

Tools you will need for installation: ladder or step stool, 1/2" wrench, 9/16" wrench, 10mm wrench, drill with 5/16" drill bit, a tape measure, a wire coat hanger, a #3 Phillips screwdriver, a pair of pliers, and a pencil.

NOTE: for those that have "artificial rain gutters" to mount roof racks on. Because ARGs can be mounted anywhere on the side of the top you will need to determine if there will be interference with the ARG mounting bolts and the strut, any interference can typically be avoided by replacing one/all of your ARG mounting hardware bolts with carriage bolts with the nuts on the outside.

To determine if you will have interference: once you have mounted the bracket make a small pencil mark directly below the center of the ball stud on the edge of the rain gutter, you can put a piece of masking tape on the gutter if you like. Measure up from the rain gutter to the center of the ball stud. Now close your top and measure up from the mark on the rain gutter, put a small pencil mark on your pop top where the ball stud is centered. Once you have your upper hole marked for drilling you can hold a straight edge between the 2 points, if your ARG mounting hardware is below that line you will have to alter your ARG hardware, typically cutting the hardware as short as possible will work, or you can run carriage bolts through from the inside and put an acorn nut on the outside.

Here are some pictures:



If your ARG mounting hardware is below the line from the lower ball stud to the upper ball stud it will interfere with the strut and you will break the ends of the strut so you will have to flip your hardware, or cut it as short as you can on the inside.

Now to start installing!

1. Pop your top.
2. Use your 10mm wrench to make sure the rear most bolt holding the pop top hinge to van is tight. Now remove the middle bolt and reinstall using the longer 10mm bolt (included with kit) through the bracket (with the washer). The nut holding the ball stud to the bracket should be towards the canvas, ball mount facing out.



Get the middle bolt finger tight, then remove the front bolt and pivot the front of the bracket into place. Install the longer 10mm bolt (with the washer) and tighten it with your 10mm wrench, also tighten the middle 10mm hinge bolt.

Repeat step #2 for the other side of the van.

3. Next, you will need a wire coat hanger, a pencil, and a tape measure. Hold the end of your tape on the center of the ball mount that is bolted to the bracket you just installed.



Measure 20 1/4" from there to about 5 3/4" up from the bottom edge of the pop top.



Make a small arc on the pop-top with a pencil at $20 \frac{1}{4}$ ". Now measure up $5 \frac{3}{4}$ " perpendicularly from the bottom edge of the pop-top, and make a mark where $5 \frac{3}{4}$ intersects the $20 \frac{1}{4}$ arc. These pics were taken on opposite sides of the van.



If your pop-top is shiny and new, you might not be able to make pencil marks on it. If so, place a piece of masking tape on the top where you will be making your marks.

To double-check the "center of hole" mark - you'll need to cut a piece of coat hanger to about 23". Next, bend $1 \frac{1}{2}$ " on each of the ends to 90 degrees. You will end up with a wide shallow "U". The distance from tip to tip should measure $20 \frac{1}{16}$ ". Bend the ends as necessary to match this measurement.

The extra $\frac{1}{16}$ " of the $20 \frac{1}{16}$ " measurement (compared to the 20" center to center length of the shock) accounts for the angle that the ball mounts will lie due to the angled side of the pop-top. The $20 \frac{1}{16}$ " measurement is less than the $20 \frac{1}{4}$ " measurement to account for the tape bending around the edge of the pop-top.

Hold one end of the "U" on the center of ball mount (mounted on the bracket you just installed) and check that the other end touches the intersection of the $5 \frac{3}{4}$ " mark and the $20 \frac{1}{4}$ " mark (displayed in the photo below).



I included the “double-check” using a coat hanger because some pop tops are bowed out more than others - which will throw off the “measure around the outside with a tape” method.

The “X” mark you made - indicates the center of the 5/16” hole that you will drill. You must hold something behind the pop-top when you drill - so that you don’t accidentally poke a hole into your tent (when the drill goes through). A scrap of plywood, or a few layers of cardboard, or a piece of sheet metal will work.

Repeat step 3 for the hole on the other side.

5. Bolt both of the ball mounts through the pop-top using the stainless hardware on the outside. The hardware is in the correct order on the stud when you received it. One zinc plated fender washer goes inside the pop top. One SS fender washer goes outside the pop-top followed by one regular sized SS washer outside of the SS fender washer (as pictured earlier). Snap your shocks onto the ball studs. The skinny rod of the shock mounts to the bracket and the cylinder mounts to the pop-top. Connect the shock to the pop-top first, then to the ball mount on the bracket. You might need to push up on the top slightly to get the shock onto the ball mount on the bracket.
6. If, your ball mounts are too close together for the shock to snap on - you can elongate the hole in the pop-top slightly to get the right spacing, the fender washer will cover the elongated hole.
7. Close your top and pay particular attention to how it latches. You might have to adjust the vertical blade/strike plate that the pop-top latches to, this is typically unnecessary. You can feel and hear if the catch mechanism is rubbing on the vertical blade before it latches. If it is rubbing - you need to loosen the four #3 Phillips screws holding the vertical blade and move it towards the front of the van a 1/16” to 1/8 of an inch. After this adjustment the top should close fine. If the adjustment slots of the vertical blade are already maxed out, you can loosen the 3 bolts on the hinge and move the whole pop top back. Tapping with a hammer and a block of wood on the pivot point that is about 4” above the mounting bolts works well.
8. The next photo shows what the shock looks when the installation is completed.

