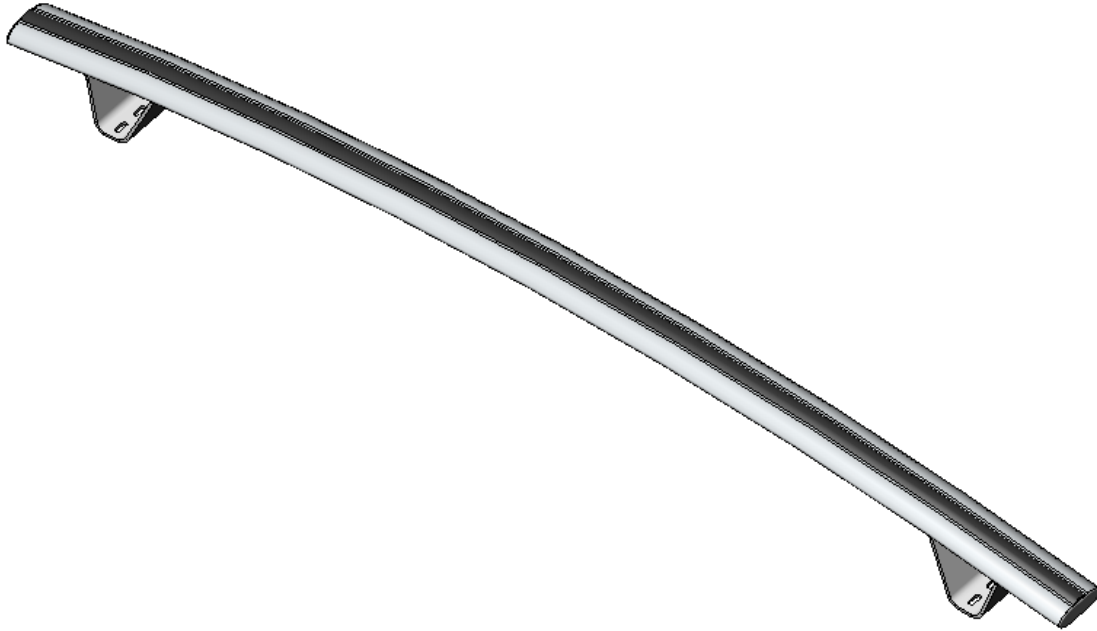


# INSTALLATION GUIDE



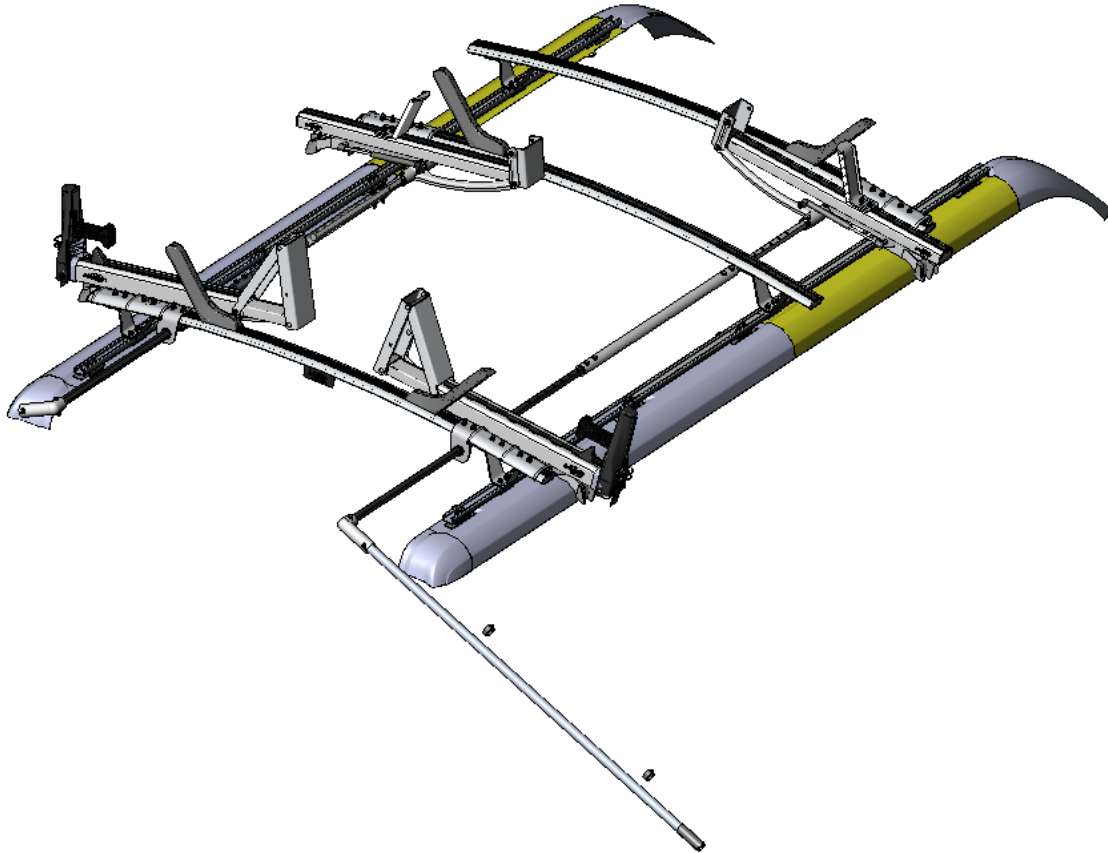
## **15-1805 Max Rack Third Crossbow**

( To carry step ladder shorter than 8', for Max Rack double side only )



# MAX RACK DOUBLE SIDE WITH THIRD CROSSBOW

FRONT OF THE VEHICLE



**NOTE:** As will be seen on the photo, the 3<sup>rd</sup> crossbow is introduced between the front and rear crossbow to accommodate a step ladder shorter than 8', and the front hook mechanism which has been supplied in the driver side box, operation 3 , together with its installation fasteners must be installed on the 3<sup>rd</sup> crossbow instead of the front crossbow.

**RANGER**  
DESIGN

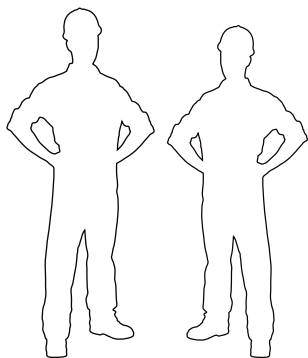
# QUICK START GUIDE

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## REQUIRED ITEMS FOR COMPLETE MAX RACK

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



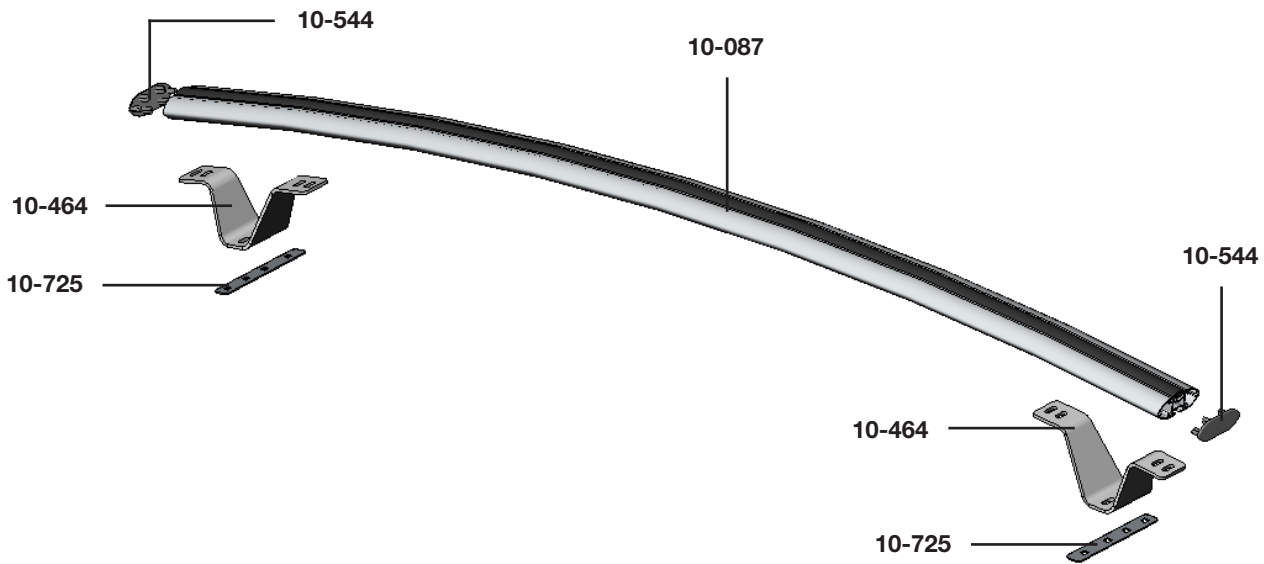
**2  
PERSONS**

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Marker
- ❑ Ladder
- ❑ 3/16" Impact Bit
- ❑ 9/16" Wrench
- ❑ 7/16" Socket
- ❑ 1/2" Socket
- ❑ 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.
10-087	Croosbow 72" Long	1
10-464	"V" Bracket - Ladder Rack Leg	2
10-544	End Plastic Plug	2
10-725	Support Plate	2
96-1800	Install Fastener Kit for 15-1805	1

**NOTE:** Support plate is for Mercedes Sprinter.

**NOTE:** Before you start, installation guide for third crossbow shows how to assemble the hook frame ( driver side ) and front bar ( driver side ) to the third crossbow instead of the front crossbow.

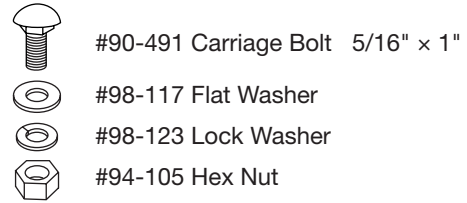
### 1.1.3 Fastener kits.

#### Install Fastener Kit for 15-1805

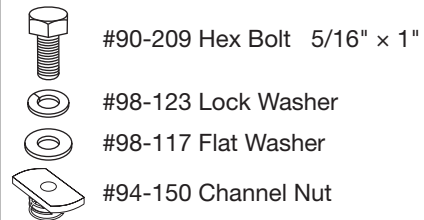
4x		# 90-209	Hex Bolt 5/16"-18 x 1" SS304
8x		# 90-487	Carriage Bolt 5/16"-18 x 3/4" SS304
4x		# 90-491	Carriage Bolt 5/16"-18 x 1" SS304
12x		# 94-105	Hex Nut 5/16"-18 SS316wax
4x		# 94-150	Channel Nut w/ Spring 5/16"
12x		# 98-117	Flat Washer 5/16" OD, 3/4" SS18-8
12x		# 98-123	Lock Washer 5/16" SS304

#### Fastener Assembly

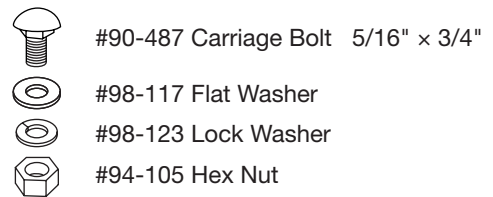
4x



4x





8x



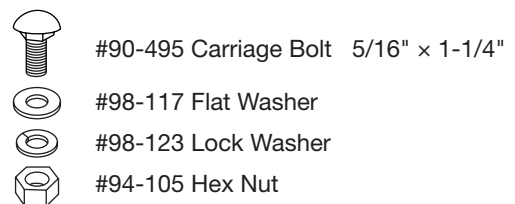
**NOTE:** These Fastener kits are from Max Rack driver side mechanism.

#### Install Fastener First Kit for 15-1810

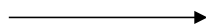
6x		# 90-495	Carriage Bolt 5/16"-18 x 1-1/4" SS304
6x		# 94-105	Hex Nut 5/16"-18 SS316wax
6x		# 98-117	Flat Washer 5/16" OD, 3/4" SS18-8
6x		# 98-123	Lock Washer 5/16" SS304

#### Fastener Assembly




6x



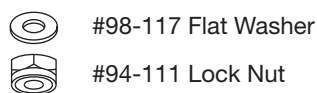
## Install Fastener Second Kit for 15-1810



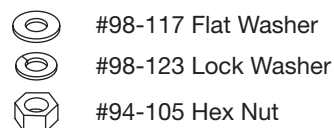
## Fastener Assembly

3x		# 90-115	Hex Bolt 1/4"-20 x 1" SS304
1x		# 90-495	Carriage Bolt 5/16"-18 x 1-1/4" SS304
2x		# 94-105	Hex Nut 5/16"-18 SS316wax
2x		# 94-111	Lock Nut 5/16" SS304wax
3x		# 98-113	Flat Washer 1/4" OD, 5/8" SS18-8
3x		# 98-117	Flat Washer 5/16" OD, 3/4" SS18-8
3x		# 98-119	Lock Washer 1/4" SS304
2x		# 98-123	Lock Washer 5/16" SS304

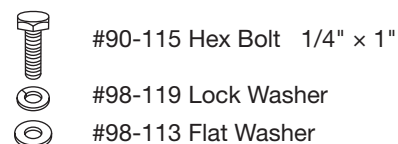
1x



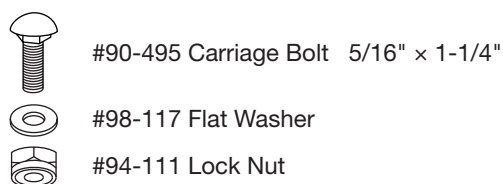
2x



1x

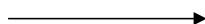


1x



**NOTE:** These Fastener kits are from Max Rack driver and passenger side mechanism.

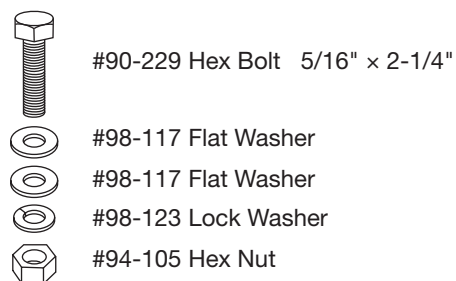
## Install Fastener Third Kit for 15-1810



## Fastener Assembly

6x		# 90-229	Hex Bolt 5/16"-18 x 2-1/4" SS304
6x		# 94-105	Hex Nut 5/16"-18 SS316wax
12x		# 98-117	Flat Washer 5/16" OD, 3/4" SS18-8
6x		# 98-123	Lock Washer 5/16" SS304

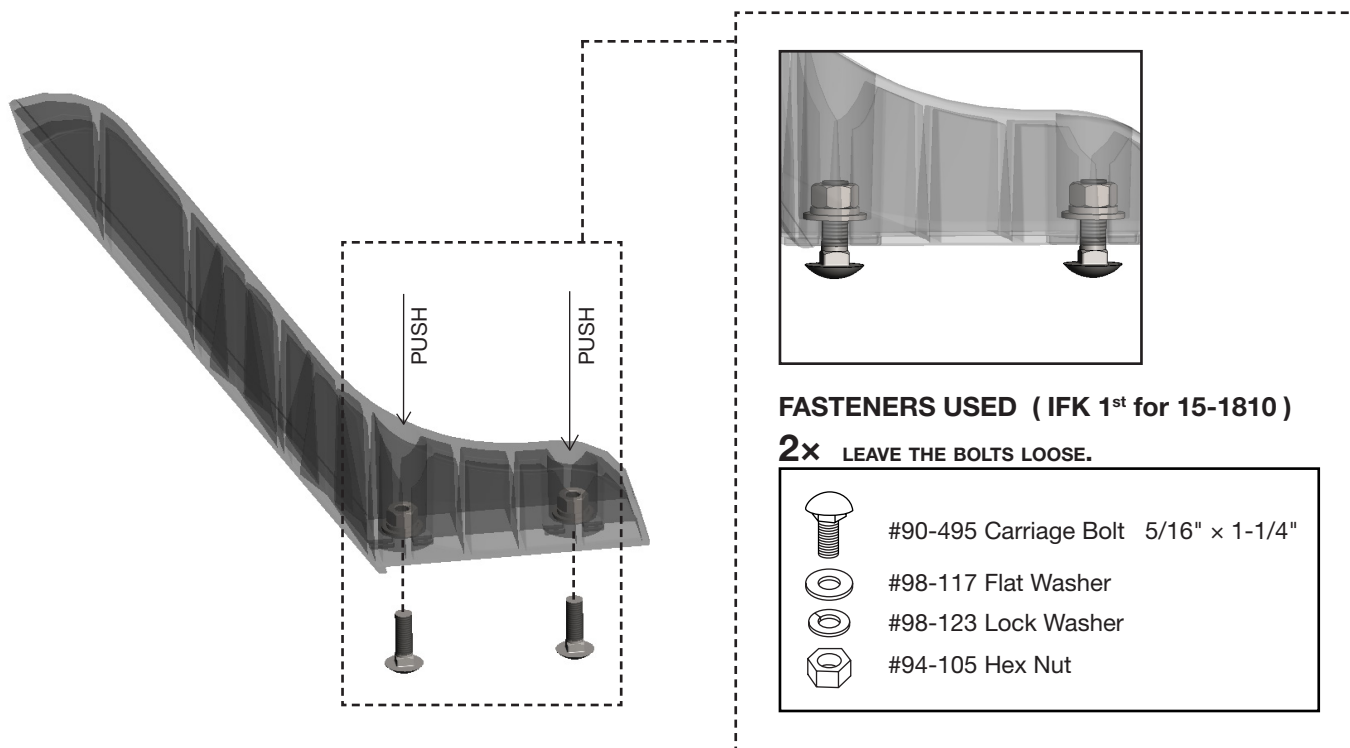
6x



# PHASE 1 – ASSEMBLY

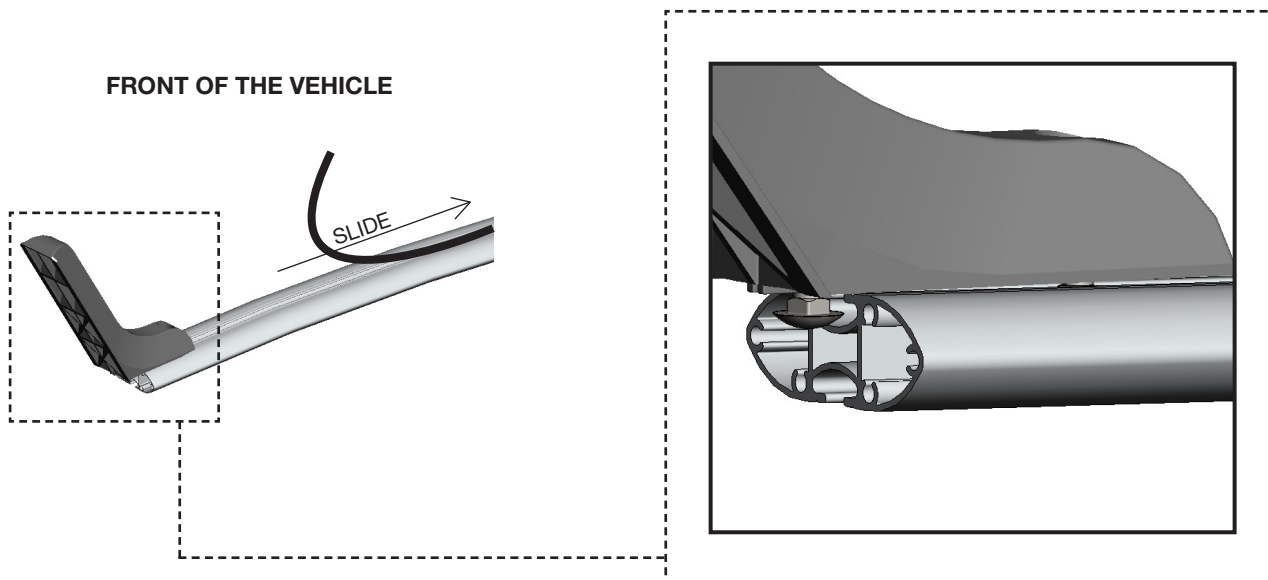
## 1.2 THIRD CROSSBOW ASSEMBLY

**1.2.1** Put flat washers, lock washers and hex nuts in the holes of the Interlocking Hook, then push the hex nut using one finger while attaching the carriage bolt to the hex nut.

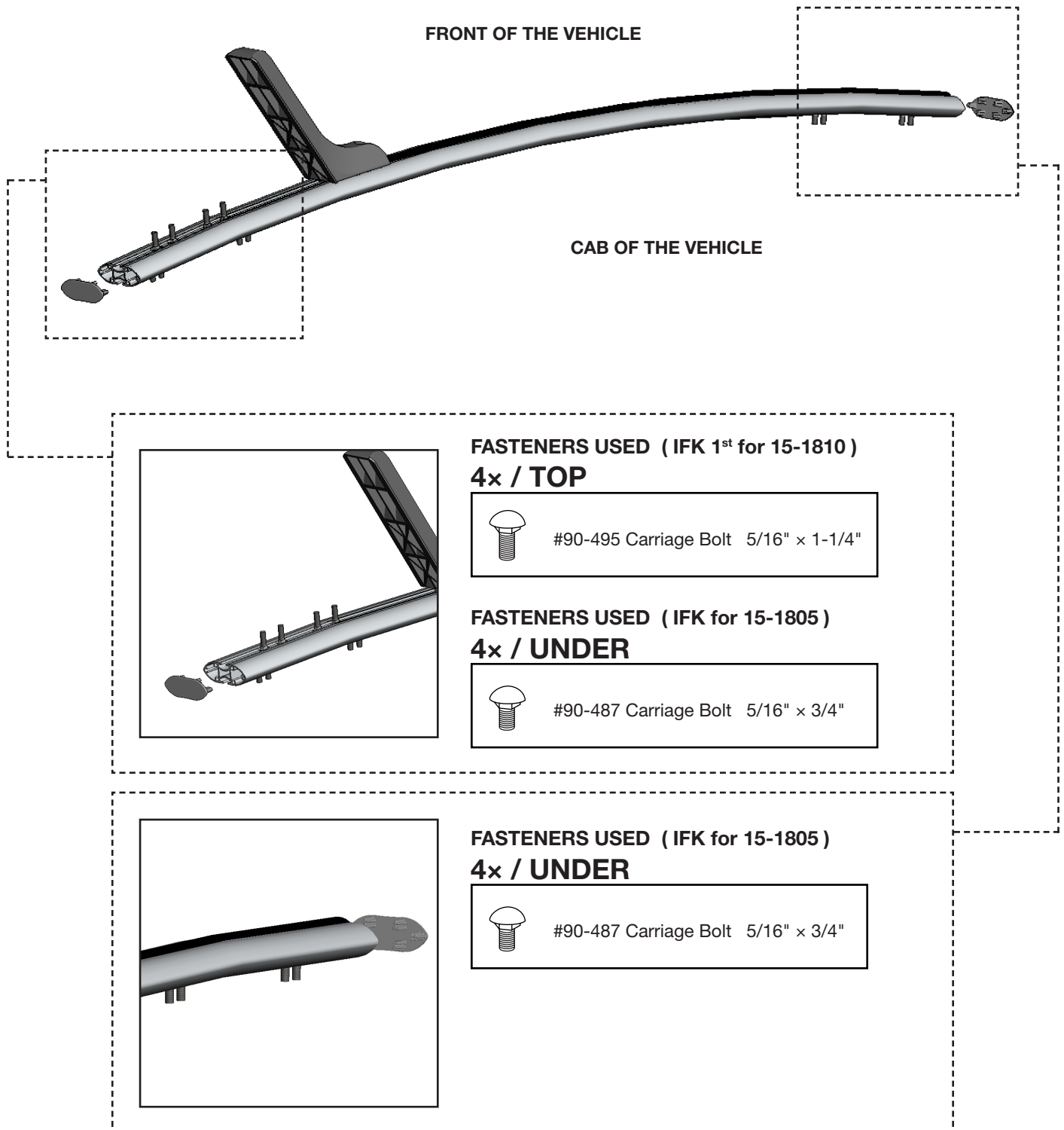


- 1.2.2**
- Pull out 25" of the top plug extrusion from the driver side end of the third crossbow, then pull out 10" of the bottom extrusion on both ends of the third crossbow.
  - Slide the interlocking hook with the bolts to the third crossbow.

**NOTE:** Leave the bolts loose to allow for adjustment.  
Plug extrusions must be cut at the right length after adjustment.



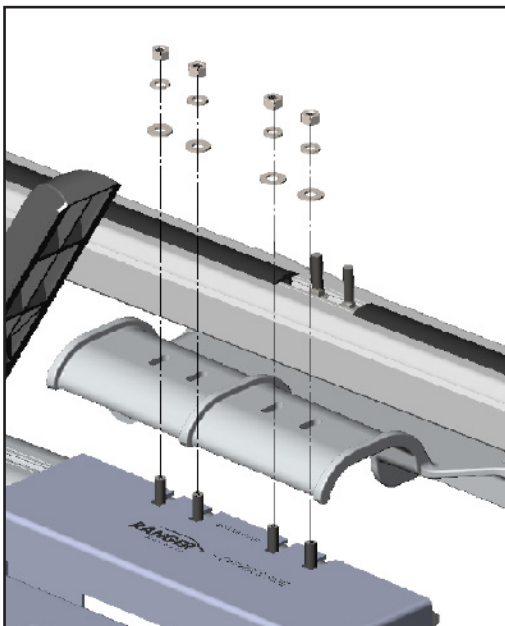
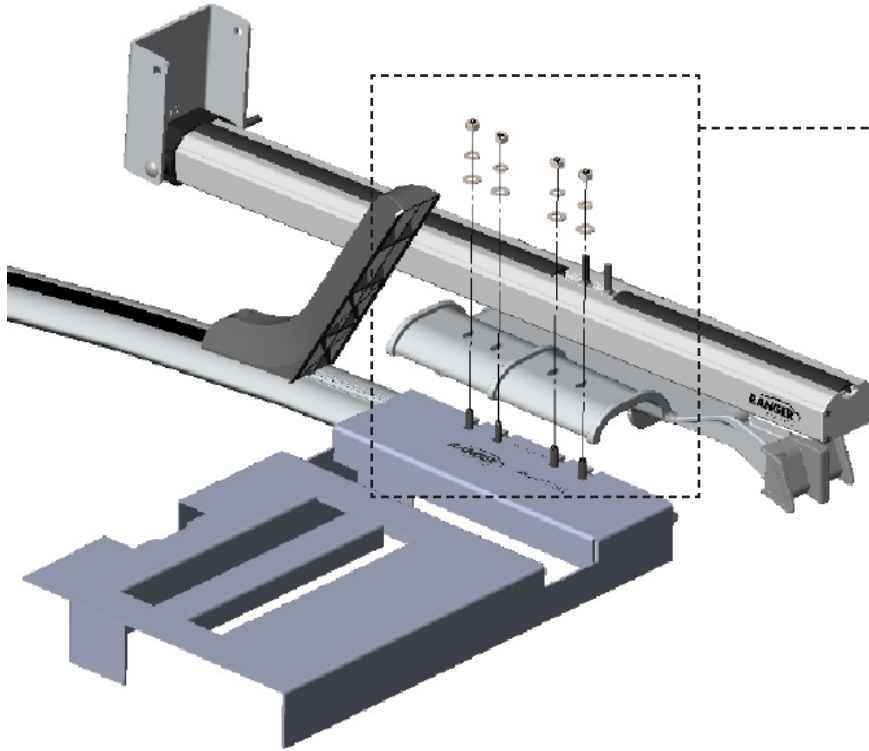
- 1.2.3**
- Slide 4 bolts on top of the driver side end of the third crossbow.
  - Slide 4 bolts under of the third crossbow on both ends.
  - Attach end plastic plugs on both ends of the third crossbow.





- 1.2.4 Place the hook frame ( driver side ) on top of the third crossbow using the 4 bolts and template, then complete the attachment using the flat washer, lock washer and hex nut.



**FRONT OF THE VEHICLE**



**NOTE:** Cut the cardboard for easier usage.

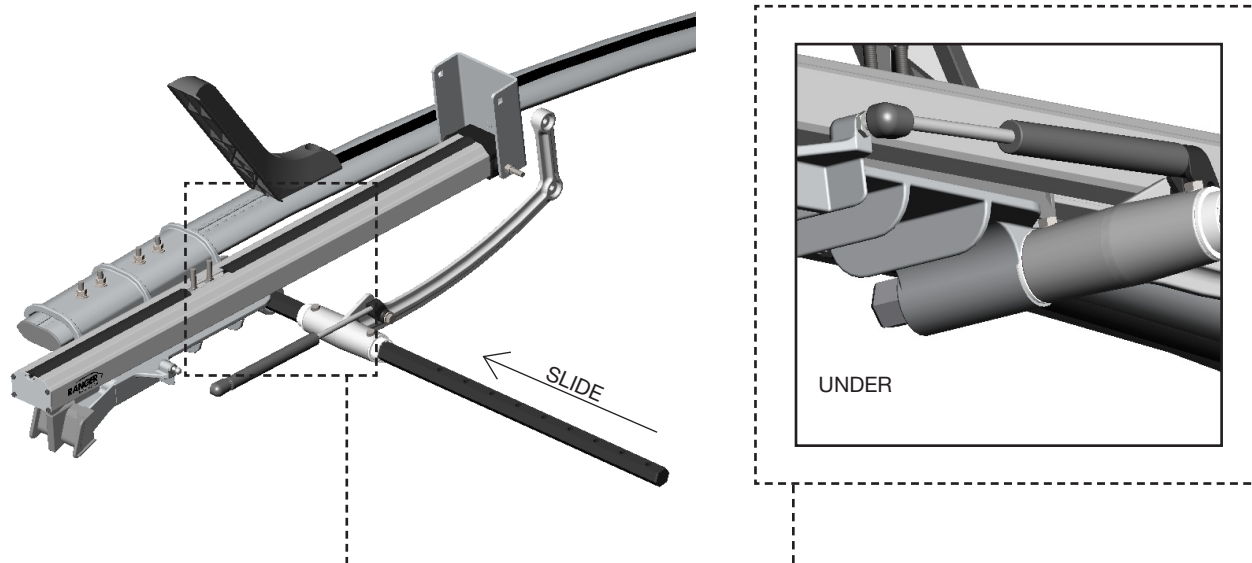
**FASTENERS USED ( IFK 1<sup>st</sup> for 15-1810 )**

**4x** HAND-TIGHTEN THE NUTS.

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

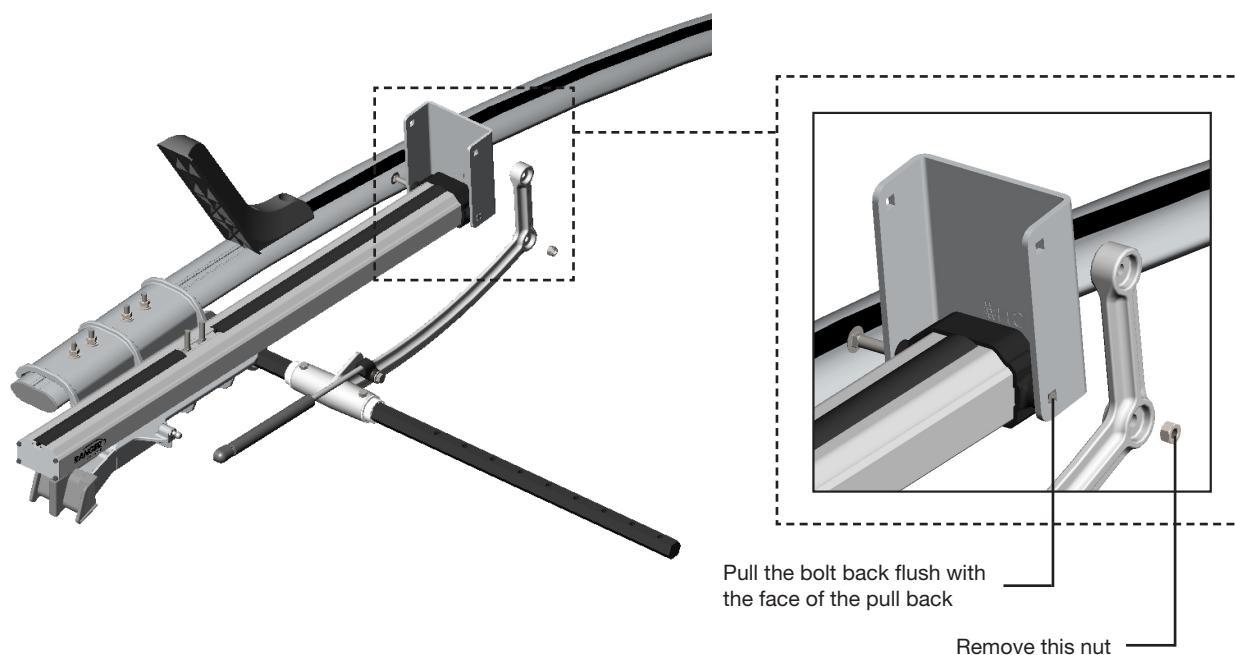
- 1.2.6** Slide the front bar ( driver side ) through the tube under the hook frame ( driver side ).

**FRONT OF THE VEHICLE**



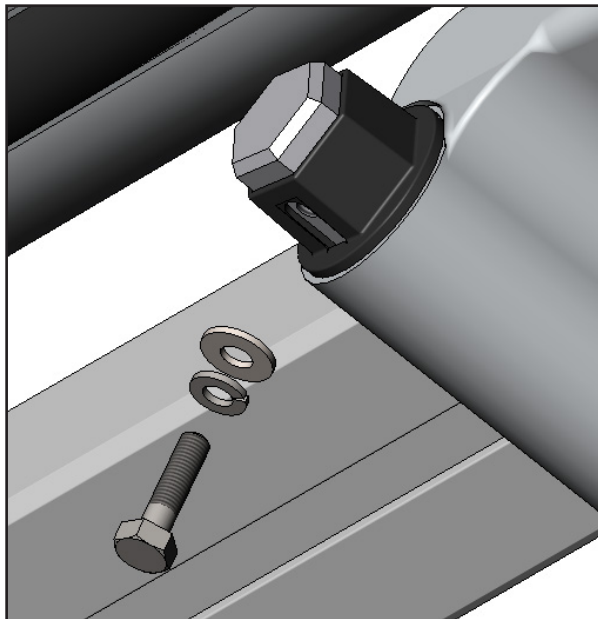
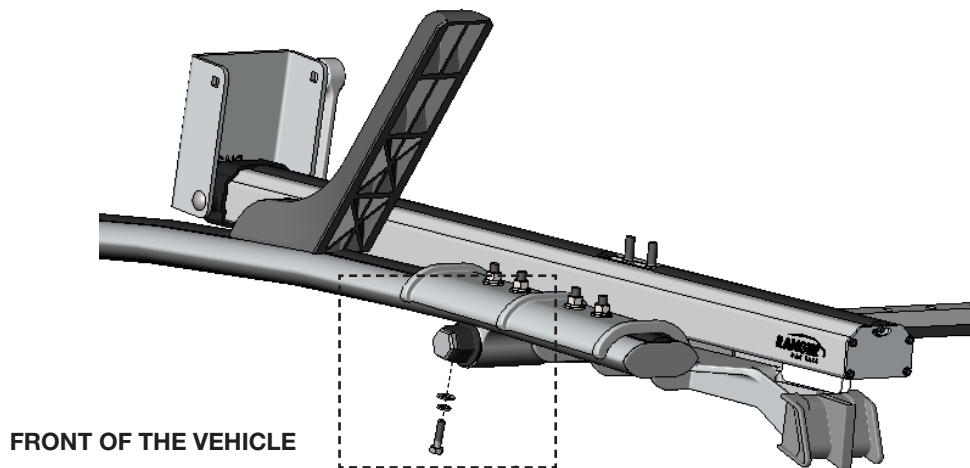
- 1.2.7** Remove the nut shown in the picture ( shipping purposes only ), then pull the bolt back flush with the face of the pull back.

**FRONT OF THE VEHICLE**



**1.2.8** Attach 1 retaining wedge on the front end of the front bar.

**NOTE:** Pay attention to the position of the retaining wedge.




**TOOLS**

- Ratchet
- 7/16" Socket

**FASTENERS USED ( IFK 2<sup>nd</sup> for 15-1810 )**

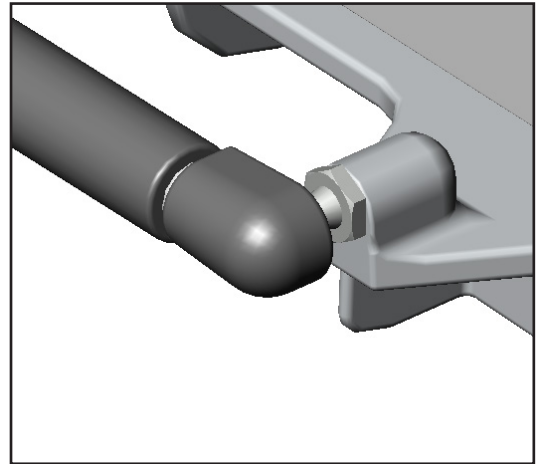
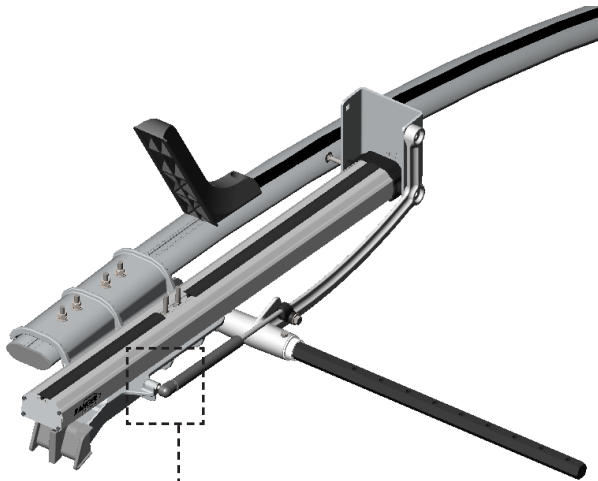
**1x** DO NOT OVERTIGHTEN THE BOLTS.

- |   |                            |
|---|----------------------------|
|  | #90-115 Hex Bolt 1/4" x 1" |
|  | #98-119 Lock Washer        |
|  | #98-113 Flat Washer        |

**1.2.9** Bolt the loose end of the gas spring to the pivot arm.

**NOTE:** Move the pivot arm up and down to align the hole to the gas spring.

**FRONT OF THE VEHICLE**



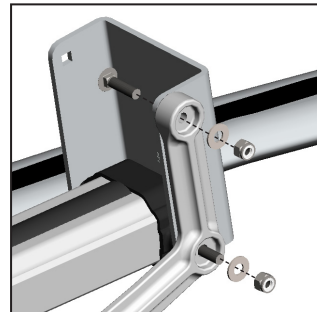
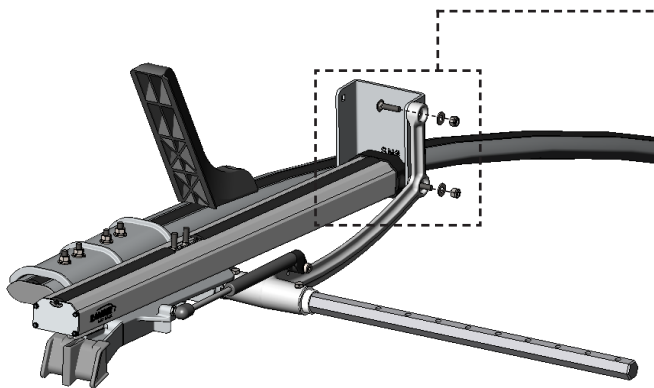
**TOOLS**

- ☐ Flat Screw Driver

**1.2.10** Bolt the pivot arm to the hook frame.

**NOTE:** Be careful not to overtighten.

**FRONT OF THE VEHICLE**



**TOOLS**

- ☐ Ratchet
- ☐ 1/2" Socket

**FASTENERS USED ( IFK 2<sup>nd</sup> for 15-1810 )**

**1x**



#90-495 Carriage Bolt 5/16" × 1-1/4"



#98-117 Flat Washer



#94-111 Lock Nut

**1x**



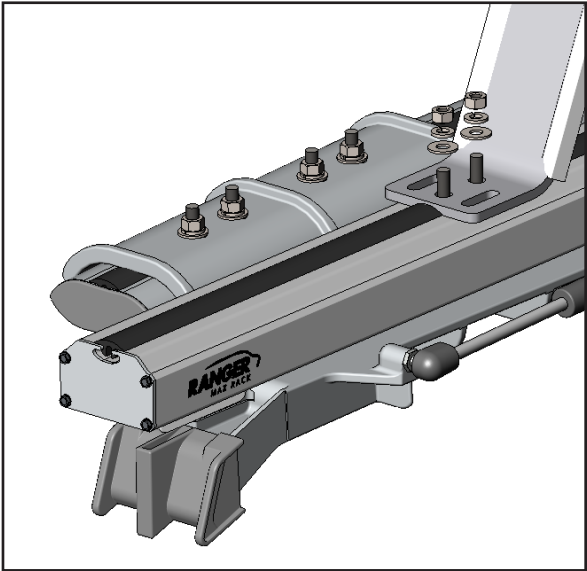
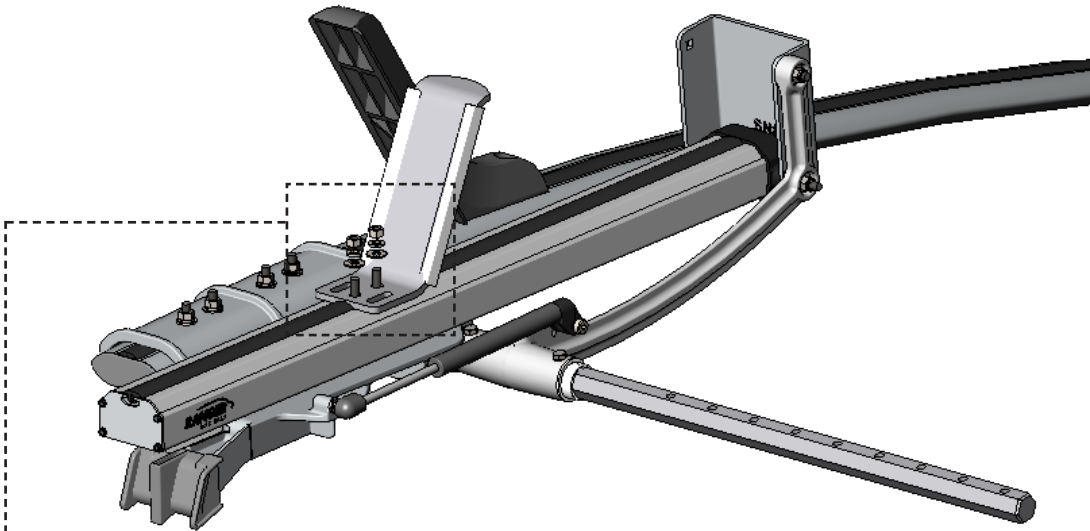
#98-117 Flat Washer



#94-111 Lock Nut




1.2.11 Attach the front hook to the 2 carriage bolts on top of the hook frame.

FRONT OF THE VEHICLE



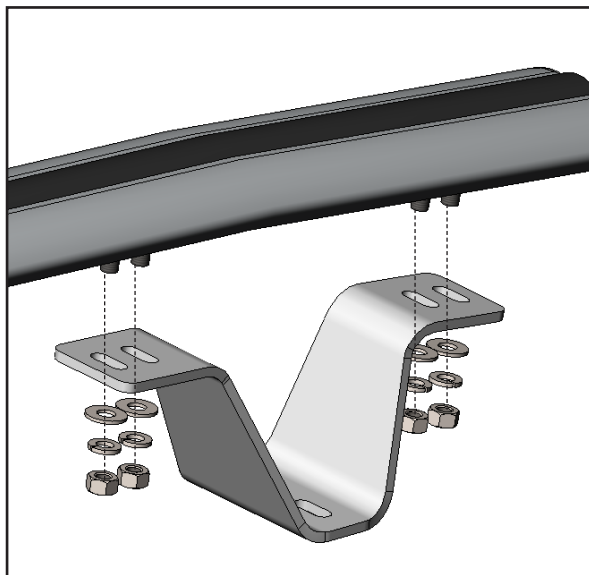
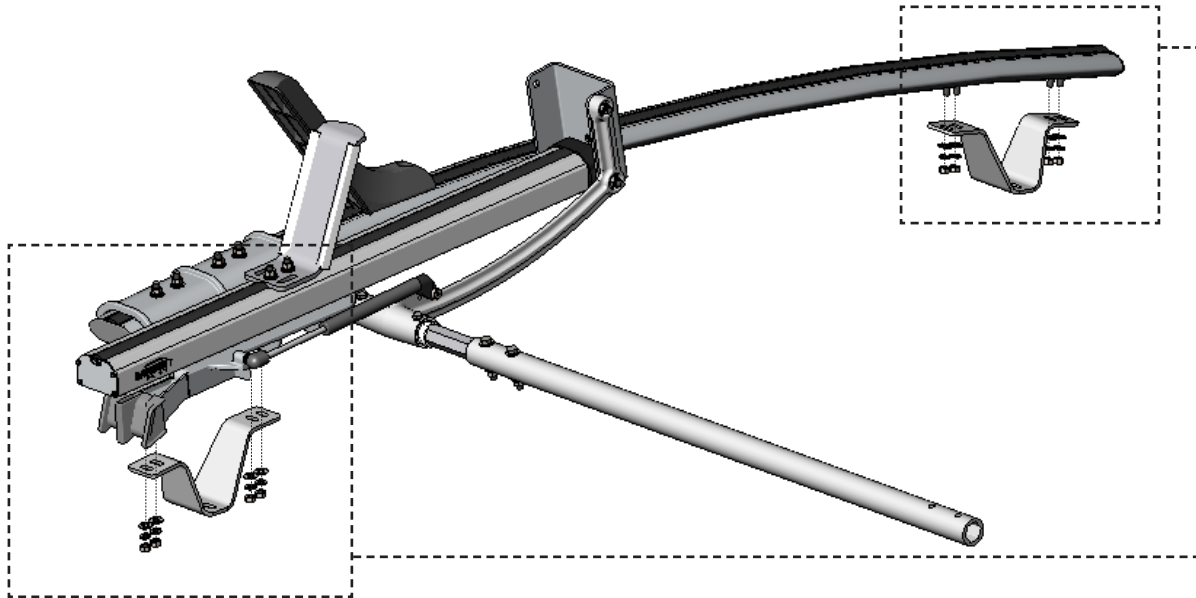
FASTENERS USED ( IFK 2<sup>nd</sup> for 15-1810 )

2x HAND-TIGHTEN THE NUTS.

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




**1.2.12** Attach the feet to the third crossbow using the 4 bolts on both ends.

**FRONT OF THE VEHICLE**



**FASTENERS USED ( IFK for 15-1805 )**

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

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

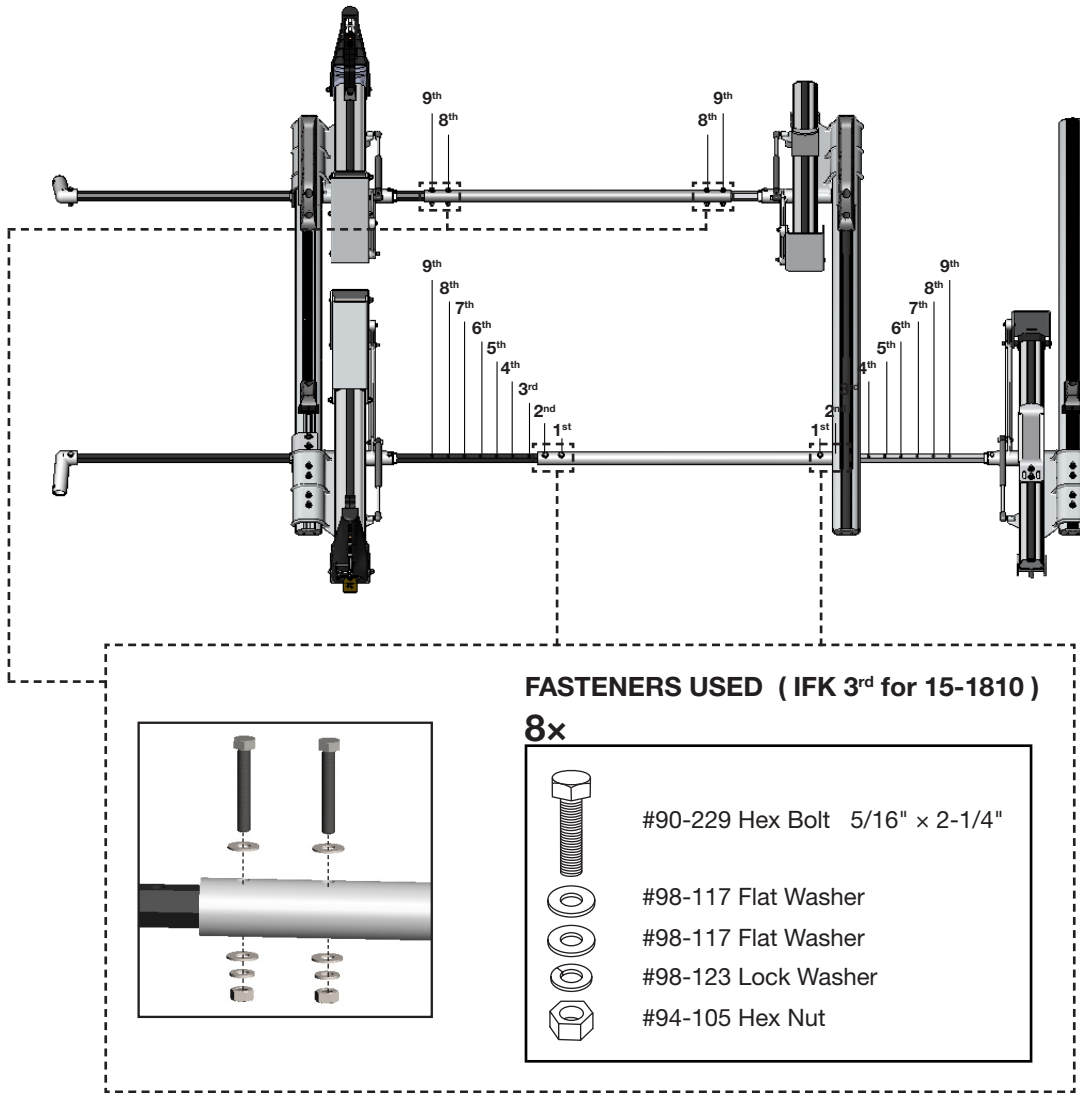
**NOTE:** Attaching the feet to the mounting track is shown in the mounting track Installation Guide ( BOX 4 ).

# PHASE 1 – ASSEMBLY

## 1.3 FOR OVERHEAD LIFTER ASSEMBLY

**1.4.1** Attach the ends of the front and rear bars to the center tube.

**NOTE:** Do not do this step if you don't have a lifter.



VEHICLE	MAX LADDER SIZE	CROSSBOW CENTER TO CENTER DISTANCE
ALL VEHICLE EXCEPT NISSAN NV , RAM PROMASTER 118" WHEELBASE & FORD TRANSIT REGULAR WHEELBASE	20' TO 32' EXTENSION LADDER	94 - 1/2" ( 1 <sup>st</sup> & 2 <sup>nd</sup> HOLES )
	LESS THAN 20' EXTENSION LADDER ( INCL. STEP LADDER )	66 - 1/2" ( 8 <sup>th</sup> & 9 <sup>th</sup> HOLES )
NISSAN NV	20' & 24' EXTENSION LADDER	70 - 1/2" ( 7 <sup>th</sup> & 8 <sup>th</sup> HOLES )
	LESS THAN 20' EXTENSION LADDER ( INCL. STEP LADDER )	66 - 1/2" ( 8 <sup>th</sup> & 9 <sup>th</sup> HOLES )
RAM PROMASTER 118" WHEELBASE	20' TO 28' EXTENSION LADDER	82 - 1/2" ( 4 <sup>th</sup> & 5 <sup>th</sup> HOLES )
	LESS THAN 20' EXTENSION LADDER ( INCL. STEP LADDER )	66 - 1/2" ( 8 <sup>th</sup> & 9 <sup>th</sup> HOLES )
FORD TRANSIT REGULAR WHEELBASE	20' & 24' EXTENSION LADDER	70 - 1/2" ( 7 <sup>th</sup> & 8 <sup>th</sup> HOLES )
	LESS THAN 20' EXTENSION LADDER ( INCL. STEP LADDER )	66 - 1/2" ( 8 <sup>th</sup> & 9 <sup>th</sup> HOLES )



**“You have successfully completed  
your Max Rack double side mechanism with third crossbow!  
Open the mounting track box to continue assembling your Max Rack**

**Thank you for doing business with us.”**

For any feedback or suggestions you might have, please contact: [cs@rangerdesign.com](mailto:cs@rangerdesign.com)

