



Sundance Louvered Roof

By Rain-Out Inc.



Installation Instructions

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1. Safety:

Use safety glasses, hand protection and saw guards when cutting aluminum. We recommend using an 80 teeth or more metal blade for cutting aluminum.

2. Parts List

8" Louvers	PB Screws	
2"x 8" Beams	PB Spacer	<u>Optional items:</u>
6"x 6" Posts	Louver Spacer	Leaf Guards
Pivot Bar	Beam Brackets	LED Strip lights
Receiving Angle	Motor Kit	Flat End Caps
Louver Bearings	Louver Gasket	Heater W/Speakers
PB Bearings	Tek screws	

3. How to figure number of louvers needed:

This size is outside to outside of beam in inches and takes in to consideration 2" of beam on each end and 1" to 2" of space on each end.

For new dealers we will help you figure out the # louvers you will need

Overall Size	Number of Louvers
38-40"	4
46-48	5
54-56	6
62-64	7

70-72	8
78-80	9
86-88	10
94-96	11
102-104	12
110-112	13
118-120	14

126-128	15
134-136	16
142-144	17
150-152	18
158-160	19
166-168	20
174-176	21
182-184	22
190-192	23
198-200	24
206-208	25

214-216	26
222-224	27
230-232	28
238-240	29
246-248	30
254-256	31
262-264	32
270-272	33
278-280	34
286-288	35
294-296	36

The formula used to create the chart above is as follows:

1. $Id/8 = X.?$ (round the answer to this equation down to the nearest number)
2. $Id - (X * 8) = Y$
3. $Y/2 = S$

Id = Inside to inside dimension of beams in inches

X = Number of Louvers

? = Amount beyond decimal point after X

Y = Total spacing of Louver Track

S = Spacing on either end of Louver Track

Example: Id = 161.5"

- 1) $161.5/8 = 20.1875$ Louvers
- 2) $161.5-(20*8) = 1.5$ "
- 3) $1.5/2 = .75$ "

4. Receiving Angle Installation

2 CRITICAL THINGS:

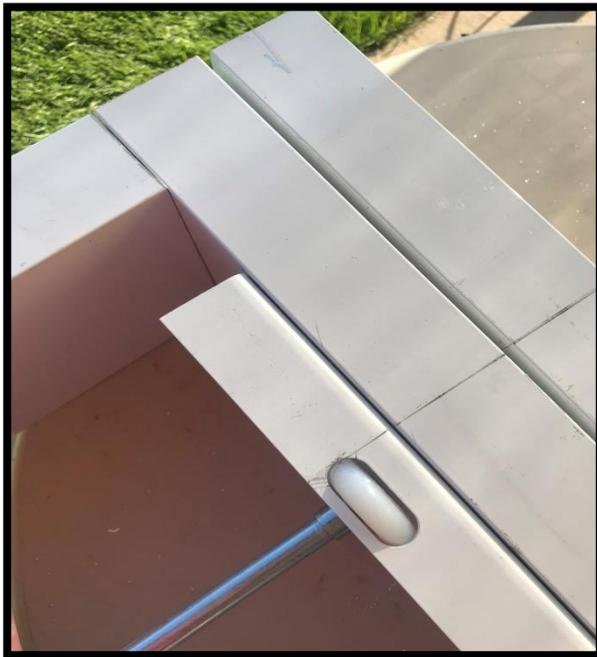
#1 THE RECEIVING ANGLE MUST BE PARALLEL TO THE BEAM AND MATCH ON OPPOSITE BEAM – NOT DOING THIS WILL CAUSE THE LOUVERS TO STEP AND THE CEILING WILL NOT LOOK FLAT

#2 WHEN SPLICING THE RECEIVING ANGLE THE HOLES MUST BE 8" APART – NOT DOING THIS WILL CAUSE THE LOUVERS TO STEP AND THE CEILING WILL NOT LOOK FLAT.

Before beams are installed do this prep work on the ground and lay the beams next to each other to make sure the receiving angles match.

Install bottom top receiving angle flush to the top of the beam on the high side (motor side) with the 1" below. The first receiving angle hole should start at least 4 ½" from the each end of the beam but should be laid out in advance to have equal spacing from where the louvers start and end. Install lower receiving angle butted to the top receiving angle and using Louver Bearings to space it properly. Do the same on the opposite beam. Make sure opposite receiving angles match. Use the "how to figure number of louvers" chart above for this determination.

Mark where the top receiving angle goes and remove it to be reinstalled after the louvers are installed.

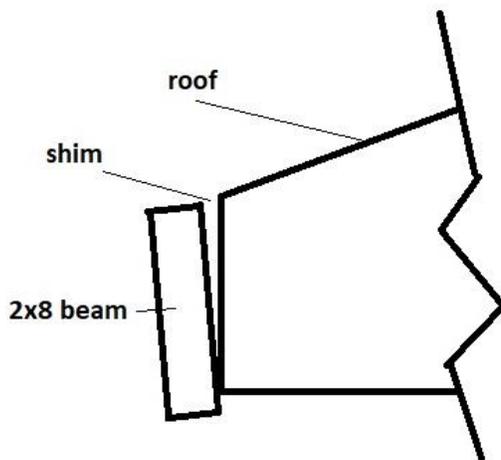




5. Ledger Installation

Ledger installation is for attachment to another structure.

First calculate the slope of the total projection ($1/2''$ per 10' is recommended). Shim the top of the ledger the amount needed to accommodate the slope being used.



To attach ledger drill $5/8''$ holes $2 \frac{1}{2}''$ from the bottom to insert lag hex driver into. Then attach the ledger to the studs or rafters through those holes. Caulk ledger.

6. Beam Installation

Install beams to ledger to other beams using the Sundance beam brackets

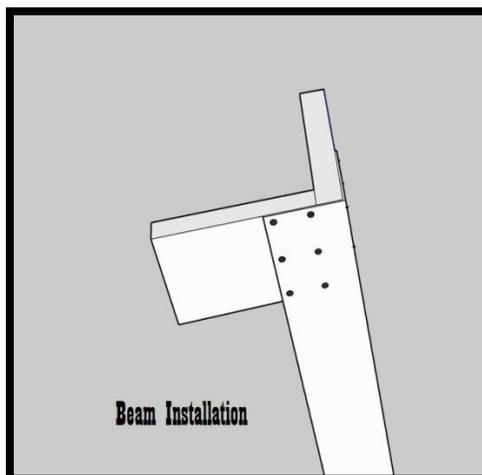


7. Post Installation

Attach posts to deck or slab by using post bracket.

Install posts for free standing covers into concrete footing.

Attach beams to post by cutting to leave double flange for corner post and single flange for mid-post. Screw post to beam through flange (below). Beams should be spliced over post.



8. Gutter Installation

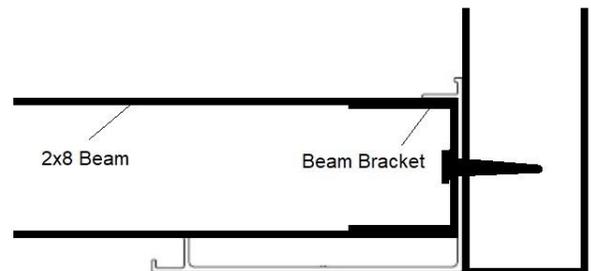
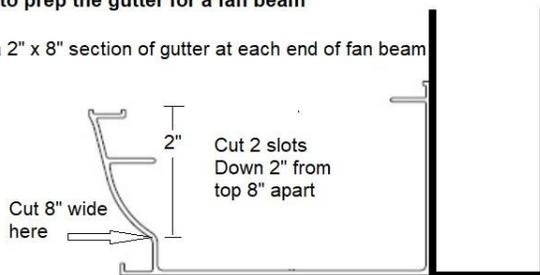
With a 12" Saw Miter gutter tight to inside of beams (gutter should cover ledger attachment holes and be flush to bottom of beam). Screw gutter to beam using #14 screws. You may want to use a test piece (shown below) to match the miters when fastening. Seal gutter from inside using a non-translucent caulk (you may want to tape the seam on the outside for a cleaner look and remove after caulk is dry). It is recommended that you spray 2 thick coats of flex seal into inside joint of miter.



If desired you can install a ceiling fan beam by cutting a section out of the front of the gutter as shown in the drawing below.

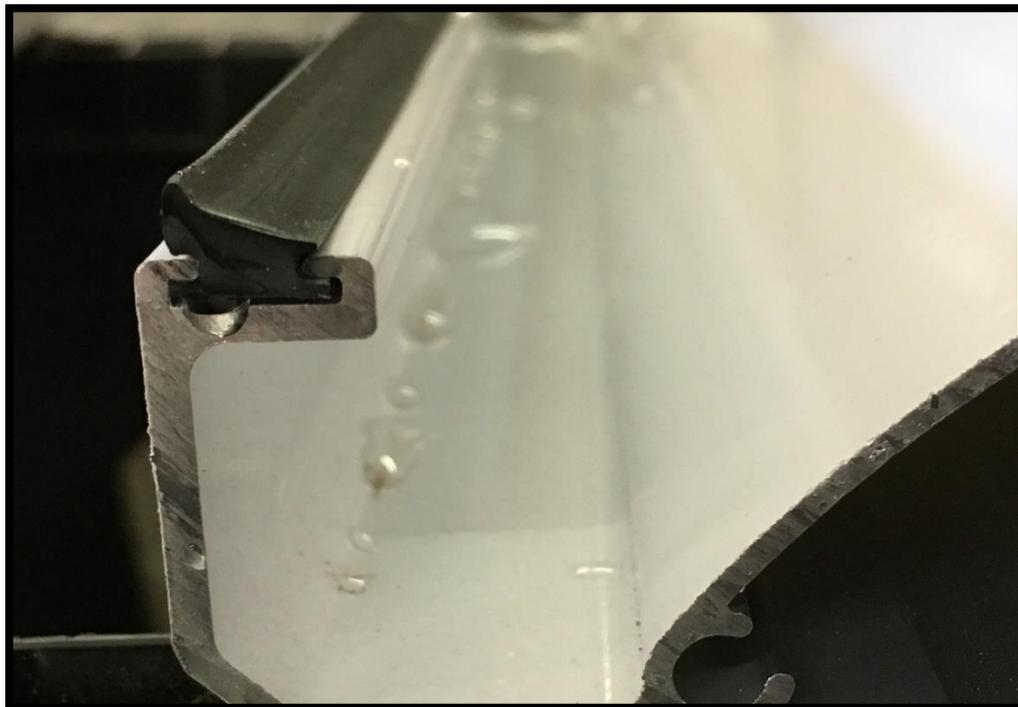
How to prep the gutter for a fan beam

Cut a 2" x 8" section of gutter at each end of fan beam



9. Louver Installation

Cut louvers 4.25" shorter than the inside beam to beam distance. Insert the Bumper Seal weather strip and pull to the end making sure to face the top of the seal toward the outside of the louver as show in photo (**failure install the correct way will cause each louver to leak**).



Shoot some caulk into square hole in the end of each side of louvers and insert louver bearings (with a spacer on the shaft of the motor side only) into hole.

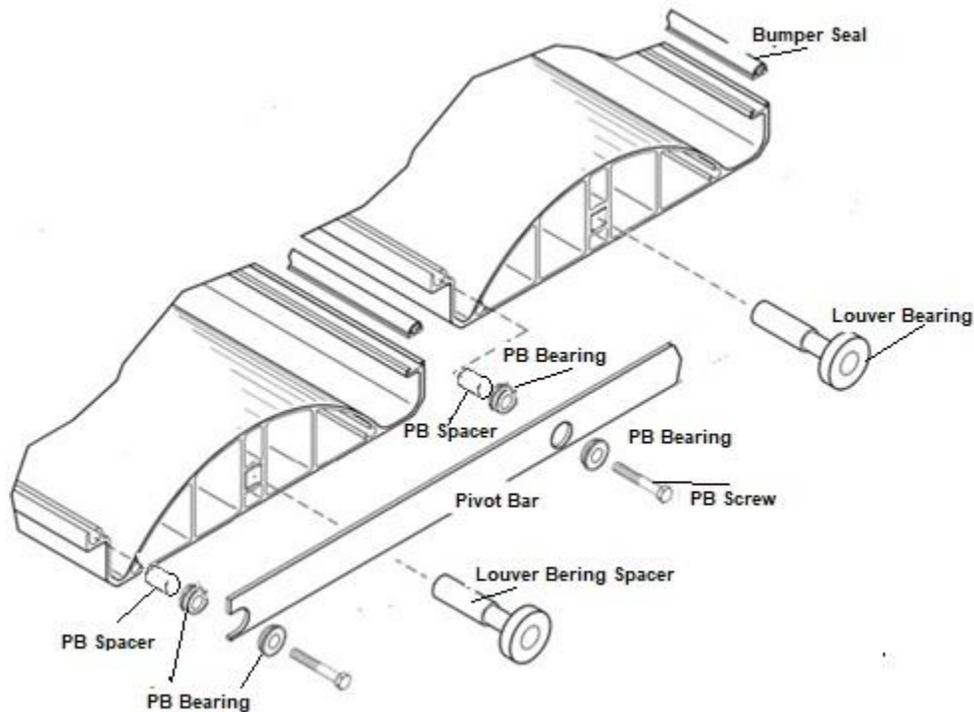
Set louver bearing into the receiving angle holes and tap the bearing to seat if needed (make sure louvers are turned the same way).

Re-install the top receiving angle with the 1" facing down using screw holes made in prep work.



10. Pivot Bar Installation

Connect the pivot bar to each louver on the motor side using the PB screw, and 2 PB bearings with the flanges away from each other and one on each side of the pivot bar.



WHEN SPLICING PIVOT BARS OVERLAP 2 HOLES

11. Installing Flat End Caps

When installing flat end caps use caulking as an adhesive as in the photo below:



12. Motor Installation

Very Important: The motor should always push the louvers open and pull them closed so orient the motor correctly.

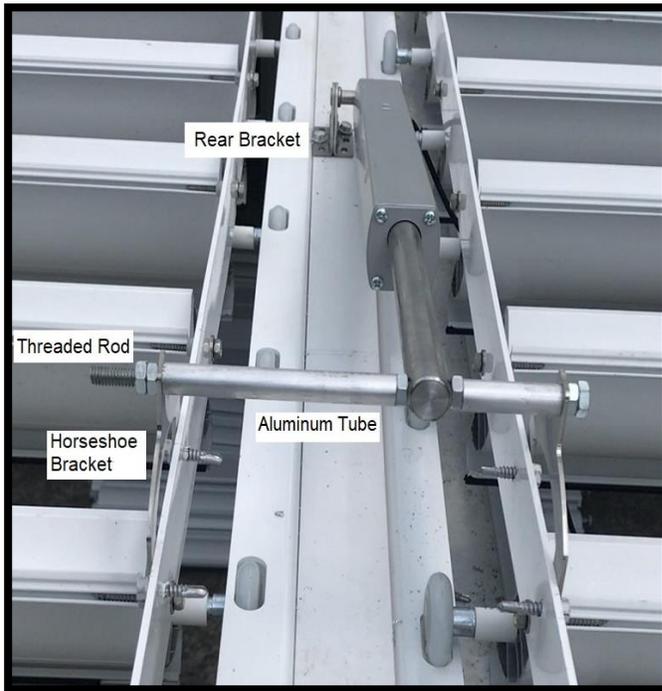
You should screw the motor piston in all the way and then back it out 3 full turns to provide up to a 3 turn adjustment if needed later.

The single bay motor kit comes with 2 brackets.

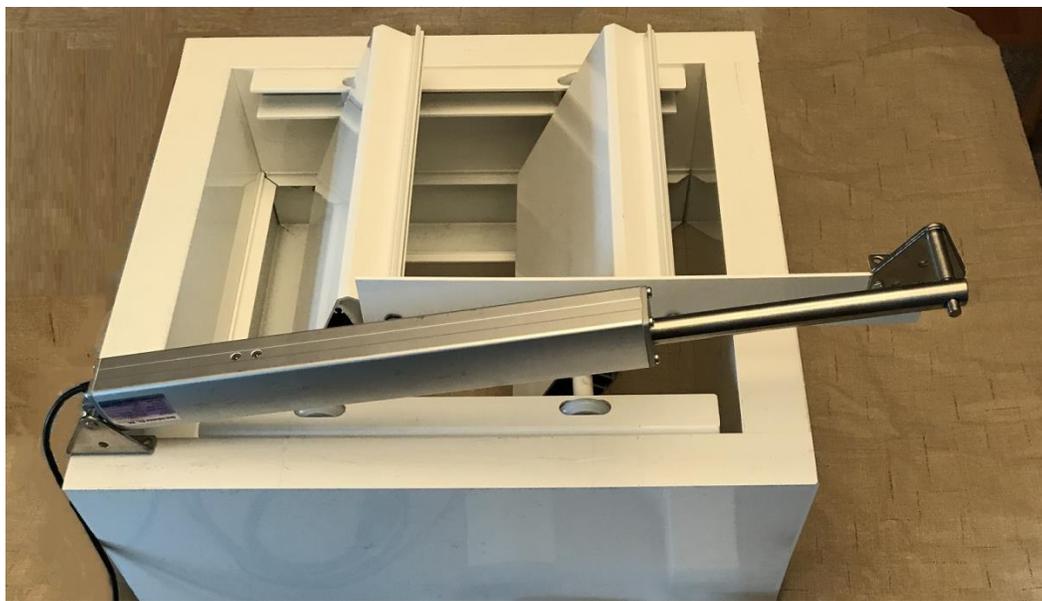
The flat bottom bracket will install on top of the beam

The single bay angle bottom bracket will install on the pivot bar

The double bay motor comes with 3 brackets. The horseshoe brackets are mounted to pivot bars on each side of the beam and a threaded rod is installed with tubing and nuts like the photo below:



Using a battery from a cordless drill touch the motor wires and expand the piston all the way out the motor (reverse the polarity if needed) attach the single angle bracket to the pivot bar or the double bay horseshoe brackets with 2 screws. Connect the piston to the bracket. Make sure the louvers are open completely and attach the motor to the beam with the flat bracket and C-clip. Operate the motor and adjust by sliding the piston off and turning. Attach the C-clip.



Wiring the motor

The motor is low voltage.

From the motor drill a hole in the top of the beam to be sealed after wires are run.

Use a 16 ga. wire to connect to the 2 motor wires and run through the beams and or posts and terminate near the power source.

Connect the motor wires to the control box in the connectors labeled motor. Plug the transformer into the control box and the other end into the 110V receptacle.

Sync with the remote using the instructions provided.