

Gemini Marine Canvas & Marine Products

Custom canvas • DrillSteady • Gemlock struts & hinges

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GemLock folding strut assembly guide

Please remember that in addition to selling the components to make folding struts, we also sell fully assembled GemLock folding struts – just cut to length and install. Please contact us for current pricing. If you choose to assemble your own struts, this guide will help. See also our folding strut installation guide for further advice.

For ONE strut you will need (you may need a pair of struts (or more) for your job):

- 1 x hinge (either stainless steel or ABS plastic, depending on your application)
- 2 x pieces of tubing - 7/8" or 1" outside diameter. Wall thickness for tubing should be .058 for aluminium and .065 for stainless steel (length determined by application).
- 1 x piece of .049 wall thickness sleeve tubing (outside diameter should be 1" for use on 7/8" tubing or 1 1/8" for 1" tubing). For length, see below.
- 1-2 1/8" roll pins
- 2 x stainless steel spring balls

Strut assembly:

1. Cut tubing to desired lengths. **IMPORTANT:** the hinge will add 1 1/2" to the strut's overall length. For use in strapless biminis, these lengths are not necessarily symmetrical – see our guide for advice. Clean burrs from inside of tubing ends with a file or rotary rasp.
2. Drill holes either side of the tubing 1/2" from the tube end. Use 13/64" cobalt drill bit and cutting fluid. These holes will hold roll pins that will hold the hinge in place.
3. A strut uses two spring balls to hold the sleeve in place, with the hinge centered between them (hidden by the sleeve in the view below). The spring balls should protrude to their full height and capture the sleeve between them, locking the strut open. Drill 9/32" holes in line with the holes drilled for the roll pins and deburr as

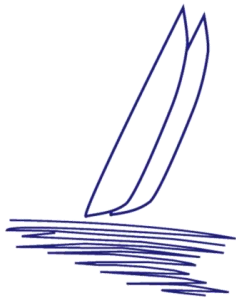
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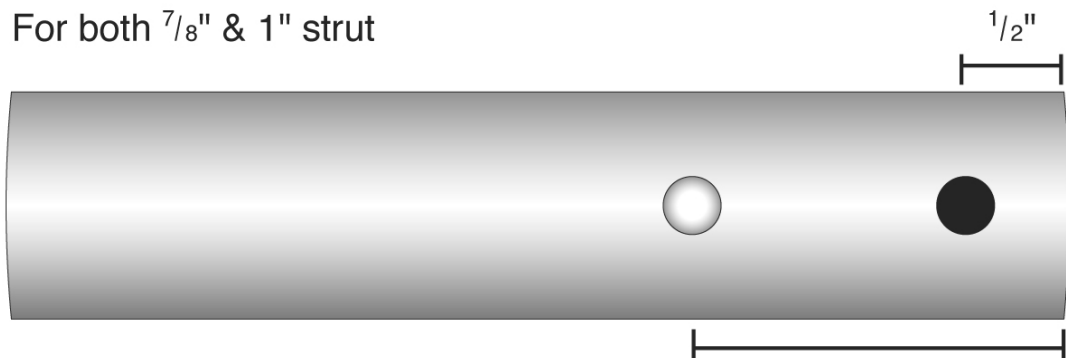
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needed. Struts 3' long need a 5" sleeve – drill holes 2" from the tube ends; struts 6' long need a 10" sleeve – drill holes 4½" from the tube ends. See image.

For both 7/8" & 1" strut

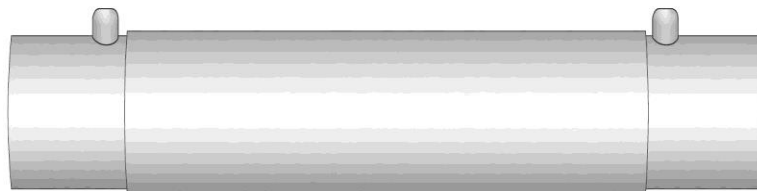


SPRINGBALL

2" - for 5" sleeve

4½" - for 10" sleeve

4. Install spring balls, then insert hinge into tubing.
5. Align hole through the hinge body with remaining holes in the tubing and push a roll pin through to hold hinge (roll pin should be 7/8" long for 7/8" tubing or 1" for 1" tubing). If aligning all four hole openings is too difficult, you can install a short roll pin either side of the tubing into the hole in the hinge, ensuring it is flush with the surface of the tubing to enable the sleeve to slide across and lock in place.
6. Slide sleeve over tube end, depress the spring ball, slide the sleeve over the hinge and allow the spring ball to pop up to deploy the strut.



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