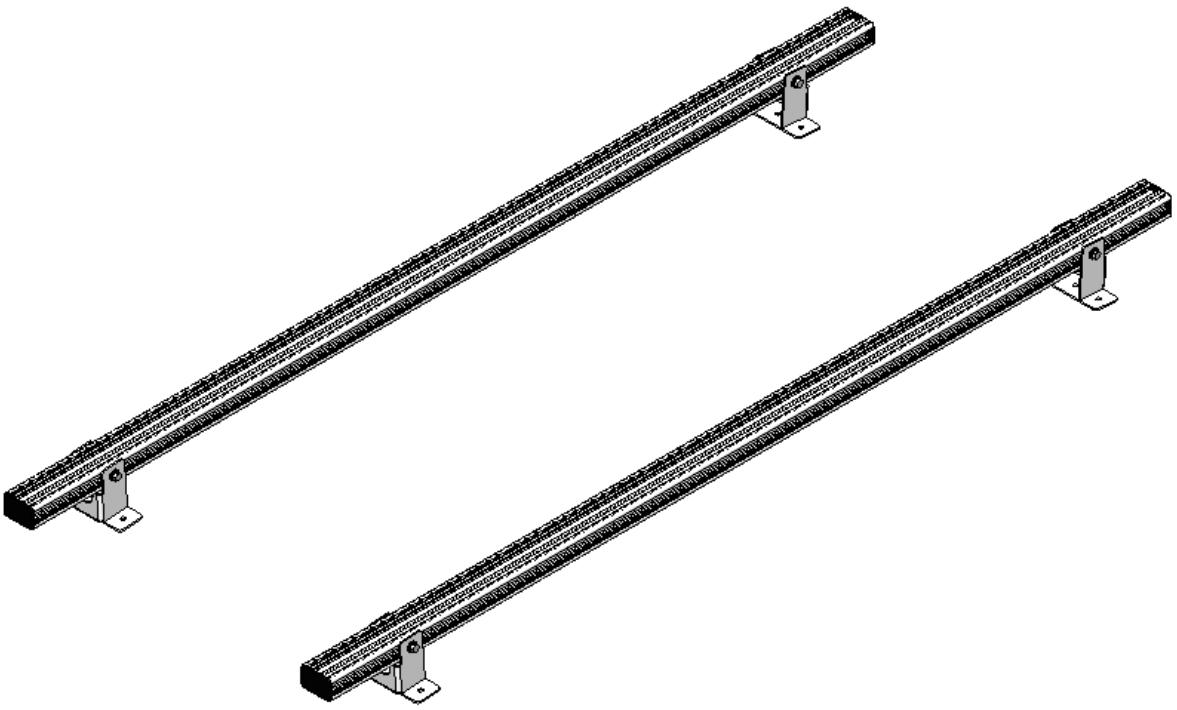
INSTALLATION GUIDE



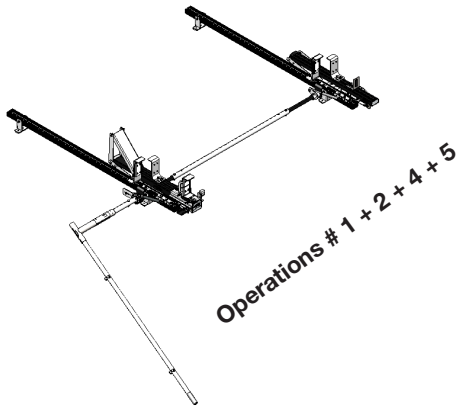
18-U1806 Max Rack Crossbar

(Max Rack)

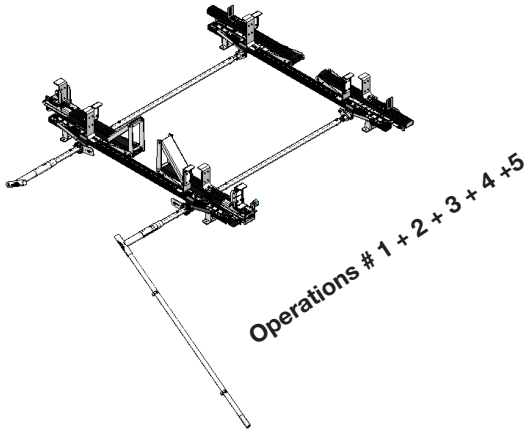
RANGER DESIGN

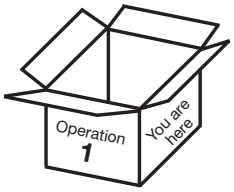
ORDER OF OPERATION

MAX RACK SINGLE SIDE

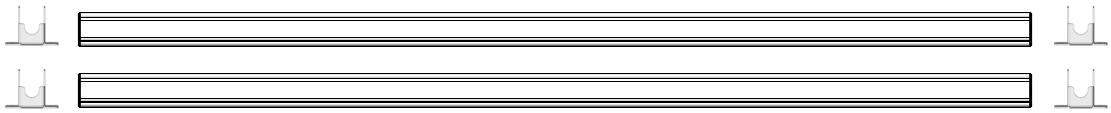


MAX RACK DOUBLE SIDE

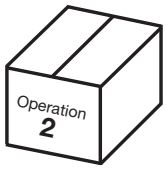


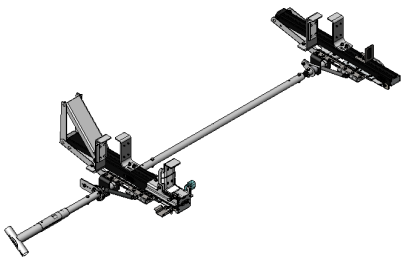


18-U1806

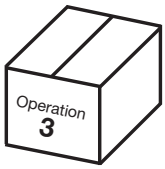


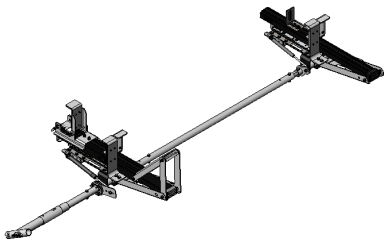
18-U1810



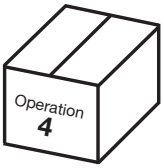


18-U1815

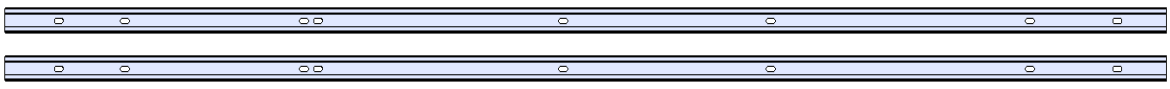


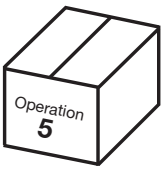


OPTIONAL: Applicable only for Max Rack Double Side.



MOUNTING TRACK

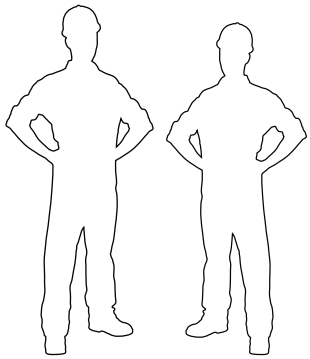




18-U1807

REQUIRED ITEMS FOR COMPLETE MAX RACK

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



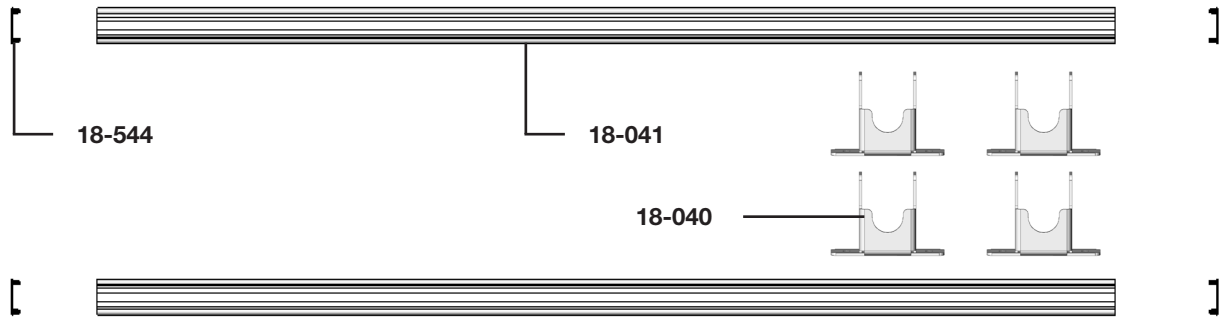
2 PERSONS

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Marker
- ❑ Ladder
- ❑ 1/2" Wrench
- ❑ 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.

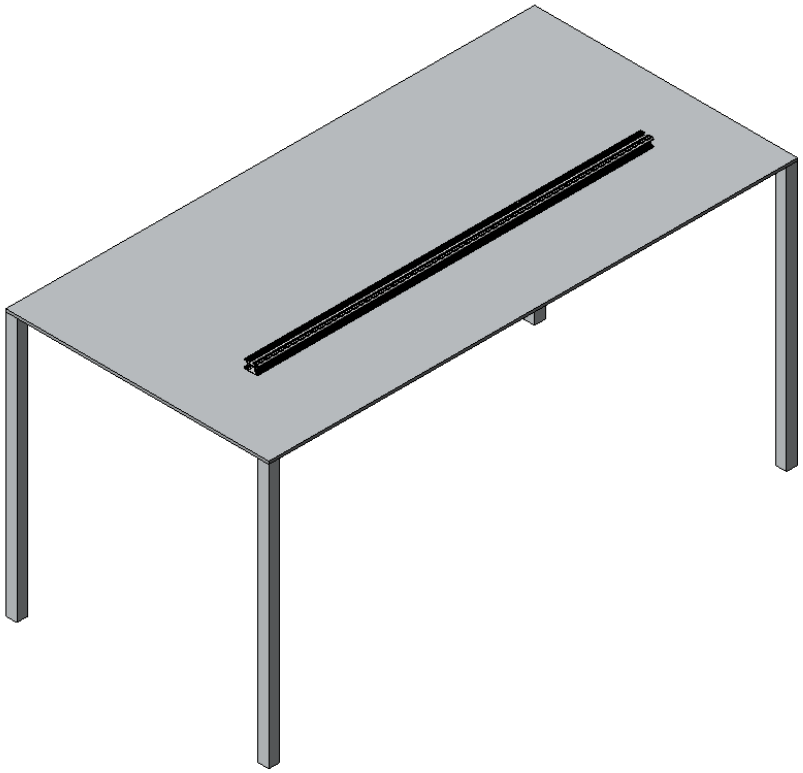
BILL OF MATERIALS

Item No.	Description	Qty.
18-040	Foot	4
18-041	Max Rack Crossbar	2
18-544	End Plastic Plug	4
94-1806	Fastener kit	1

PHASE 1 – ASSEMBLY

1.2 MAX RACK PREPARATION

1.2.1 Pull one Crossbar on the box 18-U1806 and put the Crossbar on the table.



“You have successfully completed Operation 1
Max Rack Crossbar!
Open the passenger side mechanism (18-U1810) box to continue assembling the Max Rack

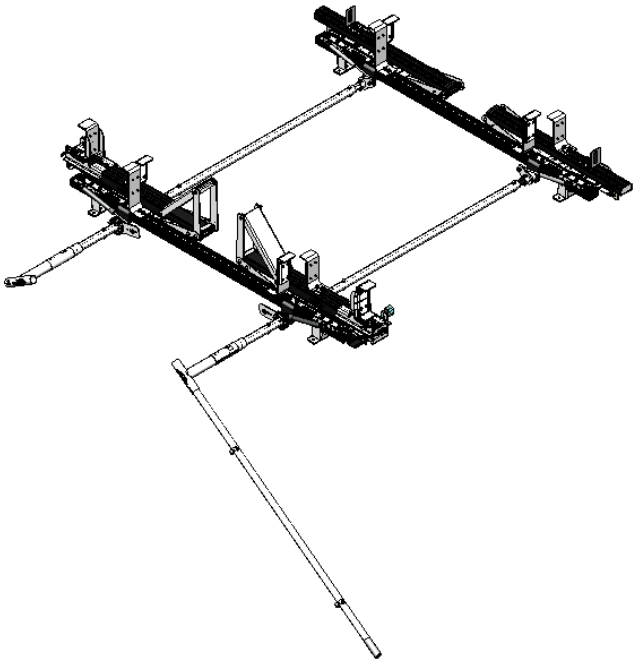
Thank you for doing business with us.”

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

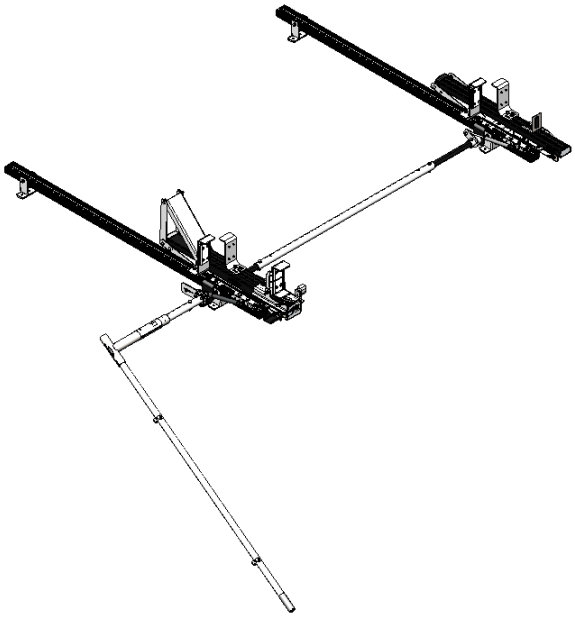
RANGER DESIGN

INSTALLATION GUIDE

MAX RACK DOUBLE SIDE



MAX RACK SINGLE SIDE



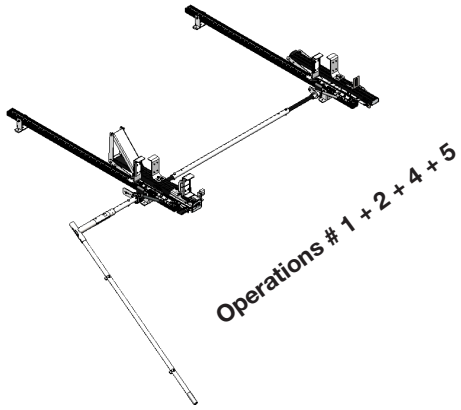
18-U1810 Max Rack

Passenger Side

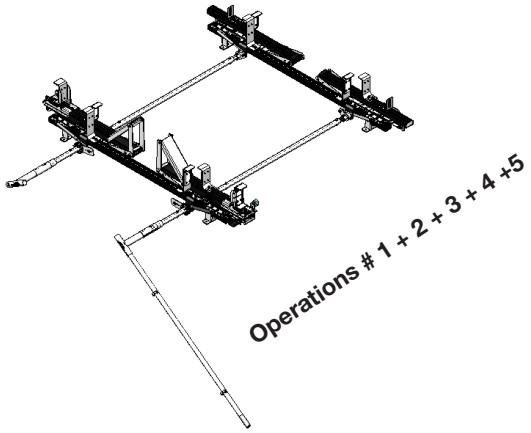
RANGER DESIGN

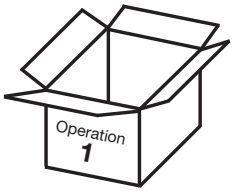
ORDER OF OPERATION

MAX RACK SINGLE SIDE

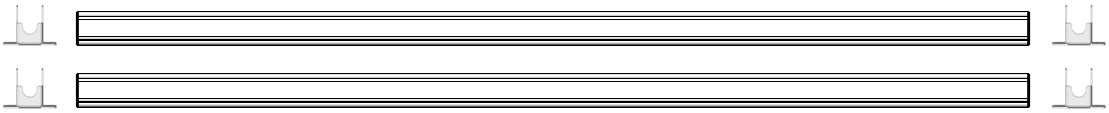


MAX RACK DOUBLE SIDE

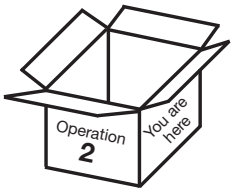


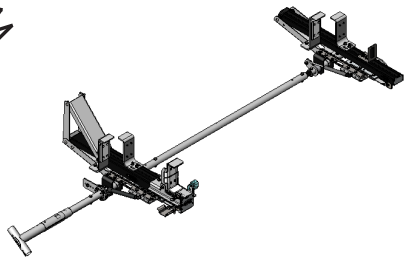


18-U1806

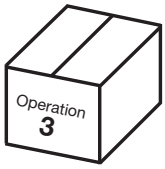


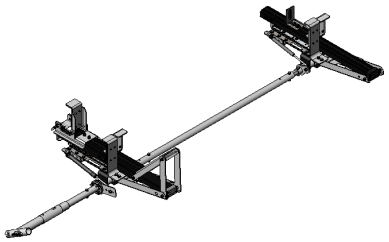
18-U1810



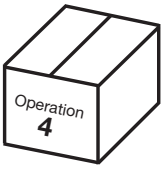


18-U1815

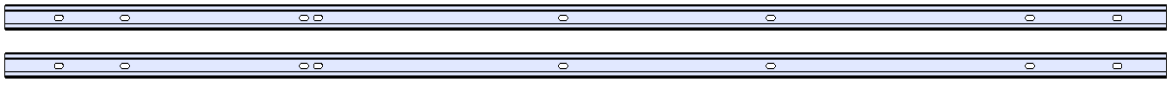


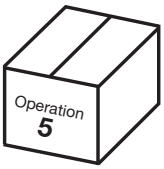


OPTIONAL: Applicable only for Max Rack Double Side.



MOUNTING TRACK





18-U1807

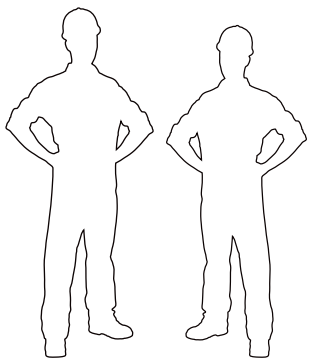
QUICK START GUIDE

Phase 1 - Assembly

- ❑ 1.1 Setup..... 4 TO 5
- ❑ 1.2 Front Crossbar Assembly..... 6 TO 14
- ❑ 1.3 Rear Crossbar Assembly..... 15 TO 25
- ❑ 1.4 For Assembly With Overhead Lift..... 26
- ❑ 1.5 Assembly Validation..... 27

REQUIRED ITEMS FOR COMPLETE MAX RACK

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



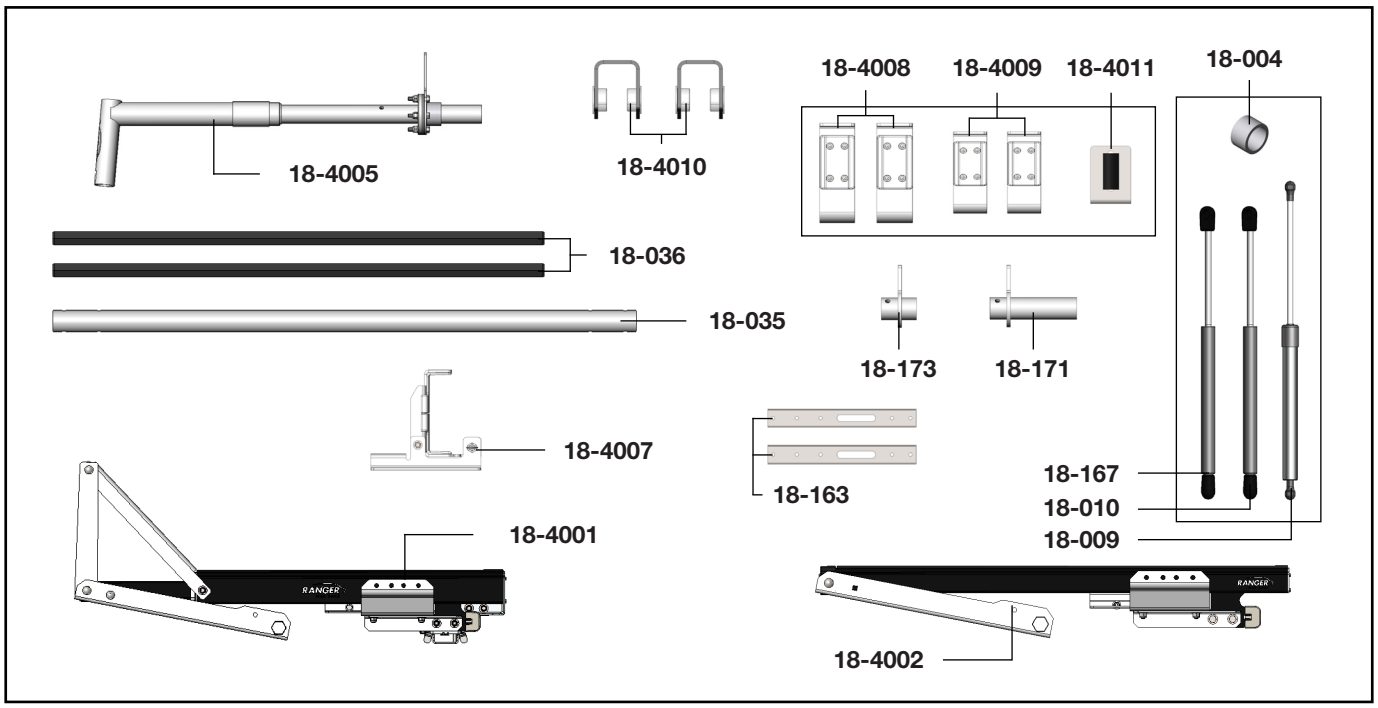
2 PERSONS

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Marker
- ❑ Ladder
- ❑ 1/2" Wrench
- ❑ 1/2" Socket
- ❑ Sawhorse (Optional)
- ❑ Box
- ❑ 1/8" Slot Screwdriver or Pick

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.

Item No.	Description	Qty.
18-004	Spacer	1
18-009	Damper	1
18-010	Gas Spring	1
18-035	Center Tube	1
18-036	Pivot Bar	2
18-163	Washer Plate	2
18-167	Gas Spring Combo	1
18-171	Passenger Side Linkage, Front	1
18-173	Passenger Side Linkage, Rear	1
18-4001	Passenger Side Rear Mechanism	1
18-4002	Passenger Side Front Mechanism	1
18-4005	Passenger Side Damper kit	1
18-4007	Anti-theft, Lock	1
18-4008	Long Hook	2
18-4009	Small Hook	2
18-4010	Shaft Support Bracket	2
18-4011	Front Ladder Retainer	1
94-0810	Customer Assembly Fastener Kit	1

1.1.3 Fastener kits.

94-0810 → **Fastener Assembly**

5×		**# 40-665**	Ball Stud 3/4" Zinc Plated
14×		**# 90-205**	Hex Bolt 5/16" - 18 × 3/4" SS304
7×		**# 90-225**	Hex Bolt 5/16" - 18 × 2" SS304
8×		**# 90-491**	Carriage Bolt 5/16" - 18 × 1" SS304
8×		**# 94-105**	Hex Nut 5/16" - 18 SS316 WAX
12×		**# 94-111**	Lock Nut 5/16" SS304 WAX
14×		**# 94-250**	Channel Nut 5/16" - 18 SST
32×		**# 98-117**	Flat Washer 5/16", 3/4" O.D. SS18 - 8
22×		**# 98-123**	Lock Washer 5/16" SS304

5×

#40-665 Ball Stud 3/4"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

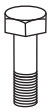
14×

#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#Channel Nut 5/16"

7×



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

8×

#90-491 Carriage Bolt 1"

#98-117 Flat Washer 5/16"

#98-123 Lock Washer 5/16"

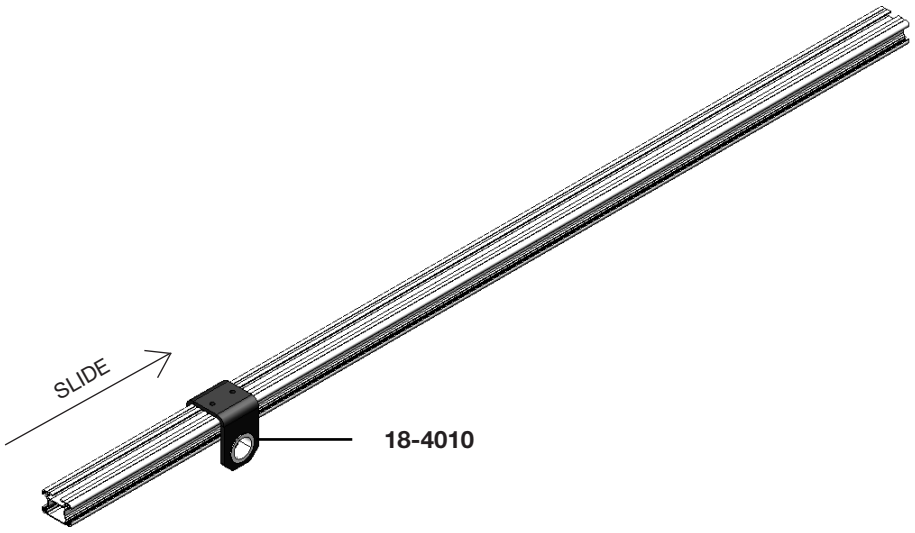
#94-105 Hex Nut 5/16"

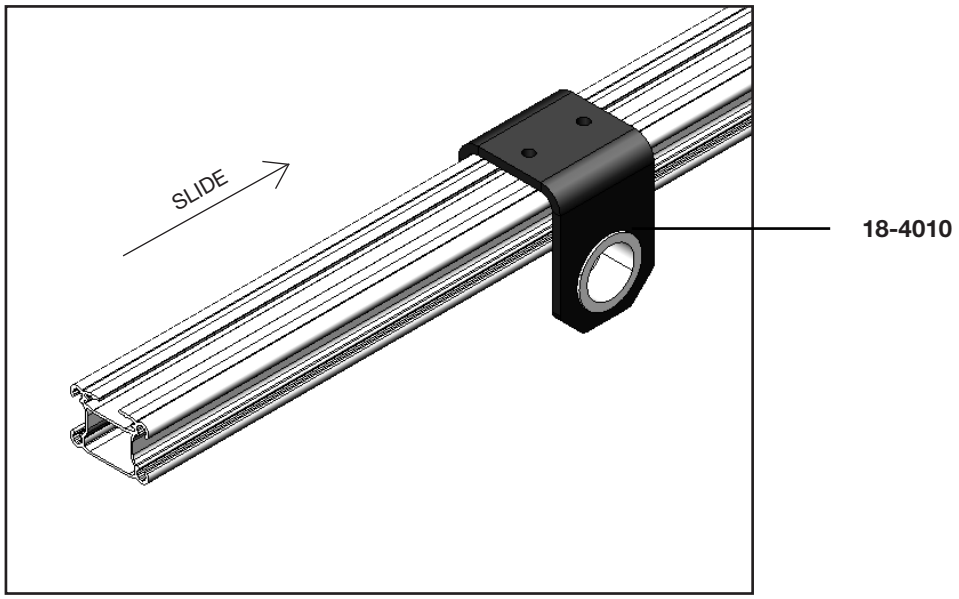
PHASE 1 – ASSEMBLY

1.2 FRONT CROSSBAR ASSEMBLY

1.2.1 Slide the shaft support bracket onto the Crossbar.

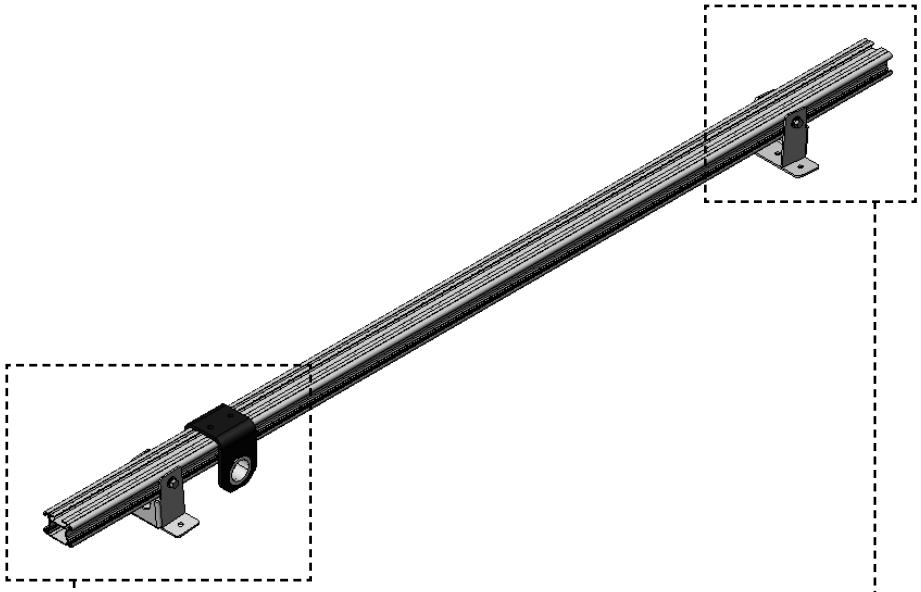
NOTE: *Slide 2 shaft support brackets if you are assembling a double sided rack.*

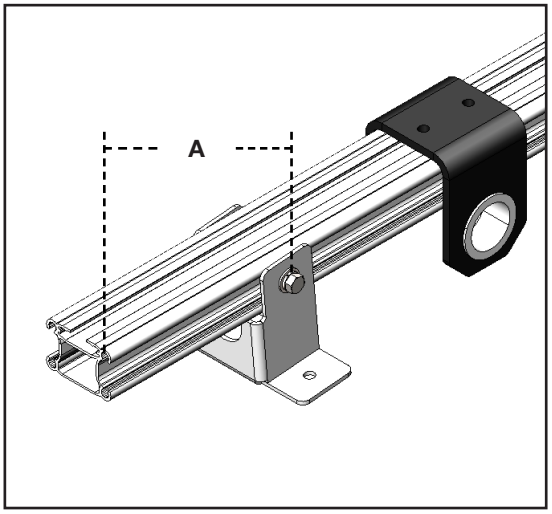




1.2.2 Attach the 2 feet from mounting track box to the crossbar.

FOOT PLACEMENT GUIDE	
VEHICLE	**DIMENSION (A)**
NISSAN NV	7"
SPRINTER	10" HIGH ROOF, 6 - 1/2" STANDARD ROOF
TRANSIT 130" WB	8 - 7/8"
TRANSIT 148" & 148" EXT. WB	8 - 7/8"
PROMASTER 118" WB	7 - 1/16"
PROMASTER 136" WB	7 - 1/16"



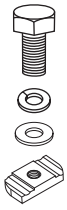


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

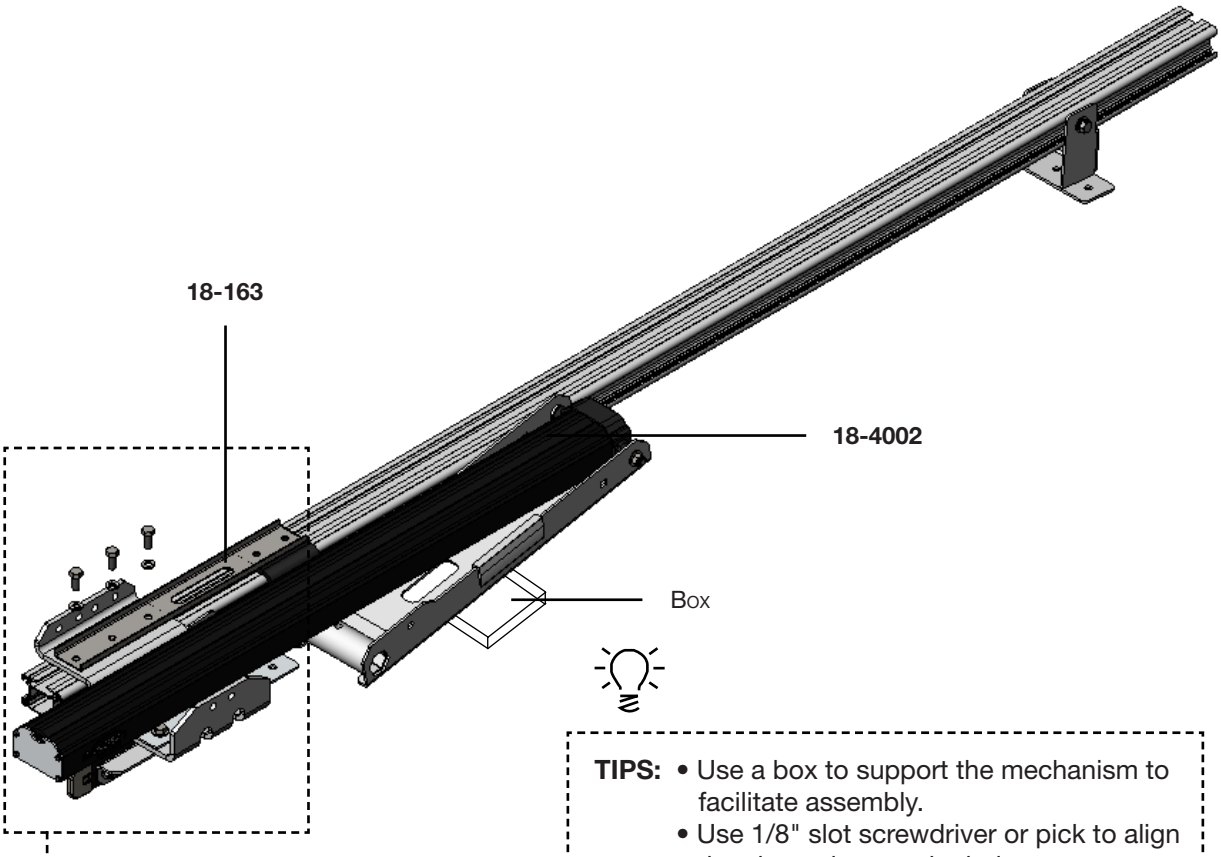
FASTENERS USED

4× (CROSSBAR FASTENER KIT) (17 ft • lbs)

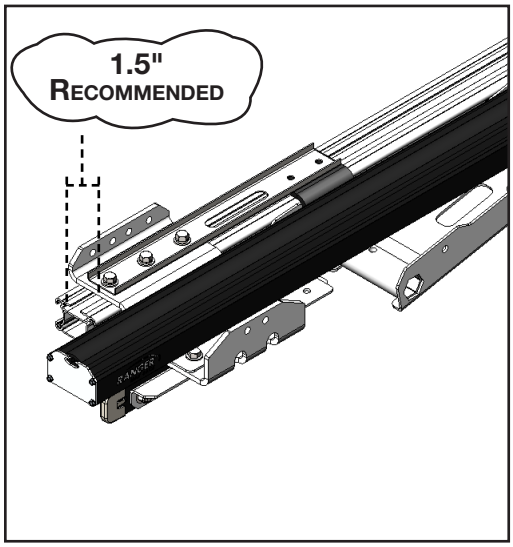


#90-203 Hex Bolt 5/8"
#98-123 Lock Washer 5/16"
#98-117 Flat Washer 5/16"
#Channel Nut 5/16"

1.2.3 • Slide 3 channel nuts into the top channel of the crossbar.
• Attach the passenger side front mechanism to the crossbar with washer plate using the 3 channel nuts.



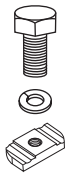
TIPS: • Use a box to support the mechanism to facilitate assembly.
• Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

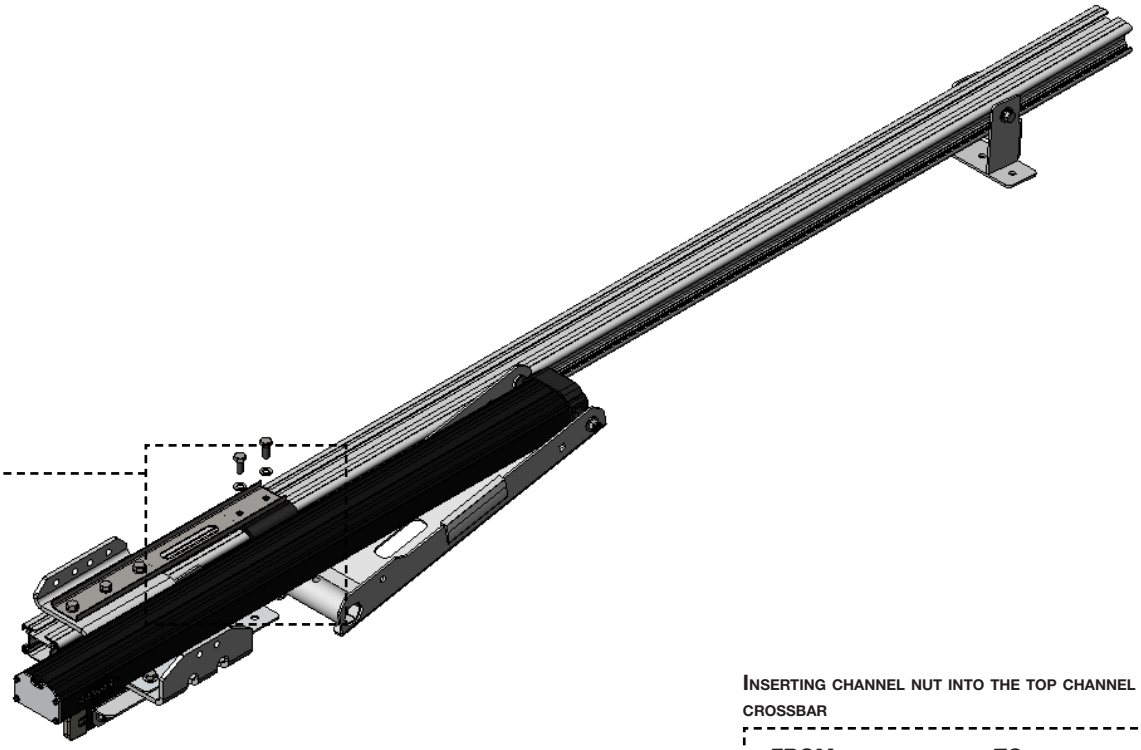
FASTENERS USED

3× (17 ft • lbs)



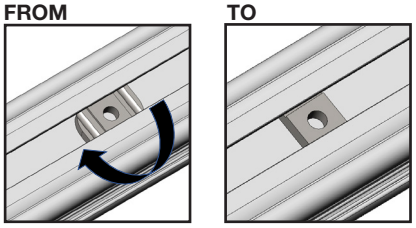
#90-205 Hex Bolt 3/4"
#98-123 Lock Washer 5/16"
#Channel Nut 5/16"

1.2.4 • Insert 2 channel nuts into the top channel of the crossbar, then align them to the shaft support bracket holes.
• Attach the shaft support bracket to the crossbar with the washer plate using the 2 channel nuts.



TIPS: • Use 1/8" slot screwdriver or pick to align the channel nut to the holes.

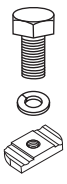
Inserting channel nut into the top channel of the crossbar



TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

2× (17 ft • lbs)

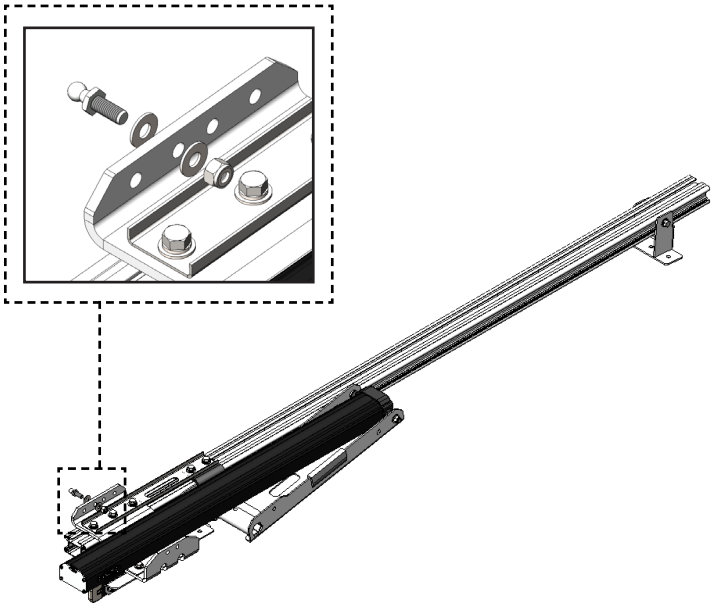


#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#Channel Nut 5/16"

1.2.5 Attach ball stud to the frame of front mechanism.



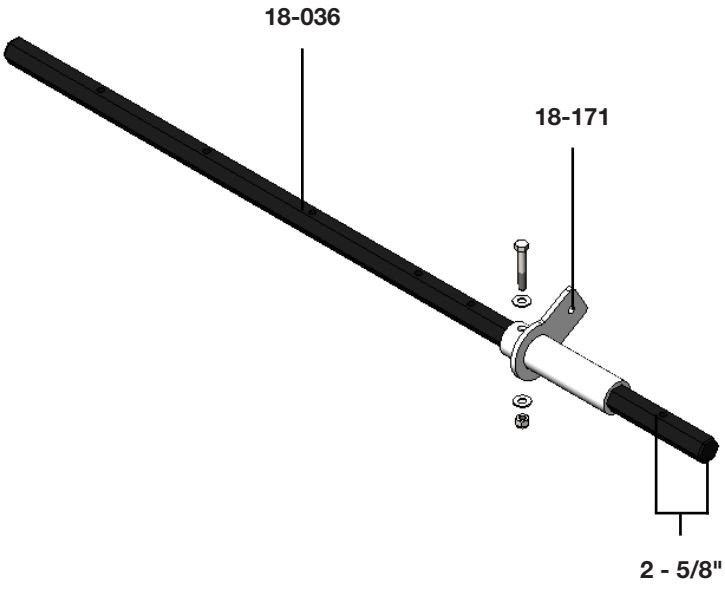
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

FASTENERS USED

1× (17 ft • lbs)

	#40-665 Ball Stud 3/4"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

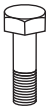
1.2.6 Attach the passenger side front linkage to the pivot bar.



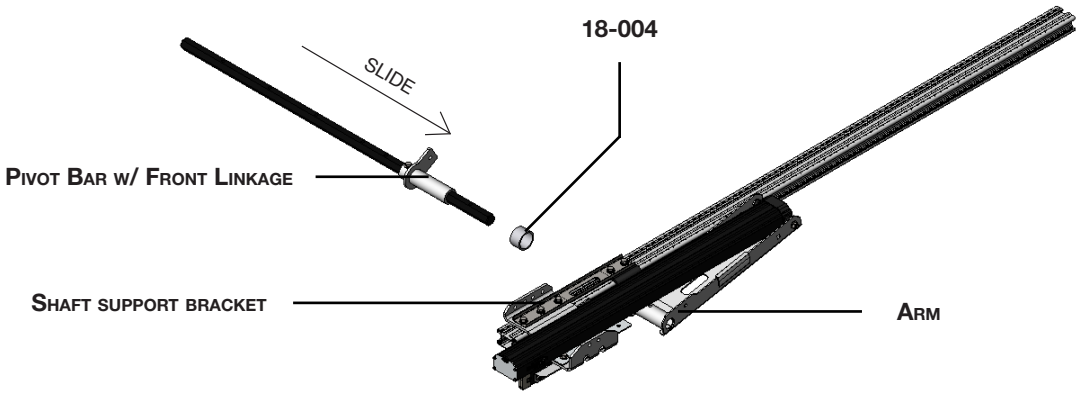
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

FASTENERS USED

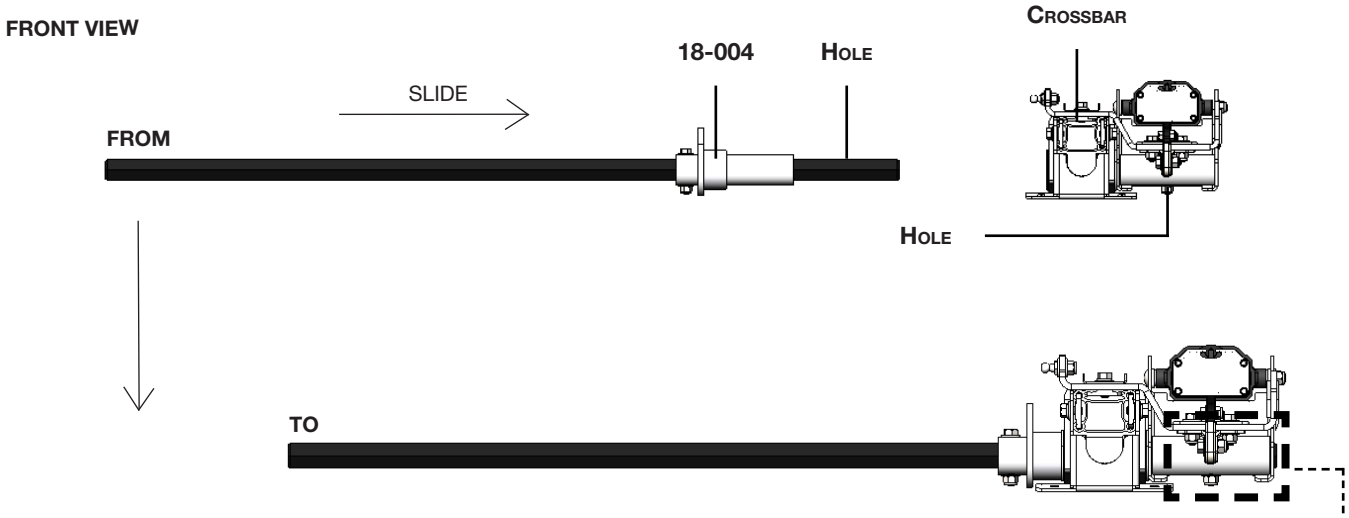
1× (17 ft • lbs)

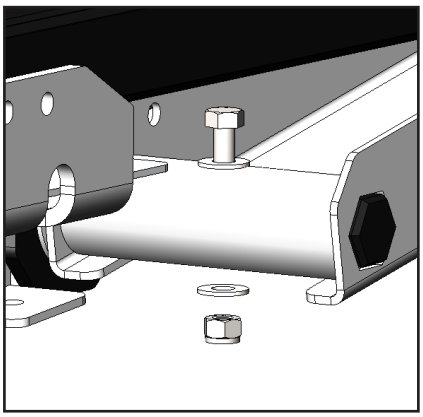
	#90-225 Hex Bolt 2"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

1.2.7 Slide the pivot bar with front linkage and spacer through the shaft support bracket and arm, then attach the pivot bar to the arm.



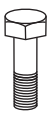
NOTE: Line up the hole of the front pivot bar to the hole of the arm.





FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

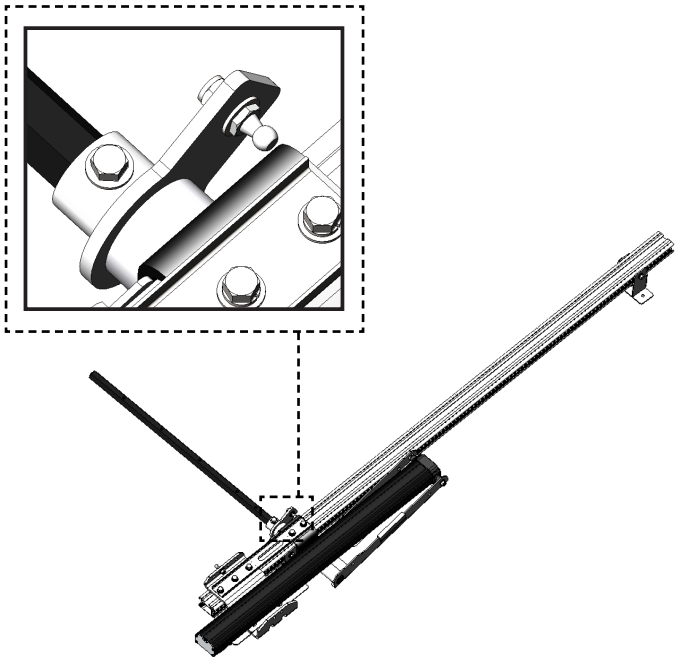
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

TOOLS

❑ 1/2" Wrench 2×

1.2.8 Attach ball stud to the passenger side front linkage.



TOOLS

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

FASTENERS USED

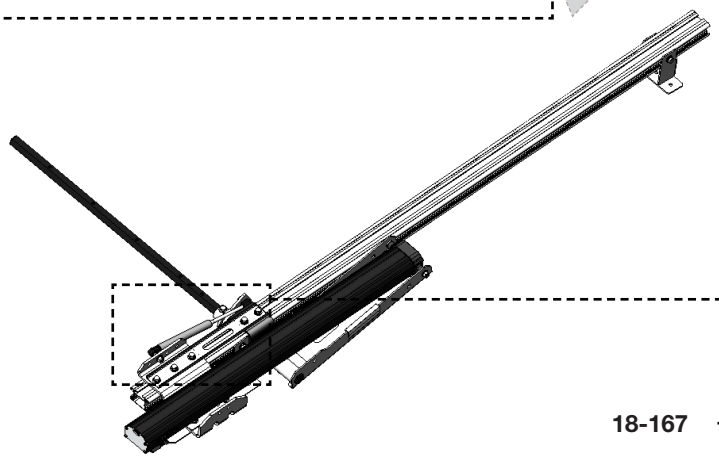
1× (17 ft • lbs)

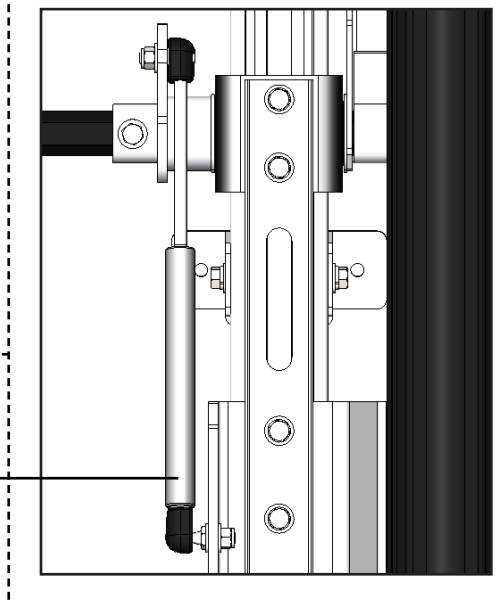
	#40-665 Ball Stud 3/4"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

1.2.9 Attach the gas spring combo to the ball studs.

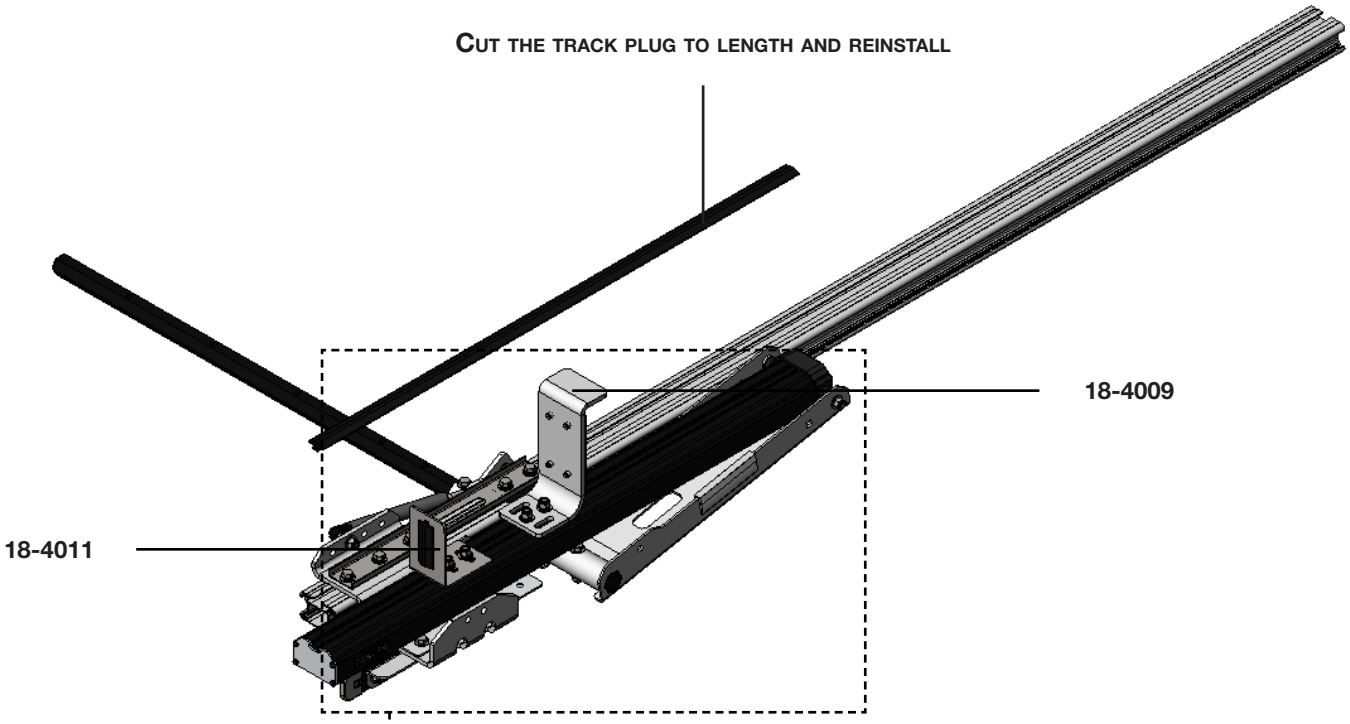
NOTE: Gas spring combo will have "18-167" printed on it.

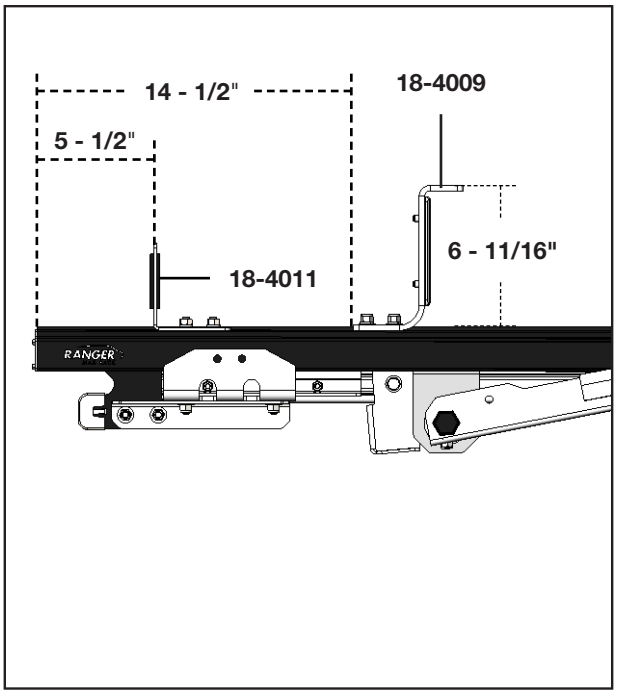
TIPS: Loosen the ball stud, attach the combo, then retighten the ball stud.





1.2.10 • Pull the track plug off.
• Attach one small hook and front ladder retainer to the front mechanism.
• Cut the track plug to length and reinstall.



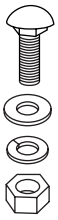


NOTE: Pull the track plug off, cut to length, then reinstall.

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

FASTENERS USED

4× (17 ft • lbs)



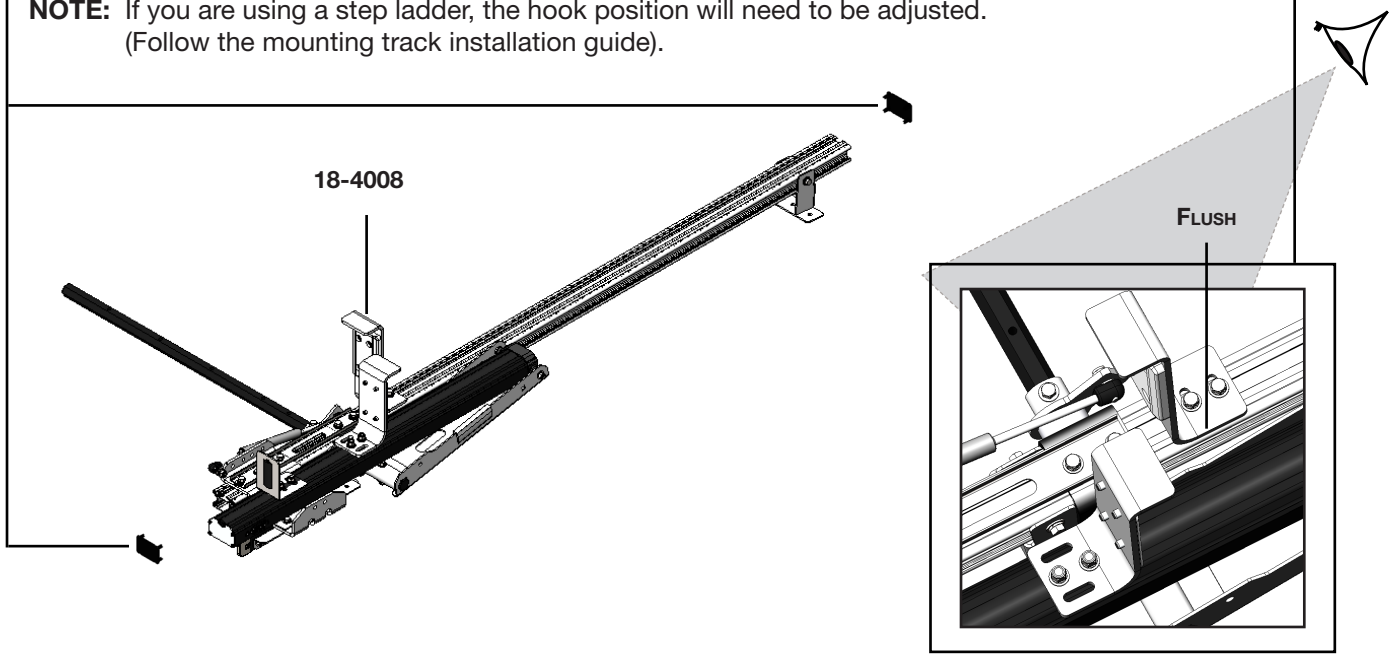
#90-491 Carriage Bolt 1"
#98-117 Flat Washer 5/16"
#98-123 Lock Washer 5/16"
#94-105 Hex Nut 5/16"

1.2.11 • Attach the long hook to the crossbar, facing to the small hook.
• Apply a bead of silicone on the end cap, then attach the end cap to the crossbar.

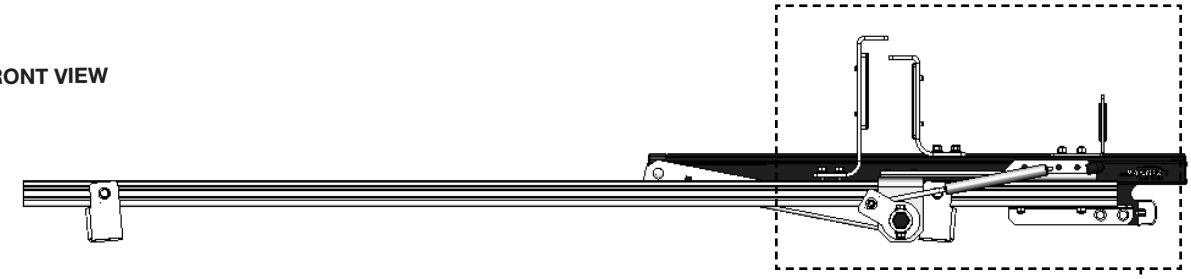
IMPORTANT: ***The one side of the long hook should be flush to the crossbar.***

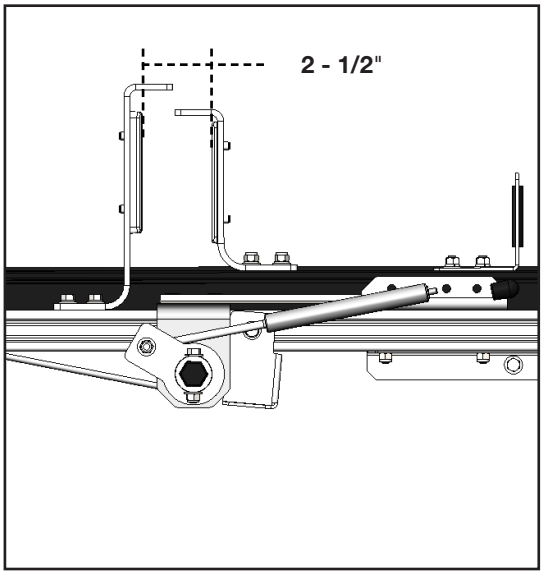
IMPORTANT: ***Apply a bead of silicone on the end cap.***

NOTE: If you are using a step ladder, the hook position will need to be adjusted. (Follow the mounting track installation guide).



FRONT VIEW



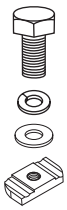


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

FASTENERS USED

2× (17 ft • lbs)



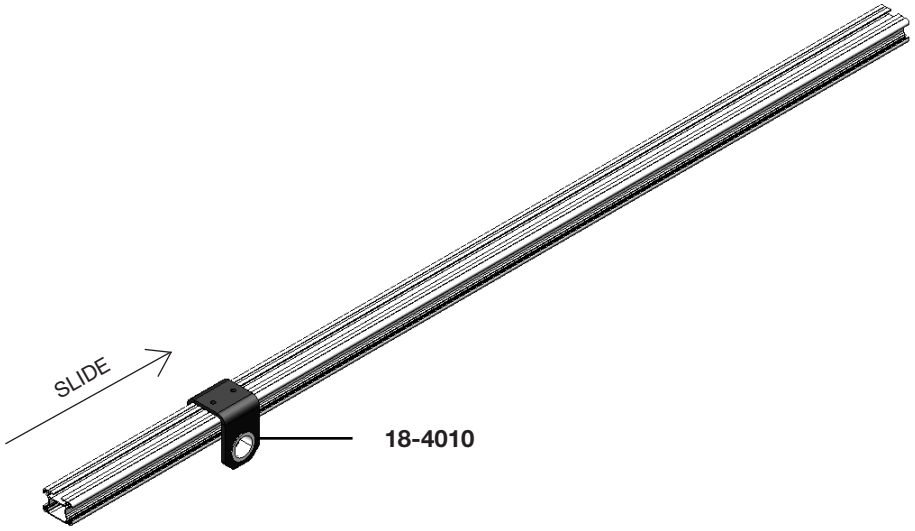
#90-205 Hex Bolt 3/4"
#98-123 Lock Washer 5/16"
#98-117 Flat Washer 5/16"
#Channel Nut 5/16"

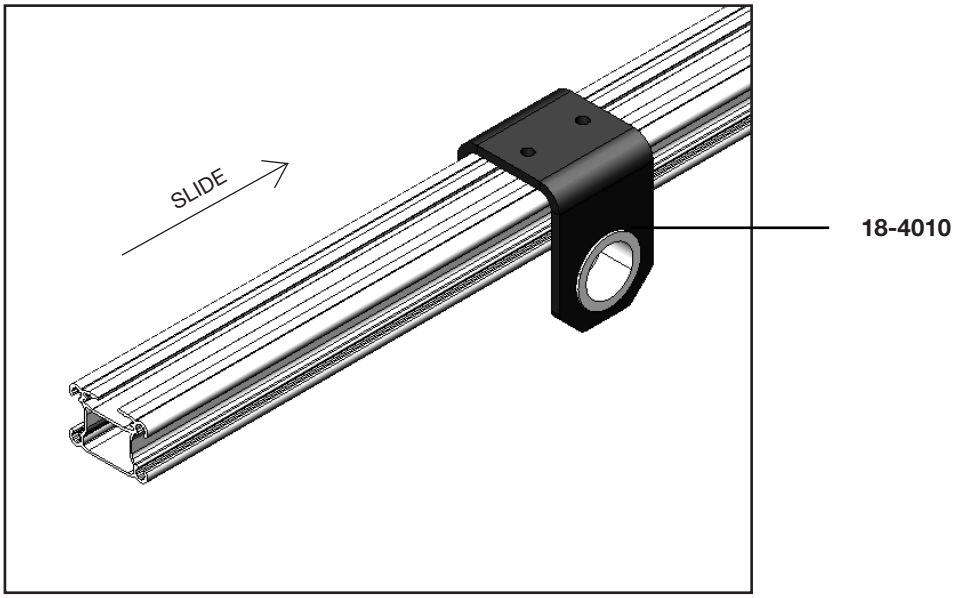
PHASE 1 – ASSEMBLY

1.3 REAR CROSSBAR ASSEMBLY

1.3.1 Slide the shaft support bracket onto the crossbar.

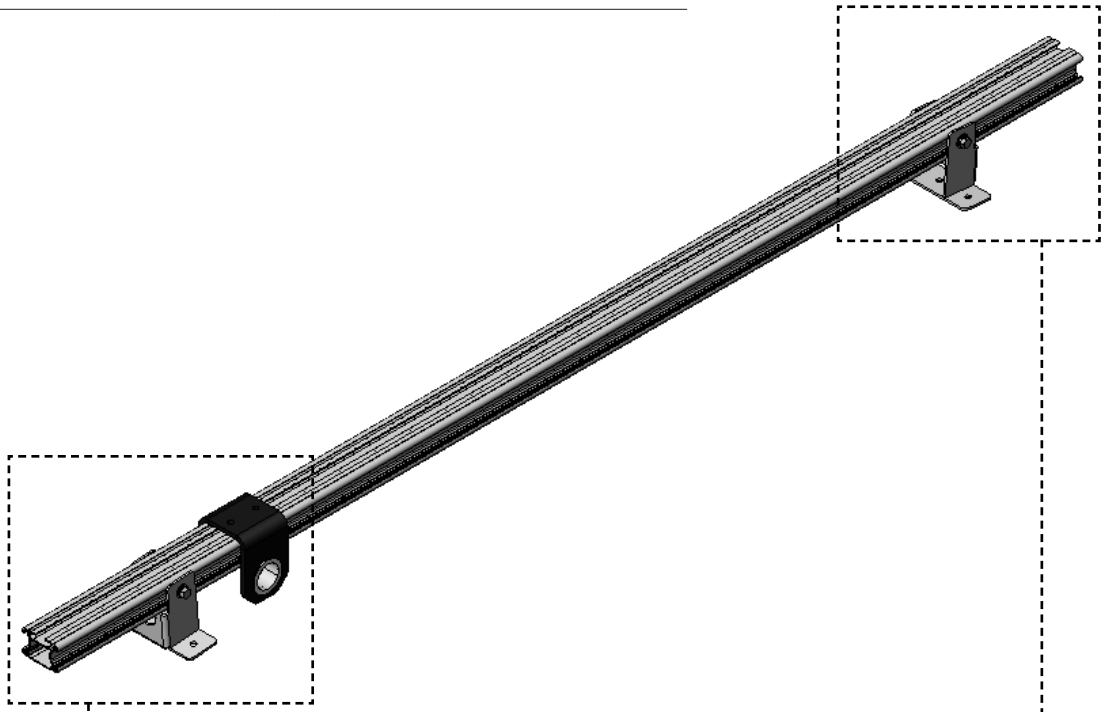
NOTE: *Slide 2 shaft support brackets if you are assembling a double sided rack.*

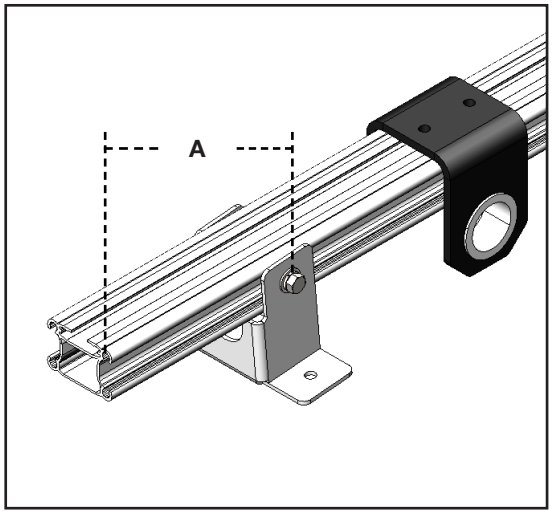




1.3.2 Attach the 2 feet from mounting track box to the crossbar.

FOOT PLACEMENT GUIDE	
VEHICLE	**DIMENSION (A)**
Nissan NV	7"
Sprinter	10" high roof, 6 - 1/2" standard roof
Transit 130" wb	8 - 7/8"
Transit 148" & 148" ext. wb	8 - 7/8"
Promaster 118" wb	7 - 1/16"
Promaster 136" wb	7 - 1/16"



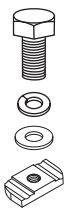


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

4× (Crossbar fastener kit) (17 ft • lbs)



#90-203 Hex Bolt 5/8"

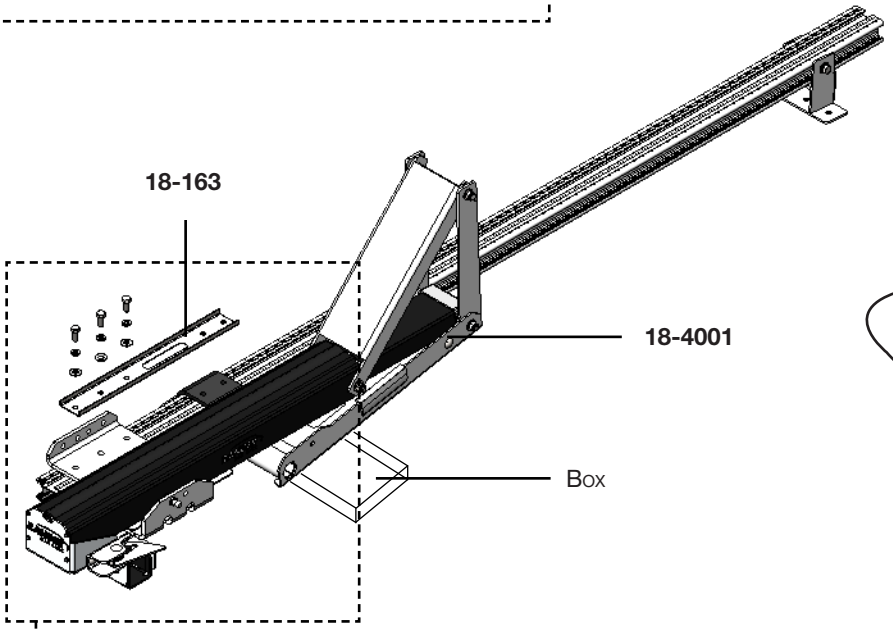
#98-123 Lock Washer 5/16"

#98-117 Flat Washer 5/16"

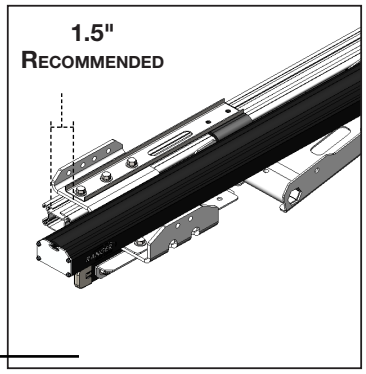
#Channel Nut 5/16"

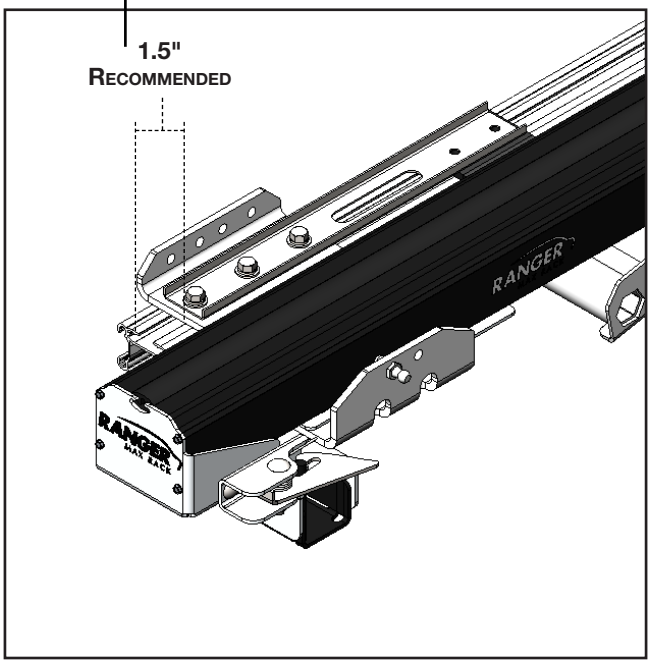
1.3.3 • Slide 3 channel nuts into the top channel of the crossbar.
• Attach the passenger side rear mechanism to the crossbar with washer plate using the 3 channel nuts.

TIPS: • Use a box to support the mechanism to facilitate assembly.
• Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



NOTE: Front & rear should have same dimension.

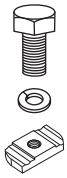




TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

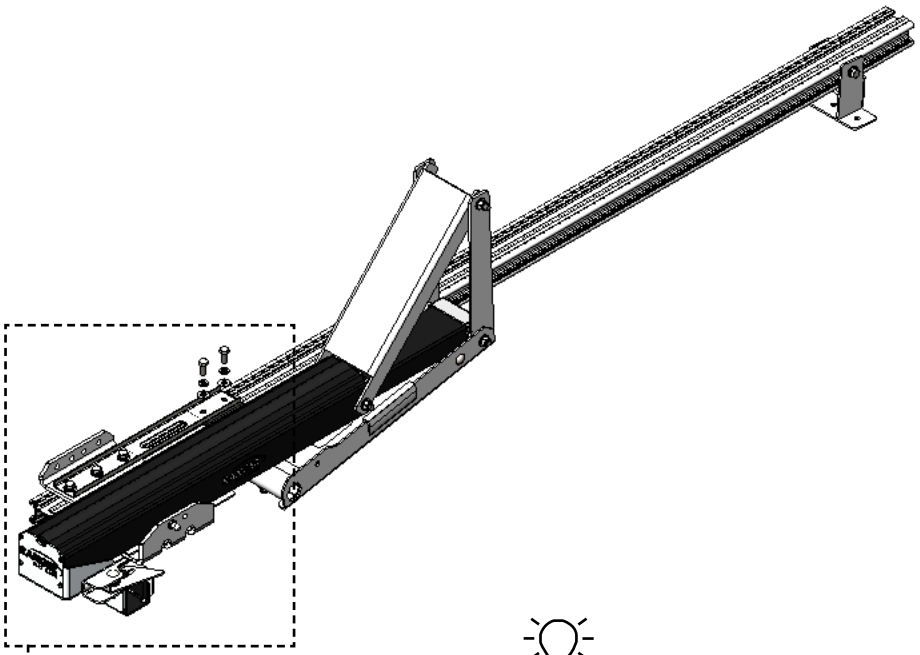
FASTENERS USED

3× (17 ft • lbs)

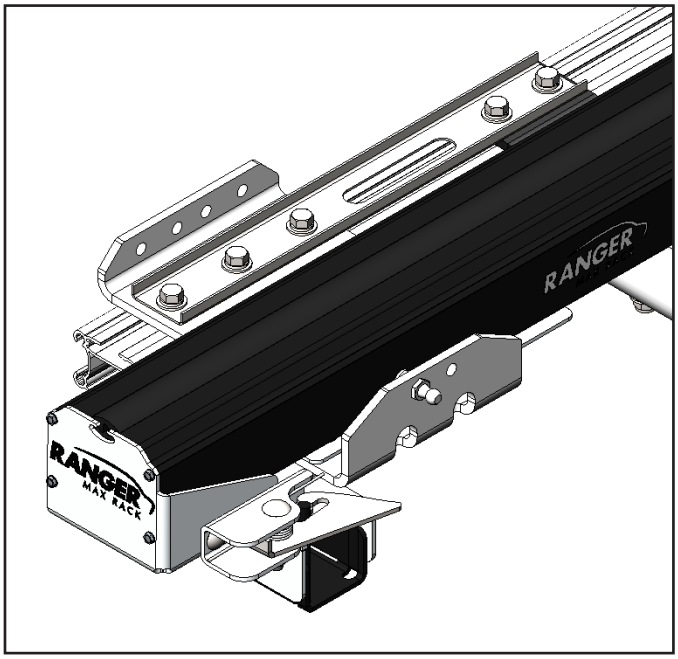


#90-205 Hex Bolt 3/4"
#98-123 Lock Washer 5/16"
#Channel Nut 5/16"

1.3.4 • Insert 2 channel nuts into the top channel of the crossbar, then align them to the shaft support bracket holes.
• Attach the shaft support bracket to the crossbar with the washer plate using the 2 channel nuts.



TIPS: • Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



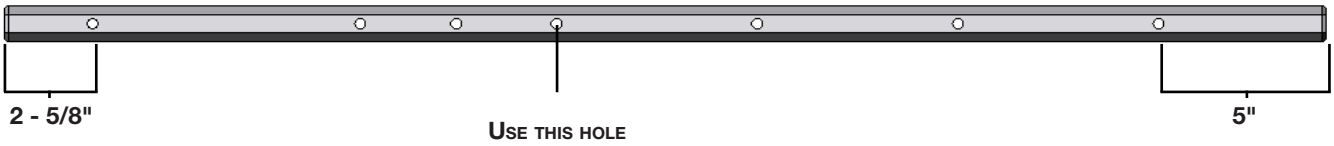
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

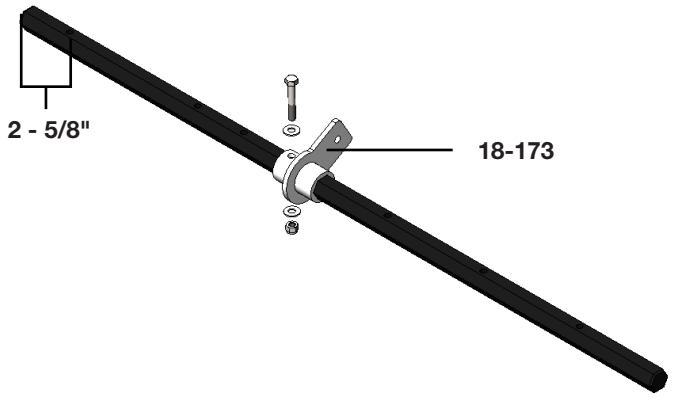
FASTENERS USED

2× (17 ft • lbs)

	#90-205 Hex Bolt 3/4"
	#98-123 Lock Washer 5/16"
	#Channel Nut 5/16"

1.3.5 Attach the passenger side rear linkage to the pivot bar.



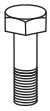


TOOLS

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

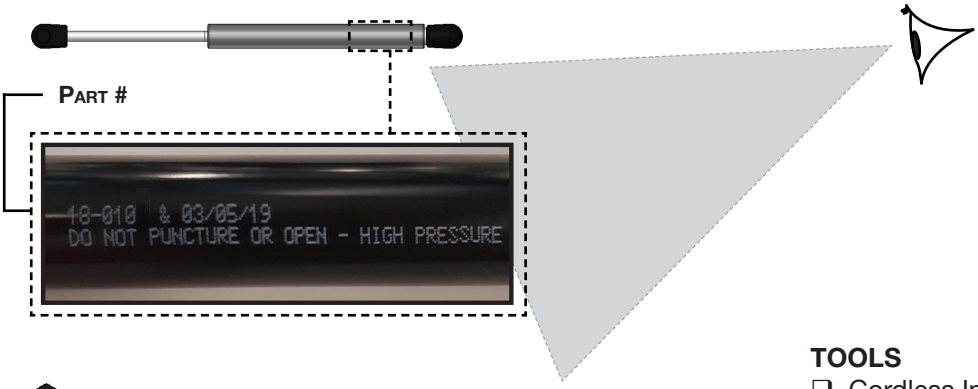
FASTENERS USED

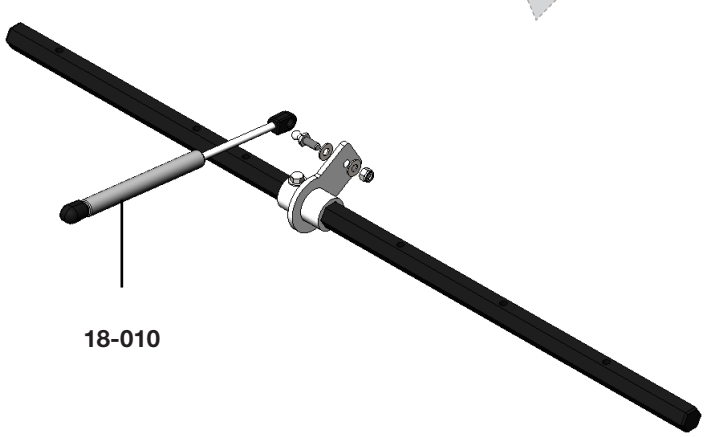
1× (17 ft • lbs)

	#90-225 Hex Bolt 2"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

1.3.6 Attach the passenger side rear linkage to the pivot bar.

NOTE: Gas spring will have "18-010" printed on it.





TOOLS

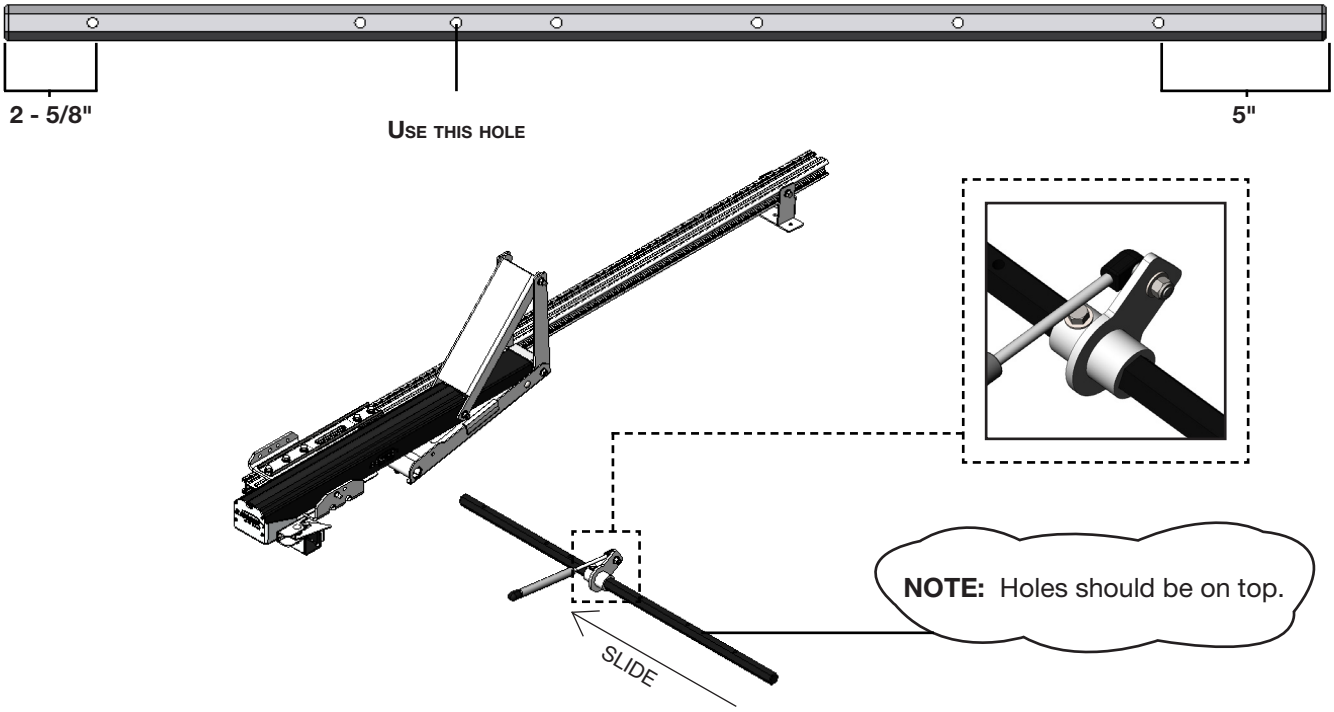
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

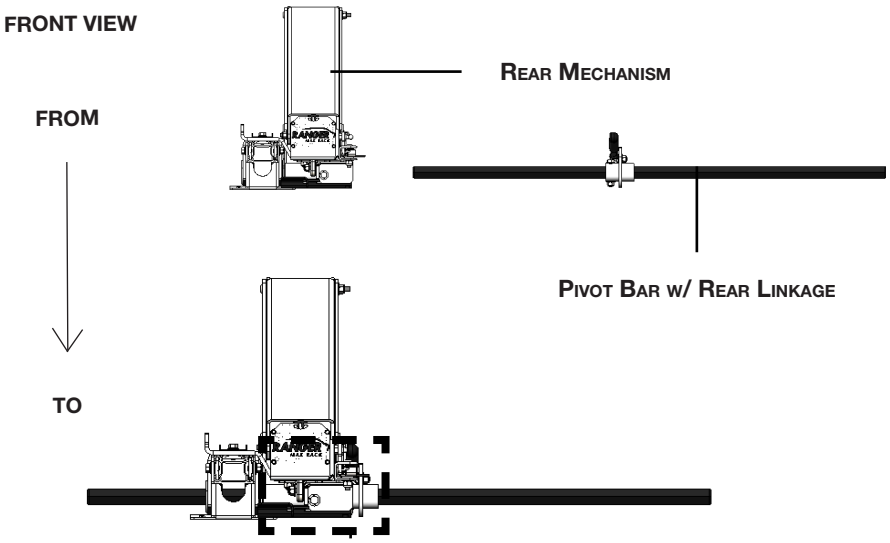
FASTENERS USED

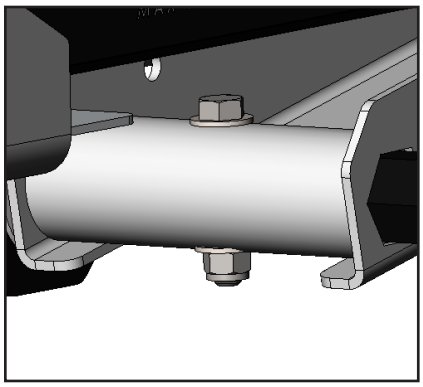
1× (17 ft • lbs)

	#40-665 Ball Stud 3/4"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

1.3.7 Slide the pivot bar with rear linkage through the arm and shaft support bracket, then attach the pivot bar to the arm.

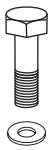






FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

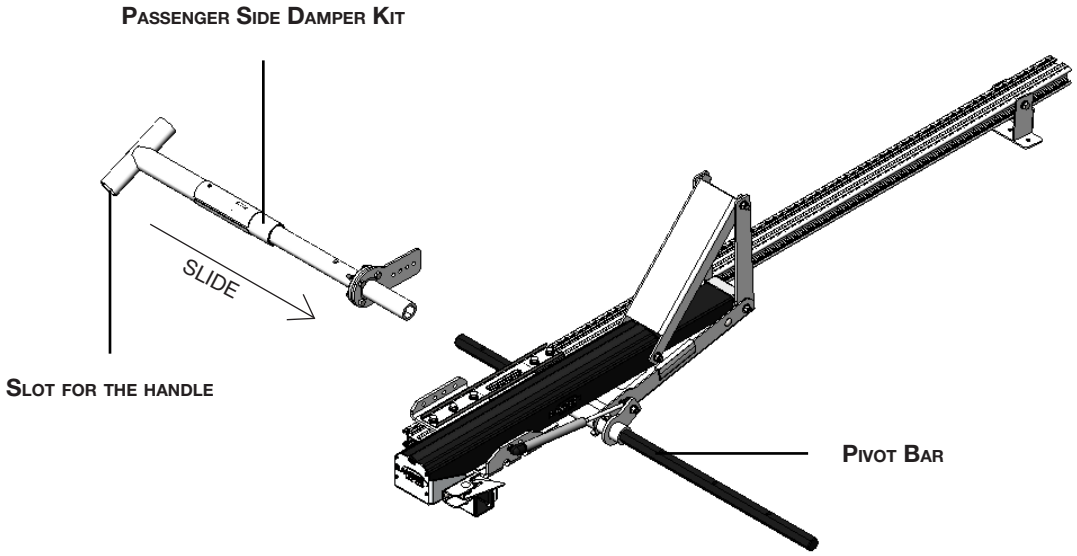
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

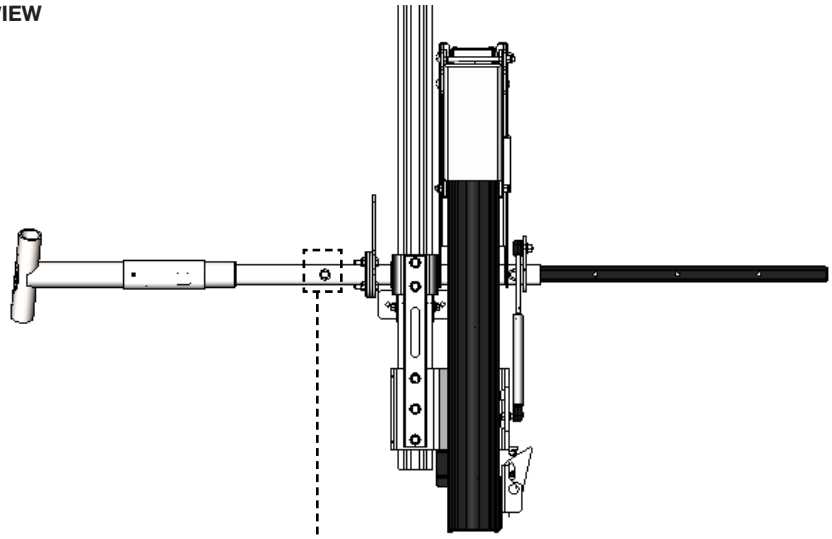
TOOLS

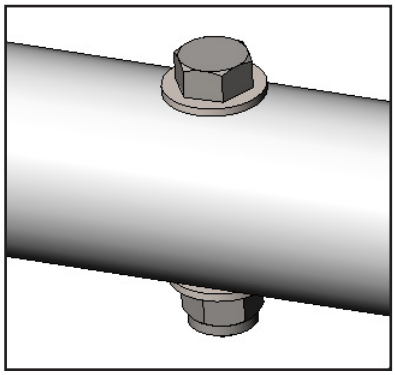
❑ 1/2" Wrench 2×

1.3.8 Slide the passenger side damper kit to the pivot bar, then attach the passenger side damper kit to the pivot bar.



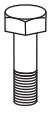
TOP VIEW





FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

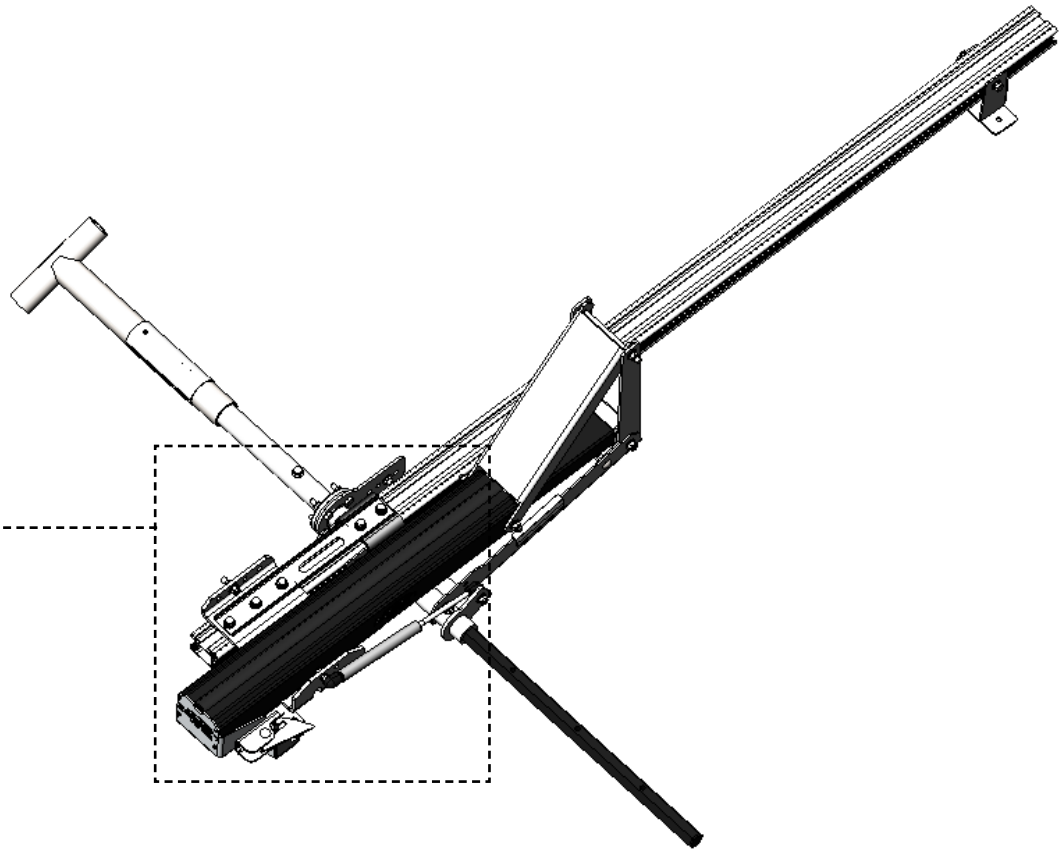
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

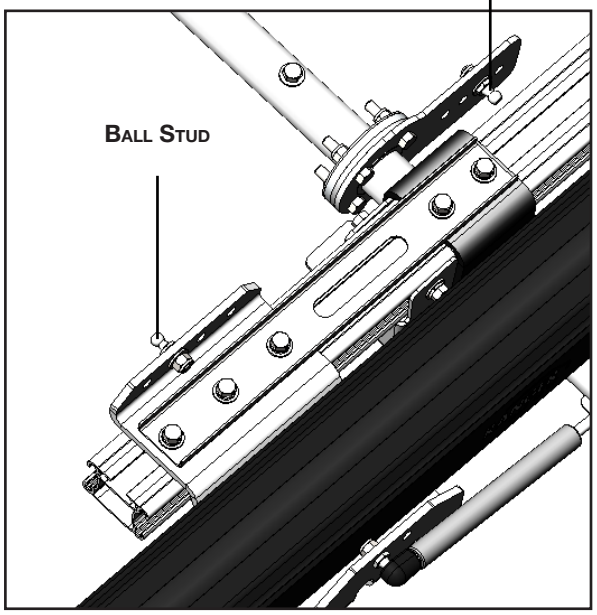
TOOLS

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

1.3.9 Attach ball stud to the passenger side damper kit and rear mechanism frame.



BALL STUD

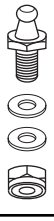


TOOLS

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

FASTENERS USED

2× (17 ft • lbs)

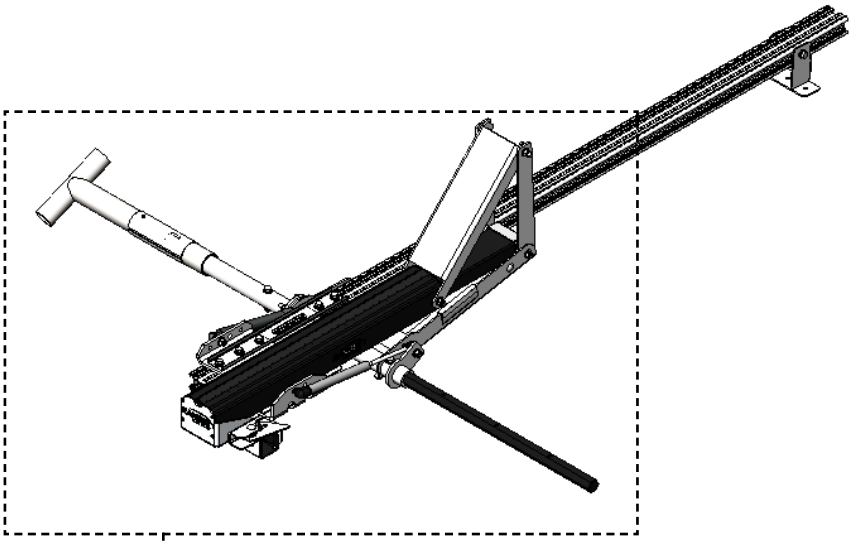


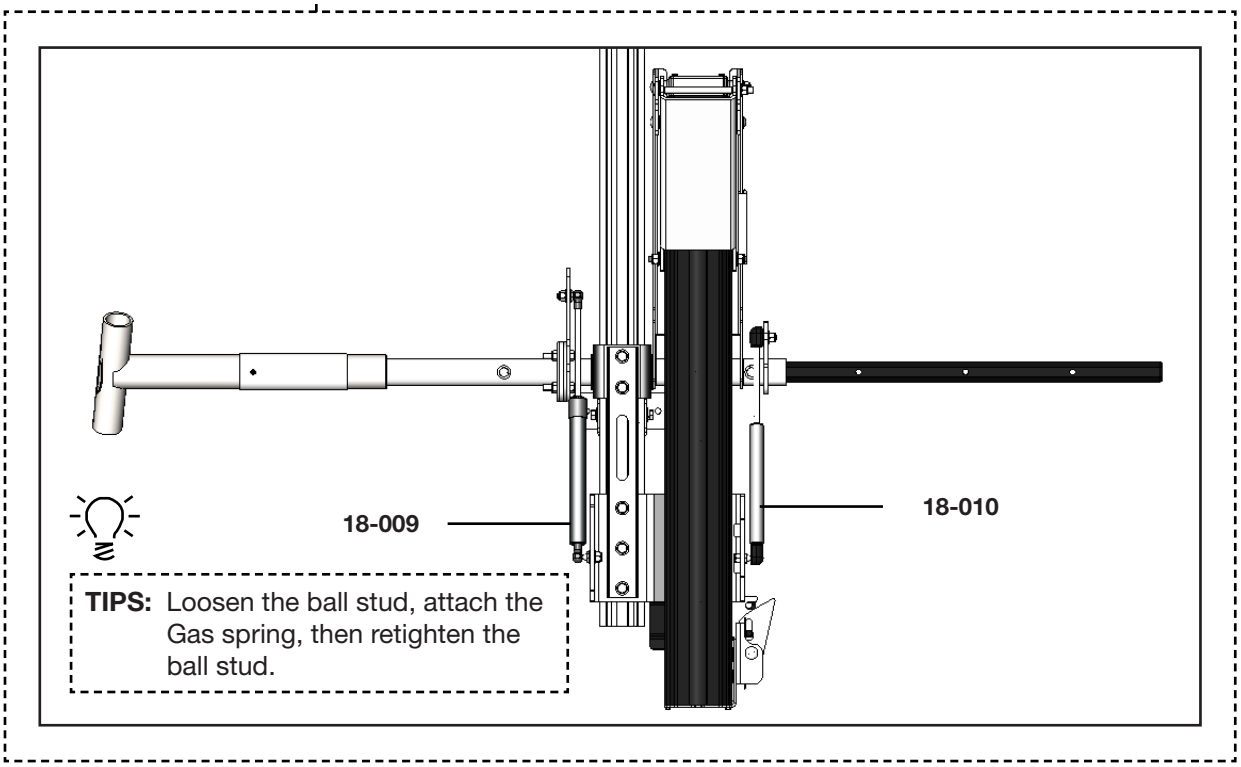
#40-665 Ball Stud 3/4"
#98-117 Flat Washer 5/16"
#98-117 Flat Washer 5/16"
#94-111 Lock Nut 5/16"

1.3.10 Attach the damper and gas spring to the ball stud.

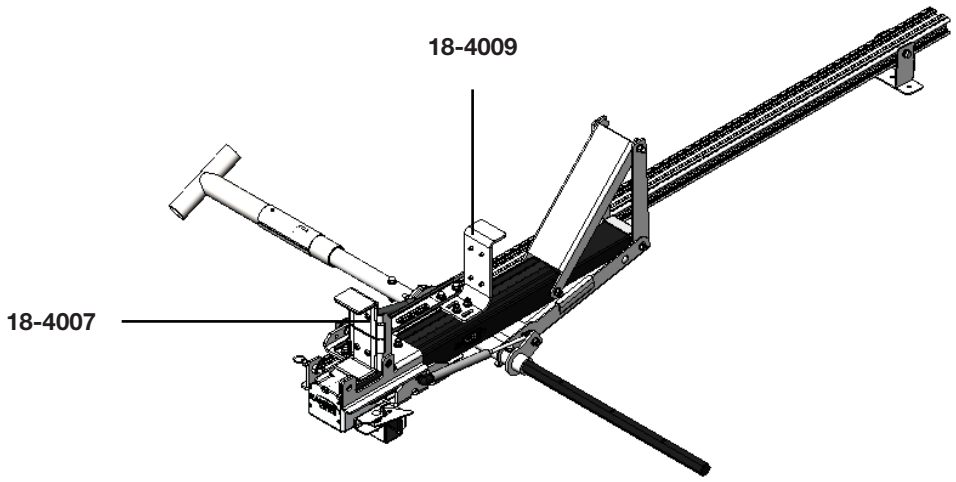
NOTE:

Damper: You can compress

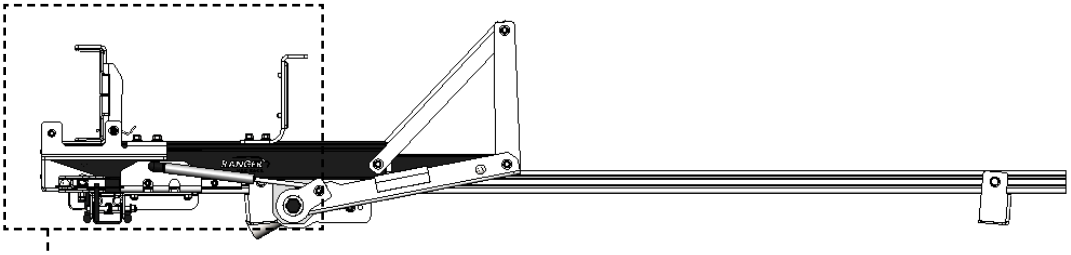


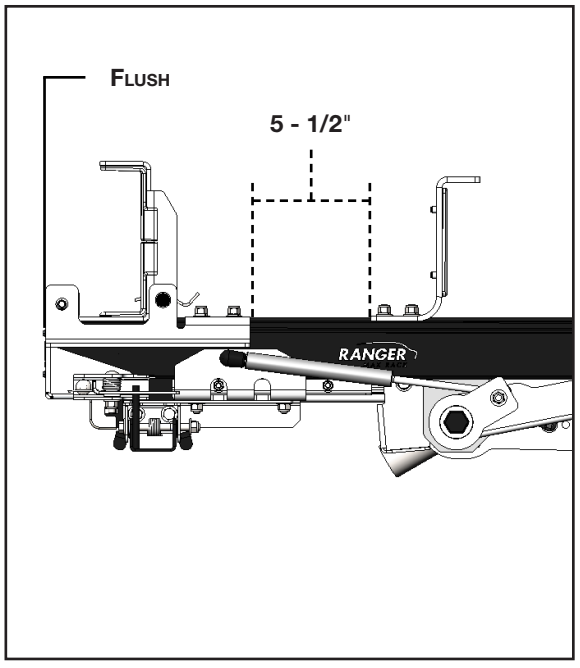


1.3.11 • Pull the track plug off.
• Attach one small hook and anti-theft lock to the rear mechanism.
• Cut the track plug to length and reinstall.



FRONT VIEW





NOTE: If you are using a step ladder, the hook position will need to be adjusted (Follow the mounting track installation guide).

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

FASTENERS USED

4× (17 ft • lbs)

#90-491 Carriage Bolt 1"

#98-117 Flat Washer 5/16"

#98-123 Lock Washer 5/16"

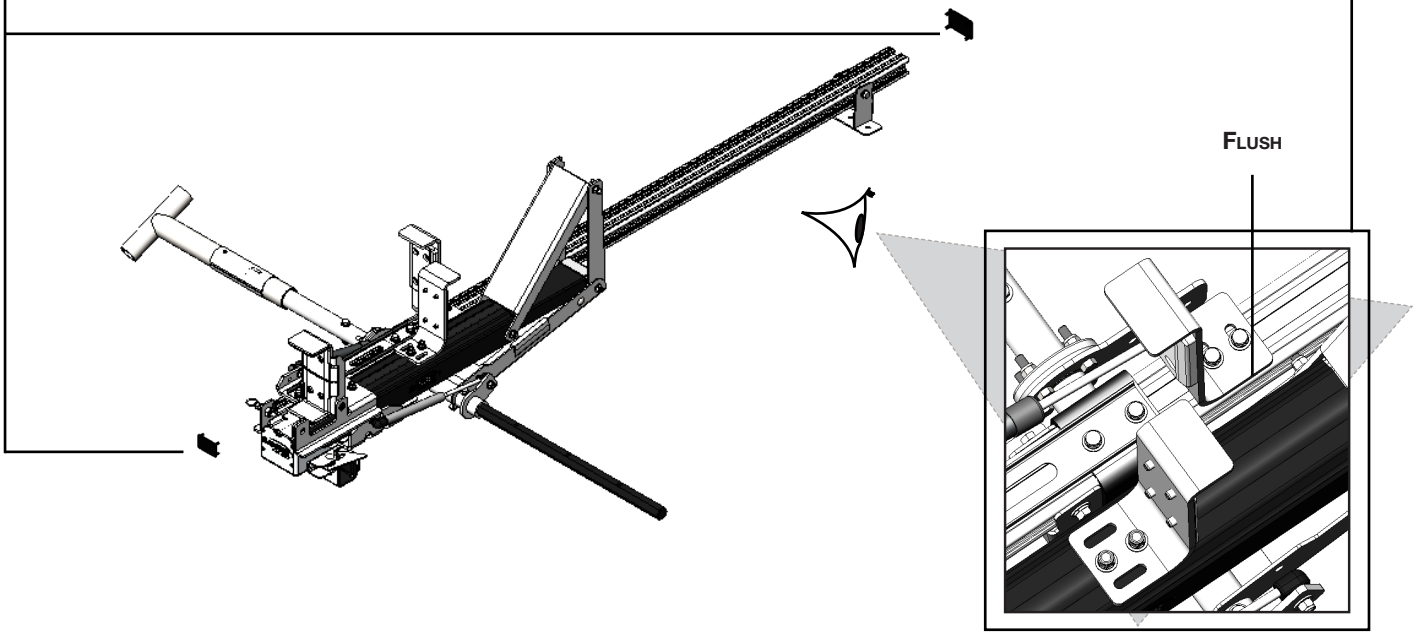
#94-105 Hex Nut 5/16"

1.3.12 • Attach the long hook to the crossbar, facing to the small hook.
• Apply a bead of silicone on the end cap, then attach the end cap to the crossbar.

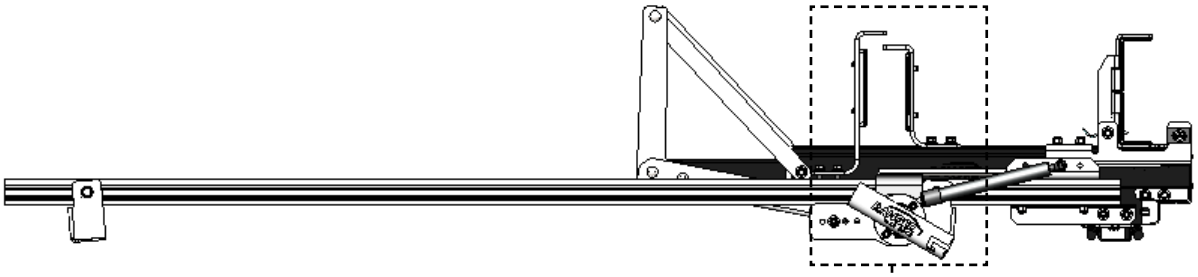
IMPORTANT: ***The one side of the long hook should be flush to the crossbar.***

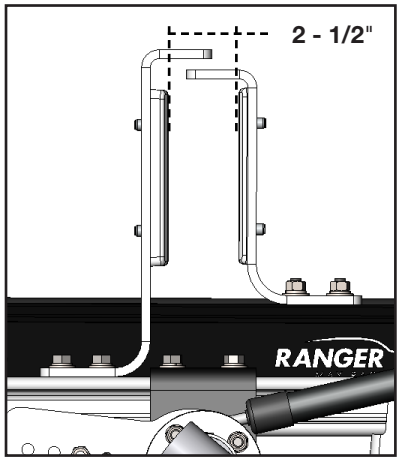
IMPORTANT: ***Apply a bead of silicone on the end cap.***

NOTE: If you are using a step ladder, the hook position will need to be adjusted. (Follow the mounting track installation guide).



FRONT VIEW





TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

FASTENERS USED

2× (17 ft • lbs)

#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#98-117 Flat Washer 5/16"

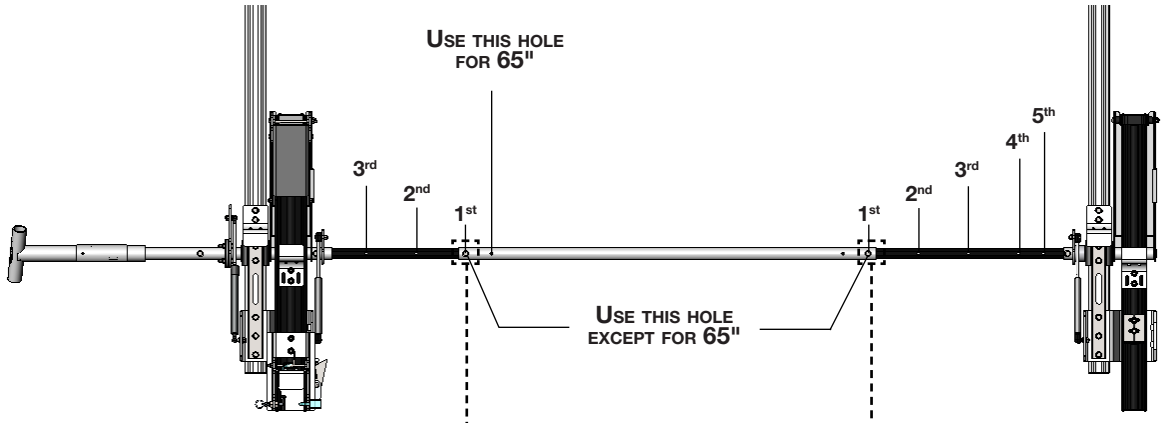
#Channel Nut 5/16"

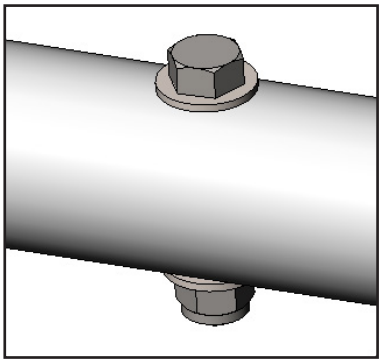
PHASE 1 – ASSEMBLY

1.4 FOR ASSEMBLY WITH OVERHEAD LIFT

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

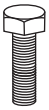
NOTE: Skip this step if you don't have an overhead lift or if you have a Max Rack double side.





FASTENERS USED

2× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

TOOLS

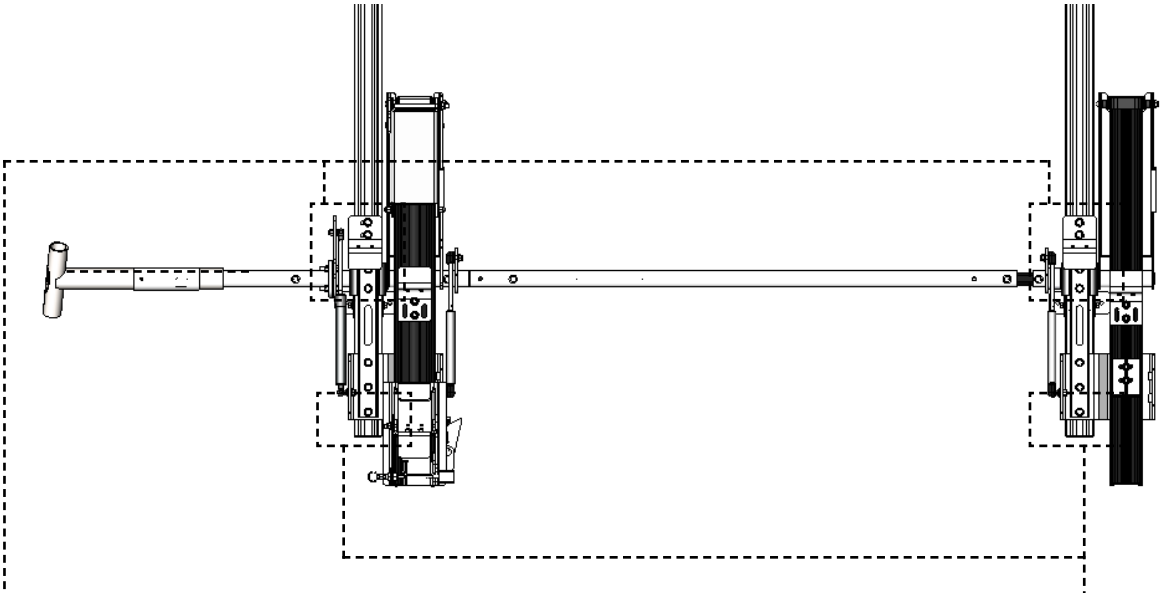
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

VEHICLE	CROSSBAR CENTER TO CENTER DISTANCE	LADDER SIZE
Nissan NV (NH)	Maximum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Sprinter (DH)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Transit 130" wb (FTR)	Maximum: 77" (3rd & 3rd Holes)	Maximum: Extension 28', Step 8'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Transit 148" & 148" ext. wb (FTL)	Maximum: 89" (2nd & 2nd Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 118" wb (PHS)	Maximum: 77" (3rd & 3rd Holes)	Maximum: Extension 28', Step 8'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 136" wb (PHM)	Maximum: 89" (2nd & 2nd Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 159" wb (PHL)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 159" ext. wb (PHX)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'

PHASE 1 – ASSEMBLY

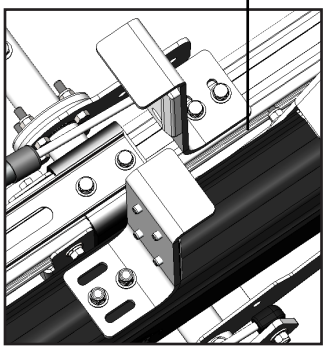
1.5 ASSEMBLY VALIDATION

1.5.1 Validate your assembly to ensure smooth operation of your Max Rack.

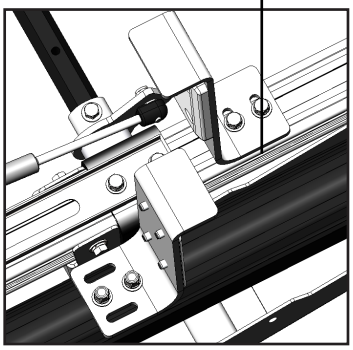


IMPORTANT: ***The one side of the long hook should be flush to the crossbar.***

Rear **Flush**

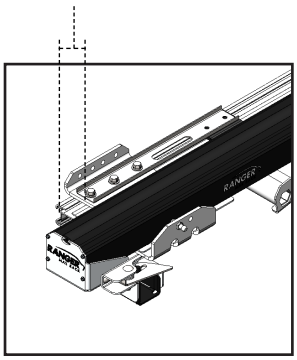


Front **Flush**

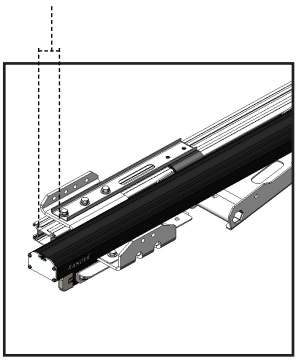


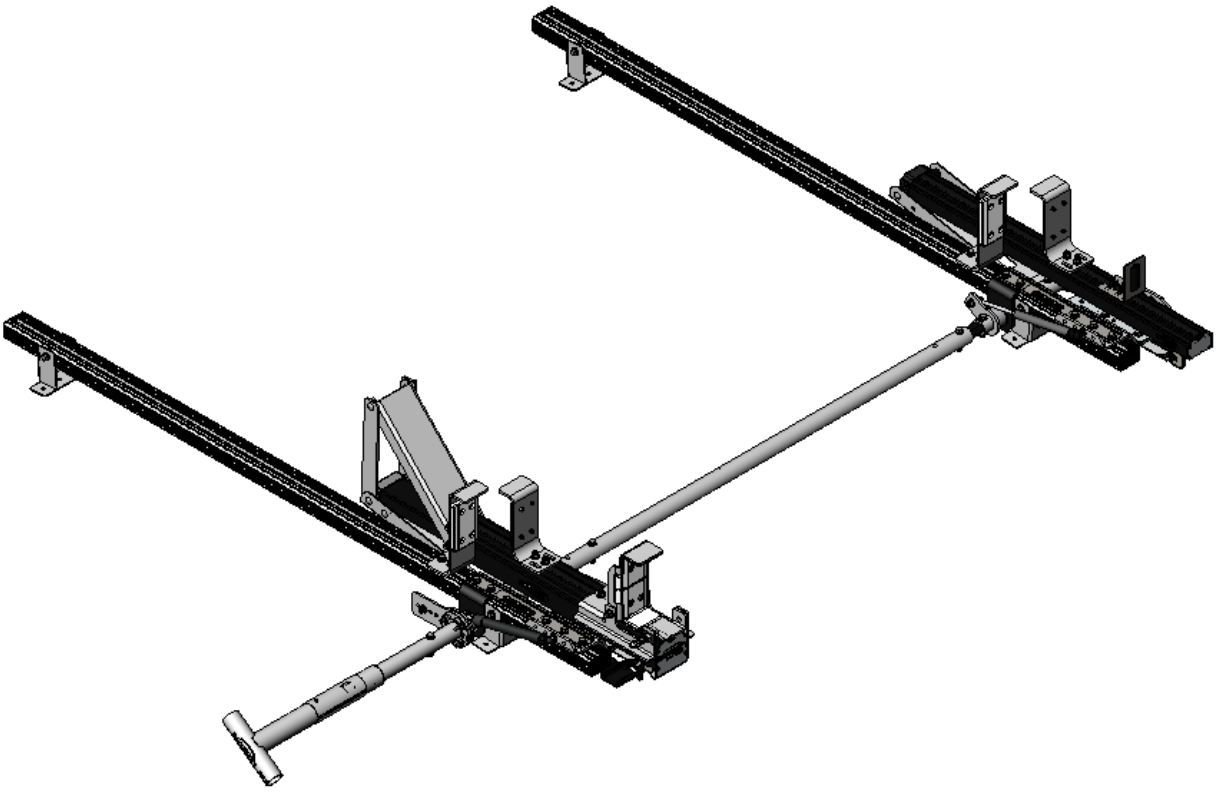
NOTE: Front & Rear Should have same dimension.

1"
Recommended



1"
Recommended





“You have successfully completed Operation 2
Max Rack Passenger Side Mechanism!
Open the driver side mechanism (18-U1815) box or follow the Install Guide of the mounting track to install the Max Rack on your vehicle.

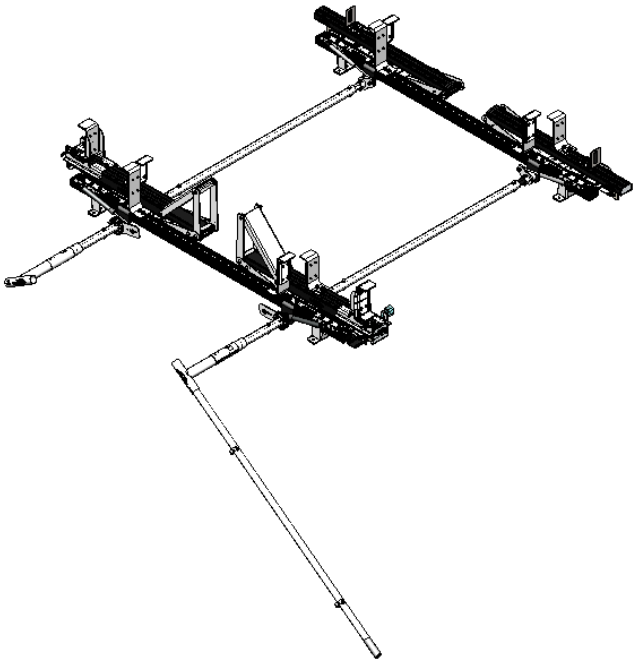
Thank you for doing business with us.”

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

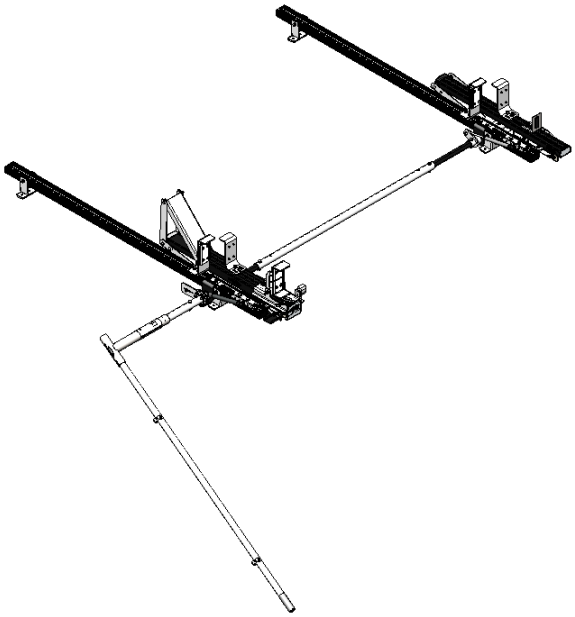
RANGER DESIGN

INSTALLATION GUIDE

MAX RACK DOUBLE SIDE



MAX RACK SINGLE SIDE



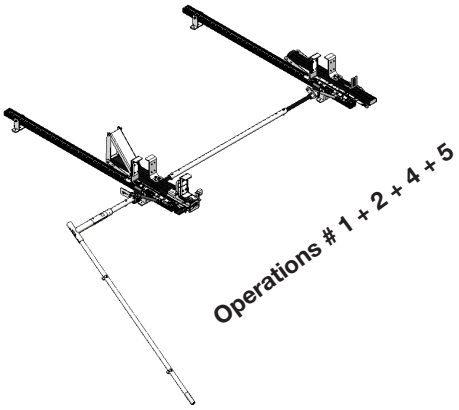
18-U1815 Max Rack

Driver Side

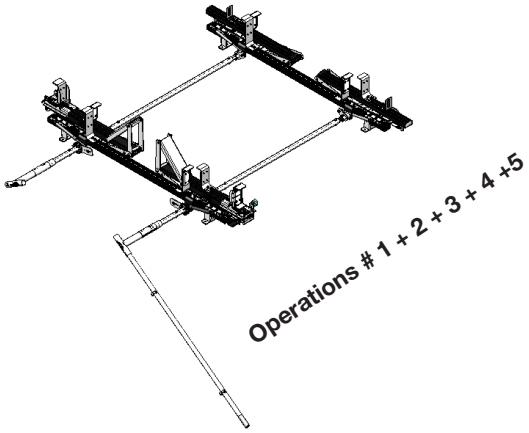
RANGER DESIGN

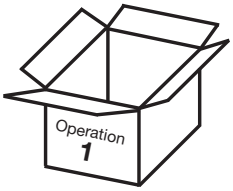
ORDER OF OPERATION

MAX RACK SINGLE SIDE

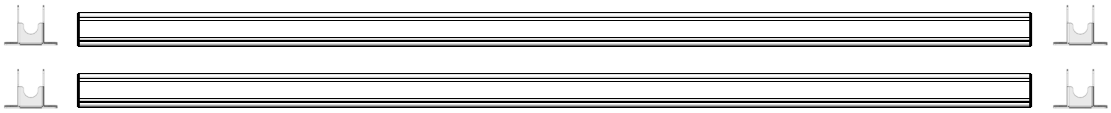


MAX RACK DOUBLE SIDE

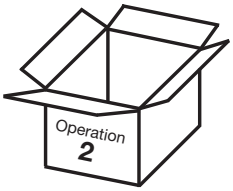


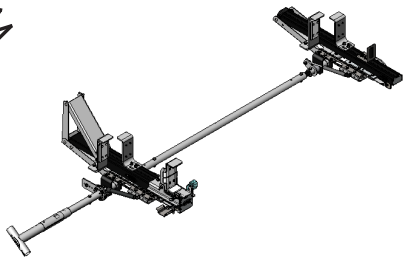


18-U1806

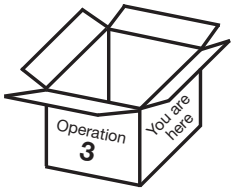


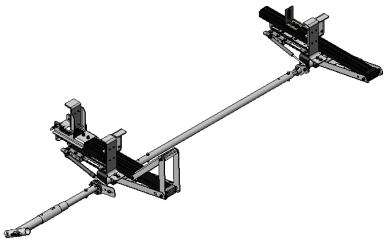
18-U1810



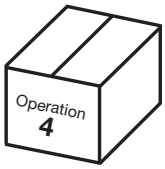


18-U1815

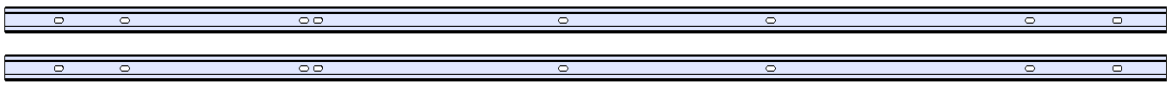


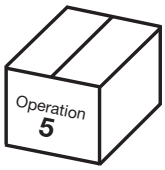


OPTIONAL: Applicable only for Max Rack Double Side.



MOUNTING TRACK





18-U1807

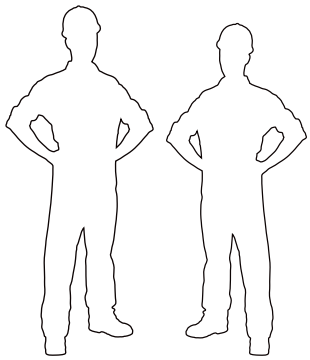
QUICK START GUIDE

Phase 1 - Assembly

- ❑ 1.1 Setup..... 4 TO 5
- ❑ 1.2 Front Crossbar Assembly..... 6 TO 13
- ❑ 1.3 Rear Crossbar Assembly..... 14 TO 23
- ❑ 1.4 For Assembly With Overhead Lift..... 24
- ❑ 1.5 Assembly Validation..... 25

REQUIRED ITEMS FOR COMPLETE MAX RACK

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



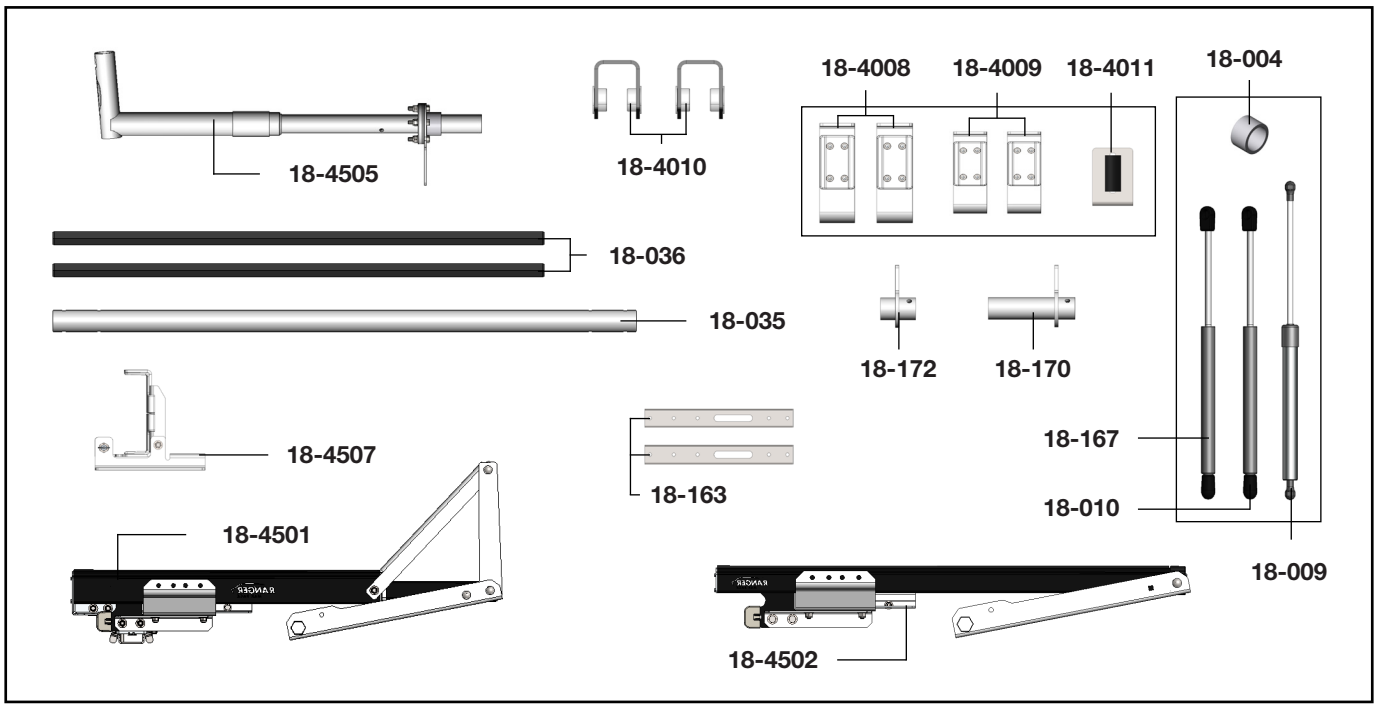
2 PERSONS

- ❑ Cordless Impact
- ❑ Ratchet
- ❑ Tape Measure
- ❑ Marker
- ❑ Ladder
- ❑ 1/2" Wrench
- ❑ 1/2" Socket
- ❑ Sawhorse (Optional)
- ❑ Box
- ❑ 1/8" Slot Screwdriver or Pick
- ❑ Cutter

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.

Item No.	Description	Qty.
18-004	Spacer	1
18-009	Damper	1
18-010	Gas Spring	1
18-035	Center Tube	1
18-036	Pivot Bar	2
18-163	Washer Plate	2
18-167	Gas Spring Combo	1
18-170	Driver Side Linkage, Front	1
18-172	Driver Side Linkage, Rear	1
18-4501	Driver Side Rear Mechanism	1
18-4502	Driver Side Front Mechanism	1
18-4505	Driver Side Damper kit	1
18-4507	Anti-theft, Lock	1
18-4008	Long Hook	2
18-4009	Small Hook	2
18-4010	Shaft Support Bracket	2
18-4011	Front Ladder Retainer	1
94-0815	Customer Assembly Fastener Kit	1

1.1.3 Fastener kits.

94-0815 → **Fastener Assembly**

5×		**# 40-665**	Ball Stud 3/4" Zinc Plated
14×		**# 90-205**	Hex Bolt 5/16" - 18 × 3/4" SS304
7×		**# 90-225**	Hex Bolt 5/16" - 18 × 2" SS304
8×		**# 90-491**	Carriage Bolt 5/16" - 18 × 1" SS304
8×		**# 94-105**	Hex Nut 5/16" - 18 SS316 WAX
12×		**# 94-111**	Lock Nut 5/16" SS304 WAX
14×		**# 94-250**	Channel Nut 5/16" - 18 SST
32×		**# 98-117**	Flat Washer 5/16", 3/4" O.D. SS18 - 8
22×		**# 98-123**	Lock Washer 5/16" SS304

5×

#40-665 Ball Stud 3/4"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

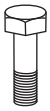
14×

#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#Channel Nut 5/16"

7×



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

8×

#90-491 Carriage Bolt 1"

#98-117 Flat Washer 5/16"

#98-123 Lock Washer 5/16"

#94-105 Hex Nut 5/16"

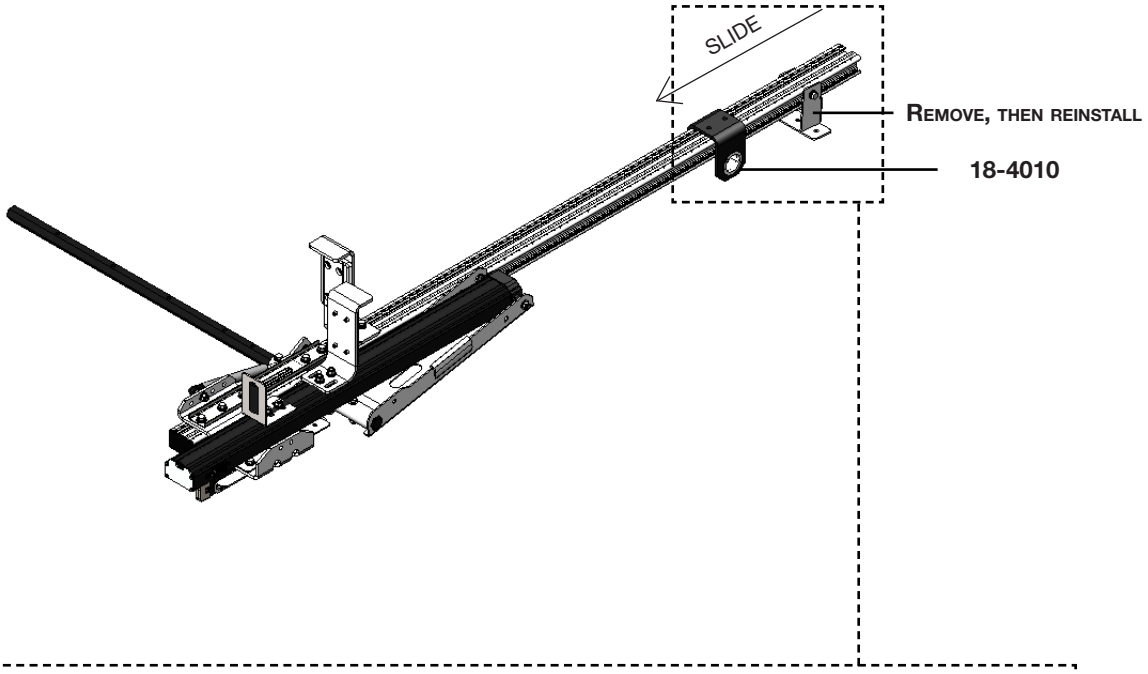
PHASE 1 – ASSEMBLY

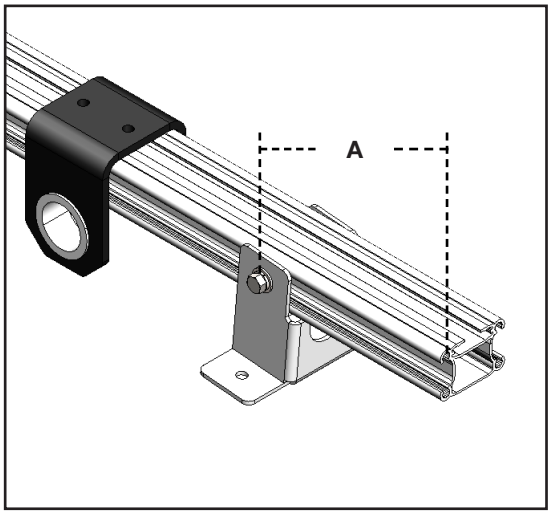
1.2 FRONT CROSSBAR ASSEMBLY

NOTE: Skip this step if you forgot to slide 2 shaft support bracket for double sided rack.

1.2.1 Remove the driver side feet, slide the shaft support bracket, then reinstall the feet.

FOOT PLACEMENT GUIDE	
VEHICLE	**DIMENSION (A)**
Nissan NV	7"
Sprinter	10" high roof, 6 - 1/2" standard roof
Transit 130" wb	8 - 7/8"
Transit 148" & 148" ext. wb	8 - 7/8"
Promaster 118" wb	7 - 1/16"
Promaster 136" wb	7 - 1/16"



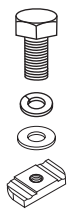


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

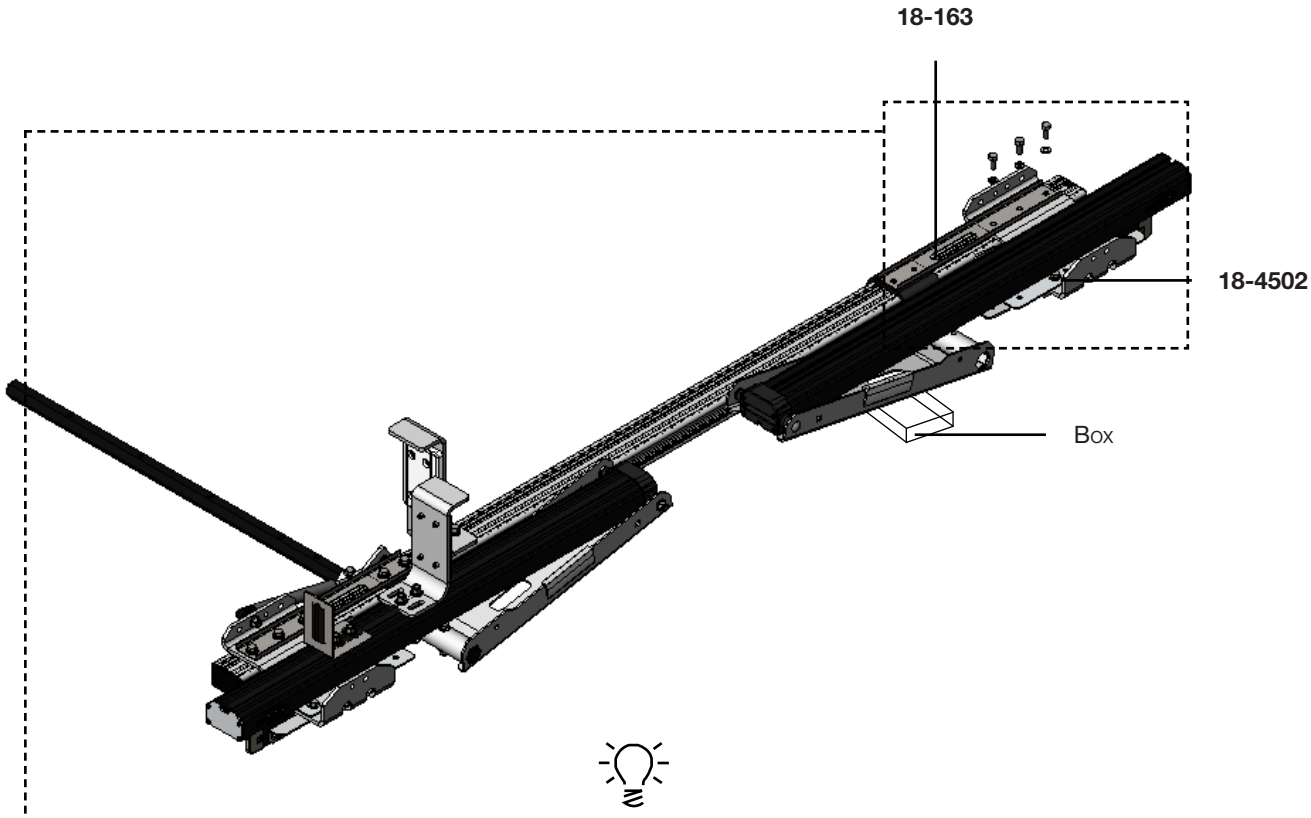
FASTENERS USED

2× **(Crossbar fastener kit) (17 ft • lbs)**

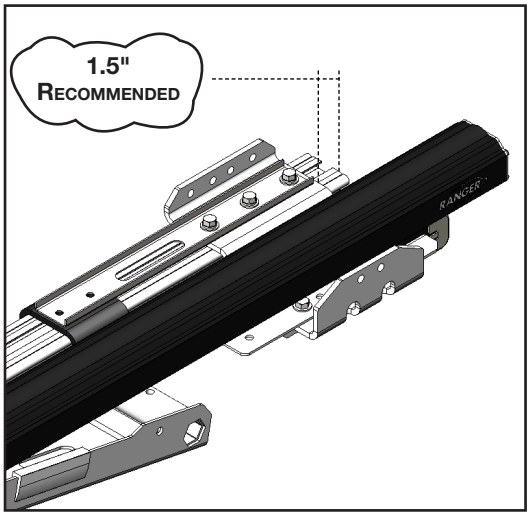


#90-203 Hex Bolt 5/8"
#98-123 Lock Washer 5/16"
#98-117 Flat Washer 5/16"
#Channel Nut 5/16"

1.2.2 • Slide 3 channel nuts into the top channel of the crossbar.
• Attach the driver side front mechanism to the crossbar with washer plate using the 3 channel nuts.



TIPS: • Use a box to support the mechanism to facilitate assembly.
• Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

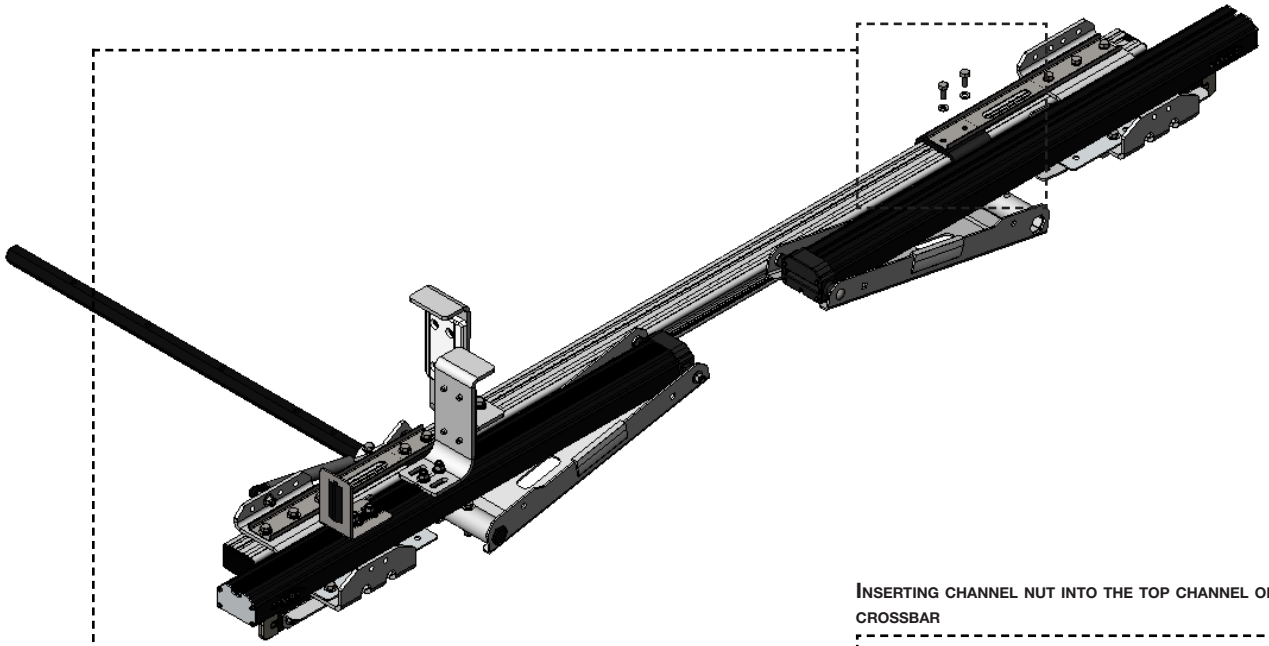
3× (17 ft • lbs)

#90-205 Hex Bolt 3/4"

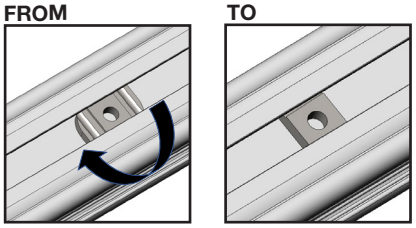
#98-123 Lock Washer 5/16"

#Channel Nut 5/16"

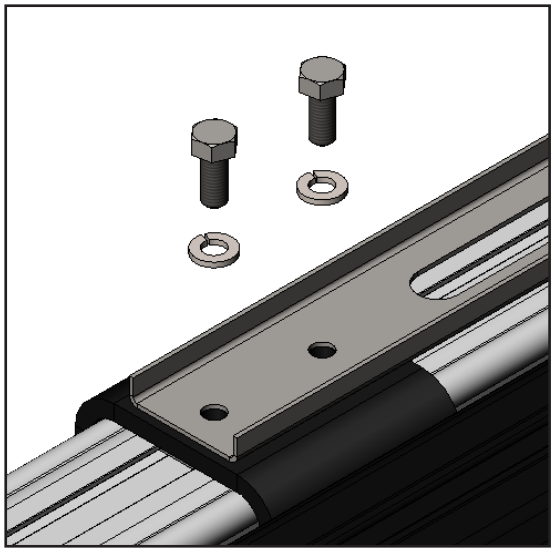
1.2.3 • Insert 2 channel nuts into the top channel of the crossbar, then align them to the shaft support bracket holes.
• Attach the shaft support bracket to the crossbar with the washer plate using the 2 channel nuts.



INSERTING CHANNEL NUT INTO THE TOP CHANNEL OF THE CROSSBAR



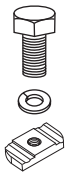
TIPS: • Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

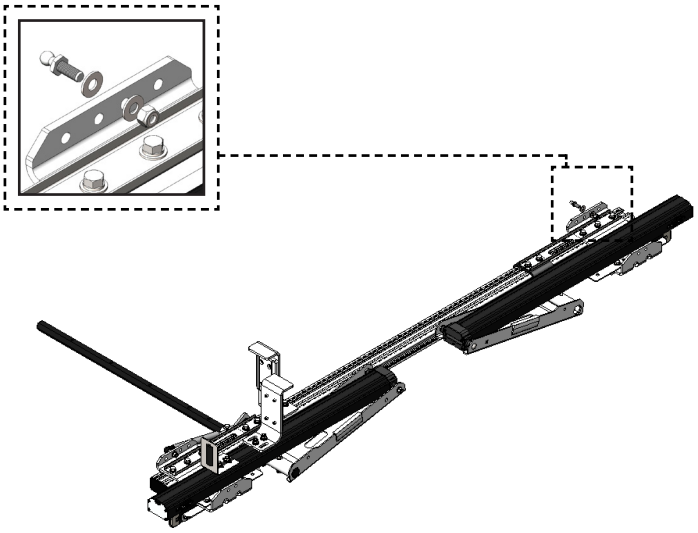
FASTENERS USED

2× (17 ft • lbs)



#90-205 Hex Bolt 3/4"
#98-123 Lock Washer 5/16"
#Channel Nut 5/16"

1.2.4 Attach ball stud to the frame of front mechanism.



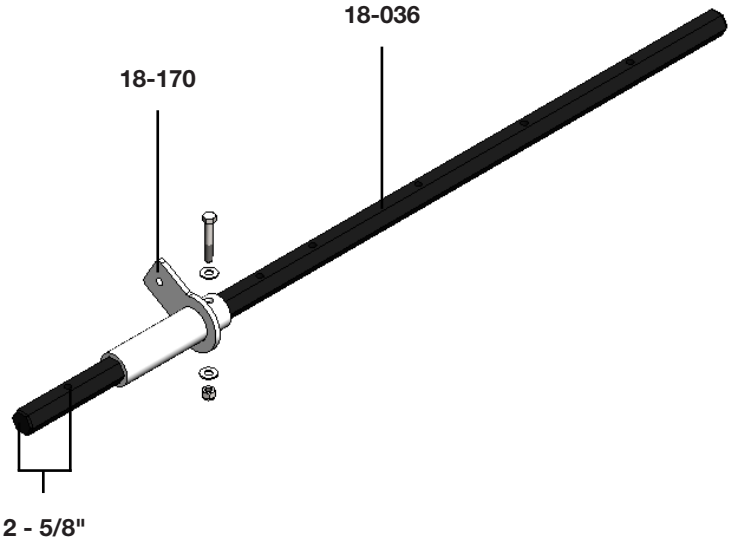
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

FASTENERS USED

1× (17 ft • lbs)

	#40-665 Ball Stud 3/4"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

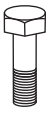
1.2.5 Attach the driver side front linkage to the pivot bar.



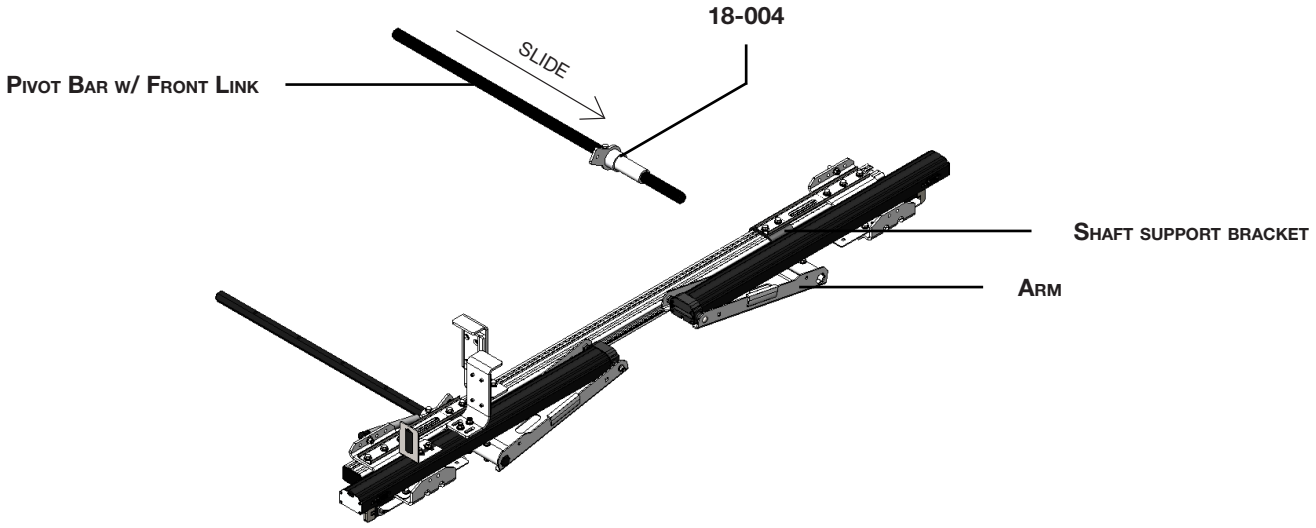
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

FASTENERS USED

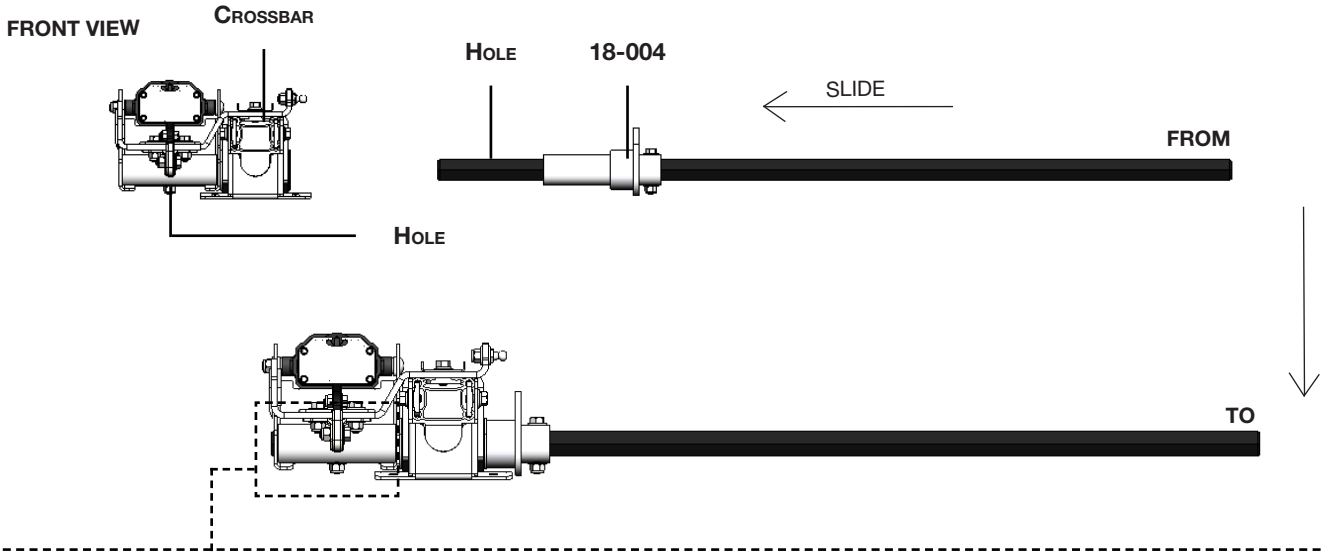
1× (17 ft • lbs)

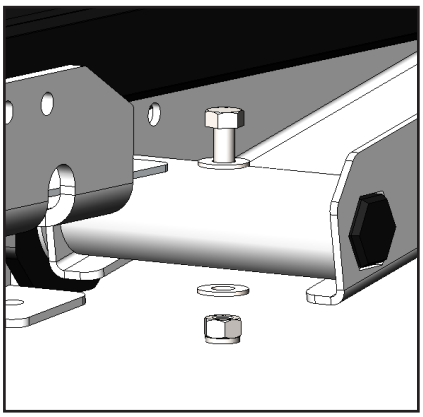
	#90-225 Hex Bolt 2"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

1.2.6 Slide the pivot bar with front linkage and spacer through the shaft support bracket and arm, then attach the pivot bar to the arm.



NOTE: Line up the hole of the front pivot bar to the hole of the arm.





FASTENERS USED

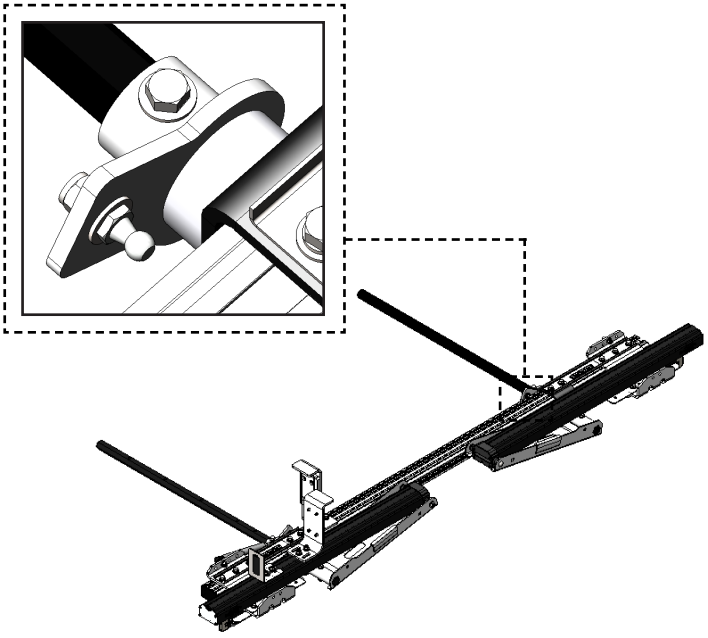
1× (17 ft • lbs)

	#90-225 Hex Bolt 2"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

TOOLS

❑ 1/2" Wrench 2×

1.2.7 Attach ball stud to the driver side front linkage.



TOOLS

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

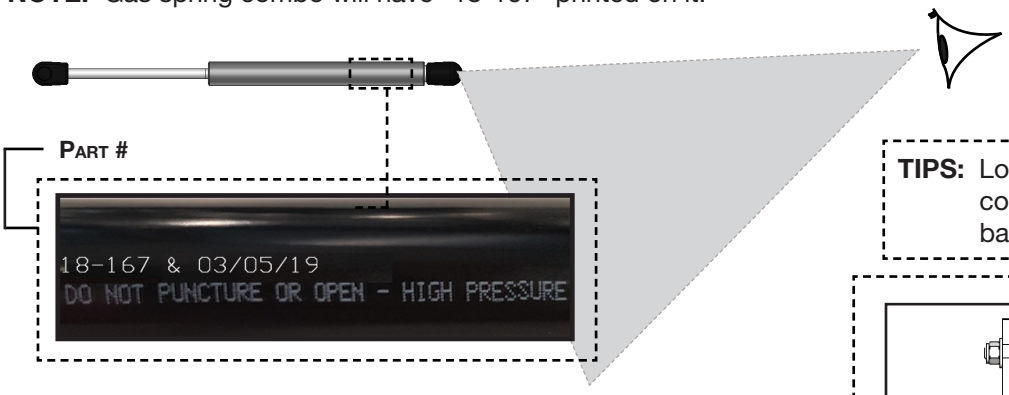
FASTENERS USED

1× (17 ft • lbs)

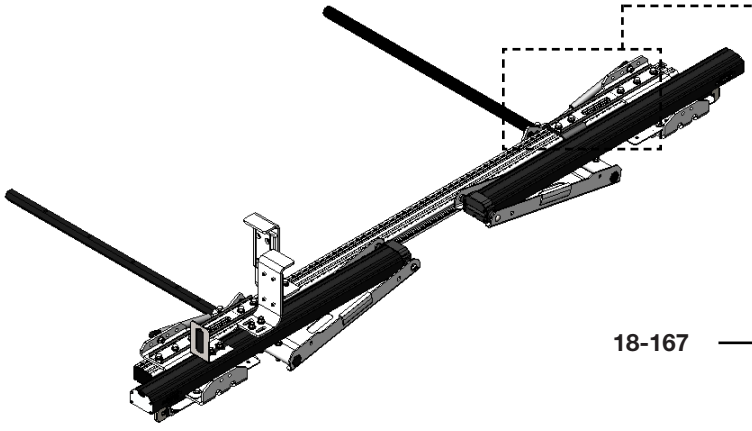
	#40-665 Ball Stud 3/4"
	#98-117 Flat Washer 5/16"
	#98-117 Flat Washer 5/16"
	#94-111 Lock Nut 5/16"

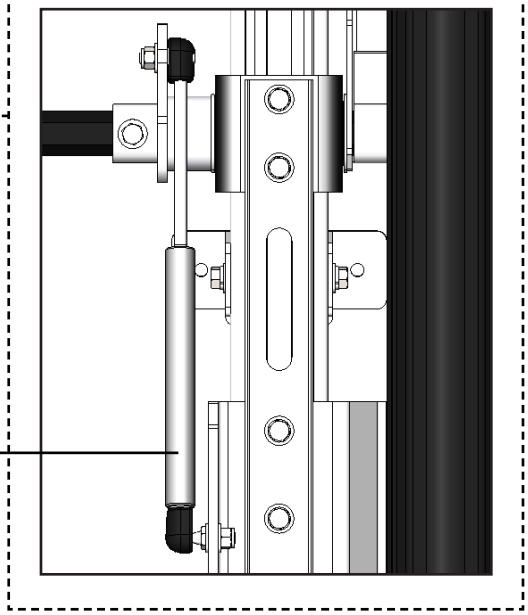
1.2.8 Attach the gas spring combo to the ball studs.

NOTE: Gas spring combo will have "18-167" printed on it.

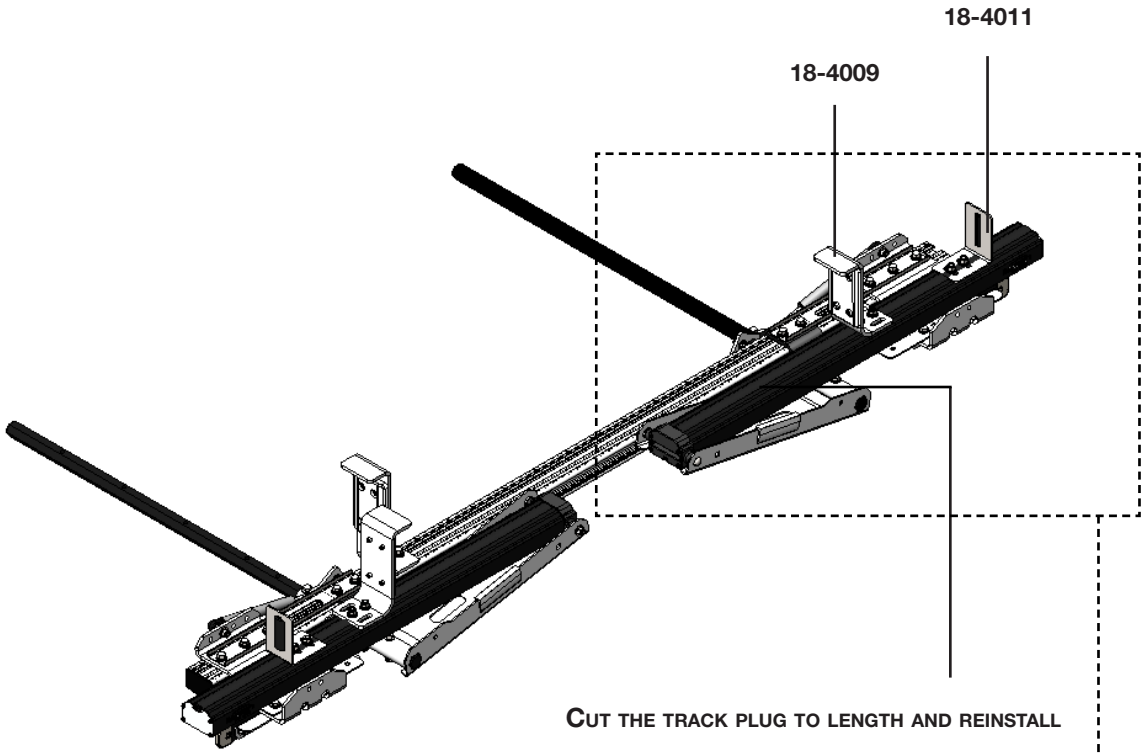


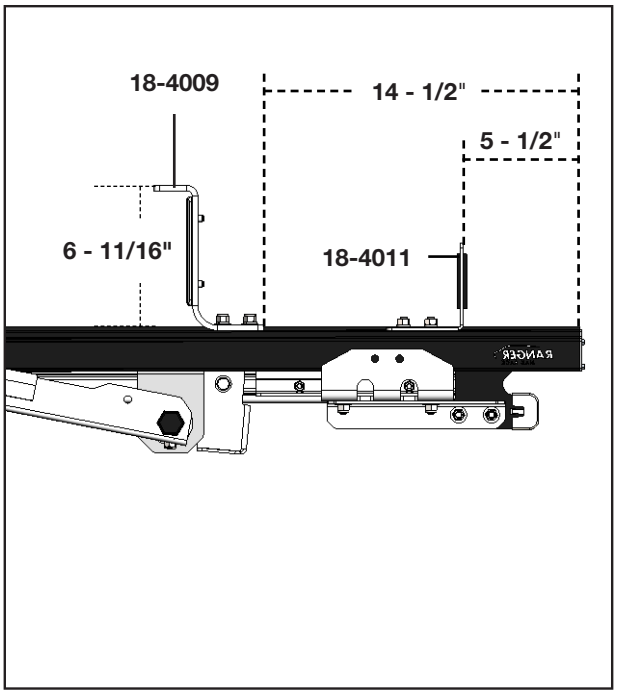
TIPS: Loosen the ball stud, attach the combo, then retighten the ball stud.





1.2.9 • Pull the track plug off.
• Attach one small hook and front ladder retainer to the front mechanism.
• Cut the track plug to length and reinstall.



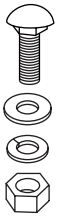


NOTE: Pull the track plug off, cut to length, then reinstall.

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

FASTENERS USED

4× (17 ft • lbs)

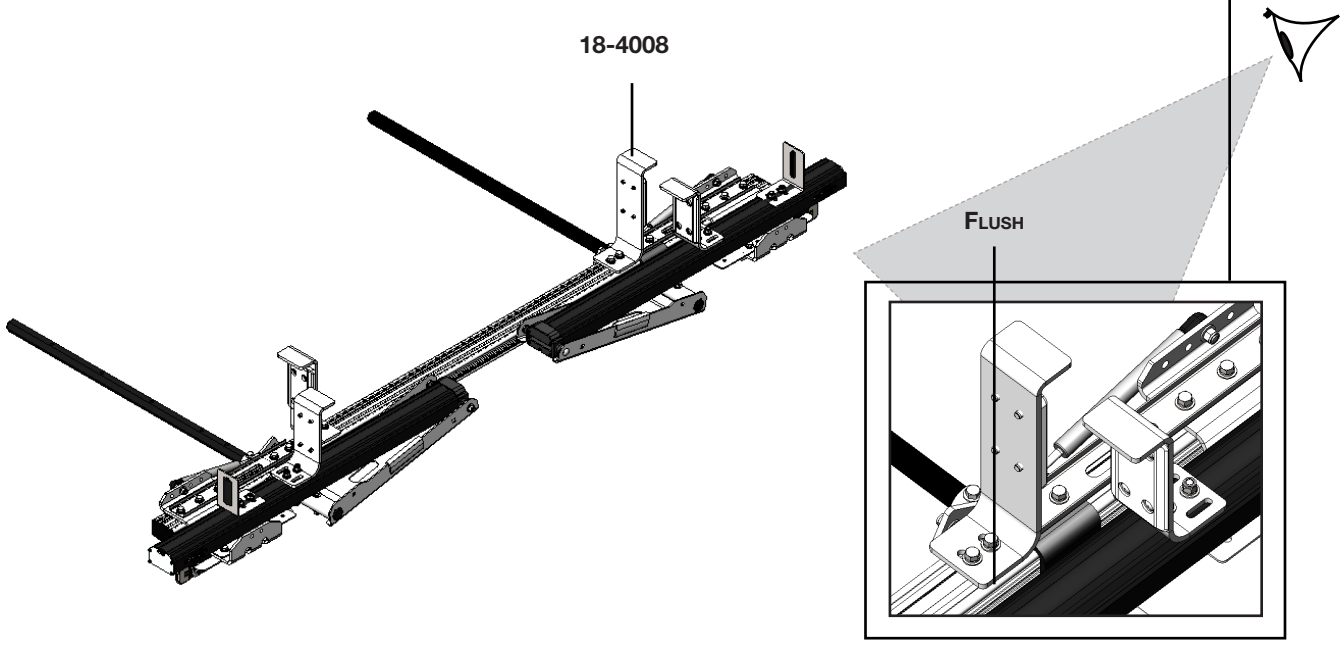


#90-491 Carriage Bolt 1"
#98-117 Flat Washer 5/16"
#98-123 Lock Washer 5/16"
#94-105 Hex Nut 5/16"

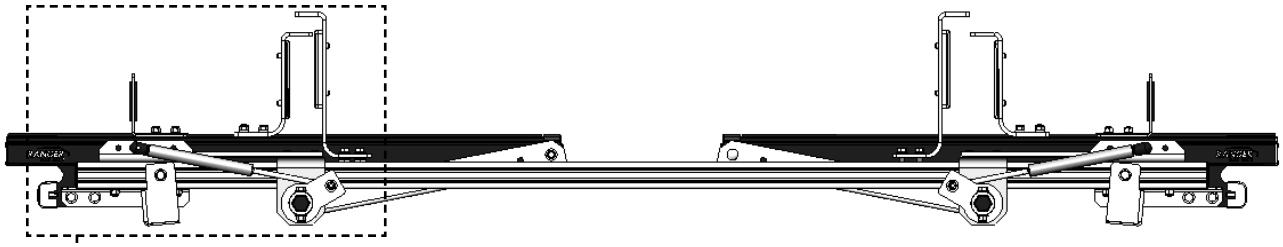
1.2.10 Attach the long hook to the crossbar, facing to the small hook.

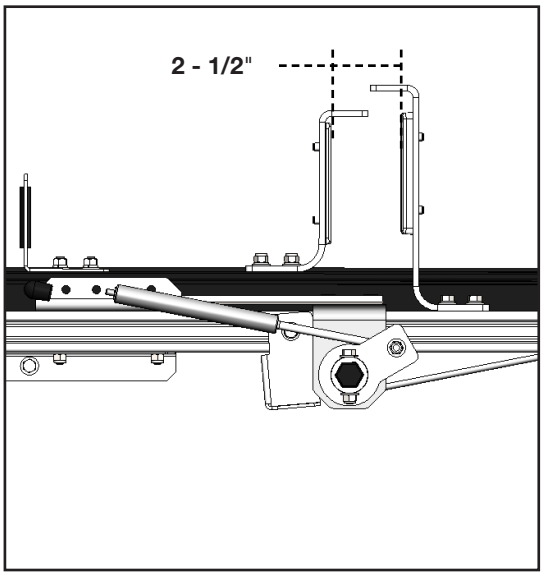
IMPORTANT: ***The one side of the Long hook should be flush to the Crossbar.***

NOTE: If you are using a step ladder, the hook position will need to be adjusted. (Follow the mounting track installation guide).



FRONT VIEW



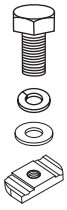


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

FASTENERS USED

2× (17 ft • lbs)



#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#98-117 Flat Washer 5/16"

#Channel Nut 5/16"

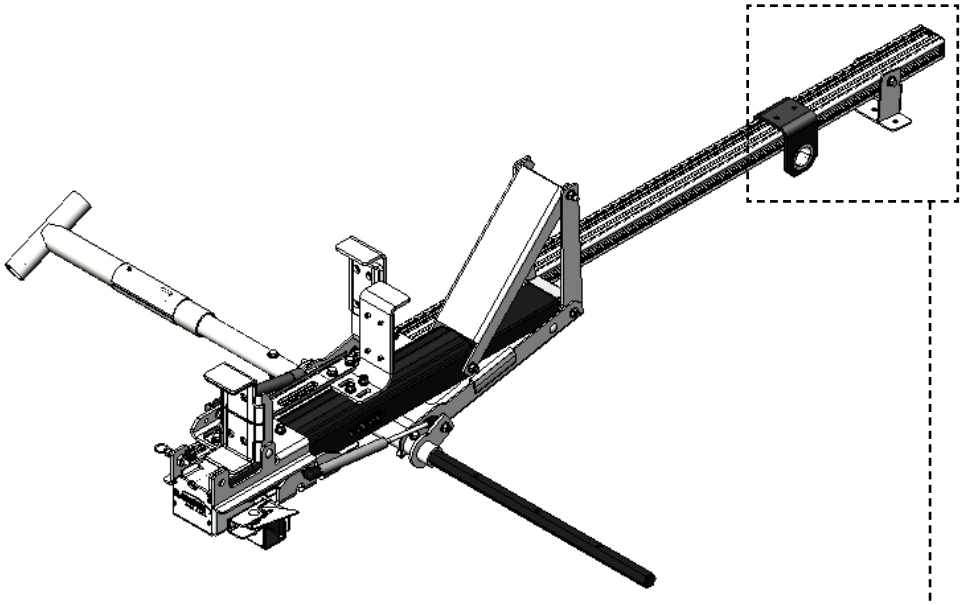
PHASE 1 – ASSEMBLY

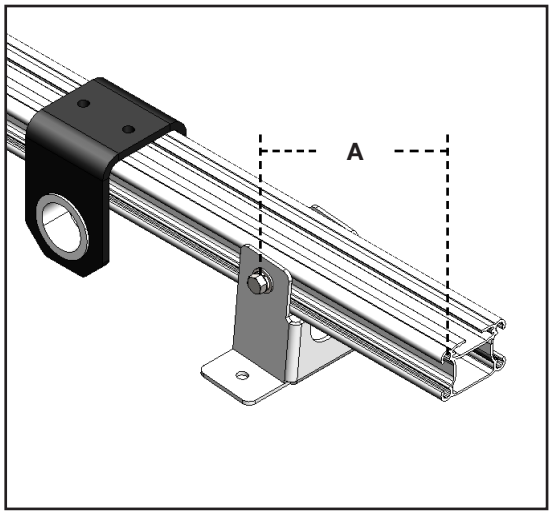
1.3 REAR CROSSBAR ASSEMBLY

NOTE: Skip this step if you forgot to slide 2 shaft support bracket for double sided rack.

1.3.1 Remove the driver side feet, slide the shaft support bracket, then reinstall the feet.

FOOT PLACEMENT GUIDE	
VEHICLE	**DIMENSION (A)**
Nissan NV	7"
Sprinter	10" high roof, 6 - 1/2" standard roof
Transit 130" wb	8 - 7/8"
Transit 148" & 148" ext. wb	8 - 7/8"
Promaster 118" wb	7 - 1/16"
Promaster 136" wb	7 - 1/16"



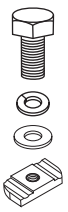


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

2× **(Mounting track fastener kit) (17 ft • lbs)**



#90-203 Hex Bolt 5/8"

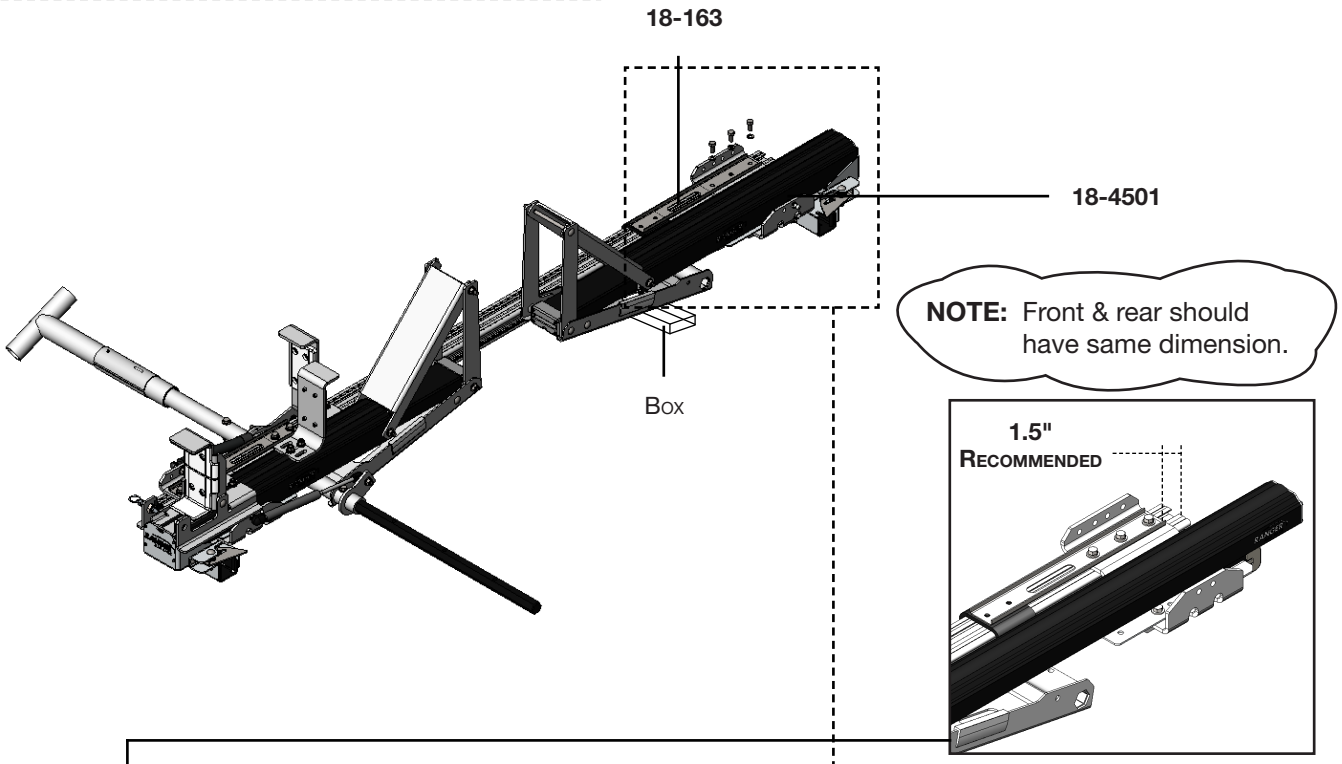
#98-123 Lock Washer 5/16"

#98-117 Flat Washer 5/16"

#Channel Nut 5/16"

1.3.2 • Slide 3 channel nuts into the top channel of the crossbar.
• Attach the driver side rear mechanism to the crossbar with washer plate using the 3 channel nuts.

TIPS: • Use a box to support the mechanism to facilitate assembly.
• Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



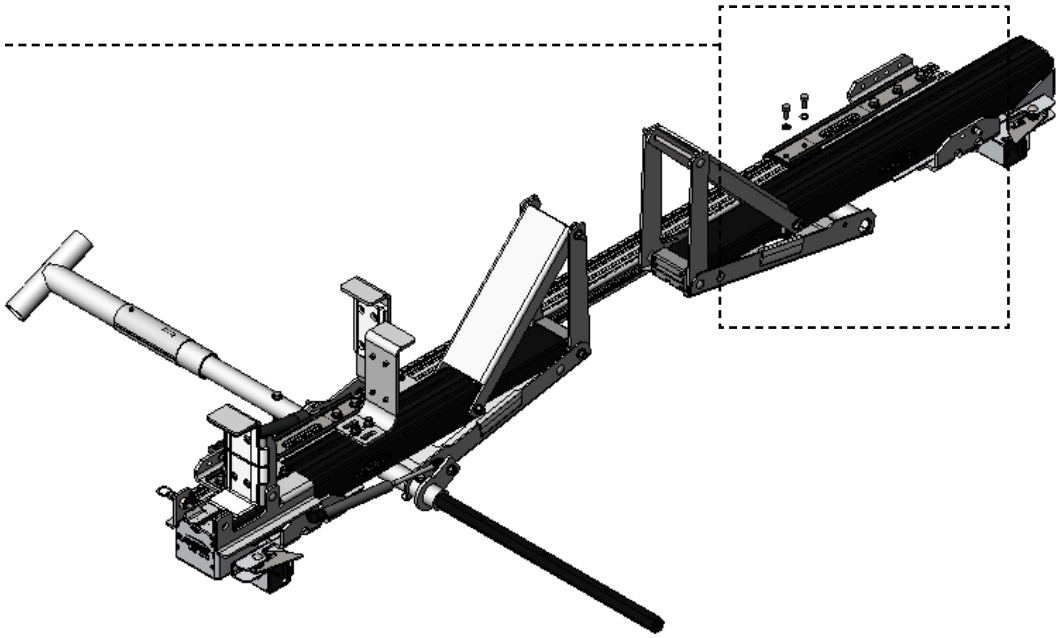
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

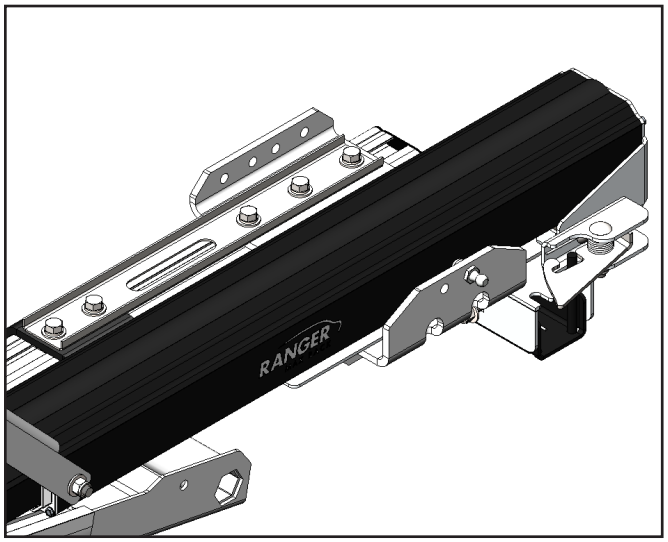
3× (17 ft • lbs)

	#90-205 Hex Bolt 3/4"
	#98-123 Lock Washer 5/16"
	#Channel Nut 5/16"

1.3.3 • Insert 2 channel nuts into the top channel of the crossbar, then align them to the shaft support bracket holes.
• Attach the shaft support bracket to the crossbar with the washer plate using the 2 channel nuts.



TIPS: • Use 1/8" slot screwdriver or pick to align the channel nut to the holes.



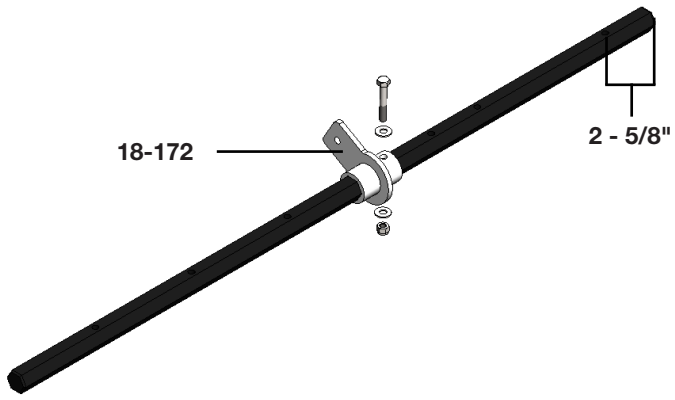
TOOLS
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/8" Slot Screwdriver or Pick

FASTENERS USED

2× (17 ft • lbs)

	#90-205 Hex Bolt 3/4"
	#98-123 Lock Washer 5/16"
	#Channel Nut 5/16"

1.3.4 Attach the driver side rear linkage to the pivot bar.

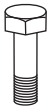


TOOLS

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

FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

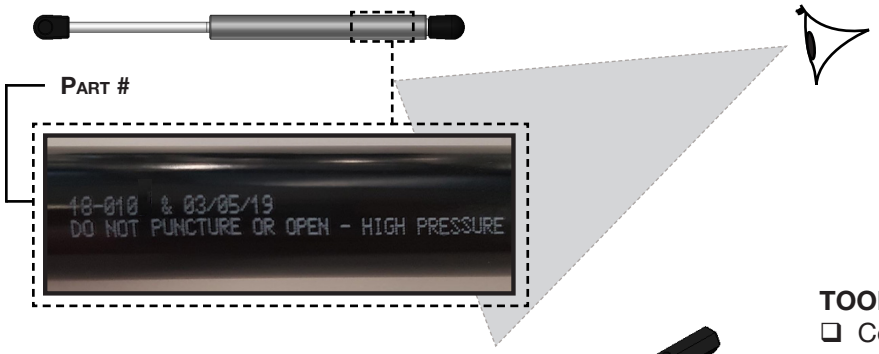
#98-117 Flat Washer 5/16"

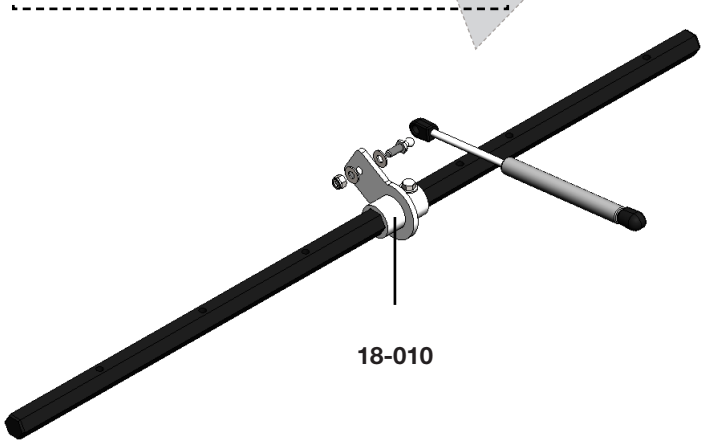
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

1.3.5 Attach the driver side rear linkage to the pivot bar.

NOTE: Gas spring will have "18-010" printed on it.





TOOLS

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

FASTENERS USED

1× (17 ft • lbs)

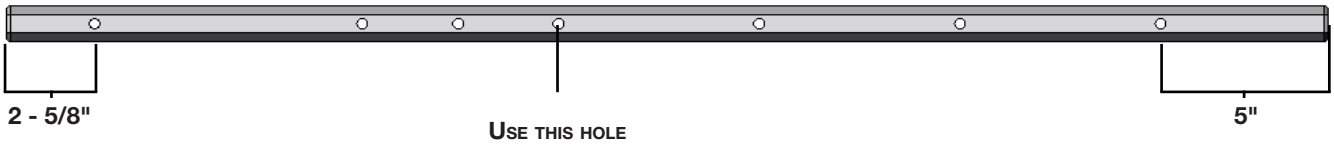
#40-665 Ball Stud 3/4"

#98-117 Flat Washer 5/16"

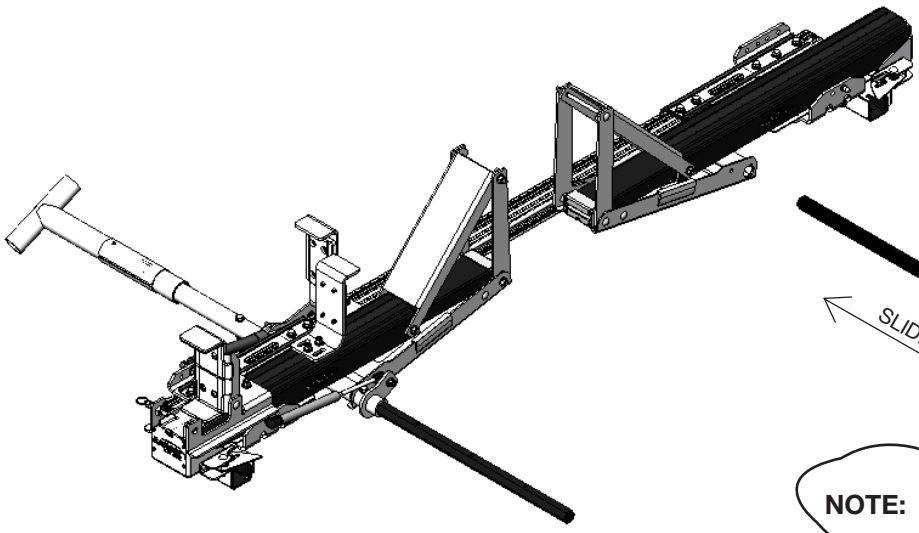
#98-117 Flat Washer 5/16"

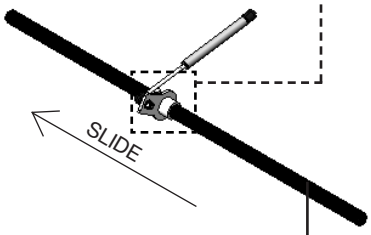
#94-111 Lock Nut 5/16"

1.3.6 Slide the pivot bar with rear linkage through the arm and shaft support bracket, then attach the pivot bar to the arm.



USE THIS HOLE

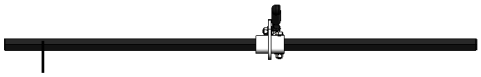


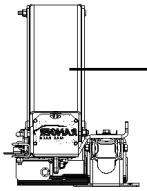


NOTE: Holes should be on top.

FRONT VIEW

FROM

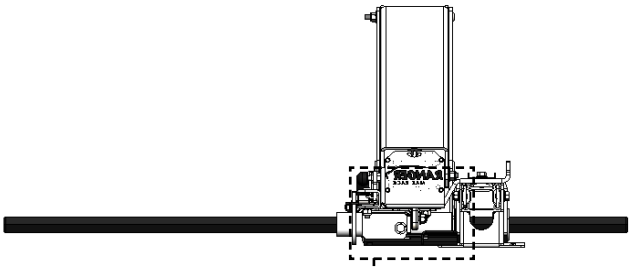


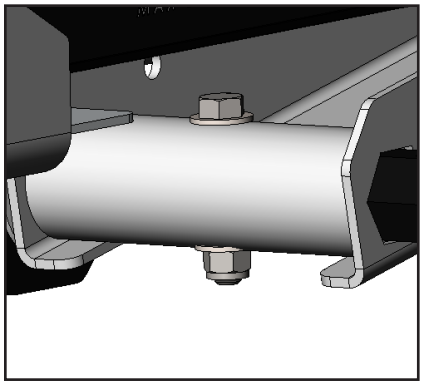


REAR MECHANISM

PIVOT BAR W/ REAR LINKAGE

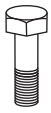
TO





FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

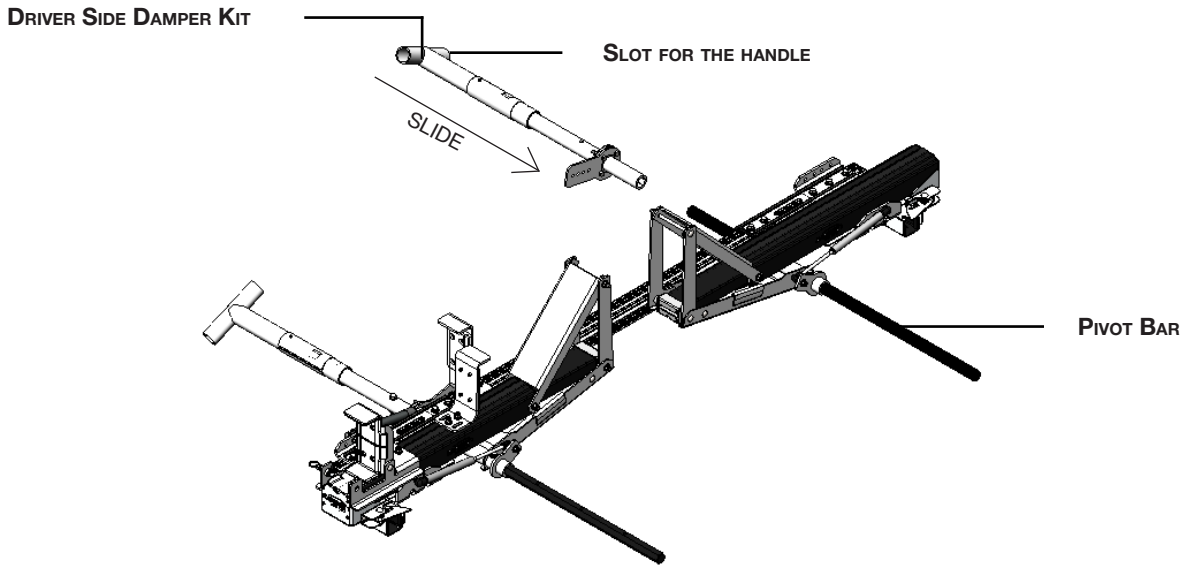
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

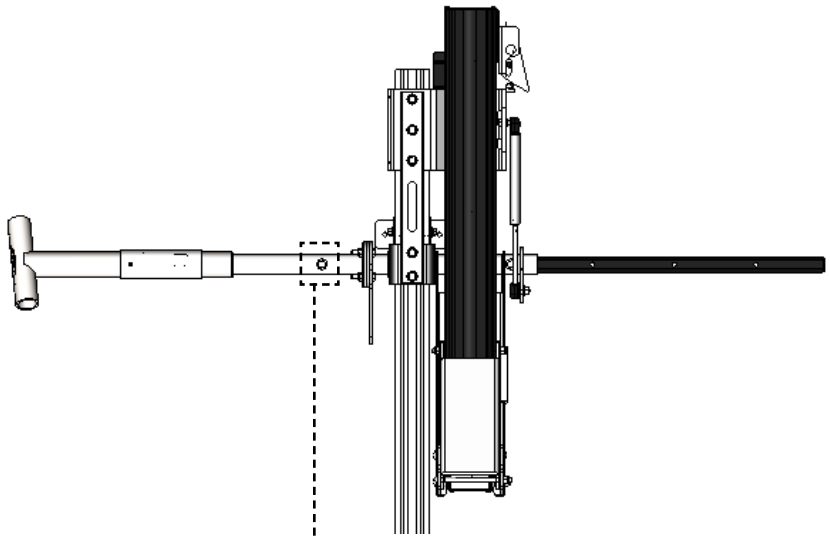
TOOLS

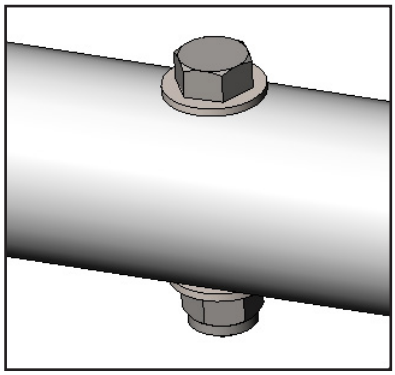
❑ 1/2" Wrench 2×

1.3.7 Slide the driver side damper kit to the pivot bar, then attach the driver side damper kit to the pivot bar.



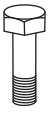
TOP VIEW





FASTENERS USED

1× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

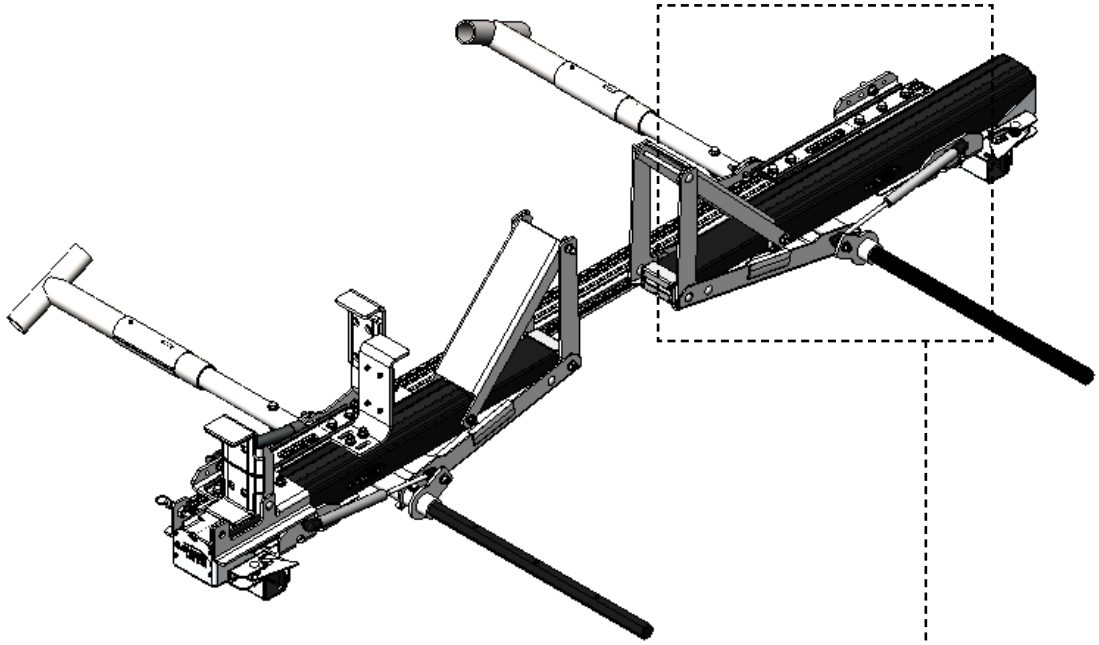
#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

TOOLS

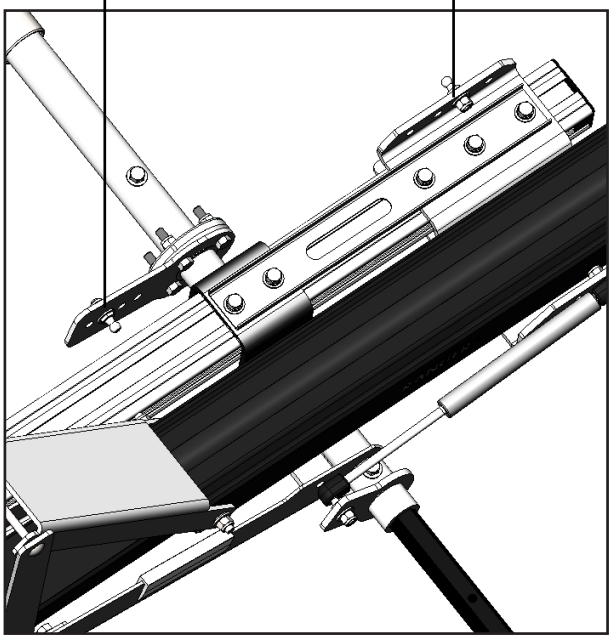
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

1.3.8 Attach ball stud to the driver side damper kit and rear mechanism frame.



BALL STUD

BALL STUD



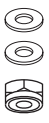
TOOLS

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

FASTENERS USED

2× (17 ft • lbs)

#40-665 Ball Stud 3/4"



#98-117 Flat Washer 5/16"

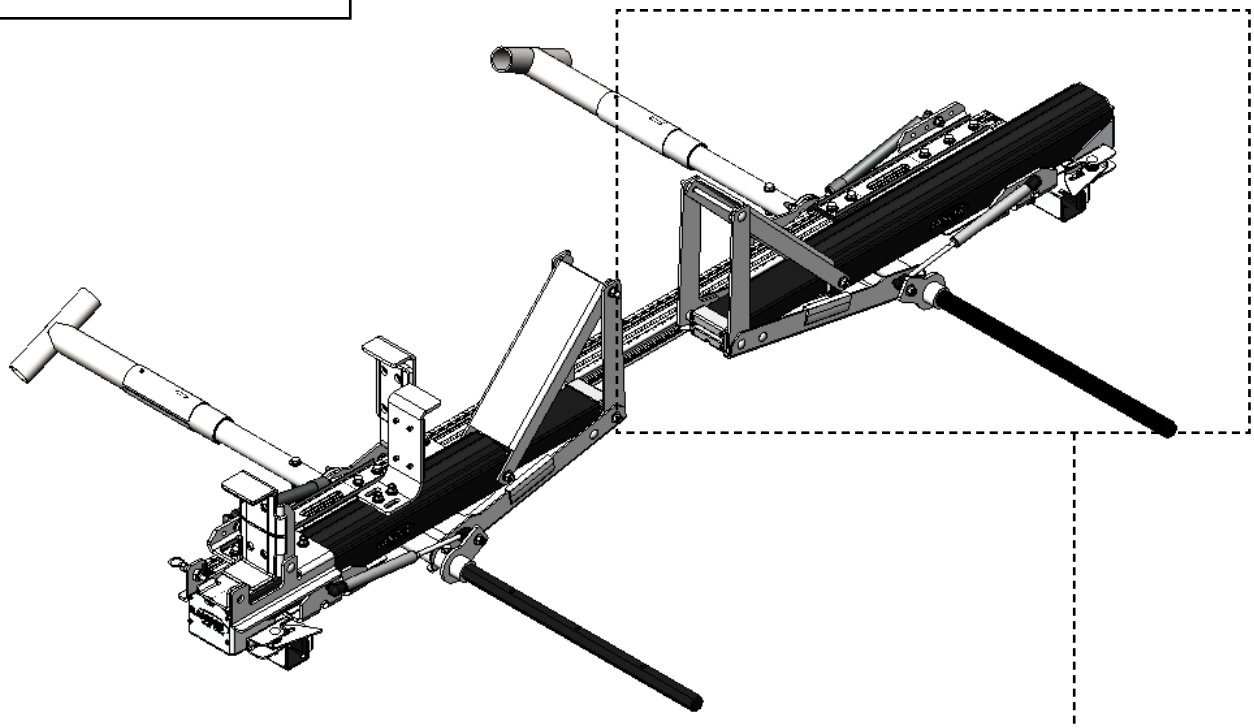
#98-117 Flat Washer 5/16"

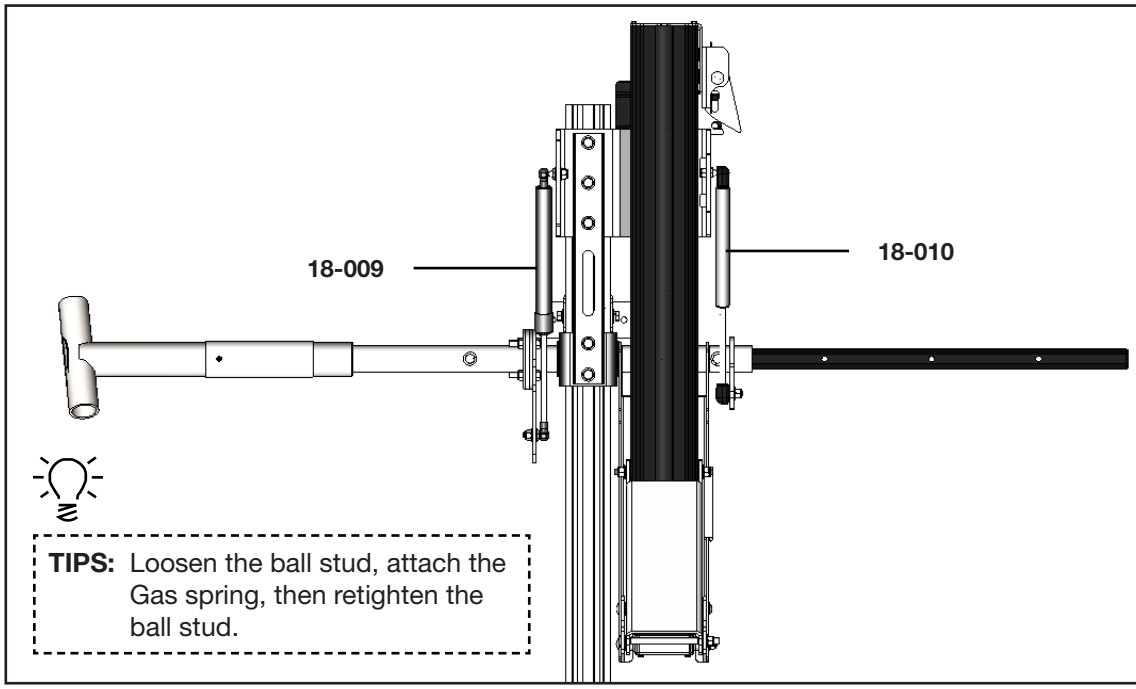
#94-111 Lock Nut 5/16"

1.3.9 Attach the damper and gas spring to the ball stud.

NOTE:

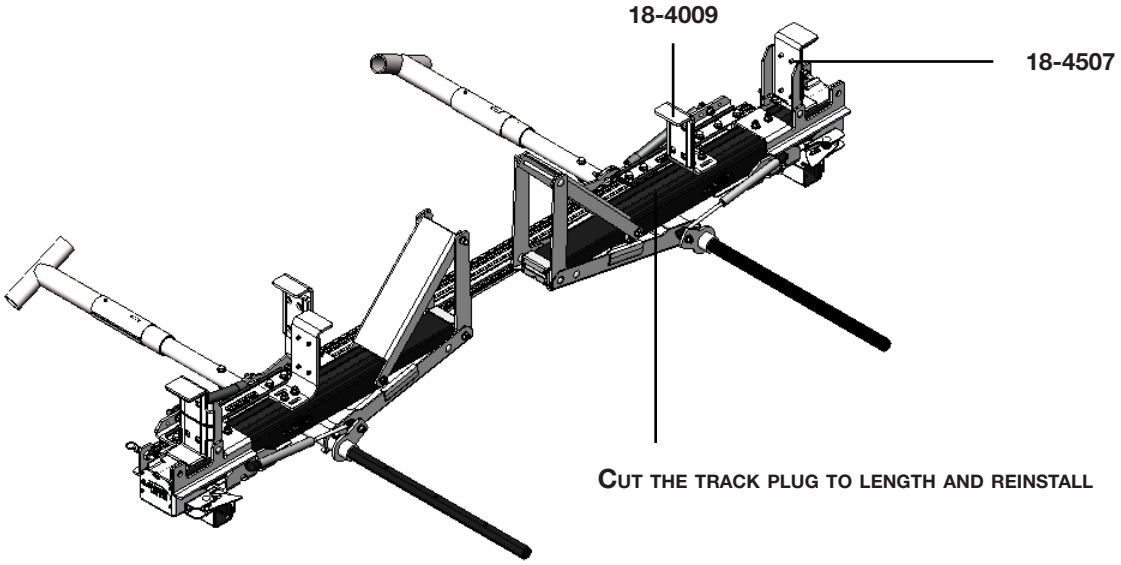
Damper: You can compress



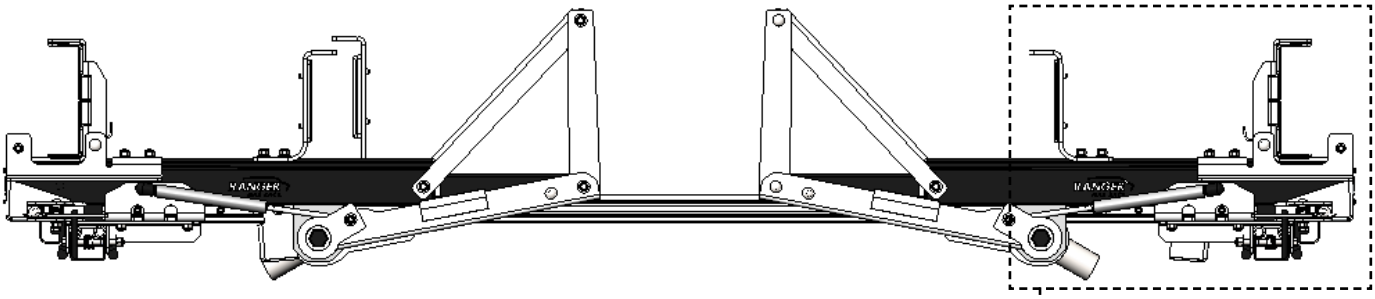


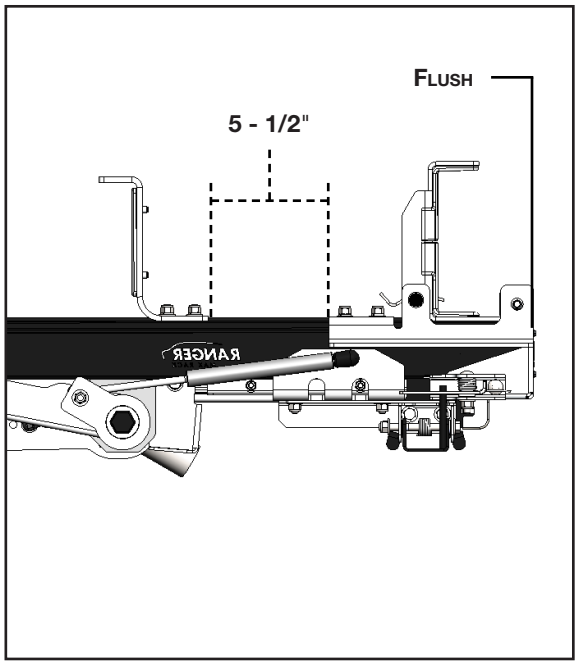
TIPS: Loosen the ball stud, attach the Gas spring, then retighten the ball stud.

1.3.10 • Pull the track plug off.
• Attach one small hook and anti-theft lock to the rear mechanism.
• Cut the track plug to length and reinstall.



FRONT VIEW



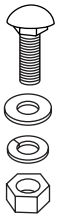


NOTE: If you are using a step ladder, the hook position will need to be adjusted (Follow the mounting track installation guide).

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

FASTENERS USED

4× (17 ft • lbs)

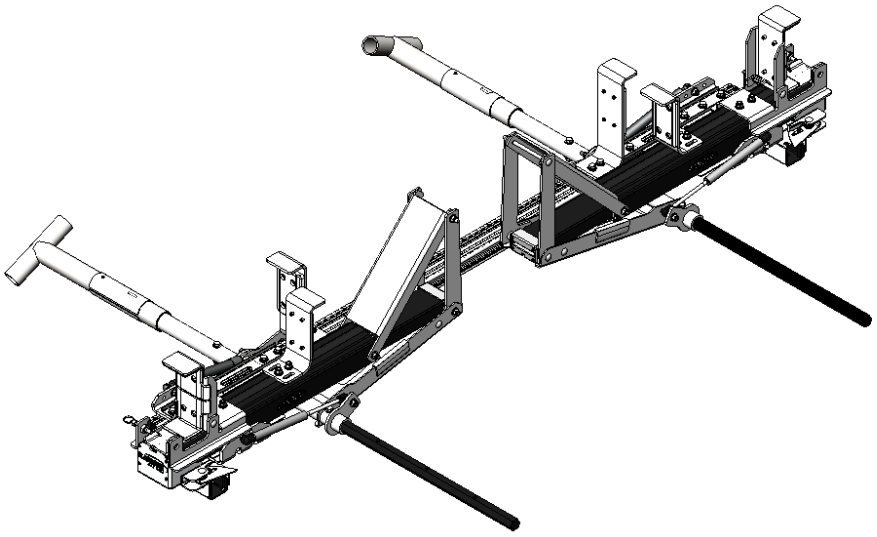


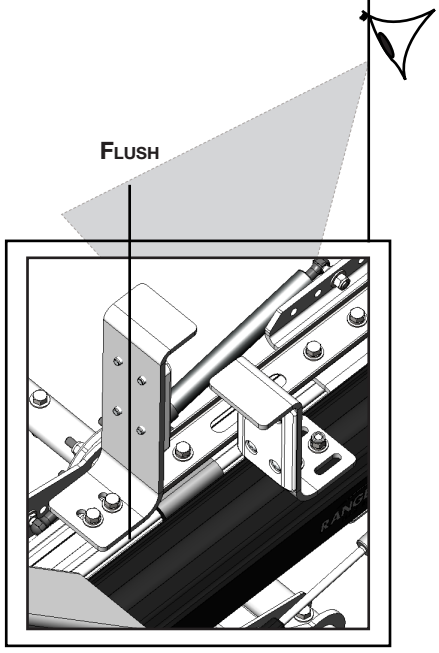
#90-491 Carriage Bolt 1"
#98-117 Flat Washer 5/16"
#98-123 Lock Washer 5/16"
#94-105 Hex Nut 5/16"

1.3.11 • Attach the long hook to the crossbar, facing to the small hook.
• Apply a bead of sllicone on the end cap, then attach the end cap to the crossbar.

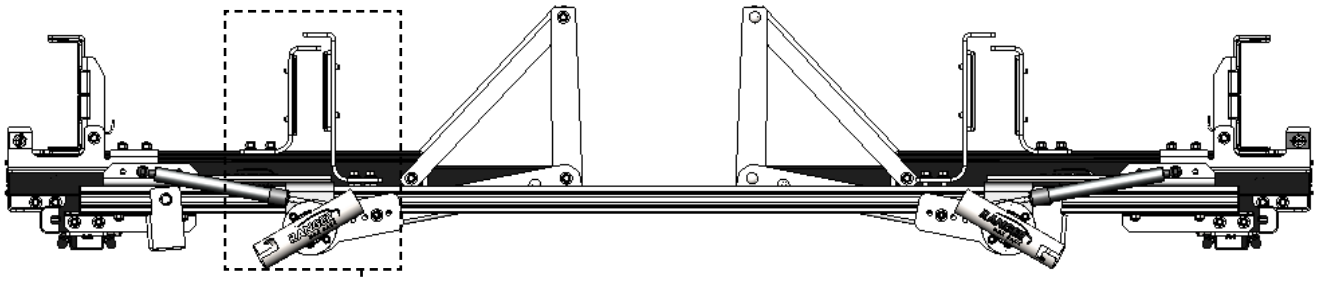
IMPORTANT: ***The one side of the long hook should be flush to the crossbar.***

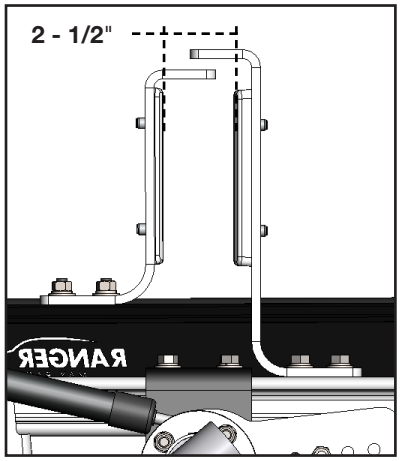
NOTE: If you are using a step ladder, the hook position will need to be adjusted. (Follow the mounting track installation guide).





FRONT VIEW





TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

FASTENERS USED

2× (17 ft • lbs)

#90-205 Hex Bolt 3/4"

#98-123 Lock Washer 5/16"

#98-117 Flat Washer 5/16"

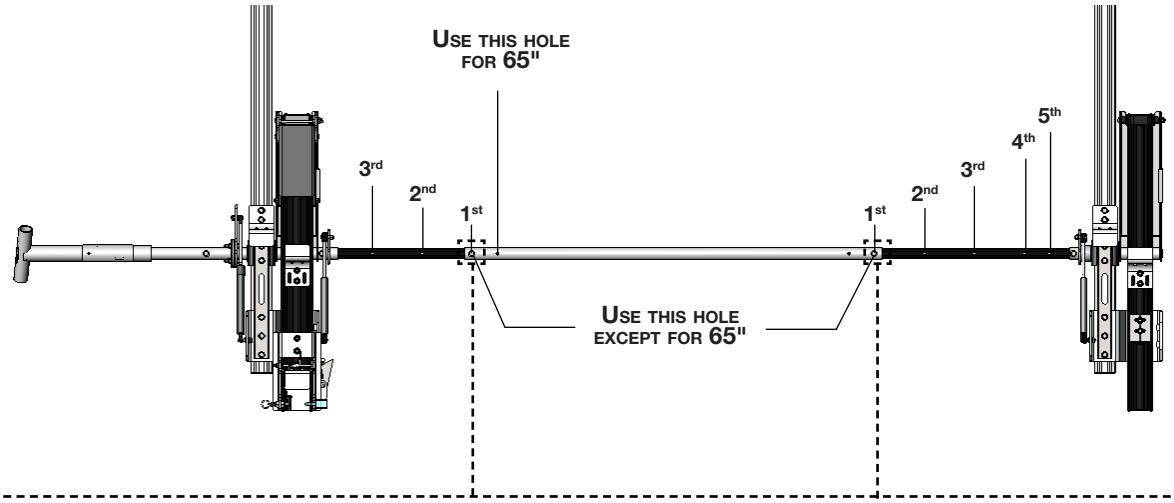
#Channel Nut 5/16"

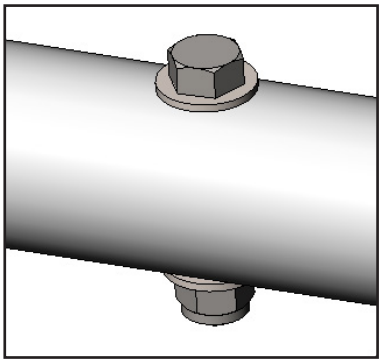
PHASE 1 – ASSEMBLY

1.4 FOR ASSEMBLY WITH OVERHEAD LIFT

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

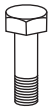
NOTE: Skip this step if you don't have an overhead lift or if you have a Max Rack double side.





FASTENERS USED

2× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

TOOLS

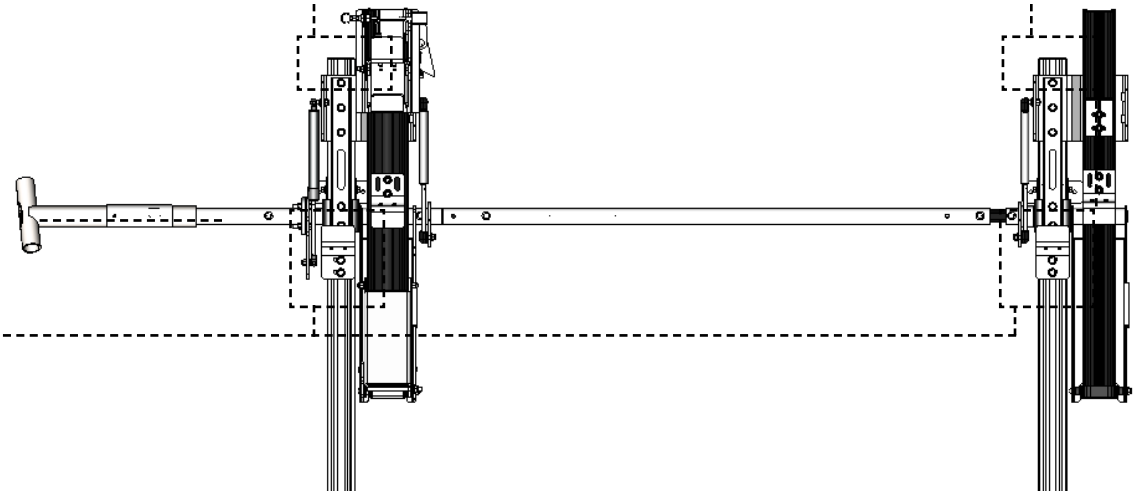
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

VEHICLE	CROSSBAR CENTER TO CENTER DISTANCE	LADDER SIZE
Nissan NV (NH)	Maximum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Sprinter (DH)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Transit 130" wb (FTR)	Maximum: 77" (3rd & 3rd Holes)	Maximum: Extension 28', Step 8'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Transit 148" & 148" ext. wb (FTL)	Maximum: 89" (2nd & 2nd Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 118" wb (PHS)	Maximum: 77" (3rd & 3rd Holes)	Maximum: Extension 28', Step 8'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 136" wb (PHM)	Maximum: 89" (2nd & 2nd Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 159" wb (PHL)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'
Promaster 159" ext. wb (PHX)	Maximum: 101" (1st & 1st Holes)	Maximum: Extension 32', Step 10'
	Minimum: 65" (5th & 3rd Holes)	Maximum: Extension 24', Step 8'

PHASE 1 – ASSEMBLY

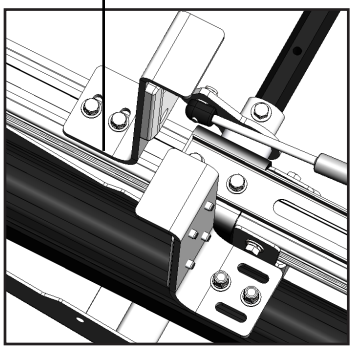
1.5 ASSEMBLY VALIDATION

1.5.1 Validate your assembly to ensure smooth operation of your Max Rack.

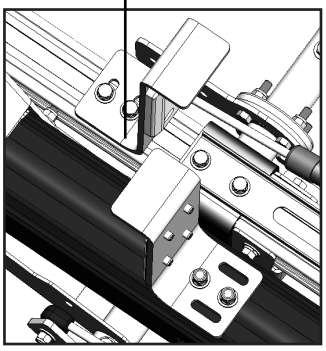


IMPORTANT: ***The one side of the long hook should be flush to the crossbar.***

REAR — FLUSH

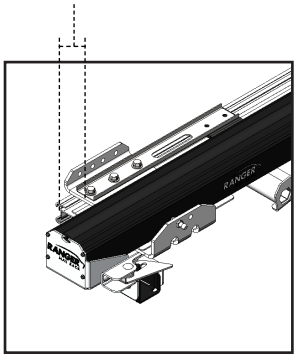


FRONT — FLUSH

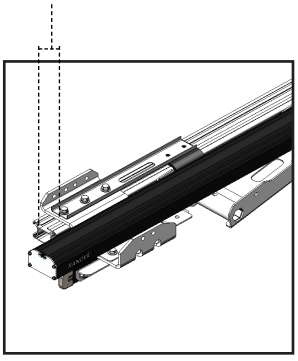


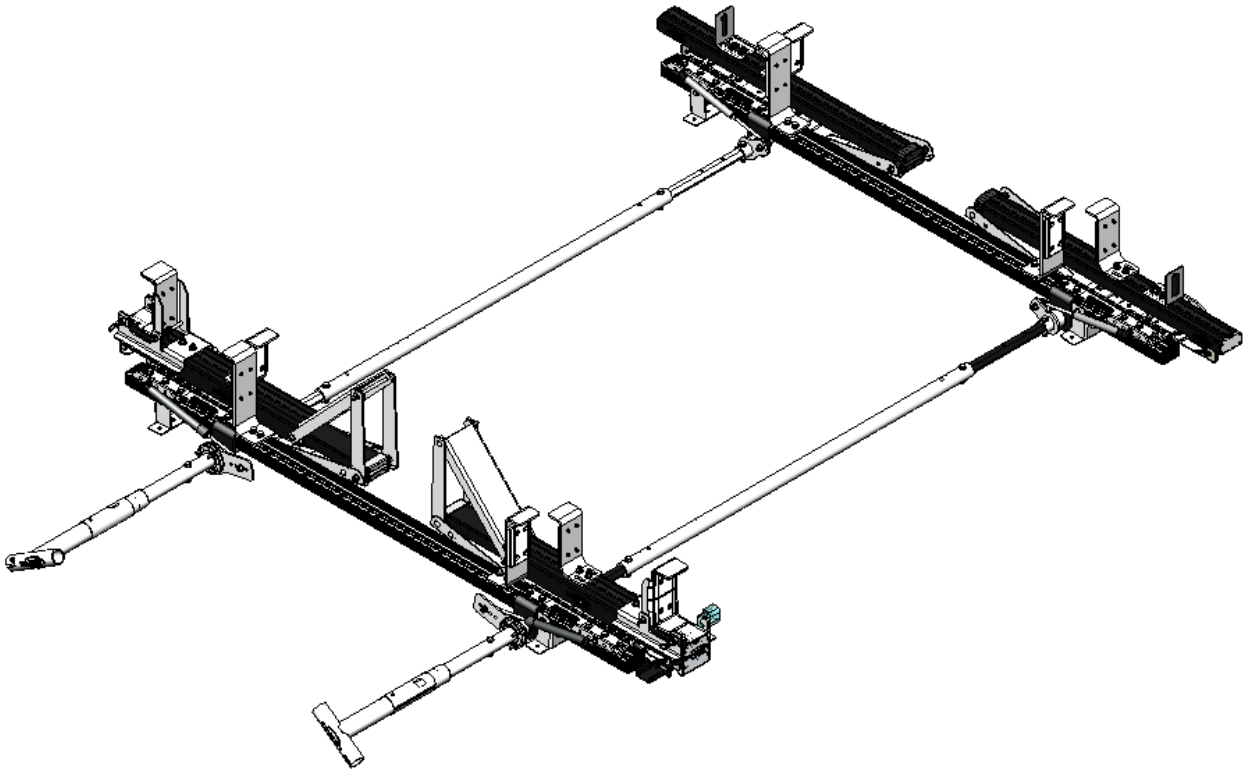
NOTE: Front & Rear Should have same dimension.

1" RECOMMENDED



1" RECOMMENDED





“You have successfully completed Operation 3
Max Rack Driver Side Mechanism!
Open the mounting track box, then follow the Install Guide of the mounting track to install the Max Rack on your vehicle.

Thank you for doing business with us.”

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

RANGER DESIGN

INSTALLATION GUIDE

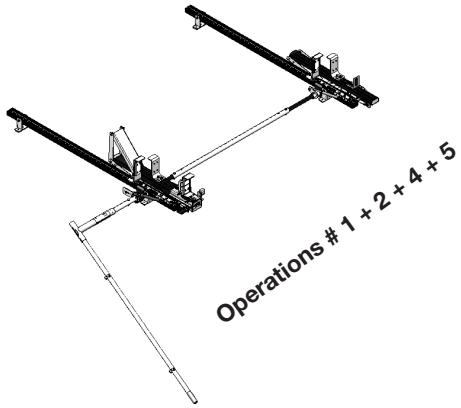
18-U0034 MOUNTING TRACKS

Ram ProMaster (159" Extended Wheelbase, High Roof)

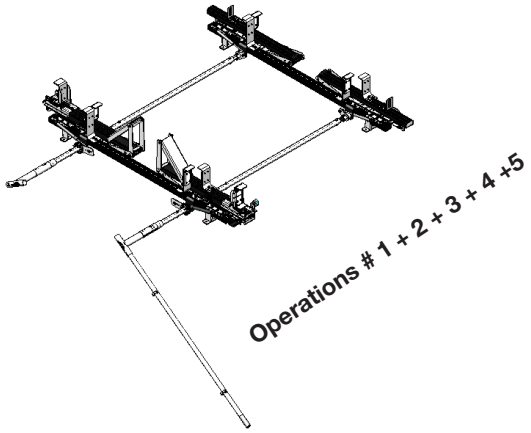
RANGER DESIGN

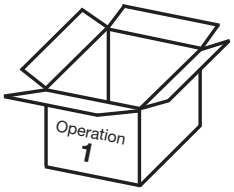
ORDER OF OPERATION

MAX RACK SINGLE SIDE

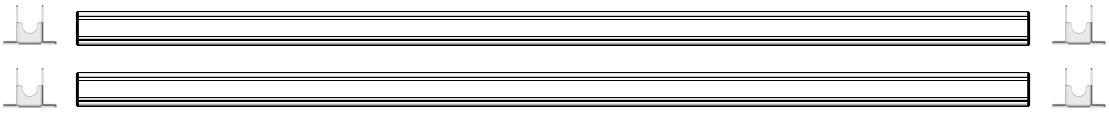


MAX RACK DOUBLE SIDE

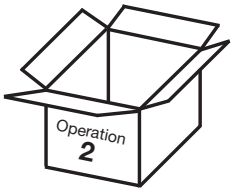


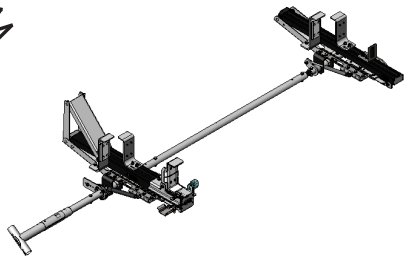


18-U1806

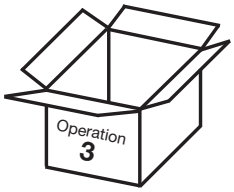


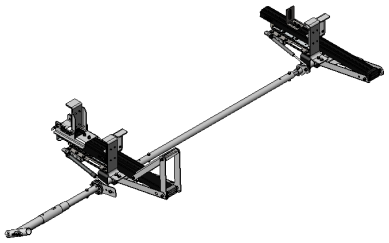
18-U1810



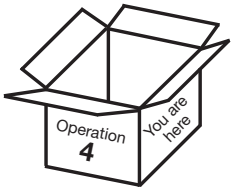


18-U1815

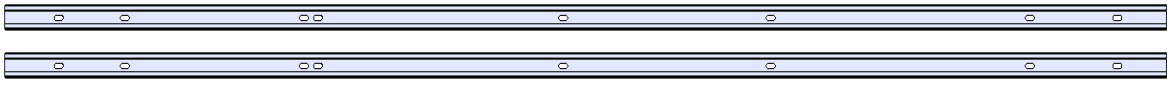


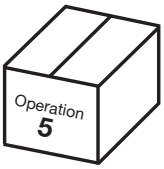


OPTIONAL: Applicable only for Max Rack Double Side.



MOUNTING TRACK





18-U1807

QUICK START GUIDE

Phase 1 - Assembly

❑ 1.1 Setup..... 4 TO 5

Phase 2 - Installation

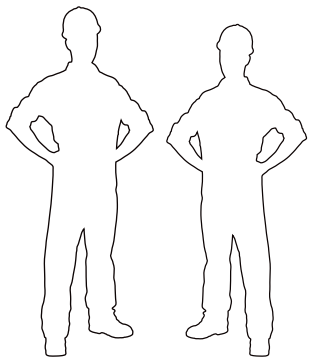
❑ 2.1 Mounting Tracks installation..... 6
❑ 2.2 Max Rack installation..... 7 TO 9

Phase 3 - Adjustment

❑ 3.1 Adjustment for Max Rack..... 10 TO 11

REQUIRED ITEMS FOR COMPLETE MAX RACK

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



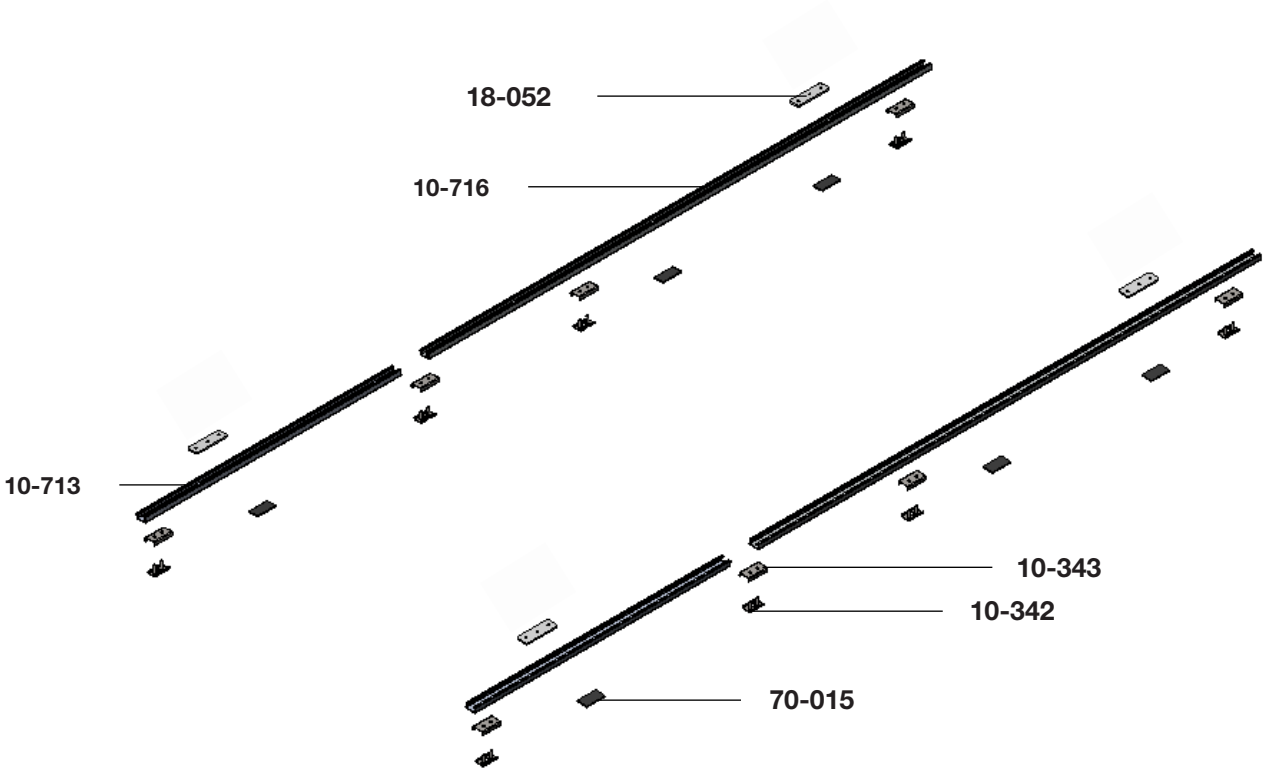
2 PERSONS

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

PHASE 1 – ASSEMBLY

1.1 SETUP

1.1.1 Unpack components; compare with the bill of materials.

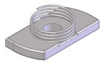


1.1.2 Verify all parts are present.

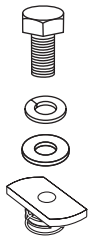
Item No.	Description	Qty.
10-716	Mounting Track 88.5" Long	2
10-713	Mounting Track 59" Long	2
18-052	Shim - Foot	4
10-342	Roof Clamp	8
10-343	Top Roof Clamp	8
70-015	Foam Sheet	6
96-0034	Fastener Kit	1

1.1.3 Identify the **Assembly** and **Installation** fastener bags.

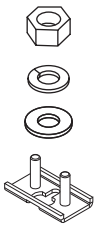
96-0034 → Fastener Assembly

8×		**# 90-209**	Hex Bolt 5/16"-18 × 1" SS304
16×		**# 94-105**	Hex Nut 5/16"-18 SS316wax
8×		**# 94-150**	Channel Nut 5/16"
24×		**# 98-117**	Flat Washer 5/16" OD, 3/4" SS18-8
24×		**# 98-123**	Lock Washer 5/16" SS304

8×



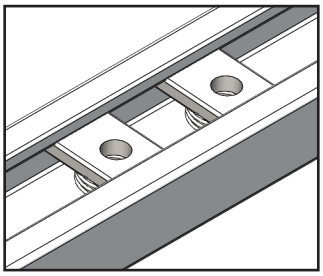
16×



PHASE 2 – INSTALLATION

2.1 MOUNTING TRACKS INSTALLATION

2.1.1 Install the channel nuts in the mounting tracks.



FASTENERS USED

8×

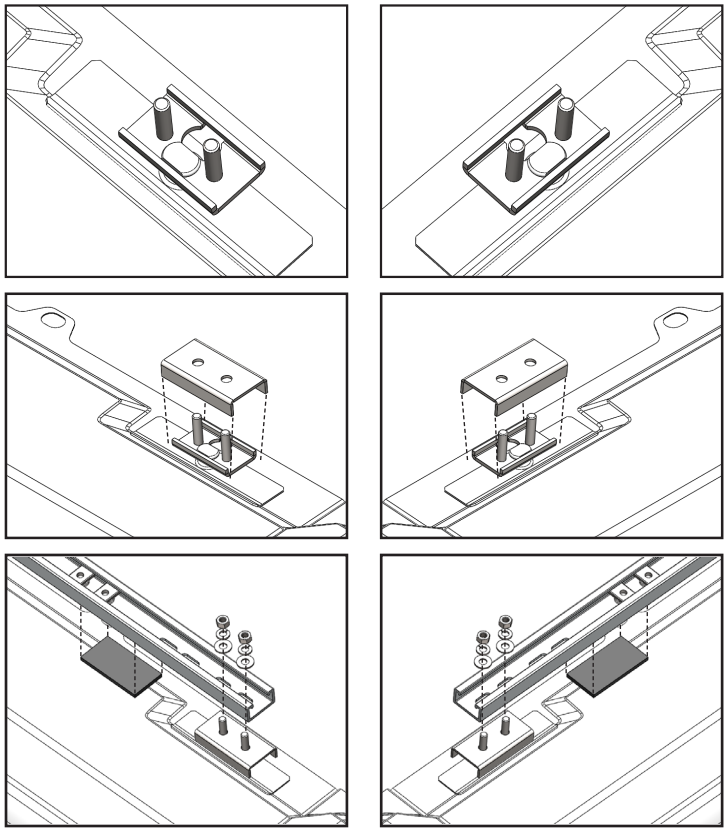
#94-150 Channel Nut

2.1.2 Install the mounting tracks onto the roof of the van.

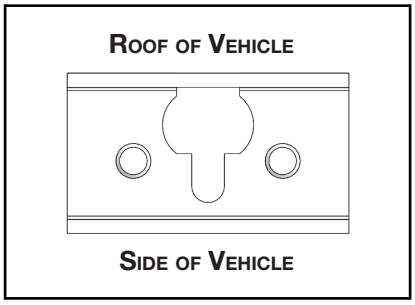
NOTE: Notice the orientations of the roof clamps, top roof clamps and the mounting tracks. The top roof clamp should lay flat on the roof clamp and not slant.

REAR VIEW

DRIVER SIDE **PASSENGER SIDE**



ROOF CLAMP ORIENTATION

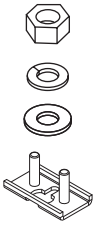


TOOLS

- ❑ Cordless Impact
- ❑ 1/2" Socket

FASTENERS USED

16×



#94-105 Hex Nut

#98-123 Lock Washer

#98-117 Flat Washer

Roof Clamp (8)

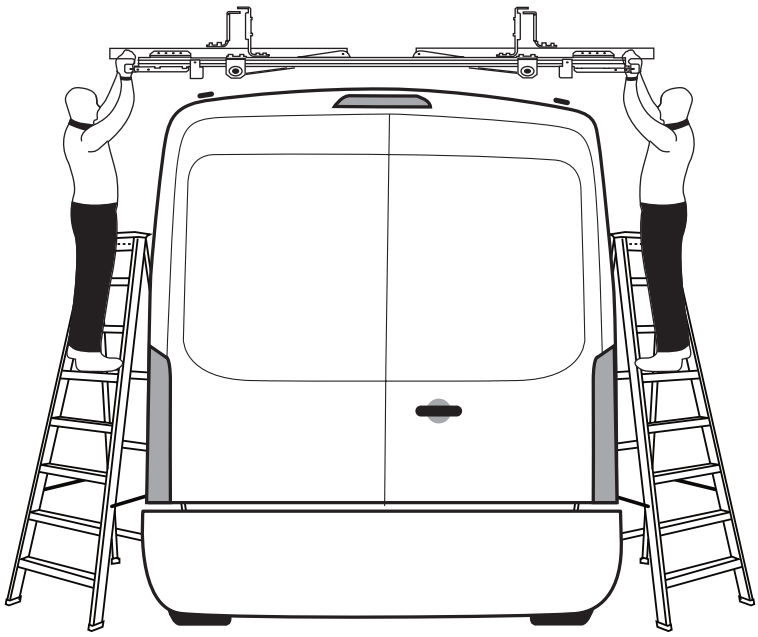
PHASE 2 – INSTALLATION

2.2 MAX RACK INSTALLATION

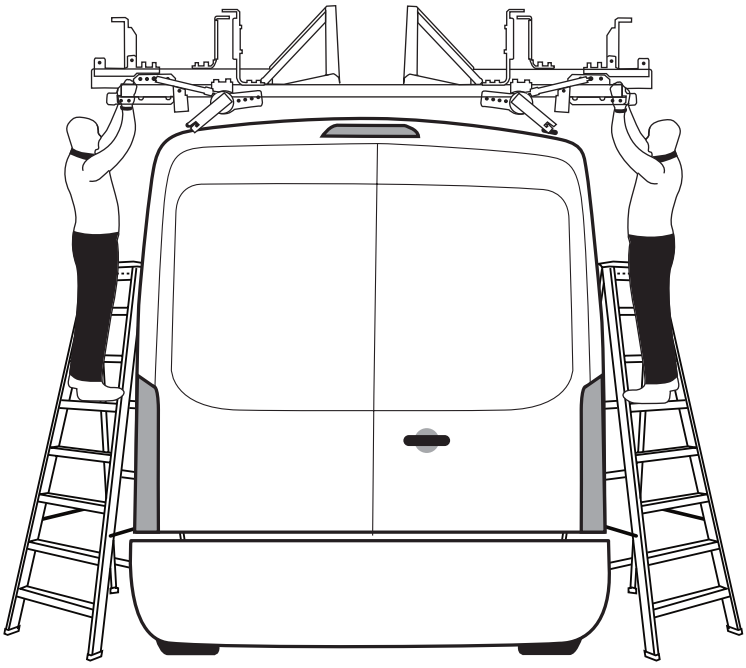
2.2.1 Position the Max Rack **(minimum two persons)** on the vehicle so that the feet are on the tracks.

NOTE: If you do not have an overhead lift, lift the front crossbar onto the roof first then the rear crossbar.

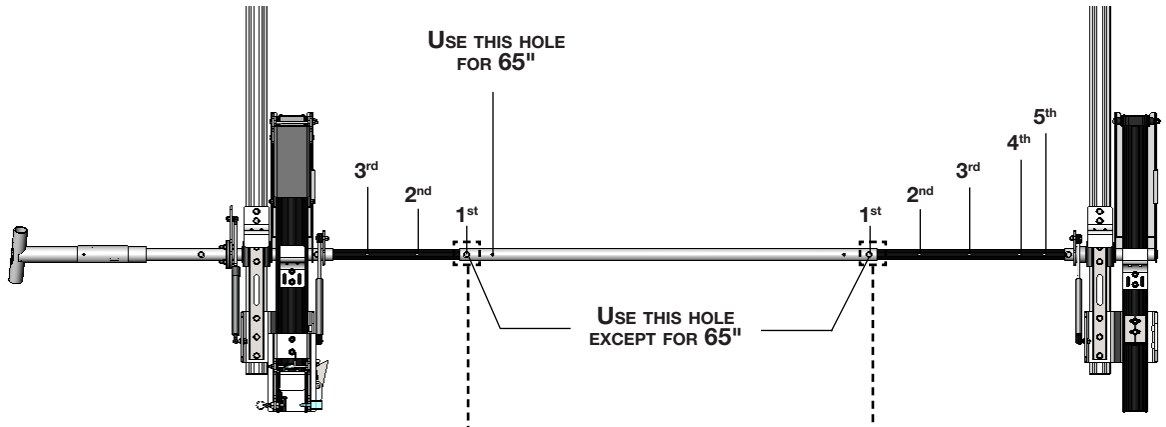
FRONT CROSSBOW

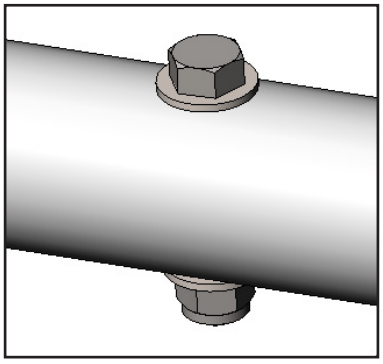


REAR CROSSBOW



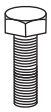
2.2.2 Attach the ends of the front and rear bars to the center tube.





FASTENERS USED

2× (17 ft • lbs)



#90-225 Hex Bolt 2"

#98-117 Flat Washer 5/16"

#98-117 Flat Washer 5/16"

#94-111 Lock Nut 5/16"

TOOLS

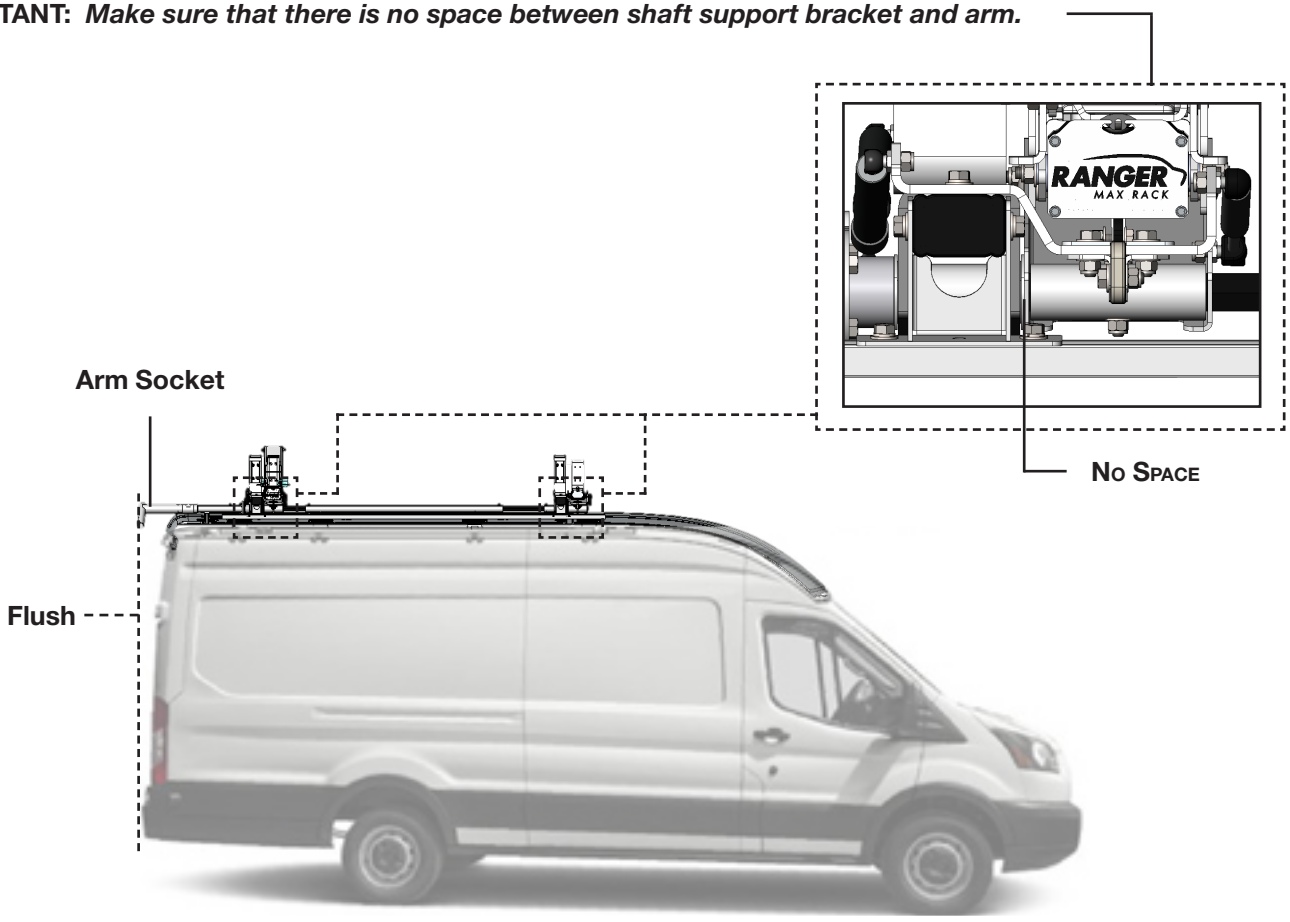
- ❑ Cordless Impact
- ❑ 1/2" Socket
- ❑ 1/2" Wrench

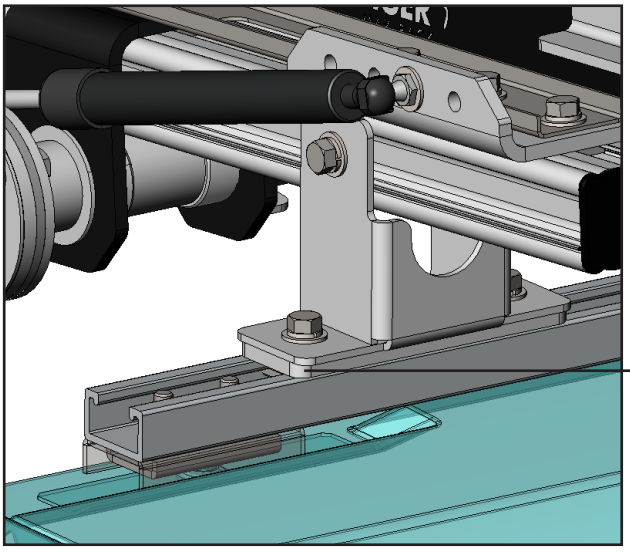
VEHICLE	CROSSBAR CENTER TO CENTER DISTANCE	LADDER SIZE
PROMASTER 159" EXT. WB (PHX)	MAXIMUM: 101" (1ST & 1ST HOLES)	MAXIMUM: EXTENSION 32', STEP 10'
	MINIMUM: 65" (5TH & 3RD HOLES)	MAXIMUM: EXTENSION 24', STEP 8'

2.2.3 • Align the arm socket to the rear bumper of the vehicle.
• Attach all the feet w/ shim to the mounting tracks.

NOTE: These conditions must be respected:
• The arm socket and the ladder cannot extend beyond the rear bumper of the vehicle.
• The center of the ladder must be behind the front hook when the ladder is loaded.

IMPORTANT: ***Make sure that there is no space between shaft support bracket and arm.***

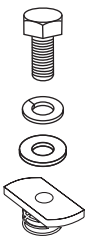




TOOLS
- ❑ Ratchet
- ❑ 1/2" Socket

FASTENERS USED

8×



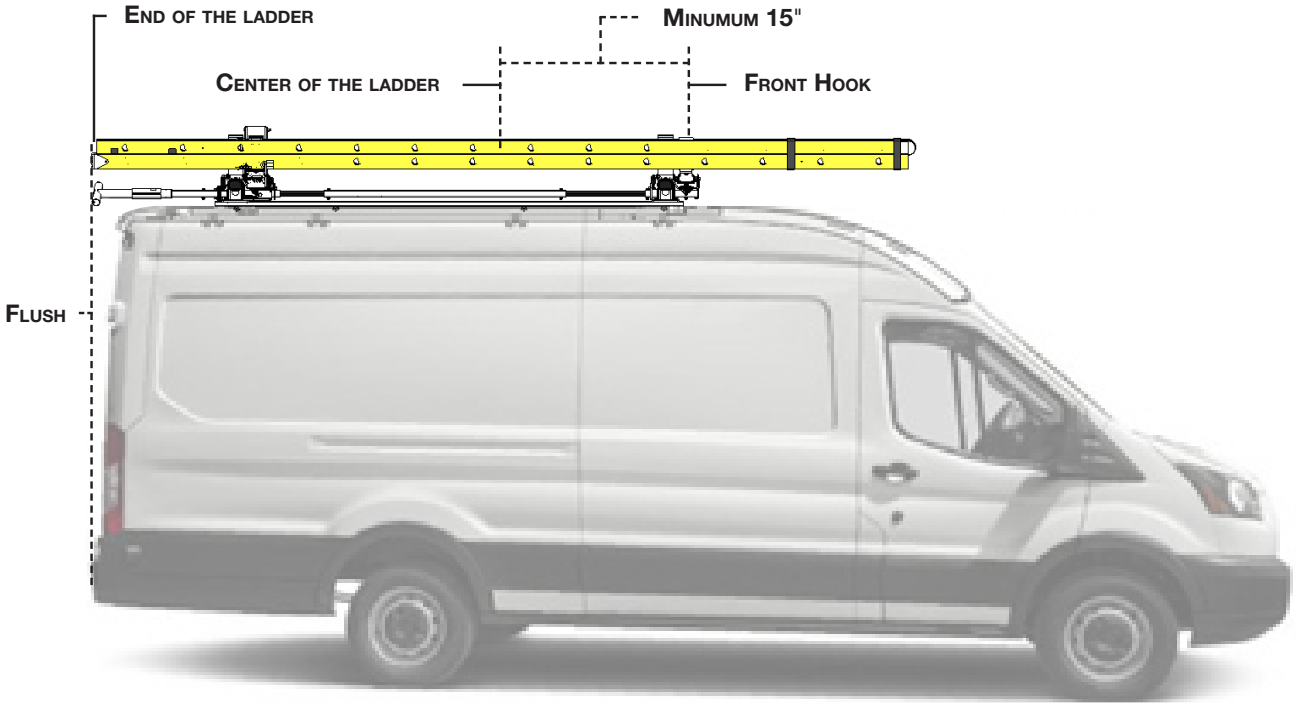
#90-209 Hex Bolt 5/16" × 1"
#98-123 Lock Washer
#98-117 Flat Washer
#94-150 Channel Nut

PHASE 3 – ADJUSTMENT

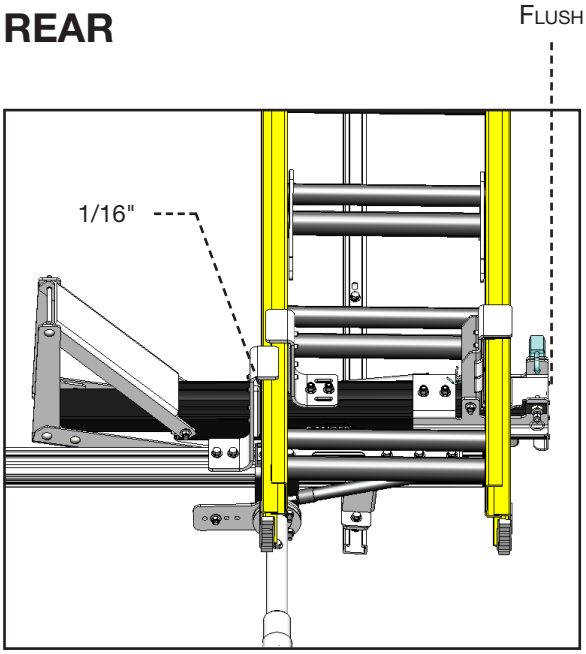
3.1 ADJUSTMENT FOR MAX RACK

3.1.1 • Place the Max Rack in the down position.
• Load the ladder onto the Max Rack.

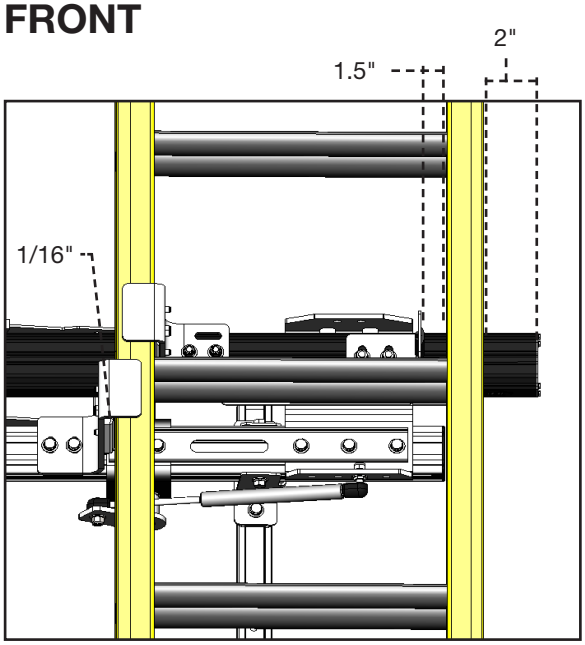
NOTE: These conditions must be respected:
• The arm socket and the ladder cannot extend beyond the rear bumper of the vehicle.
• The center of the ladder must be behind the front hook when the ladder is loaded.



REAR



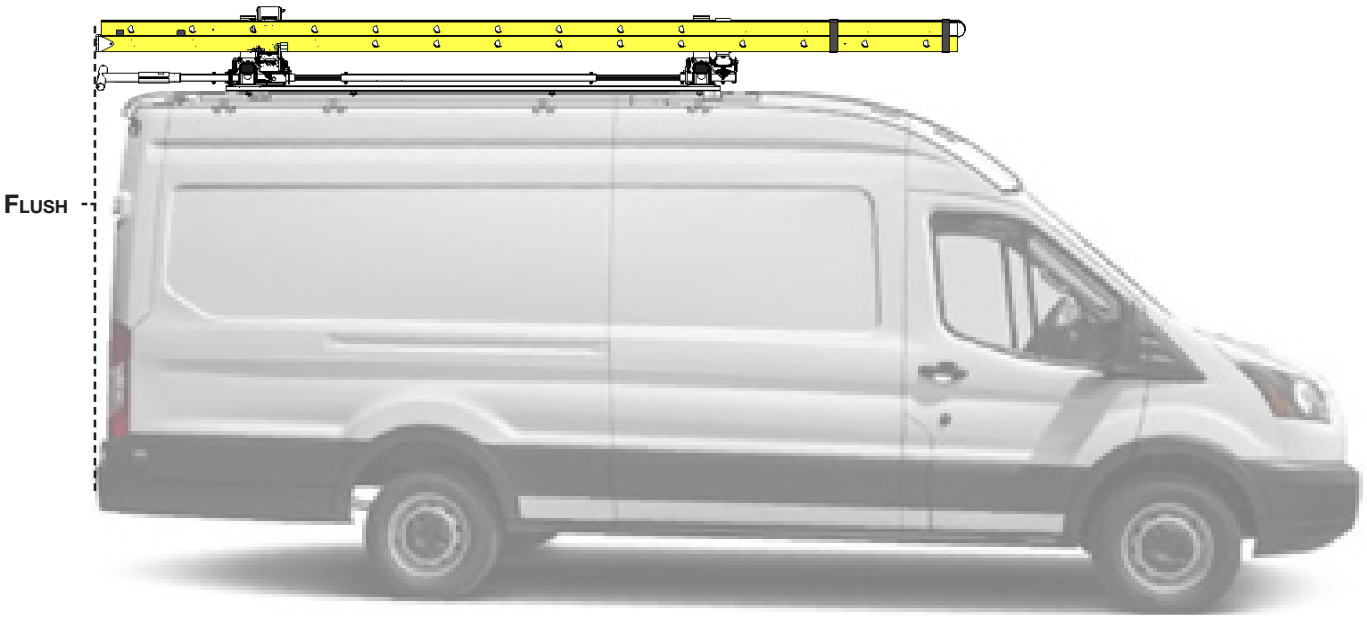
FRONT



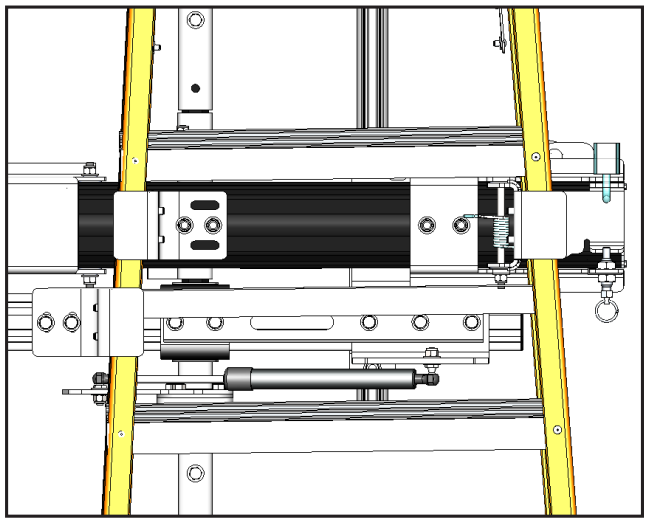
STEP LADDER INSTALLATION

NOTE: These conditions must be respected:

- The arm socket and the ladder cannot extend beyond the rear bumper of the vehicle.
- The center of the ladder must be behind the front hook when the ladder is loaded.

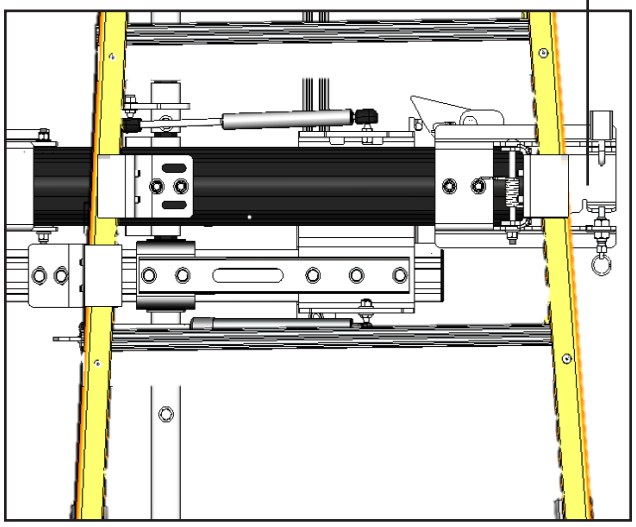


8' STEP LADDER

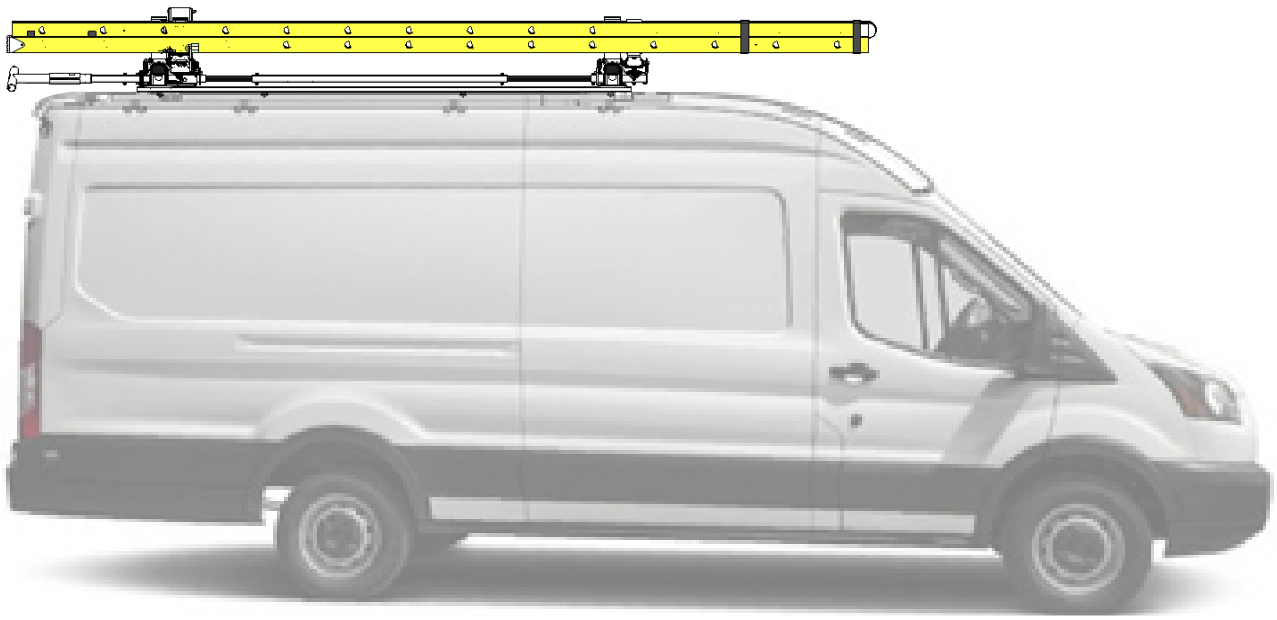


EXTEND

10' STEP LADDER



NOTE: • Ensure that everything is safely assembled and fastened.
• With the ladder locked, operate your Max Rack a few times, while carefully observing the moving parts.



“Congratulations, you have successfully installed your Mounting Tracks and your completed Rack on your vehicle!

Thank you for doing business with us.”

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

RANGER DESIGN