

INSTALLING JL INDUSTRIES ROOF HATCH CYLINDER & ARM BRACKET UPGRADE

Tools needed: (1) 7/16" wrench, (2) 9/16" wrenches, (2) 1/2" wrenches, compression rod assembly from JL.

Parts needed: (number varies with roof hatch model & size): Replacement brackets for lid and sides, 2 part cylinder cover, spring and lubricant for each cylinder assembly. Hardware listed below.

Personnel: 2 people can easily perform this operation.

Estimated Time: approximately 30 minutes for 2 cylinders.

Installed Roof Hatch Considerations: We recommend that installers use fall-prevention safety equipment while performing this work. Installer may find use of a "tool bag" to hold replacement parts, compression rod and wrenches helpful.

Hardware:

A – 5/16-18 x 3/4 self-tapping screw

B – 5/16-18 x 2-1/2 hex head bolt & nut

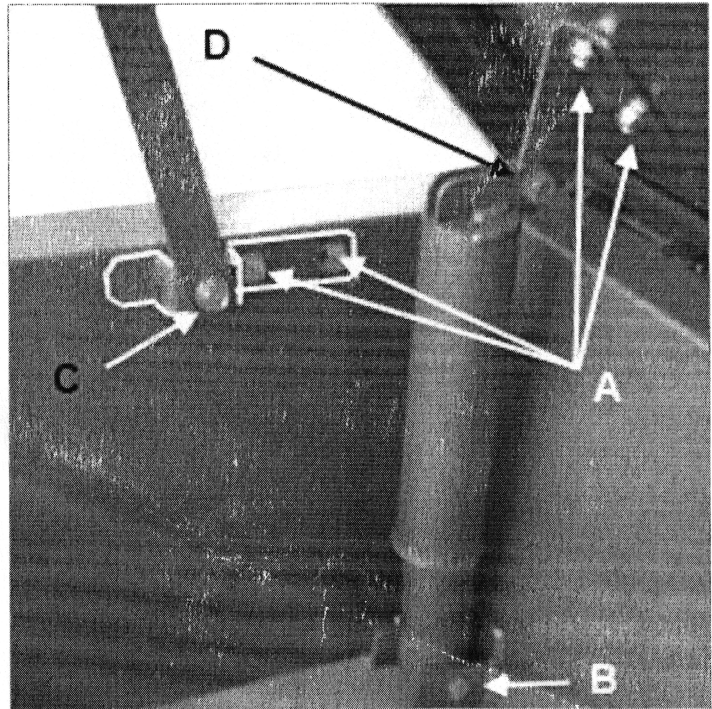
C – 5/16-18 x 7/8 hex cap bolt & nut

D – 3/8-16 x 3/4 hex head bolt & nut

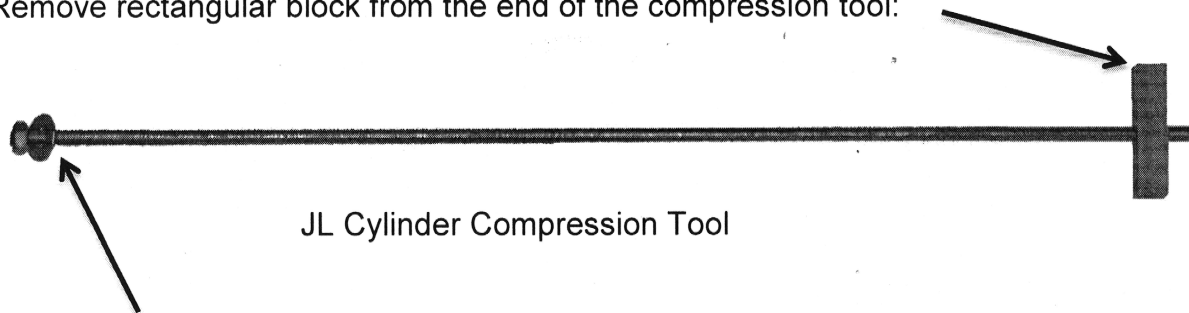
Replace Top Cylinder Bracket, Cylinder & Spring

Note: Replace One Cylinder at a time

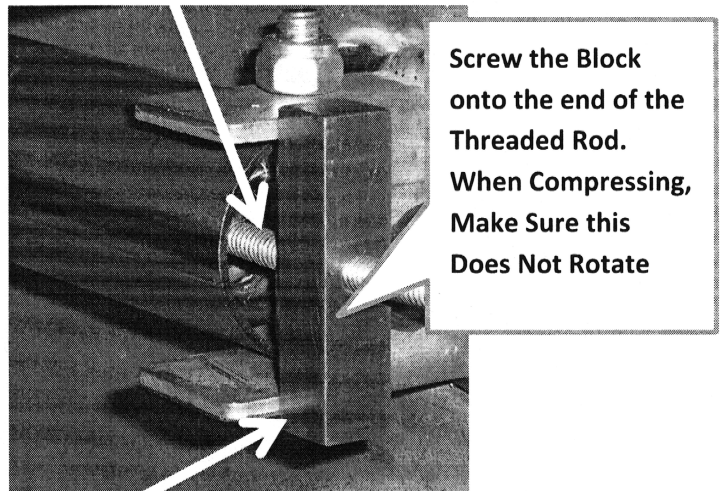
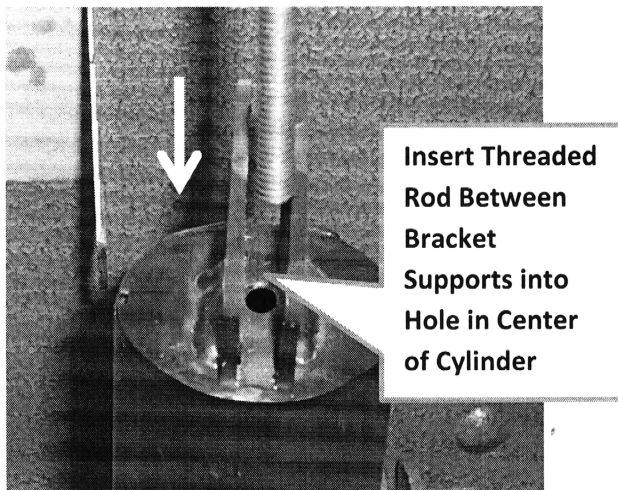
1. Open roof hatch, engage automatic hold-open arm to hold the lid open while working.
2. Remove bolt "D" that attaches cylinder top to the bracket on lid. The cylinder may need to be slightly compressed to remove bolt.
3. Remove steel cylinder top and spring and discard.
4. Remove (2) screws "A" that attach bracket to the lid. (Note direction that the bracket angles down so that new bracket can be installed at the same angle). Remove existing bracket and discard.
5. Install new top bracket at the same angle as the old one (angles down toward the roof), so that the holes are aligned with the holes in the lid using (2) self-tapping screws "A" for each bracket.
6. Remove 2 1/2" bolts "B" on bottom of cylinder that attach it to bottom bracket on the inside of the roof hatch. Discard cylinder and bolts.
7. Install new bottom cylinder (smaller diameter tube of the 2 provided) to bottom bracket using the new 2 1/2" bolt "B". Tighten, but make sure that the cylinder is able to pivot freely.
8. **IMPORTANT:** Lubricate spring with the grease provided in a bag, and insert into bottom cylinder.



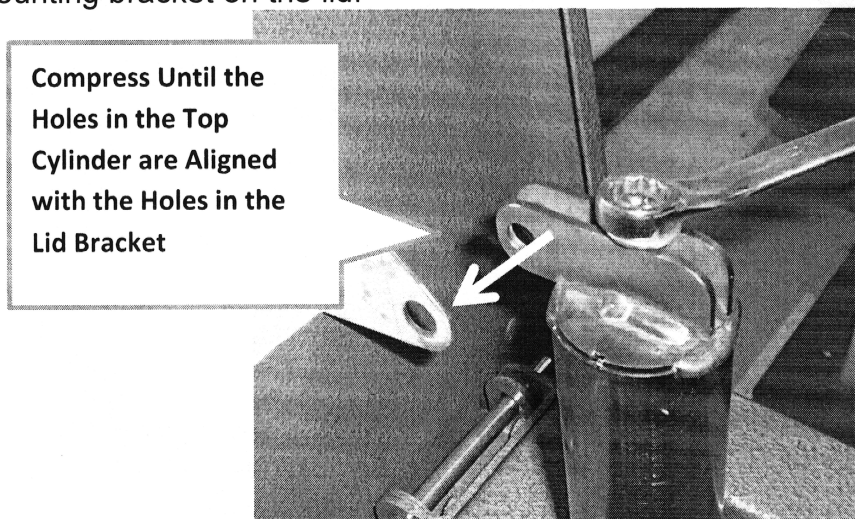
9. Place new cylinder top (larger diameter) over spring and bottom cylinder. Raise to vertical position.
10. Remove rectangular block from the end of the compression tool:



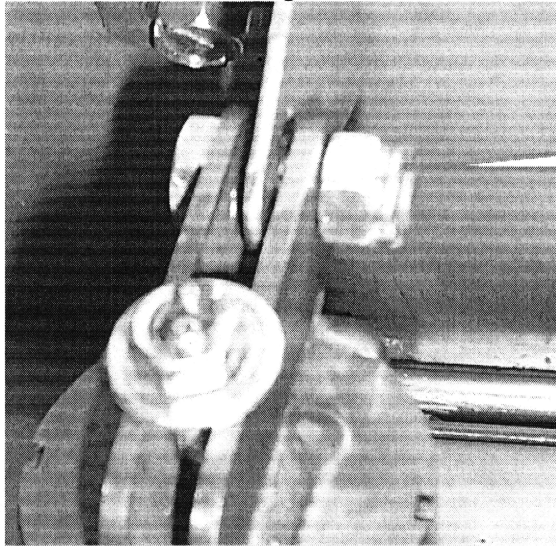
11. Move washer to the end of the rod with the nut.
12. Insert free end of the rod into the top of the cylinder (see below), guiding the rod through the center of the spring until it protrudes from the bottom of the bottom cylinder.



13. Screw rectangular block onto the end protruding from the bottom cylinder, by hand until it is snug against the bottom of the bracket and it is resting on the 2 bracket arms. (See above)
14. Make sure that the holes in the cylinder top are facing the lid. Using the 7/16" wrench, tighten the threaded nut to compress the shock assembly. After a few turns, and until cylinder has compressed about 1", check to make sure the block at the bottom has not rotated out of position. Compress until the holes in the top cylinder are aligned with the holes in the new mounting bracket on the lid.



15. Insert bolt "D" through both, add nut and tighten, making sure that it pivots freely.



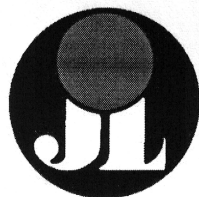
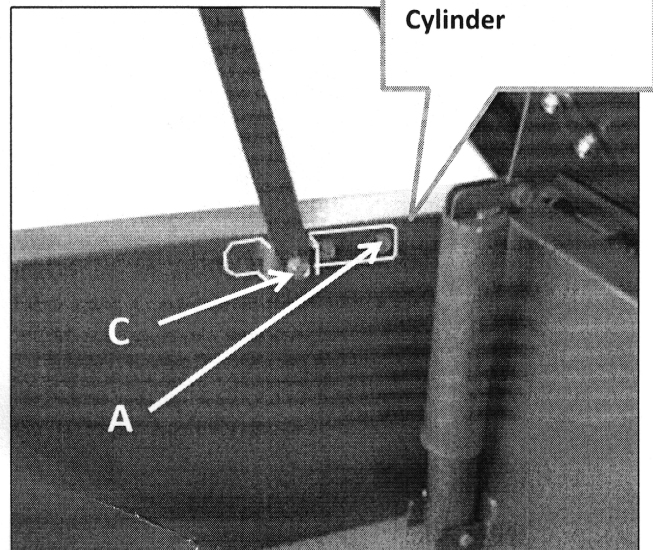
Insert Bolt "D" When
Bracket on Lid and
Cylinders are Aligned

16. Unscrew bolt on compression tool until the block at the bottom can be removed.
Remove the rod.

17. Repeat above steps for each cylinder.

Replace Side Brackets for Hold-Open Arm

1. Have second person hold lid open, as you remove and replace the bracket for the bottom of the hold open arm.
2. Remove the (2) screws "A" that attach the side bracket to the inside of the hatch.
3. Remove (1) bolt and nut "C" that attach the arm to the bracket using $\frac{1}{2}$ " wrench. Discard the side bracket, bolts and nuts.
4. Bolt arm to the new bracket with the bolt and nut provided "C", making sure that it pivots freely.
5. Position new side bracket so that the longer flange is towards the cylinder. Reinstall with (2) self-tapping screws "A" in existing holes. The result of this change is that the bottom bracket is farther away from the back of the hatch.
6. Repeat above process for each side bracket provided.



JL Industries

4450 W 78th St Circle, Bloomington MN 55435

For Assistance Call Customer Service at 800-554-6077 14I-400 REV C