INSTALLATION GUIDE

1530-TCX Double Clamp Ladder Rack

Transit Connect (Aluminum)

RANGER DESIGN

QUICK START GUIDE

Phase 1 - Assembly

❑ 1.1 Setup..... 3 - 5
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Phase 2 - Installation

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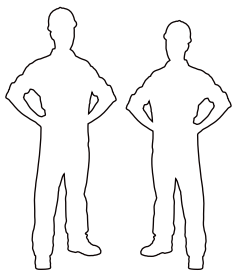
REQUIRED ITEMS

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



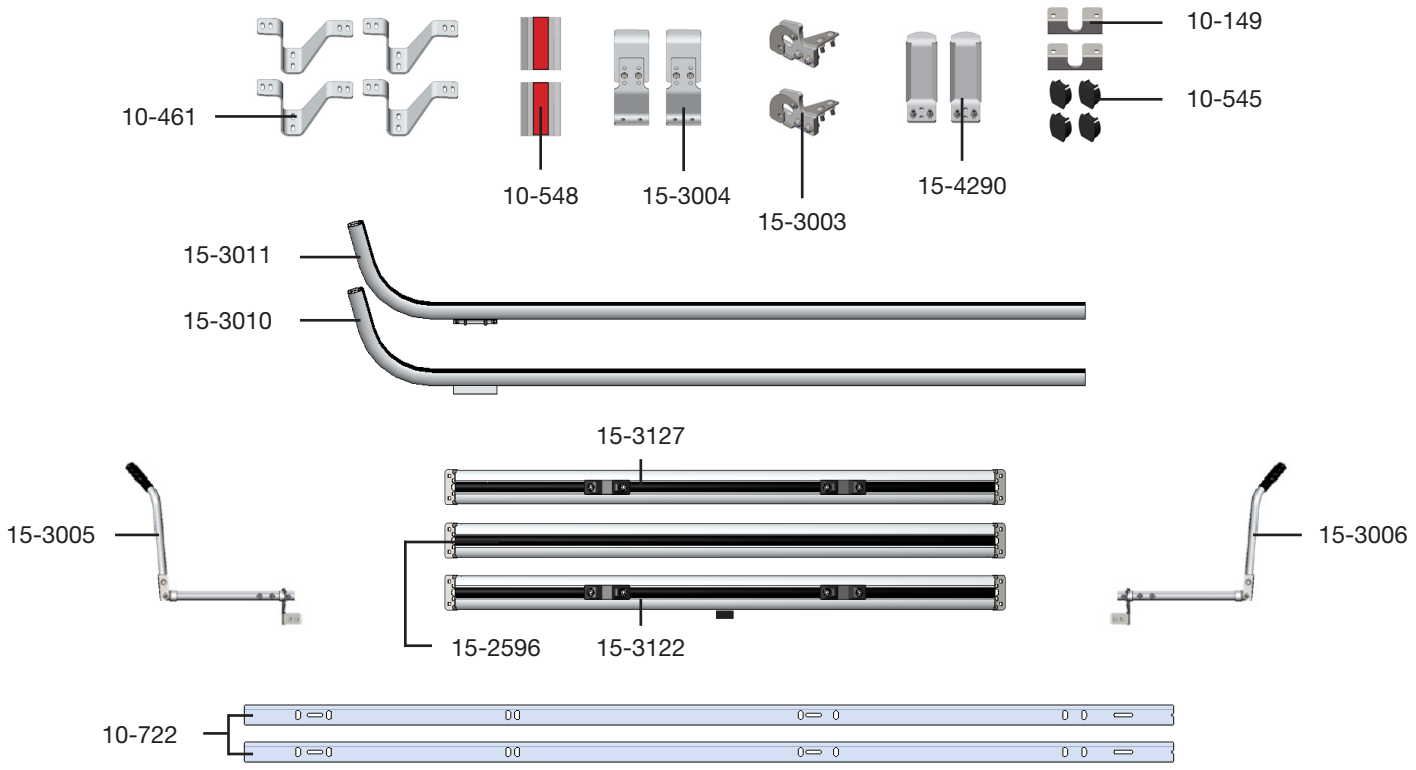
2 PERSONS

- ❑ 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

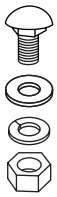
Item No.	Description	Qty.
10-149	Clamp Handle Support	2
10-461	“V” Foot	4
10-545	Ski Plastic Plug	4
10-548	Hook Protector (4 - 3/8" L)	2
10-722	Mounting Track	2
15-2596	Third Crossbow	1
15-3003	Ladder Clamp Lock	2
15-3004	Ladder Clamp Rear Hook	2
15-3005	Ladder Clamp Bar (Driver Side)	1
15-3006	Ladder Clamp Bar (Passenger Side)	1
15-3010	Ski (Left)	1
15-3011	Ski (Right)	1
15-3122	Rear Crossbow	1
15-3127	Front Crossbow	1
15-4290	Front Hook	2
94-1009	Assembly Fastener Kit	1
96-1015	Install Fastener Kit	1

1.1.3 Fastener kits.

94-1009 Fastener Kit → Fastener Assembly

4×		**# 90-487**	Carriage Bolt 5/16"-18 × 3/4" SS304
26×		**# 90-491**	Carriage Bolt 5/16"-18 × 1" SS304
34×		**# 94-105**	Hex Nut 5/16"-18 SS316wax
2×		**# 98-160**	Spacer SS18-8
34×		**# 98-117**	Flat Washer 5/16", O.D 3/4" SS18-8
34×		**# 98-123**	Lock Washer Regular 5/16" SS304

4×



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

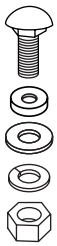
24×

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

4×

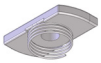
#98-117 Flat Washer
#98-123 Lock Washer
#94-105 Hex Nut

2×

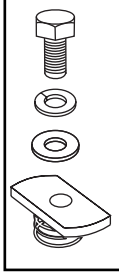


#90-491 Carriage Bolt 5/16" × 1"
#98-160 Spacer
#98-117 Flat Washer
#98-123 Lock Washer
#94-105 Hex Nut

96-1015 Fastener Kit → **Fastener Assembly**

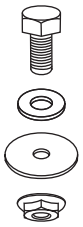
16×		**# 90-209**	Hex Bolt 5/16"-18 × 1" SS304
8×		**# 94-116**	Serrated Nut 5/16"-18 ZINC
8×		**# 94-150**	Channel Nut 5/16"
16×		**# 98-117**	Flat Washer 5/16", O.D. 3/4" SS18-8
8×		**# 98-123**	Lock Washer 5/16" SS304
8×		**# 98-149**	Spacer 0.290" ID × 1.375" OD × 0.125" L NEOPRENE

8×



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

8×



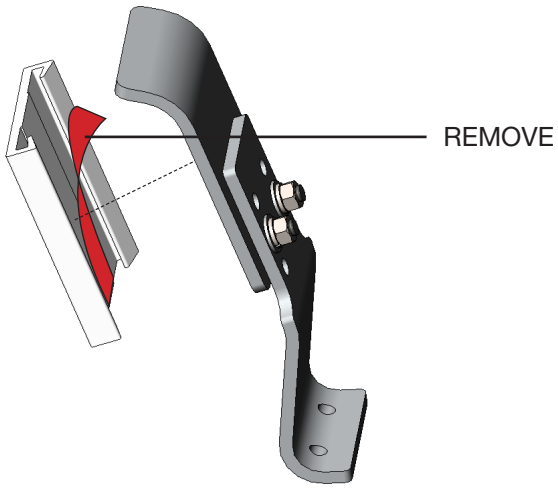
#90-209 Hex Bolt 5/16" × 1"
#98-117 Flat Washer
#98-149 Neoprene Spacer
#94-116 Serrated Nut

PHASE 1 – ASSEMBLY

1.2 LADDER RACK ASSEMBLY

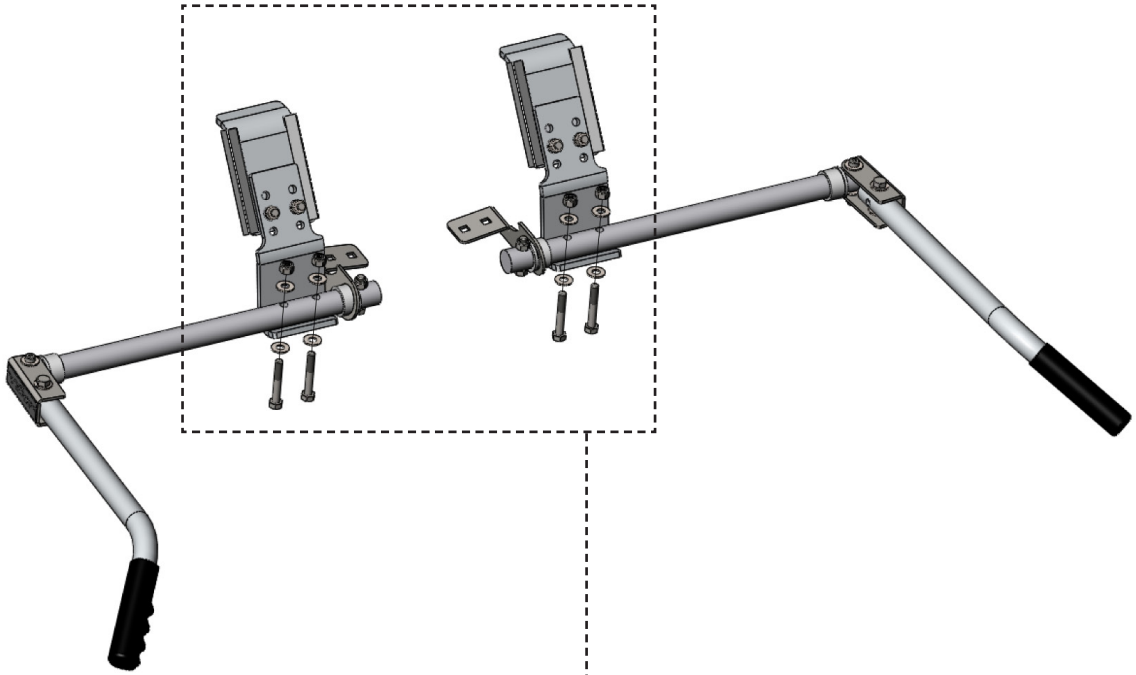
1.2.1 Peel the backer off of the adhesive on the hook protector, then attach the hook protector to the upper rear hook.

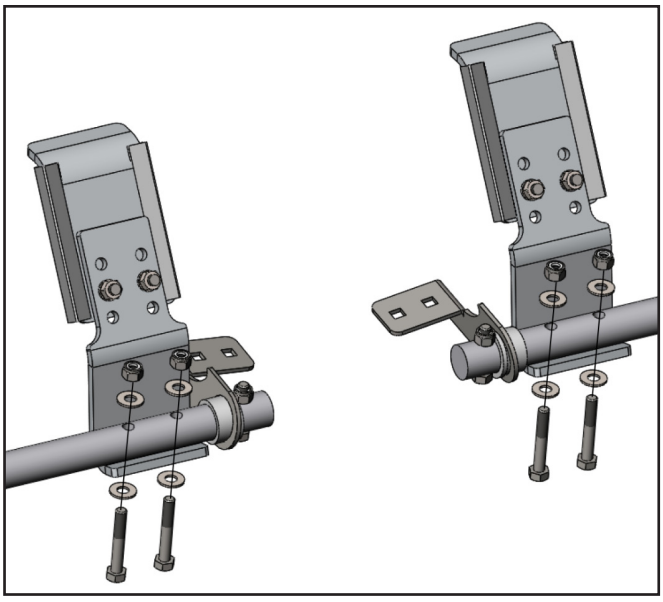
2×



TOOLS
❑ Knife

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



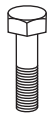


TOOLS

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

HARDWARE USED

4× **HARDWARE IS PRE-ASSEMBLED.**



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

#98-117 Flat Washer

#98-117 Flat Washer

#94-111 Lock Nut

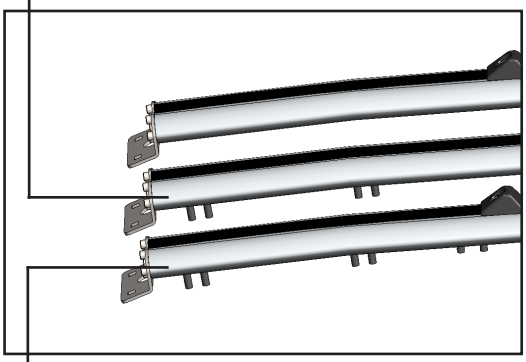
1.2.3 Slide carriage bolts on the bottom face of the crossbows.

NOTE: The track plug must be removed from the underneath of the third 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

2×

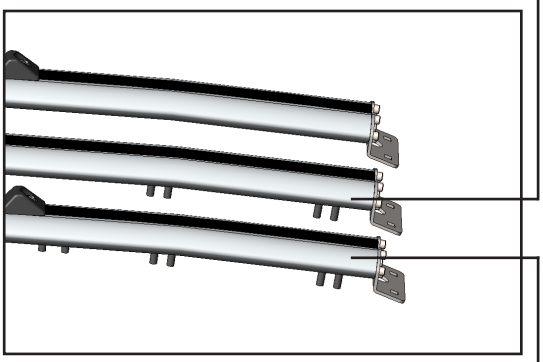
#90-487 Carriage Bolt
5/16" × 3/4" SS304

8×

#90-491 Hex Bolt
5/16" × 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

2×

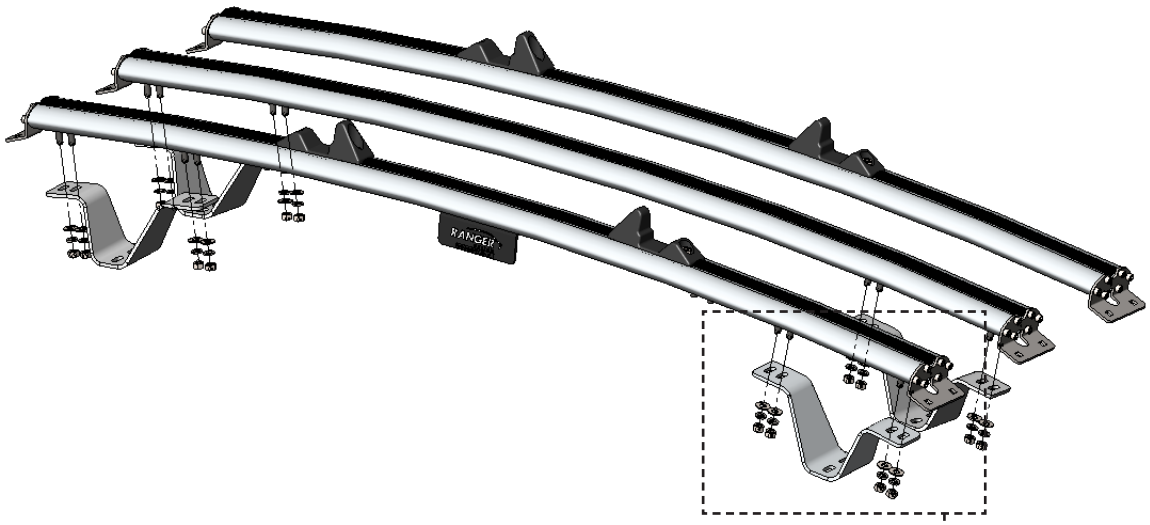
#90-487 Carriage Bolt
5/16" × 3/4" SS304

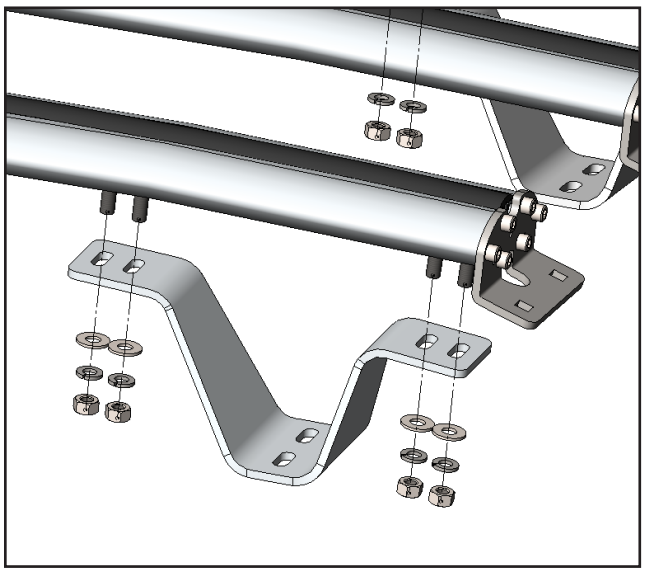
8×

#90-491 Hex Bolt
5/16" × 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.



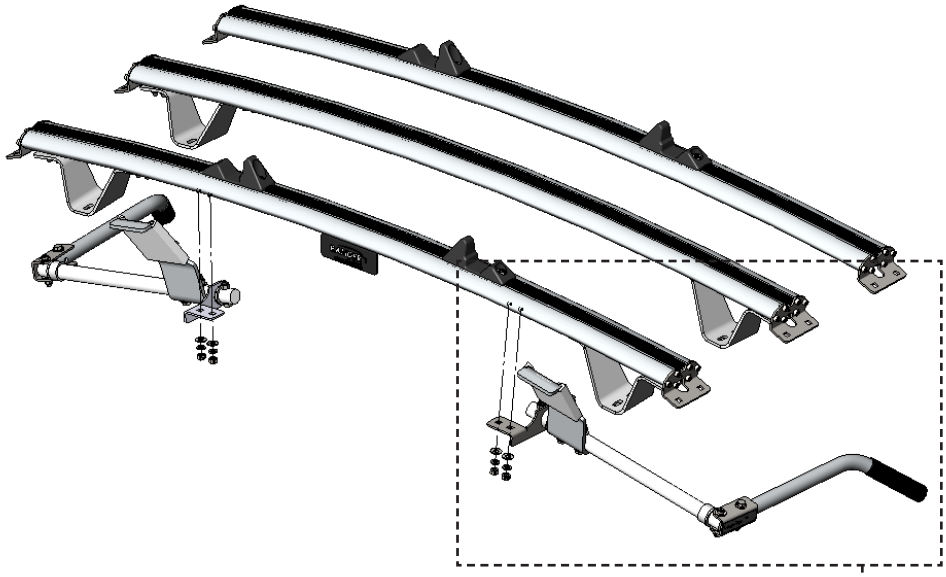


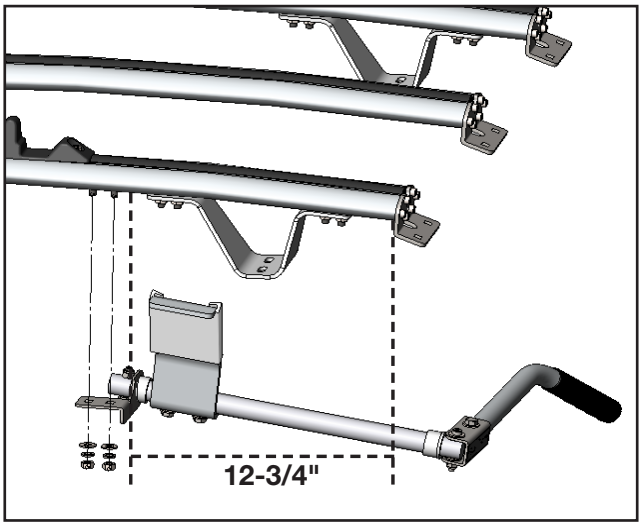
HARDWARE USED

16× **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

4×

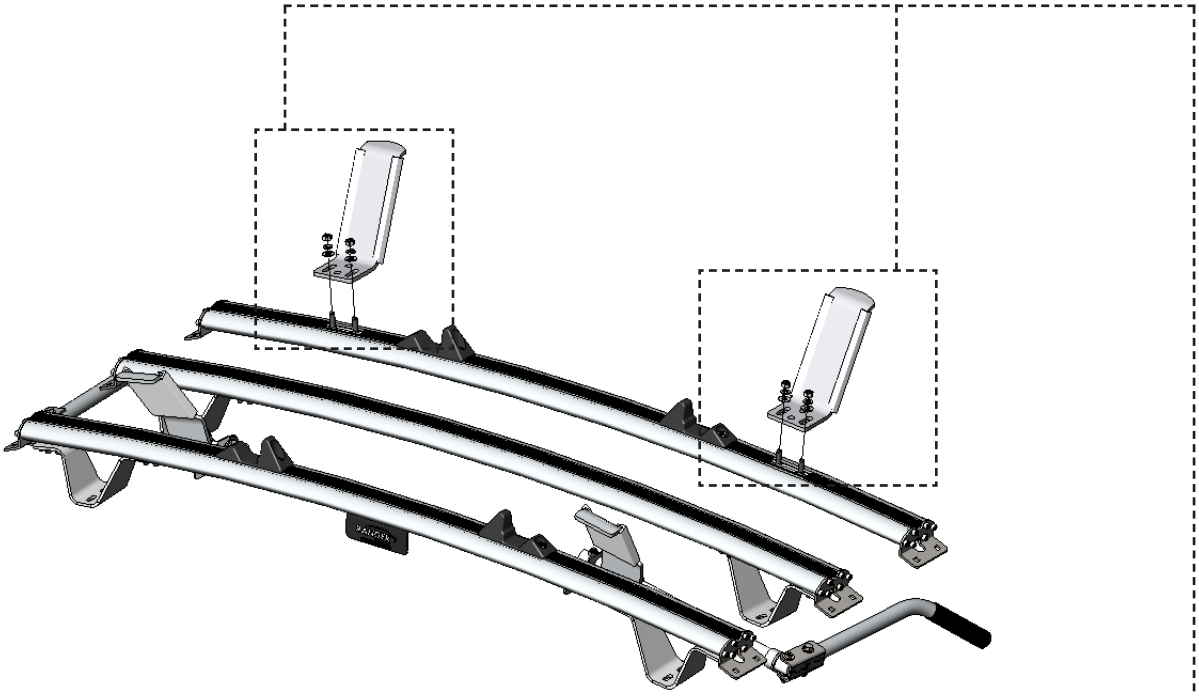
Carriage bolts are already on the crossbows.

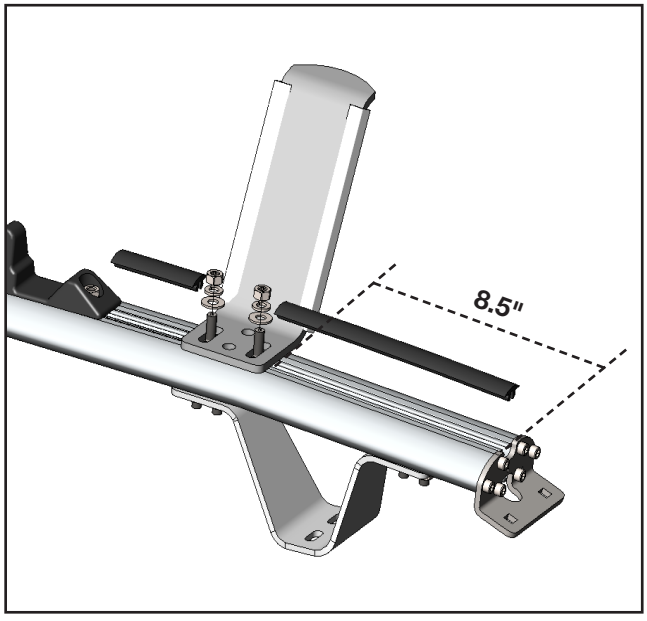
#98-117 Flat Washer

#98-123 Lock Washer

#94-105 Hex Nut

1.2.6 • Pull out the 14.5" track plug on the both sides of the front crossbow.
• Loosen the pre-assembled hardware on the front hooks and slide the hooks onto the front crossbow to the position shown below.
• Cut the track plug, then attach it back to the crossbow.





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

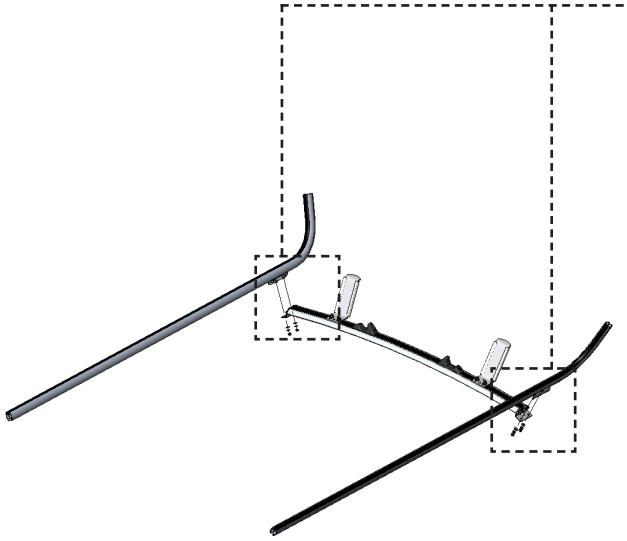
TOOLS
- ❑ Marker
- ❑ Cutter

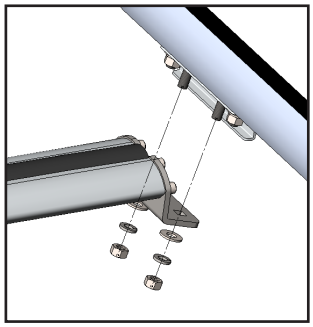
HARDWARE USED

4× **HARDWARE IS PRE-ASSEMBLED.**

	#90-491 Carriage Bolt 5/16" × 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

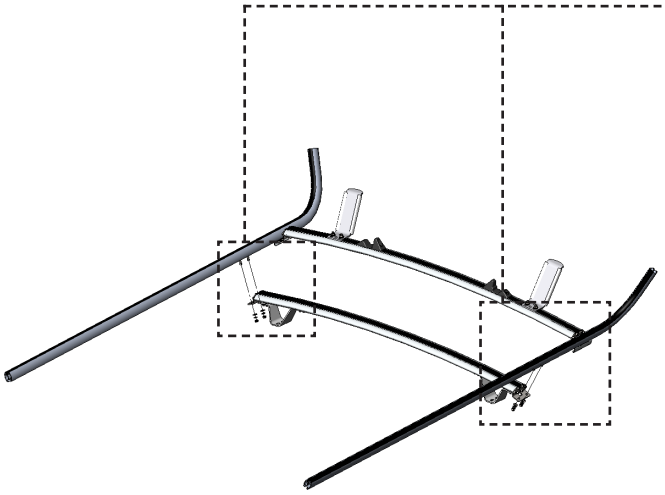
- ❑ Cordless Impact
- ❑ 1/2" Socket

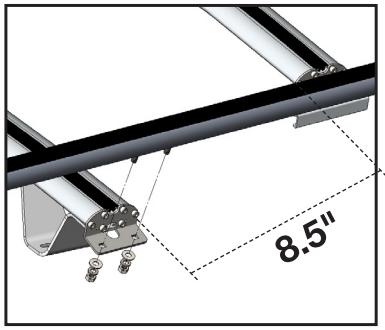
HARDWARE USED

4×

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

1.2.8 Slide the carriage bolts on the left and right skis and attach the third crossbow.





TOOLS

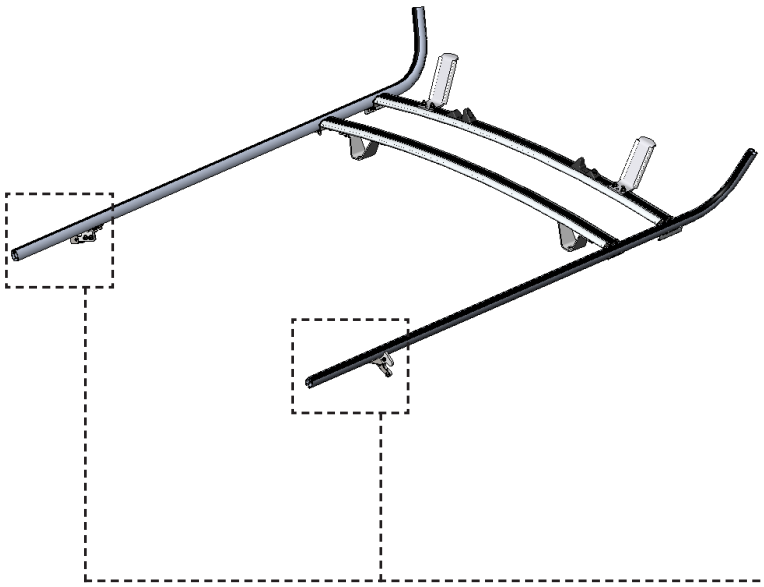
- ❑ Cordless Impact
- ❑ 1/2" Socket

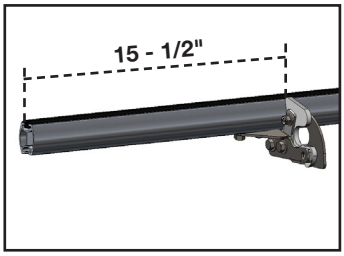
HARDWARE USED

4×

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

1.2.9 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.





TOOLS

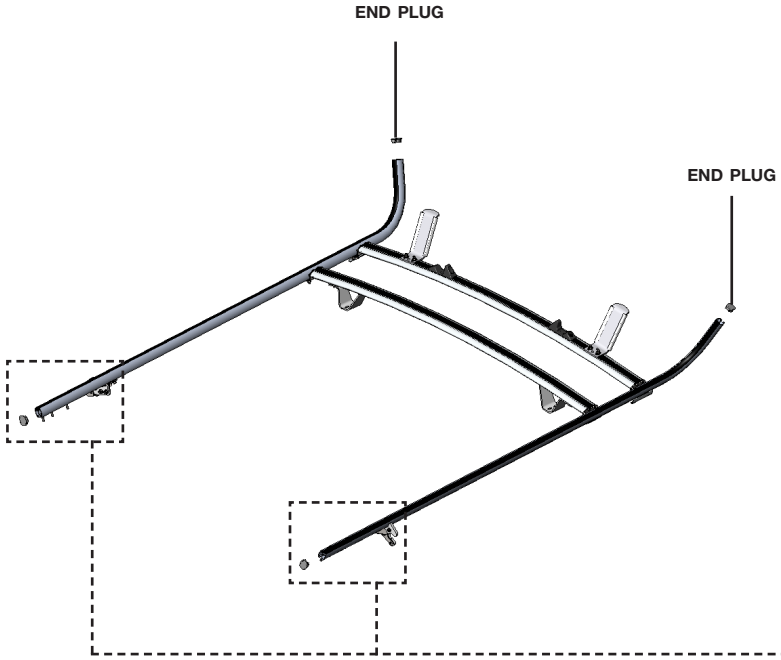
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ Tape Measure
- ❑ Marker

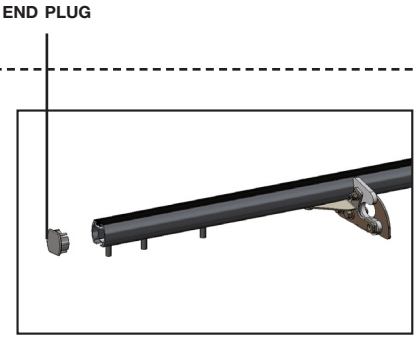
HARDWARE USED

4× **HARDWARE IS PRE-ASSEMBLED.**

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

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





TOOLS

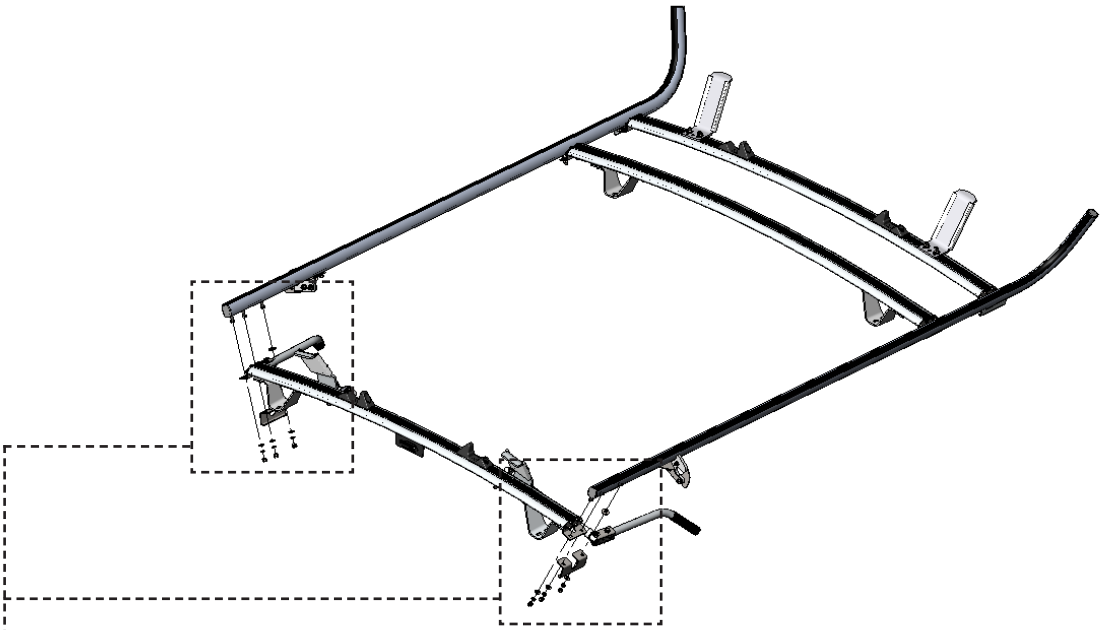
- ❑ Mallet

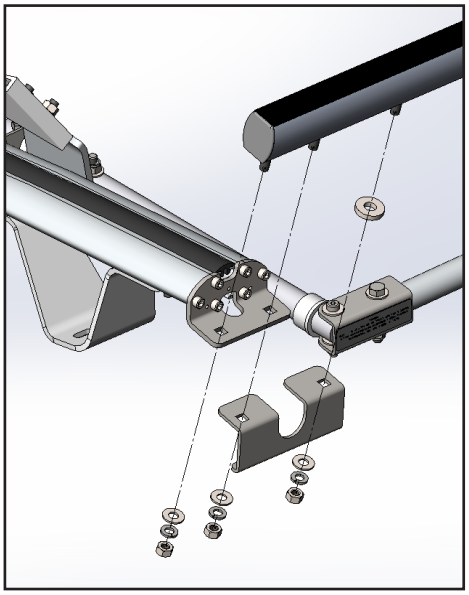
HARDWARE USED

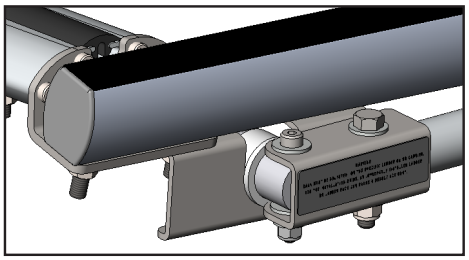
6×

#90-491 Carriage Bolt
5/16" × 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

4×

Carriage bolts are already on the ski.

#98-117 Flat Washer

#98-123 Lock Washer

#94-105 Hex Nut

2×

Carriage bolts are already on the ski.

#98-160 Spacer

#98-117 Flat Washer

#98-123 Lock Washer

#94-105 Hex Nut

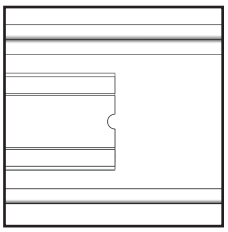
PHASE 2 – INSTALLATION

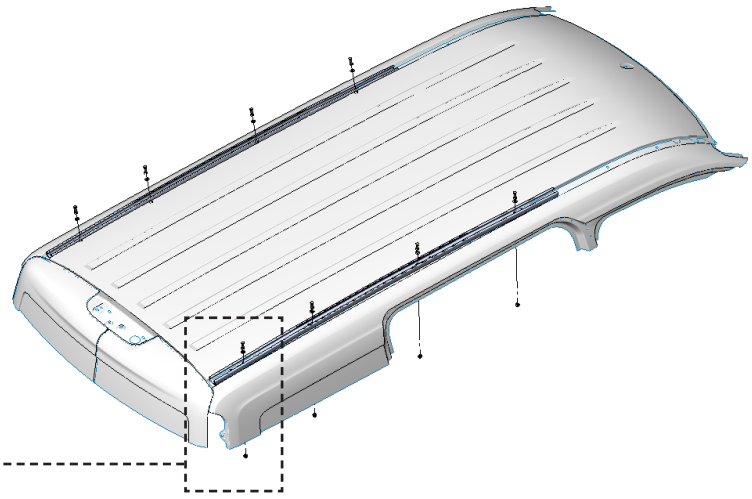
2.1 MOUNTING TRACKS INSTALLATION

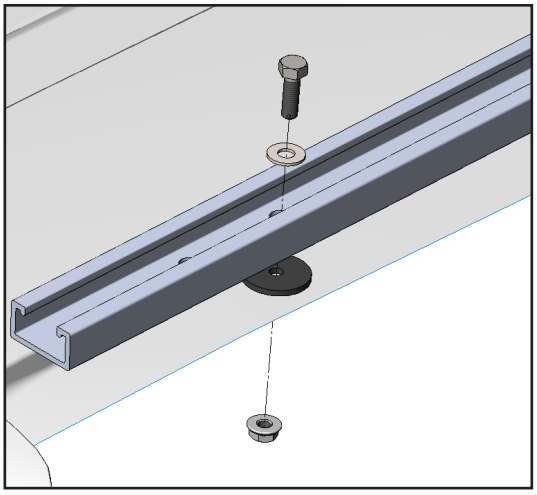
2.1.1 • Pull the plugs off, then apply a bead of silicone around the each hole.
• Install the mounting tracks on the roof.

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

FRONT





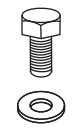


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

HARDWARE USED

8×



#90-209 Hex Bolt 5/16" × 1"

#98-117 Flat Washer

#98-149 Neoprene Spacer

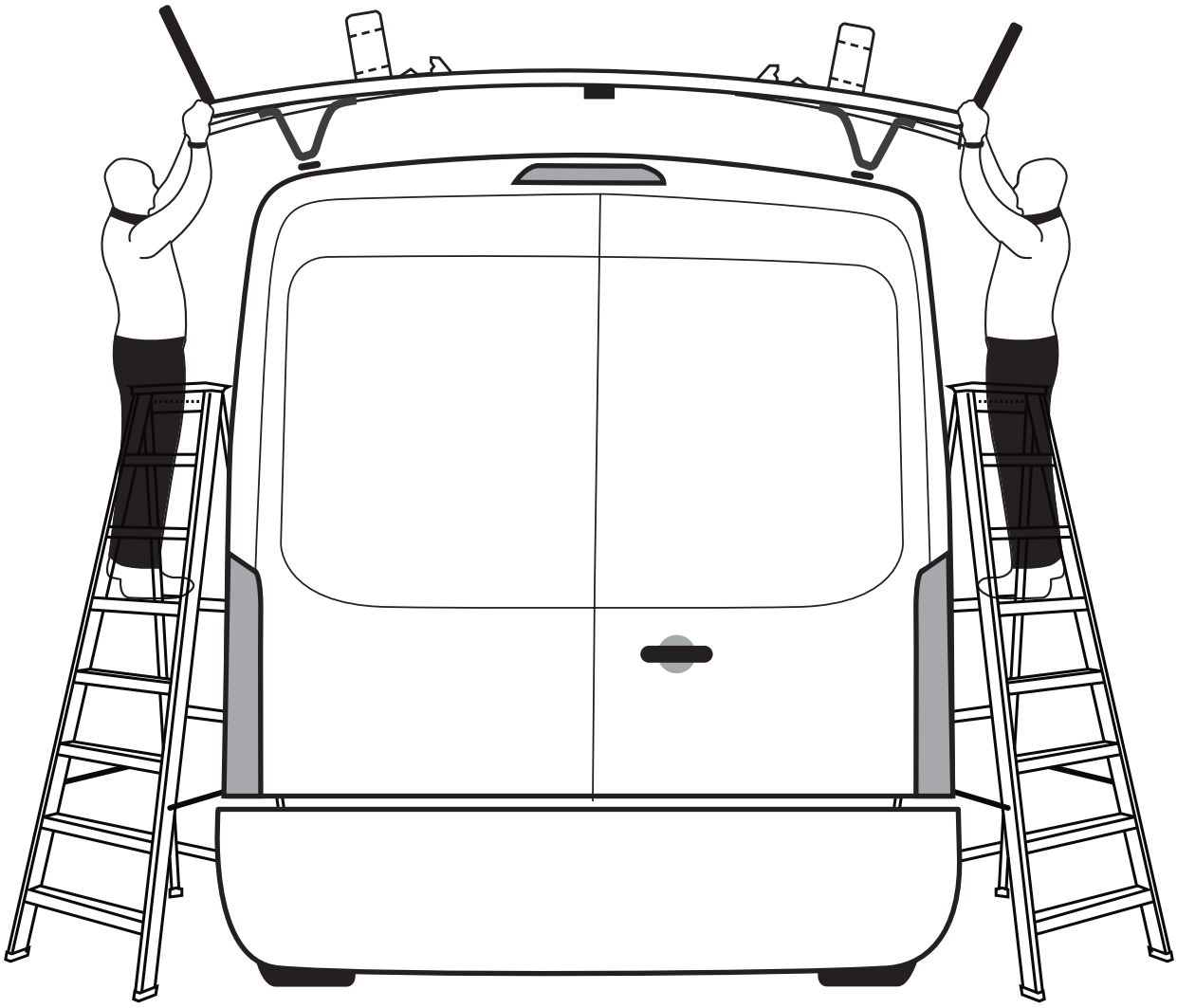
#94-116 Serrated Nut

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.

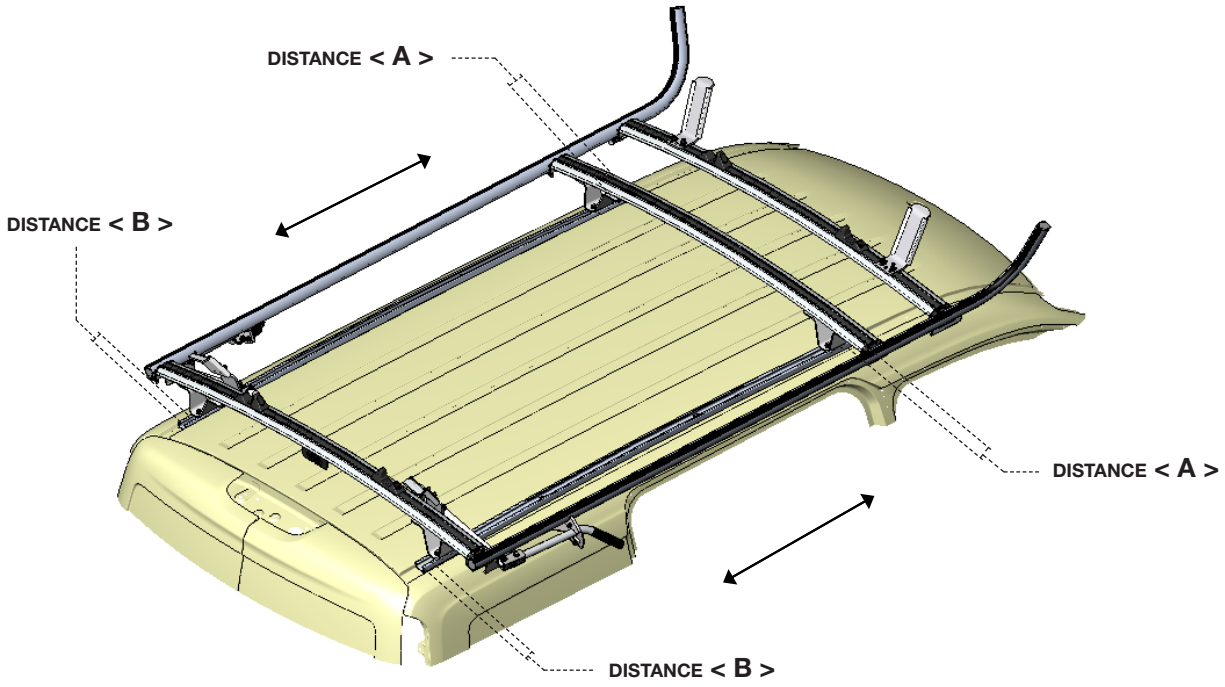
NOTE: If you do not have a hoist, lift the ladder rack onto the roof manually.

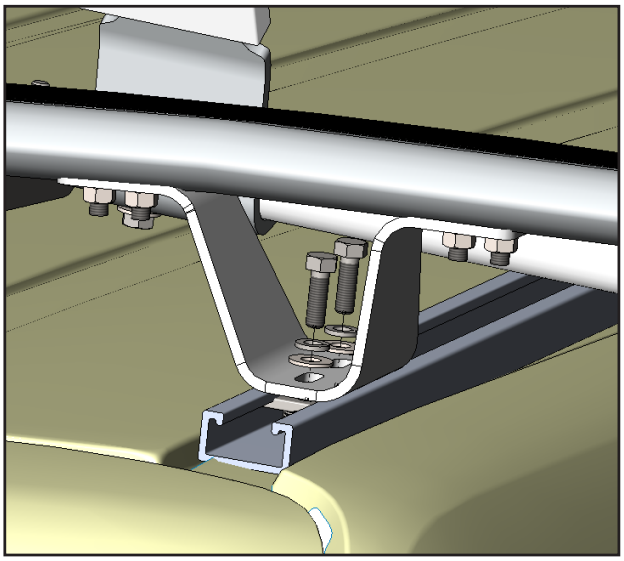
Ladder Rack



2.2.2 • While making sure the crossbows are parallel to each other, slide the rack to the appropriate position, then attach all the “C” feet to the mounting tracks.
• Tighten the bolts that attach the foot plate to the ladder rack leg.

DISTANCE < FOOT TO END OF TRACK >

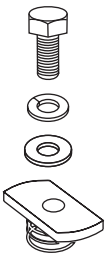




TOOLS
- ❑ Ratchet
- ❑ 1/2" Socket
- ❑ Tape Measure

HARDWARE USED

8×



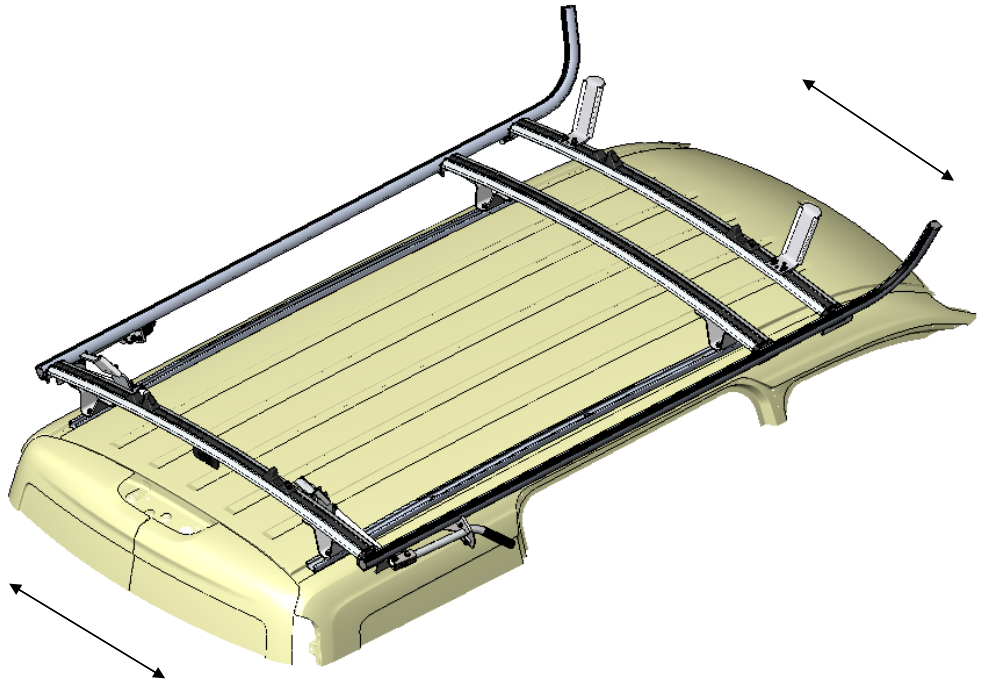
#90-209 Hex Bolt 5/16" × 1"

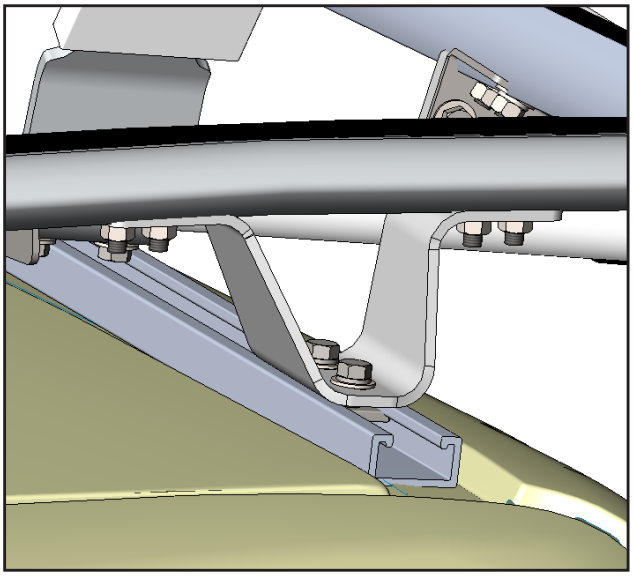
#98-123 Lock Washer

#98-117 Flat Washer

#94-150 Channel Nut

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





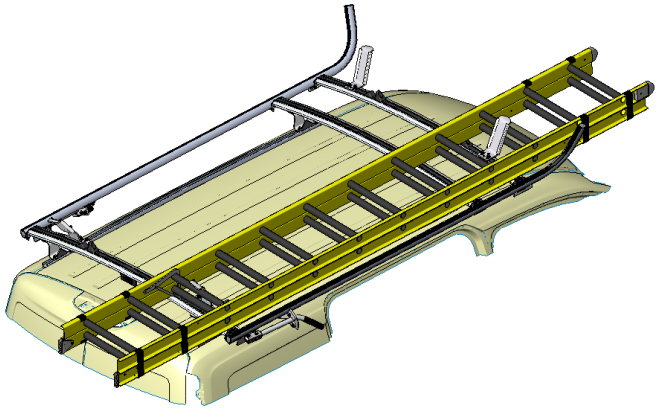
TOOLS

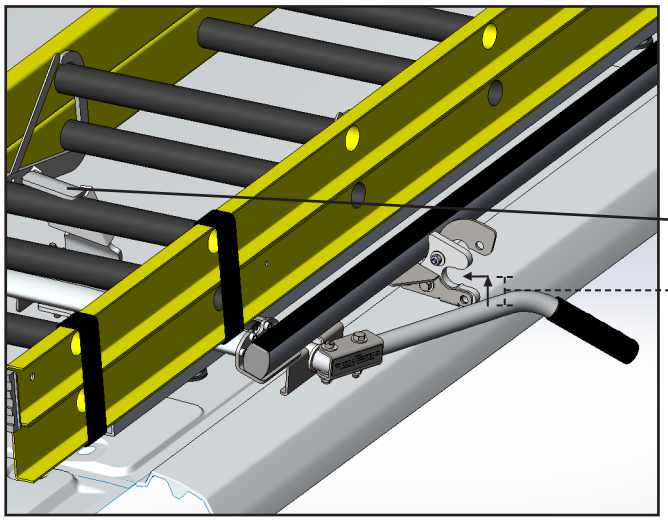
- ❑ Ratchet
- ❑ 1/2" Socket

2.2.4 Ladder Rack adjustment for extention ladder.

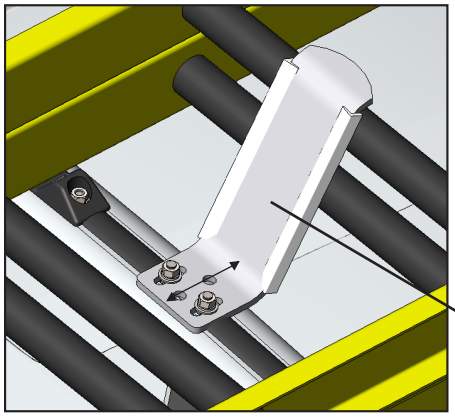
NOTE: • Do this step on both sides.
• The ladder cannot extend beyond the rear bumper of the vehicle.

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





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



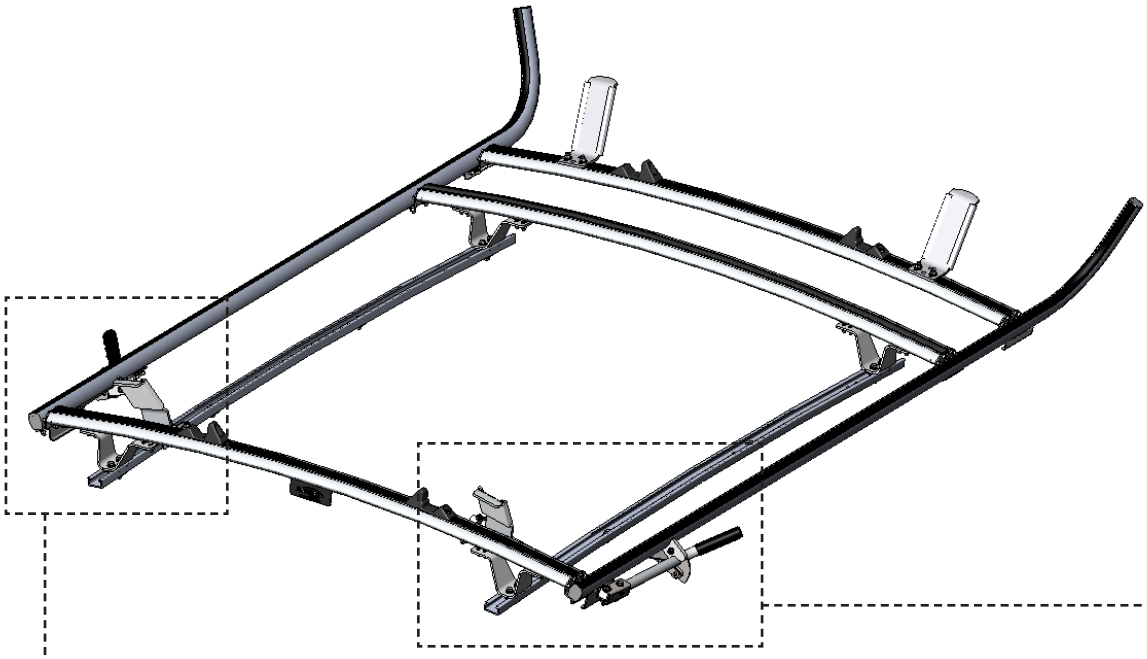
Now adjust the front hook to be snug against the ladder rung and tighten the bolts on the front crossbow.

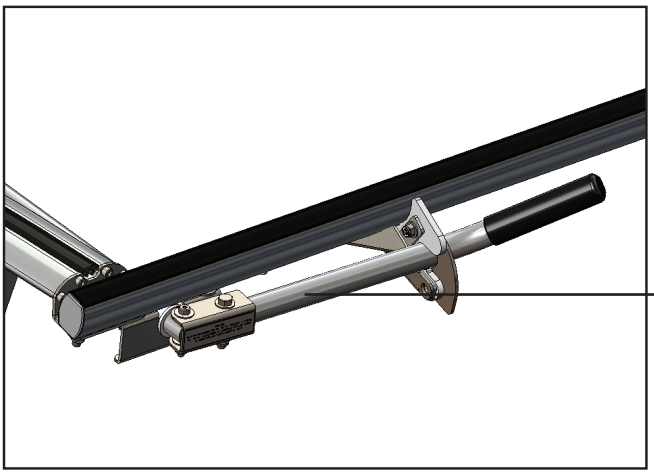
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket

PHASE 2 – INSTALLATION

2.3 NOTE

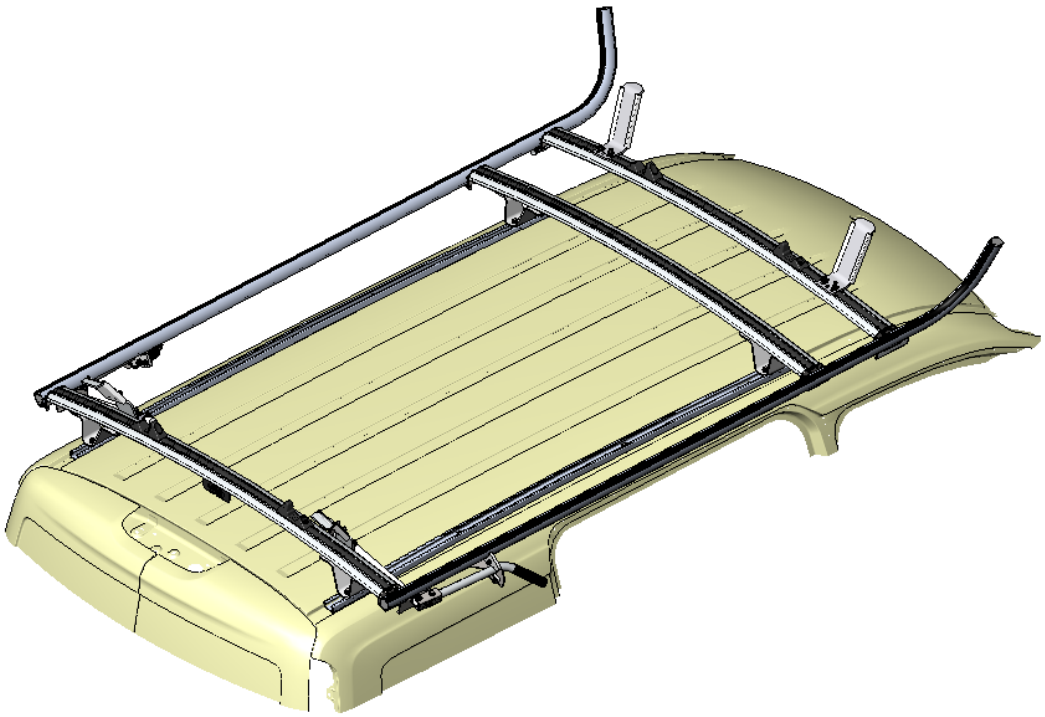
2.3.1 If the handle is interfering with the door or roof of the vehicle, the handle can be installed in an alternate position.





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 1530-TCX Ladder Rack

Thank you for doing business with us.”

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

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