Roof Rack

Pad Mount with Optional "Pass Thru/Stanchion Fit" 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.**

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.

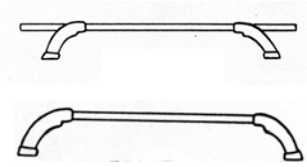
CONTENTS: 2-Crossbars, 4-Stanchion Assemblies, 4-Pad Assemblies, 1-Hardware Pack (4-Pad Clamp Blocks, 8-6Mx12mm Socket Head Cap Screws, 4-3/16" Drive Rivets, 12-#10x1/2" Bi-waxed Pan Head Phillips Screws, 4-Crossbar End Plugs, 4-Stanchion Plugs, 4-1/4"-20x7/8" Socket Head Cap Screws, 4-1/4" Stainless Steel Flat Washers, 4-1/4"-20 Nylock Nuts, 1-3/16" Allen Wrench, instruction sheet, and 1-Warranty/Consumer Information Card).

TOOLS REQUIRED: Tape Measure, Hand Drill, 1/8" & 1/4" Drill Bit, Non-Permanent Marker, Phillips Head screwdriver, Flat Head Screwdriver, 7/16" Wrench or Adjustable Wrench, 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-Thru Crossbars: Extend the crossbars through the stanchions

Option 2: Stanchion-Fit Crossbars: Cut the crossbars to appropriate length to provide exact fit between the stanchions



IMPORTANT: Once stanchion-to-crossbar configuration option is chosen, completely review the instructions for that option before proceeding with the installation.

Note: For either option, the installer must select spacing between the stanchions appropriate for the vehicle roof, keeping in mind the following:

a. For vehicles with smooth roofs (no roof ribs) the stanchions should be mounted as close as possible to the outer limits of the flat part of the roof, or slightly into "contour" of roof (Pads must mount flat on roof to insure proper seal).
b. For vehicles with ribbed roofs use a plateau or valley near the outer edges at least as wide as the pad. Allow for any other roof features such as antennas, sunroofs, etc.

(over)

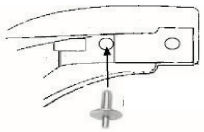
INSTALLATION:

Option 1, Pass-Thru Crossbars:

1. Slide the stanchions onto the crossbars to spacing appropriate for the vehicle roof.
2. Temporarily fit pad assemblies to stanchions (Do NOT install pad clamp blocks and cap screws at this time).
3. Position the stanchion/crossbar assemblies in the desired locations. Front-to-rear spacing between crossbars should be determined by vehicle roof length and the load(s) that will be carried.
4. Mark precise location of the pads on vehicle roof using a non-permanent marker, being careful not to shift the assemblies while marking.
5. Remove pads from stanchions and re-position at marked locations. **NOTE:** To insure correct re-installation of stanchions into pads, pads must be mounted exactly in position as marked.
6. Mark mounting hole locations and drill 1/8" pilot holes in roof being careful not to penetrate interior headliner.
7. Remove drill chips from vehicle roof. Remove liner from Pad gaskets, position and screw mounting pads to roof using #10x1/2" bi-waxed screws. Be careful not to over tighten the screws.
8. Reinstall stanchion/crossbar assemblies into pads (**Do NOT** install pad clamp blocks and cap screws at this time).
9. Center the crossbars to obtain an equal length of crossbar extending out beyond each opposing stanchion. Visibly mark the location of each stanchion position on the crossbars as shown in Fig 1.
10. Remove stanchion/crossbar assemblies from pads.
11. Checking to be sure stanchions are still in marked locations on crossbars, drill 3/16" holes through bottom side of crossbars in hole in stanchions as shown in Fig. 2.
12. Insert the 3/16" Drive Rivets into drilled holes, and tap mandrel pin firmly with hammer until flush with rivet head.
13. Reinstall stanchion/crossbar assemblies into pads and install pad clamp blocks using the 6mx12mm cap screws. Install the crossbar end caps.

Fig. 1

Fig. 2


Drill 3/16" Hole & install Drive Rivet

Option 2, Stanchion-Fit Crossbars:

1. Temporarily fit pad assemblies to stanchions (Do NOT install pad clamp blocks at this time).
2. Fit plug and 1/4"-20 x 7/8" cap screws into two stanchions, attach from bottom of stanchion using 1/4" flat washer and 1/4"-20 nylock nut as shown in Fig. 3. Slide stanchions onto one end of each crossbars. Insuring that crossbar ends are butted against stanchion plugs, drill 3/16" hole to accommodate Drive Rivets as shown. Tap Drive Rivet mandrel pin firmly with hammer until flush with rivet head.
3. Slide remaining stanchions onto opposite ends of each crossbar to spacing appropriate for the vehicle roof.
4. Position the stanchion/crossbar assemblies in the desired locations. Front-to-rear spacing between crossbars should be determined by vehicle roof length and the load(s) that will be carried.
5. Mark precise location of the pads on vehicle roof using a non-permanent marker, being careful not to shift the assemblies while marking.
6. Remove pads from stanchions and re-position at marked locations. **NOTE:** To insure correct re-installation of stanchions into pads, pads must be mounted exactly in position as marked.
7. Mark mounting hole locations and drill 1/8" pilot holes in roof being careful not to penetrate interior headliner.
8. Remove drill chips from vehicle roof. Remove liner from Pad gaskets, position and screw mounting pads to roof using #10x1/2" bi-waxed screws. Be careful not to over tighten the screws.
9. Reinstall stanchion/crossbar assemblies into pads (**Do NOT** install pad clamp blocks and cap screws at this time).
10. With stanchion/crossbar assemblies temporarily installed, mark end of crossbars on end extending through stanchion at end of cavity as shown in Fig. 4.
11. Remove stanchion/crossbar assemblies from pads. Remove "free" stanchions from crossbars, and square cut the crossbars as marked.
12. Repeat Step 2 above for "free" stanchions.
13. Re-install stanchion/crossbar assemblies into pads and install pad clamp blocks using 6Mx12mm cap screws. Tighten securely.

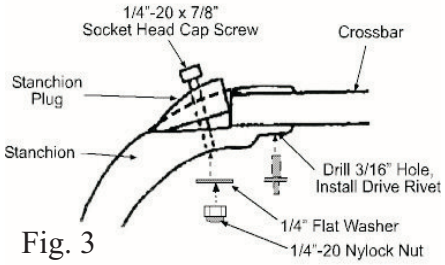


Fig. 3

Fig. 4

sportQUEST™ Roof Rack

Pad Mount with Optional "Pass Thru/Stanchion Fit" Hardware
Fiberglass or Composite Material Roof Installation

WARNING: ***Do not use sheet metal screws to attach roof racks to fiberglass or composite material roofs!*** 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 or accept 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.**

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.

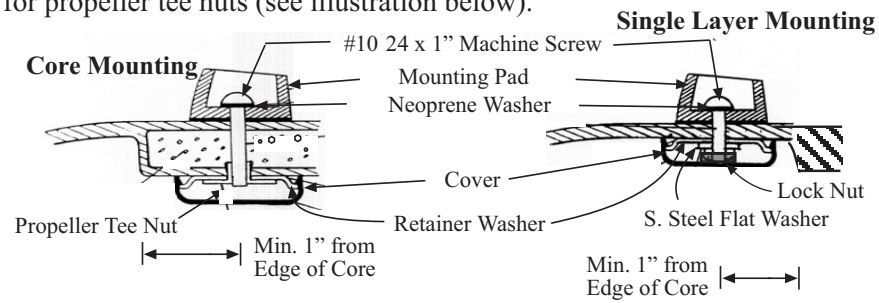
ATTACHMENTS: PERRYCRAFT, Inc. offers a wide range of Sports Equipment Carriers (ski, snowboard, surfboard, sailboard, bicycle, canoe, kayak, etc.), general-purpose load brackets, cargo baskets, and load securement straps.

CONTENTS: ***2*** Crossbars, ***4/ea.***, Stanchion Assemblies, Pad Assemblies; ***1-*** Hardware Pack (***12/ea.*** 1/4" Stainless Steel Flat Washers, ***8/ea.*** #10-24x1" Pan-head machine screws, M6x12mm Socket Head Cap Screws, #10-24 Lock Nuts, #10-24 Propeller Tee Nuts, #20 Shoulder Washers, #20 Snap-on Screw Covers, 3/16x3/8x1/32 Neoprene Washers; ***4/ea.*** Crossbar End Caps, Stanchion Plugs, 1/4"-20x7/8" Socket Head Cap Screws, 1/4"-20 Lock Nuts, Pad Clamp Blocks, 3/16" Drive Rivets, ***1/ea.*** M5 Allen Wrench, 3/16" Allen Wrench, Instruction Sheet,Warranty/Consumer Information Card.

TOOLS REQUIRED: Tape Measure, Hand Drill, 3/16" Drill Bit (2" or longer), 9/32" Drill Bit, ¼" Drill Bit, Non-Permanent Marker, Phillips Head screwdriver, Flat Head Screwdriver, Pliers, Adjustable Wrench, Hammer, and Metal cutting saw (if option 2 is chosen).

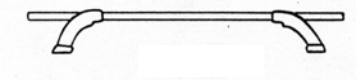
IMPORTANT NOTE: For roofs exceeding 1" in thickness, substitute proportionately longer stainless machine screws for the 1" screws furnished. For installation on roofs without a "sandwiched" core (corrugated, honeycomb, etc.), for mounting outside the "core area", or mounting in any fiberglass roof less than ½" thick, substitute #10-24 lock nuts and 1/4" Stainless Steel flat washers for propeller tee nuts (see illustration below).

PRE-ASSEMBLY: Prior to assembling rack, measure the size of the "core area" of the roof. If mounting inside the core area, stanchions should be positioned so that mounting hardware penetrates the core a minimum of 1" in from edges of core. If mounting outside the core area, position so that mounting hardware penetrates a minimum of 1" outside edges of core.



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:



Option 2. Stanchion-fit Crossbars: Cut the crossbars to the appropriate length to provide exact fit between the stanchions:

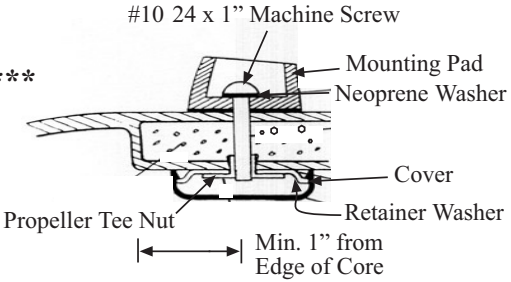
IMPORTANT NOTE TO INSTALLER: For Option 1, proceed to Page 2 (over) of this instruction sheet.
For Option 2, proceed to Page 3 of this instruction sheet.

(OVER)

INSTALLATION:

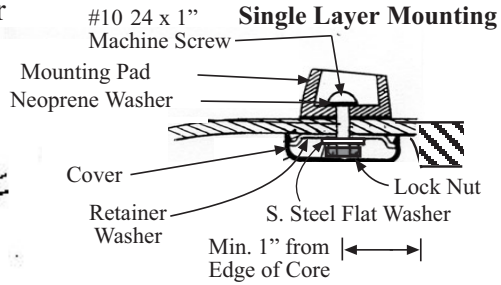
Option 1, Pass-Thru Crossbars:

1. Slide the stanchions onto the crossbars to spacing appropriate for the vehicle roof. Install the crossbar end caps.
2. Temporarily fit pad assemblies to stanchions (Do NOT install pad blocks and cap screws at this time).
3. Position the stanchion/crossbar assemblies in the desired locations. Spacing between crossbars should be determined by vehicle roof length and the load(s) that will be carried.
4. Using non-permanent marker, ***precisely*** mark completely around mounting pads, being careful not to shift the assemblies while marking.
5. Remove pads from stanchions, and re-position pads at marked locations. **NOTE:** To insure correct re-installation of stanchions into pads, pads must be mounted exactly in position as marked.
6. Mark the two outer holes of each pad and drill 3/16" holes through roof core. **Do not drill for center hole in pads!!. ***NOTE:** If installing outside core area or in roof less than 1/2" thick, go to Step 9b **NOW*** From inside cap or roof, use 9/32" drill bit to ream out all drilled holes **through inner fiberglass layer only.** HELPFUL HINT: If the truck cap or roof has a fabric liner attached to the inside of the cap or roof, place a long nail or screw down through mounting holes to aid in locating holes in liner.
7. Assemble the propeller tee nuts and retaining washers with flange side of washer down toward floor of bed or vehicle and barrel of tee nut toward roof (see illustration above). Press barrel of tee nuts into the 9/32" holes until flush with roof interior, tapping in with mallet or hammer if necessary.
8. Install 3/16"x3/8"x1/32" Neoprene washers on all #10-24x1" machine screws.
9. Remove liner from Pad gaskets and position ***precisely*** where marked in Step 3. Select appropriate following instruction (a or b) for type of installation being performed:
   a. **Installing in core area (see illustration above):** Insert #10-24x1" machine screws down through pads and roof, screw into tee nuts using minimal downward pressure to prevent forcing tee nuts out of holes. Be sure each machine screw has a neoprene washer. Do not overtighten, as excessive screw torque may damage fiberglass layers and/or core material. Use of a liquid thread lock on machine screws is recommended. Break away any excessive screw shank with pliers if necessary (if 1/4" or more extends below tee nut) to enable plastic screw cover to snap onto retainer washer.
   b. **Installing outside core area or roof thickness under 1/2" (see illustration to right):** (Two people may be required for this step) Insert #10-24x1" machine screws down through pads. Place 1 1/8" retainer washer against inside of roof, followed by Stainless Steel flat washer and lock nut. Tighten securely. Break away any excessive screw shank flush with bottom of lock nut with pliers if necessary to enable plastic screw cover to snap onto retainer washer.
10. Snap black plastic screw covers onto retaining washers.
11. Reinstall stanchion/crossbar assemblies into pads (Do NOT install pad blocks at this time). Center the crossbars in the stanchions and mark crossbars at stanchion locations (see Fig. 1 to right).
12. Remove stanchion/crossbar assemblies. Checking to be sure stanchions are still in marked locations on crossbars, drill 3/16" holes through bottom side of crossbars at hole in each stanchion (see Fig. 2 to right).
13. Insert the 3/16" drive rivets through the stanchions and drilled holes. Tap mandrel pin firmly with hammer until flush with rivet head.
14. Reinstall stanchion/crossbar assemblies into pads and install pad blocks using 6Mx12mm cap screws. Tighten securely.



Core Mounting

Single Layer Mounting



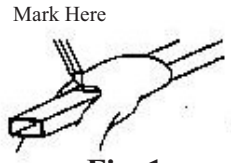


Fig. 1

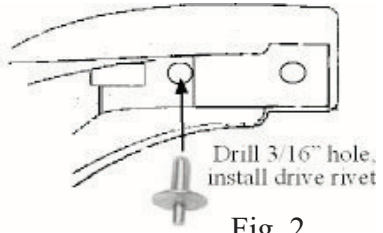


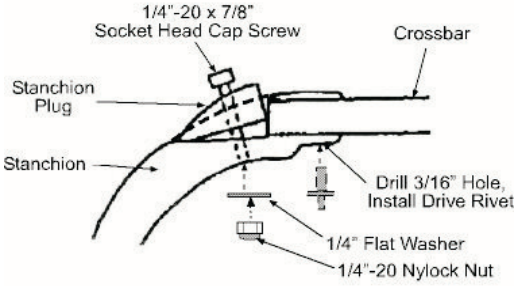
Fig. 2

For Stanchion-Fit crossbar-to-stanchion configuration, go to Page 3

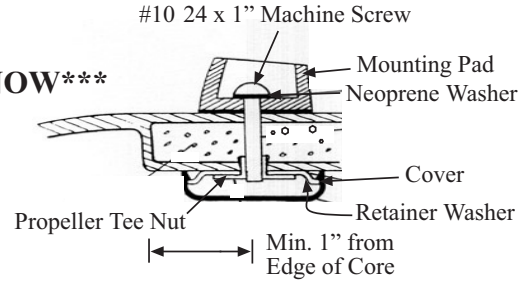
INSTALLATION:

Option 2, Stanchion-Fit Crossbars:

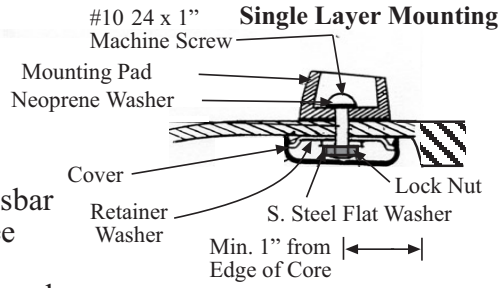
1. Temporarily fit pad assemblies to stanchions (Do NOT install pad clamp blocks at this time).
2. Fit plug and 1/4”-20 x 7/8” cap screws into two stanchions, attach from bottom of stanchion using 1/4” flat washer and 1/4”-20 nylock nut as shown in illustration to right. Slide stanchions onto one end of each crossbar. Insuring that crossbar ends are butted against stanchion plugs, drill 3/16” hole to accommodate Drive Rivets as shown. Tap Drive Rivet mandrel pin firmly with hammer until flush with rivet head.
3. Slide remaining stanchions onto opposite ends of each crossbar to spacing appropriate for the vehicle roof.
4. Position the stanchion/crossbar assemblies in the desired locations. Spacing between crossbars should be determined by vehicle roof length and the load(s) that will be carried.
5. Using non-permanent marker, ***precisely*** mark completely around mounting pads, being careful not to shift the assemblies while marking.
6. Remove pads from stanchions, and re-position pads at marked locations. **NOTE:** To insure correct re-installation of stanchions into pads, pads must be mounted exactly in position as marked.
7. Mark the two outer holes of each pad and drill 3/16” holes through roof core. **Do not drill for center hole in pads!!. ***NOTE:** If installing outside core area or in roof less than 1/2” thick, go to Step 10b **NOW*** From inside cap or roof, use 9/32” drill bit to ream out all drilled holes **through inner fiberglass layer only.** HELPFUL HINT: If the truck cap or roof has a fabric liner attached to the inside of the cap or roof, place a long nail or screw down through mounting holes to aid in locating holes in liner.
8. Assemble the propeller tee nuts and retaining washers with flange side of washer down toward floor of bed or vehicle and barrel of tee nut toward roof (see illustration above). Press barrel of tee nuts into the 9/32” holes until flush with roof interior, tapping in with mallet or hammer if necessary.
9. Install 3/16”x3/8”x1/32” Neoprene washers on all #10-24x1” machine screws.
10. Remove liner from Pad gaskets and position ***precisely*** where marked in Step 3. Select appropriate following instruction (a or b) for type of installation being performed:
    a. **Installing in core area (see illustration above):** Insert #10-24x1” machine screws down through pads and roof, screw into tee nuts using minimal downward pressure to prevent forcing tee nuts out of holes. Be sure each machine screw has a neoprene washer. Do not overtighten, as excessive screw torque may damage fiberglass layers and/or core material. Use of a liquid thread lock on machine screws is recommended. Break away any excessive screw shank with pliers if necessary (if 1/4” or more extends below tee nut) to enable plastic screw cover to snap onto retainer washer.
    b. **Installing outside core area or roof thickness under 1/2” (see illustration to right):** (Two people may be required for this step) Insert #10-24x1” machine screws down through pads. Place 1 1/8” retainer washer against inside of roof, followed by Stainless Steel flat washer and lock nut. Tighten securely. Break away any excessive screw shank flush with bottom of lock nut with pliers if necessary to enable plastic screw cover to snap onto retainer washer.
11. Snap black plastic screw covers onto retaining washers.
12. Reinstall stanchion/crossbar assemblies into pads (Do NOT install pad blocks at this time). With stanchion/crossbar assemblies temporarily installed, mark end of crossbars on end extending through stanchion at end of cavity (see illustration at lower right).
13. Remove stanchion/crossbar assemblies from pads. Remove free stanchion from crossbar, and **square cut** the crossbars as marked. Attach remaining stanchions to crossbars using procedure outlined in Step 2 at the top of this page.
14. Reinstall stanchion/crossbar assemblies into pads and install pad blocks using 6Mx12mm cap screws. Tighten securely.



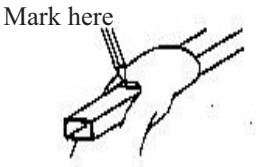
Stanchion - Side View
(Stanchion-Fit Option Only)



Core Mounting



Single Layer Mounting



For Pass-Thru crossbar-to-stanchion configuration, go to Page 2

Roof Rack - OE
Pad Mount "Pass Thru" Style for Fiberglass Installations

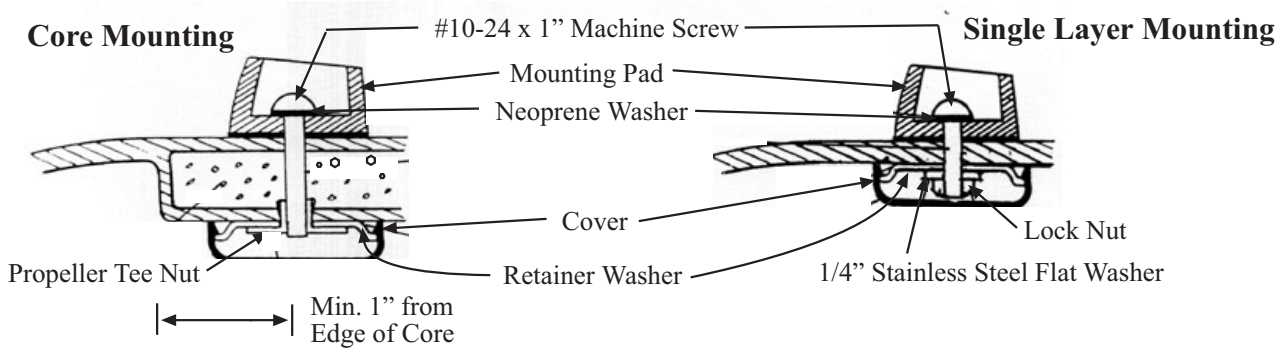
WARNING: Do not use sheet metal screws to attach roof racks to fiberglass roof panels! External roof racks do not increase the GVWR of the vehicle. Maximum load for this rack is 180 Lbs. evenly distributed on crossbar assemblies. Keep in mind that torque applied to any straps, cord, etc. between the 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 down. Bulky or tall loads can create tremendous horizontal wind resistance from headwinds and crosswinds. Extreme caution should be used when transporting such loads, taking in consideration road conditions, vehicle speed, crosswinds, and load securing methods, etc. Large bulky, tall or flat objects should be properly secured to both the crossbars and other attachment points on the vehicle body. PERRYCRAFT, Inc. does not assume responsibility for improper rack installation, exceeding rack load limit, load securement methods, vehicle roof strength or wind lift or any other factors beyond its control. **All fasteners, adjustment knobs and load securements should be checked frequently and tightened as necessary.**

CONTENTS: 2-Crossbars, 4-Stanchions, 4-Pad Assemblies, 1-Hardware Pack (4-Pad Clamp Blocks, 8-6Mx12mm Socket Head Cap Screws, 4-Crossbar End Caps, 4-3/16" Drive Rivets, 8-#10-24x1" Stainless Phillips Head Machine Screws, 8-#10-24 Propeller Tee Nuts, 8-1 1/8" Retainer Washer and Snap on Caps, 8-3/16"x3/8"x1/32" Neoprene washers, 8-#10-24 Lock Nuts, 8-1/4" Stainless Steel Flat Washers, 1-Allen Wrench, and Instruction Sheet).

TOOLS REQUIRED: Tape Measure, Hand Drill, 3/16" Bit (2" or longer) 9/32" Bit, Phillips Screwdriver, Pliers, 7/16" Wrench and/or Adjustable Wrench, Non-Permanent Marker and Hammer.

IMPORTANT NOTE: For roofs exceeding 1" in thickness, substitute proportionately longer stainless machine screws for the 1" screws furnished. For truck caps without sandwiched core roofs, for mounting outside the core area, or for mounting in any fiberglass roof less than 1/2" thick, substitute #10-24 lock nuts and nylon washers for propeller tee nuts.

PRE-ASSEMBLY: (For mounting in fiberglass truck caps/lids only) Prior to assembling rack measure the size of the "core" area of the cap roof. If mounting inside core area, stanchions 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.



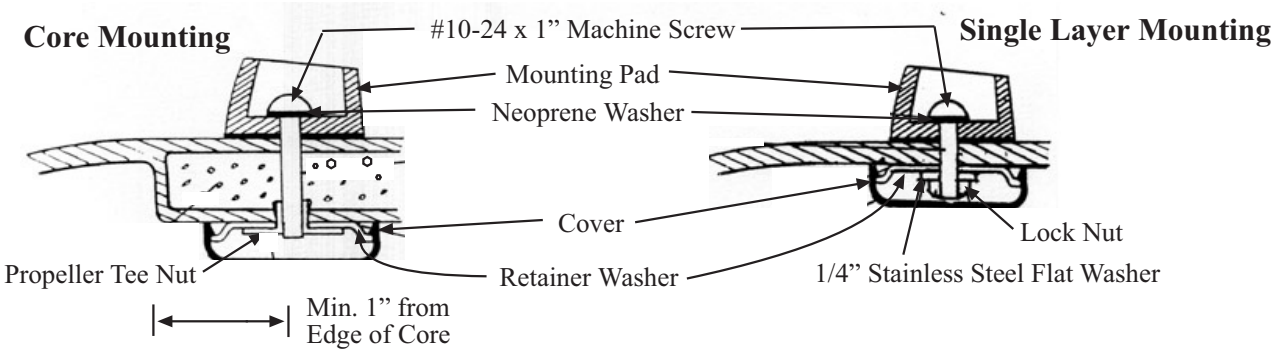
ASSEMBLY: Slide stanchions on to crossbars. Install end caps on crossbars. Adjust stanchion spacing as appropriate for roof core. Allow for any other roof features such as interior lighting, ribbing, etc.

INSTALLATION:

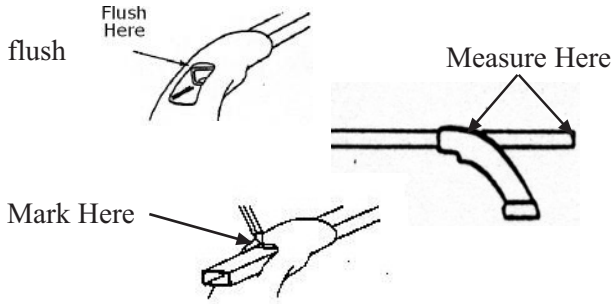
1. Temporarily fit pad assemblies to stanchions (**DO NOT** install pad blocks and cap screws at this time).
2. Position the stanchion/crossbar assemblies in the desired locations. Spacing between crossbars should be determined by roof core length and the load(s) that will be carried.
3. Mark precise location of the pads on fiberglass cap or roof panel using a non-permanent marker, being careful not to shift the assemblies while marking.
4. Remove pads from stanchions and re-position pads at marked locations. NOTE: To insure correct re-installation of stanchions into pads, pads must be mounted exactly in position as marked.
5. Mark the two outer holes of each pad and drill 3/16" holes through roof core. Do not drill for center hole in pads!! ****NOTE: If installing outside core area of truck cap or in roof less than 1/2" thick, go to step 7 NOW**** If installing in a truck cap, from inside the cap use 9/32" drill bit to ream out all drilled holes through inner fiberglass layer only. HELPFUL HINT: If the cap has a fabric liner attached to the inside of cap, place a long nail or screw down through mounting holes to aid in locating holes in liner.

(over)

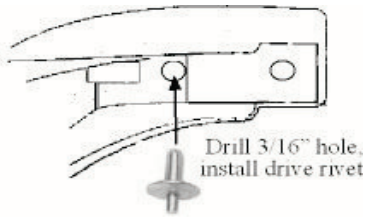
6. Assemble the propeller tee nuts and retaining washers with flange side of washer down toward the floor of truck bed and barrel of tee nut toward roof. Press barrel of tee nuts into the 9/32" holes until flush with roof interior, tapping in with mallet or hammer if necessary.



7. Install 3/16" x 3/8" x 1/32" neoprene washers on all machine screws.
8. Remove liner from Pad gaskets and position precisely where marked in step 3. Select appropriate following instruction (a or b) for type of installation being performed, and refer to above illustrations:
   a. **Installing in core area**: Insert #10-24x1" machine screws down through pads and roof and screw into tee nuts, using minimal downward pressure to prevent forcing tee nuts out of holes. Be sure each machine screw has a neoprene washer. Do not overtighten, as excessive screw torque may damage fiberglass layers and/or core material. Use of a liquid thread lock on machine screws is recommended. Break away any excessive screw shank (if 1/4" or more extends below tee nut) with pliers if necessary to enable plastic screw cover to snap on to retainer washer.
   b. **Installing outside core area or roof thickness under 1/2":** (Two people required for this step) Insert #10-24x1" machine screws down through pads. Place 1 1/8" retainer washer against inside of roof, followed by Stainless Steel flat washer and lock nut. Tighten securely. Break away any excessive screw shank flush with bottom of lock nut with pliers if necessary to enable plastic screw cover to snap on to retainer washer.
9. Snap black plastic screw covers onto retaining washers.
10. Reinstall stanchion/crossbar assemblies into pads (**DO NOT** install pad blocks at this time).
11. Center the crossbar in the stanchions using the following procedure and illustrations to right:
    a. Push one crossbar thru the stanchions until end of crossbar is flush with end of cavity.
    b. Measure from end of cavity to end of crossbar, divide by 2.
    c. Slide crossbar back thru both stanchions until measurement obtained above is reached at end of crossbar, and mark each stanchion location on crossbar.
    d. Repeat for other crossbar assembly.
12. Remove stanchion/crossbar assemblies from pads.



13. Checking to be sure stanchions are still in marked locations on crossbars, drill 3/16" holes through bottom side of crossbars in hole in stanchions as shown.
14. Insert the 3/16" Drive Rivets into drilled holes, and tap mandrel firmly with hammer until flush with rivet head.



15. Install crossbar end caps.
16. Reinstall stanchion/crossbar assemblies into pads and install pad blocks using the 6Mx12mm cap screws. Tighten securely.