Installation Instructions
And Owners Manual
MTE

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Reference 18Nov2008 – V14

It is critical to lubricate bolt threads with included Anti-Seize before installing Nylock Nuts to prevent the precision stainless steel hardware from galling and locking, even if you are test-fitting parts together before installation.

Leave Legs and Top Section protected with bubble wrap sleeves, removing only the ends as needed, to protect the boat and tower during installation.

THANK YOU FOR YOUR BUSINESS. IF YOU ARE NOT COMPLETELY SATISFIED IN ANY WAY WITH YOUR NEW MONSTER TOWER, PLEASE CONTACT US IMMEDIATELY. Our entire purpose as a company is to create great products at affordable prices that our customers love.

IMPORTANT

Please take a few minutes to read the installation instructions and become familiar with the MTE parts and installation before beginning to ensure a high quality, trouble free installation. If you have any questions during your installation give us a call at 877-77-Tower or e-mail Support@MonsterTower.com

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IMPORTANT NOTES ON INSTALLING AND USING YOUR NEW MONSTER TOWER

- **Read the entire instruction manual before beginning**
- **Always apply a thin film of Anti-Seize to Threads before putting a nut on or the hardware can lock up. This is normal for Stainless Steel hardware and the Anti-Seize eliminates the problem.**
- **Do not use nut drivers to run bolts. Always turn by hand to prevent the bolts from heating up.**
- **Strengthen the mounting areas of the bases if the fiberglass is less than 3/8" thick.**
- **Torque M12 Nylock Nuts to 65 ft-lbs and M12 x 35 Bolt to 30 ft-lbs, and the M10 x 40 Nylock Nuts to 50 ft-lbs.**
- **Re-torque all hardware (especially M12 and M10 Nylock nuts) after each of the first few uses and then check regularly.**
- **Note that after drilling the holes in the mating swivel, the tower is permanently set to that rear leg mounting width and can not be moved to another boat or area unless it has the same rear leg mounting width.**
- **The tower is silent by design. If you hear any rattling or noise check all hardware for tightness, especially the Heim joint jam nuts and set screws in the rear swivel collar. Call us at 877-77-Tower if you continue to hear any rattling or noise before using the tower as this means something is not installed correctly.**
- **Leave protective bubble wrap sleeves on the legs and top section until the drilling steps on page 10. This will protect your boat and the tower during installation. Only remove the areas needed for installation.**
- **Visit the support information at www.MonsterTower.com for additional information including details on customer installations.**
- **Call us at 877-77-Tower if you have any questions or concerns during the installation.**

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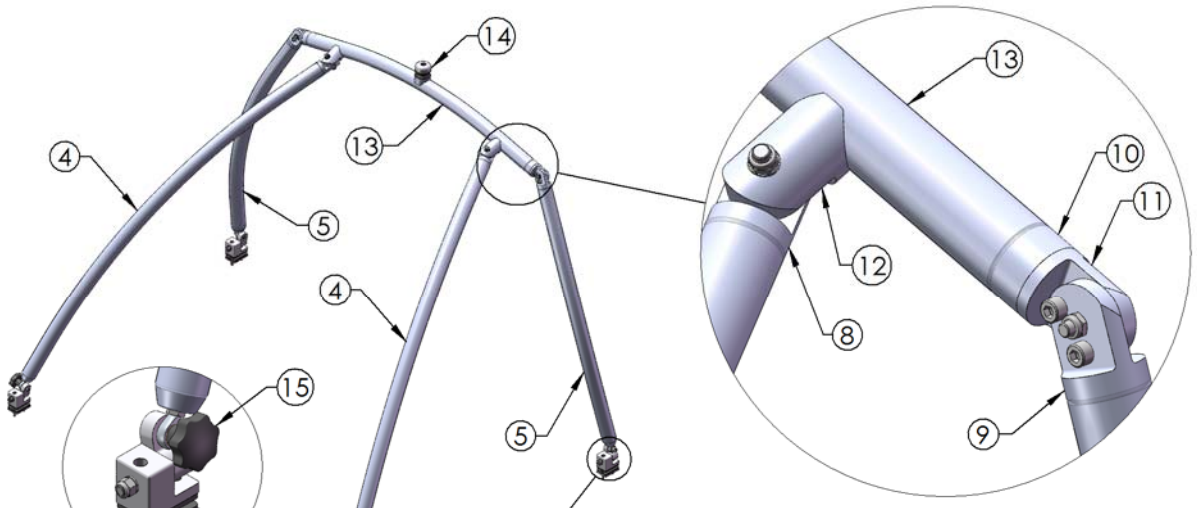

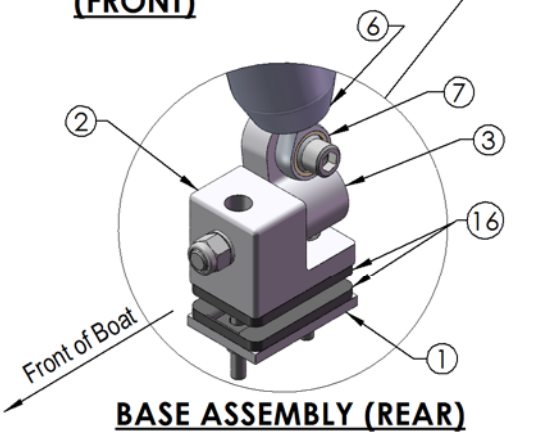

The temporary O-Ring goes between 3 & 7 rear mounts for aligment. Monster Paw goes between 2 and your boat with hollow section towards the fiberglass.

PART	QTY	DESCRIPTION
1	4	Backing Plate
2	4	Base
3	4	Base Swivel
4	2	Leg, Front
5	2	Leg, Rear
6	4	Leg Rod End Support
7	4	Heim Joint
8	2	Leg Swivel, Front Leg
9	2	Leg Swivel, Rear Leg
10	2	Rear Swivel Collar
11	2	Rear Swivel
12	2	Front Swivel
13	1	Top Section
14	1	Tow Point
15	2	Knob
16	8	"Monster Paw" Base Pad (Hollow Section goes toward boat)

The MTE is an innovative design in the Wakeboard Tower market that uses many common parts and design elements that make it affordable and easy to install. There are three main components of the design as shown in the Assembly Diagram: front legs, rear legs and the top section. The front legs are identical and there are right and left rear legs. One rear leg and the mating part of the top section are marked with blue dots where the two parts mate.

The Top Section Assembly shows how the fixed leg swivel at the top of each of the legs mate to swivels on the top section. These swivels allow the front or rear legs to move closer together or farther apart to adjust to different boat widths. The rear swivels on the top section can also rotate in the rear swivel collar allowing the front and rear legs to move closer together or farther apart to adjust to different mounting locations on the

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side of the boat. The unique Base Assembly of the Monster Tower includes: a base fastened to the boat, and a base swivel that allows the base to mount on the top, outside or angle of the side of the boat. The Heim joint has three purposes. First, it allows the base to mount if your boat has a slight angle at the mounting areas. Second, it allows the rear legs to rotate so the tower can fold down for storage. Third, the Heim joint prevents any of the lateral (side to side) movement of the tower from causing stress to the boat. You are now an expert on the Parts of the Monster Tower and we will use the terminology of the Parts List throughout this document. **Note that Parts refer to components of the tower and Items refer to hardware, tools and accessories.**

Monster Tower Hardware List

Item	Metric Dimension	Equivalent	Connection	Qty
		Inch Dimensions		
1	M8 x 50 SHCS / Washer / Nylock	5/16-18 x 2"	Base to boat	8
2	M12 x 85 SHCS / Washer / Nylock	1/2-13 x 3-1/2"	Base to base swivel	4
3	M12 x 35 SHCS	1/2-13 x 1-3/8"	Attach rod end to base swivel	4
4	M12 Rod End Bearings (Heim Joint)	1/2" Rod End Bearing	Base swivel to rod end support	4
5	M12 Flat Hex Nut	1/2" Hex Jam Nut	Jam nut for rod end	4
6	M12 x 75 SHCS / Washers / Nylock	1/2" x 3"	Front Leg swivels to top section	2
7	M12 x 12 Set Screw (preinstalled)	3/8" x 1/2"	Lock rear swivel in collar	4
8	3" x 2" Metal Backing Plate	3" x 2"	Backing plate for under deck	4
9	Monster Paw Backing Pads	3" x 2"	Pads to boat mounts	8
10	#14 O-Rings (3/4"ID x 15/16"OD)	(optional after install)	Align rod ends to base swivel	4
11	2-1/2" Teflon Fender Washer		Front Legs & Top Section Swivel	2
12	M5 Head Allen Wrench	For M10 Set Screws	Supplied tool	1
13	M6 Head Allen Wrench	For M8 Bolts	Supplied tool	1
14	M10 Head Allen Wrench	For M12 Bolts	Supplied tool	1
15	Foil Packet of Anti-Seize Lubricant	This is critical to use on all bolt threads to prevent galling.		
16	M10x40 SHCS / Washers / Nylock	3/8" x 1-1/2"	Rear Leg to top section	6
	SHCS - Socket Head Cap Screw (Bolt)	Nylock - Nut with built in locking ring		

The above hardware and tools are included with your Monster Tower and are referenced to in the installation of the tower by their item number.

Items and tools needed for Installation

The following items will be needed for the installation of the tower and are not supplied.

Required

Reversible Drill & 1/8", 1/4", 5/16", 3/8" & 1/2" Drill Bits
Adjustable wrench or 13mm & 19mm metric sockets
Torque Wrench (no pneumatic wrenchs)
Any general purpose grease for Front Leg Swivels
Masking Tape, Tape Measure & Pencil
Friend to help hold & hand things
Safety Glasses (always use when drilling fiberglass or metal)

Optional

Vacuum for drill shavings
Throw tarps (to cover boat)
1/4" or 3/8" PT Plywood
Silicone Sealant
Loctite removable threadlock (In place of anti-seize)

Layout and Planning

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During installation, you should protect the tower by doing all the layout of the tower on a tarp, blanket or carpet and leave as much of the bubble wrap sleeves on the legs and top section as possible. Use masking tape to protect your deck from scratches as you determine the final location of the bases. Apply included Anti-Seize to all bolt threads to prevent galling and locking of the precision stainless steel hardware.

The first step when installing the tower is to understand where you want the tower to fold down to in your boat. This will determine where the rear bases will attach to the boat. If your tower is going to be folded down, this is more important than where the tow point is located. You will want the top section of the tower to rest on your floor, rear seat or sun pad when folded down. To ensure the tower lays down the way you want, you need to lay it out before installing the bases.

To begin the layout process, attach the rear legs (part 5) to the top section (part 13) with hardware Item 16 **WITH ANTI-SEIZE** on the outside of the threads to attach the rear legs as shown below. The blue dot on one rear leg mates with the blue dot on the top section. The rear legs should radius towards the outside and front of the boat as shown in this manual. Tighten the setscrews in the top section to hold the top section at about 30 degrees from vertical. **Do Not** Loosen these set screws when folding the tower. **NOTE** – If you plan to purchase the Monster Tower Bimini, it mounts to the rear legs of the tower. If the tower is mounted too far back, the driver will not be covered by shade.

Before moving the rear legs and top section to the boat, pre-assemble the leg ends as shown:
1) Confirm Heim joints (part 7) are screwed into the end of each leg as far as possible as shown above to the right.
2) Attach the Heim joint to the Base Assembly as shown in the Base Assembly view. Make sure the o-ring is on the bolt between the Heim joint and Base Swivel. (The o-ring aligns the Heim joint to the base swivel and is not required after installation).

Now prepare your boat by putting masking tape on the hull in the locations you will mount the rear bases. You can also put towels or tarps on your deck as well for added protection. Try different mounting locations to confirm you like the tower location in the folded position. Customer photos at our website can be a big help also for where to mount the tower.

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The following picture depicts the initial layout process to determine the proper location of the rear bases. In many installations, the base will mount to the side of the boat and or on a curved surface, instead of a flat horizontal surface. (MT1 tower shown)

IMPORTANT: **The Heim joint should always be positioned to the back of the base as shown to ensure the base does not contact the rear leg when the tower is folded for storage.** The base swivel can be mounted with the M12x35 bolt (item 3) either towards the inside of the boat or on the outside. For easiest access we recommend mounting the base swivel with the bolt towards the outside**. The M12 Nylock Nut connecting the base and base swivel should be towards the front of the boat.** With the tower in this position, you can easily move it so the top section rests at a good location when folded. You can now determine if the base will best mount on the top, side or an angle on each side of the boat.

It is important to look under where the base will mount to make sure there are no wires or other obstructions as well as a flat surface for the base plate. Many boats have foam flotation under the deck that must be removed to mount the backing plate. Also, avoid stringers and wiring channels when determining base locations.

Mark the base locations on the tape and double check the distance from the back of each base to the rear corner of the boat (or other reference point) to make sure they are positioned in the same location on each side of the boat.

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The front bases are 48” to 75” apart from the rear bases. The optimal range is from 53” to 65” although it is acceptable to mount them from 48” to 75” apart. The following shows the side view with the tower at ideal front to rear leg-mounting distances. Measure from the rear leg to the approximate location where the front base will be mounted to confirm they will be in the acceptable range before continuing.

Tighten the bolts at the top of the rear legs and the setscrews in the top section to make it easier to handle the tower during the final steps.

An optional step at this point is to attach the front legs to the top section to make sure they do not interfere with the windshield opening, or any other unforeseen obstructions. To attach the front legs, assemble a base to each of the front legs (base assembly front view) and attach the front legs to the top section. Do this using Part 15 to attach the Heim joint to the base, and Item 6 to attach the leg swivel (part 8) to the front top section swivel (part 12). You can then determine the final location of all four bases by placing the tower into its final position. This will be easier if you can hang the tower from a tree, rafter or have a few friends help you hold the tower in place.

Mark the location of the front bases and measure from a front base to a reference location on the boat, as well as from the front base to the rear base to make sure they are positioned the same on both sides of the boat.

You are now ready to attach the rear bases to the boat, so you will need to detach them from the legs and take the base assemblies apart. If you have the front legs attached to the top section you will want to detach them as well.

Attaching the bases to the deck of the boat

Take a few minutes to double check the dimensions between the base locations and several reference points on your boat to make sure they are in the same locations on each side (measure twice, drill once). Check underneath the deck to make sure there are no wires or obstructions as well as good places for the backing plate. For each rear base, mark the location to drill the two holes through the deck as in the following picture. The masking tape makes it easy to accurately mark the holes. To make drilling easier we recommend center punching the marks so the drill bit does not wander when drilling.

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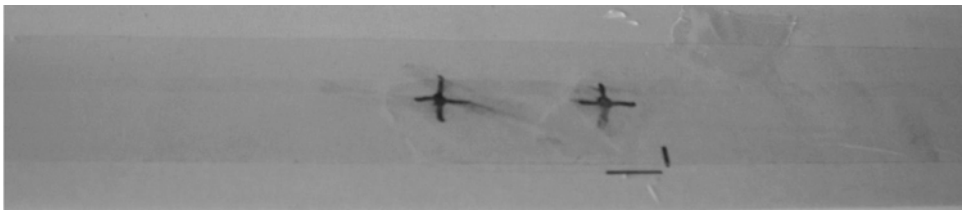
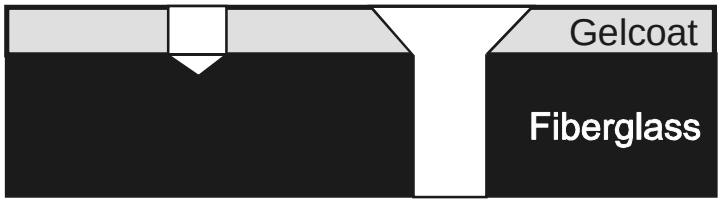
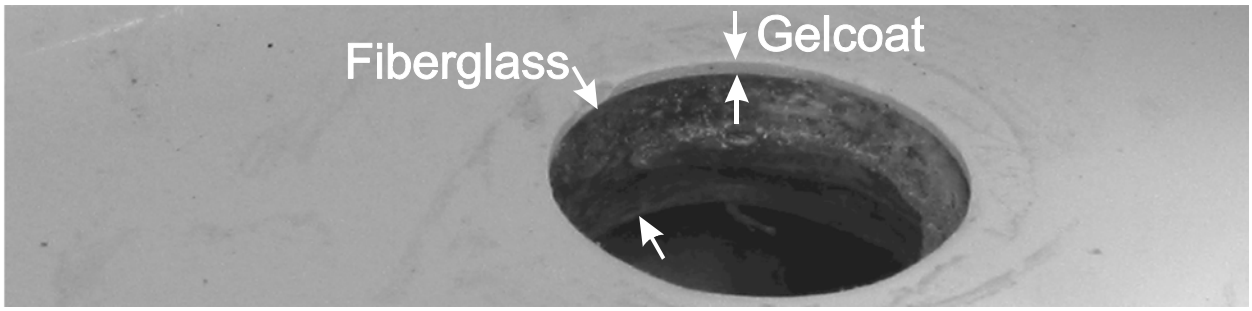


Understand the following procedures before drilling to ensure a clean hole through the deck. Boats have a very hard gelcoat surface with fiberglass under the gelcoat as shown below.





The gelcoat is a very thin layer approximately 1/16th" thick and the fiberglass below it is normally about 3/8" thick. IMPORTANT: If the fiberglass below the gelcoat is less than 3/8" thick, you need to add fiberglass cloth and/or marine treated plywood to build up the largest available area to at least 3/8" thick. You need to check all mounting points as the fiberglass thickness may vary on the boat.

You MUST run the drill in reverse while drilling the holes or the gelcoat will chip, as it is extremely brittle. Remember to run the drill in reverse for the entire hole.

This is also a great time to have someone with a vacuum to remove the fiberglass as you are drilling. To drill the holes use the following procedures:

1) Begin with a 1/8" bit and run the drill in reverse until you are through the fiberglass.
2) Repeat the same step as above with the 5/16" bit running in reverse.
3) Finish the hole by putting a slight angle (chamfer) on the edge of the gelcoat turning the ½" drill bit by hand (without the drill) as shown on the right side in the above diagram to further protect the boat.
4) Using the backing plate, double check the location of the second hole for each base and then drill the second hole using steps 1-3.
5) Confirm the two Item 1 bolts will go through the backing plate and the two holes without binding. If needed, drill the holes to 3/8" for clearance.
6) Optionally, you can use a small piece of sand paper to radius the edge of the chamfer also to remove the slight edge..

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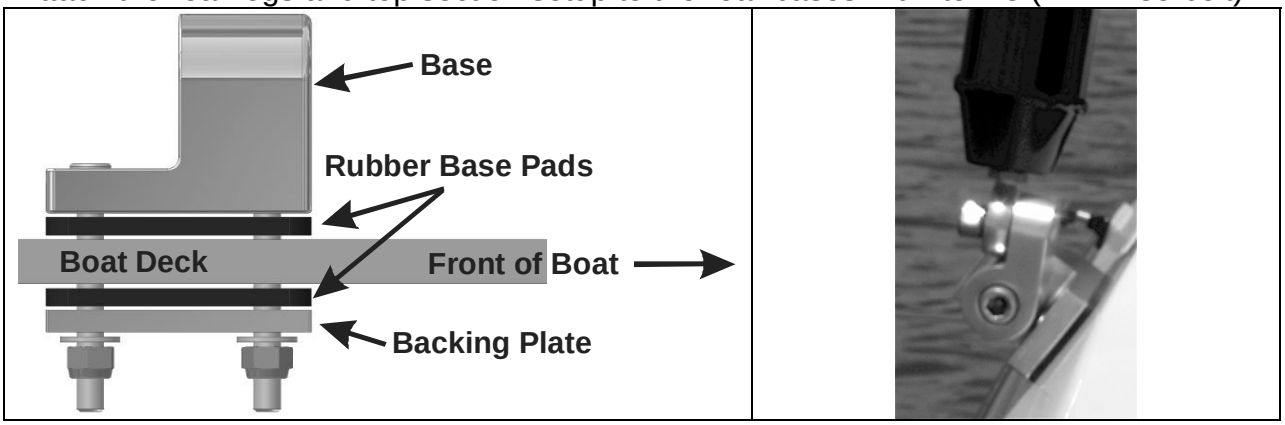
Next, install the rear bases (part 2), Monster Paws (part 16) -hollow sections towards the boat, and backing plate with Item 1 hardware as shown below. If you are reinforcing the underside of your deck, the wood will go between the deck and the Monster Paw under the deck of the boat. Remember to apply Anti-Seize to the entire length of the M8 bolts. Tighten these by hand; do not use a drill or driver. There is not a specific torque specification since each boat is different. Tighten until you begin to see the Paw being compressed. Check the base to make sure it is tight and if needed turn another ¼ turn. Repeat until the base is rigid. Note: You can optionally add non-adhesive caulk / sealant between the top of the boat and the Monster Paw to ensure a waterproof seal.

Rebuild the base assembly onto the mounted base as you previously had it for the initial setup (Base Assembly View).

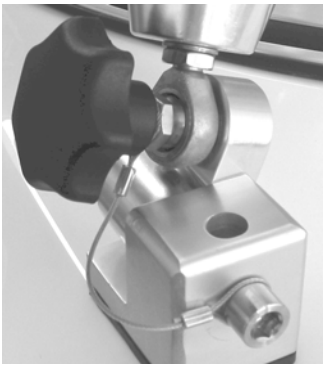
Attach the rear legs and top section setup to the rear bases with Item 3 (M12 x 35 bolt).



The next step is to determine the final location of the front mounts.

Attach the front leg swivels (part 8) to the front swivels (part 12) using Item 6 of the hardware list. Include the Item 11 Teflon washers between the mating swivels of the front legs if you would like to, but they are not required if your tower will not be folded down. It is also recommended to place a small film of grease on both sides of the stainless washers so the bolt will not tighten and loosen when the front legs are rotated in. If your tower stays up all the time do not use grease or the Teflon washer and torque to 70 ft-lbs. If you will be folding your tower down torque the bolt to 20-30 ft-lbs.

Rotate the tower into the up position and move the front legs around to determine the desired location of the front bases. You may have already done this during the optional setup on page 7. Double check the location of the front bases, and then follow the same drilling and installation procedure used to mount the rear bases to finish the front base installation. Make sure the bases are facing the correct direction as shown in the Base Assembly view. Use Item 15 instead of the M12 x 35 bolts used on the rear legs, placing the lanyard washer onto the M12x85 bolt (Item 2) on the outside of the base as shown here. The tower installation is almost complete and the last step provides the final adjustments to ensure a stiff tower that is custom fit to your boat.



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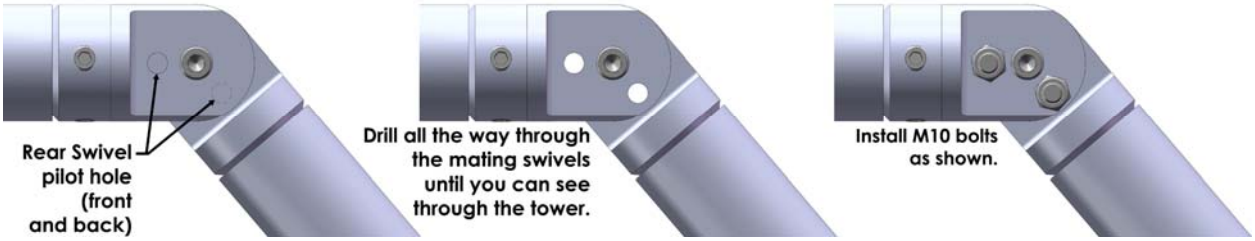
IMPORTANT - Final Adjustments and Locking

The last step is to center the tower on the boat and lock everything securely into place to ensure the tower is stiff and silent. **IMPORTANT -** Center the Tower on the boat as shown here. Do this by measuring from the base on one side to the rear swivel on the other side as shown below. Check both sides until the measurements are within ¼" in both directions and then tighten the setscrews in the Part 10 Rear Swivel Collar and tighten all M12 bolts in the top section to 65 ft-lbs.

The next step is to install Item 16 to lock together the Rear Top Section Swivel and Rear Leg Swivel. This maximizes the side-to-side (lateral) stiffness of the tower. **Double check that the tower is centered as above before drilling. Once holes have been drilled, there is no adjusting the tower.** Use the included 5/16" (8mm) bit to drill through the pilot hole and all the way through the other side of the mating swivel. Use a vacuum to remove any metal shavings during drilling and wear safety glasses.

Drilling the mating swivels will be faster using the following steps:

1) Begin with the 10mm drill bit, drilling through the pilot hole and starting the hole in the mating swivel.
2) Switch your drill bit to a smaller size (3/16" or ¼") and drill partially through the tower, making sure to stay centered in the pilot hole.
3) Switch your drill bit back to the 10mm bit and drill through the smaller hole.
4) Continue switching between drill bits until you have drilled completely through the swivels.



Insert Item 16 through the hole, and tighten to 30 ft-lbs. <u>At this point double check that the tower is centered before drilling and installing the next bolt.</u> Repeat the anchor bolt installation on the other rear leg of the tower. Drill and install the second anchor bolt on each of the mating swivels to complete the installation of the four anchor bolts. The tower is now centered and locked into position. All four anchor bolts MUST be installed.

The last step is to double check that all fasteners are tight, <u>including the top section set screws and jam nuts tightened against the leg rod end support</u> The tower is now ready

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for use. The Monster Tower IS ABSOLUTELY SILENT when installed correctly. Shake the tower and if you hear any noise check all the hardware and make sure it is tight. If you hear any noise or rattling at any time, something is wrong, please correct it or call us before using the tower.
Thank you again for your business and if we can be of assistance in any way please call us at 877-77-Tower or email us at **Support@MonsterTower.com**

Remember to send us a few pictures of your boat with the Monster Tower installed AND YOUR SHIRT SIZE for a free Monster Tower T-Shirt. International customers will need to cover the shipping cost.

Using your Monster Tower – Operating Instructions

The Monster Tower folds down flat to fit under your boat cover fast and easy. To fold the tower down remove the Quick Release bolts from the front bases. The Heim joints now allow the tower to pivot towards the back of the boat. If the tower rests on fiberglass, use a vest or other cushion to protect the boat and tower. **DO NOT** loosen the set screws to flatten out the top section. The top section needs to stay at the same angle folded as when not folded. The front legs are then folded one at a time to the side for storage. Always use a vest, koozie or other cushion to protect the boat where the leg touches and if the two front legs touch each other. (MT1 shown below folded)

- Remember to protect your boat and tower when the tower is folded down. We recommend using a koozie, ski vest or other padding between any locations where the tower front legs touch each other, or anywhere the tower touches your boat to protect each item. It is normally a great place to hang your vest to dry after riding as well.

- When towing your boat the Monster Tower can be in the up or folded position. If you tow with the tower up, note the height of the tower and make sure you have overhead clearance. If you tow with the tower down make sure you have pads where the tower touches the boat or where the front legs touch to prevent damage.

- The Monster Tower is stiff and silent by design. If you hear any rattling or noise from the tower; or see any movement in the tower, then check all hardware for tightness. Call us at 877-77-Tower if this does not correct the problem.

  - **Always understand and follow the warnings on the tower warning label**

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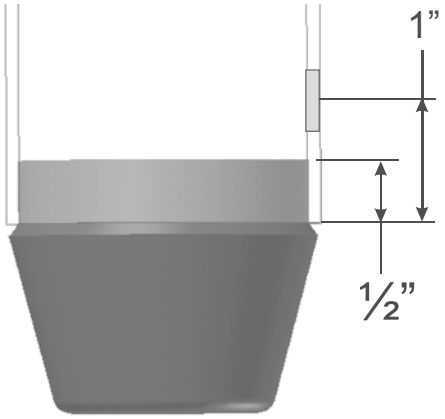
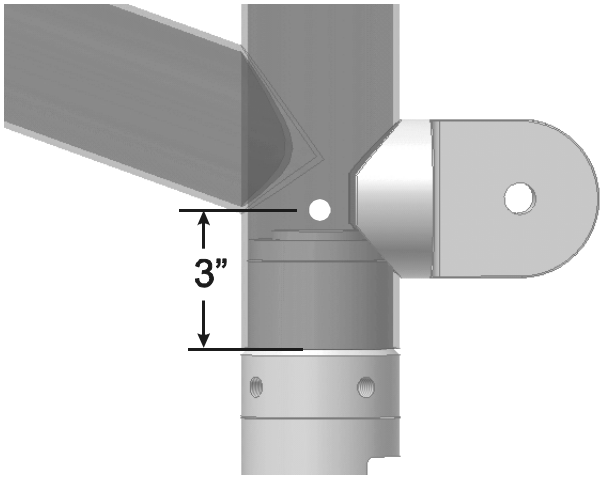
Monster Tower, Inc. - 5 Year Warranty - Monster Tower warrants that for a period of 5 years from the date the tower is sold at retail, that Monster Tower will repair directly, or supply parts for the repair of any material cracks, fractures or structural failures that are a result of a manufacturing defect. Anodizing and powder coated surfaces as well as all hardware corrosion are specifically excluded as their care and use cannot be controlled by Monster Tower. Any modifications or improper use, not approved in writing by Monster Tower, shall void this warranty. Monster Tower is not responsible for personal injury or damage to the boat or other items caused by the use of this tower. Monster Tower's obligation under this warranty shall not include any transportation charges or costs of installation or any liability for direct, indirect or consequential damages resulting from delay or improper installation of the tower. Instead of reading all this fine print, get your tower on the boat and go ride! No dealer, retailer or manufacturer is the agent of Monster Tower and may not assume for Monster Tower any liability in connection with this warranty. This warranty is in lieu of all other warranties, expressed or implied, including any warranty of merchantability or of fitness for a particular purpose. If you need to make a warranty claim contact Monster Tower at 877-77-Tower or email Support@MonsterTower.com before returning any items. Defects must be reported within 30 days of receipt.

APPENDIX A - Wiring Instructions for your Monster Tower

If you add speakers or lights to your Monster Tower, you can hide the wires inside of the rear legs of the tower as well as in the straight cross member of the top section. Since the mating parts insert ½" inside each end of the rear leg you can drill 1" away from the weld lines. For the top section cross member you will need to place the hole 3" from the weld line to clear the rotating collar assembly. The hole size will depend on what size wire you are running and how many items you need to wire. The maximum hole size we recommend is ½" but normally smaller is all that is needed.





ADDITIONAL RESOURCES OF INTEREST

The various connectors, finishing grommets and items you will need for wiring lights and speakers can be found at Radio Shack, Home Depot, Lowe's, Ace and other hardware stores. You can also find much of this at **www.WayTekWire.com** as well as many other online sources. There are some great technical documents at **www.installdr.com** that may be of assistance as well. If you are interested in making your own speakers or other items for your tower, check out **www.diyTower.com**.

Monster Tower Accessories

Monster Tower also offers Quick Release Wakeboard, Waterski and Surfboard Racks: Mirrors, Speakers and Lights to fit your tower.

Wakeboard Racks

Tower Speakers

Light Bars

Tower Mirrors

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