing this quality product. This trailer was designed and built for West Marine.

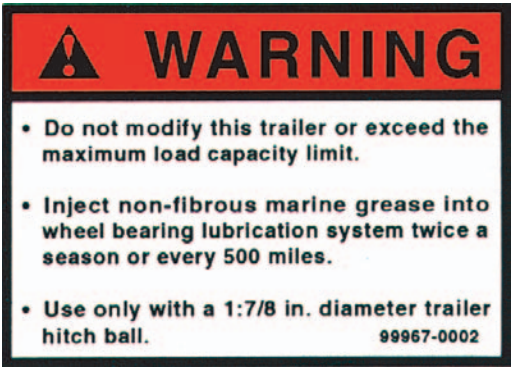
Trailer Capacity is 780#
DO NOT EXCEED THIS CAPACITY
MAXIMUM BOAT LENGTH IS 12 FT.

Decal's must be placed on your trailer as follows:





Vehicle Id. Label



Small Warning Label

Large Warning Label