



Installation of the Equinox Louvered Roof System



The Equinox Louvered Roof System is designed to be installed in an aluminum frame. All these sections are 1/8' thick extruded aluminum. All engineering for this system is based on using these sections. Roll-formed thin-wall aluminum sections are not interchangeable with the extruded sections.

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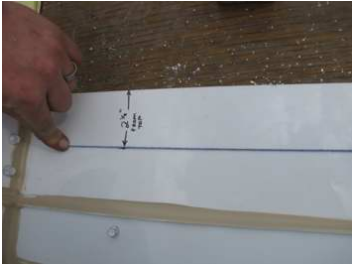
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Our standard louver lengths are 8', 10' and 12'. They fit an inside frame dimension of 91" for the 8' louver, 115" for the 10' louver and 139" for a 12' louver. The reason for this measurement is that our standard beam lengths are 16', 20' and 24'. If we are building a 10' x 20' louvered roof, our outside frame dimension will be 119". This allows us to get the two side beams out of a 20' length, thereby using our materials efficiently. The outside dimension is 1" under 10'. The same is true for the 8' and 12' louvers. The outside of the frame should be 1" under 8' or 12'.

If your application doesn't suit the louver size, just frame to the site requirements and cut and cap the louver to fit or order a custom size to fit your job.

Measuring



The width of your job now has to be considered. Because the louvers are approximately 8” wide, some consideration should be given to the width of the frame.

If possible you want the first and last louver to end within an inch of the inside of the frame. If job requirements call for a certain width to match concrete or house, that is okay. Just center up the louvers in the space between the beams and place a flashing from the frame to the louver to fill the gap.



You will never have more than a four inch gap on each side, because at that point you can fit another louver in. You can use the chart for calculating the optimum width or layout pivot strip, end to end on the ground to determine how many louvers will fit within the framework.

Measuring Chart

Louvers	Center
5	41"
6	49"
7	57"
8	65"
9	73"
10	81"
11	89"
12	96"

Louvers	Center
13	104"
14	112"
15	120"
16	128"
17	136"
18	144"
19	152"
20	159"

Louvers	Center
21	167"
22	175"
23	183"
24	191"
25	199"
26	207"
27	214"
28	222"

Louvers	Center
29	230"
30	238"
31	246"
32	254"
33	262"
34	269"
35	277"
36	285"

Framing

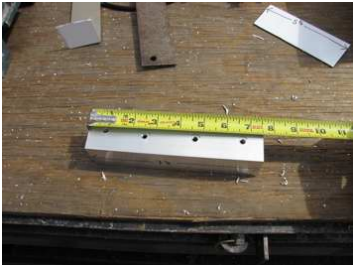
Having determined the frame size, cut your beams to length.



Your side beams should be notched so that it will cover the open ends of the front and back beams.



Clips should be approximately 7 1/2" long with 4 holes in the center for attaching to the beam.



Attach the clip flush with end of the beam.



Slide the clip inside of the notched beam.



This will make for a nice finish.

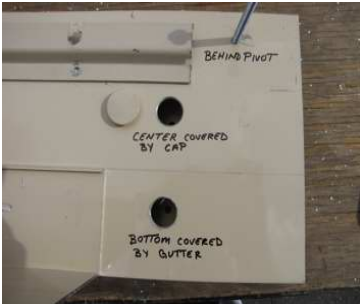




If you are mounting on the fascia, remove the gutter, if there is one.



Now pre-drill the back beam with 1/4" holes. If you want, you can hide them behind the pivot strip if you put your holes 1" down from the top of the beam. You will need 4" or 5" screws to mount it in this manner.



You could also pre-drill the center of the beam with a 1/4" hole and open it up to 7/8" with a multi bit and fasten through the back wall of the beam with a 3" screw. You can then cap that hole with a plug. With a wall mount situation, you can pre-drill the bottom 3" of the beam and cover the hole with the gutter.



Cut your internal corner brackets 7 1/2" long; pre-drill them and mount them flush with the end of the beam.



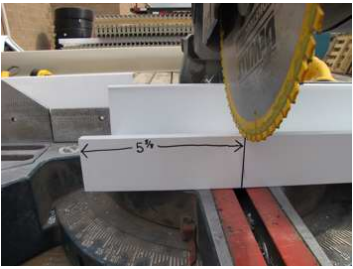
Now mount the back beam.



Mount additional beams if needed and then assemble the rest of the framework.

Gutters

To install the gutters, cut the back gutter to the inside measurements between the side beams and notch out the face of the gutter 5 5/8".



Mount the gutter by screwing onto the back beam. Repeat procedure for the front beam.



Measure between front and rear beam to get the side gutter measurement. Deduct 3/8" from that measurement to insure the gutter clears the flanges of the front and rear gutters.



Measure 5 1/4" along the face of the side gutters and mark. Follow picture instructions to make flap that will bend around the corner when you put the gutters together.



Put silicon in bottom of front and rear gutter before putting the side gutters in place.



Put side gutters in place and silicon behind the flap before screwing it in place.





Place screws or rivets in bottom of gutters to hold together.

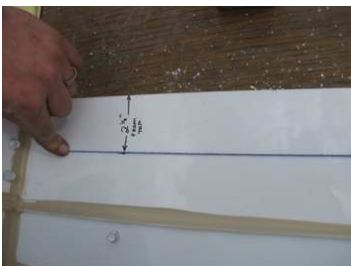


Seal everything with silicon including the corners where the beams join and the top where the beams join.



Now seal the top edge of the gutter to the beam. Yes, you do have to put your finger in it to make sure the seal is good.

Pivot Strips



Installing the pivot strip is the next step. Put a mark 2 1/2" down from the top of the beam and snap a chalk line. The bottom of the pivot strip will be in line with the chalk line.

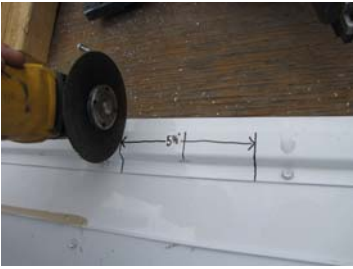
The factory end has to be at least 3/4" away from the side beam to allow clearance for the louvers. Center up the pivot strip between the inside opening so that the louvers will have the same gap on both sides.



The pivot strip must have factory ends butted together to insure proper spacing of the louvers. Screw pivot strip in place with 5/16" screws.

Motor

Determine motor placement somewhere near the center of the job and cut out a gap in the pivot strip $5\frac{5}{8}$ " wide.



This gap must be centered between the louver pockets in the pivot strip. Do this with an angle grinder.



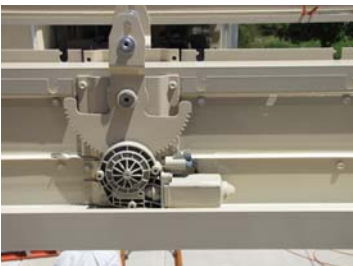
Mount motor in the center of this gap with the bottom of the motor resting on the bottom of the gutter. Once the pivot strip is mounted on the two opposing beams and the gutters are all sealed, wire up the motors.



Determine which way you want to open the louvers. We recommend opening them to the south if they are running in the east/west direction or opening them to the east if they are running in the north/south direction. There really is no "right" orientation.



If the customer is happy, everyone is happy.



Assembly

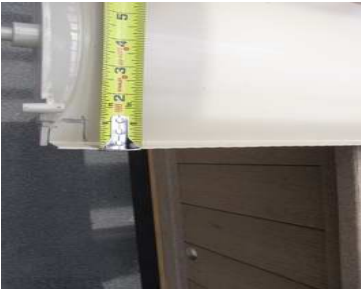
Put in at least three louvers before beginning to install the link bar. Make sure they are all oriented the same way and link the leading edge of the louvers.



Roll the louver blades into the pivot strip pockets by rotation one direction until it drops in one side and then roll it the other direction until it drops in the other side.



Press the stainless steel clips on with a box-end wrench or a nut driver.



The two louvers next to the motor have to be notched so that they will clear the motor and electrical connections.



Cut off the trailing edge up-stand and notch out a 1" x 1" of the louver with the angle grinder as shown.



When installing the two louvers next to the motor, roll in the far end first, insuring that it is in its pocket. Then roll in the side next to the motor. You may have to operate the motor to get the louver to move past the motor arm and sit correctly in the pocket.

Link Bar

The link bar that will be attached to the motor arm needs to be drilled out so that you can put the bolt through that connects it to the motor arm.



This needs to be a 3/8" hole and needs to be drilled exactly center between the punched out holes that connect to the louvers. Drill the hole at the same height as the punched out holes.



The link bar needs to be positioned so that the holes are on the bottom side.



When you connect the link bar to the motor arm, the link bar has to go in front of the motor arm. If you put it in back, it will bind on the bent part of the motor arm and not allow the roof to open and close fully.



If you have to remove the motor arm, undo the stainless steel hex bolt in the center. When you replace it, be sure to put lock tight on it so that it will not loosen during operation.



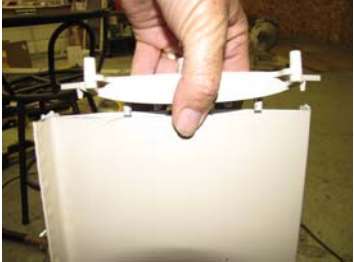
When everything is complete, open and close the roof several times to make sure everything is operating properly. Be sure and clean up the job site.





Cutting Down Louver Blades

The louvers are made of 28 gage steel and will cut cleanly with a standard Dewalt fine cross-cut contractor's blade.



One blade will cut lots of louvers, but once you use it on the steel louvers, it will not cut the aluminum beams, so use one blade for cutting the louvers and one blade for cutting the beams.



After cutting the louver, use a mallet to knock on the new end cap.

Cleaning and re-clipping end-caps



Use side cutters to cut and pull off the old retention clips,

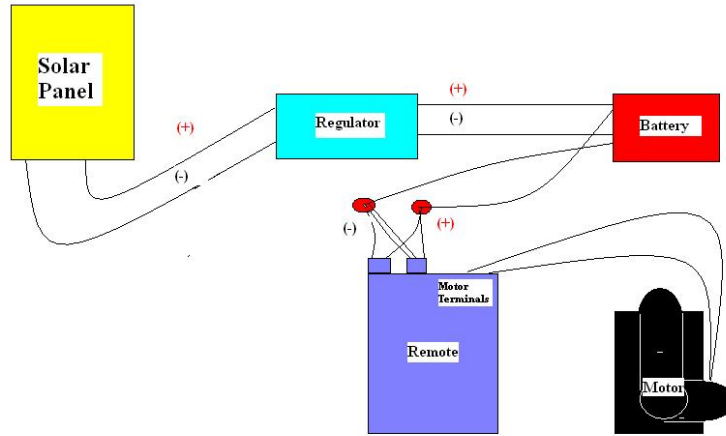


It works best to drill out three holes in a 2 x 4 so that the end-cap will sit flush before you try to knock on the retention clips.

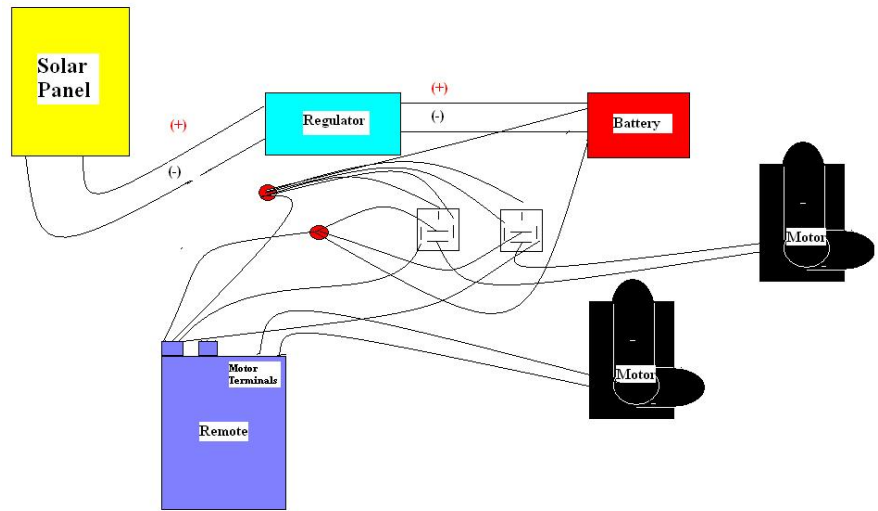
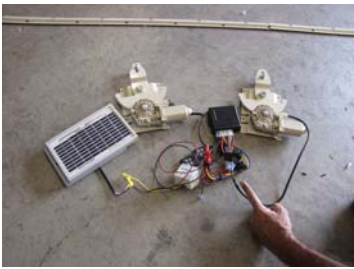


Use the special field tool to hammer on the new retention clip.

Remote Assembly



Single Motor



Double Motor

*Note: If motors are non-responsive, re-check all connections.