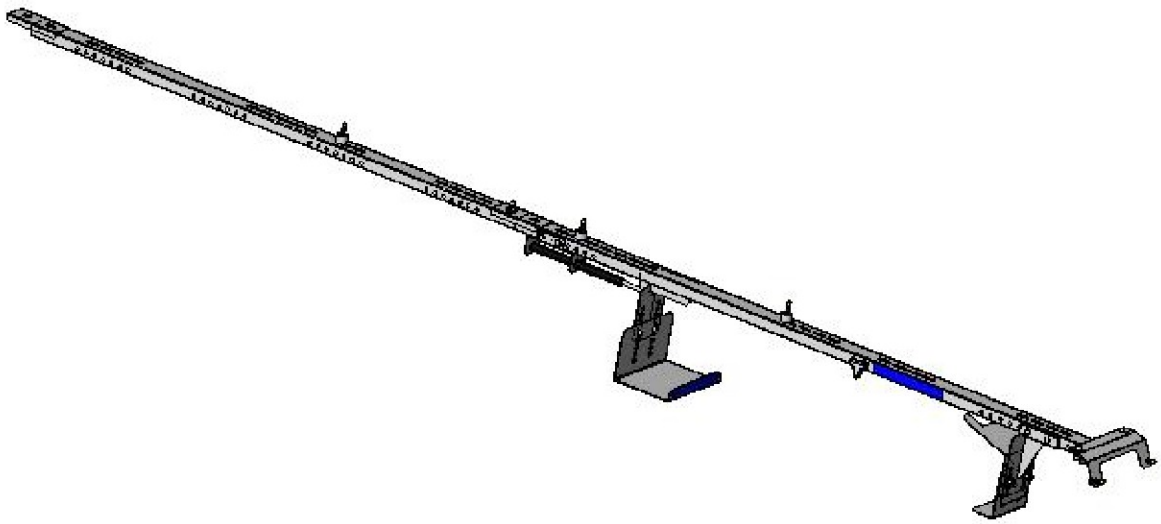
ADRIAN STEEL®
VAN AND PICKUP EQUIPMENT

LADDER KEEPER®

Assembly Instructions

FOR LK8 AND LKX LADDER KEEPERS

P.N.: 30260-0 ISSUE: C REV.BY: B.HENSON CHK.BY:_____ DWG.BY: MED DATE: 08/28/2012 ECN- 15014



LK8 – LADDER KEEPER, for ladders up to 8’

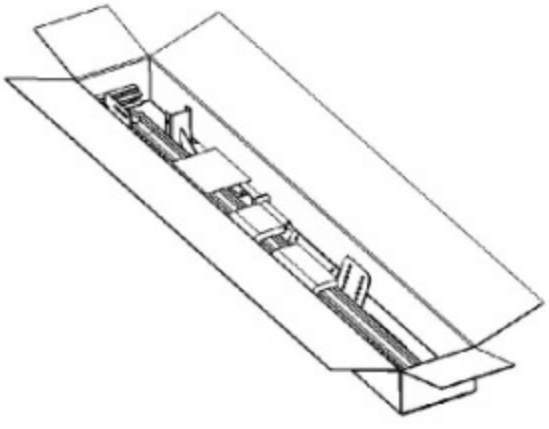
Also includes instructions for LKX!

For a list of ladders that the LADDER KEEPER will accommodate, see last page.

ADRIAN STEEL COMPANY • 906 JAMES ST. • ADRIAN, MI. 49221 • (517) 265-6194

LADDER KEEPER®

Your LADDER KEEPER® ladder rack is shipped to you as a boxed module. Upon opening your LADDER KEEPER® carton you should see the following:



BEFORE YOU START

STOP

IMPORTANT NOTES PERTAINING TO USER AND/OR PRODUCT SAFETY ARE DENOTED BY A STOP SIGN AND THEY MUST BE FOLLOWED IN ORDER TO COMPLETE A SAFE ASSEMBLY AND INSTALLATION!

STOP

YOU WILL NEED THE FOLLOWING TOOLS IN ORDER TO COMPLETE THIS JOB.

7/32" ALLEN WRENCH Ft. Lb. TOURQUE WRENCH	7/16", 1/2", & 9/16" COMBINATION END WRENCHES	3/8" DRILL BIT (w/Drill Stop)
RATCHET WRENCH, WITH 7/16", 1/2", & 9/16" SOCKETS	WARNING: DO NOT USE IMPACT TOOLS FOR ASSEMBLY!	

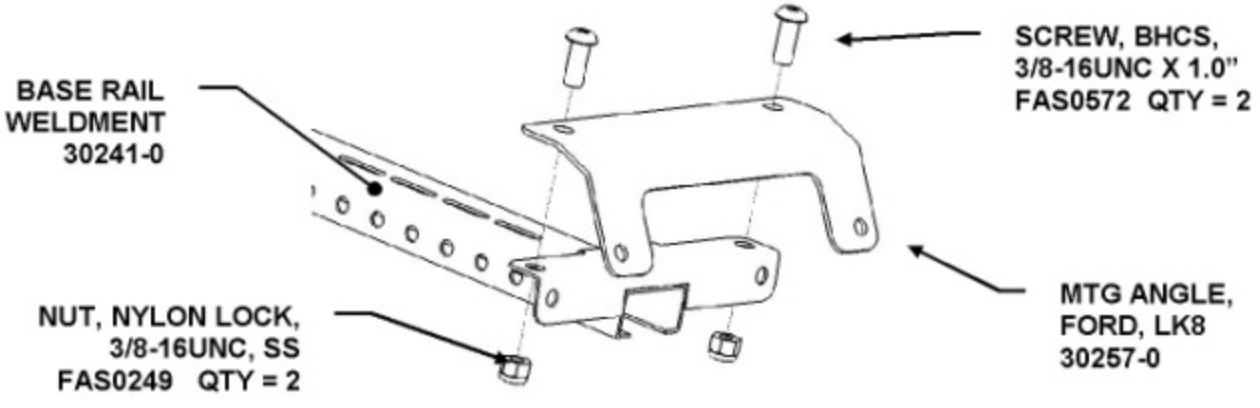
STOP

3/8" FASTENERS SHOULD BE TIGHTENED TO A TORQUE OF 18 FT. LBS.
5/16" FASTENERS SHOULD BE TIGHTENED TO A TORQUE OF 12 FT.LBS.
1/4" FASTENERS SHOULD BE TIGHTENED TO A TORQUE OF 8 FT. LBS.

THE USE OF AIR OR ELECTRIC IMPACT TOOLS FOR THE ASSEMBLY OF FASTENERS IS NOT RECOMMENDED AND COULD CAUSE FASTENER FAILURE!

STEP – 01 ATTACHING FORD MOUNTING ANGLE

Remove the Ladder Rack components from the shipping carton. If you are assembling this LADDER KEEPER® into a Ford full size van, locate the Ford mounting angle and attach to the Base Rail Weldment as shown below. If you are installing into a GM or Sprinter van, proceed to Step-02.



Remove the remaining parts box from the main carton and place it near your work area.

STEP – 02 MARK HOLES IN REAR HEADER

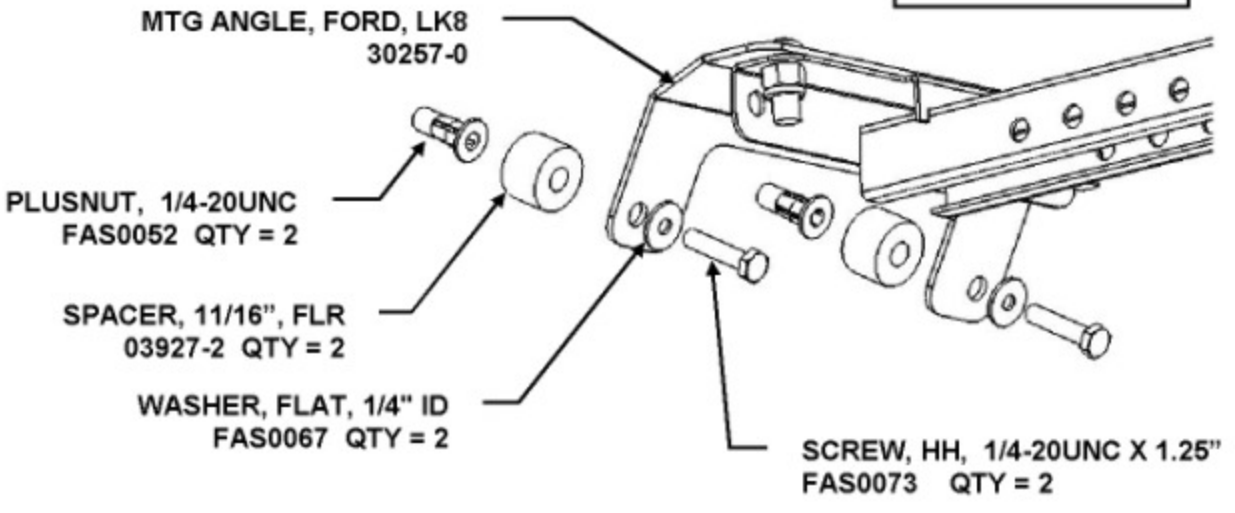
In the full size GM and Ford vans, we recommend installing the LK8 in the center of the roof, aligned with existing OEM center slot in roof bow. For the Ford, locate the mounting angle onto the rear header around the dome light and mark the (2) holes for drilling. For the GM van, locate the Base Rail Weldment centered on the rear header and mark the (2) holes for setting plusnuts.

STOP **WARNING!! PLEASE MAKE SURE NO WIRES ARE DAMAGED OR PINCHED WHEN MARKING HOLES OR INSTALLING INTO THE REAR HEADER!!** STOP

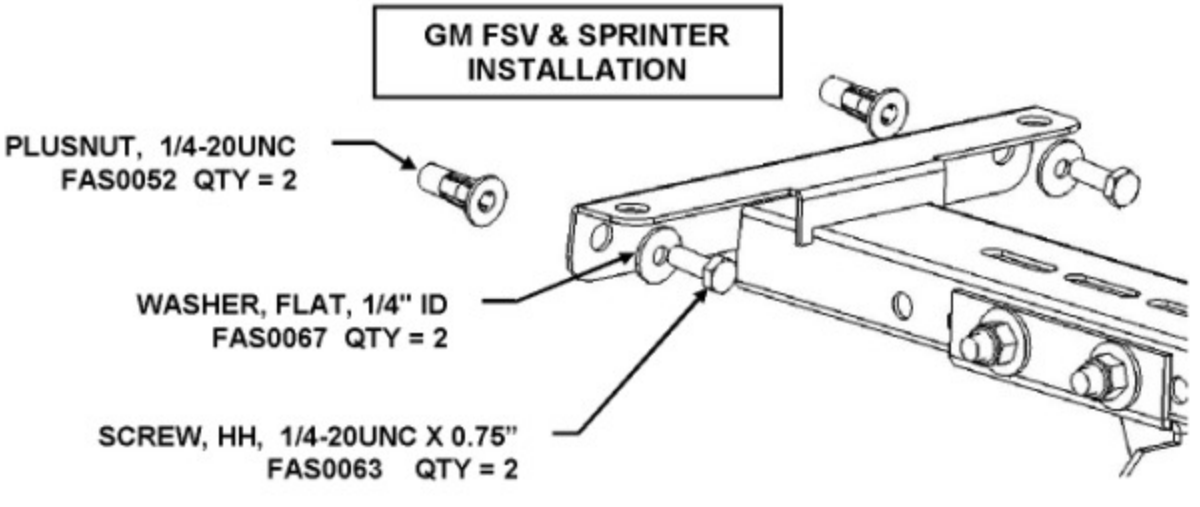
STEP – 03 DRILL HOLES AND ATTACH BASE RAIL WELDMENT

Center punch the holes for better control when drilling. Using a ⅜" drill bit with a drill stop, drill the (2) marked locations and set plusnuts in the holes.

FORD FSV INSTALLATION

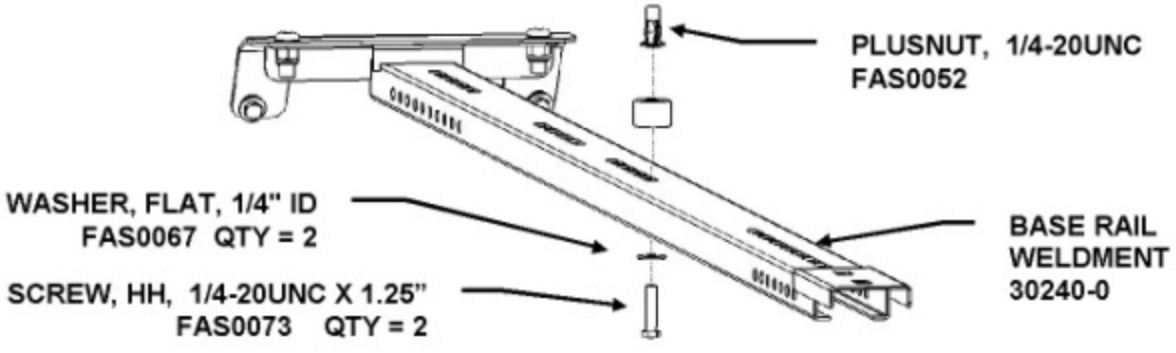


GM FSV & SPRINTER INSTALLATION

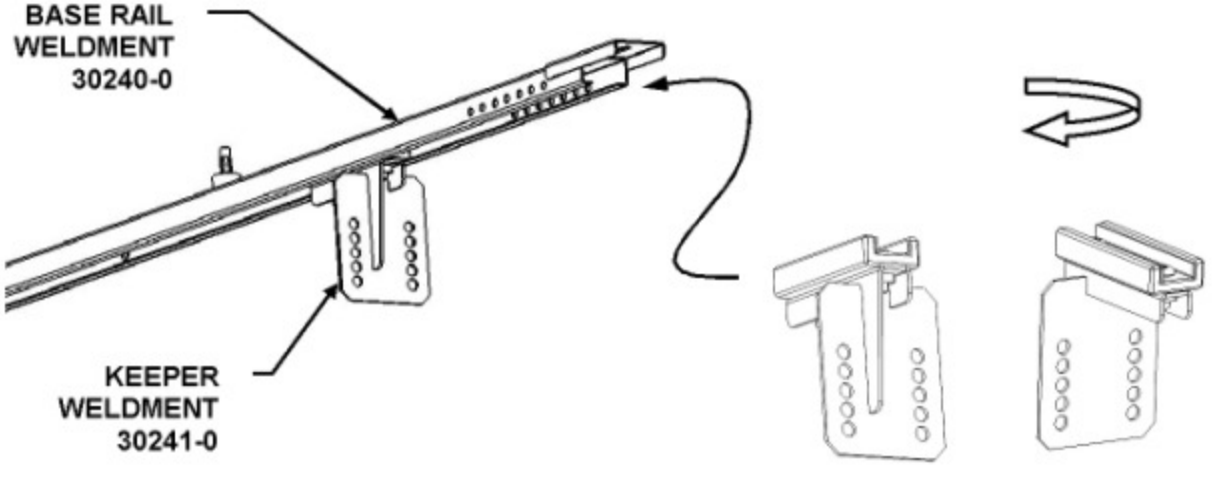


STEP – 03 DRILL HOLES AND ATTACH BASE RAIL WELDMENT (continued)

Mark and drill a hole in the roof bow and set a plusnut. If possible, use existing holes in roof bows and open up with the drill bit. *LOOSELY* attach the Base Rail Weldment to the rear header and the roof bow using the following fasteners:



Slide Keeper Weldment onto Base Rail Weldment and move towards rear header for use later.

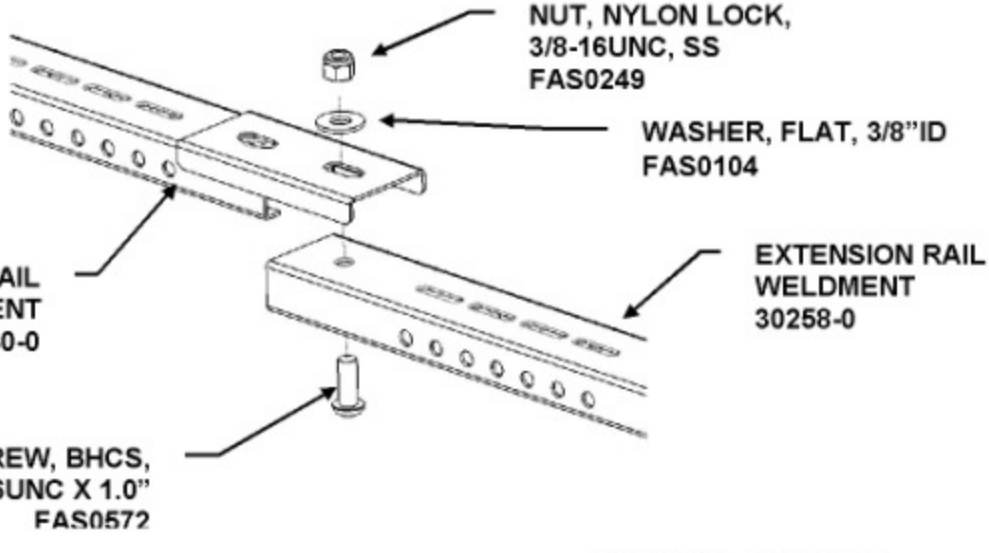


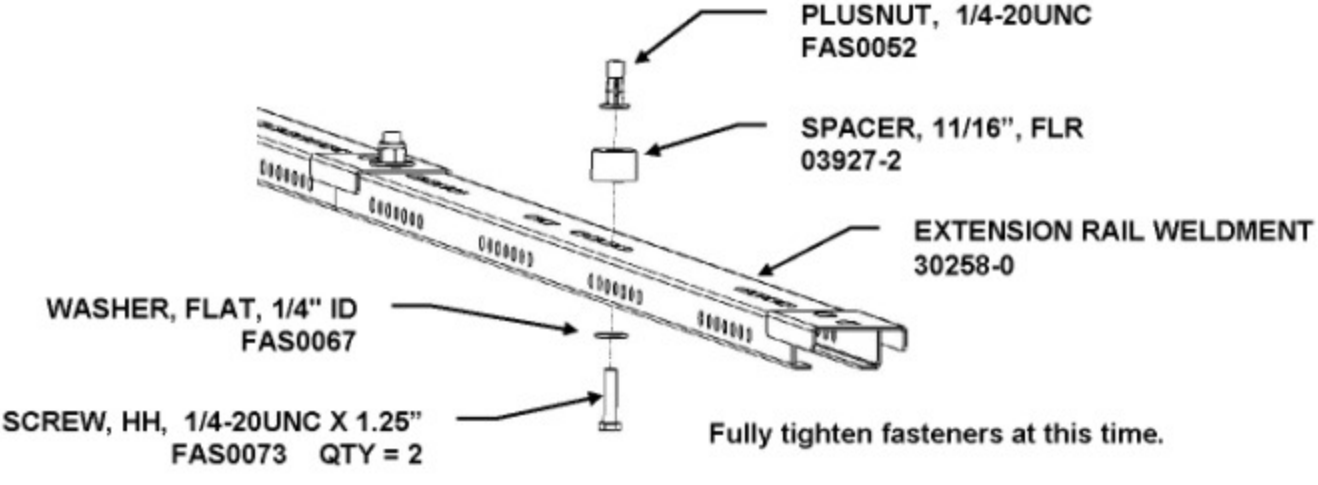
STEP- 04A **CONNECT EXTENSION RAIL WELDMENT**

NOTE:

THIS STEP COVERS INSTALLATION OF THE EXTENSION RAIL WELDMENT FOR THE FORD EXTENDED BODY FSV, GM EXTENDED WHEEL BASE FSV, & SPRINTER VANS. FOR THE FORD STANDARD BODY FSV PROCEED TO STEP 04B AND FOR THE GM LONG WHEEL BASE FSV PROCEED TO STEP 04C.

Align holes in Extension Rail Weldment with the holes in the end of the Base Rail Weldment and attach *LOOSELY*. Mark on roof bows where holes need to be drilled to set plusnuts. Remove Extension Rail Weldment and drill holes needed with ⅜" drill bit with drill stop. If possible, use existing holes in roof bows and open up with the drill bit. Attach in as many roof bow locations as possible.





Fully tighten fasteners at this time.

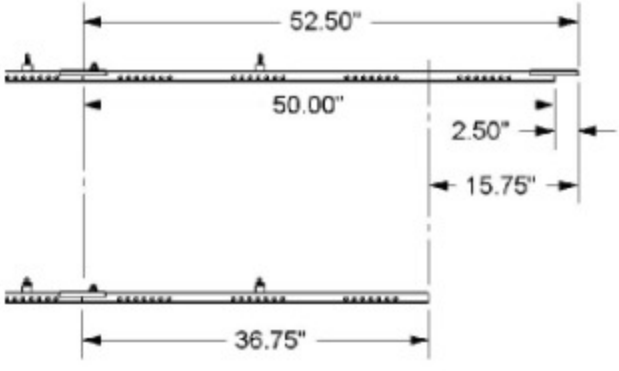
STEP- 04B **CONNECT EXTENSION RAIL WELDMENT**

NOTE:

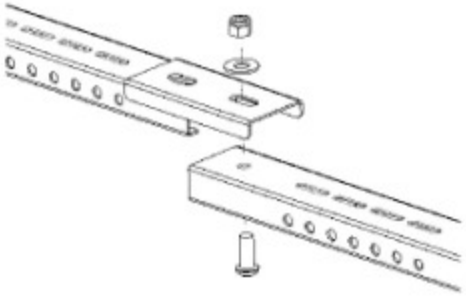
THIS STEP COVERS INSTALLATION OF THE EXTENSION RAIL WELDMENT FOR THE FORD STANDARD BODY FSV ONLY.

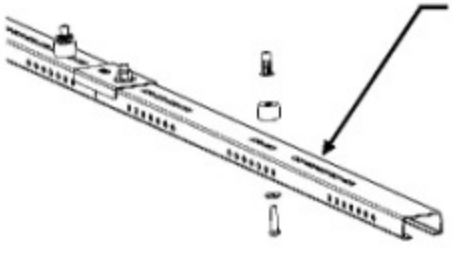
REWORK OF THE EXTENSION RAIL WELDMENT (ref: 30258-0) REQUIRED PRIOR TO ATTACHING TO THE BASE RAIL WELDMENT. TRIMMING THE LENGTH OF THE EXTENSION RAIL WELDMENT FROM: 52.50" TO: 36.75" PREVENTS THE END PROTRUDING INTO THE DRIVER / PASSENGER CAB AREA. FOR A 3" SET BACK, CUT RAIL DOWN TO 33.75".

AFTER CUTTING THE EXTENSIONS RAIL TO THE LENGTH SPECIFIED BELOW, GRIND (FILE) THE CUT EDGES SMOOTH, AND PAINT WITH GRAY TOUCH UP PAINT (ASCO PART NUMBER: STP 12G)



Align holes in Extension Rail Weldment with the holes in the end of the Base Rail Weldment and attach *LOOSELY*. Mark on roof bows where holes need to be drilled to set plusnuts. Remove Extension Rail Weldment and drill holes needed with ⅜" drill bit with drill stop. If possible, use existing holes in roof bows and open up with the drill bit. Attach in as many roof bow locations as possible.





MODIFIED (FORD) EXTENSION RAIL WELDMENT 30258-0 (36.75"lg)

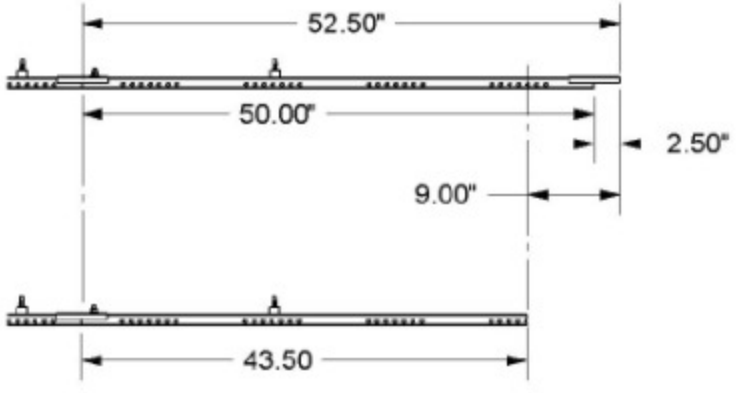
STEP- 04C **CONNECT EXTENSION RAIL WELDMENT**

NOTE:

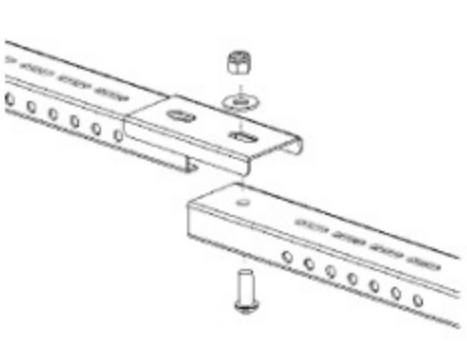
THIS STEP COVERS INSTALLATION OF THE EXTENSION RAIL WELDMENT FOR THE GM LONG WHEEL BASE FSV ONLY.

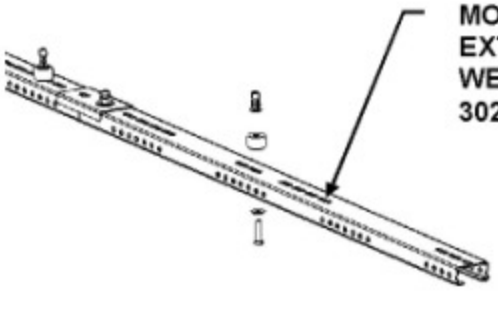
REWORK OF THE EXTENSION RAIL WELDMENT (ref: 30258-0) REQUIRED PRIOR TO ATTACHING TO THE BASE RAIL WELDMENT. TRIMMING THE LENGTH OF THE EXTENSION RAIL WELDMENT FROM: 52.50" TO: 43.50" PREVENTS THE END PROTRUDING INTO THE DRIVER / PASSENGER CAB AREA. FOR A 3" SET BACK, CUT RAIL DOWN TO 40.50"

AFTER CUTTING THE EXTENSIONS RAIL TO THE LENGTH SPECIFIED BELOW, GRIND (FILE) THE CUT EDGES SMOOTH, AND PAINT WITH GRAY TOUCH UP PAINT (ASCO PART NUMBER: STP 12G).

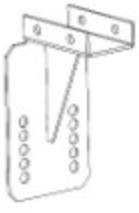
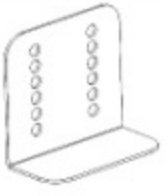
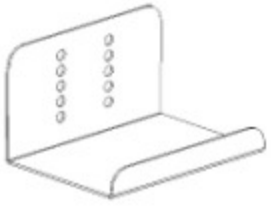


Align holes in Extension Rail Weldment with the holes in the end of the Base Rail Weldment and attach *LOOSELY*. Mark on roof bows where holes need to be drilled to set plusnuts. Remove Extension Rail Weldment and drill holes needed with ⅜" drill bit with drill stop. If possible, use existing holes in roof bows and open up with the drill bit. Attach in as many roof bow locations as possible.



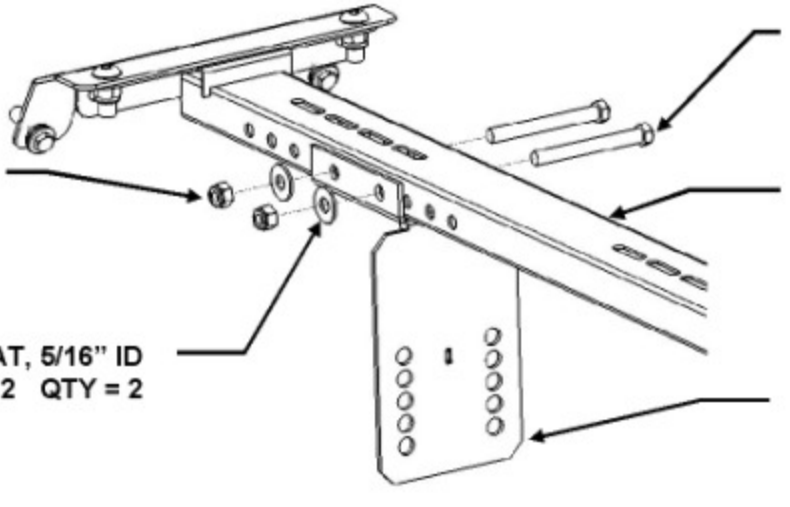


Remove the following parts from the carton and attach ***ALL LOOSELY!***

 **STOP WELDMENT-LK8 30263-0**	 **LADDER SNUBBER-LK8 30253-0**	 **LADDER STOP-LK8 30254-0**
 **LADDER KEEPER-LK8 30244-0**	 **GAS SPRING ASSEMBLY-LK8 30261-0**	NOTE: All but the Gas Spring Assembly will be partially or entirely coated in yellow plastisol.

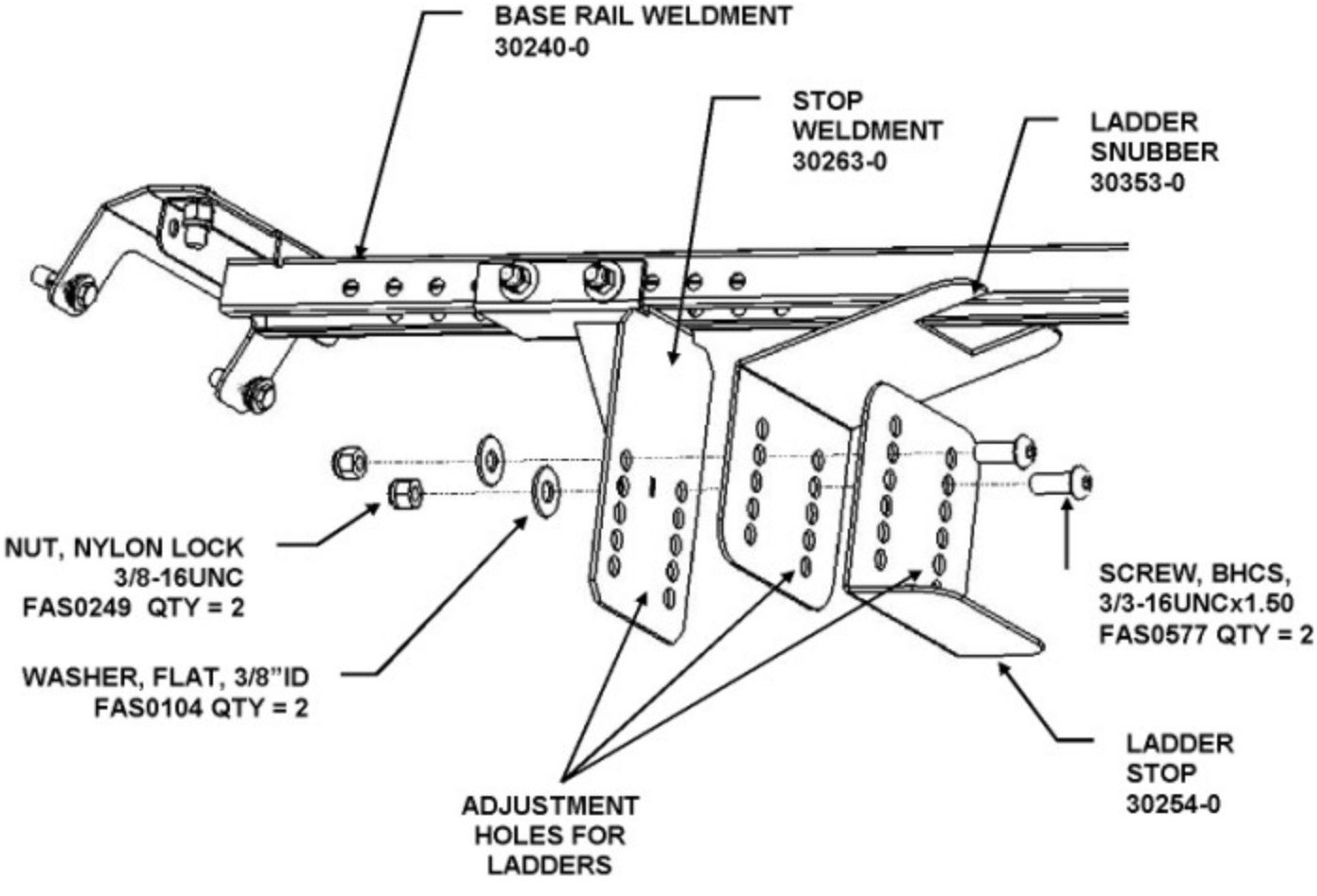
STEP - 05 **ATTACHING STOP WELDMENT**

Locate Stop Weldment as close to the rear doors as possible and attach to the rear position of the Base Rail Weldment. Do not fully tighten. Make sure the Keeper Weldment that was slid on earlier is *IN FRONT* of the Stop Weldment!



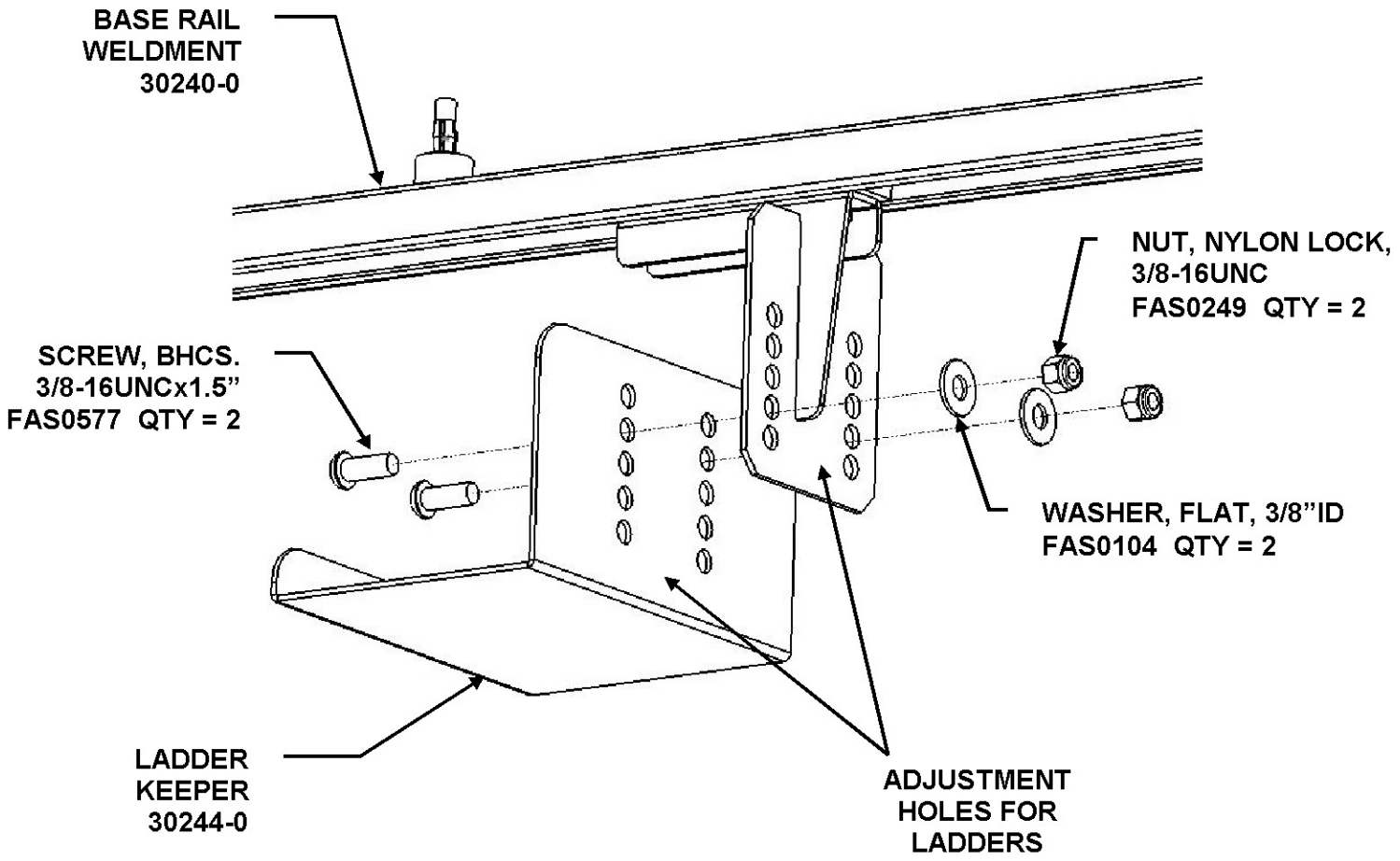
STEP - 05 **ATTACHING STOP WELDMENT cont'd**

Locate Ladder Snubber and Ladder Stop and attach to the Stop Weldment. Do not fully tighten.



STEP - 06 **ATTACHING STOP WELDMENT cont'd**

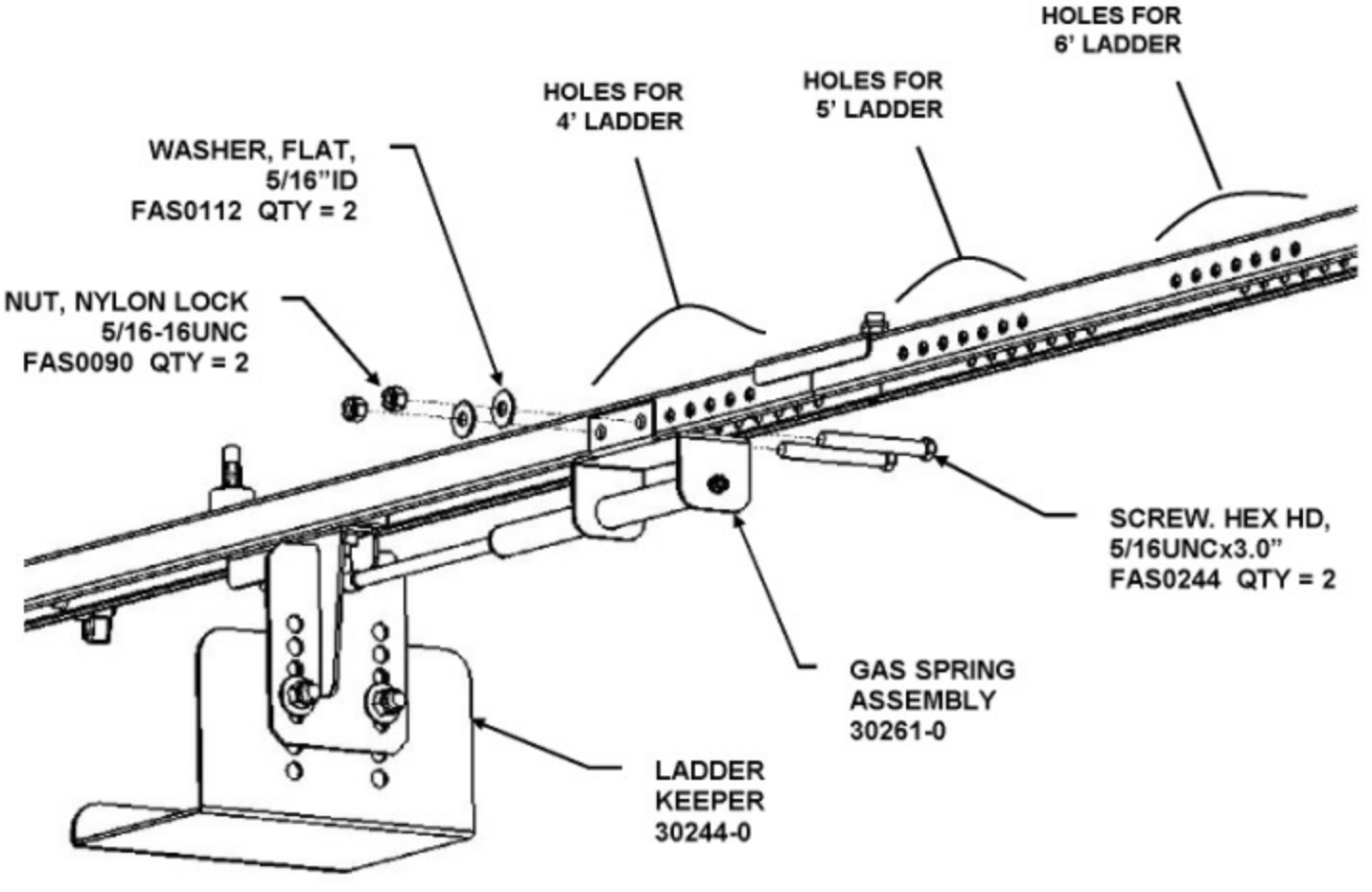
Locate Ladder Keeper and attach to the Keeper Weldment. Do not fully tighten.



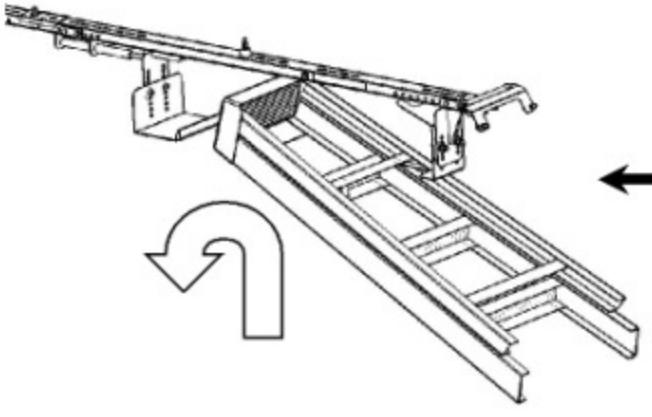
STEP – 07

ATTACHING GAS SPRING ASSEMBLY

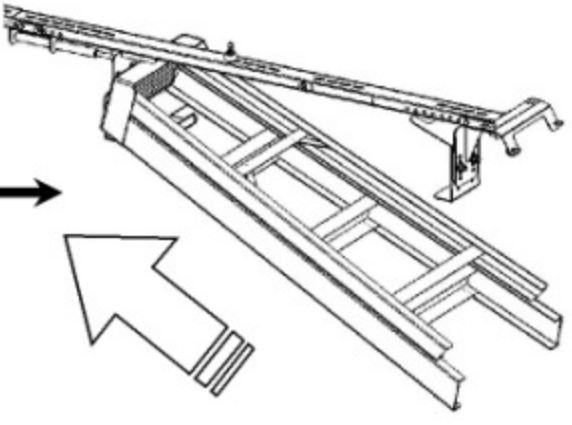
Locate Gas Spring Assembly and choose where to install. There are four (4) sets of holes that accommodate ladders 4 feet through 8 feet in length. In Ford and GM regular wheelbase vans, the LK8 will accept ladders up to 7' in length. Do not fully tighten.



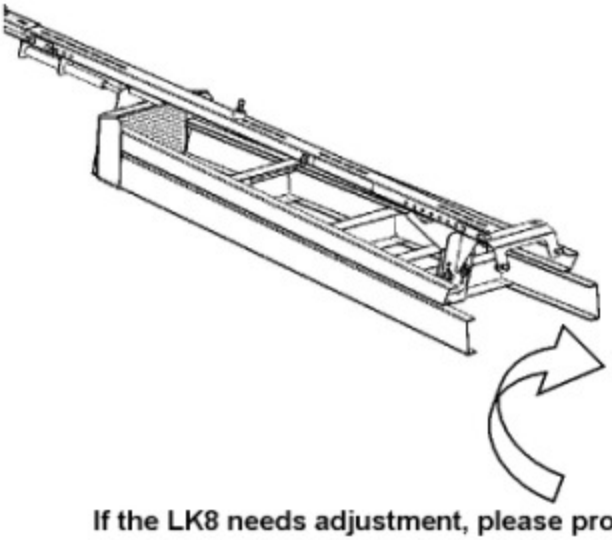
STEP – 08 **LOADING YOUR LADDER**



Begin by placing the head of your ladder onto the Keeper Assembly.



Push forward to compress the Gas Spring Assembly.



Place the bottom rungs of the ladder onto the Stop Weldment. Ideally, the Gas Spring Assembly should keep the ladder snug against the Stop Weldment.

If the LK8 needs adjustment, please proceed to Step-09 on the next page.

STEP – 09 ADJUSTING FOR YOUR LADDER

All brackets that will hold the ladder should have been attached so that the fasteners are loose. This was done to make adjusting for your particular ladder easier.

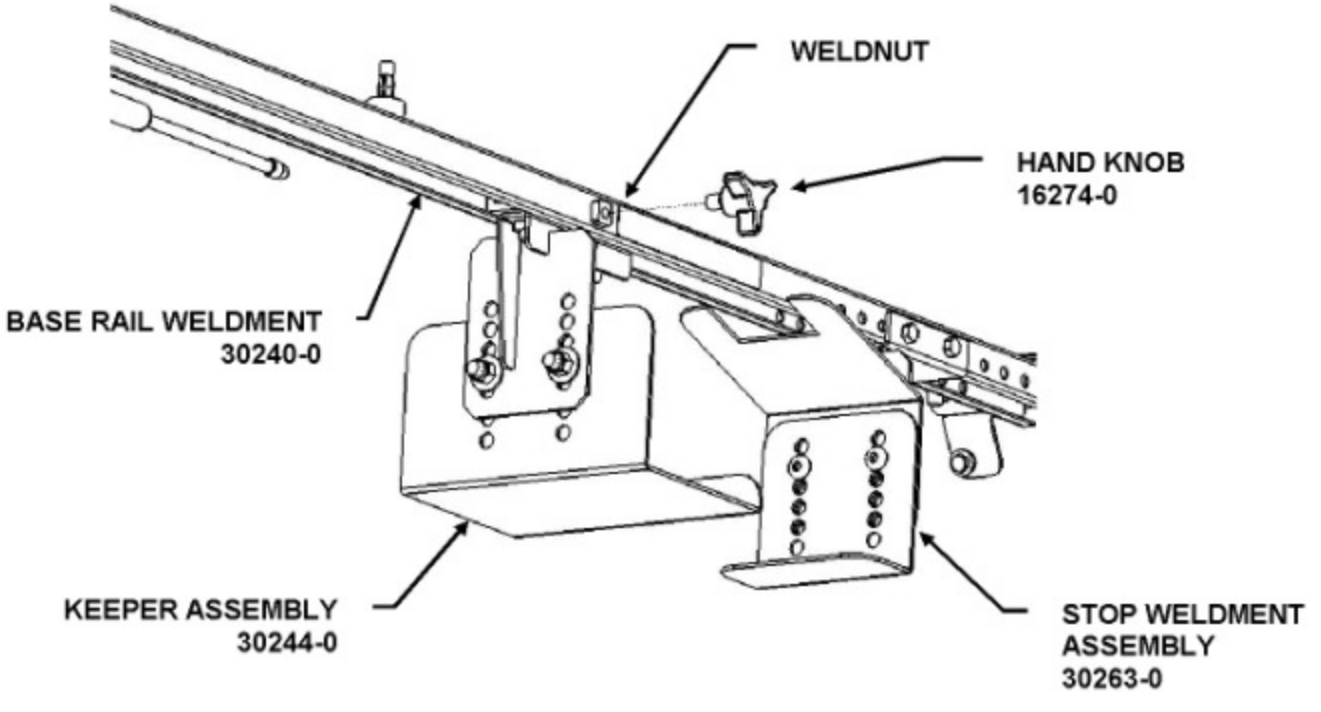
To adjust for the length of your ladder, first adjust the placement of the Gas Spring Assembly on the Base Rail Weldment (page 12, Step-07). If further adjustment needs to be made, move the location of the Stop Weldment (page 9, Step-05). Please make sure there is proper clearance for the rear doors to close.

Additional adjustments should also be made to enclose the head and bottom rungs of the ladder within the brackets. Adjust the Ladder Keeper to fully accommodate the head of your ladder (page 11, Step-06). Then adjust the Ladder Snubber and Ladder Stop to fully enclose the bottom rungs of your ladder (page 10, Step-05).

The ladder should now be held securely by the LK8. You may now completely tighten the fasteners.

STEP – 10 HAND KNOB

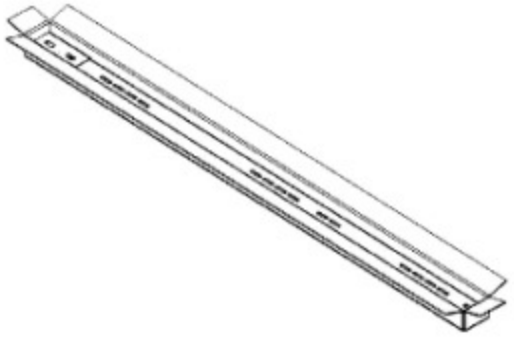
When no ladder is being held by the LK8, a Hand Knob is provided to prevent the Ladder Keeper from sliding back and forth during normal driving conditions. Slide the Ladder Keeper toward the fixed Stop Weldment Assembly and position as shown below. Secure in place by hand tightening the Hand Knob to prevent the Ladder Keeper from sliding during vehicle operation.



If you are not installing an LKX, proceed to page 17.

If you are also installing the LKX-Ladder Keeper Extension, please continue below.

Your LADDER KEEPER EXTENSION® ladder rack is shipped to you as a boxed kit. Upon opening your LADDER KEEPER EXTENSION® carton you should see the following:



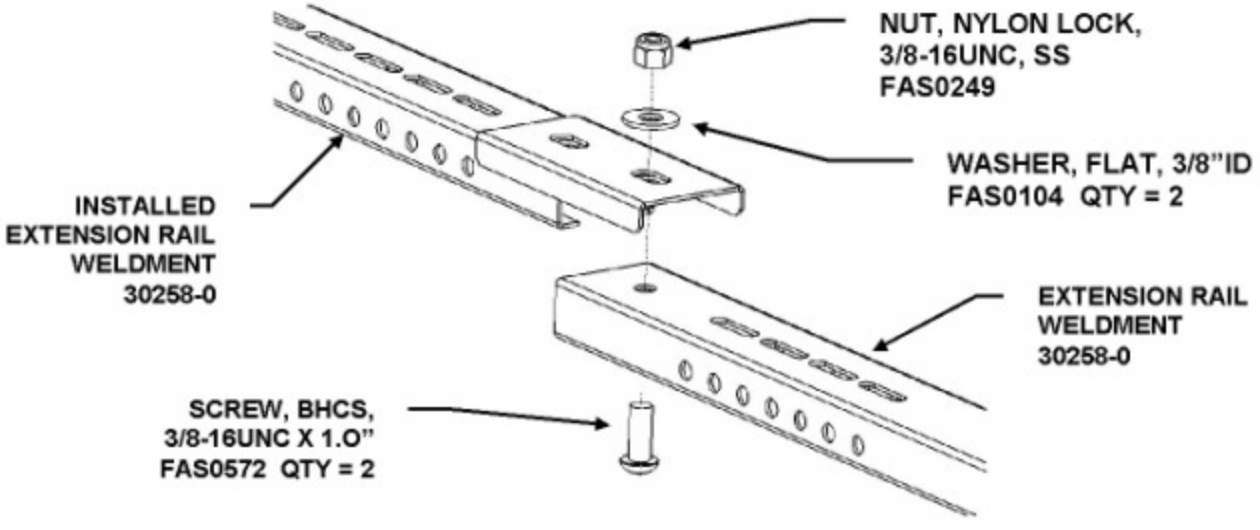
LKX – LADDER KEEPER EXTENSION, for ladders up to 12'

STEP – 11 CONNECT EXTENSION RAIL WELDMENT

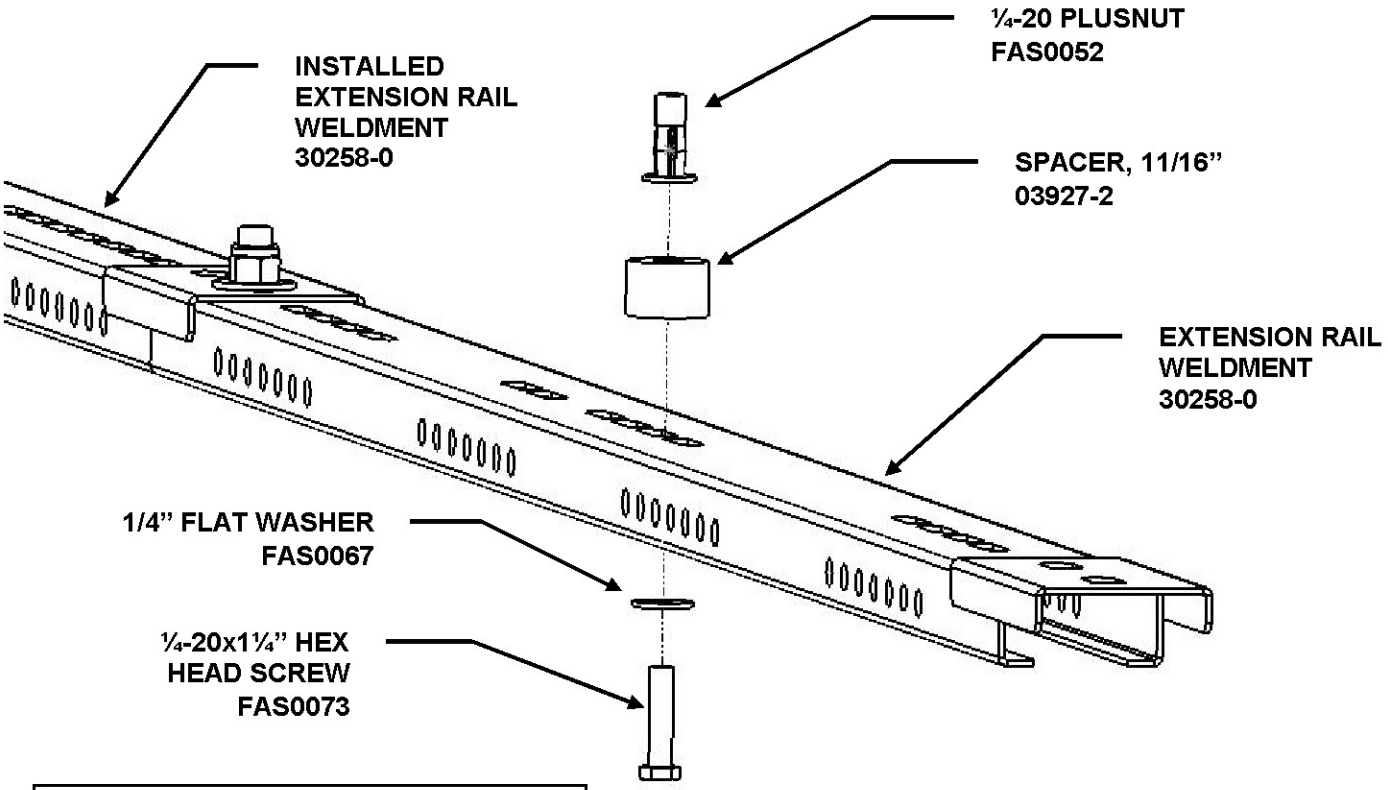
Align holes in Extension Rail Weldment with the holes in the end of the installed Extension Rail Weldment and attach *LOOSELY*. Mark on roof bows where holes need to be drilled to set plusnuts. Remove Extension Rail Weldment and drill holes needed with ⅜" drill bit with drill stop. If possible, use existing holes in roof bows and open up with the drill bit. Attach in as many roof bow locations as possible.

NOTE:

If this LK8 kit was modified (shortened) for a Ford or GM FSV (see Step 4A, 4B, & 4C) this extension kit will not mount as shown below unless a hole is drilled to attaché extension rials.



STEP – 11 **CONNECT EXTENSION RAIL WELDMENT, cont'd**



Fully tighten fasteners at this time.

If you are installing an LKX and have completed Step-11, return to STEP 5, pp 9 and continue with the installation.

THIS COMPLETE INSTRUCTION MANUAL MUST BE PRESENTED TO THE END USER WHEN DELIVERING THE INSTALLED PRODUCT!

It is advised that "All Fasteners" used in the assembly and installation of this Ladder Rack System be "checked for tightness" at the following intervals:

At 2 Weeks of Operation.
and again
At 6 Weeks of Operation.

Assembly fasteners could loosen due to vibration through your vehicle while on the road or in and out of construction sites.

This preventative maintenance step must be completed to ensure your Ladder Rack System gives you long service life.

Failure to complete this required safety inspection at prescribed intervals "could" void your product warranty.

THIS COMPLETE INSTRUCTION MANUAL MUST BE PRESENTED TO THE END USER WHEN DELIVERING THE INSTALLED PRODUCT!

THIS COMPLETES THE ASSEMBLY OF YOUR LADDER KEEPER® LADDER RACK.

LADDER KEEPER CAPACITY CHART

STEP LADDER CAPACITY			
VEHICLE		STEP LADDER CAPACITY	
MAKE	MODEL	MAX LADDER SIZE	REQUIRED KIT(S)
CHEVY	STD.	6'	LK8
CHEVY	EXT.	8'	LK8
FORD	STD	6'	LK8
FORD	EXT.	8'	LK8
SPRINTER	118" WB	6'	LK8
	140" or 141"	8'	LK8
	158"	12'	LK8 + (1 ea. LKX)

EXTENSION LADDER CAPACITY			
VEHICLE		EXTENSION LADDER CAPACITY	
MAKE	MODEL	MAX LADDER SIZE	REQUIRED KIT(S)
CHEVY	STD.	N/A	LK8
CHEVY	EXT.	16'	LK8
FORD	STD	N/A	LK8
FORD	EXT.	16'	LK-8
SPRINTER	118" WB	12'	LK8
	140" or 141"	16'	LK8
	158"	24'	LK8 + (1 ea. LKX)

ADRIAN STEEL COMPANY

22200-1

906 JAMES STREET, ADRIAN MICHIGAN 49221, PHONE 517-265-6194

VAN/TRUCK VEHICLE INTERIOR AND FASTENER INSTALLATION PROCEDURE

A. FASTENER APPLICATION STANDARD

The proper fastening method in all cases should be good metal to metal contact, using the fasteners supplied with Adrian's prepackaged arrangements.

1. Use nut and bolt through in all locations where possible.
2. Use a plusnut in all blind locations where nut and bolt is not possible.
3. The use of sheet metal screws is discouraged, except when nut & bolt or plusnuts can not be applied, and when this type of fastener can be applied in such a manner that places it in shear, or allows for several in close formation.

B. GENERAL INTERIOR ASSEMBLY AND INSTALLATION PROCEDURE

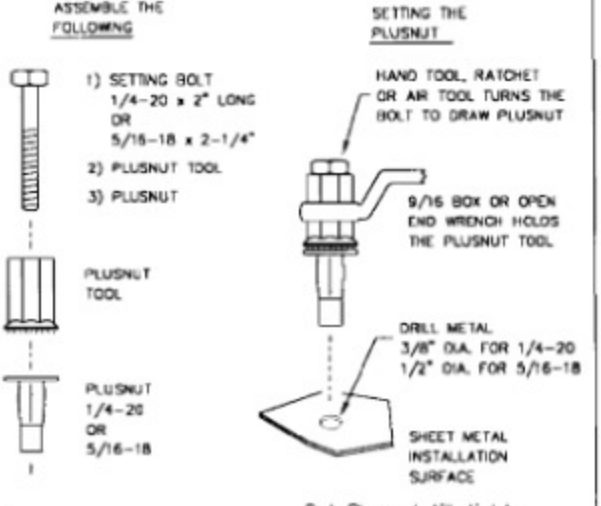
Adrian Steel interior arrangements are usually illustrated on a product data sheet which shows the correct orientation of all components in your vehicle.

1. Use the assembly instructions sent with the components to pre-assemble any that may require it, ladder racks, cab/cargo partition, knock-down units, and modules.
2. All Adrian prepackaged interiors, except those for pickup bed boxes, include a cab/cargo partition. The partition should be installed first, using the instructions packed with it.
3. Next install the street side components. If the spare is being relocated to the panel behind the drivers seat, leave at least 10" between the partition and the first component on that side. Always set all the components in place before drilling to install. This allows you to check for obstructions on the vehicle that might require adjustments to the component positioning.
4. Next install the curb side components. Relocate the spare tire, if present, to the panel behind the driver or passenger seats.

C. SPECIAL INSTRUCTIONS FOR ADRIAN STEEL PROVIDED FASTENERS

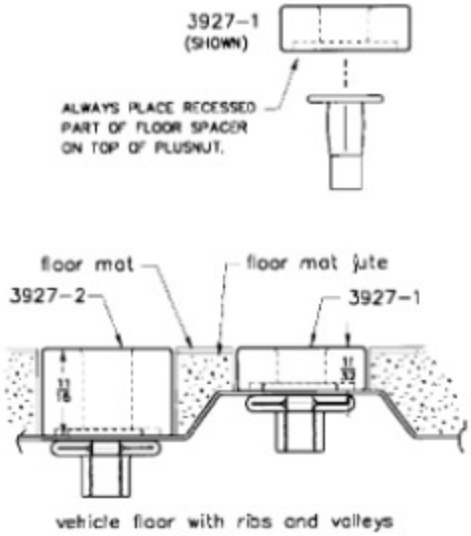
1. All holes drilled in the vehicle should have their raw metal edges sealed to resist corrosion. When and if, the drilled hole could allow the entry of exhaust gases into the cab area. It should be sealed at the time the fastener is installed with Butyl or silastic material which will remain flexible for an extended period of time.
2. The blind fastener of choice is the plusnut. Adrian supplies two thread sizes, 1/4-20 and 5/16-18. The 5/16-18 is only used for special applications (such as the mini-van polyguard partitions, floor only, or Sprinter Van interiors).
3. After locating all positions that will need the plusnut, drill the proper size hole for the plusnut, see illustration below. 1/4-20 Plusnuts uses 3/8" dia. (all locations) 5/16-18 uses 1/2 dia. (floor only). The illustration below shows the sequence used to set a plusnut, and the proper way to use the floor spacers.

Plusnut Use and Installation



Set Plusnut till tight, DO NOT OVERTIGHTEN.

Spacer Use and Installation



vehicle floor with ribs and valleys

22200-1

Hand operated and pneumatic tools are available to set plusnuts.
Refer to Mc Masters-Carr or similar industrial catalog under rivet nut insert tools.
or call Adrian Steel Co. for more information.

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INSTALL INSTRUCTIONS: THROUGH FLOOR MAT & CARPET

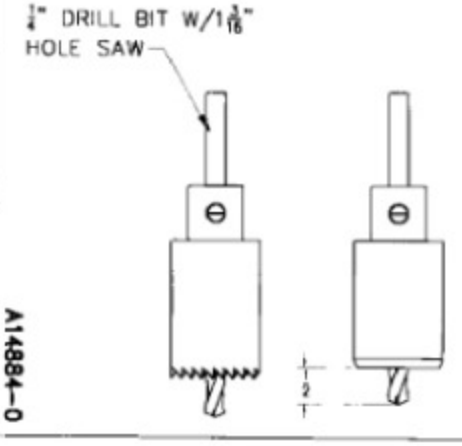
1. Position the item to be installed within the van atop the mat/carpet at the desired location.
2. Mark the floor mount locations. (if a number of like installations are to be performed, it is recommended a jig be created so all installations will be the same).
3. ▽ Move the item/jig out of the way and check for obstructions and/or hazards under the floor before marking each location with a center punch.
4. Using the special mat/carpet cutting tool you have created under the instructions below, drill a pilot hole thru the mat/carpet and metal floor pan.

▽ NOTE: the cutting tool should not be allowed to contact the metal floor as it will mar the painted surface causing a corrosion problem. Only the mat/carpet should be cut. The underlayment must be moved out of the way when inserting the floor spacers.

5. The location of the various floor mounts will determine what the spacer combination will be. An 11/32" high spacer is used atop the floor ribs. An 11/16" high spacer is used in the floor rib valleys (see below).
6. The use of spacers is required when mounting over mat/carpet to ensure the metal to metal clamp–up which will minimize component shift in stressed situations.
7. Complete your installation using the other instructions supplied with the equipment.

CARPET/FLOOR MAT CUTTING TOOL

To make this special tool, remove the drill bit and grind the teeth off the hole saw.(see below) This will create a beveled or knife edge for cutting thru the rubber mat/carpet. Reinstall the drill bit and use this tool to drill pilot holes when mounting through a floor mat and/or carpeting.



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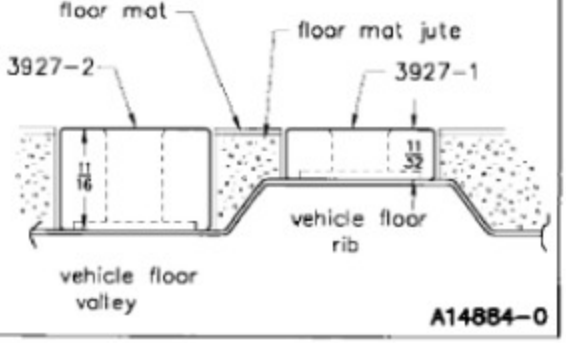
MAT/CARPET FLOOR SPACER

Placing the properly sized spacer on top of the vehicle floor pan will make your Adrian interior level, square, and sound. The view below shows the proper sized spacer for the different heights of the vehicle floor. Make sure to place the spacers with the plusnut relief surface down as shown.



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