

INSTALLATION GUIDE



1525-FS Combination Ladder Rack

Express / Savana (Aluminum)



QUICK START GUIDE

Phase 1 - Assembly

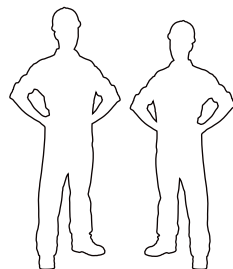
❑ 1.1 Setup.....	3 - 4
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Phase 2 - Installation

❑ 2.1 Ladder Rack Installation.....	16 - 20
❑ 2.2 Note.....	21

REQUIRED ITEMS

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



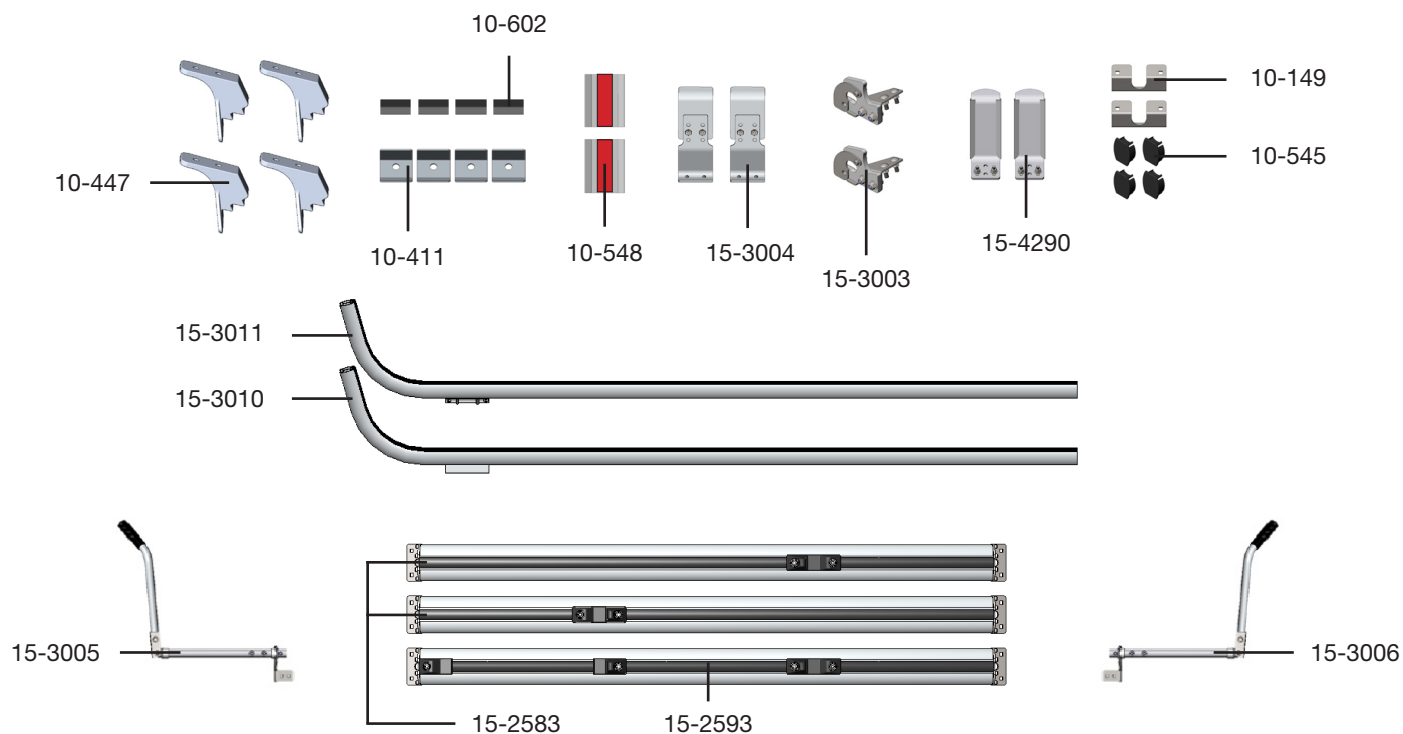
**2
PERSONS**

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Mallet
- ❑ Marker
- ❑ Ladder
- ❑ Cutter
- ❑ 1/2" Socket
- ❑ Sawhorse (Optional)
- ❑ Box
- ❑ Knife
- ❑ 1/2" Wrench
- ❑ 9/16" Socket

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
10-411	Gutter Clip	4
10-545	Ski Plastic Plug	4
10-548	Hook Protector (4 - 3/8" L)	2
10-447	"C" Foot	4
10-602	Insulator Pad	4
15-2583	Front Crossbow	2
15-2593	Rear Crossbow	1
15-3003	Ladder Clamp Hasp	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
94-1010	Assembly Fastener Kit	1
96-1014	Install Fastener Kit	1





1.1.3 Fastener kits.

94-1010 Fastener Kit





4x		# 90-487	Carriage Bolt 5/16"-18 x 3/4" SS304
18x		# 90-491	Carriage Bolt 5/16"-18 x 1" SS304
26x		# 94-105	Hex Nut 5/16"-18 SS316wax
2x		# 98-160	Spacer SS18-8
26x		# 98-117	Flat Washer 5/16", O.D 3/4" SS18-8
26x		# 98-123	Lock Washer Regular 5/16" SS304

Fastener Assembly




4x

	#90-487 Carriage Bolt 5/16" x 3/4"
	#98-117 Flat Washer
	#98-123 Lock Washer
	#94-105 Hex Nut






16x

	#90-491 Carriage Bolt 5/16" x 1"
	#98-117 Flat Washer
	#98-123 Lock Washer
	#94-105 Hex Nut

4x

	#98-117 Flat Washer
	#98-123 Lock Washer
	#94-105 Hex Nut

2x

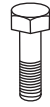


	#90-491 Carriage Bolt 5/16" x 1"
	#98-160 Spacer
	#98-117 Flat Washer
	#98-123 Lock Washer
	#94-105 Hex Nut

96-1014 Fastener Kit

4x		# 90-327	Hex Bolt 3/8"-16 x 2-1/2" SS304
4x		# 94-109	Lock Nut 3/8" SS304wax
4x		# 98-109	Flat Washer 3/8" SS304

Fastener Assembly

8x

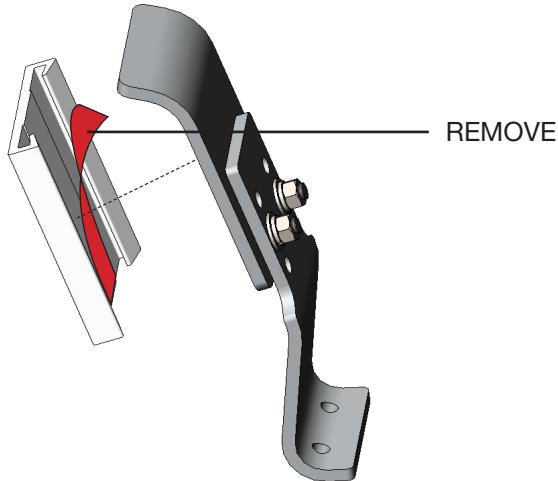
	#90-327 Hex Bolt 3/8" x 2-1/2"
	#98-109 Flat Washer
	#94-109 Lock Nut

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.

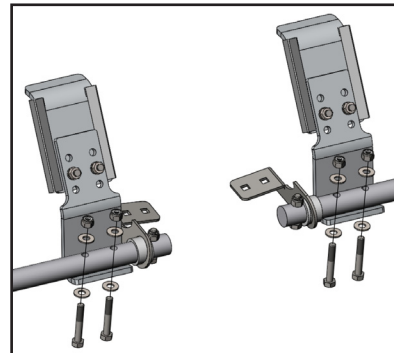
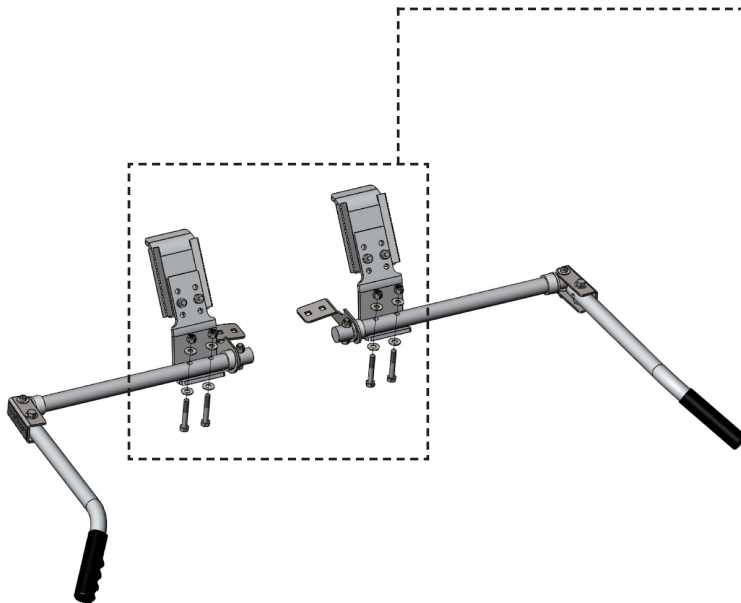
2x



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 crossbows, and reinstalled after the feet have been installed in the final position.

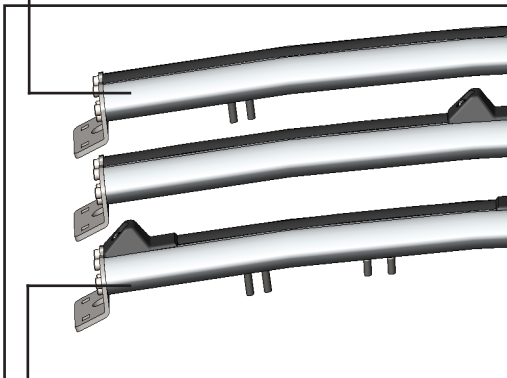
TIPS: Use tape to keep the bolts from sliding off.



DRIVER SIDE

First Front crossbow

- Slide 2 pcs. of 1" carriage bolts.



Rear crossbow

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

HARDWARE USED

2x



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

4x

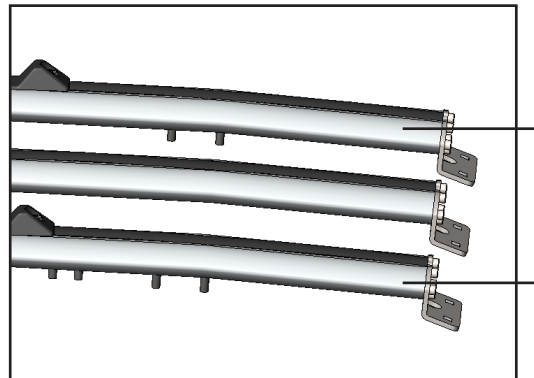


#90-491 Hex Bolt
5/16" x 1" SS304

PASSENGER SIDE

First Front crossbow

- Slide 2 pcs. of 1" carriage bolts.



Rear crossbow

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

HARDWARE USED

2x



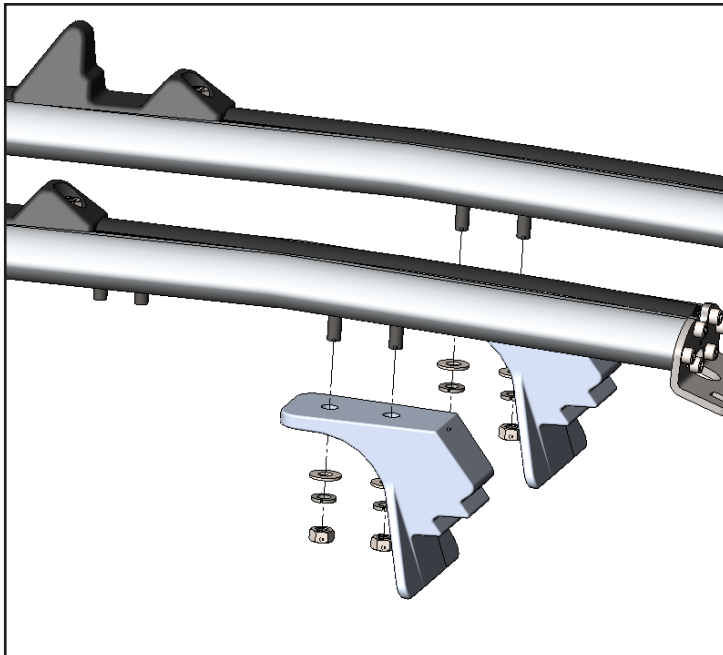
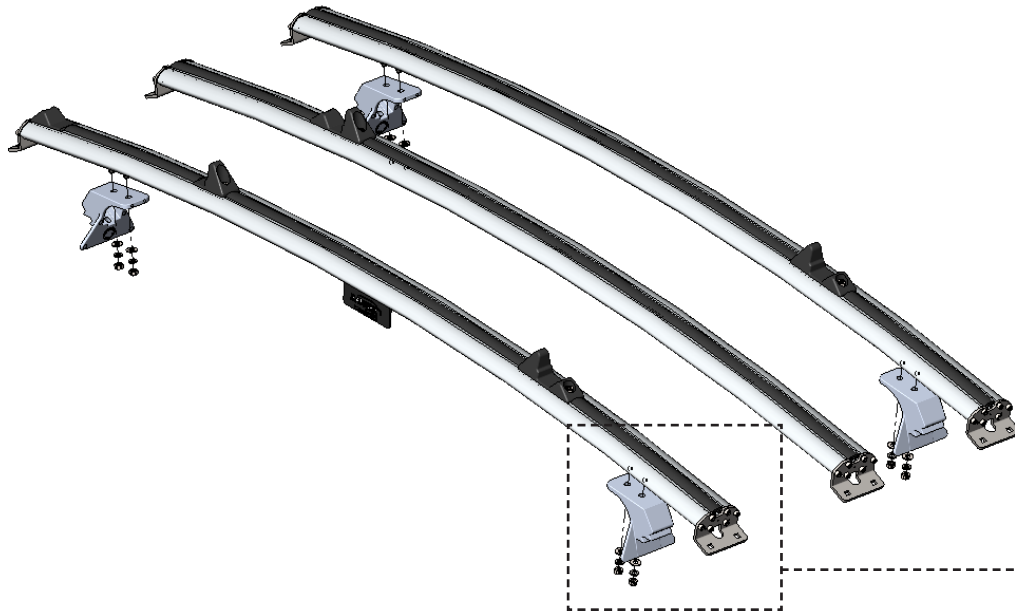
#90-487 Carriage Bolt
5/16" x 3/4" SS304

4x



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

1.2.4 Install the feet on the first Front, and Rear Crossbows.



HARDWARE USED

8x HAND-TIGHTEN THE NUTS.



Carriage bolts are already on the crossbows.



#98-117 Flat Washer

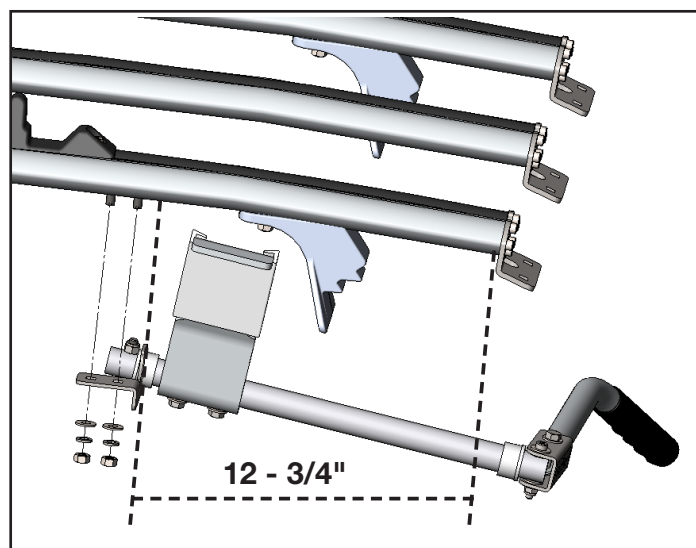
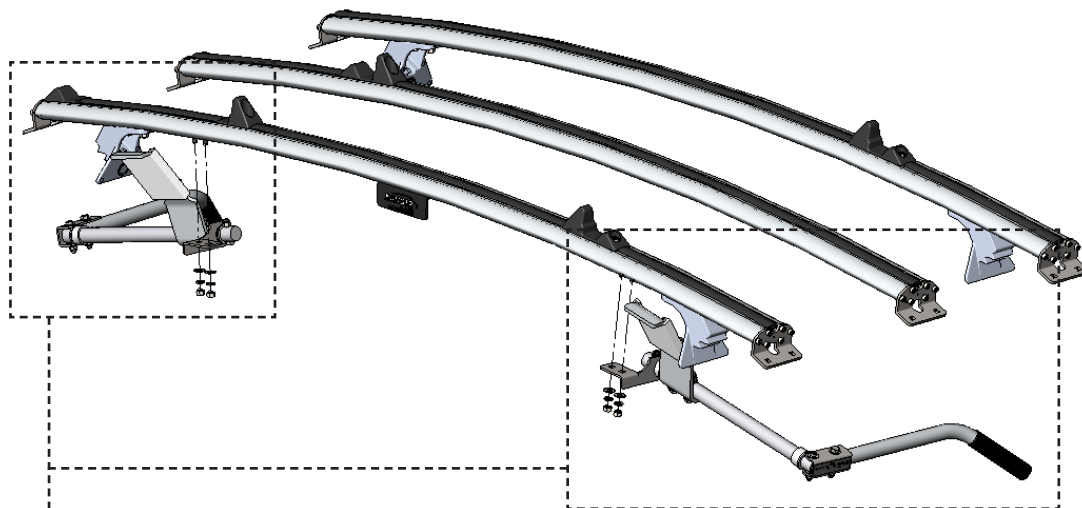


#98-123 Lock Washer



#94-105 Hex Nut

1.2.5 Fasten the left and right ladder clamp assemblies to the Rear Crossbow.







TOOLS

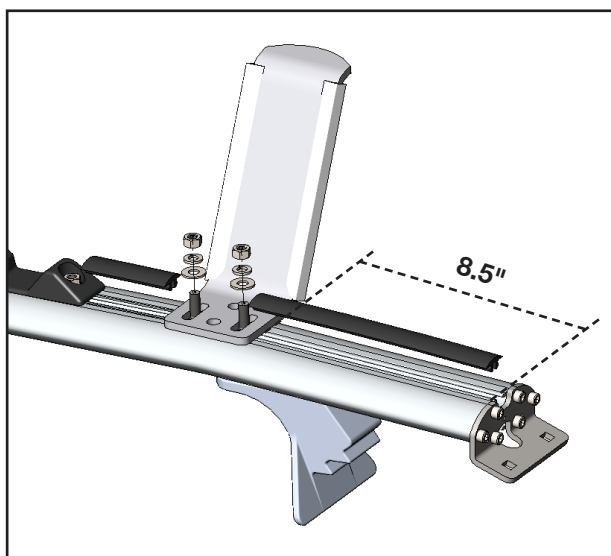
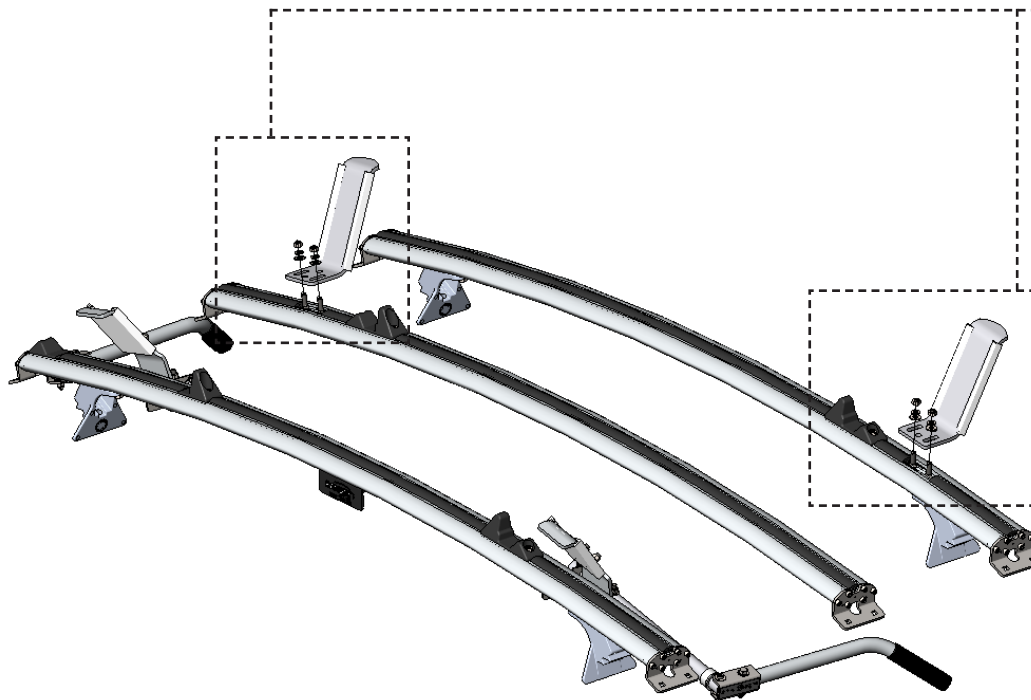
- | | |
|--|--------------------------------------|
| <input type="checkbox"/> Cordless Impact | <input type="checkbox"/> 1/2" Socket |
| <input type="checkbox"/> Tape Measure | <input type="checkbox"/> Marker |

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

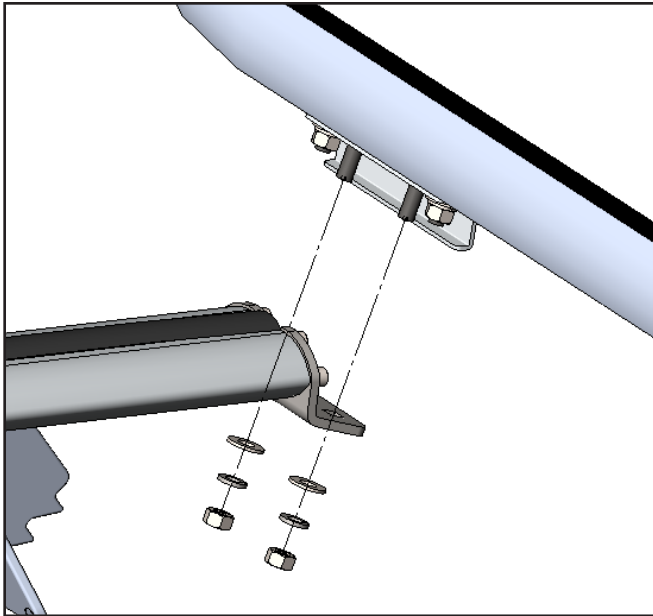
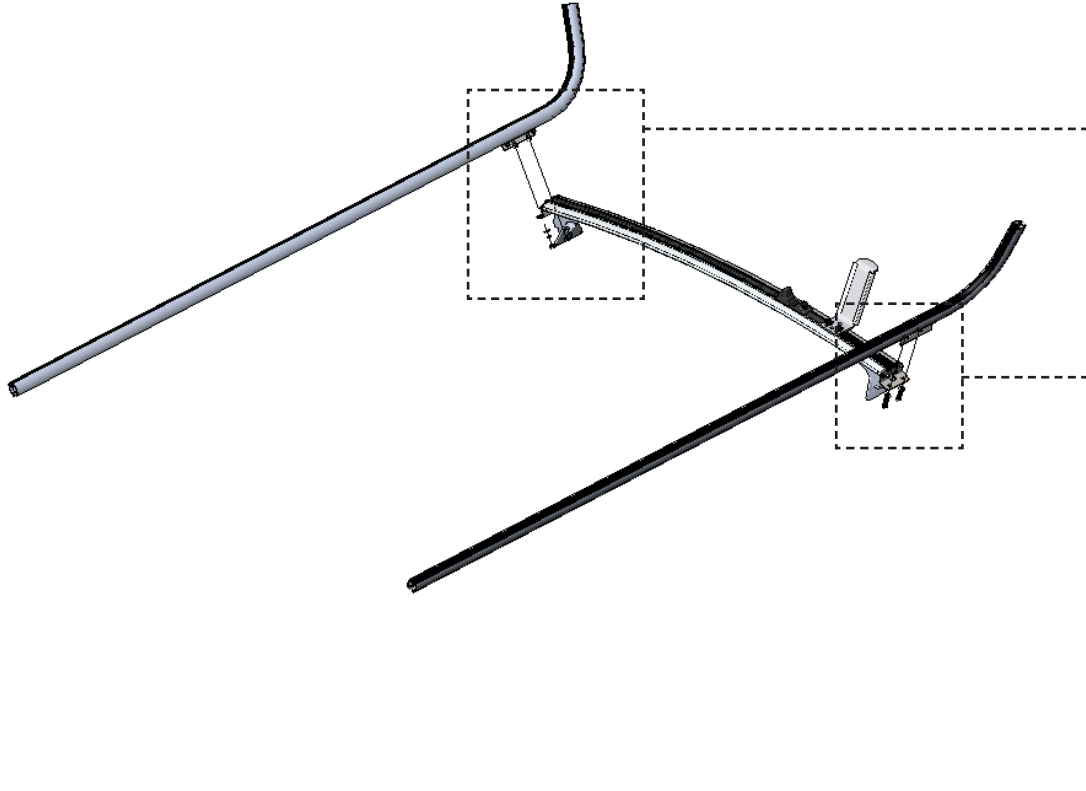
- ☐ Marker
- ☐ Cutter

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

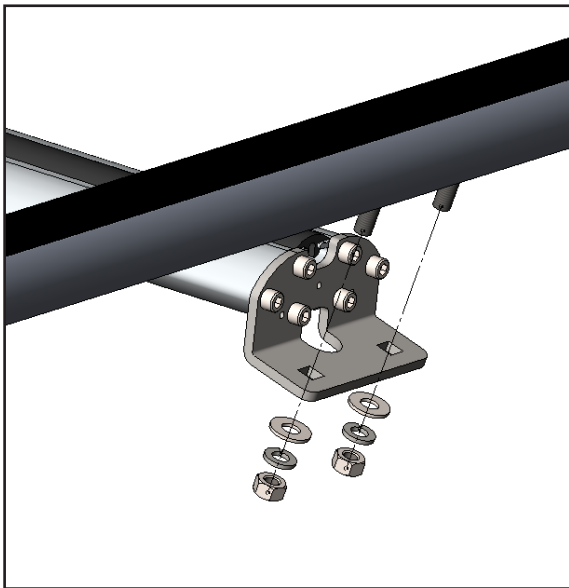
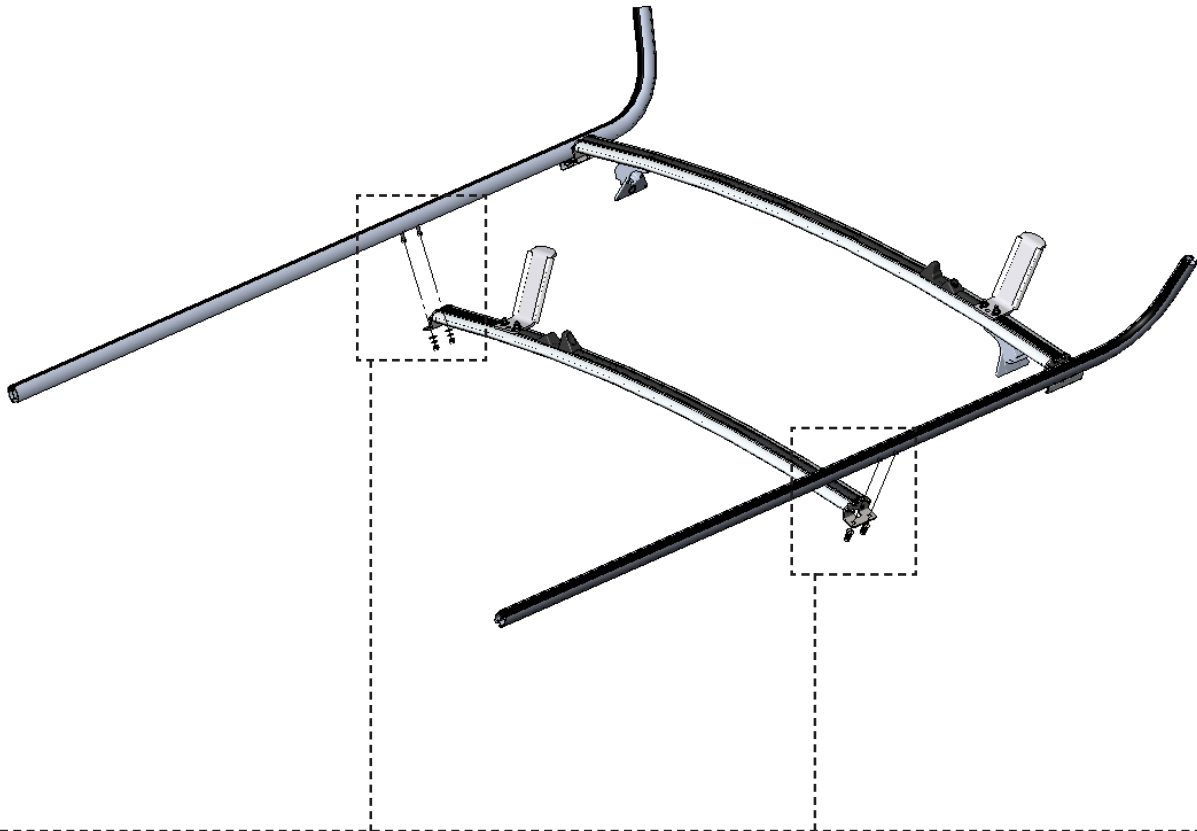


#98-123 Lock Washer



#94-105 Hex Nut

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







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

TOOLS

- ☐ Marker
- ☐ Cutter

HARDWARE USED

4x HAND-TIGHTEN THE NUTS.

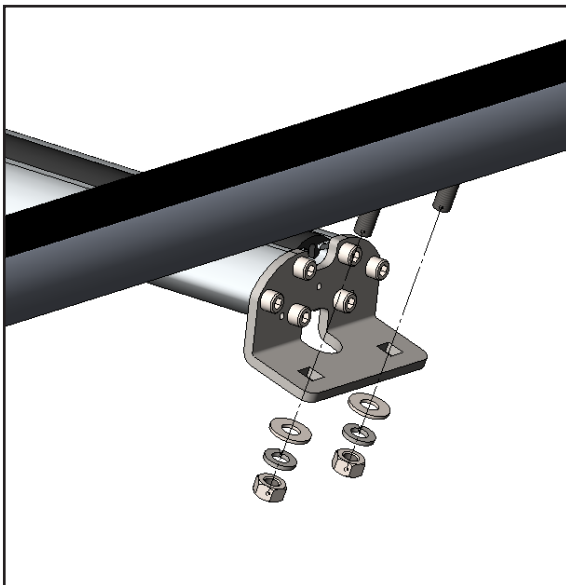
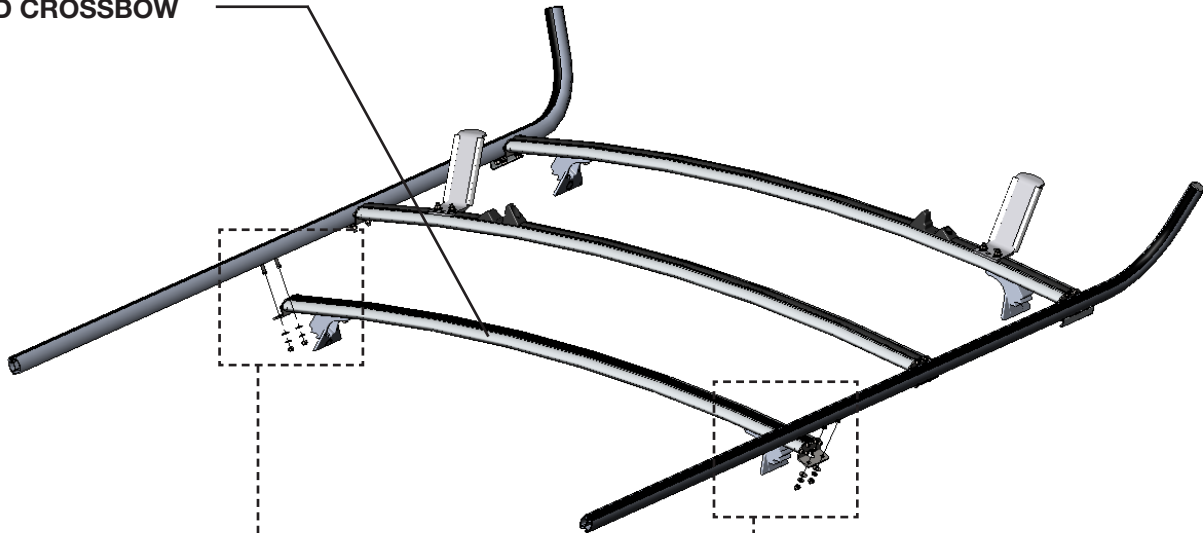
- | | |
|---|----------------------------------|
|  | #90-491 Carriage Bolt 5/16" x 1" |
|  | #98-117 Flat Washer |
|  | #98-123 Lock Washer |
|  | #94-105 Hex Nut |

NOTE: If you have a third crossbow, stop here and open the third crossbow box and follow the installation guide to assemble the third crossbow.

1.2.9 After assembling the third crossbow attach the third crossbow to the skis.

NOTE: Don't do this step if you don't have the third crossbow.





THIRD CROSSBOW



Use the assembly fastener kit of the third crossbow.

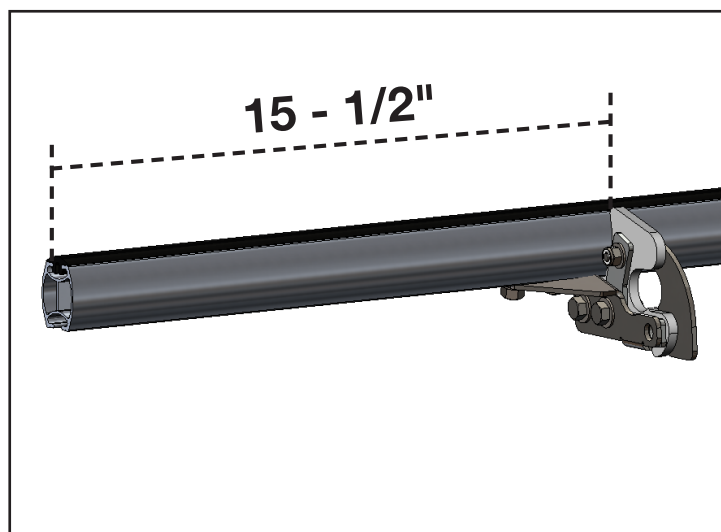
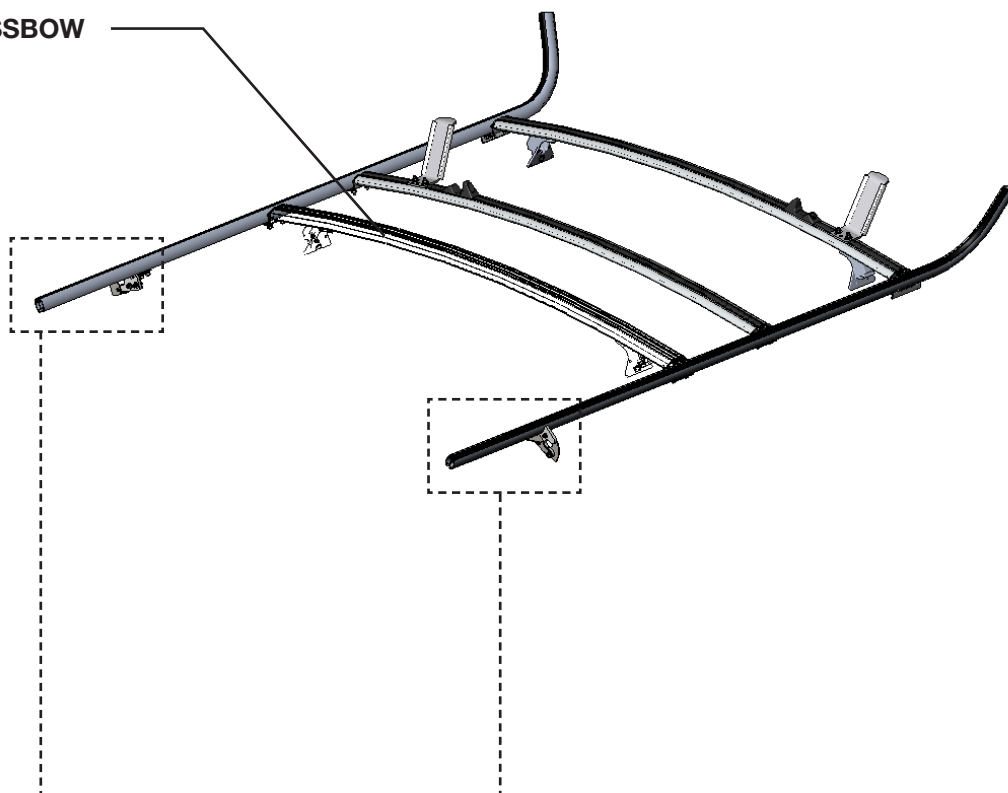
HARDWARE USED

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 ski to the position shown below, and tighten the nuts.

THIRD CROSSBOW



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

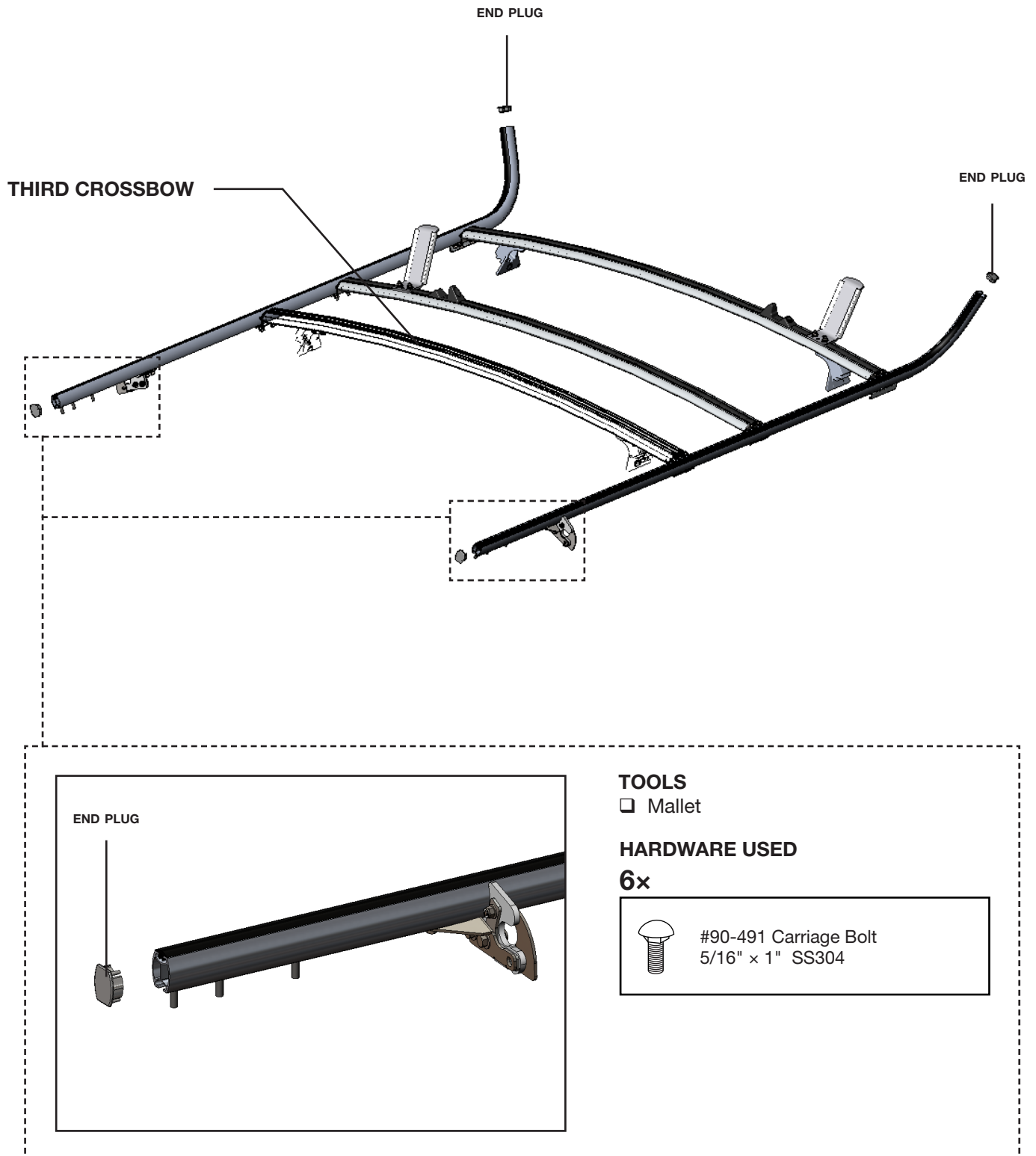


#98-123 Lock Washer



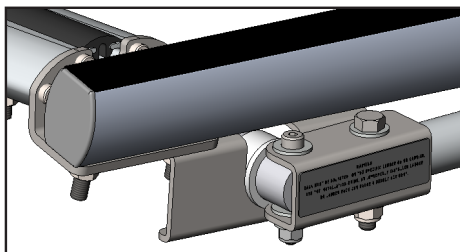
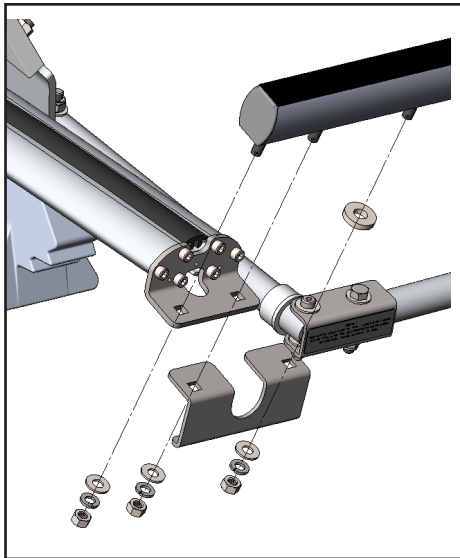
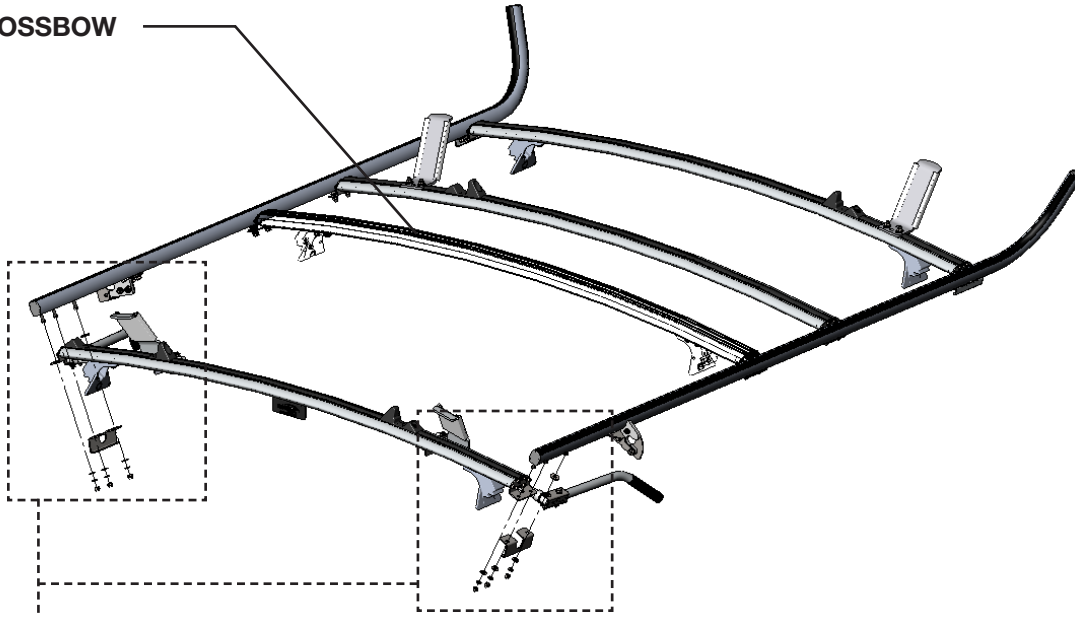
#94-105 Hex Nut

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.



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.

THIRD 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

2x

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

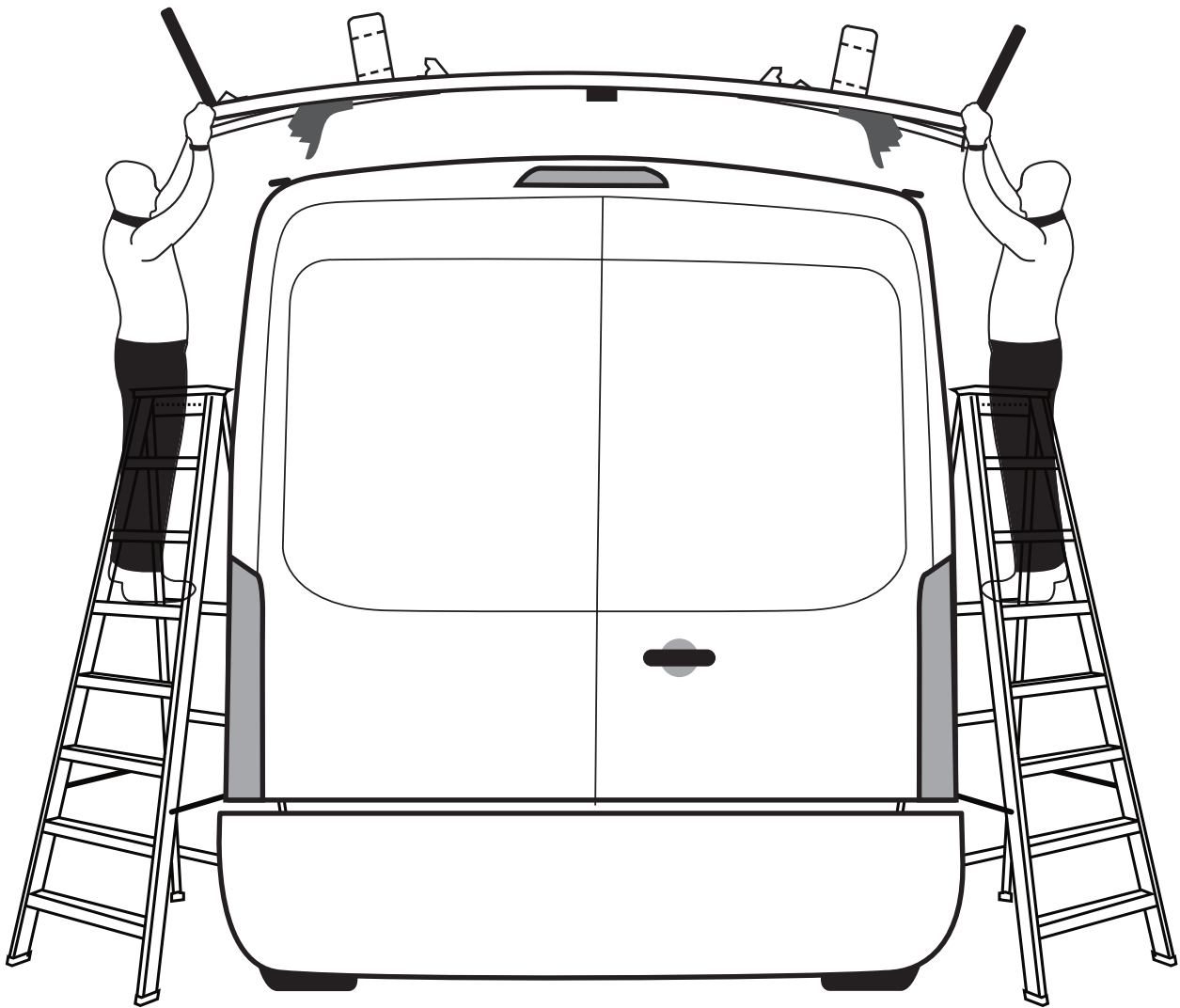
PHASE 2 – INSTALLATION

2.1 LADDER RACK INSTALLATION

2.1.1 Position the Ladder Rack (**minimum two persons**) on the roof, so that the feet sit in the gutters.

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

Ladder Rack

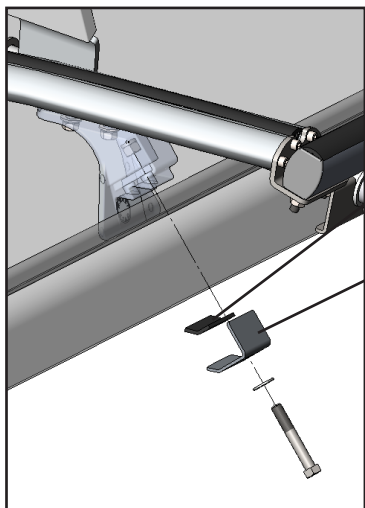
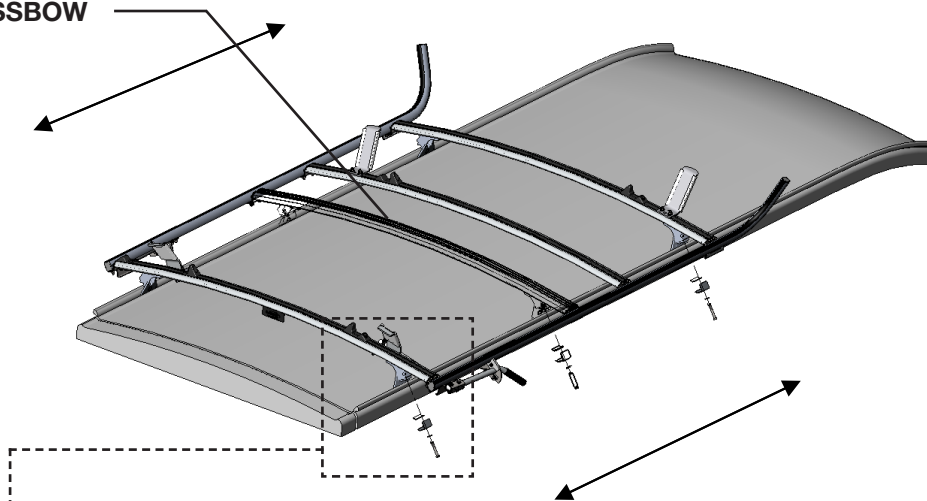


2.1.2 While making sure the crossbows are parallel to each other, place the rack in the appropriate position, then attach all the feet to the roof.

NOTE:

- If you have a third crossbow, center the third crossbow between the front and rear crossbows.
- Use the third crossbow install faster kit for the third crossbow feet installation.

THIRD CROSSBOW



INSULATOR PAD

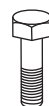
GUTTER CLIP

TOOLS

- Cordless Impact
- 9/16" Socket

HARDWARE USED

4x



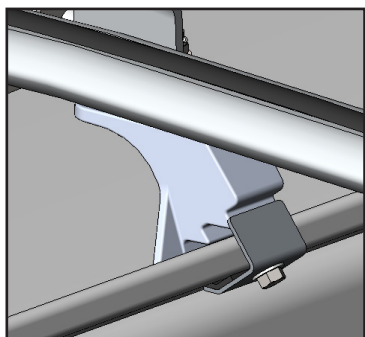
#90-327 Hex Bolt 3/8" x 2-1/2"



#98-109 Flat Washer

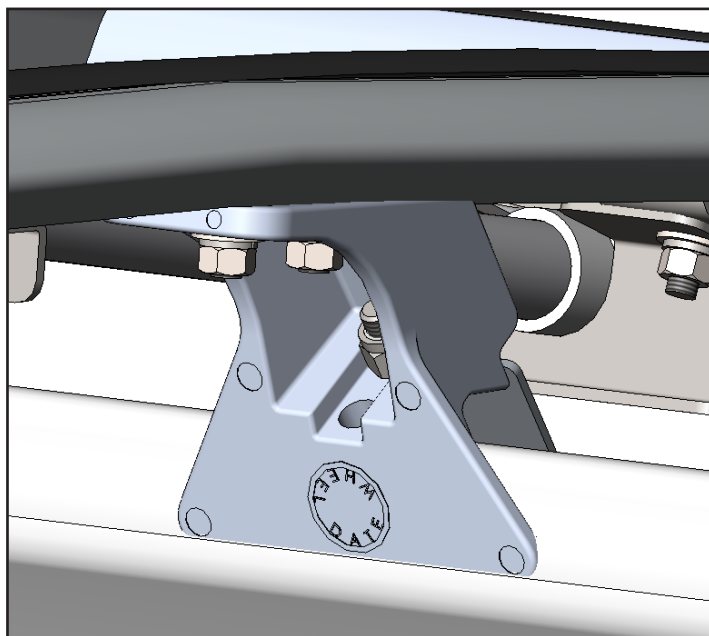
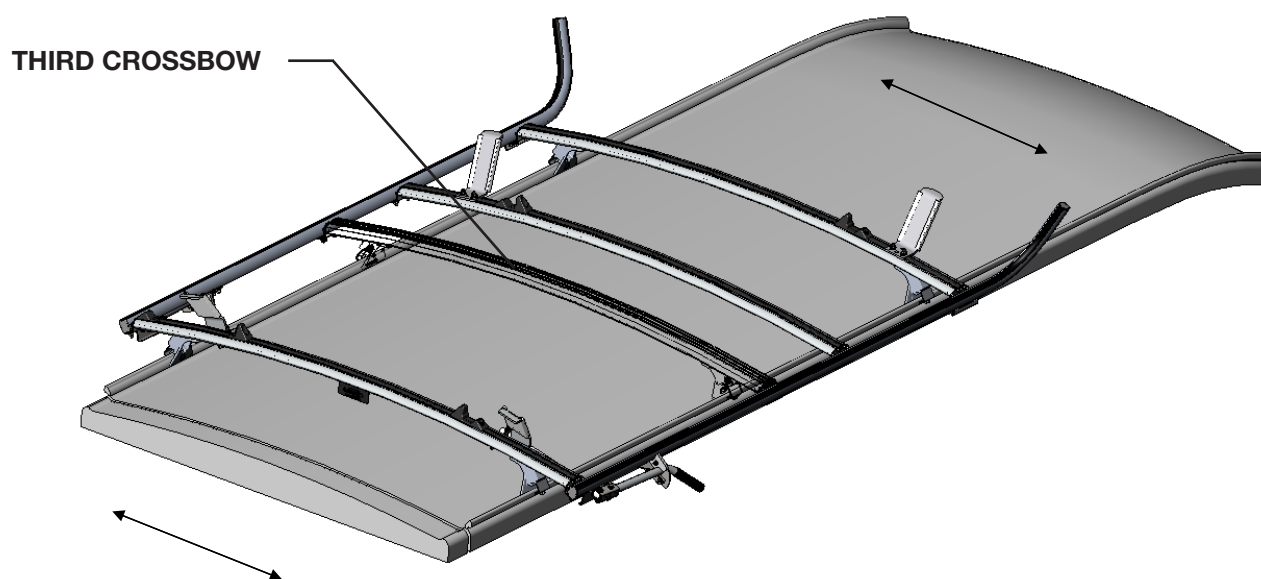


#94-109 Lock Nut



2.1.3 Center the crossbows on the vehicle, then tighten all the feet to the crossbows.

NOTE: If you have a third crossbow, center the third crossbow between the front and rear crossbows.



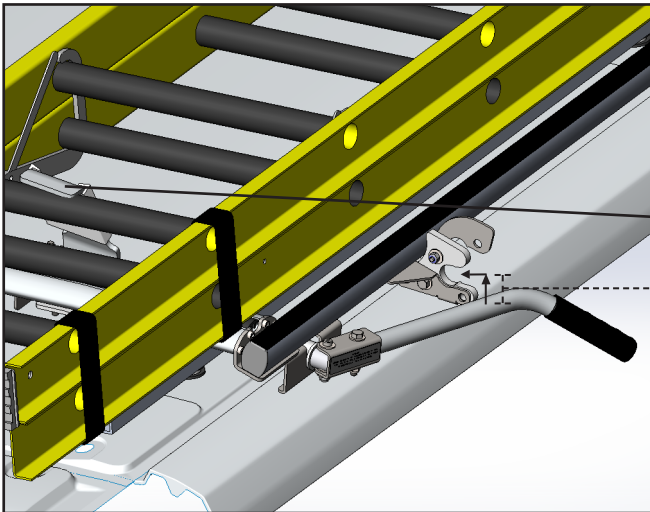
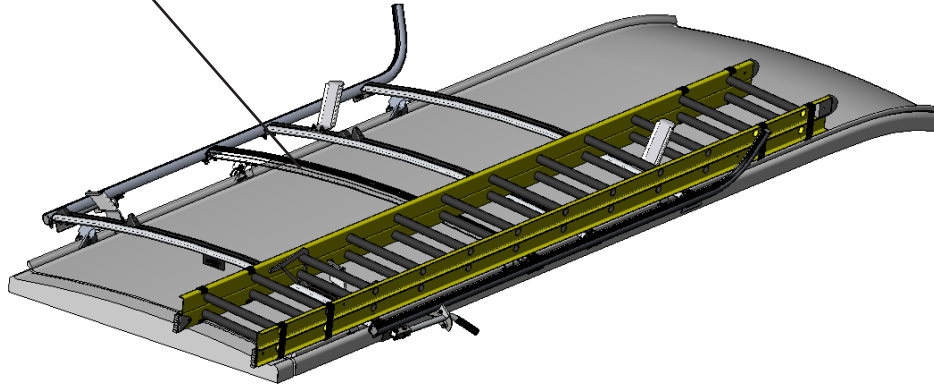
TOOLS

- ☐ Ratchet
- ☐ 1/2" Socket

2.1.4 Ladder Rack adjustment for extension ladder.

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

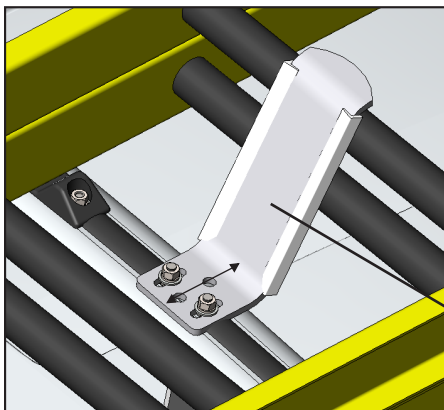
THIRD CROSSBOW



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

2.1.5 Ladder Rack adjustment for stepladder.

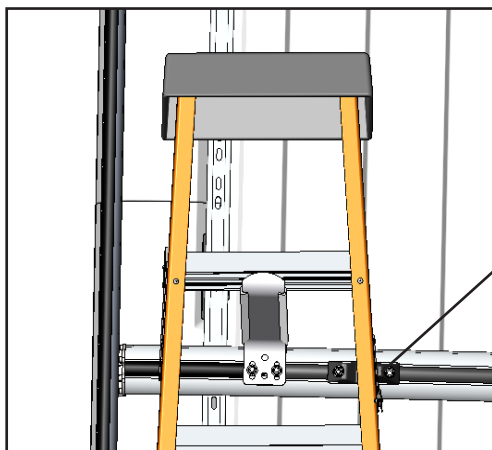
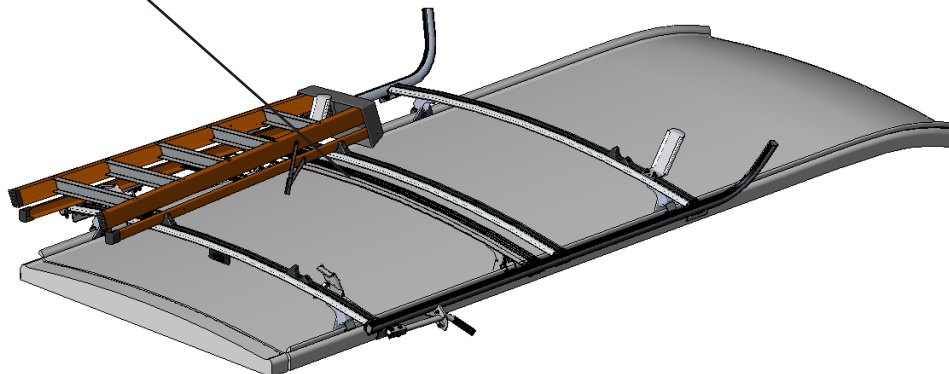
NOTE:

- 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:

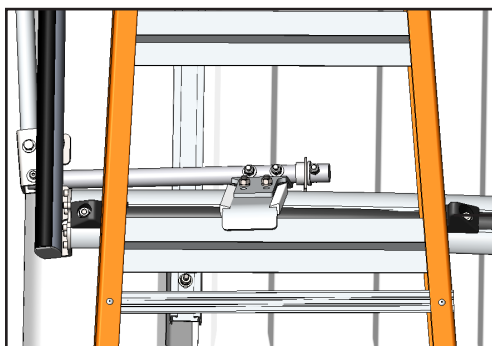
- After installation is complete, cut the track plug underneath the crossbows to fill all the unused space.
- Place the ladder rack warning label on a visible area, recommended on a partition.

THIRD CROSSBOW



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.

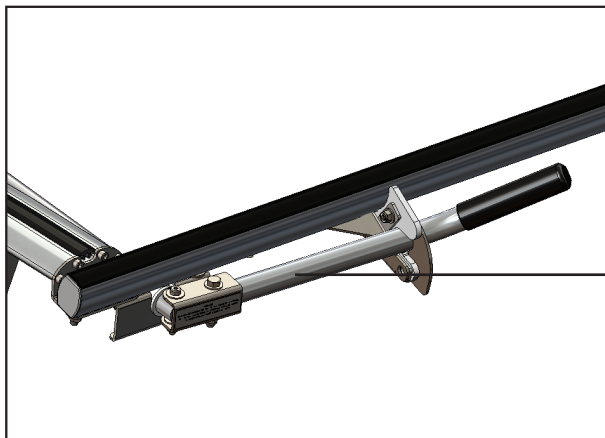
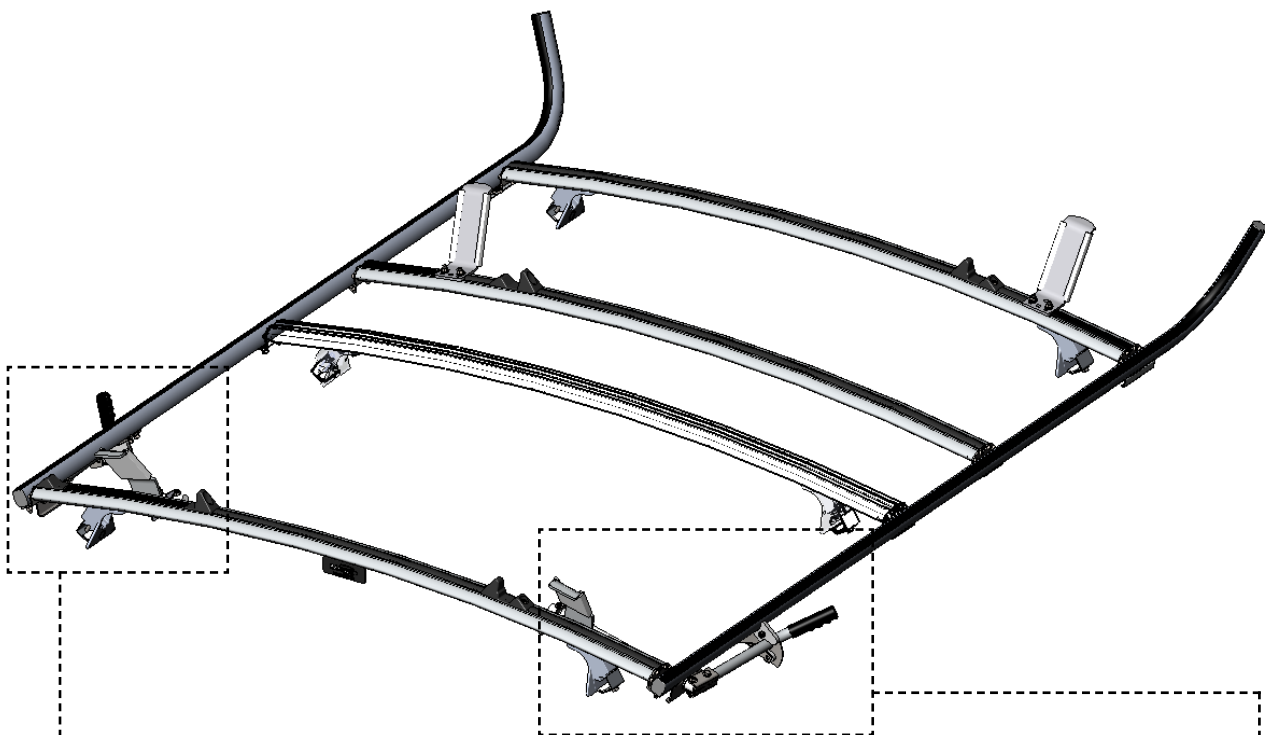


The inner ladder side support must be adjusted according to the width of the step ladder.

PHASE 2 – INSTALLATION

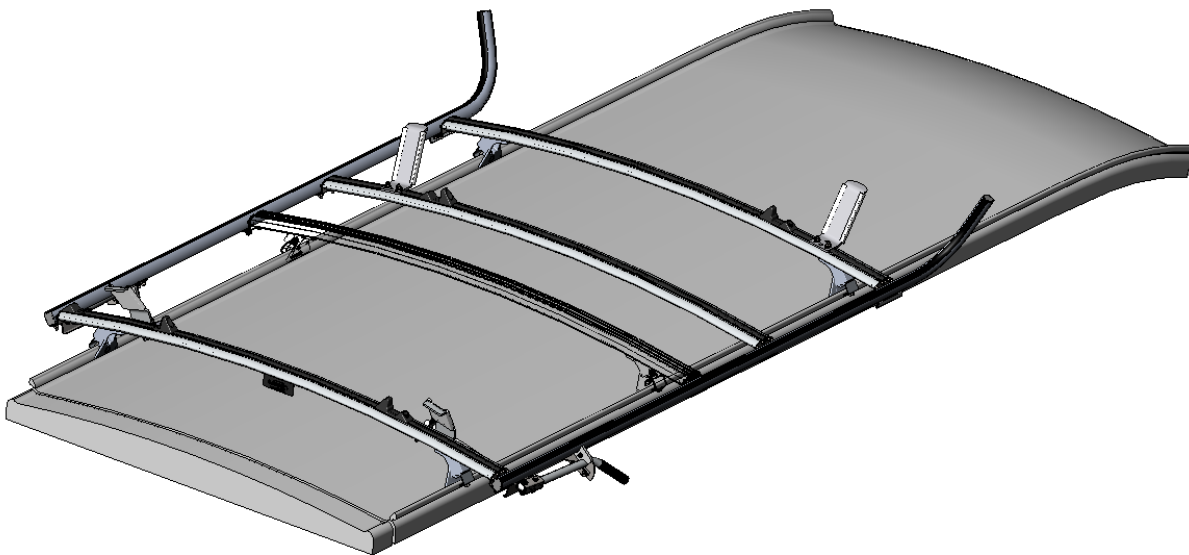
2.2 NOTE

2.2.1 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
Ladder Rack**

Thank you for doing business with us.”

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



INSTALLATION GUIDE



15-U2534 THIRD CROSSBOW

Express / Savana (Aluminum)



LADDER RACK WITH THIRD CROSSBOW



Combination Ladder Rack



Double Clamp Ladder Rack



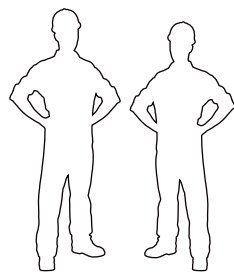
QUICK START GUIDE

Phase 1 - Assembly

<input type="checkbox"/> 1.1 Setup.....	4 - 5
<input type="checkbox"/> 1.2 Third Crossbow Assembly.....	6 - 7

REQUIRED ITEMS

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



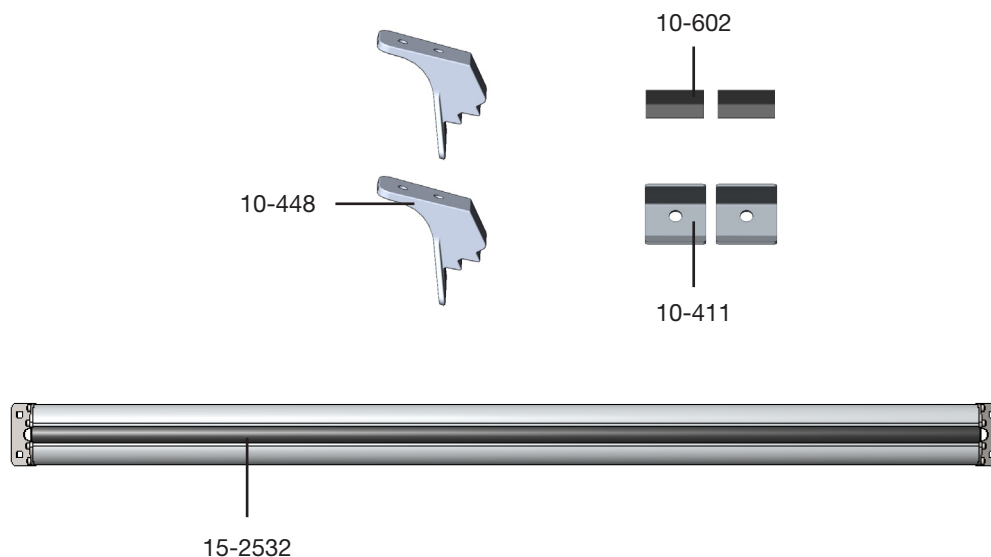
**2
PERSONS**

- ☐ Sawhorse (Optional)
- ☐ Box

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.
10-411	Gutter Clip	2
10-448	"C" Foot (Middle Foot)	2
10-602	Insulator Pad	2
15-2532	Third Crossbow	1
94-1015	Assembly Fastener Kit	1
96-1022	Install Fastener Kit	1

1.1.3 Fastener kits.

94-1015 Fastener Kit



Fastener Assembly

- 4x  # 90-491 Carriage Bolt
5/16"-18 x 1"
SS304
- 4x  # 94-105 Hex Nut
5/16"-18
SS316wax
- 4x  # 98-117 Flat Washer
5/16", O.D 3/4"
SS18-8
- 4x  # 98-123 Lock Washer
Regular 5/16"
SS304

4x FOR THIRD CROSSBOW ASSEMBLY

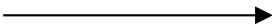
 #90-491 Carriage Bolt 5/16" x 1"

 #98-117 Flat Washer

 #98-123 Lock Washer

 #94-105 Hex Nut

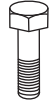
96-1022 Fastener Kit





Fastener Assembly

- 2x  # 90-327 Hex Bolt
3/8"-16 x 2-1/2"
SS304
- 2x  # 94-109 Lock Nut
3/8"
SS304wax
- 2x  # 98-109 Flat Washer
3/8"
SS304

2x FOR FEET TO VEHICLE

 #90-327 Hex Bolt 3/8" x 2-1/2"

 #98-109 Flat Washer

 #94-109 Lock Nut

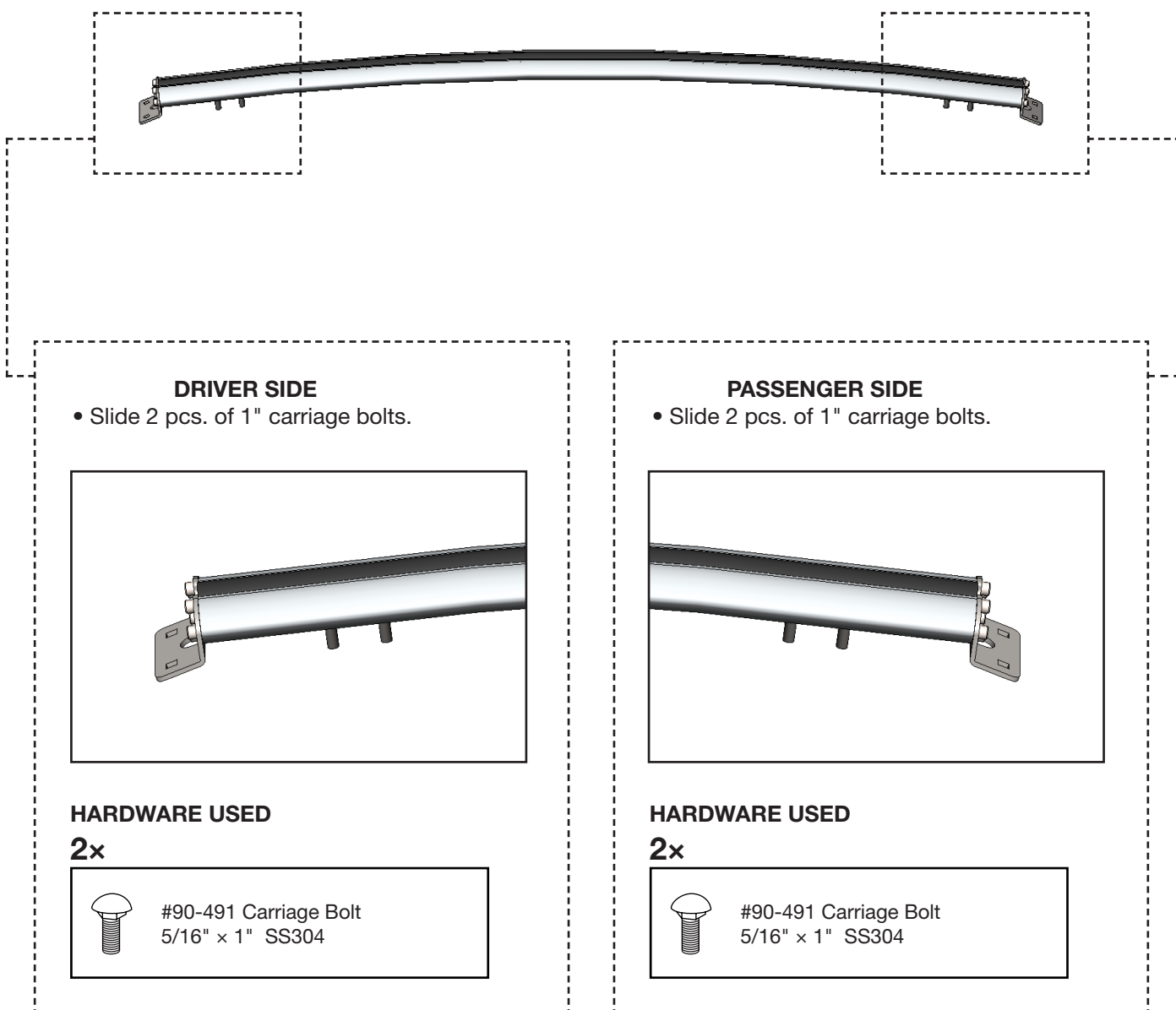
PHASE 1 – ASSEMBLY

1.2 THIRD CROSSBOW ASSEMBLY

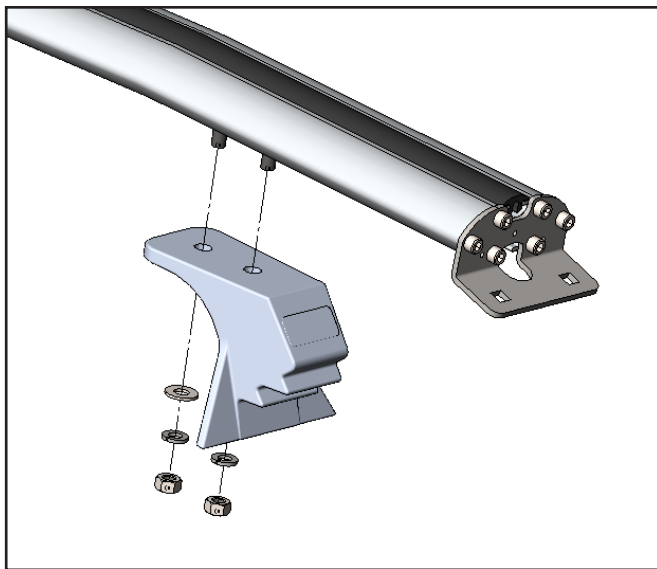
1.2.1 Slide carriage bolts on the bottom face of the crossbow.

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.



1.2.2 Install the feet on the crossbow.



HARDWARE USED

4x HAND-TIGHTEN THE NUTS.



Carriage bolts are already on the crossbows.



#98-117 Flat Washer



#98-123 Lock Washer



#94-105 Hex Nut



**“You have successfully assembled your
Third Crossbow**

**Your third crossbow is now ready to be incorporated into the ladder rack
installation, please return to the install guide to complete installing your
ladder rack.”**

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

