

# INSTALLATION GUIDE



## 1530-FS Double Clamp Ladder Rack

Express / Savana ( Aluminum )



# QUICK START GUIDE

## Phase 1 - Assembly

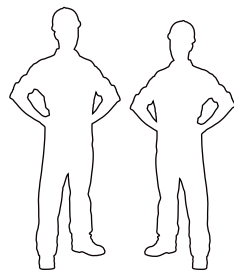
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## Phase 2 - Installation

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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.



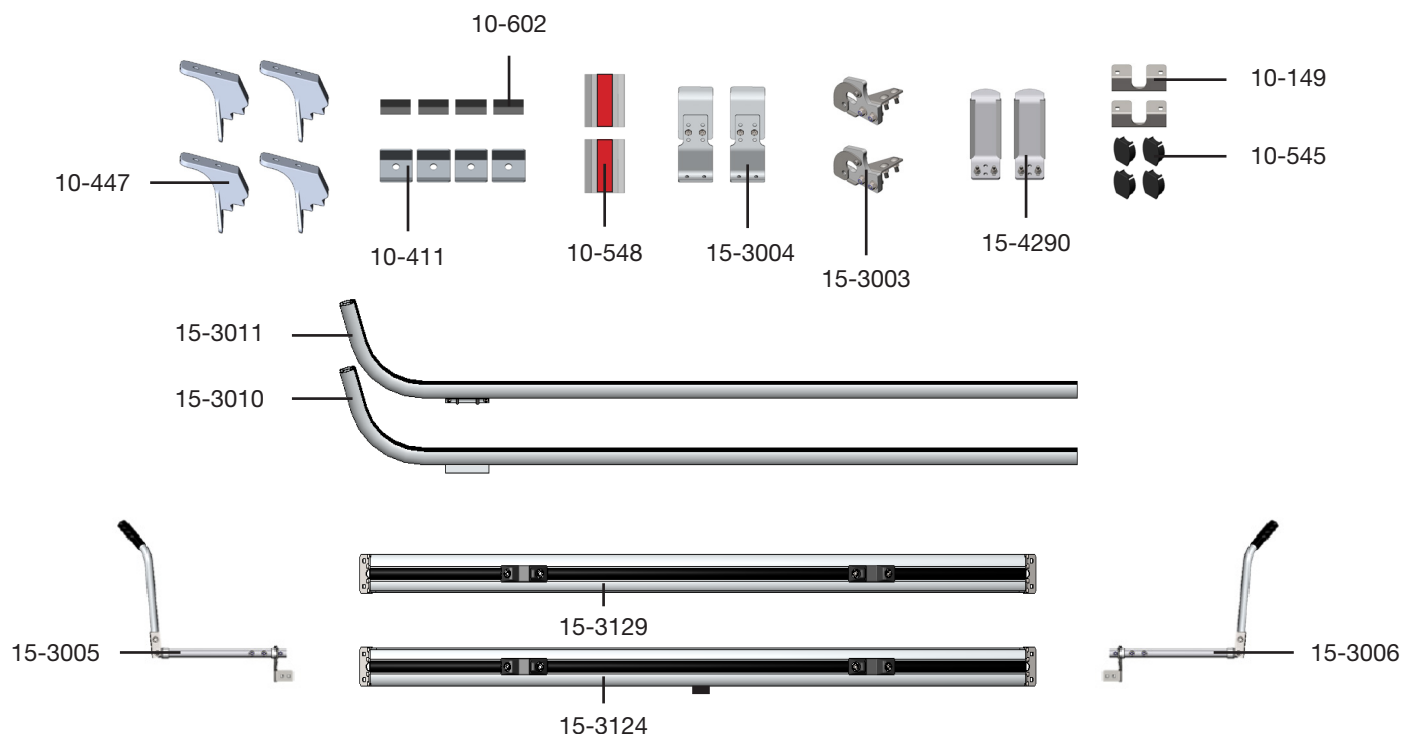
**2  
PERSONS**

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Mallet
- ❑ Marker
- ❑ Ladder
- ❑ Cutter
- ❑ 1/2" Socket
- ❑ Sawhorse ( Optional )
- ❑ Box
- ❑ Knife
- ❑ 1/2" Wrench
- ❑ 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
10-447	“C” Foot	4
10-548	Hook Protector ( 4 - 3/8" L )	2
10-602	Insulator Pad	4
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
15-3124	Rear Crossbow	1
15-3129	Front Crossbow	1
15-4290	Front Hook	2
94-1014	Assembly Fastener Kit	1
96-1014	Install Fastener Kit	1





### 1.1.3 Fastener kits.

#### 94-1014 Fastener Kit





4x		# 90-487	Carriage Bolt 5/16"-18 x 3/4" SS304
14x		# 90-491	Carriage Bolt 5/16"-18 x 1" SS304
22x		# 94-105	Hex Nut 5/16"-18 SS316wax
2x		# 98-160	Spacer SS18-8
22x		# 98-117	Flat Washer 5/16", O.D 3/4" SS18-8
22x		# 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



12x

	#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

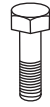


	#90-491 Carriage Bolt 5/16" x 1"
	#98-160 Spacer
	#98-117 Flat Washer
	#98-123 Lock Washer
	#94-105 Hex Nut

#### 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

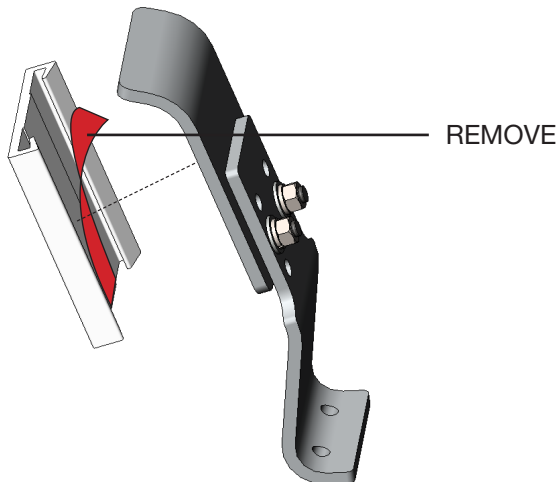
	#90-327 Hex Bolt 3/8" x 2-1/2"
	#98-109 Flat Washer
	#94-109 Lock Nut

# 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.

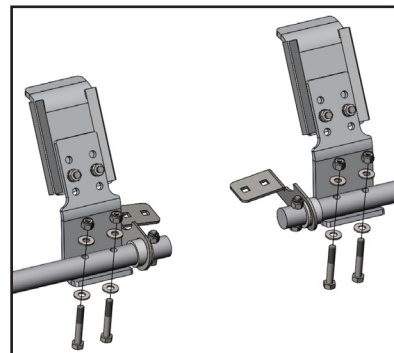
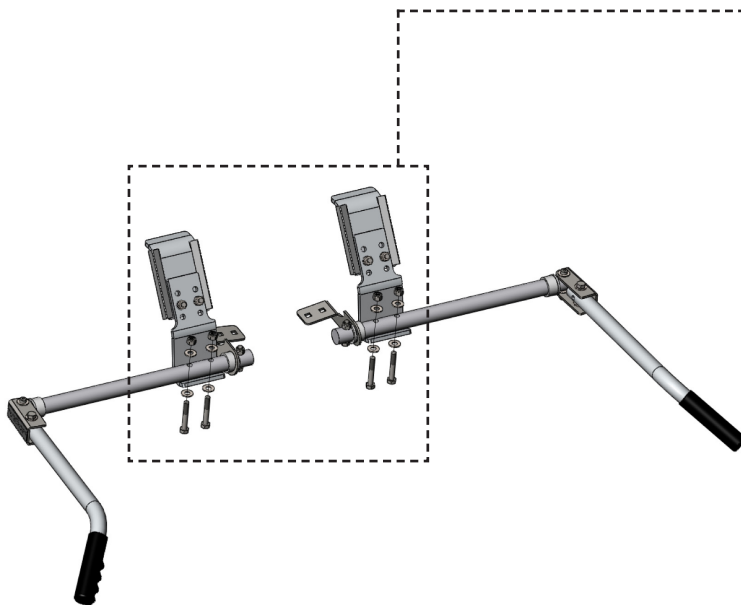
**2x**



### 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

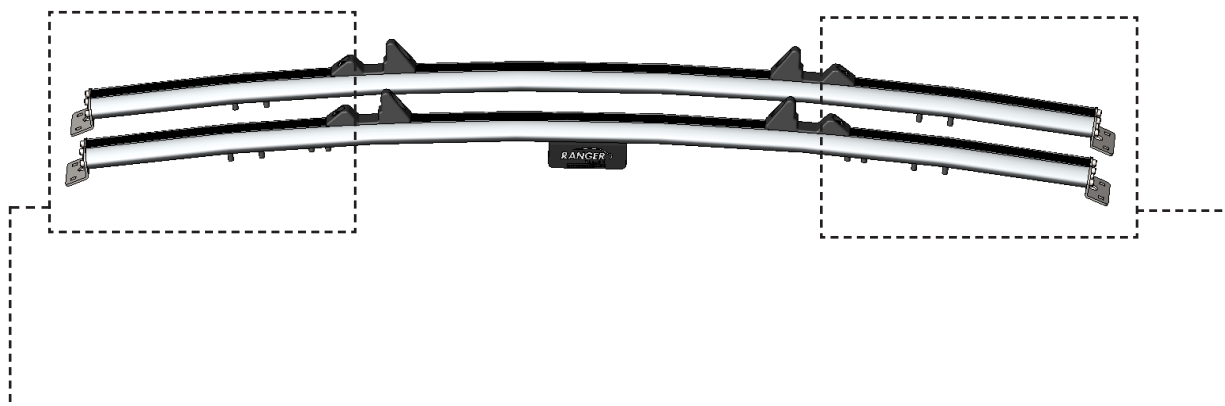


#94-111 Lock Nut

### 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.

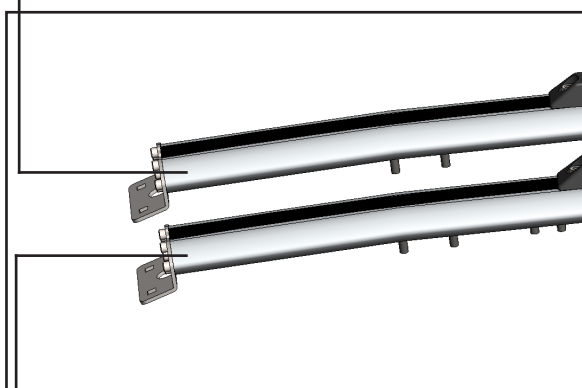
**TIPS:** Use tape to keep the bolts from sliding off.



#### DRIVER SIDE

##### 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

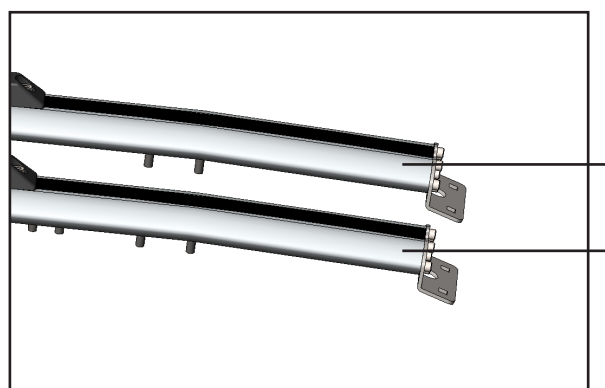


#90-491 Hex Bolt  
5/16" x 1" SS304

#### PASSENGER SIDE

##### 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



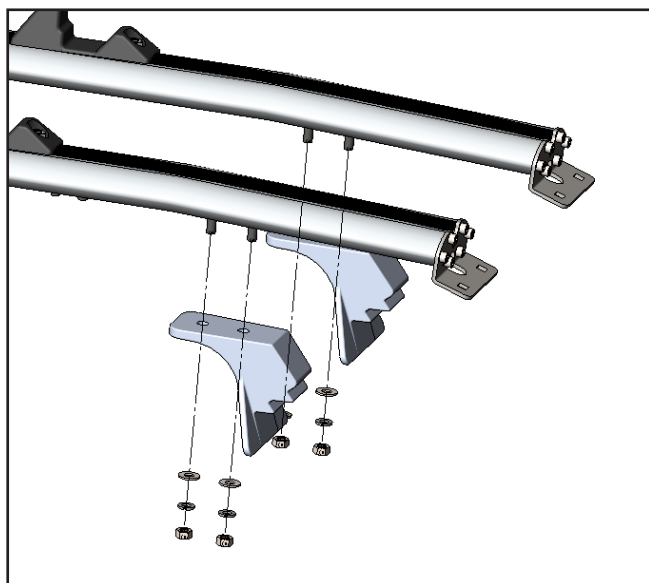
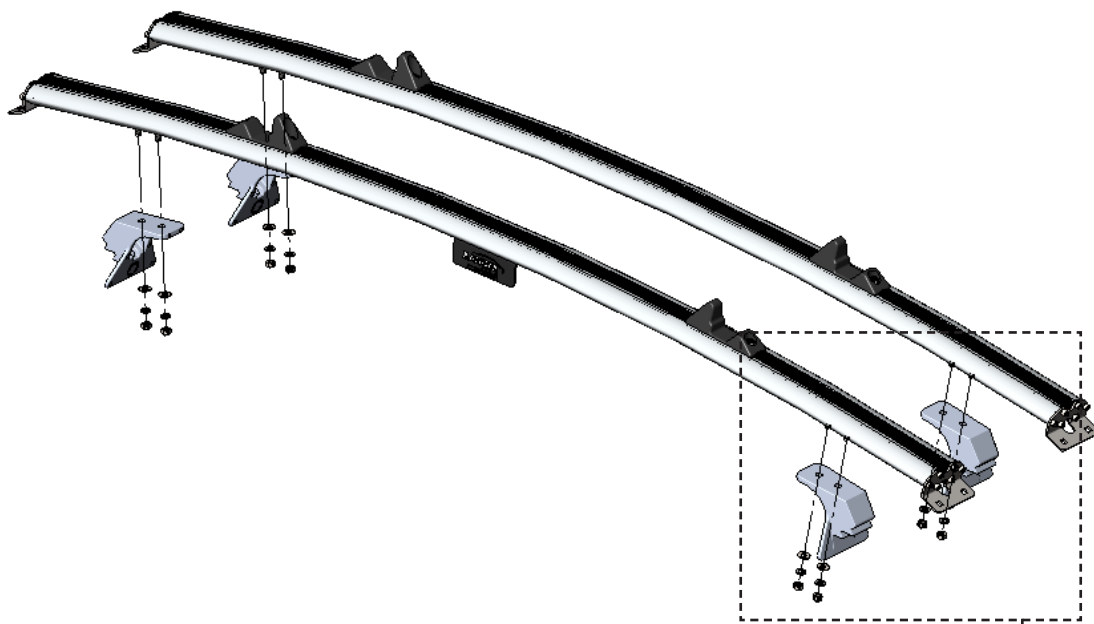
#90-487 Carriage Bolt  
5/16" x 3/4" SS304

4x



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

**1.2.4** Install the feet on the front, and rear crossbows.



**HARDWARE USED**

**8x** HAND-TIGHTEN THE NUTS.



Carriage bolts are already on the crossbows.



#98-117 Flat Washer

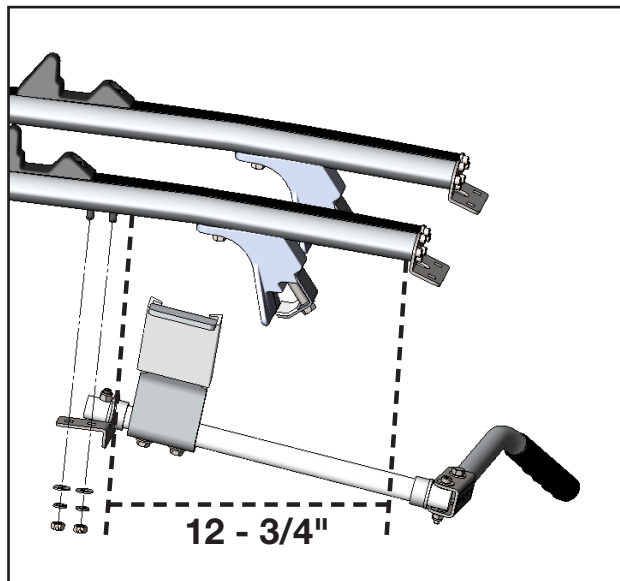
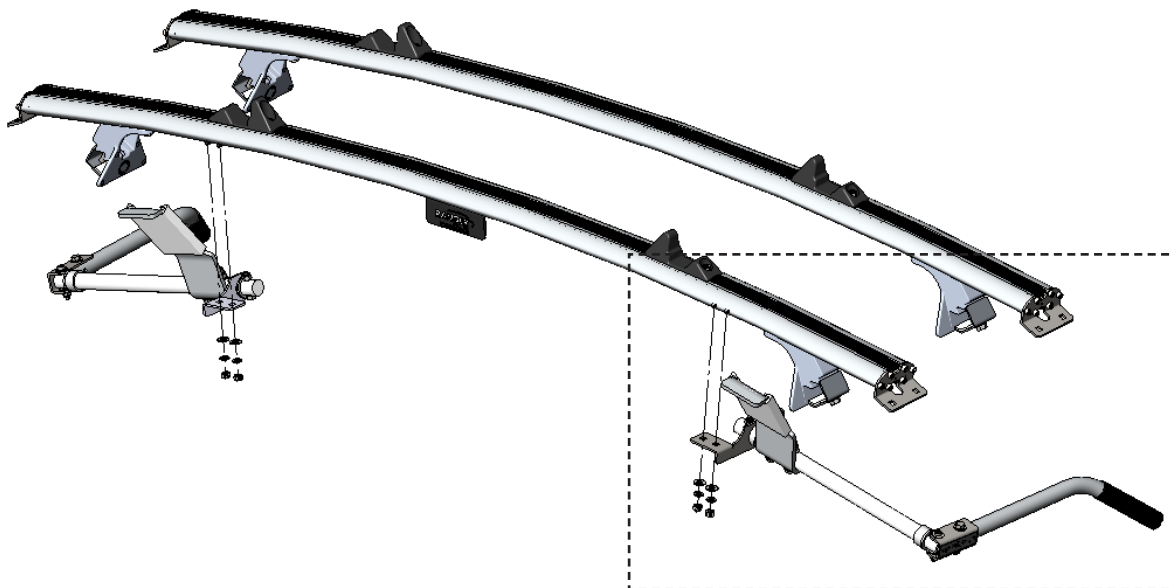


#98-123 Lock Washer



#94-105 Hex Nut

### 1.2.5 Fasten the 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



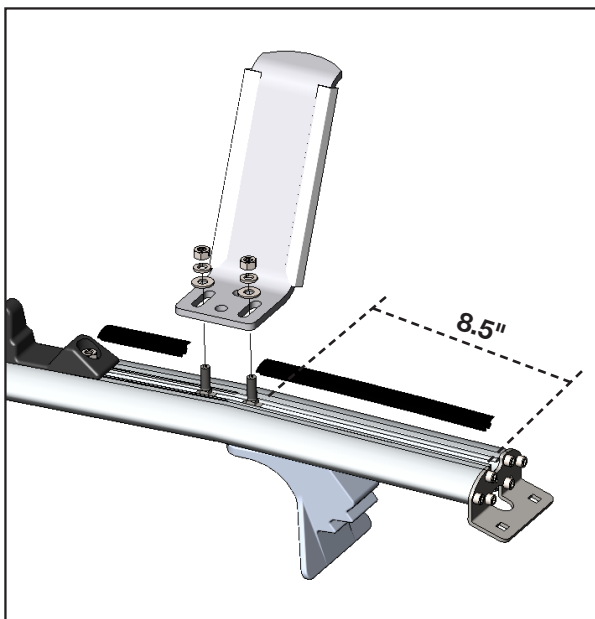
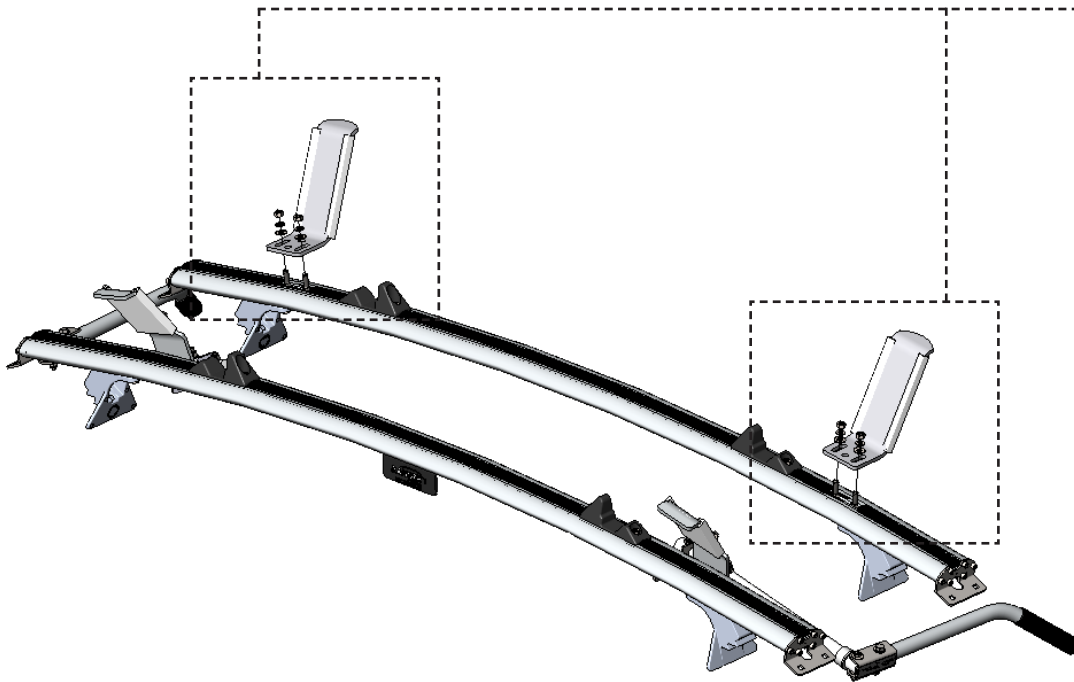
#98-123 Lock Washer



#94-105 Hex Nut



- 1.2.6**
- Pull out the 14.5" track plug on both ends 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

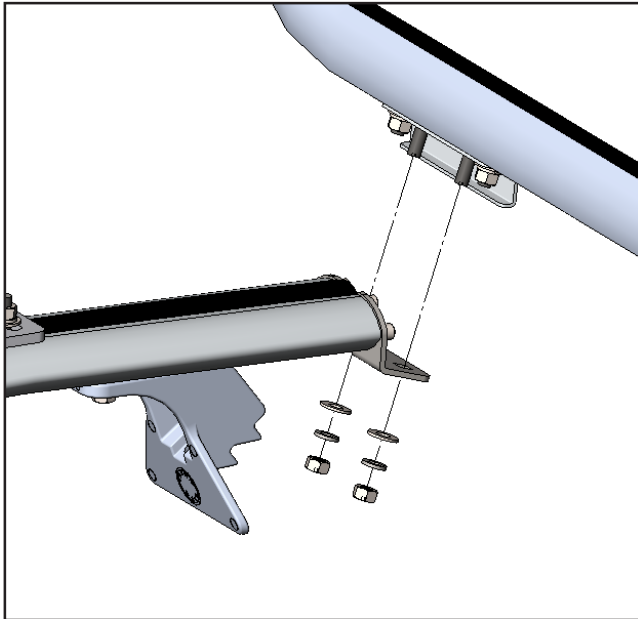
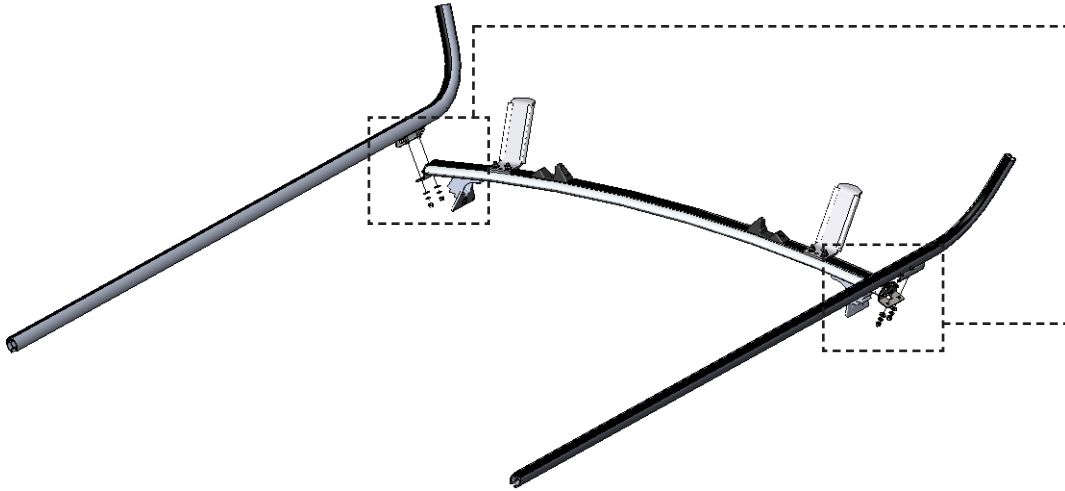
- ☐ Marker
- ☐ Cutter

#### HARDWARE USED

**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

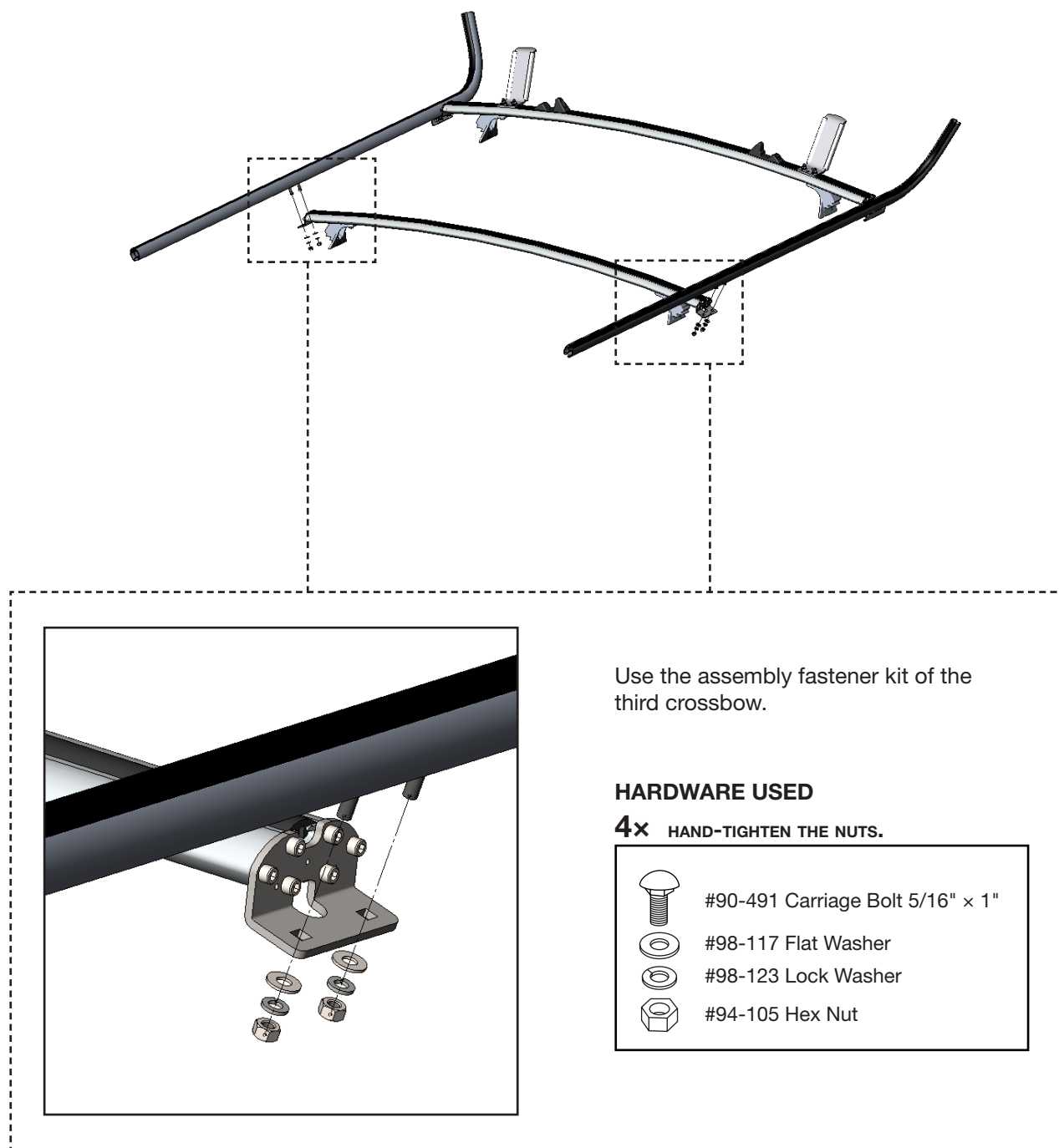


#94-105 Hex Nut

**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.

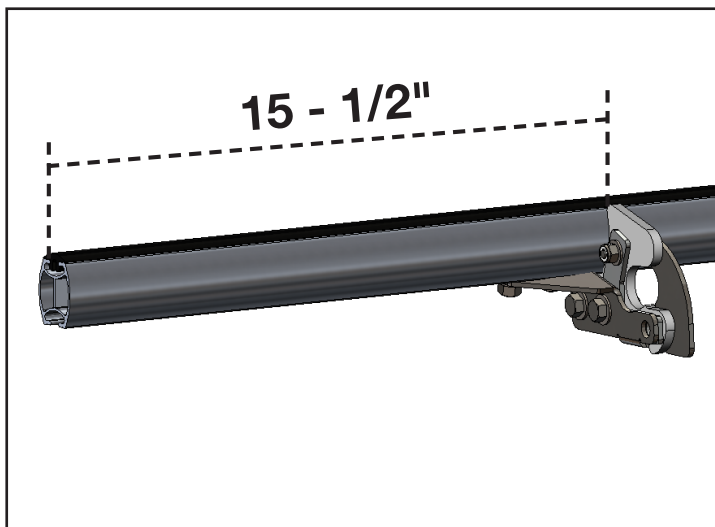
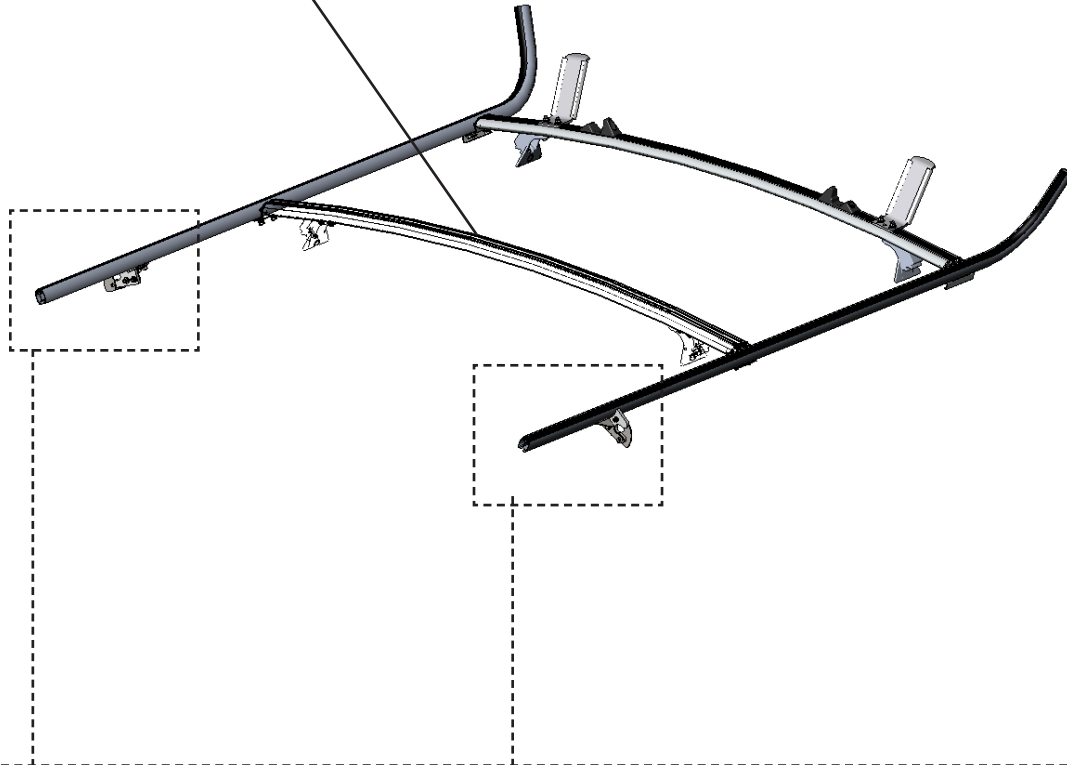
**1.2.8** After assembling the third crossbow attach the third crossbow to the skis.

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



**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.

**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



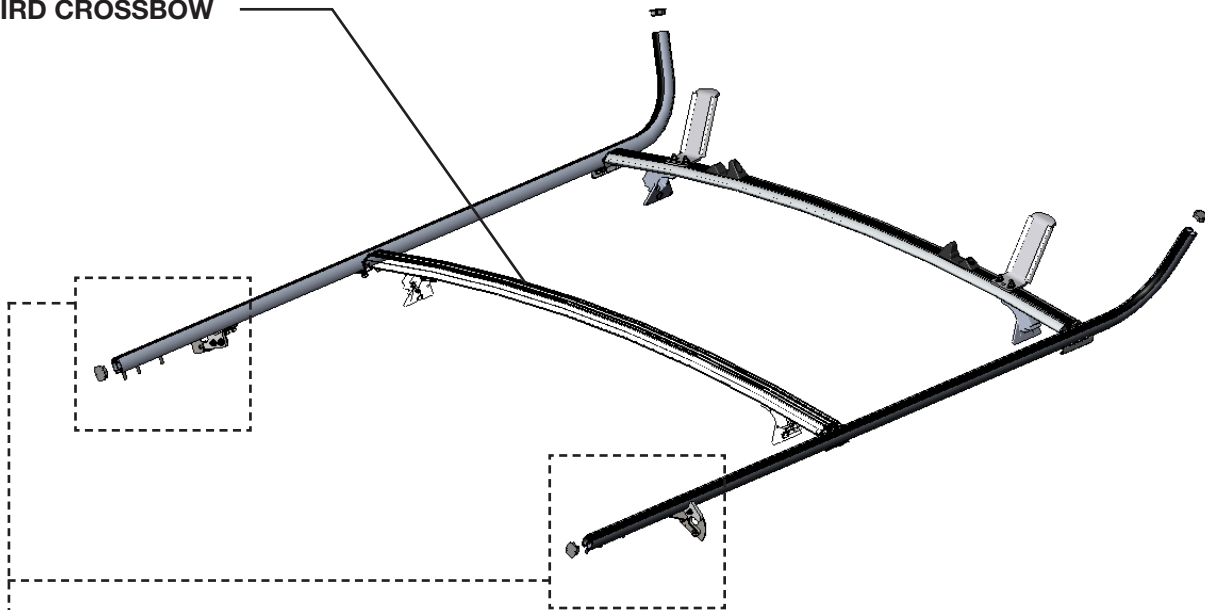
#98-123 Lock Washer



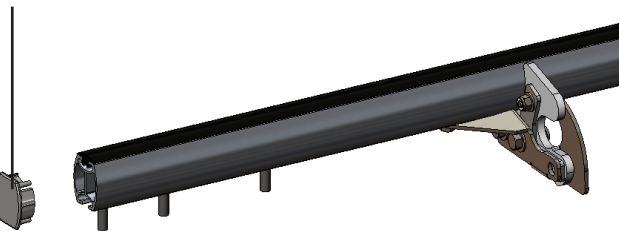
#94-105 Hex Nut

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

**THIRD CROSSBOW**



**END PLUG**



**TOOLS**

☐ Mallet

**HARDWARE USED**

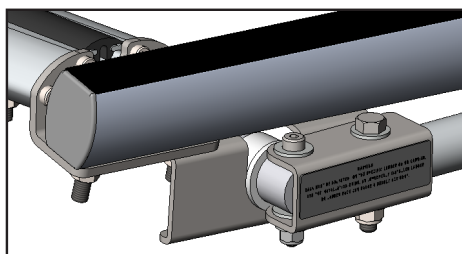
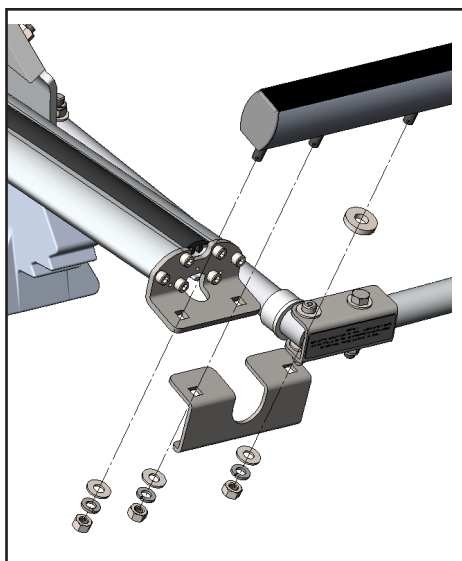
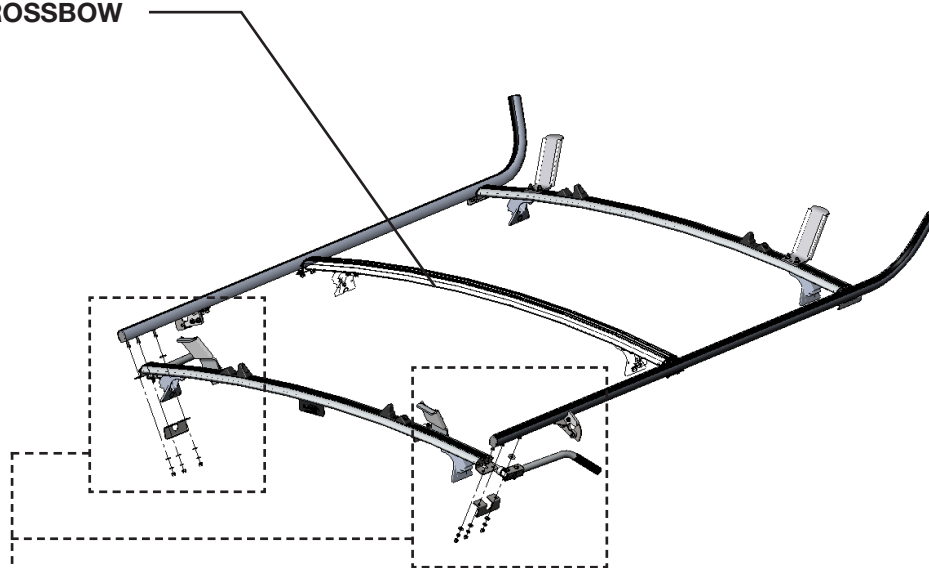
**6x**



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

**1.2.11** 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

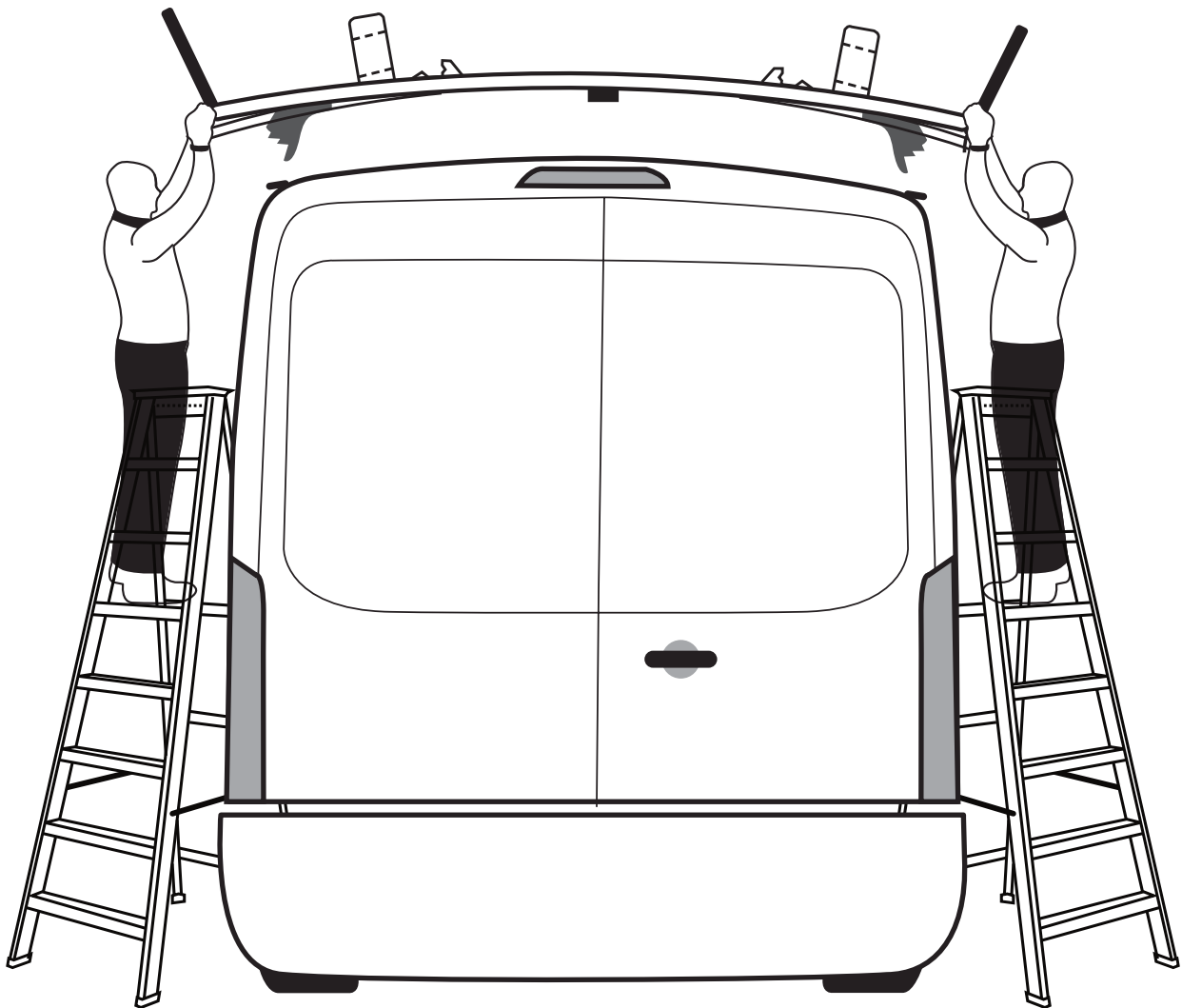
# PHASE 2 – INSTALLATION

## 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.

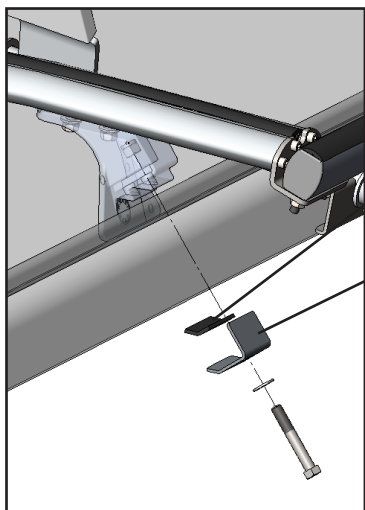
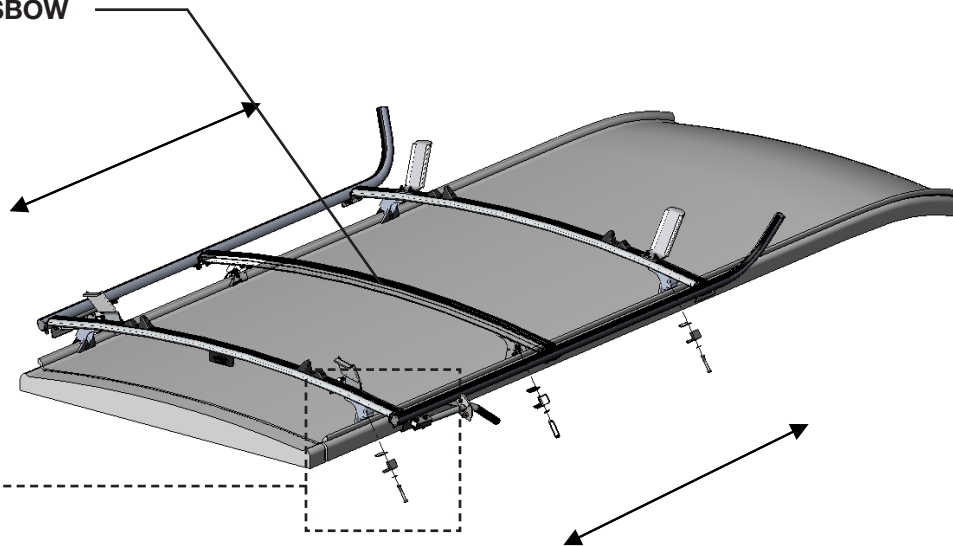
### Ladder Rack



**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**

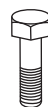
**GUTTER CLIP**

**TOOLS**

- Cordless Impact
- 9/16" Socket

**HARDWARE USED**

**4x OR 6x**



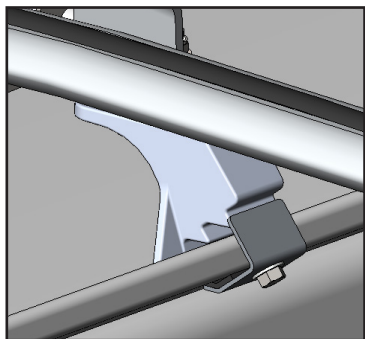
#90-327 Hex Bolt 3/8" x 2-1/2"



#98-109 Flat Washer



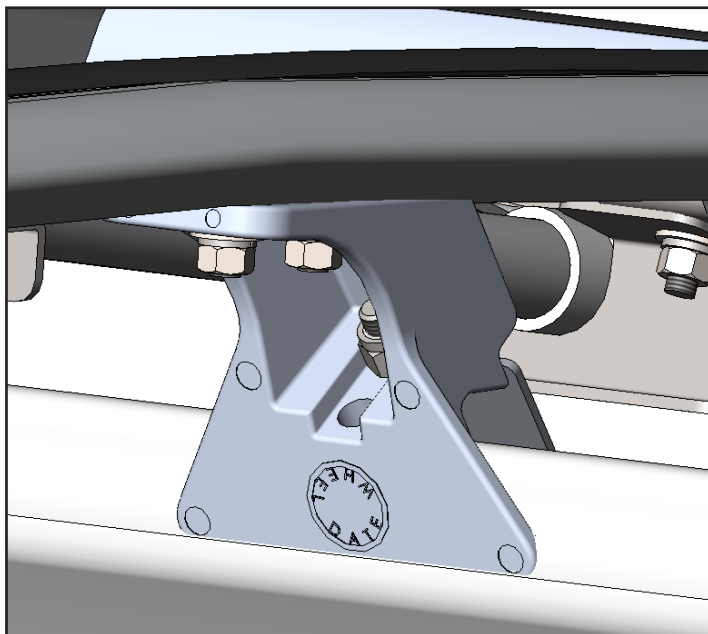
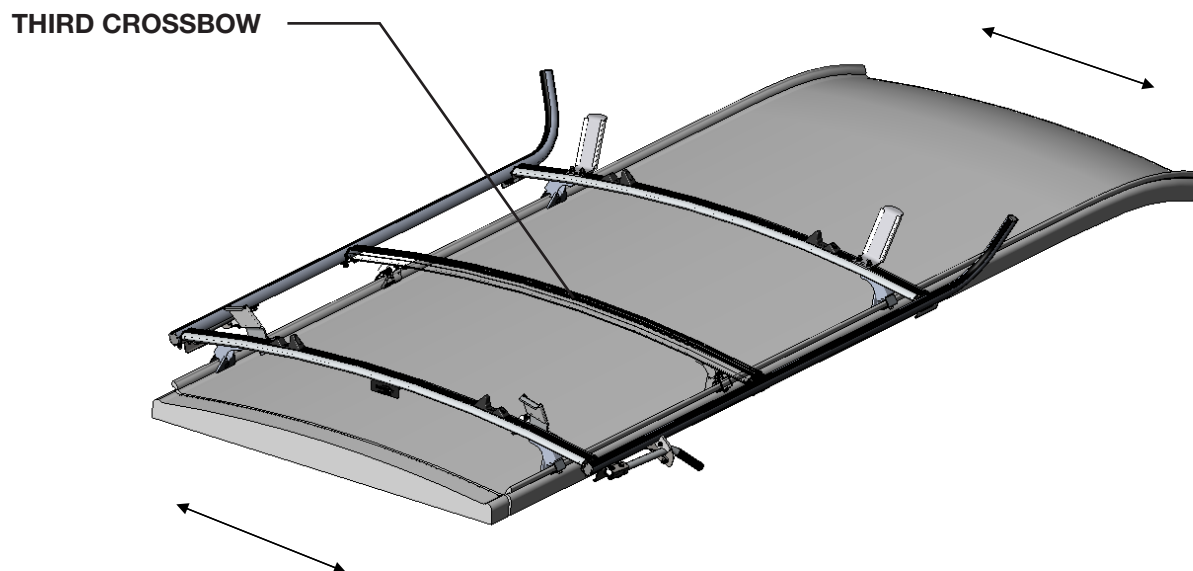
#94-109 Lock Nut





**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.

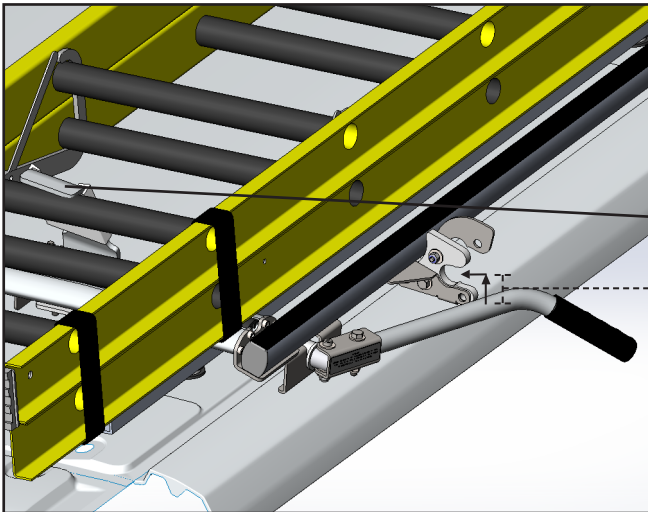
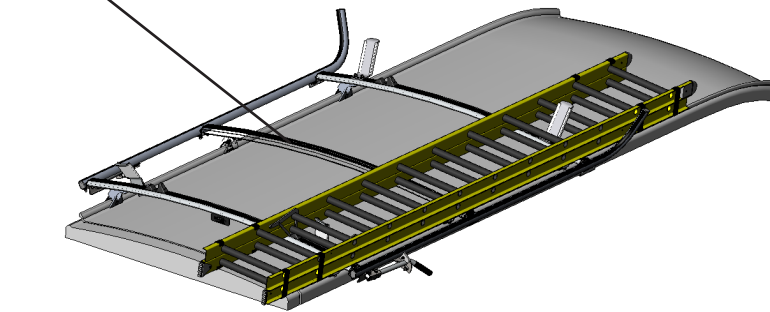
**NOTE:**

- 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 crossbows to fill all the unused space.
- Place the ladder rack warning label on a visible area, recommended on a partition.

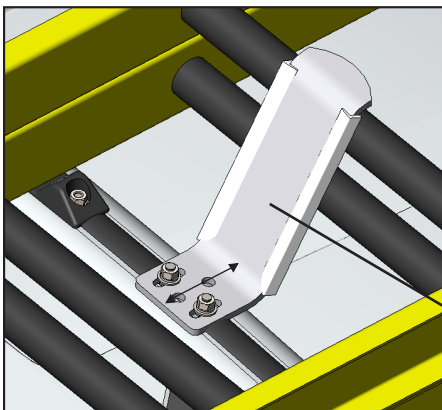
#### THIRD CROSSBOW



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

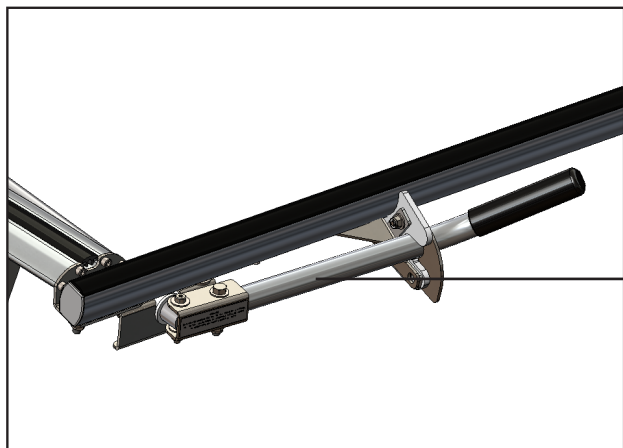
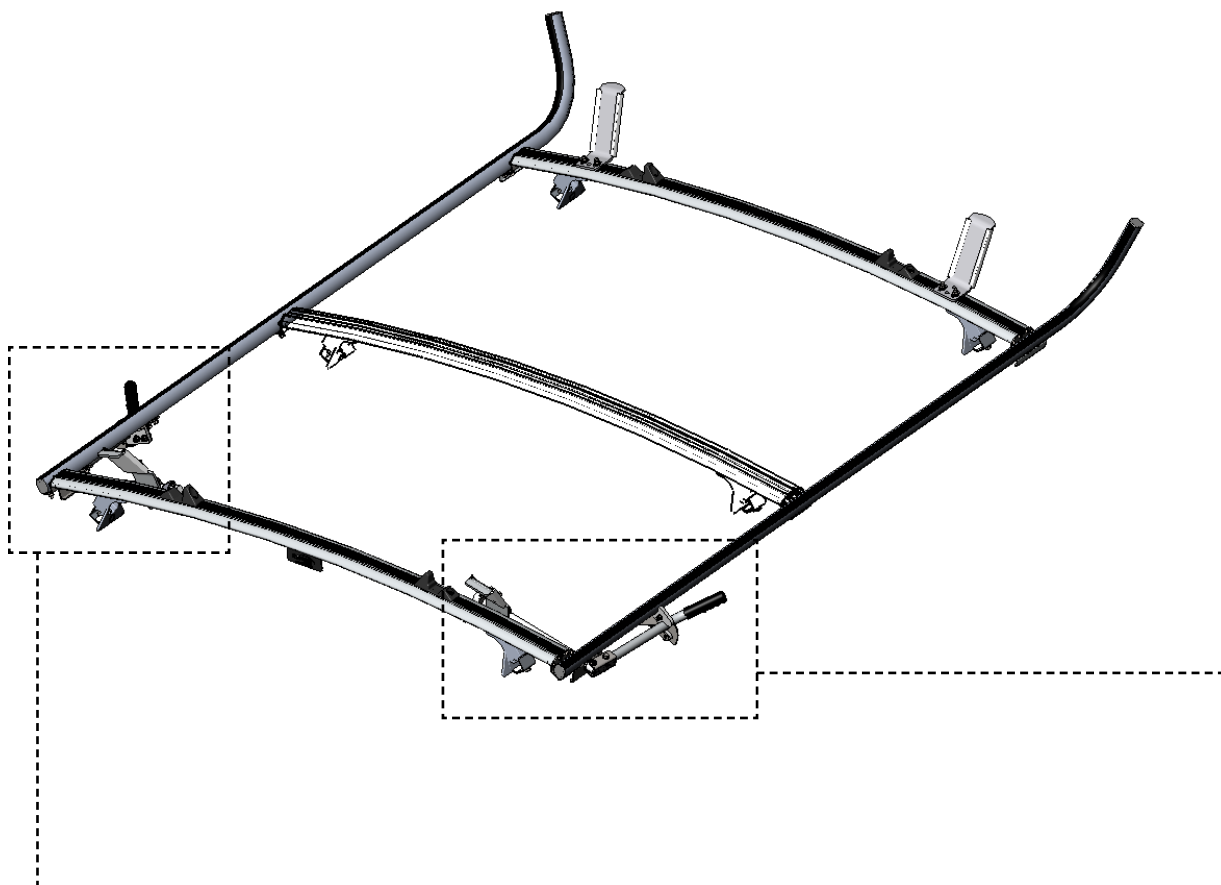
- ☐ Cordless Impact
- ☐ 1/2" Socket

FRONT HOOK

# PHASE 2 – INSTALLATION

## 2.2 NOTE

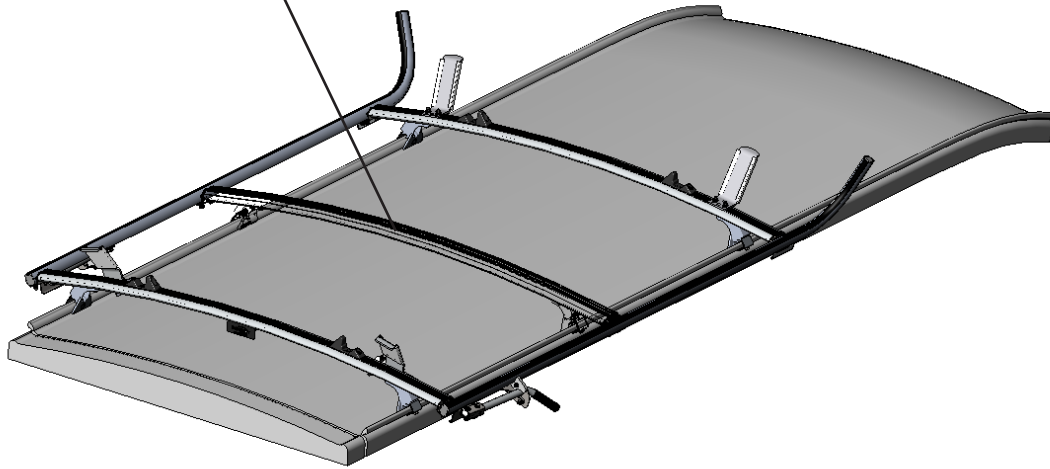
**2.2.1** If the handle is interfering with the door or roof of the vehicle, the handle can be installed in an alternate position.



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

**THIRD CROSSBOW**



**“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](mailto:cs@rangerdesign.com)

