

Technical Service Bulletin #21

Tower Sunshade Installation Instructions

Revision # 2

June 22, 2000

Parts Needed

Sunshade, Tow Tower, Complete Kit, Red Canvas, White Frame	MPE0011663
Sunshade, Tow Tower, Complete Kit, Blue Canvas, White Frame	MPE0011664
Sunshade, Tow Tower, Complete Kit, Grey Canvas, White Frame	MPE0011665
Sunshade, Tow Tower, Complete Kit, Red Canvas, Black Frame	MPE0011314
Sunshade, Tow Tower, Complete Kit, Blue Canvas, Black Frame	MPE0011315
Sunshade, Tow Tower, Complete Kit, Grey Canvas, Black Frame	MPE0011316

Kit Includes

4 Mounting Brackets – MPE0011490	Sunshade Frame – MPE0011327
4 Threaded Nutserts – MFS0011369	4 5/16" Bolts – MFSY200579
4 5/16 Hex bolts – MFSY200443	4 Nylok nuts – MFSY200450
12 OD flat washers – MSFY200438	4 Split washers – MSFY200439
Bimini lace-on* - MBC001328, MBC0011329 or MBC0011330	

* Color matched for the boat

Tool List

Tape Measure	1/8" drill bit, high speed steel	1/2" drill bit, high speed steel
5/16" drill bit, high speed steel	Drill	5/16" bolt with hex bushing
9/16" wrench	1/2" wrench	Cardboard hole template

WARNING

Always be sure to wear OSHA approved eye protection when using a drill.

Procedure

Sunshade Lacing Instruction

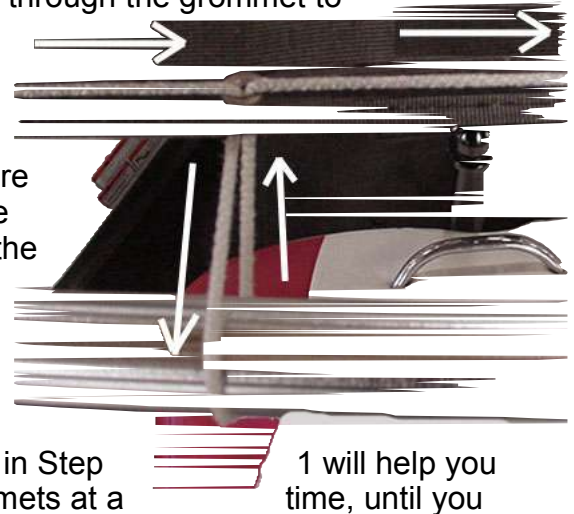
Step 1 – Positioning The Canvas

Center the canvas carefully on top of the frame. The cross-members of the frame should be bent upwards. Temporarily secure the canvas to the frame with the six tie-wraps provided. After the canvas is centered and secured, with a pencil, mark the grommet that is closest to center at the "V" (wider) end of the tower. At the other end of the sunshade frame, find the center of the frame and canvas, and mark with a pencil.

Step 2 – Begin Lacing Right Side

Take the cord that came with the canvas, and loop it in half to find the center of the cord. Mark the center with a pencil. Now, feed one end of the cord through the bottom of the grommet you marked in Step 1. Pull the cord through the grommet to the pencil marked middle of the cord. Temporarily fasten one side of cord to the frame using a tie wrap.

Loop the cord around the top of the frame and back up through the bottom the same grommet where you started. Next lace the cord across the top of the canvas to the next grommet, feed the cord through the grommet, around the top of the frame and back up through the bottom of the grommet you just came through. Continue this lacing procedure down the right side for about six grommets. Stop and tighten the cord making sure to keep the canvas centered on the frame. (The tie-wraps you secured in Step with this.) Continue the lacing procedure, 5-6 grommets at a reach the center of the round end of the frame. Stop there.



Step 3 – Begin Lacing Left side

Go back to the starting point where you began lacing the cord, and repeat the lacing procedure down the opposite side. Go around the frame, from grommet to grommet, and pull the cord tight. Adjust and center the canvas to its final position, and pull all the slack out of the cord.

Step 4 – Tie Off The Cord

After the canvas is tight, and all slack is pulled out of the cord, knot the two ends of the cord together. Make sure you use a knot that will not come apart. Cut the excess ends of the cord, and burn the ends with a hot knife to prevent the cord from fraying. Finally, cut the temporary tie wraps from the sunshade.

Tower Bracket Installation

Step 1 – Marking The Holes on The Tower

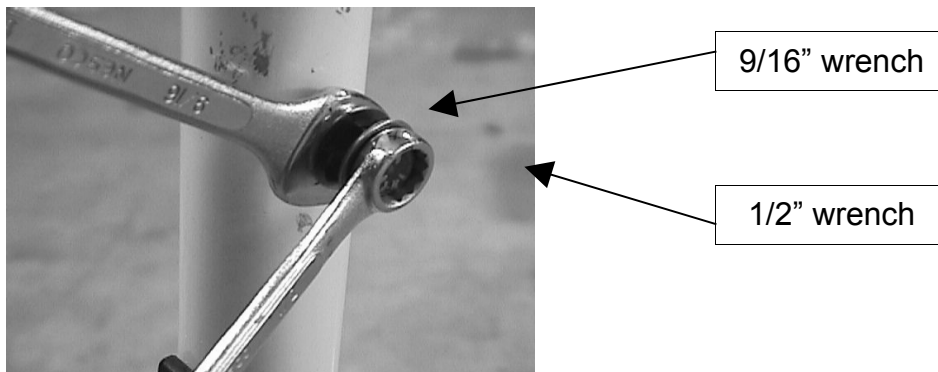
On the inside starboard side of the tower measure down from the **bottom of the** top cross support $7 \frac{3}{4}$ " on the forward (left hand) pole and mark a spot on the center of the pole. On the rear pole measure down $6 \frac{3}{4}$ " **from the bottom of the cross support** and mark a spot on the center of the pole. Repeat this procedure for the port side making sure that the forward support (right hand) is marked at $7 \frac{3}{4}$ ".

Step 2 - Drilling the holes for mounting bracket hardware

Find the holes you marked in Step 1. Using a 1/8" drill bit, carefully drill a pilot hole at each location. After the pilot holes are drilled, replace the 1/8" drill bit with a 1/2" drill bit, and re-drill the holes to the correct size. Check the hole size by slipping a "nutsert" into each hole. This fastener should fit snugly into each hole. **NOTE: Care must be taken to avoid drilling all the way through the tower supports**

Step 3 - Securing The "Nutserts"

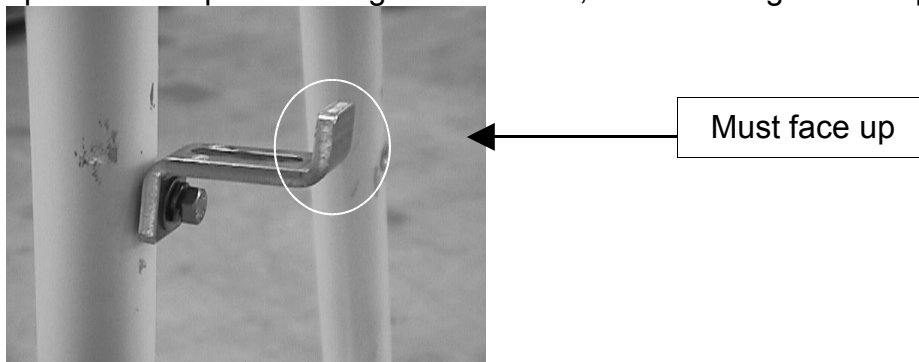
Place one "nutsert" into each hole you drilled in the tower. Make sure it is pressed all the way into the hole so that its flange is flat against the tower. Put the casehardened 5/16" bolt through the hex bushing and thread the bolt into one of the "nutserts." Hold the bushing with the 9/16" wrench, and using either a 1/2" socket or combination wrench, tighten the bolt into the fitting until it is wrench tight, or about 25 foot pounds of torque. (See photo) This will ensure that the flange of the "nutsert" is pulled full up against the inner wall of the tower tubing.



After the "nutsert" is pulled tight, remove the casehardened bolt and hex bushing. Using a plastic mallet tap the flange of the "nutsert" flat against the tower.

Step 4 - Installing The Mounting Brackets

Using a 5/16"-18x1-1/2" hex head bolt, 5/16" split washer, and 5/16" flat washer, secure the Z-shaped mounting brackets to the tower. The correct mounting position places the leg of the Z with the hole in it facing down on the tower, and the other leg facing upward. See photo. Snug each bracket, but do not tighten completely.



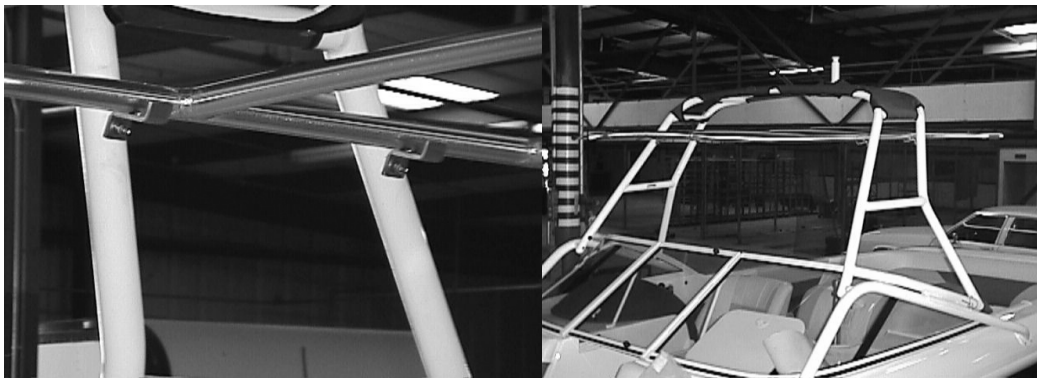
Step 5 - Positioning The Bimini Top.

Place the Bimini top frame with the canvas installed, crown up, with the narrow end forward, on the mounting brackets you just installed. Make sure that the brackets are oriented correctly with the inboard leg of the Z-bracket facing upward and acting as a retainer for the Bimini top.

Slide the Bimini top forward until it stops against the tower, and then back it up one inch. Using the tape measure, make sure that the frame is centered in the tower opening. Check that the frame is laying flat on each bracket. If it is not, adjust each bracket until it makes proper contact with the frame.

Once you are sure that the Bimini is located correctly, and laying flat on the brackets, tighten the brackets completely onto the tower. Tighten each mounting bolt to 25 foot pounds.

With the Bimini top laying in place, from the bottom side carefully transfer onto the Bimini frame the location of the mounting slot that is in each mounting bracket.



Step 6 - Installing The Bimini Top

Remove the Bimini top, turn it over, and locate your pencil marks for the mounting bracket slots. At these locations, and on the tubing's center, drill a 1/8" pilot hole. Follow up by drilling a 5/16" hole. These are the holes for bolting the Bimini top to the mounting brackets.

Turn the Bimini top back over and place back onto the mounting brackets. Align the holes you just drilled with the slots in the brackets. From the bottom, push 5/16"-18 x 2" bolts into each frame mounting hole and secure the frame to the mounting brackets with 5/16"-18 nylok nuts and flat washers. Tighten to 25 foot pounds of torque.