



Vertical Bike Rack Installation Instructions

P/N 210551: Rear Door Vertically Integrated Bike Rack

Before you begin:

- This is a SUPPLEMENTAL product – it must be mounted to an Aluminess Rear Door Base Unit (sold separately).
- **Maximum load capacity is 100 lbs on bike rack once installed, not including bike trays.**
- Stainless steel hardware may bind together when tightening — apply an anti-seize assembly lubricant to the threads of each bolt before assembly
- Unless otherwise specified, refer to the general torque value at the end of the instructions for specified torque values.





Required Tools:

- Standard and metric wrench set
- Standard and metric socket set
- Torx bit set

Included Hardware:

P/N	Description	Quantity
70348	Carriage Bolt, 3/8"-16 x 1-1/4", SS	8
70027	3/8" Washer, thick	4
70028	3/8" Washer	8
70024	3/8"-16 Nylon-Locking Nut	8
70060	1/4"-20 x 1" Button Head Bolt	6
70008	1/4"-20 Nylon-Locking Nut	4
70009	1/4" ID Washer	10
70444	1/4" ID Nylon Washer, Black	8
70723	1/4"-20 x 5/8" Carriage Bolt, SS	2
70246	Antiseize Bolt Lubricant Packet, 2g	1
400905.1	Clinch Strap, Hook-and-Loop (Velcro), 6"	2
401003	Lanyard, stainless steel, eyelet to eyelet, 30"	2
401013	Aluminum Spacer, .257" ID x .3125" OD x .141"	2
401014	Aluminum Spacer, .257" ID x .3125" OD x .50"	2

Additional Parts:

PN	Description	Quantity	Picture
350677	Upper Support Bracket	2 ea	
351548	Pull Strap	2 ea	



Bike Rack Installation:

NOTE: This is a SUPPLEMENTAL product – it must be mounted to an Aluminess Rear Door Base Unit (sold separately).

NOTE: If installing with an Aluminess BackPACK plate, skip to step 5 and Figure 6.

1. Install your rear door base unit using the separately provided installation instructions.
2. Slide four (4) 3/8" carriage bolts into each bike tray slot.
3. Over the center two (2) carriage bolts, mount the upper support bracket using the corresponding 3/8" washer and nuts (reference Figure 1). The flange should be pointed away from the side with the locking mechanism. Leave the bolts loose enough to be able to slide the bracket within the bike tray for now.

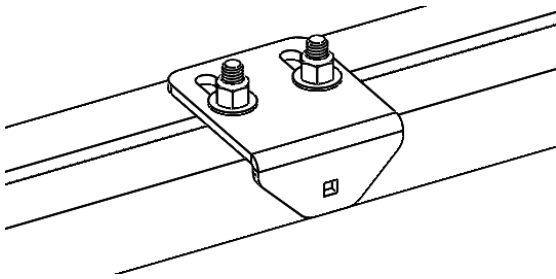


Figure 1: Upper Support Bracket Attached to Bike Tray

4. Install the bike rack trays onto the rack using the two (2) remaining carriage bolts through the indicated holes on the bike rack (see Figure 2). Tighten with the 3/8" washer and nuts.

PRO TIP: It may be helpful to stagger the vertical distances of the bike trays to accommodate various bike geometries (helps to prevent handlebar interference).

PRO TIP: If you have back up sensors, verify sensor functionality with the bike trays closed. With bikes installed, sensors will most likely "see" the bikes and alert when in reverse.

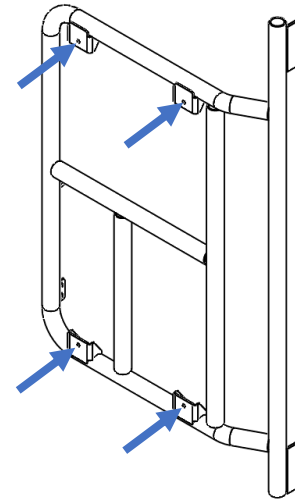


Figure 2: Mounting Holes on the Bike Rack for the Bike Trays

Installation with BackPACK (sold separately):

5. Install your Rear Door Base Unit and BackPACK accessory using the separately provided installation instructions.
6. Slide two (2) 3/8" carriage bolts into each bike tray slot.
7. Install the bike rack trays onto the BackPACK using the carriage bolts through the indicated holes on the bike rack or BackPACK (see Figure 3). **NOTE:** The 3/8" bolt can only fit into the large hole at the end of each slot – please use the indicated locations only.

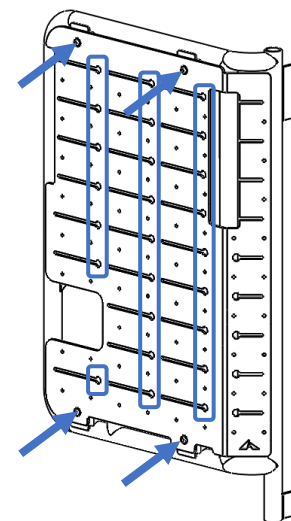


Figure 3: Tray Installation Locations with BackPACK



PRO TIP: It may be helpful to stagger the vertical distances of the bike trays to accommodate various bike geometries (helps to prevent handlebar interference).

PRO TIP: If you have back up sensors, verify sensor functionality with the bike trays closed. With bikes installed, sensors will most likely “see” the bikes and alert when in reverse.

8. Tighten with the **thick 3/8”** washer (70027) and nuts.
9. Now with your bike trays installed, bolt on the steel cable to the upper support bracket and the bike tray arm. Reference Figures 4-8 for correct location and hardware assembly.



Bolt Through Lowest Available Hole on Opposite Side of Clamping Bar (Backside from Shown)

Figure 4: Bike Cable Position on Bike Tray

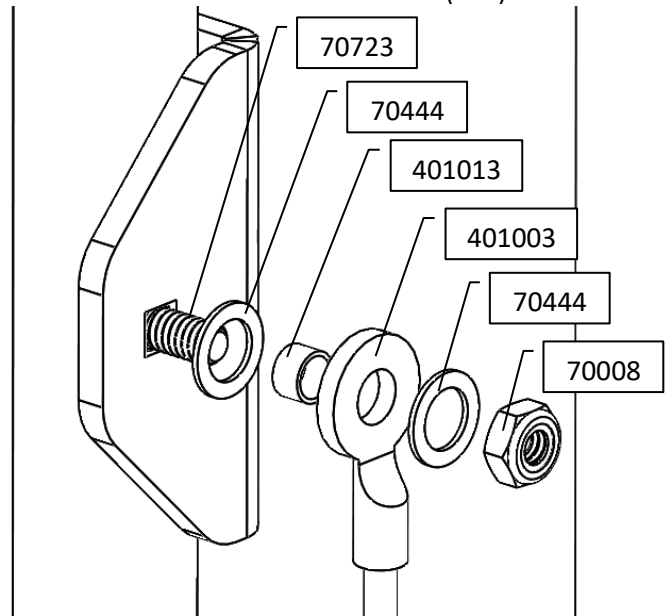


Figure 5: Hardware Assembly for Upper Support (No BackPACK)

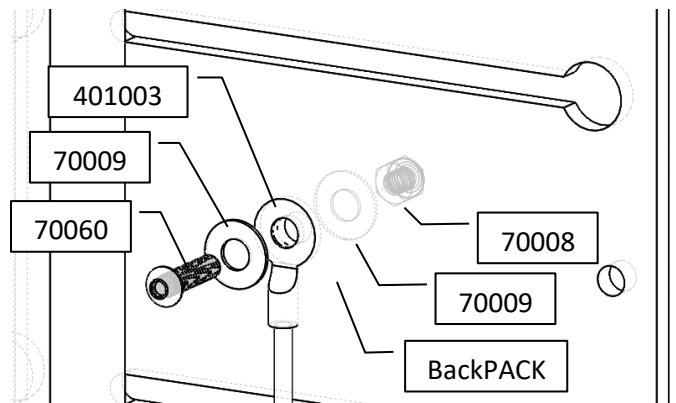


Figure 6: Hardware Assembly for Upper Support (With BackPACK)

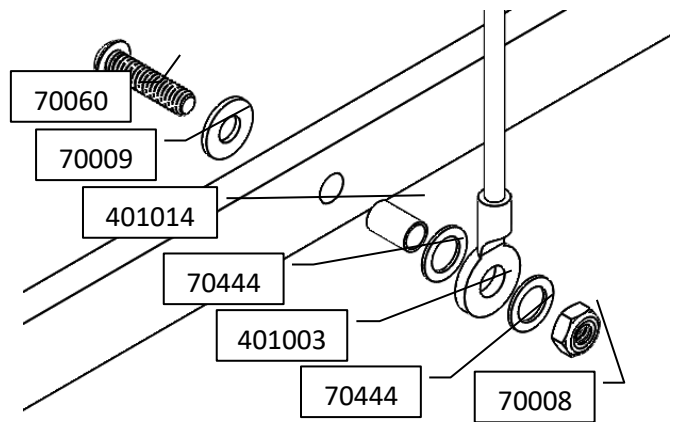


Figure 7: Hardware Assembly for Bike Tray



PRO TIP: Don't over tighten the 1/4" hardware – this will allow for good cable rotation.



Figure 8: Steel Cable Location

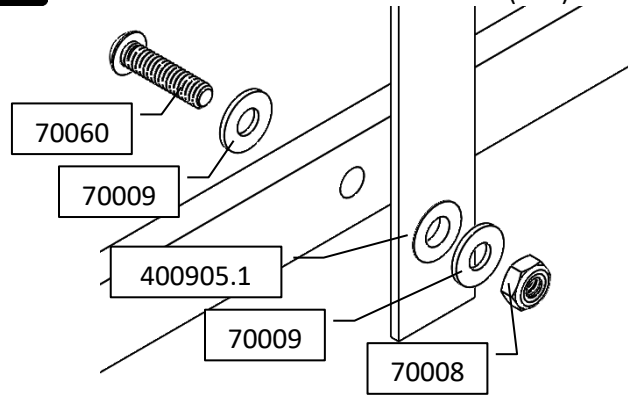


Figure 10: Hardware Assembly for Hoop-and-Loop Strap



Figure 11: Pull Strap Installed onto Bike Arm (Girth Hitch)

10. With the lower support arm of the bike tray extended to approximately parallel with the ground (as shown in Figure 3), slide the upper support bracket (on the back of the bike tray) up until taught. Tighten the 3/8" hardware to secure upper support bracket in place.
11. Install hook-and-loop strap and pull strap onto upper bike tray arms as desired. Pulling on the strap will help secure bicycles when installed vertically and the hook-and-loop strap can be used for securing the pull strap during travel. Reference Figures 6 - 8.

12. Install your bikes into the bike trays and verify fitment – adjust vertical placement as desired.
13. Your new Aluminess Vertical Bike Rack is now installed! Verify all hardware after the first 100 miles of travel and periodically thereafter.

NOTE: Due to multiple installation configurations being described here, there will be additional hardware leftover after installation is complete.

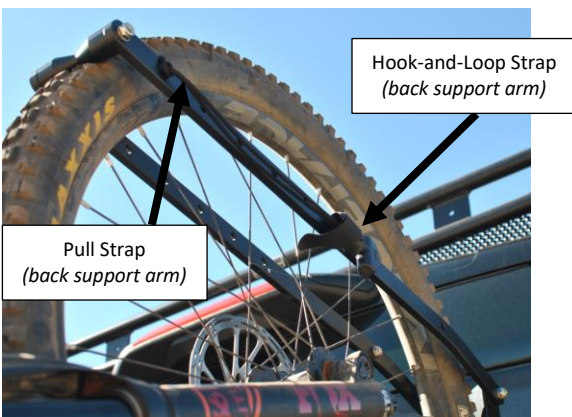


Figure 9: Pull Handle Installed



General Torque Values			
Size	Stainless Steel	Zinc	Grade 8
#6-32	10 lb-ft	--	--
#8-32	18.4 lb-ft	--	--
#10-32	26.6 lb-ft	--	--
1/4"-20	5.3 lb-ft	7.8 lb-ft	9 lb-ft
5/16"-18	10.9 lb-ft	16 lb-ft	18 lb-ft
3/8"-16	19.4 lb-ft	28.3 lb-ft	33 lb-ft
7/16"-14	31 lb-ft	45 lb-ft	52 lb-ft
1/2"-13	47 lb-ft	69 lb-ft	80 lb-ft
M6	4.7 lb-ft	5.8 lb-ft	--
M8	11.3 lb-ft	14.1 lb-ft	--
M10	22.3 lb-ft	27.9 lb-ft	--
M12	38.9 lb-ft	48.7 lb-ft	--



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