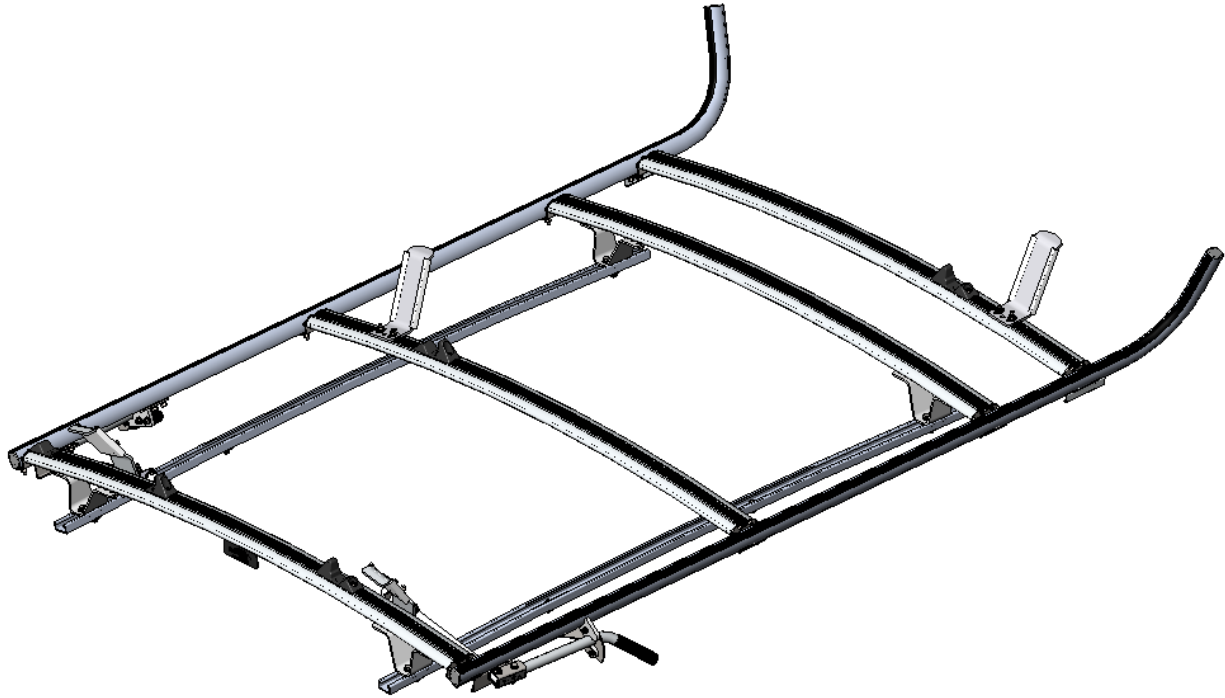


INSTALLATION GUIDE



1525-TCX Combination Ladder Rack

Transit Connect (Aluminum)



QUICK START GUIDE

Phase 1 - Assembly

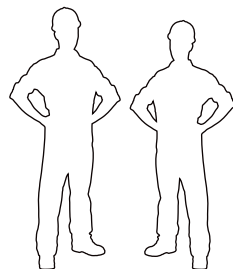
❑ 1.1 Setup.....	3 - 5
❑ 1.2 Ladder Rack Assembly.....	5 - 14

Phase 2 - Installation

❑ 2.1 Mounting Tracks Installation.....	15
❑ 2.2 Ladder Rack Installation.....	16 - 20
❑ 2.3 Note.....	21

REQUIRED ITEMS

NOTE: Use Sawhorses if possible, or use the box as a flat protective surface on the ground or table.



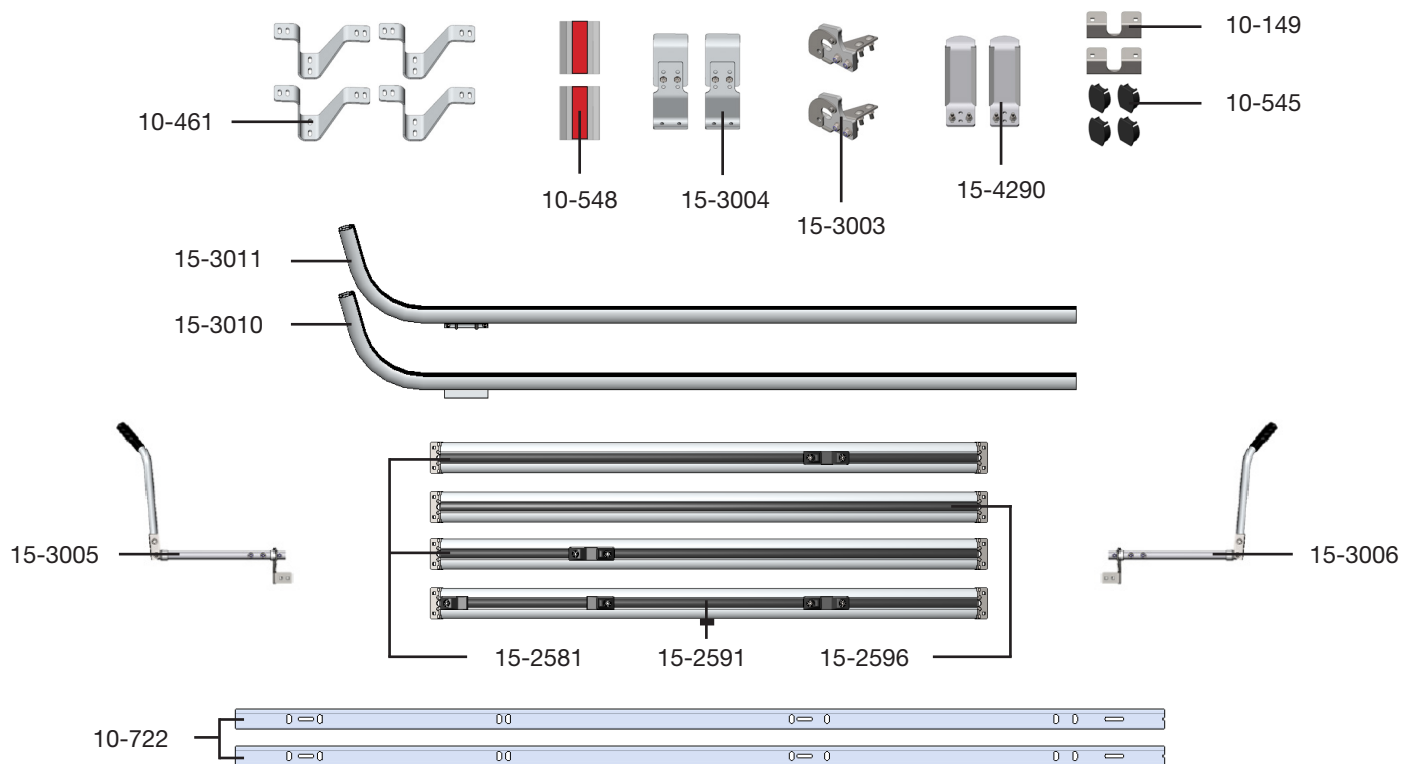
**2
PERSONS**

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Mallet
- ❑ Marker
- ❑ Ladder
- ❑ Cutter
- ❑ 1/2" Socket
- ❑ Sawhorse (Optional)
- ❑ Box
- ❑ Knife
- ❑ 1/2" Wrench
- ❑ 7/16" Socket
- ❑ Silicone

PHASE 1 – ASSEMBLY

1.1 SETUP

1.1.1 Unpack components; compare with the bill of materials.

























1.1.2 Verify all parts are present.

BILL OF MATERIALS

Item No.	Description	Qty.
10-149	Clamp Handle Support	2
10-461	“V” Foot	4
10-545	Ski Plastic Plug	4
10-548	Hook Protector (4 - 3/8" L)	2
10-722	Mounting Track	2
15-2581	Front Crossbow	2
15-2591	Rear Crossbow	1
15-2596	Third Crossbow	1
15-3003	Ladder Clamp Lock	2
15-3004	Ladder Clamp Rear Hook	2
15-3005	Ladder Clamp Bar (Driver Side)	1
15-3006	Ladder Clamp Bar (Passenger Side)	1
15-3010	Ski (Left)	1
15-3011	Ski (Right)	1
15-4290	Front Hook	2
94-1011	Assembly Fastener Kit	1
96-1015	Install Fastener Kit	1

1.1.3 Fastener kits.

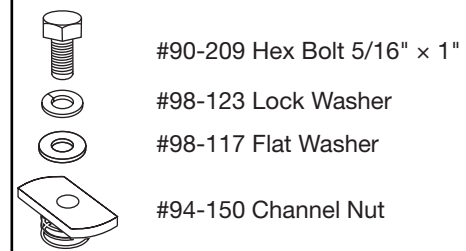
94-1011 Fastener Kit			Fastener Assembly
4x		# 90-487 Carriage Bolt 5/16"-18 x 3/4" SS304	4x <div> #90-487 Carriage Bolt 5/16" x 3/4"  #98-117 Flat Washer  #98-123 Lock Washer  #94-105 Hex Nut</div>
30x		# 90-491 Carriage Bolt 5/16"-18 x 1" SS304	28x <div> #90-491 Carriage Bolt 5/16" x 1"  #98-117 Flat Washer  #98-123 Lock Washer  #94-105 Hex Nut</div>
38x		# 94-105 Hex Nut 5/16"-18 SS316wax	
2x		# 98-160 Spacer SS18-8	4x <div> #98-117 Flat Washer  #98-123 Lock Washer  #94-105 Hex Nut</div>
38x		# 98-117 Flat Washer 5/16", O.D 3/4" SS18-8	
38x		# 98-123 Lock Washer Regular 5/16" SS304	2x <div> #90-491 Carriage Bolt 5/16" x 1"  #98-160 Spacer  #98-117 Flat Washer  #98-123 Lock Washer  #94-105 Hex Nut</div>

96-1015 Fastener Kit

Fastener Assembly

16x		# 90-209	Hex Bolt 5/16"-18 x 1" SS304
8x		# 94-116	Serrated Nut 5/16"-18 ZINC
8x		# 94-150	Channel Nut 5/16"
16x		# 98-117	Flat Washer 5/16", O.D. 3/4" SS18-8
8x		# 98-123	Lock Washer 5/16" SS304
8x		# 98-149	Spacer 0.290" ID x 1.375" OD x 0.125" L NEOPRENE

8x



8x

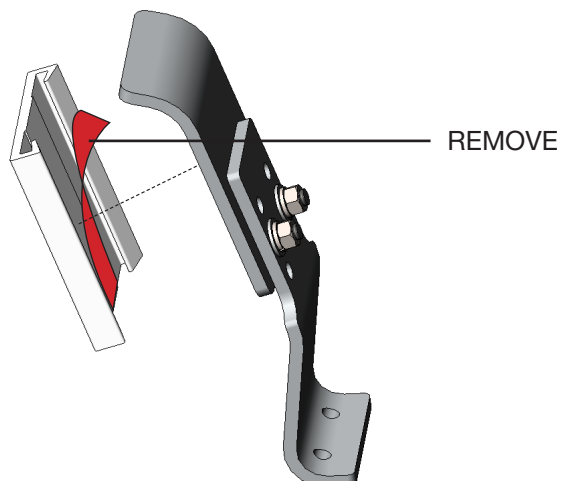


PHASE 1 – ASSEMBLY

1.2 LADDER RACK ASSEMBLY

1.2.1 Peel the backer off of the adhesive on the hook protector, then attach the hook protector to the upper rear hook.

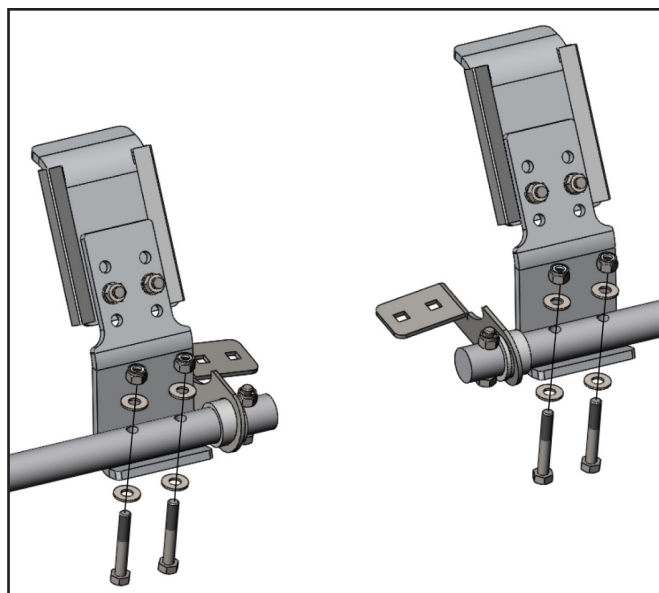
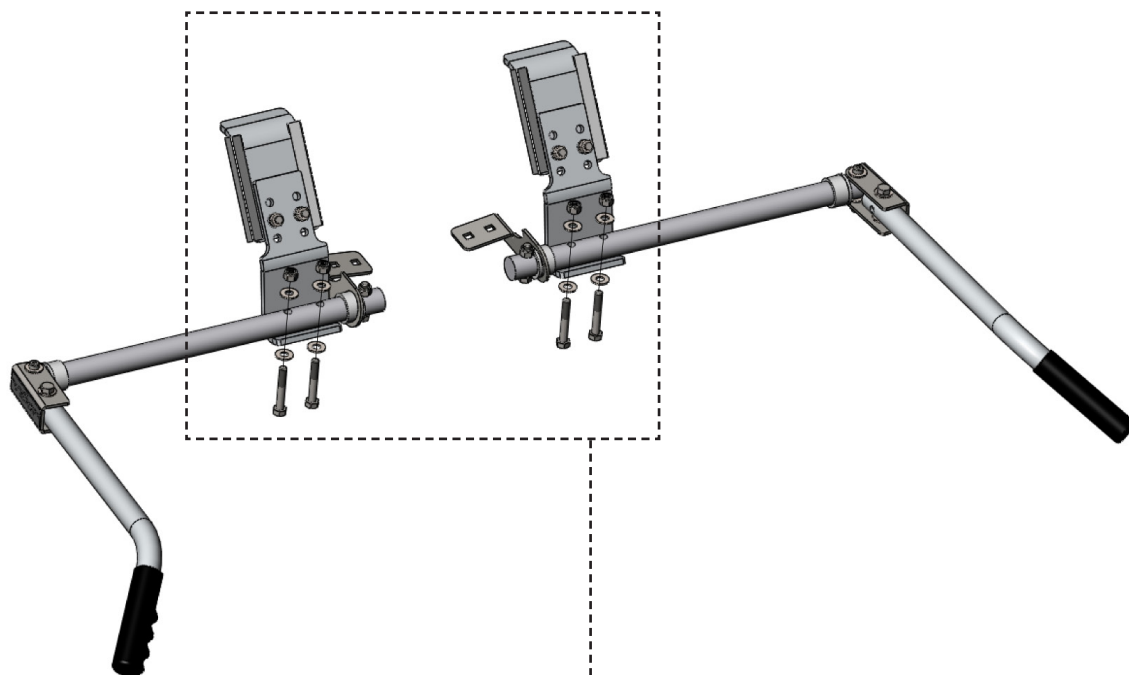
2x



TOOLS

□ Knife

1.2.2 Attach the rear hooks to the ladder clamps, with the pre-assembled hardware on the pivot bars.



TOOLS

- Cordless Impact
- 1/2" Socket
- 1/2" Wrench

HARDWARE USED

4x HARDWARE IS PRE-ASSEMBLED.



#90-225 Hex Bolt
5/16" - 18 x 2" SS304

#98-117 Flat Washer

#98-117 Flat Washer

#94-111 Lock Nut

1.2.3 Slide carriage bolts on the bottom face of the crossbows.

NOTE: The track plug must be removed from the underneath of the crossbow, and reinstalled after the feet have been installed in the final position.

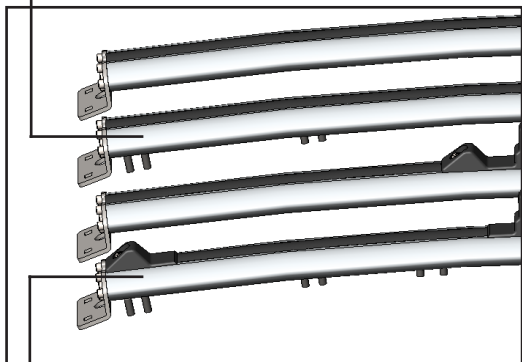
TIPS: Use tape to keep the bolts from sliding off.



DRIVER SIDE

Third crossbow

- Slide 4 pcs. of 1" carriage bolts.



Rear crossbow

- Slide 2 pcs. of 3/4" carriage bolts.
- Slide 4 pcs. of 1" carriage bolts.

HARDWARE USED

2x



#90-487 Carriage Bolt
5/16" x 3/4" SS304

8x

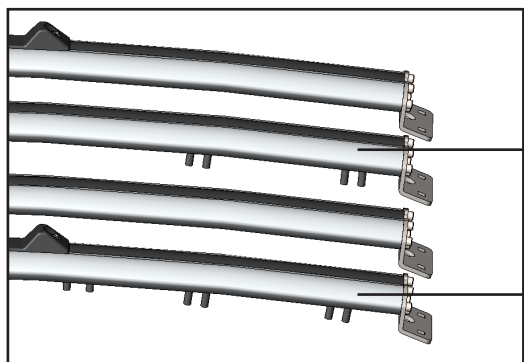


#90-491 Hex Bolt
5/16" x 1" SS304

PASSENGER SIDE

Third crossbow

- Slide 4 pcs. of 1" carriage bolts.



Rear crossbow

- Slide 2 pcs. of 3/4" carriage bolts.
- Slide 4 pcs. of 1" carriage bolts.

HARDWARE USED

2x



#90-487 Carriage Bolt
5/16" x 3/4" SS304

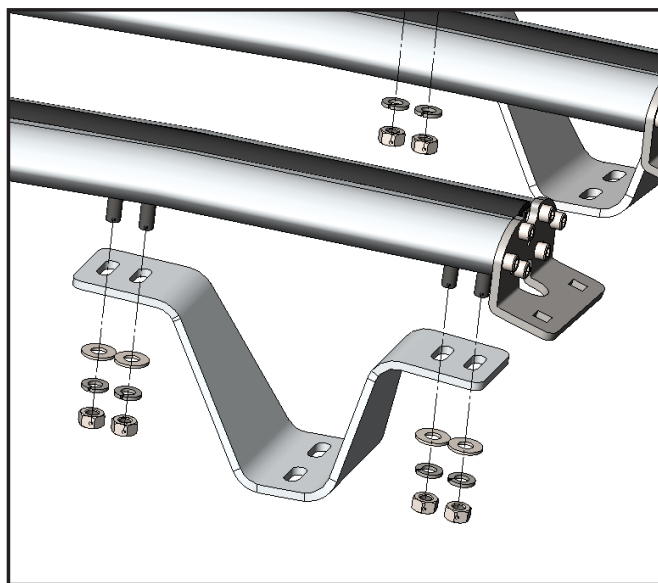
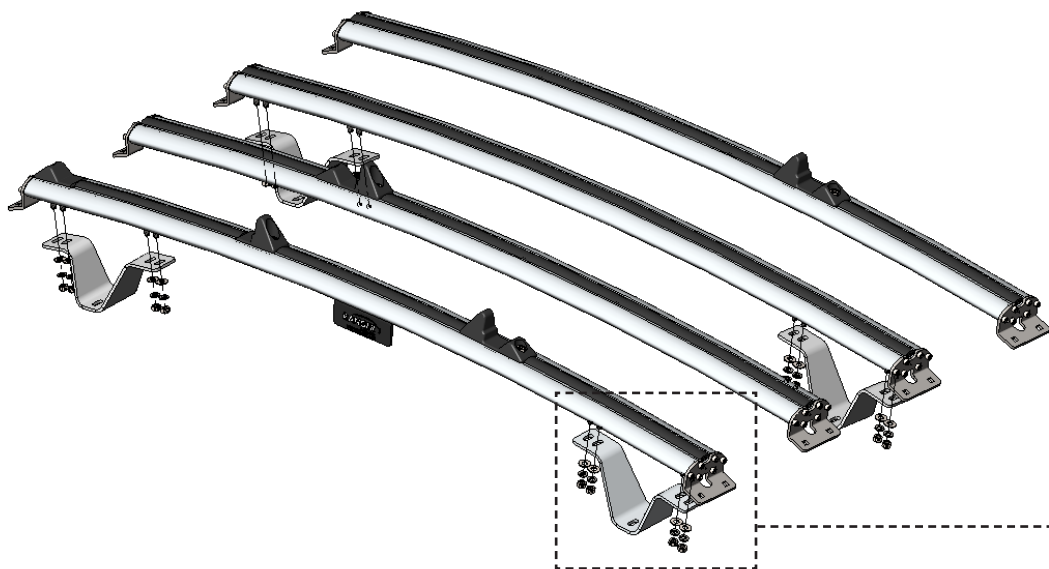
8x



#90-491 Hex Bolt
5/16" x 1" SS304

1.2.4 Install the feet on the third, and rear crossbows.

NOTE: The more slanted side of the V foot should be closer to the center of the crossbow.



HARDWARE USED

16x HAND-TIGHTEN THE NUTS.



Carriage bolts are already on the crossbows.



#98-117 Flat Washer

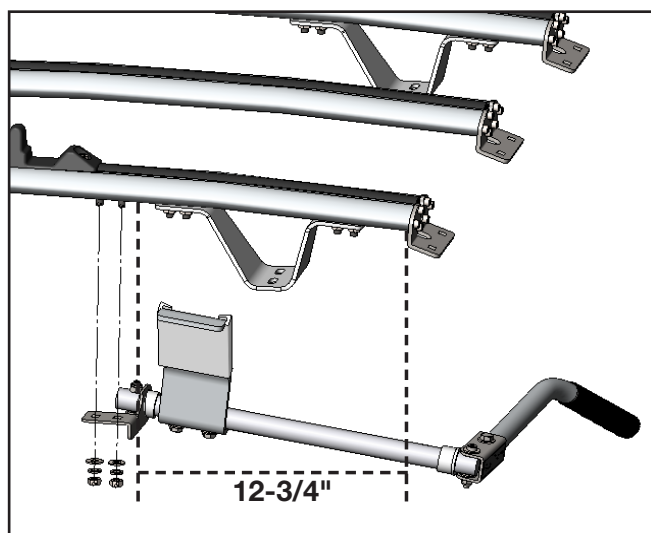
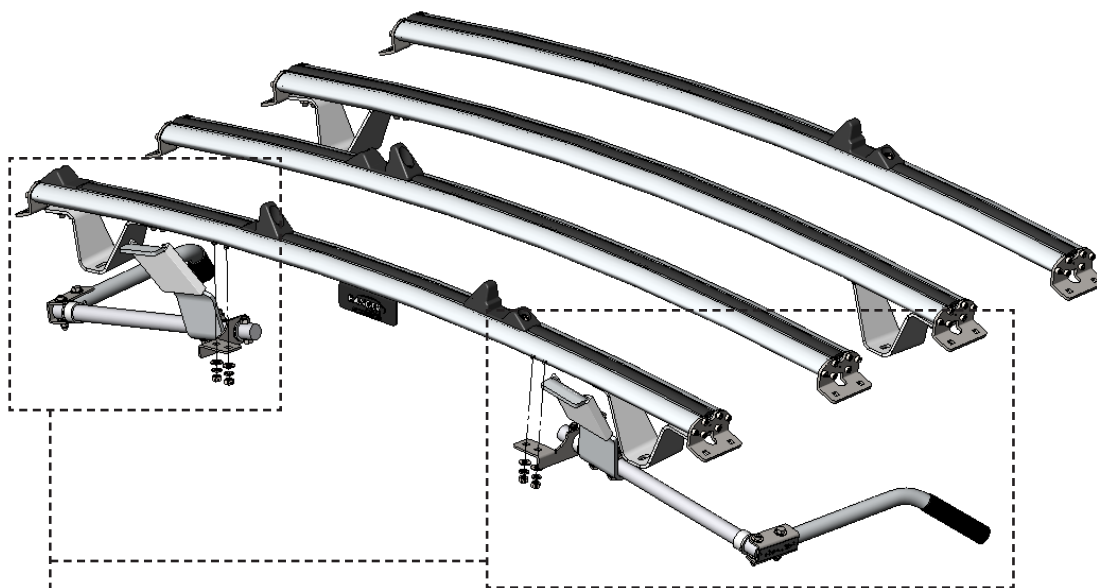


#98-123 Lock Washer



#94-105 Hex Nut

1.2.5 Fasten the left and right ladder clamp assemblies to the rear crossbow.



TOOLS

- ☐ Cordless Impact
- ☐ 1/2" Socket
- ☐ Tape Measure
- ☐ Marker

HARDWARE USED

4x



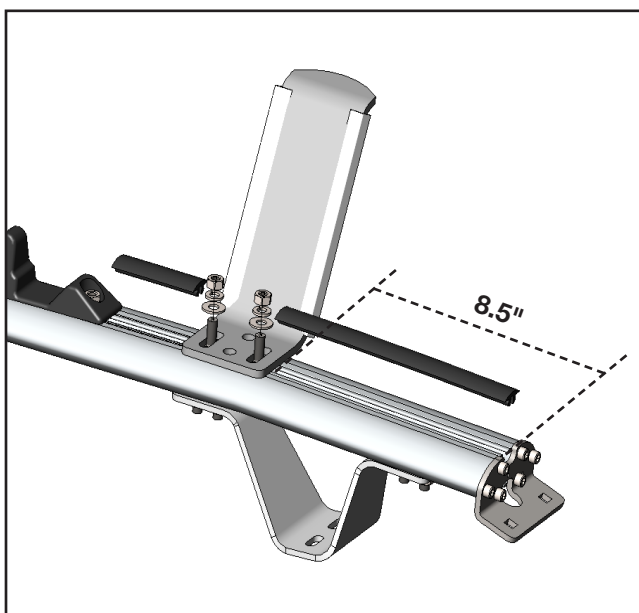
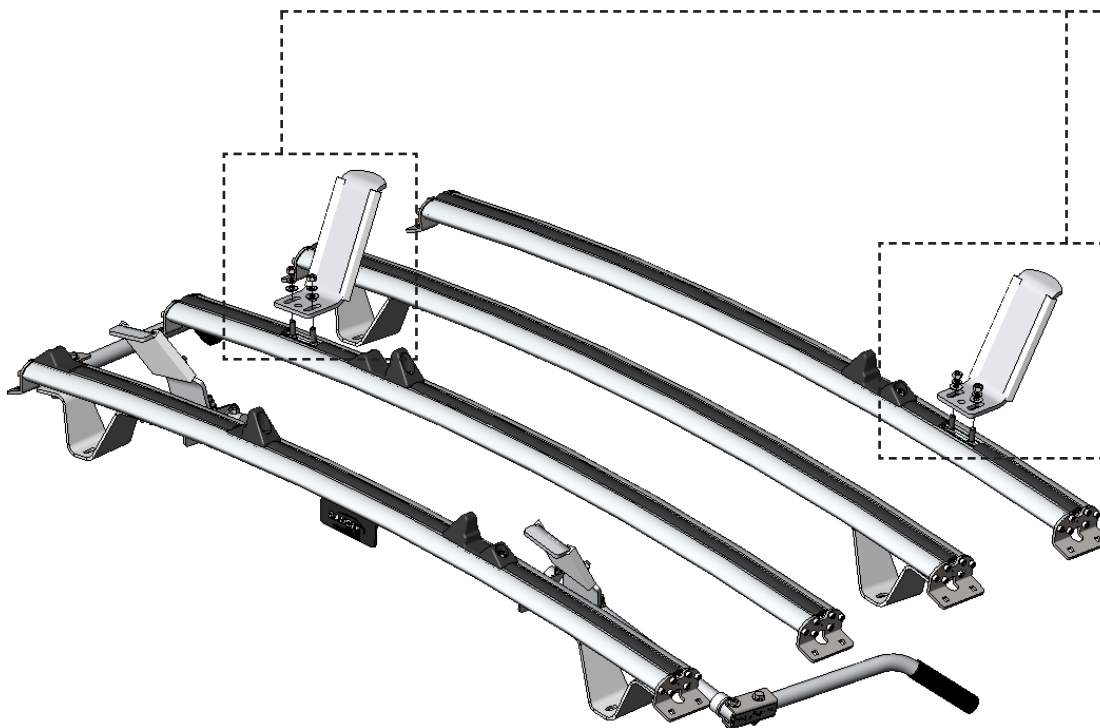
Carriage bolts are already on the crossbows.

#98-117 Flat Washer

#98-123 Lock Washer

#94-105 Hex Nut

- 1.2.6** • Pull out the 14.5" track plug on the passenger side of the first front crossbow and the driver side of the adjustable front crossbow.
- Loosen the pre-assembled hardware on the front hooks and slide the hooks onto the front crossbows to the position shown below.
 - Cut the track plug, then attach it back to the crossbows.



Tighten the nuts just to hold the front hook for adjustment.

TOOLS

- ☐ Marker
- ☐ Cutter

HARDWARE USED

4x HARDWARE IS PRE-ASSEMBLED.



#90-491 Carriage Bolt 5/16" x 1"



#98-117 Flat Washer

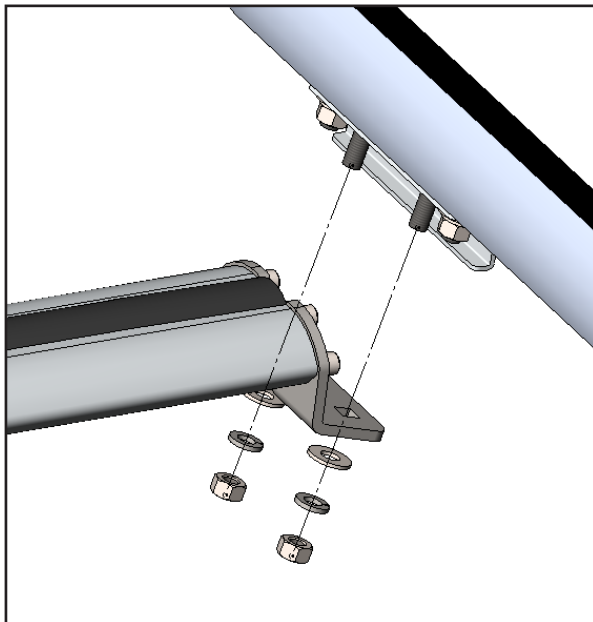
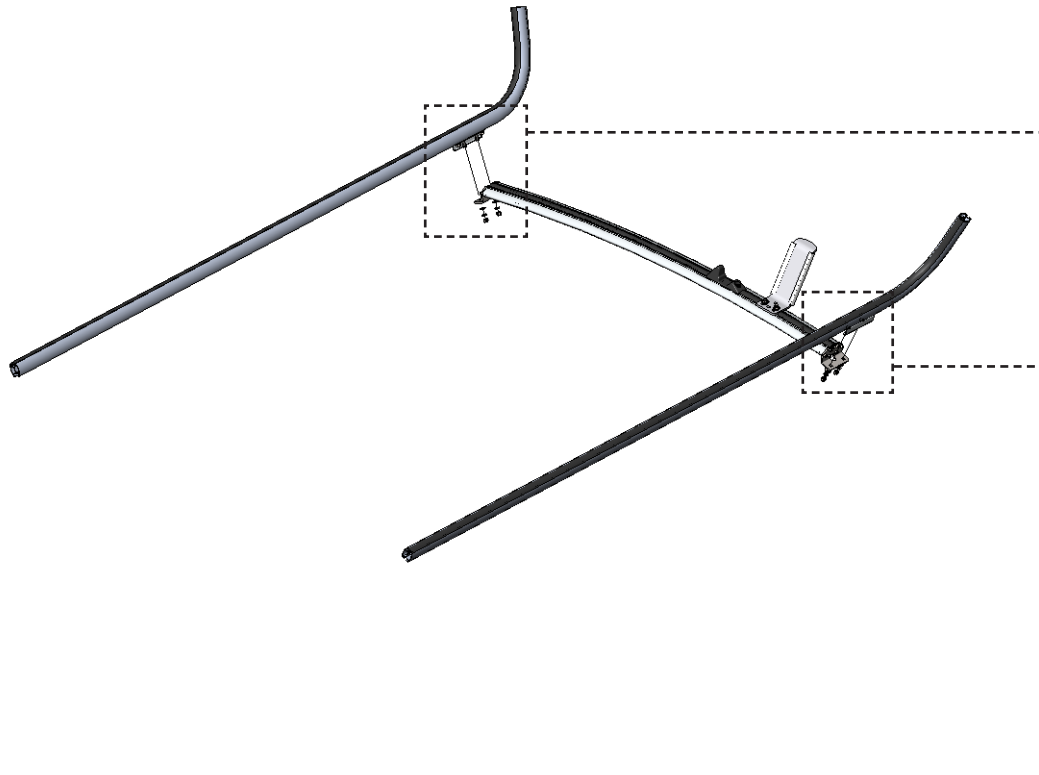


#98-123 Lock Washer



#94-105 Hex Nut

1.2.7 Install the left and right Skis to the end brackets of the front crossbow.



TOOLS

- Cordless Impact
- 1/2" Socket

HARDWARE USED

4x



Carriage bolts are already on the ski.



#98-117 Flat Washer

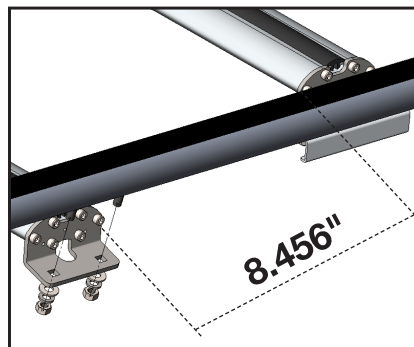
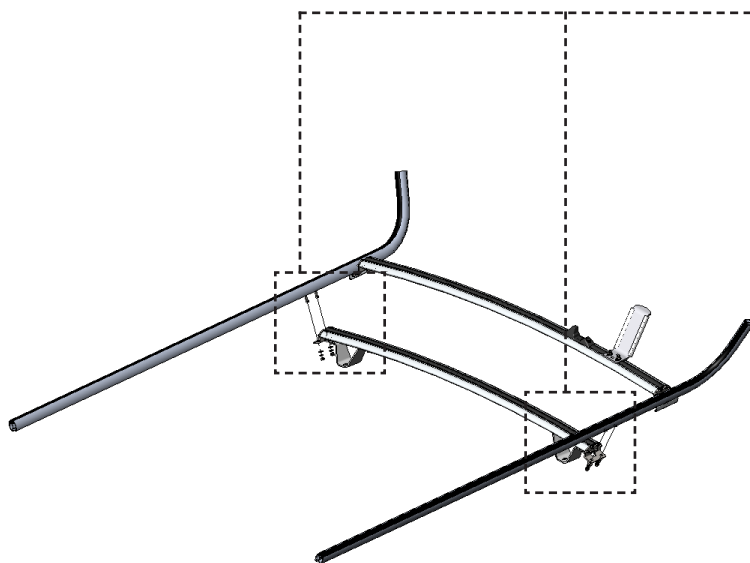


#98-123 Lock Washer



#94-105 Hex Nut

1.2.8 Install the third crossbow to the left and right Skis.



TOOLS

- Cordless Impact
- 1/2" Socket

HARDWARE USED

4x HAND-TIGHTEN THE NUTS.



#90-491 Carriage Bolt 5/16" x 1"



#98-117 Flat Washer



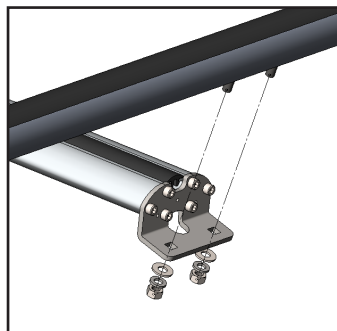
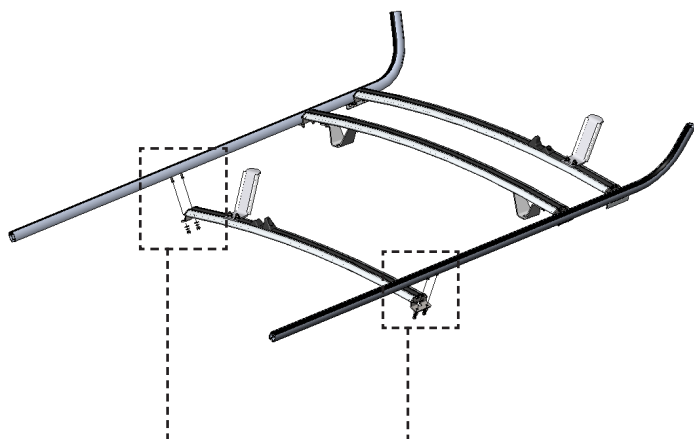
#98-123 Lock Washer



#94-105 Hex Nut

1.2.9 Install the adjustable front crossbow to the left and right Skis.

NOTE: Tighten the nuts just to hold the 2nd front crossbow for adjustment.



HARDWARE USED

4x HAND-TIGHTEN THE NUTS.



#90-491 Carriage Bolt 5/16" x 1"



#98-117 Flat Washer

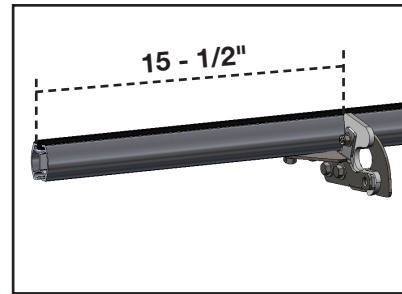
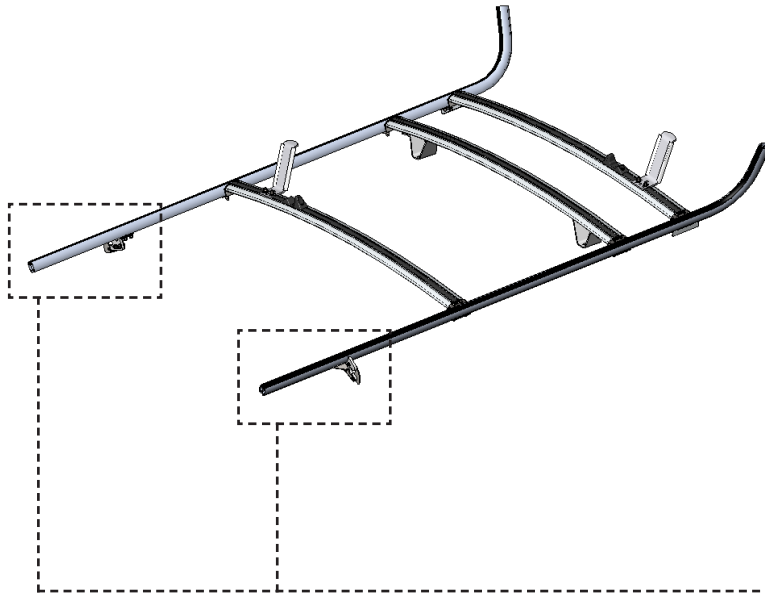


#98-123 Lock Washer



#94-105 Hex Nut

1.2.10 Loosen the pre-assembled hardware on the ladder clamp hasps, slide the hasps on the skis to the position shown below, and tighten the nuts.



TOOLS

- ☐ Cordless Impact
- ☐ 1/2" Socket
- ☐ Tape Measure
- ☐ Marker

HARDWARE USED

4x HARDWARE IS PRE-ASSEMBLED.



#90-487 Carriage Bolt 5/16" x 3/4"



#98-117 Flat Washer

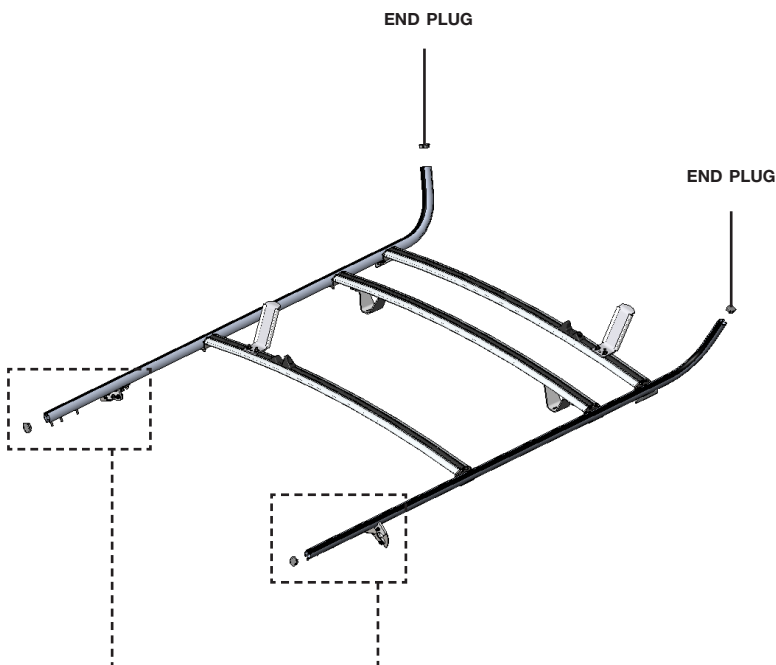


#98-123 Lock Washer

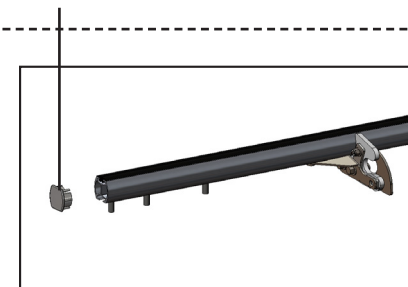


#94-105 Hex Nut

1.2.11 Slide 3pcs. of carriage bolts on the rear end of the each ski, then attach end plugs on both ends of the skis.



END PLUG



TOOLS

- ☐ Mallet

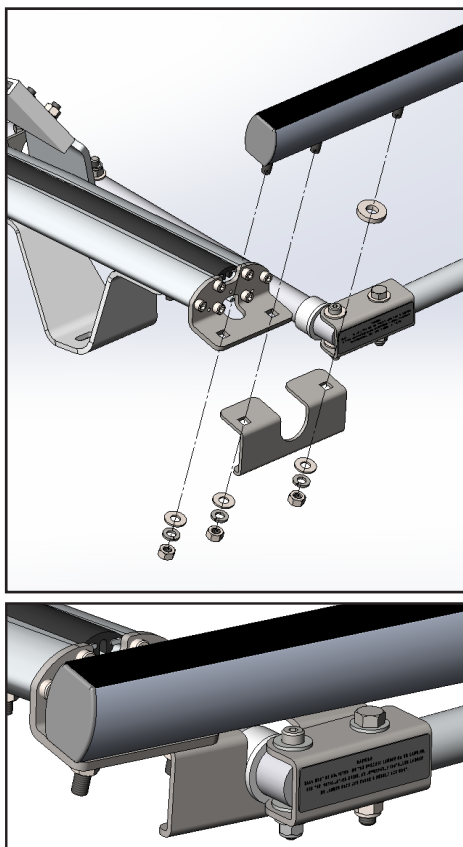
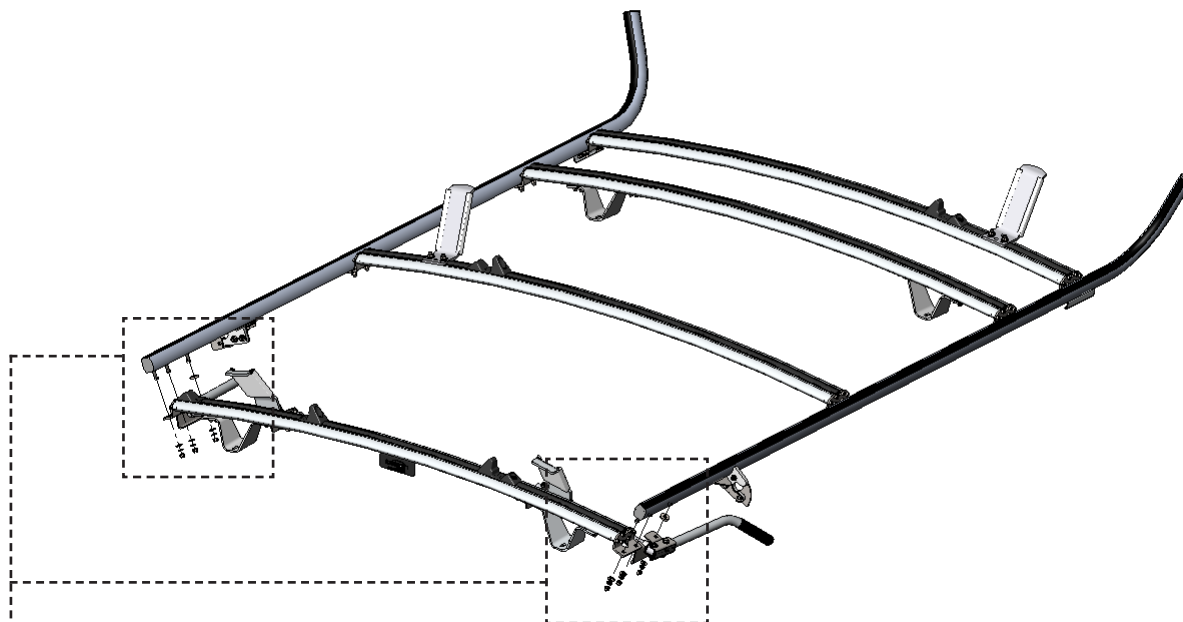
HARDWARE USED

6x



#90-491 Carriage Bolt
5/16" x 1" SS304

1.2.12 Install the Rear Crossbow to the skis with the clamp handle supports, aligning the rear surface of the crossbow brackets to the rear surface of the skis.







TOOLS






- Cordless Impact
- 1/2" Socket

HARDWARE USED

4x

-  Carriage bolts are already on the ski.
-  #98-117 Flat Washer
-  #98-123 Lock Washer
-  #94-105 Hex Nut

2x

-  Carriage bolts are already on the ski.
-  #98-160 Spacer
-  #98-117 Flat Washer
-  #98-123 Lock Washer
-  #94-105 Hex Nut

PHASE 2 – INSTALLATION

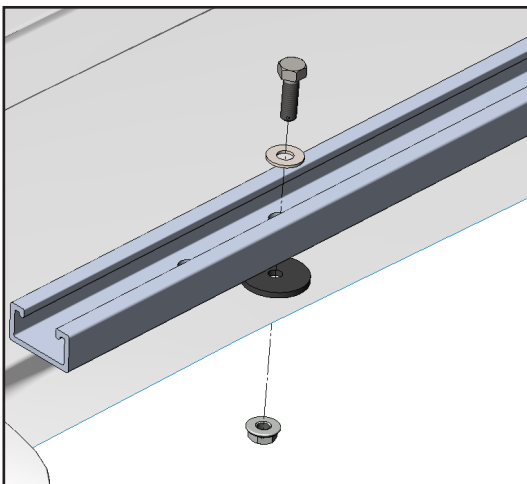
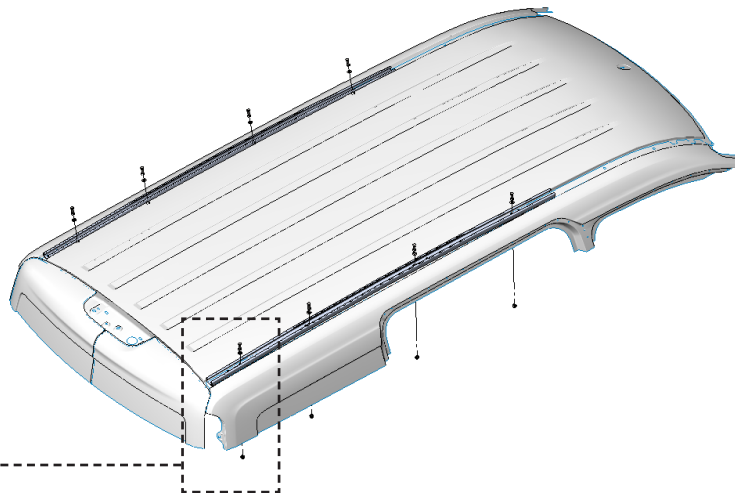
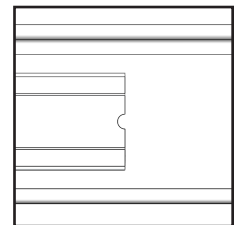
2.1 MOUNTING TRACKS INSTALLATION

- 2.1.1**
- Pull the plugs off, then apply a bead of silicone around the each hole.
 - Install the mounting tracks on the roof.

NOTE: The ends of the mounting tracks with the half-circles go to the front of the vehicle.



FRONT



TOOLS

- Cordless Impact
- 1/2" Socket

HARDWARE USED

8x



#90-209 Hex Bolt 5/16" x 1"



#98-117 Flat Washer



#98-149 Neoprene Spacer



#94-116 Serrated Nut

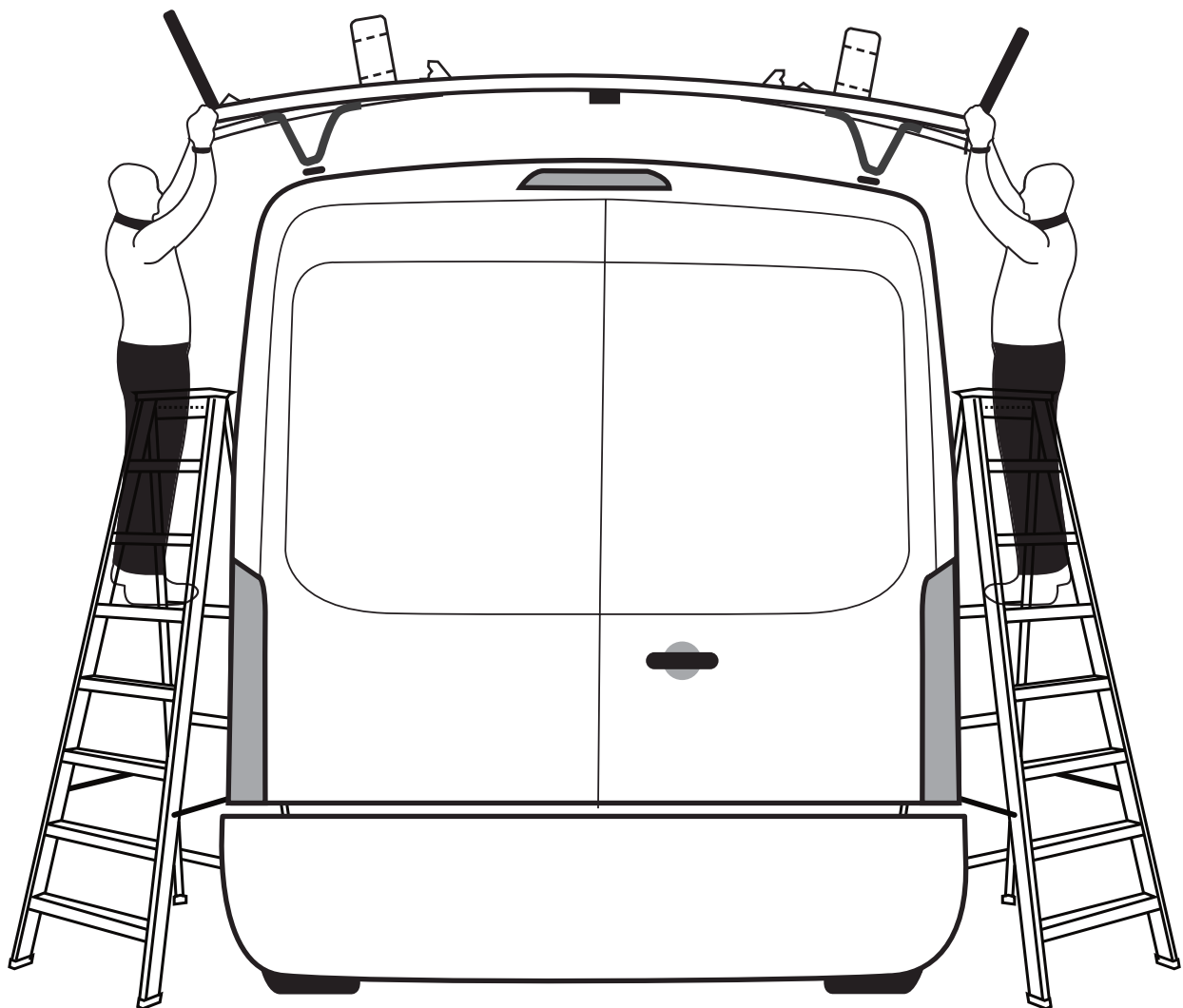
PHASE 2 – INSTALLATION

2.2 LADDER RACK INSTALLATION

2.2.1 Position the Ladder Rack (**minimum two persons**) on the vehicle so that the feet are on the tracks.

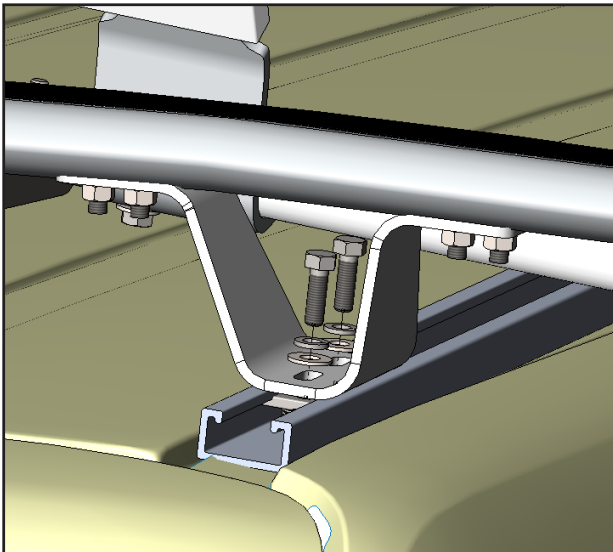
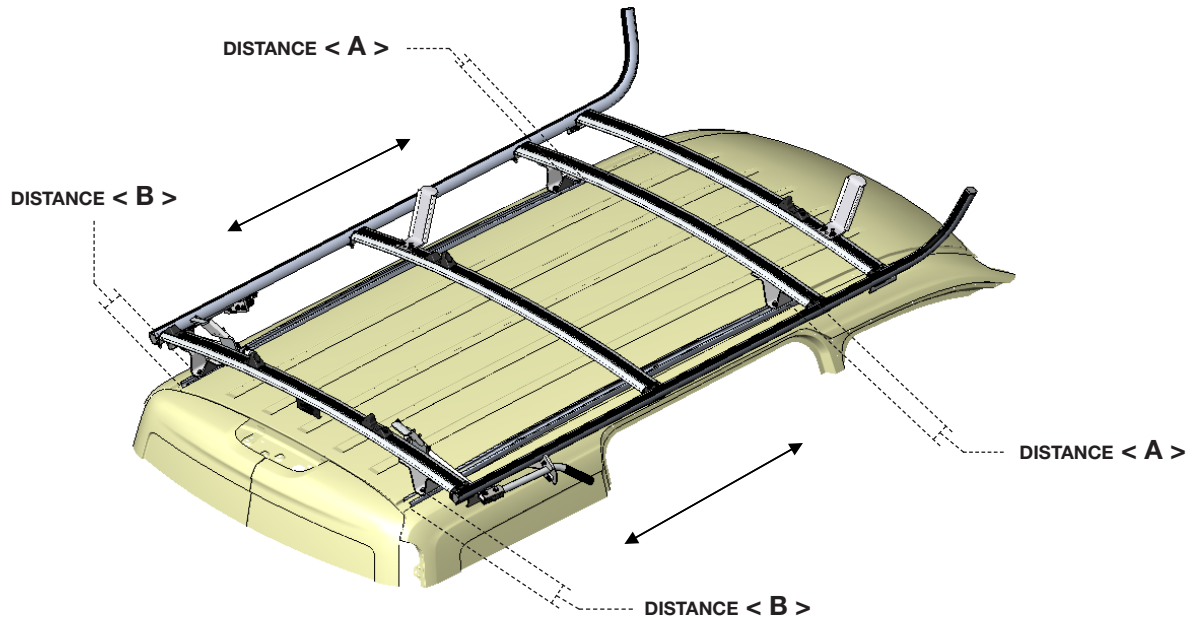
NOTE: If you do not have a hoist, lift the ladder rack onto the roof manually.

Ladder Rack



2.2.2 While making sure the crossbows are parallel to each other, slide the rack to the appropriate position, then attach all the “V” feet to the mounting tracks.

DISTANCE < FOOT TO END OF TRACK >







TOOLS

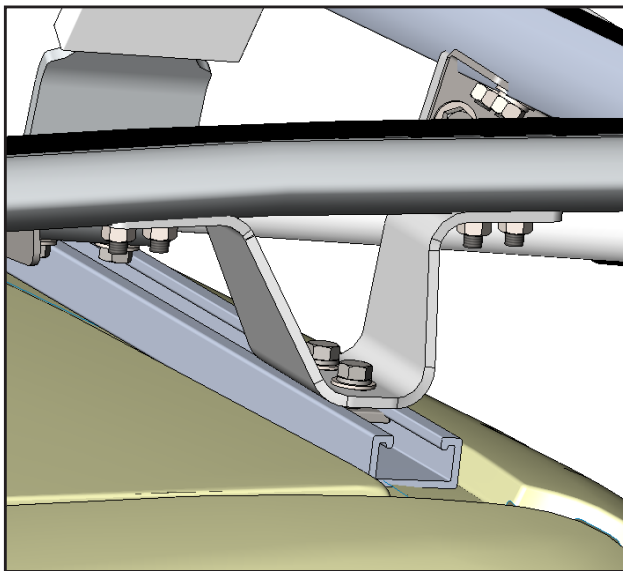
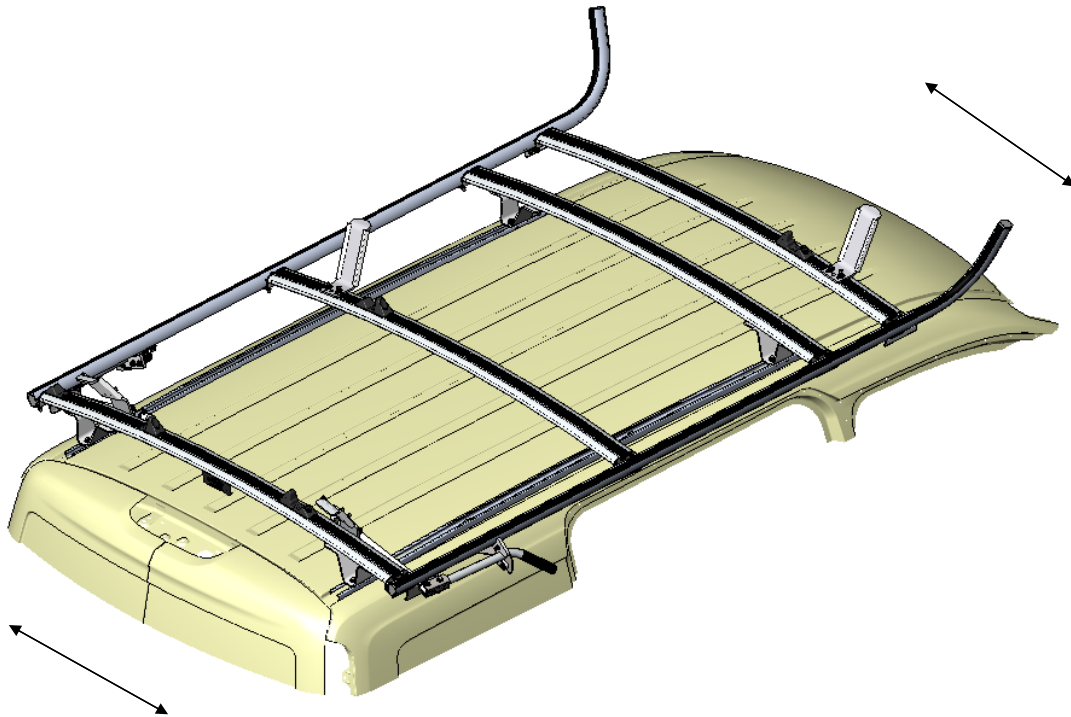
- ☐ Ratchet
- ☐ 1/2" Socket
- ☐ Tape Measure

HARDWARE USED

8x

- | | |
|---|-----------------------------|
|  | #90-209 Hex Bolt 5/16" x 1" |
|  | #98-123 Lock Washer |
|  | #98-117 Flat Washer |
|  | #94-150 Channel Nut |

2.2.3 Center the crossbows on the vehicle, then tighten all the “V” feet to the crossbows.

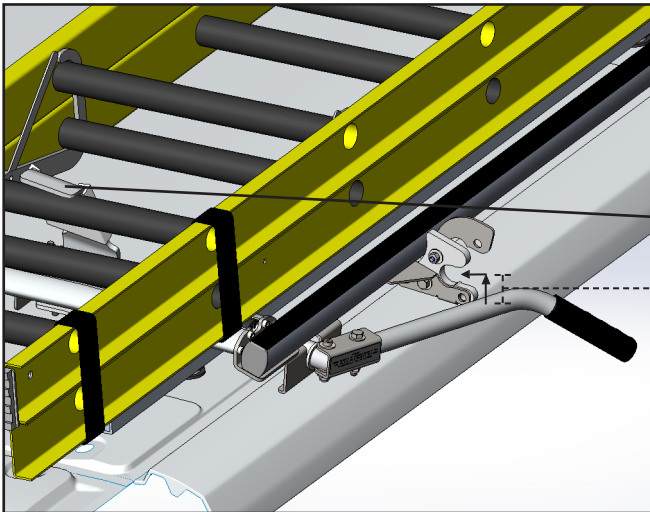
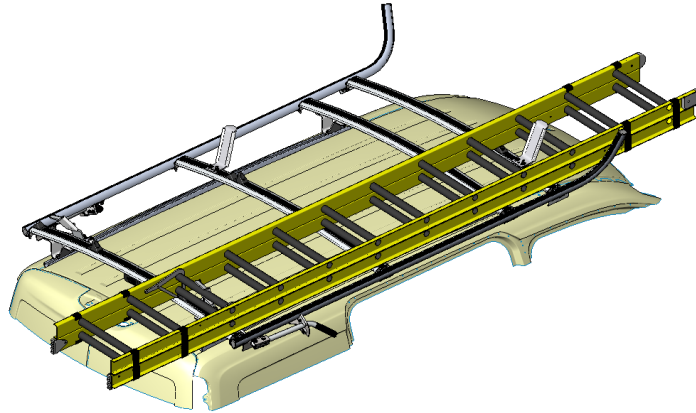


TOOLS

- Ratchet
- 1/2" Socket

2.2.4 Ladder Rack adjustment for extension ladder.

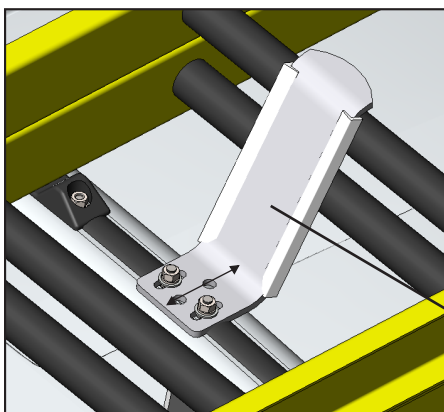
NOTE: The ladder cannot extend beyond the rear bumper of the vehicle.



When the rear hook touches the ladder, the handle should be 1" below the ladder clamp hasp.

REAR HOOK

1"



Now adjust the front hook to be snug against the ladder rung and tighten the bolts on the front crossbow.

TOOLS

- ☐ Cordless Impact
- ☐ 1/2" Socket

FRONT HOOK

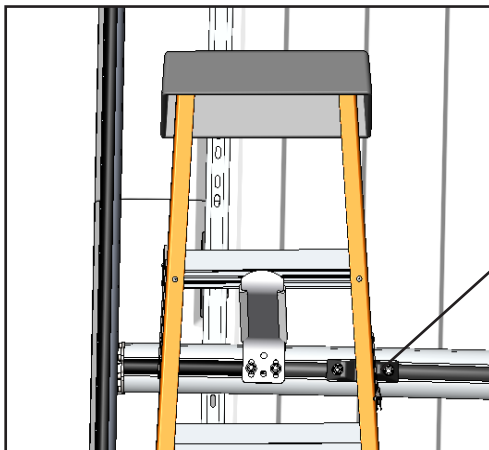
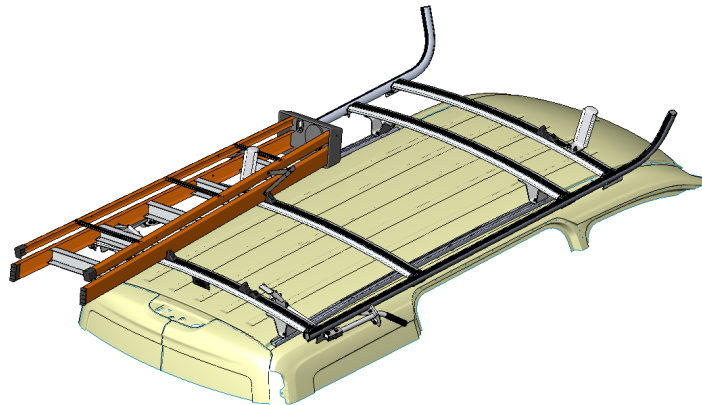
2.2.5 Ladder Rack adjustment for step ladder.

NOTE:

- The same procedure applies to the hook located on the adjustable front crossbow. The position of the adjustable front crossbow must be adjusted according to the length of the stepladder.
- The ladder cannot extend beyond the rear bumper of the vehicle.

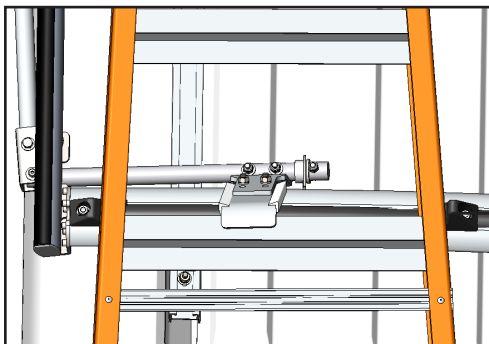
IMPORTANT:

- After installation is complete, cut the track plug underneath the crossbow to fill all the unused space.
- Place the ladder rack warning label on a visible area, recommended on a partition.



NOTE: Make sure all the bolts are tightened after adjusting.

Be sure that the extrusion of the step ladder is on the ladder side support.

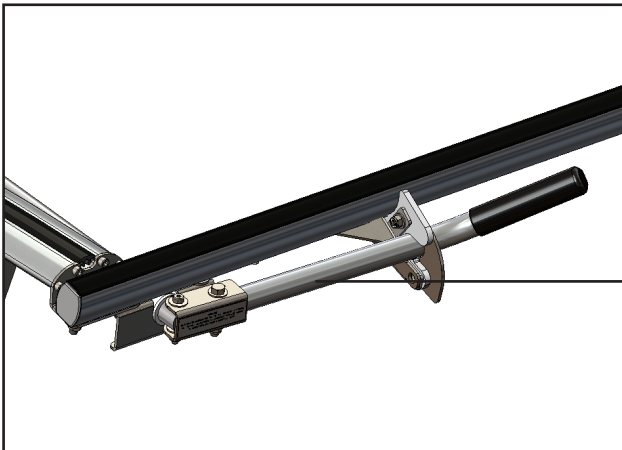
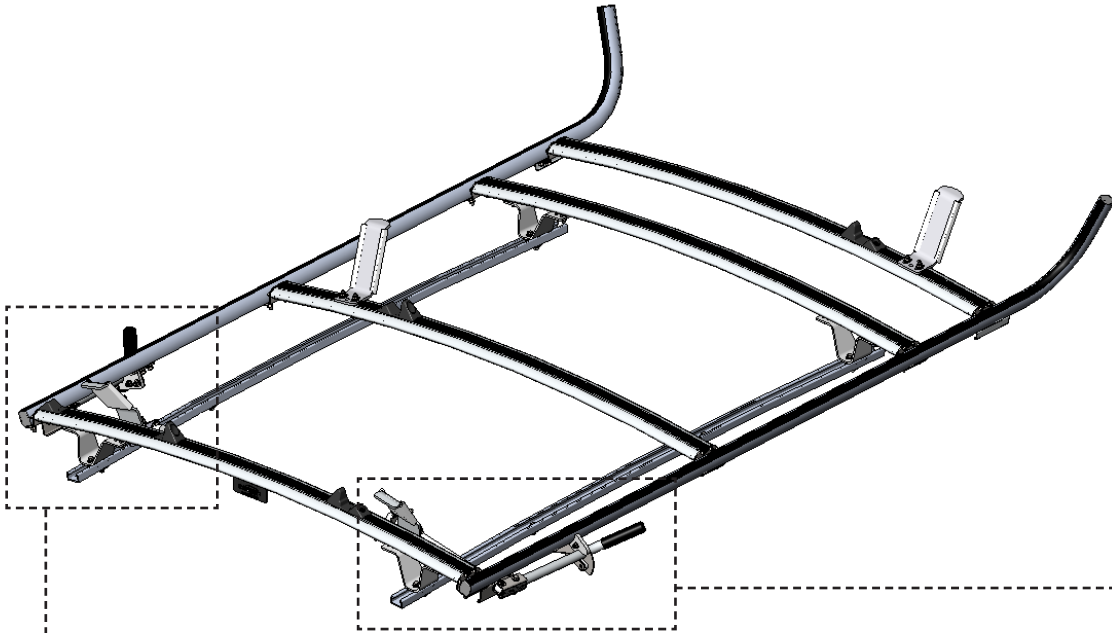


The inner ladder side support must be adjusted according to the width of the step ladder.

PHASE 2 – INSTALLATION

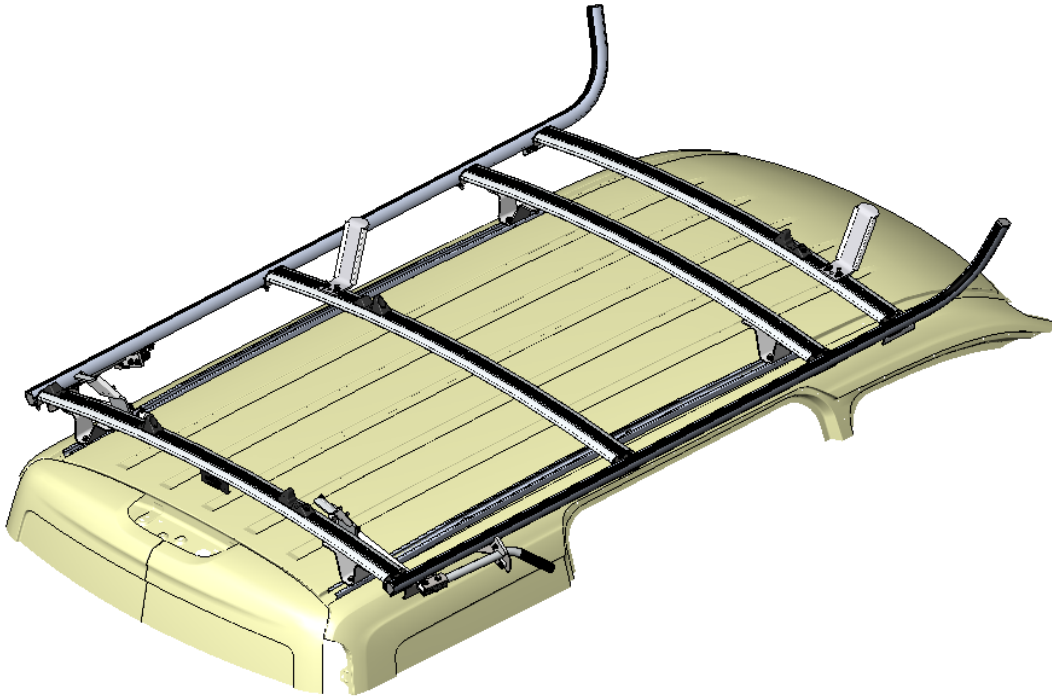
2.3 NOTE

2.3.1 If the handle is interfering with the door or roof of the vehicle, the handle can be installed in an alternate position.



If the handle is interfering with the door or roof of the vehicle, disassemble the handle, then assemble it in an alternate position as shown.

Handle



**“You have successfully installed your
1525-TCX Ladder Rack**

Thank you for doing business with us.”

For any feedback or suggestions you may have, please contact: cs@rangerdesign.com

