



Atwood Mobile Products

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LITERATURE NUMBER 297-333472

Roof Rack for Recreational Vehicle

Model # MHR212

This Roof Rack design has been verified to the guidelines stated in this document for use on recreation vehicles.

SERVICE CALLS & QUESTIONS

Location and phone numbers of qualified Service Centers can be found at our website <http://www.atwoodmobile.com> or call 866-869-3118 to locate a Service Center.

SAFETY ALERT SYMBOLS

Safety Symbols alerting you to potential personal safety hazards.
Obey all safety messages following these symbols



WARNING

avoid possible
injury or death



CAUTION

avoid possible
injury and/or property damage



WARNING

MAY CAUSE PERSONAL INJURY OR DEATH

For your safety and protection, it is important that this installation manual is read and understood before installation or use. Failure to properly install the unit or attempting to modify it in any way can be extremely hazardous and may result in property damage and personal injury and will void the warranty.



CAUTION

MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE

Incorrect or improper installation may cause personal injury and/or property damage.

•Installation •Operation •Maintenance

Effective 01/16/2014

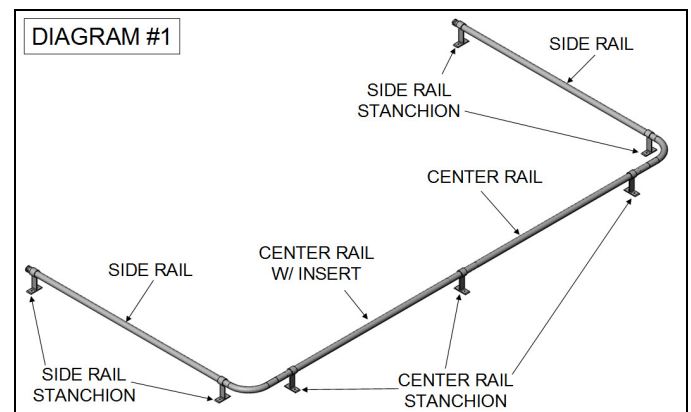
GENERAL INFORMATION

Package Contents:

- Side Rails with Insert: Quantity 2
- Center Rail with Insert: Quantity 1
- Center Rail: Quantity 1
- 4" Stanchion: Quantity 7
- #8 x 3/4" Screw: Quantity 3
- Instruction Sheet: Quantity 1

Tools Required:

- Tape Measure
- Phillips-tip screwdriver (Screw gun recommended)
- Hacksaw or tube cutter (if alterations are required)
- File (if alterations are required)



PURPOSE

This product is designed for installation onto the roof of an RV. It provides additional structure, converting the applied area into a storage alternative, expanding the vehicle's storage capacity.

-The **MAXIMUM WEIGHT CAPACITY** will be determined by the design of the roof surface and related substructure and will vary based on vehicle design and manufacturer. Consult the RV manufacturer for this guideline.

Before you begin...



CAUTION

MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE

It is the responsibility of the installer to inspect the RV roof to determine its condition and its rated capacity will allow the use of this Roof Rack. Consult with the RV manufacturer or qualified technician to determine if your RV's roof is fit for use with this Roof Rack.

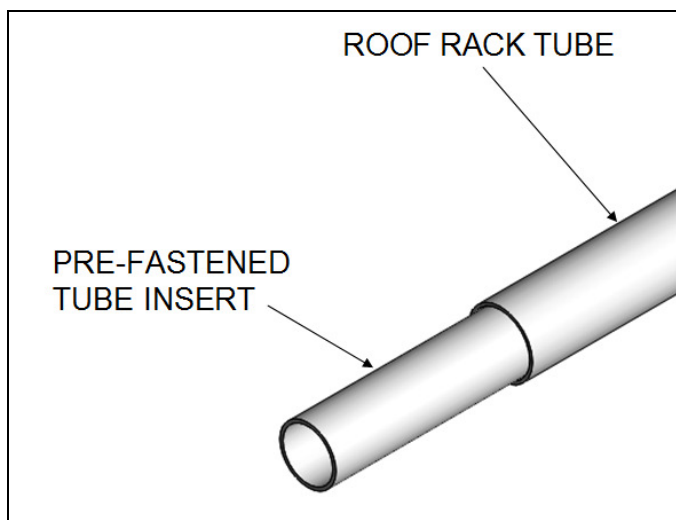
-The vehicle roof surface and substructure should be in good condition with no dented, cracked or rusted parts.

-The Roof Rack is intended to be used to secure and contain stationary objects within the roof load limits. It is not designed to withstand excessive force in any direction.

-The Roof Rack may be used to carry objects that do not fit conveniently inside the vehicle's other storage compartments.

-The Roof Rack is intended to be mounted on a relatively flat portion of the roof. Most RV roofs remain relatively flat all the way up to the edge of the roof, but for roofs that have "radius" edges use caution to ensure the rack is not mounted into the radius.

-Familiarize yourself with the rack components. The rack tubing construction consists of tubing with two different diameters. The smaller diameter is slid inside the larger diameter tube and held in place by a formed feature of the tube or by a rivet. The smaller diameter tube is used to junction two pieces of larger diameter tube together and is referred to as an insert.



INSTALLATION

How to mount the Roof Rack to your RV roof.

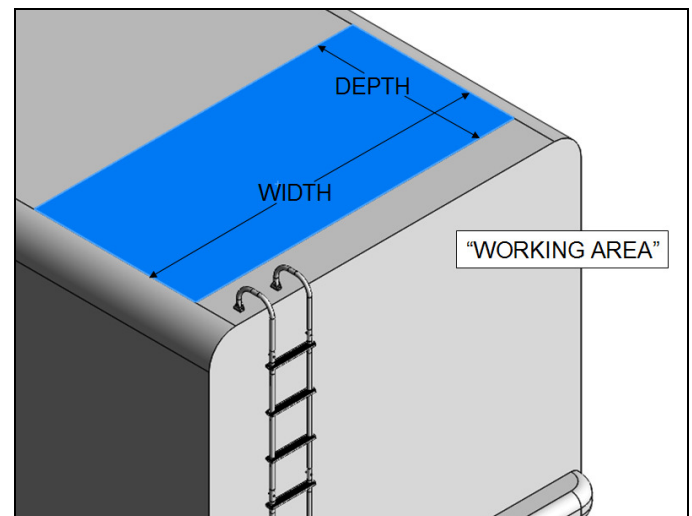


WARNING

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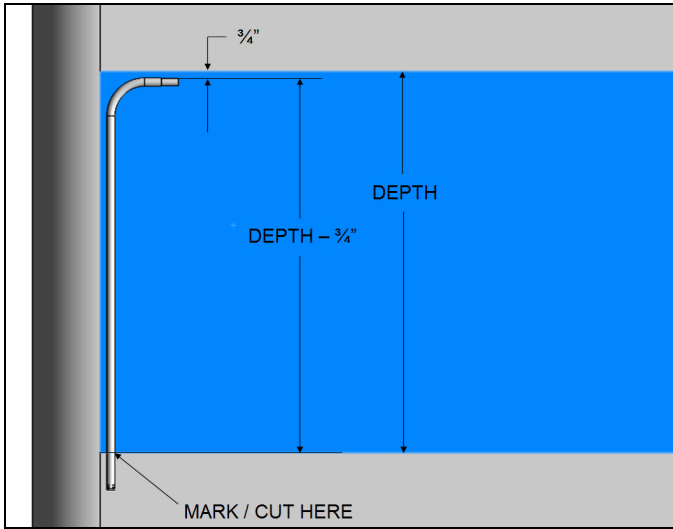
The Roof Rack is intended to be a permanent fixture. The Roof Rack should only be installed when the vehicle is parked on level ground.

1. Out of the carton, the rack has a footprint of 95-1/2" wide by 49-1/2" deep. These dimensions include the tube length of the rack in both directions and an additional length to accommodate the stanchion feet, which account for an additional 3/4" to the total depth and an additional 1-1/2" to the total width. It is recommended to measure your roof area to determine applicable area. Rack dimension alterations may be done on an alternate surface (i.e. ground) if accurate measurements have been obtained of the roof "working area" and required rack dimensions have been determined.

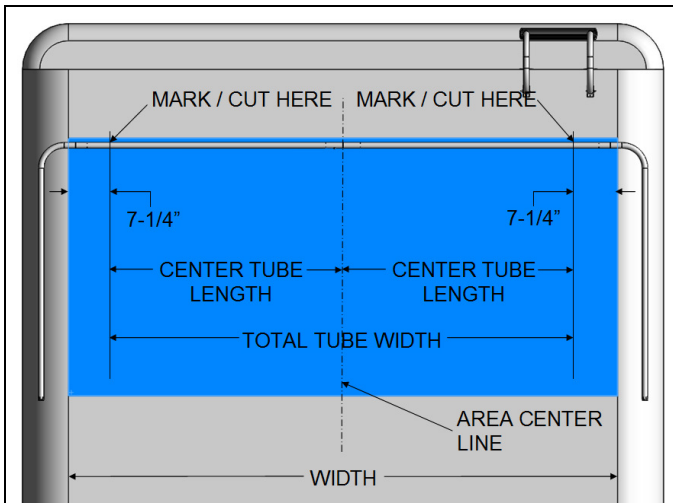


2. Altering the depth: If the depth of the Roof Rack needs to be altered because of a smaller working area, you will need to reduce the length of the side rails accordingly. All cuts should be performed on the straight portion of the tube never on the radius portion. Remove the end caps from the side rails and lay the first side rail flat. Using the depth dimension of the "working area", subtract the stanchion adjustment of 3/4". Use this number as your tube depth measurement and measure down the side of the side rail from the radius end and make a mark along the straight section. Use a hacksaw or tube cutter to cut the tube at the mark. Use a file when complete to remove burrs and sharp edges from the cut edges. Replace the end cap and repeat with the other side rail, only instead of measuring align the cut rail on

top of the second rail to align, mark and cut the second rail. File the cut edges and replace the end cap on the second side rail.

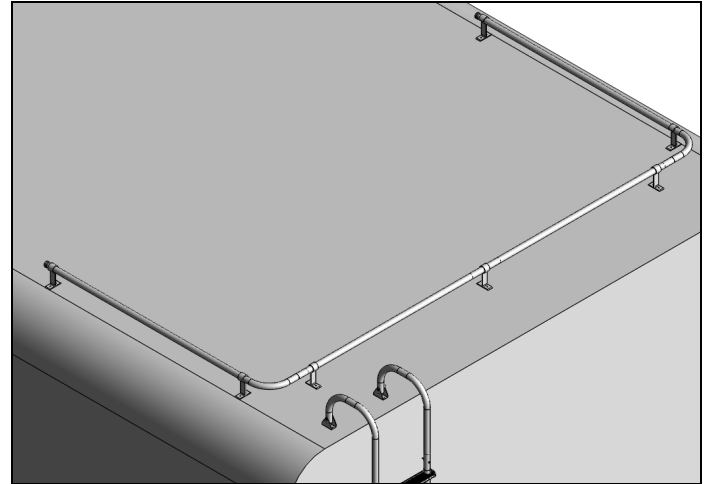


3. Altering the width: If the width of the Roof Rack needs to be altered because of a smaller working area, you will need to reduce the length of both center rails evenly and accordingly. For the center rail with insert, the cut should be performed on the non-insert end of the tube. Using the width dimension of the “working area”, subtract the stanchion and side rail width adjustment of 14-1/2” (7-1/4” from each side); this number as your total tube width measurement. Divide the total tube width in half; this number is your center rail length. Measure down the side of the center rail and make a mark on the tube at the center rail length. Use a hacksaw or tube cutter to cut the tube at the mark. Use a file when complete to remove burrs and sharp edges from the cut edges. Replace the end cap and repeat with the other side rail, only instead of measuring align the cut rail on top of the second rail to align, mark and cut the second rail. File the cut edges on the second side rail.

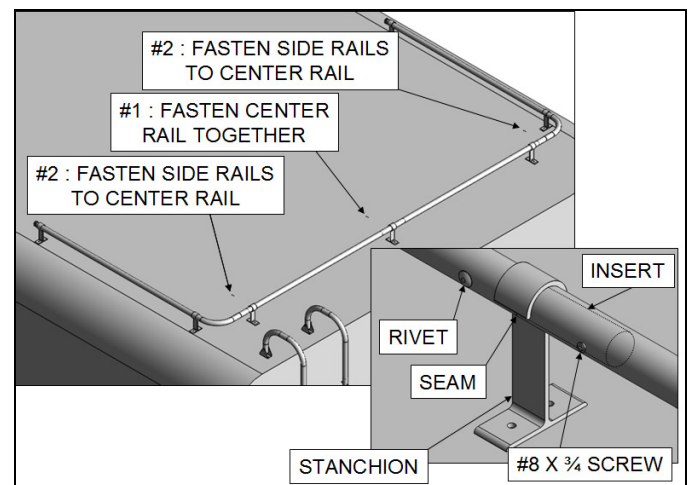


4. Perform a dry fit on the roof prior to fastening the rack to the roof. Assemble all of the components in the manner shown in the product picture. Slide the center rail insert into the other center rail. Notice that the

stanchions have an open side and should be oriented so all side openings face the center of the rack. Slide 3 stanchions onto the center rails and slide 2 stanchions onto each of the side rails. Slide each side rail insert respectively into an open end of the center rail assembly. Place the assembled rack into the desired location and check overall fit. If the fit is not correct, remove rack and adjust the component lengths as necessary.

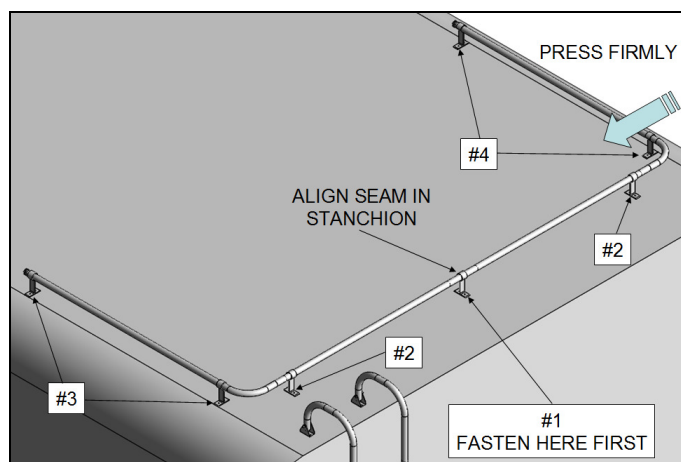


Once desired fit is acquired, begin fastening rails together. Identify the center rail section that was not riveted to the insert and, with both sections firmly pressed against one another, drive (1) #8 x 3/4 screw through both the rail tube and insert tube, securing both sections together. Stanchions may be slid along the tube out of the way until sections are secured and replaced later. Note: The (3) center rail stanchions are not intended to slide around the bent tube that makes up the side rails and therefore need to be placed onto the center rail before securing the side rails. Continue to secure the side rails to each end of the complete center rail by driving (1) #8 x 3/4 screw through both the rail tube and insert tube at each end. Once complete, replace stanchions and place into desired location on roof.



5. Once the assembled rack has been placed in the desired location, begin fastening with the stanchion in the center of the center rail. This stanchion should line

up over the tube seam where both pieces of the center rail are joined. Once secured, fasten the other 2 center rail stanchions not more than 3" from the end of the center rail, but the same distance, on both sides; like the center stanchion, the end stanchions may also be used to cover the tube seam between the side rails and the center rail.



6. Once the center rail is secured, it can still slide side-to-side until the side rails are secured. Align the side rail stanchions along the straight portion of the side rail. It is recommended to place one near the free end and one near the radius corner. With the center rail properly aligned, fasten the side rail stanchions to the roof. Repeat the side rail location and fastening procedure for the second rail.



CAUTION

MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE

Failure to properly secure the Roof Rack to the vehicle may cause damage or injury. Always verify that the Roof Rack is securely fastened to the vehicle when installed prior to use and before operating vehicle. Consult with the RV manufacturer or qualified technician to determine if your RV's roof is fit for use with this Roof Rack. Never move the vehicle without verifying Roof Rack is securely fastened to the vehicle.

OPERATION



CAUTION

MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE

Failure to properly secure the item(s) to the Roof Rack may cause damage or injury. Always verify that item(s) placed in the Roof Rack are securely fastened to the Roof Rack.



CAUTION

MAY CAUSE PERSONAL INJURY OR PROPERTY DAMAGE

Over-tightening tie-downs to the Roof Rack frame may cause damage to the Roof Rack and/or item(s) being stowed in the Roof Rack.

When you stow items on a Roof Rack, the primary objective is to make sure the items are secure and you can drive your vehicle safely.

Analyze the size of what you're putting on your Roof Rack. Measure the rack and compare measurements with the items you intend to place on the roof to determine fit. Best practice is to minimize roof storage when other accommodating storage locations outside of the vehicle are available, and when convenient avoid placing anything on the roof that you can store inside the vehicle.

Once "roof items" have been determined, begin loading into the rack area. When placing items on the Roof Rack, try to get the biggest and heaviest items on first as it will save space in other areas if smaller items have to be relocated. Keep in mind how each item is to be secured as you are loading so if you cannot secure any more items, you will only need to remove the last item.

You will need tie-down material (bungee cords, straps, rope, etc.) to hold equipment or items atop your Roof Rack.

Secure one end of a tie-down under one of the Roof Rack side bars. Throw the loose end of the tie-down over the items you are securing. Pull the tie-down tight over the items and latch the tie-down under the side bar on the other side. Use multiple tie-downs to secure the items tightly in one direction.

Secure one end of a tie-down either under one of the Roof Rack side bars or the Roof Rack rear bar. Bring the loose end of the tie-down around the items towards the open end of the rack. Pull the tie-down tight around the items and latch the tie-down either under one of the Roof Rack side bars or the Roof Rack rear bar. Use multiple tie-downs to secure the items tightly within the rack and to make sure the items are doubly secure.

Always make sure that whatever is attached to your Roof Rack is secured before going onto the open road.

MAINTENANCE

The Roof Rack is made from durable materials and is intended for outdoor use. However, minor maintenance may be required periodically.

The Roof Rack may be cleaned with warm soapy water. Be sure to thoroughly rinse with clean water to retain finish. May be towel or air-dried.

Check to make sure all fasteners are tight before and after each use, and replace any missing fasteners before use. Do not use Roof Rack if any fasteners are damaged, broken or missing.

Periodically inspect the Roof Rack tubing and/or stanchions for any damage, cracks or broken pieces. Replace the Roof Rack if damaged, cracked or broken. Do not use Roof Rack if any components are damaged, broken or missing.

The Roof Rack is intended to be a permanent fixture. When vehicle is in storage or parked for extended periods, the Roof Rack should be covered as minimizing the Roof Rack components' exposure to the elements or other hazards will prolong the life of the Roof Rack and its components.

ATWOOD MOBILE PRODUCTS LLC LIMITED WARRANTY

Atwood Mobile Products LLC warrants to the original retail customer of products manufactured by Atwood Mobile Products LLC and subject to the below mentioned conditions, that this product will be free of defects in material and workmanship for the below specified period of time from the original date of purchase or manufacture. For the remainder of this document Atwood Mobile Products LLC will be referred to as Atwood. Atwood's liability hereunder is limited to the replacement of the product, repair of the product, or replacement of the product with a reconditioned product at the discretion of the manufacturer. This warranty is not transferable and is intended for original purchaser only. This warranty is void if the product has been damaged by accident, unreasonable use, neglect, tampering, or other causes not arising from defects in material or workmanship. The warranty extends to the original owner of the product and is subject to the following conditions.

- 1) Atwood will repair or replace any part defective in material or workmanship, after inspection by Atwood. This warranty includes labor charges per Atwood's Flat Rate Schedule as required to remove and replace the part. Service calls to customer's location and diagnostic time are not considered part of these charges and, therefore may be the responsibility of the owner.
- 2) In the event of a warranty claim, service may be performed at any approved OEM dealer location
- 3) Parts being replaced must be shipped to Atwood "Prepaid" in first class saleable condition and identified with a return goods number, unless other arrangements have been made. Credit for shipping costs will be included with the warranty claim. The defective parts become the property of Atwood and must be returned to Atwood.
- 4) Returned goods – Goods may not be returned without our consent. Requests for returns should be made within 10 days from receipt of our invoice. If the parts being returned are not defective, Atwood reserves the right to apply a 20% restocking fee. We cannot accept material which has been custom fabricated or modified from its original design.
- 5) This warranty applies only if the product is installed, repaired, maintained and operated according to the installation/service instructions. Any deviations from these recommended specifications must be approved in writing by Atwood.
- 6) The warranty period on replacement parts is the unused portion of the original warranty period.
- 7) Damage or failure resulting from misuse (including failure to seek proper repair service), misapplication or alterations is the owner's responsibility.
- 8) Atwood does not assume responsibility for any loss of use, loss of time, inconvenience, expense for gasoline, telephone, travel lodging, loss or damage to personal property, or revenues. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you.
- 9) Any implied warranties are limited to the product's warranty period. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.
- 10) Replacement parts purchased outside of the original warranty carry a 90-day warranty.
- 11) Any action to enforce this warranty shall not be commenced more than 3 months after the expiration of this warranty.
- 12) THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR PURPOSE.

Product Specifications for products listed below are designed for use for their specific application. Any other use, unless authorized in writing by the Atwood Engineering Department, voids this warranty. Original date of purchase of unit refers to the date the consumer purchases the vehicle from a dealer. Date of manufacture refers to the date the item was produced by Atwood Mobile Products.

Racks – Two (2) years from original date of purchase of unit.

- 1) This limited warranty is valid only when the product is applied, installed, maintained and operated in accordance with this Atwood Installation, Maintenance and Operating Manual. Any deviation from these recommended specifications must be approved in writing by Atwood.
- 2) Any implied warranties are limited to the duration of this limited warranty as stated above. Atwood does not assume responsibility for consequential damage or loss, including loss of vehicle, loss of time, inconvenience, expense for gasoline, telephone, travel, lodging, loss or damage to personal properties, or loss of revenues. Atwood's maximum liability shall not exceed the cost of the goods. Some states do not allow limitations on how long an implied warranty lasts or limitations on consequential damages, so the above limitations may not apply to you. This limited warranty gives you specific legal rights which may vary from state to state.