

Roof Rack / Roof Rail

Universal Mounting Hardware for Installation on Fiberglass/Composite Surfaces & Vehicle Roofs Requiring Bolt-Thru Installation

The enclosed mounting hardware must be used in conjunction with the instruction sheet and parts from the standard Aventura roof rack (or roof rails) hardware kit included with the unit. Please note that some steps on this instruction sheet apply to roof racks only (such as crossbar assembly, roof slat installation, etc.), and are not applicable to roof rail installations. This hardware kit may also be used for bolt-thru installations in vehicles without headliners and roof panels less than 1/2" thick.

Warning: Do not use sheet metal screws to attach roof racks or rails to fiberglass roof panels!

IMPORTANT NOTE: Please review these instructions and the detailed installation diagrams on the back of this sheet in their entirety before drilling any holes to insure a trouble-free installation and finished product!

Contents: 2/ea. #10-24x1 1/4" Stainless Oval/Phillips Head Machine Screws; 12/ea. - #10-24x1" Stainless Pan/Phillips Head Machine Screws, #10-24 Propeller Tee Nuts; 14/ea. 1 1/8" Retainer Washers and Snap-on Screw Covers, #10-24 NyLok Nuts, 1/4" Stainless Steel Flat Washers, 3/16"x3/8"x1/32" Neoprene Washers; 1/ea. - Instruction Sheet (Shorter racks without center post will not require all fasteners included)

Tools Required: Tape Measure, Hand Drill, 3/16" Drill Bit, 9/32" Drill Bit, Phillips Screwdriver, Pliers and/or adjustable Wrench.

Important Note: For roofs exceeding 1" in thickness, substitute proportionately longer stainless machine screws for the screws furnished. For roof cores 1" thick or less, #10-24x1 1/4 Oval Head Screws are for installation of side rail center posts **only**. For truck caps not having sandwiched core / hollow core roof panels, or for mounting outside a hollow core area, or for mounting in any fiberglass roof less than 1/2" thick, the propeller tee nuts will not be used.

Assemble Aventura roof rack (or roof rails) as per the instructions included with the rack (roof rails).

Sizing/Rail Positioning: Measure the size of the "core" area of the cap roof. If mounting inside the core area, side rails should be positioned so that mounting hardware penetrates the core a minimum of 1" in from edges of core. If mounting outside core area, position so that mounting hardware penetrates a minimum of 1" outside edges of core. Roof rack width can be decreased if necessary by cutting down crossbar lengths.

Installation: Place the side rails (or roof rails) on the cap roof in the location to be installed. The end supports of the rails should make flush contact with the roof surface (if rail has center post, bottom of center post should be no more than 3/8" off the roof surface). To adjust the "bow" of the rails, suspend the rails between two points, such as wooden blocks, so that moderate hand pressure can be applied to the area of the rails to either increase or decrease the "bow" as necessary.

Note: Before drilling mounting holes in roof panel, check for appropriate fastener clearance of other cap features such as ribbing, embedded wiring, interior roof attachments, etc.

1. Install 3/16"x3/8"x1/32" neoprene washers on all machine screws, positioning washers under heads of screws.
2. Place assembled rack (or roof rails) in position to be installed and **secure to roof with masking tape**. Mark location of all mounting holes, except for center posts (when applicable). When center posts are used, drill 3/16" diameter holes completely through cap or vehicle roof, using the pre-formed mounting holes in the center posts as a guide to obtain the proper angle for the holes to be drilled through the cap or vehicle roof (See Center Post Diagram 1 or 2 on back). Position PVC roof slats (do not remove tape liner until step 4) in desired positions and mark locations.
3. Remove rack (rails) and slats. Using a 3/16" diameter bit, drill thru roof at remaining marked fastener mounting points.
4. Clean areas where roof slats will be applied using an adhesive prep solution such as Pro-bond, Tite-R-Bond, or denatured alcohol. Roof surface must be clean of dust, dirt, wax, oil, etc to insure proper adhesion of roof slats.
5. Remove liner from slat tape and position slats in previously marked locations, pressing firmly along the entire length of each slat to insure proper adhesion. Allow minimum 24 hours adhesive cure time before washing vehicle.

If mounting thru hollow-core area of roof, continue to step 6; If mounting outside hollow-core area of a truck cap or lid or through roof panels up to 1/2" thick, proceed to step 9.

6. From inside cap, use 9/32" drill bit to ream out all drilled holes in the **inner fiberglass layer only, except center post holes**.

7. Assemble propeller Tee nuts and retaining washers with flange side of washer down and barrel of Tee nut up (see Diagram 1 below). Press barrel of Tee nuts into 9/32" holes until flange is flush with roof panel, excluding center post holes.
 8. Reposition rack or rails on cap or lid and align with pre-drilled holes. Place one neoprene pad underneath each end support and center support post (if included) and the cap roof or lid, insuring that pad orientation provides proper alignment of screw holes in pad and support.
 9. Insert #10-24x1" pan-head machine screws down through end support mounting holes from top side of cap and thread into tee nuts using minimal downward pressure to prevent forcing tee nuts out of holes. Be sure each machine screw has a neoprene washer under the head. **Center Post Installation:** Insert #10-24x1 1/4" oval head machine screws through post and cap roof. Install retainer washer, stainless steel flat washer, NyLok nut, and cover inside cap as detailed in Step 9, illustrated in the drawing below. Keep in mind that the fasteners on these support posts will mount at an angle, not vertical as with all other fasteners.
- IMPORTANT: Do not overtighten any of the fasteners,** as excessive screw torque may damage fiberglass layers or core material and/or force neoprene washers from under screw heads. Use of a liquid thread lock on machine screws is recommended. Proceed to Step 10 now.
10. **Installing outside hollow-core area or a roof thickness under 1/2":** (Two people required for this step; See Diagram 2 below) Insert #10-24x1" pan head machine screws down through end supports, and 1 1/4" oval head machine screws through center post (when applicable). Place 1 1/8" retainer washer against inside of roof with flange side down, followed by 1/4" Stainless Steel flat washer and #10-24 lock nut. Tighten securely. **Do not overtighten,** as excessive screw torque may damage fiberglass and/or force neoprene washers from under screw heads.
 11. Snap black plastic screw covers onto retaining washers (Break away any excessive screw shank flush with top of tee or lock nut if necessary to enable plastic screw cover to snap on to retainer washer). NOTE: Center post covers may or may not fit completely flush against inside of cap and/or may be slightly loose fitting. This does not create any functional problem.

Revert to installation instructions that came with roof rack (or rails) for installation procedure of end support covers.

Diagram 1 - Installing on hollow-core roofs from 1/2" up to 1" thick:

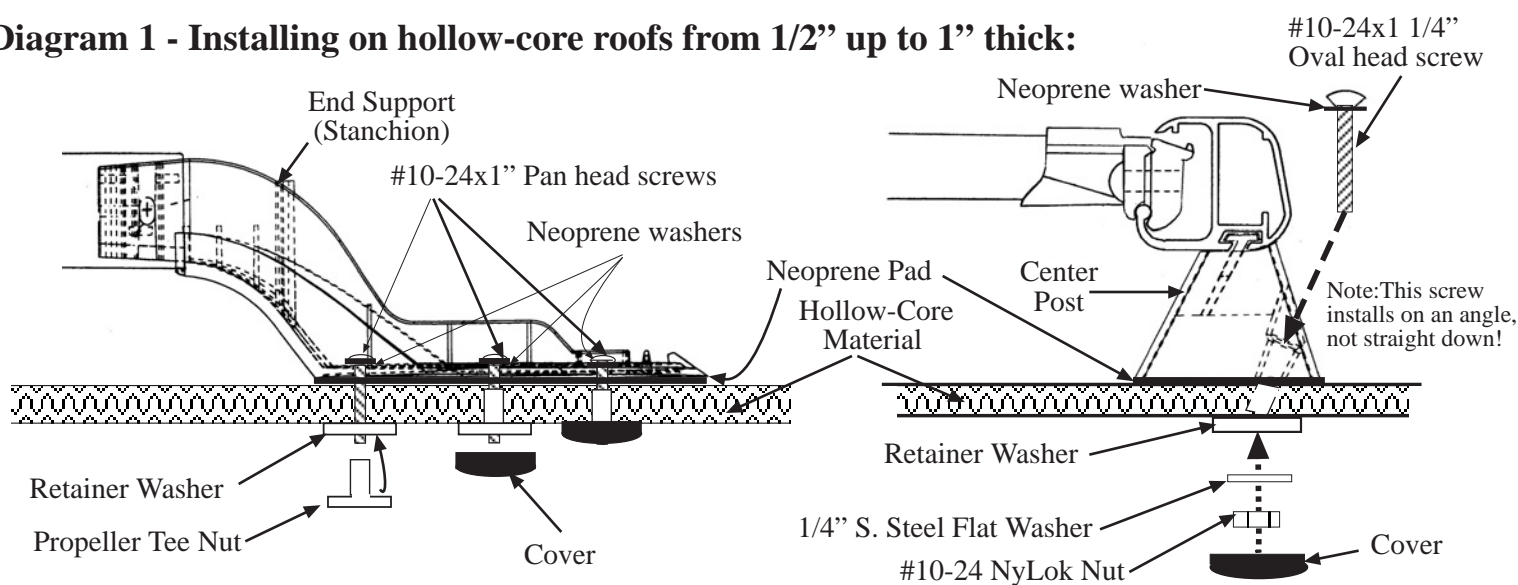


Diagram 2 - Installing on single-layer roofs up to 1/2" thick:

