

## Roof Rack - SM

Track-Mount Style with Optional fiPass-Thru/Stanchion-Fitfl  
Hardware Sheet Metal Roof Installation

**WARNING:** The mounting hardware included in this rack is not recommended for use on fiberglass or composite material truck covers.

**CAUTION:** External roof racks do not increase the GVWR of the vehicle. Maximum load for this rack is 180 lbs. Evenly distributed on crossbar assemblies. Keep in mind that torque applied to any straps, cords, etc. between the load and the vehicle body effectively add "load weight" to crossbars and the roof. Large or flat items such as plywood or watercraft can trap air and create wind lift. Secure the ends of such objects directly to the vehicle bumpers or tie downs. Bulky or tall loads can create tremendous horizontal wind resistance from headwinds and crosswinds. Extreme caution should be used when transporting such loads, taking into consideration road conditions, vehicle speed, crosswinds, load securing methods, etc. Large, bulky, tall or flat objects should be properly secured to both crossbars and other attachment points on the vehicle body. PERRYCRAFT, Inc. does not assume responsibility for style or size of rack installed, improper rack installation, exceeding rack load limit, load securement methods, vehicle roof strength, wind lift or any other factors beyond its control. **All fasteners, knobs, and load securements should be checked frequently and tightened as necessary.**

**Test fit the rack before drilling any mounting holes.** This rack fits many vehicles, therefore the factory "bow" in the side rails (tracks) may or may not exactly match the roof contour of the particular vehicle on which it is being installed. Prior to attaching the crossbars, place the side rails on the vehicle roof in the approximate location to be installed. The ends of the side rails should touch the roof surface and the center of the rails should be no more than 1/2" off the roof surface. To adjust the "bow", place the empty carton on the ground as a cushion. Hold one end of the rail in one hand, placing the other end on the carton and apply moderate pressure with the other hand to the area of the rail needing adjustment.

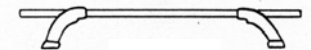
**IMPORTANT NOTE:** The enclosed Warranty/Consumer Information card must be fully completed by installation center and reviewed with the consumer (end-user), and given to the consumer. In the event of a potential warranty issue, failure by the consumer to provide Mfg. with a copy of the completed document will void warranty coverage.

**CONTENTS:** 2-Side Rail Assemblies, 2-Crossbars, 4-Stanchion Assemblies, 1-Hardware Pack (4-Crossbar End Caps, 4-Stanchion/Track Clamp Brackets, 4-Adjustment Knobs, 4-3/16" Drive Rivets, 4-Stanchion Plugs, 4-1/4"-20 x 7/8, Socket-head Cap Screws, 4-1/4" Flat Washers, 4-1/4"-20 Nylock Nuts, 4-Side Rail End Caps, 4- Tie Down Loops, \*-#10 x 1/2" Bi-waxed Truss-head Screws, 4-#10 x 3/4" Bi-waxed Pan-head Screws, 1-3/16" Allen Wrench, 1-Instruction Sheet, and 1-Warranty/Consumer Information Card). \* - Quantity of #10 x 1/2" Screws enclosed will vary according to side rail (track) length.

**TOOLS REQUIRED:** Tape Measure, Power Drill, 1/8" & 3/16" Drill Bits, Phillips Screwdriver, Flat-blade Screwdriver, Hammer, 7/16" Wrench or Adjustable Wrench, Non-permanent Marker, and Metal-cutting Saw (if Option 2 is chosen).

**This "Pass-Thru/Stanchion-Fit" model provides the choice of two configurations of the stanchions and crossbars at the time of installation:**

**Option 1.** Pass-Through Crossbars: Extend the crossbars through the stanchions.  
See reverse side of this sheet.

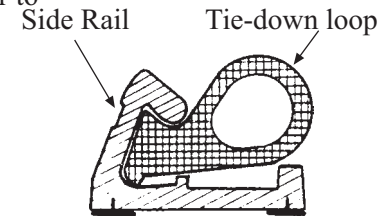


**Option 2.** Stanchion-Fit Crossbars: Cut the crossbar to appropriate length to provide exact fit between the stanchions. See Page 3 of this instruction sheet.



### PRE-ASSEMBLY:

This roof rack kit is supplied with 4/Tie Down Loops for securing loads to the side rails (tracks). Prior to assembly of either Option 1 or 2 above, insert 2 tie loops into each side rail (track) as shown, slide to center of rail.



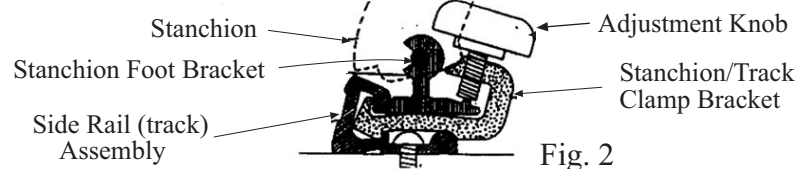
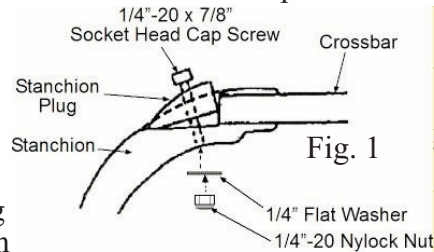
(over)

### Option 1, Pass-Thru Crossbar Configuration:

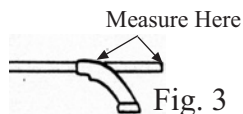
1. Determine desired location of rack on vehicle roof by selecting spacing between the side rails appropriate for the vehicle roof, keeping in mind the following:
  - a. For vehicles with smooth roofs (no roof ribs or recesses), the side rails should be mounted as close as possible to the outer limits of the flat part of the roof, or slightly into the "contour" of the roof.
  - b. For vehicles with ribbed roofs, use a plateau or valley near the roof's outer edges at least as wide as the side rail base. Allow for any other roof features such as antennas, sunroofs, etc.
2. Measure vehicle roof to determine maximum rack width possible.

#### Make note of this measurement.

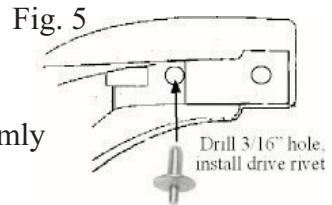
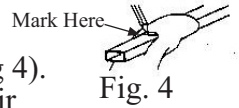
3. Install stanchion plugs into two stanchions using 1/4"-20 x 7/8" cap screws, 1/4" flat washers and nylock nuts as shown in Fig. 1.
4. Slide one "plugged" stanchion on to one end of each crossbar, butting end of bars firmly against stanchion plugs. Slide remaining two "open" stanchions on to opposite ends of bars with both stanchions relatively equidistant from bar ends.
5. Insert stanchion/track clamp brackets into side rails by tilting slightly & sliding under lip of rail as shown in Fig. 2. Slide stanchion foot brackets into the stanchion/track brackets (insuring lip of foot bracket is underneath the ball-lip of side rails), aligning bracket ends. Install adjustment knobs into threaded holes in stanchion/track clamp brackets.



6. Position stanchions along side rails between mounting holes and in from ends of side rails approximately 12-18", and tighten adjustment knobs. Place assembled rack on a flat surface.
7. **Insure crossbar ends remain firmly butted against plugs on "plugged" stanchions** while firmly holding bars and sliding stanchions on other end of bars inward/outward until desired overall nominal width of rack determined in step 2 is obtained.
8. Measure and note distance from end of cavity to end of crossbar (see Fig 3) and divide by 2, making note of the resulting dimension.



9. Remove stanchion plugs from the two "plugged" stanchions.
10. Slide crossbars thru stanchions until same length of bar (using "resulting dimension" from step 8) is extending beyond each support. Visibly mark top of both crossbars at end of opening in stanchions (see Fig 4).
11. Insure that all stanchions remain aligned with their respective marks on bars (per Step 10). Using tape measure, verify width of rack is equal at both ends of side rails.
12. Using carton or other cushioning material to avoid damage to crossbars and/or stanchions, turn rack upside down, exposing bottom of stanchions. Check to be sure that stanchions are still in marked locations on crossbars.
13. Drill 3/16" holes through bottom side of crossbars in stanchion hole as shown in Fig. 5. Insert the 3/16" drive rivets into drilled holes, and tap rivet mandrel pin firmly with hammer until flush with rivet head.
14. Install crossbar end caps.
15. Place side rails in desired position on vehicle roof, **insuring that rack is centered and squared**. Using masking tape in several strategic locations, temporarily secure rack in position to minimize movement of side rails.
16. Mark hole locations on vehicle roof through side rail in last hole at each end of each side rail. Remove masking tape and move rack sufficiently to access marked locations.
17. Using 1/8" drill bit, drill pilot holes at marked locations, being careful not to penetrate vehicle headliner. Remove drill chips from vehicle roof.
18. Re-position rack with holes in side rails aligned with drilled pilot holes. Secure side rails with 4-#10 x 1/2" Bi-waxed truss-head screws.
19. Rotate adjustment knobs of either crossbar assembly 1-2 turns counter-clockwise and slide to center of side rails, insuring that assembly is equidistant from either end of side rails. Tighten adjustment knobs.
20. Drill holes through side rail and vehicle roof at hole location nearest center of each side rail. Remove drill chips, and secure side rails to vehicle roof at these locations with truss-head screws. Repeat this procedure for all remaining holes in side rails. Place side rail end caps in position, drill vehicle roof, remove drill chips, and install with #10 x 3/4" bi-waxed pan-head screws.
21. Rotate adjustment knobs 1-2 turns counter-clockwise, slide crossbar assemblies into desired position and re-tighten adjustment knobs to securely lock stanchions in place.



## Option 2, Stanchion-Fit Crossbar Configuration:

1. Determine desired location of rack on vehicle roof by selecting spacing between the side rails appropriate for the vehicle roof, keeping in mind the following:
  - a. For vehicles with smooth roofs (no roof ribs or recesses), the side rails should be mounted as close as possible to the outer limits of the flat part of the roof, or slightly into the "contour" of the roof.
  - b. For vehicles with ribbed roofs, use a plateau or valley near the roof's outer edges at least as wide as the side rail base. Allow for any other roof features such as antennas, sunroofs, etc.
2. Measure vehicle roof to determine maximum rack width possible.

### **Make note of this measurement.**

3. Square-cut each crossbar equal to above measurement **less 6 1/2" inches**. Example: If overall nominal finished width of rack desired is 44", crossbars should be cut to precisely 37 1/2". File ends of crossbars if necessary to remove any burrs.

4. Install stanchion plugs into all stanchions using 1/4"-20 x 7/8" cap screws, 1/4" flat washers and nylock nuts as shown in Fig. 1.

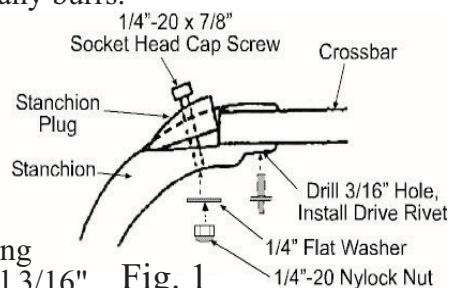


Fig. 1

5. Slide one stanchion on to end of crossbar, butting end of bar firmly against stanchion plug. While insuring bar remains butted against plug, drill 3/16" hole in bottom of crossbar thru remaining hole on underside of stanchion neck. Install Drive Rivet in drilled hole as shown in Fig. 1, tapping rivet mandrel pin firmly with hammer until flush with rivet head. Repeat for 3 remaining stanchions.
6. Insert stanchion/track clamp brackets into side rails by tilting slightly & sliding under lip of rail as shown in Fig. 2. Slide stanchion foot brackets into the stanchion/track brackets (insuring lip of foot bracket is underneath the ball-lip of side rails), aligning bracket ends. Install adjustment knobs into threaded holes in stanchion/track clamp brackets.

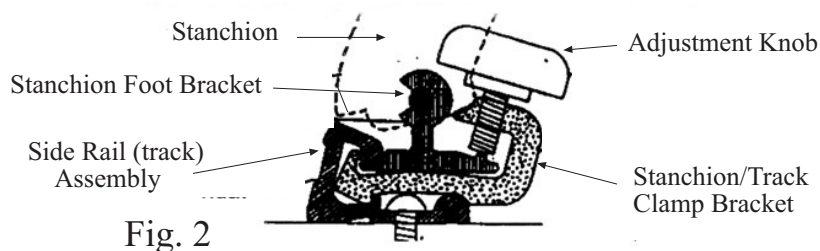


Fig. 2

7. Position stanchions along side rails between mounting holes and in from ends of side rails approximately 12-18", and tighten adjustment knobs.
8. Place side rails in desired position on vehicle roof, **insuring that rack is centered and squared**. Using masking tape in several strategic locations, temporarily secure rack in position to minimize movement of side rails.
9. Mark pilot hole locations on vehicle roof through holes at each end of both side rails. Remove masking tape and move rack sufficiently to access marked locations.
10. Using 1/8" drill bit, drill pilot holes at marked locations, being careful not to penetrate vehicle headliner. Remove drill chips from vehicle roof.
11. Re-position rack with holes in side rails aligned with drilled pilot holes. Secure side rails with 4-#10 x 1/2" Bi-waxed truss-head screws.
12. Rotate adjustment knobs of either crossbar assembly 1-2 turns counter-clockwise and slide to center of side rails, insuring that assembly is equidistant from either end of side rails. Tighten adjustment knobs.
13. Drill holes through side rail and vehicle roof at hole location nearest center of each side rail. Remove drill chips, and secure side rails to vehicle roof at these locations with truss-head screws. Repeat this procedure for all remaining holes in side rails. Place side rail end caps in position, drill vehicle roof, remove drill chips, and install with #10 x 3/4" bi-waxed pan-head screws.
14. Rotate adjustment knobs 1-2 turns counter-clockwise, slide crossbar assemblies into desired position and re-tighten adjustment knobs to securely lock stanchions



## ROOF RACK INSTALLATION INSTRUCTIONS (ALL RAIL LENGTHS)







## ROOF RACK INSTALLATION INSTRUCTIONS (ALL RAIL LENGTHS)

**NOTE:** Perrycraft's products are manufactured to be installed into the skin of the roof panel of vehicles. They are not designed to line up or be installed at the factory fitment points available on some vehicles.

**NOTE:** Perrycraft, Inc. manufactures racks and rails that are size specific, not vehicle specific. Therefore, the bow of the rails (front to back) may need adjusting. Place the rails on the roof in the desired location. Ideally, the rails should match the roof curvature. The ends of the rails should touch the roof and the center should be no more than 1/2" off the roof surface. The rails can be adjusted (more bow or less bow) by securing one end of the rail to a solid surface, holding the other end, and applying moderate pressure to the rail where adjustment is needed.

### ITEMS NEEDED (NOT INCLUDED)

- Measuring Tape
- Masking Tape
- Marker
- Drill
- 1/8" and 3/16" Drill Bits
- Phillips Screwdriver
- Hammer
- Adjustable or 7/16" Wrench
- Rag and Cleaner for roof

Retain these instructions. They are useful if contacting Perrycraft for information, parts, or service.

### CONTENTS:

- 2 – Side Rails (Rails will be 2" shorter than last two numbers of part number (ex. SQ5550-B, rails are 48"))
- 2 – Cross Bars (Either 55", 62", or 70")
- 4 – Stanchion Assemblies
- 1 – Hardware pack
  - 4 – 1/4" Stainless Steel Flat Washer
  - 1 – 3/16" Allen Wrench
  - 8 – #10 x 1/2" Truss Phillips Screw Black – Waxed (8 screws for 40" rails, 10 for 50", 12 for 60", 14 for 70", and 16 for 80")
  - 4 – #10 x 3/4" Pan Phillips Screw – Waxed
  - 4 – 1/4" x 20 Stainless Steel Nylon Lock Nut
  - 4 – 1/4" x 20 x 7/8" Stainless Steel Socket Head Cap Screw
  - 4 – 3/16" x .469 Aluminum Drive Rivet
  - 4 – SportQuest Rail Bracket Knob
  - 4 – SportQuest Rail Bracket
  - 4 – SportQuest/SporTrek Rail End Cap
  - 4 – SportQuest/SporTrek Rail Tie Down Loop
  - 4 – SportQuest Stanchion Plug
  - 4 – SportQuest Cross Bar End Cap

### ASSEMBLY AND INSTALLATION:

SportQuest racks can be configured in two specific ways, Pass-Through Fit or Stanchion Fit. Pass-Through Fit is using the cross bars in the purchased length and letting them pass through the stanchions. However, they can be cut down to any desirable length. Stanchion Fit is cutting the cross bars to fit exactly into the stanchions and installing the stanchion plugs to get a more factory style look. The included hardware and plugs will either be utilized for the

Stanchion Fit configuration, or will be discarded if choosing Pass-Through. The cross bar end caps will be discarded if choosing the Stanchion Fit.

Assembly and installation will include placing the rails and end caps parallel on the roof and marking the hole locations, removing the rails and drilling holes at the marked locations, cleaning the roof and installing the rails and end caps, then assembling and installing the cross bar assemblies.

#### **PASS-THROUGH CONFIGURATION:**

1. Slide 2 Tie-Down Loops onto the middle of each Rail.
2. Place rails onto roof in desired location (approximately 2-3 inches forward of the back hatch joint) and running parallel with each other.
  - For a smooth roof, the rails should be placed out as close as possible to the weld joint (or close to the plastic strip running front to back), while remaining on the flat part of the roof and parallel with each other.
  - For vehicles with ribbed roofs, the rails should be placed on a plateau or in a valley near the outer edges that is wide enough for the rails, while remaining on a flat part of the roof and parallel with each other.
3. Tape rails to roof, making sure to avoid hole locations. Also, place end caps on the ends of each rail.
4. Mark hole locations and remove rails and end caps.
5. Drill pilot holes where marked using 1/8" drill bit going no deeper than 1/2", being careful not to penetrate interior headliner. Clean roof, removing all drill chips.
6. Place rails back onto roof, lining up with drilled holes. Using hand screwdriver, secure rails to roof using supplied #10 x 1/2" truss head waxed screws. Do not overtighten. Snug is enough.
7. Using hand screwdriver, secure end caps to roof using #10 x 3/4" pan head waxed screws. Do not overtighten. Snug is enough.

8. Install two stanchions on each rail by hooking the stanchion bracket under the rail lip, sliding the connecting arm of the stanchion assembly on top of the stanchion bracket, and inserting the bracket knob into the stanchion bracket. Place the assemblies (one forward

and one back) directly across from the other and tighten the knob.

9. Insert cross bars into stanchions and center, so that the same amount of cross bar is sticking out of each stanchion. Using a short pencil or marker, mark the hole closest to the center of the vehicle on the underside of each stanchion. This is where a hole will be drilled and the rivet will be driven in order to connect the cross bars to the stanchions.

10. Remove cross bars, turn them over, and place on a non-marring surface.

11. Drill 3/16" hole at marked locations, being careful to only drill through half of the cross bar (not all the way through both walls).

12. Insert drive rivets into holes and hammer the pins until flush with the rivet head.

13. Install cross bar end caps.

14. Reinstall cross bar assemblies back onto rails. If installed correctly, cross bar assemblies should be able to move to various positions along rails. Tighten bracket knobs when satisfied with location of cross bars.

#### **STANCHION FIT CONFIGURATION:**

1. Slide 2 Tie-Down Loops onto the middle of each Rail.
2. Place rails onto roof in desired location (approximately 2-3 inches forward of the back hatch joint) and running parallel with each other.
  - For a smooth roof, the rails should be placed out as close as possible to the weld joint (or close to the plastic strip running front to back), while remaining on the flat part of the roof and parallel with each other.
  - For vehicles with ribbed roofs, the rails should be placed on a plateau or in a valley near the outer edges that is wide enough

for the rails, while remaining on a flat part of the roof and parallel with each other.

3. Tape rails to roof, making sure to avoid hole locations. Also, place end caps on the ends of each rail.
4. Mark hole locations and remove rails and end caps.
5. Drill pilot holes where marked using 1/8" drill bit going no deeper than 1/2", being careful not to penetrate interior headliner. Clean roof, removing all drill chips.
6. Place rails back onto roof, lining up with drilled holes. Using hand screwdriver, secure rails to roof using #10 x 1/2" truss head waxed screws. Do not overtighten. Snug is enough.
7. Using hand screwdriver, secure end caps to roof using #10 x 3/4" pan head waxed screws. Do not overtighten. Snug is enough.
8. Measure and make note of outside to outside dimension of rails. This measurement should be the same along the entire length of the rails.
9. Square cut cross bars 6 -1/2" less than noted measurement. If measurement is 44", cross bars will be cut to 37-1/2" inches. File or sand ends of cross bars to remove any burrs.
10. Install stanchion plugs into all four stanchions using 1/4"-20 x 7/8" cap screws, 1/4" flat washers, and nylon lock nuts.
11. Insert cut cross bars into stanchions so they butt against stanchion plugs. Turn cross bars upside down and drill 3/16" hole through remaining hole on stanchion, being careful to only drill through half of the cross bar (not all the way through both walls).
12. Insert drive rivets into holes and hammer the pins until flush with the rivet head.
13. Reinstall cross bar assemblies back onto rails. If installed correctly, cross bar assemblies should be able to move to various positions along rails. Tighten bracket knobs when satisfied with location of cross bars

## NOTES AND WARNINGS:

- All fasteners, knobs, and securing methods should be checked frequently and tightened as necessary.
- It is recommended that the cross bars and any accessories be removed when not transporting items and before entering a car wash.
- Do not use rack if a part is cracked or broken.
- External roof racks do not increase the GVWR of the vehicle. Total occupant and cargo load should not exceed the manufacturer's rated vehicle capacity.
- Maximum load for this rack is 180 pounds, evenly distributed on the cross bar assemblies. Torque applied to any straps, cords, etc. holding down gear or equipment also increases the "load weight" to the cross bars and roof.
- Large or flat items such as plywood, ladders, lumber, hang gliders, canoes, kayaks, etc., can trap air and create wind lift. Secure the ends of long objects directly to the front and back bumpers or tie-down positions.
- Bulky or tall loads can create tremendous horizontal wind resistance from headwinds and crosswinds. Extreme caution should be used when transporting such loads.

Perrycraft, Inc. does not assume responsibility for style or size of rack installed, improper rack installation, exceeding rack load limit, load securing methods, vehicle roof strength, wind lift or any other factors beyond its control.

Wind noise is a definite when carrying items on top of a vehicle. It is also possible with nothing on the bars. Sometimes wind noise can be alleviated by moving the front cross bar toward the rear of the

vehicle. If wind noise persists, remove cross bars when not transporting items, or a wind fairing may need to be purchased and installed.