

# Swing Away Carrier Kit

## Installation Instructions

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## Introduction

Thank you for purchasing the Rocky Mountain Westy **Swing Away Carrier Kit**. We pride ourselves in the products we develop and would not bring an item to market that we did not fully believe in.

The **Swing Away Carrier Kit** allows you to carry a larger diameter spare tire that otherwise would not fit within the stock clamshell spare tire carrier at the front of the van. Our stand alone design mounts to the van's body allowing you to retain your stock bumpers.

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## Before You Get Started

It is recommended that you read through these instructions fully before beginning the installation process. This step will help you understand the entire process beforehand which will make the installation go smoothly. The Vanagon depicted in this installation is a 1987 Vanagon Westfalia, we'll be installing the **Swing Away Tire Carrier** on the Driver's Side of the van.

### Tools Required:

- 5mm Hex Bit Socket
- 5.5mm Hex Bit Socket
- 13mm Wrench (x2)
- 13mm Socket
- 15mm Wrench
- 19mm Wrench
- 19mm Socket
- 9/16" Wrench
- 15/16" Wrench (or 24mm)
- 15/16" Socket (or 24mm)
- Ratchet
- Drill
- 1/8" Drill Bit w/ Stop Collar
- 7/16" Step Bit
- Deburring Tool
- Center Punch
- Hammer
- Phillips Head Screwdriver
- Sharpie
- Masking Tape
- Thread Lubricant
- Loctite
- Touch Up Paint (Any Color)

### Parts Included:

- Swing Arm
- Latch Post
- Support Plate
- Support Backing Plate
- Striker Plate
- Striker Backing Plate
- Hardware Pack
- Locking Latch
- Bump Stop Plate

## Supplied Hardware

Included in the **Swing Away Carrier Kit** is a Hardware Package. This Hardware Package is broken up into six sections. Each section will be referenced throughout the course of the installation. The separation of hardware will help you with the installation.



**Hardware Package A:**

- 3/8x16x1" LG SS Button Head Screw (x 7)
- 3/8x16 Cage Nut (x 7)
- 3/8 SS DIN Washer (x 7)
- 3/8x16x4" LG All Thread Rod (x 2)

**Hardware Package B:**

- 5/8x18 Heim Joint (x 2)
- 5/8x18 Jam Nut (x 2)
- 5/8 Flat Washer (x 7)
- 5/16 Rubber Cap (x 1)
- 7/16 Aluminum Heim Spacer (x 4)
- 5/8x11x3" LG Hex Head Bolt (x 2)
- 5/8x11 Nylock Nut (x 2)
- 5/16x18x2" LG Foot Adjuster
- 5/16x18 Nut (x 2)
- 1/4 Washer (x 2)
- 5/16 Lock Washer (x 1)

**Hardware Package C:**

- 3/8x16x1.25 SS Button Head Screws (x 4)
- 3/8 SS Washer (x 8)
- 3/8x16 Nylock Nut (x 4)

**Hardware Package D:**

- 8x1.25x40mm LG Allen Head Screw (x 2)
- 8x1.25 Nylock Nut (x 2)
- 5/16 SS Washer (x 4)
- 5/16x18x2" LG Foot Adjuster (x 1)
- 5/16x18 Nut (x 2)
- 5/16 Lock Washer (x 1)

**Hardware Package E:**

- 12x1.0 Striker Pin (x 1)
- 12x1.0 Nut (x 1)
- 3/8x16x1" LG SS Button Head Screw (x 4)
- 3/8 SS Washer (x 4)
- 3/8x16 U-Nut Slip-Ons (x 4)

**Hardware Package F:**

- SS Quick Release Pin (x 1)
- Nylon Lanyard (x 1)
- 3/8x16 Cage Nut (Spares) (x 2)

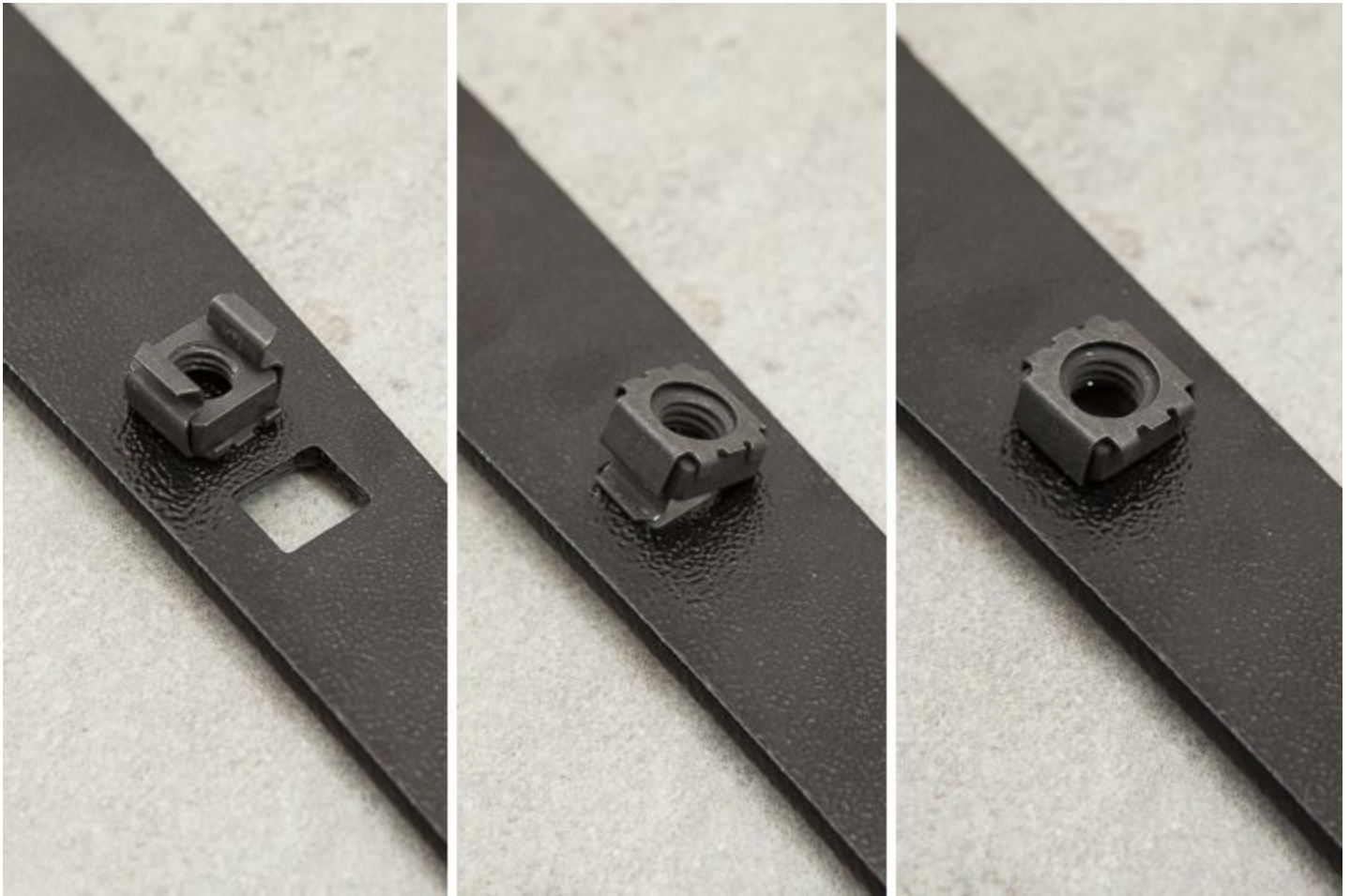
## Prepping The Swing Arm

Lay the **Support Backing Plate** flat and remove the contents of **Hardware Package A**.

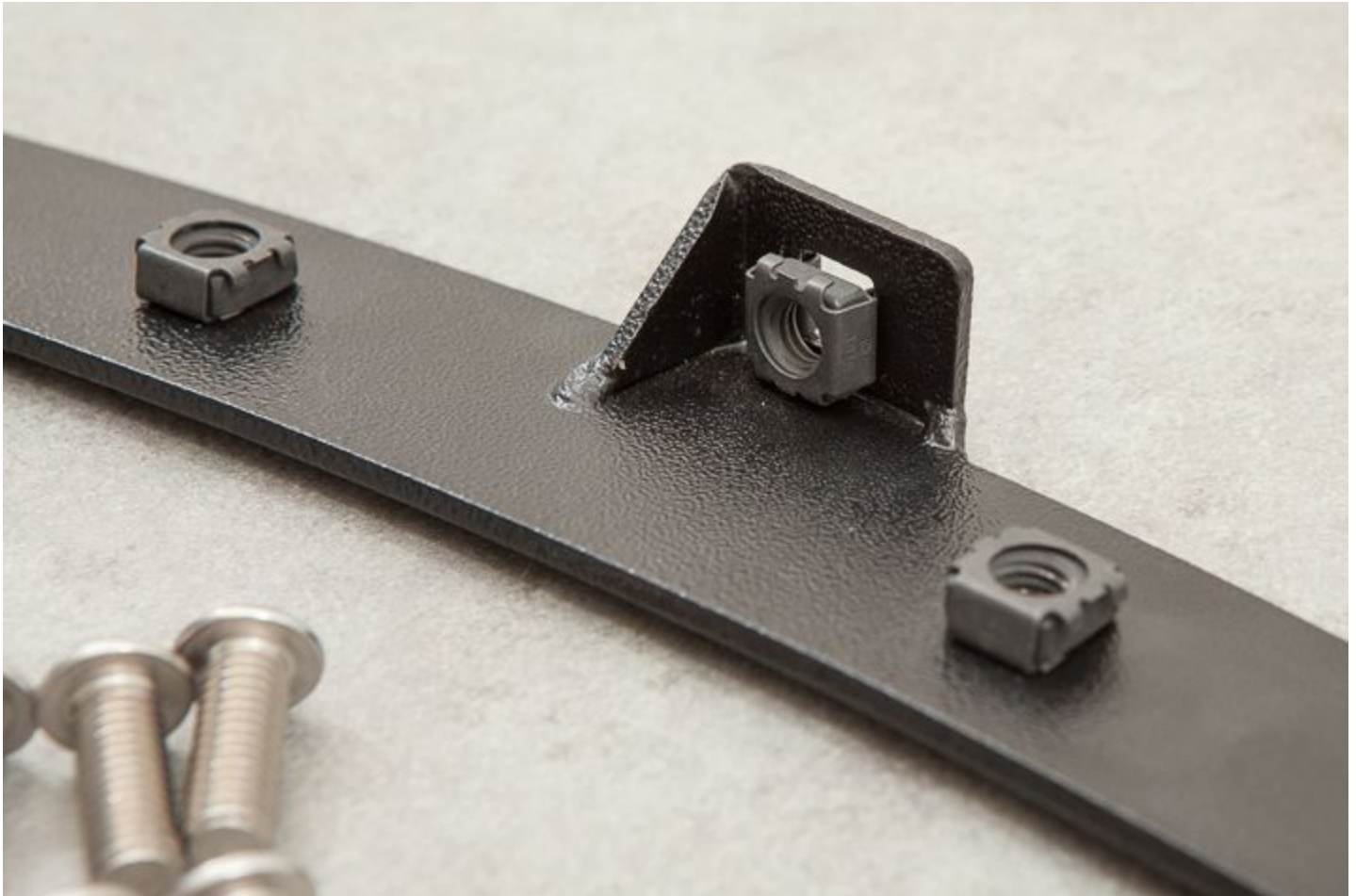




The seven included **3/8x16 Cage Nuts** are to be inserted into the rectangular slots in the **Support Backing Plate**. Place one end of the **Cage Nut** into the slot, then squeeze the spring clip and apply downward pressure making the **Cage Nut** seat completely.



The two vertical ears will need the **Cage Nuts** installed on the inboard side of the **Support Backing Plate**.



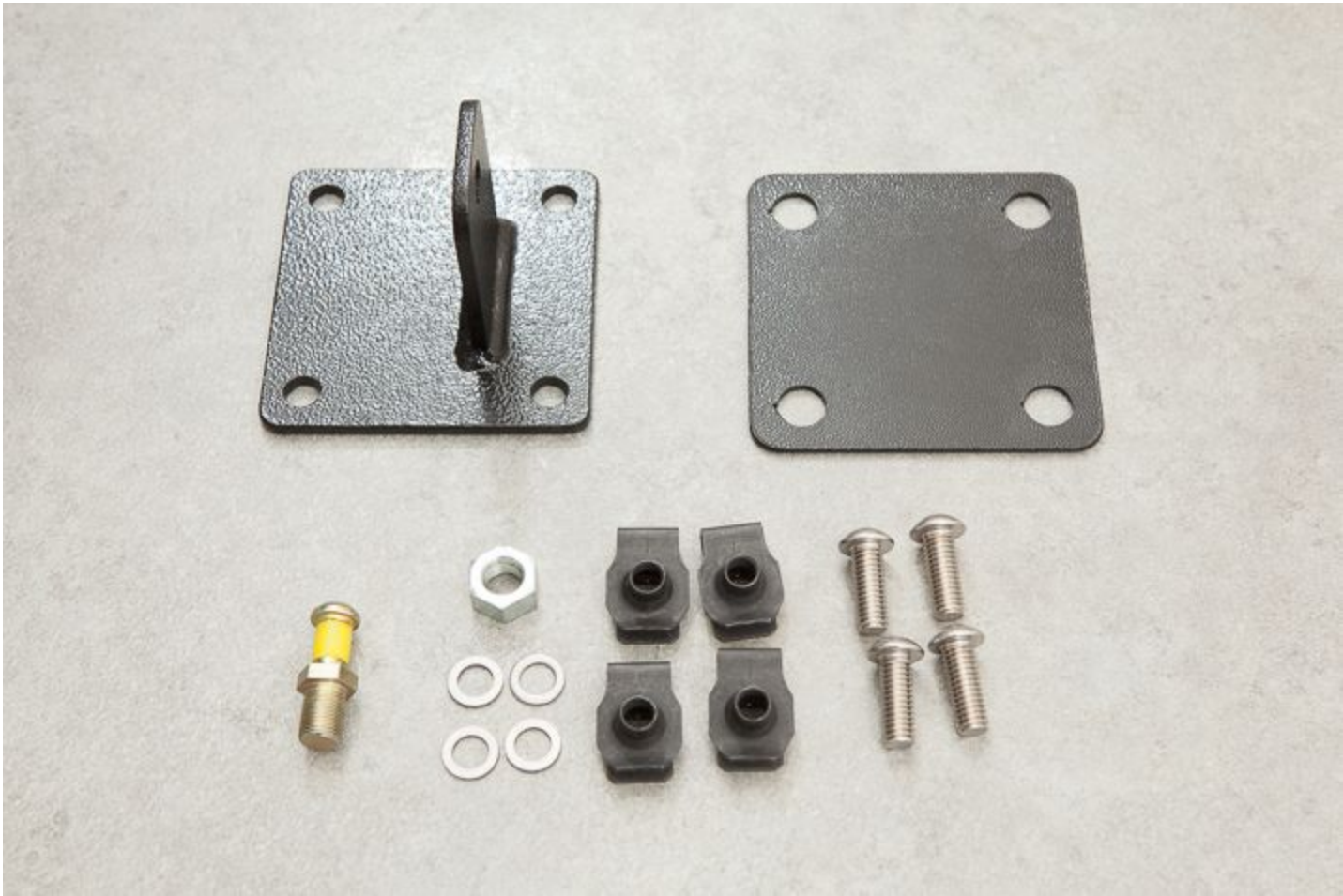
All seven **Cage Nuts** installed on the **Support Backing Plate**. The **Support Backing Plate** is now prepped for installation.

Place the remaining hardware aside as they won't be needed til later in the installation.

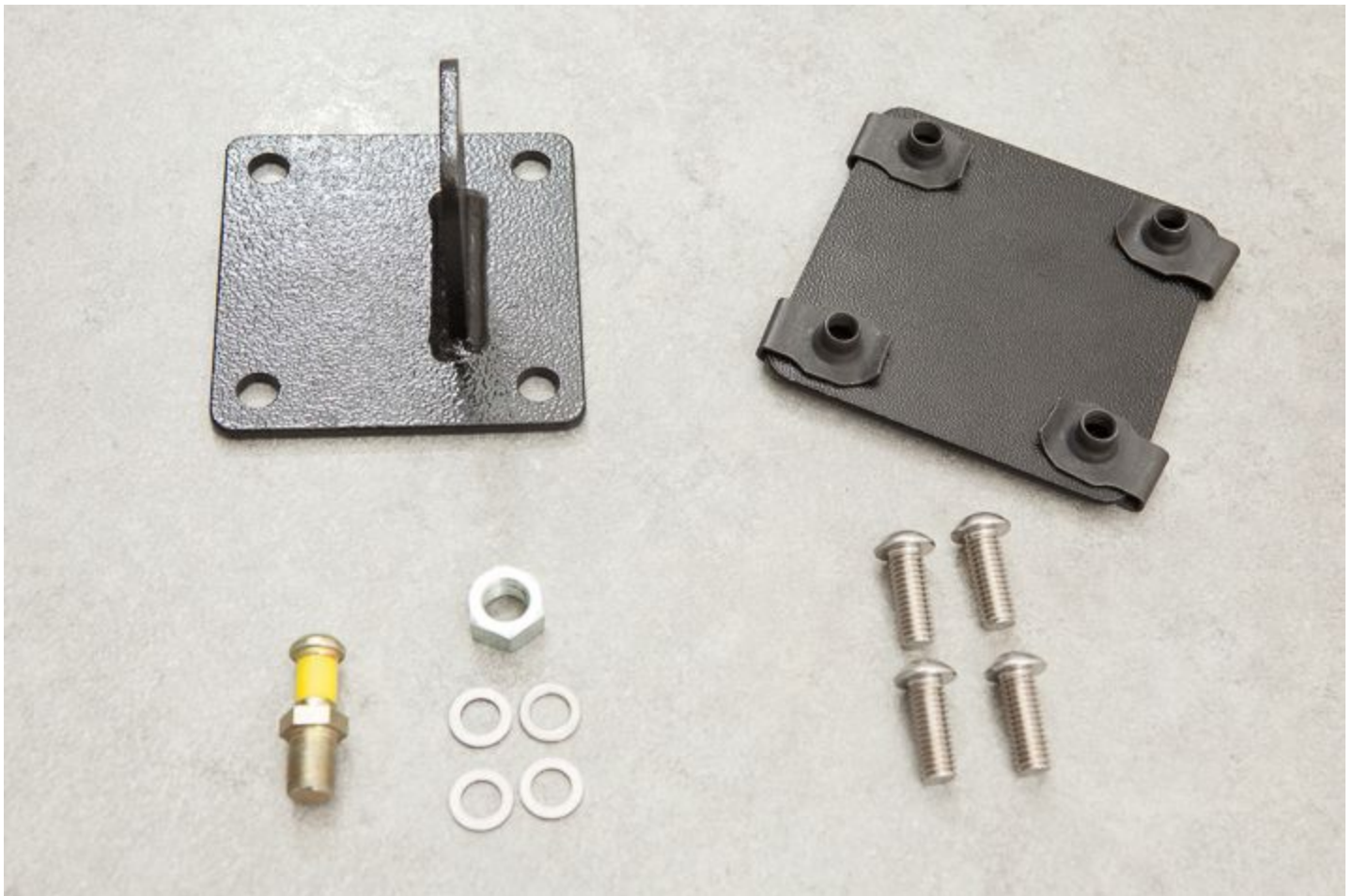




Lay the **Striker Plate** and **Striker Backing Plate** down flat and remove the contents of **Hardware Package E**.

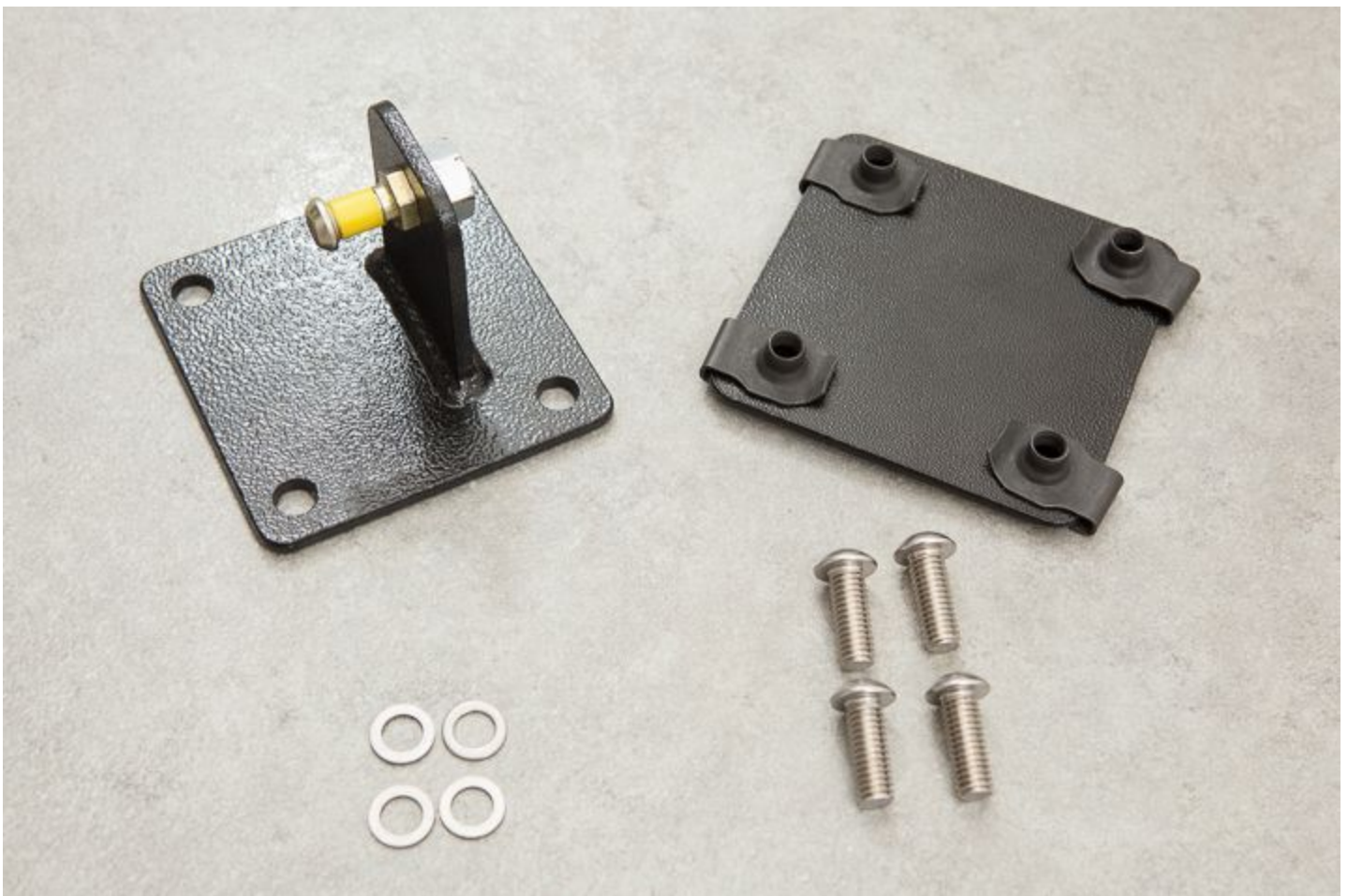


Slide the four **3/8x16 U-Nut Slip-Ons** onto the **Striker Backing Plate**. Make sure all four of the **U-Nut Slip-Ons** are pointing in the same direction.



Place the **12x1.0 Striker Pin** through the **Striker Plate** and hand tighten the **12x1.0 Jam Nut** in place. Take note of the orientation of the **Striker Pin**, the long side of the **Striker Pin** is towards the longer flat side of the **Striker Plate**. The **Nut** is located on the short flat side of the **Striker Plate**. Use a **15mm Wrench** and a **19mm Wrench** in order to tighten the **Nut** onto the **Striker Pin**. (We recommend using loctite or threadlock compound on these threads.)

Place the remaining hardware aside as they won't be needed til later in the installation.

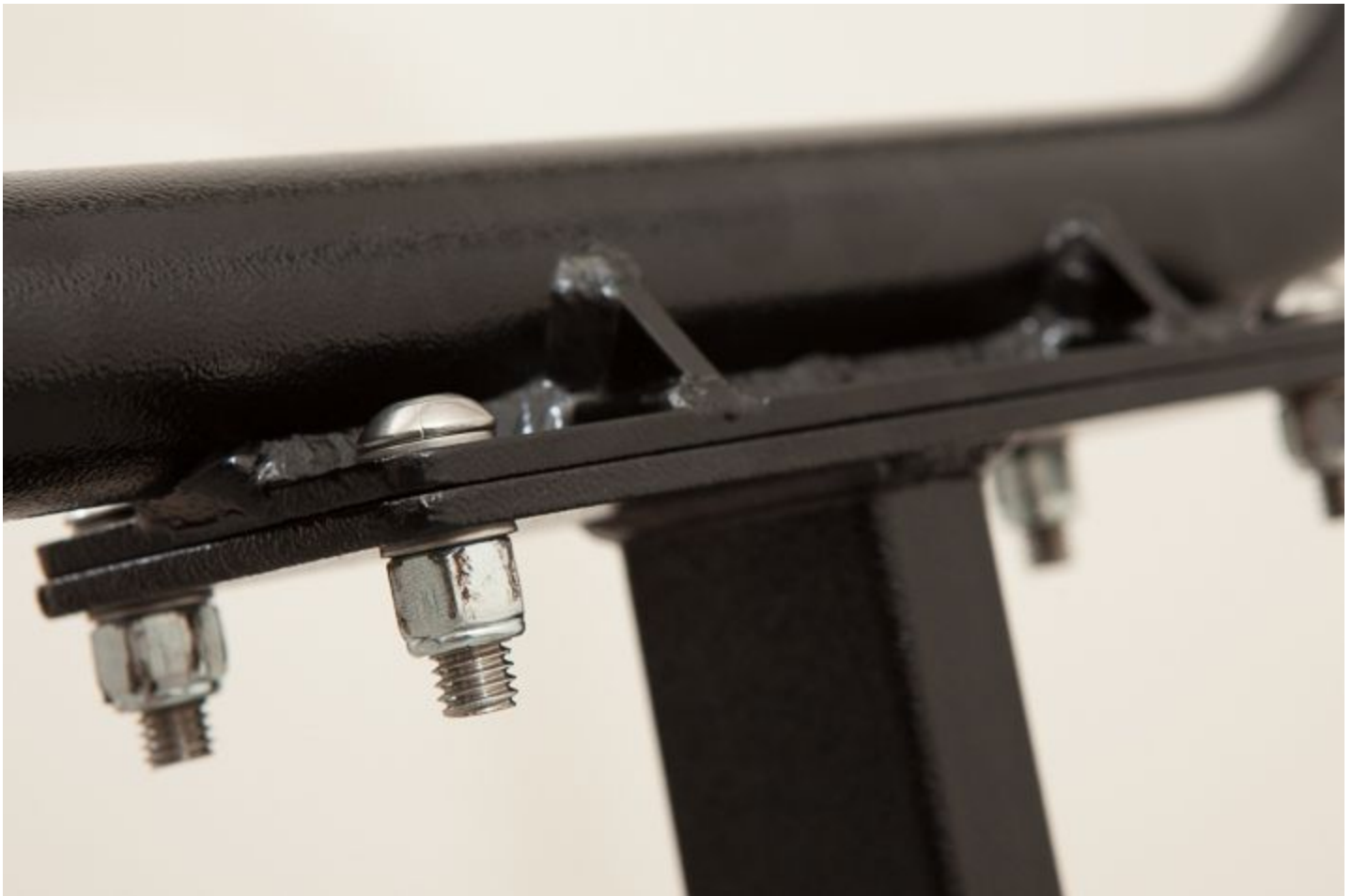


Since we are installing the **Swing Arm** onto the driver's side of the van we need to orientate the **Latch Post** in this position. Use the contents of **Hardware Package C** in order to attach the **Latch Post** to the **Swing Arm**.





Use a **3/8x16x1.25 SS Button Head Screw**, **3/8 SS Washers (x 2)** and a **3/8x16 Nylock Nut** at each mounting hole as shown. Use a **Drill** with a **5mm Hex Bit Socket** and a **9/16 Wrench** in order to securely fasten the **Latch Post** to the **Swing Arm**.





The **Locking Latch** and **Bump Stop Plate** are located in a separate package. These items are side specific meaning a Driver's Side kit will **NOT** work on a Passenger Side install and vice versa.

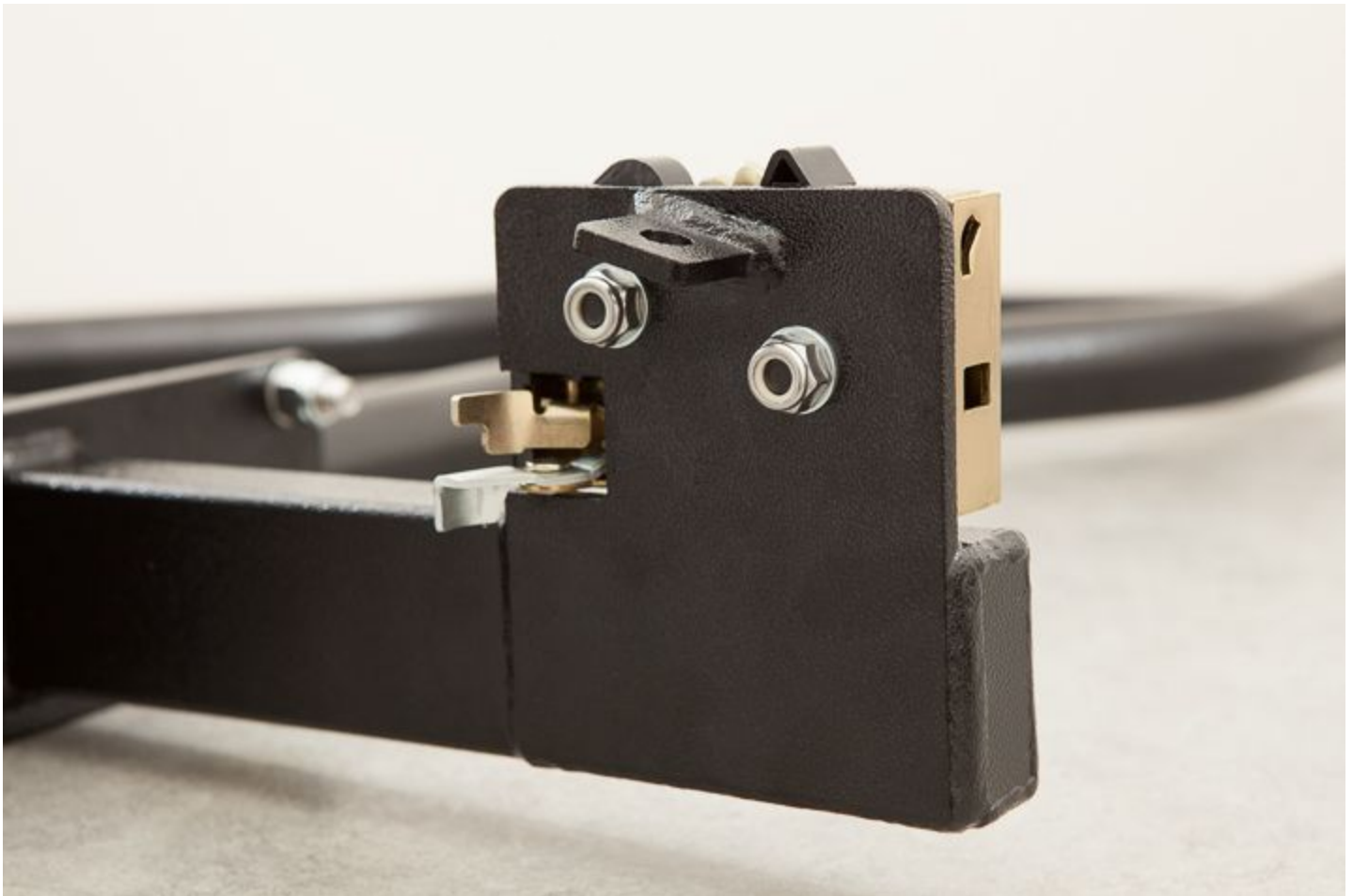


Place the **Locking Latch** onto the **Latch Post** and insert both **8x1.25x40mm LG Allen Head Screws** from **Hardware Package D** into the **Locking Latch**.



Place a **5/16 Washer** and a **8x1.25 Nylock Nut** from **Hardware Package D** onto each of the **Allen Head Screws**. Use a **Drill** with a **5mm Hex Bit Socket** and a **13mm Wrench** in order to securely fasten the **Locking Latch** to the **Latch Post**.

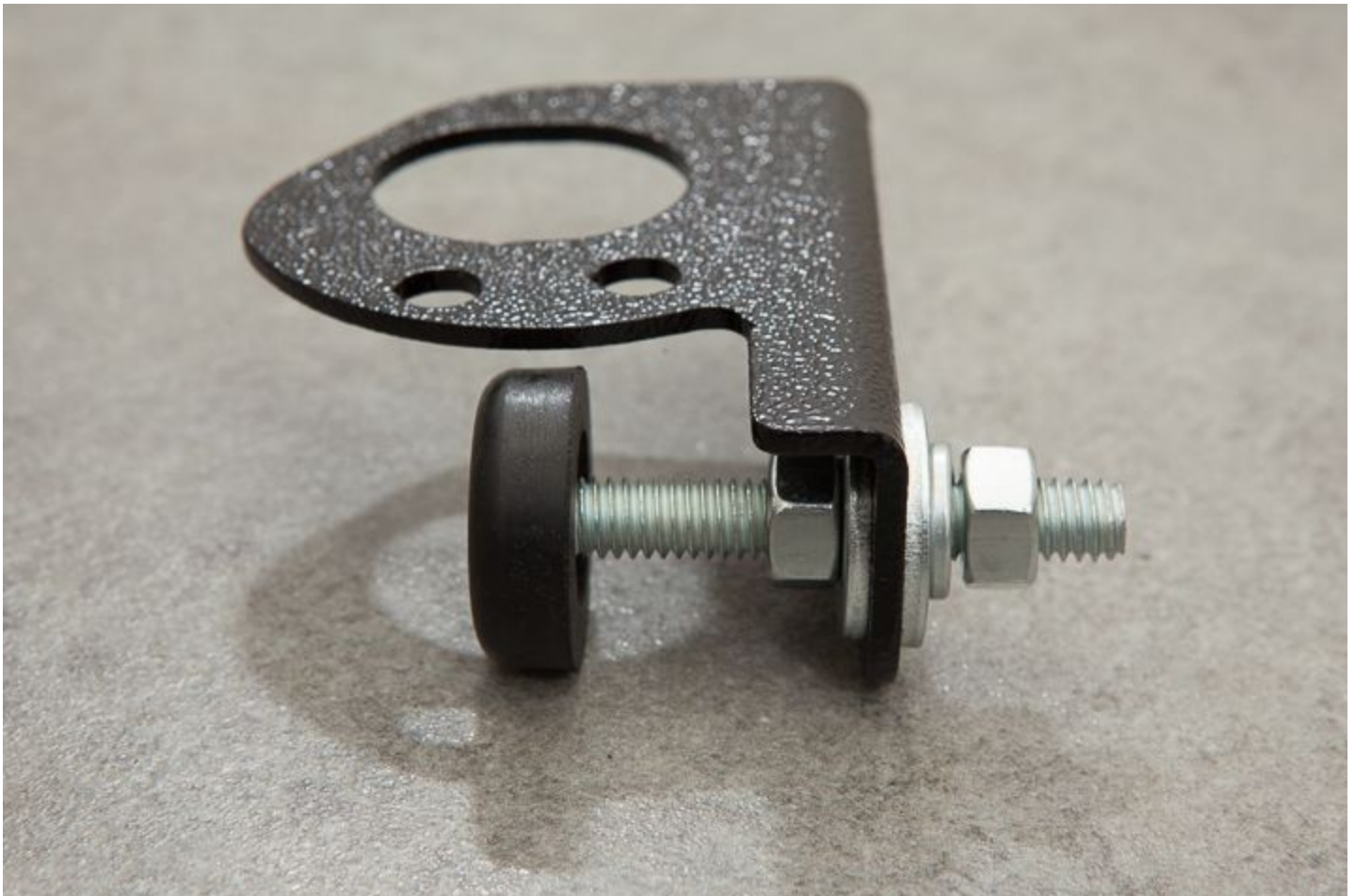
Place the remaining hardware aside as they won't be needed til later in the installation.



Lay the **Swing Arm** down in the orientation that it is to be mounted onto the van. Place the hardware from **Hardware Package B** and the **Bump Stop Plate** in the order shown below.



Assemble the **Bump Stop Plate** by using the **5/16x18x2" LG Foot Adjuster**, **5/16x18 Nut (x 2)**, **1/4 Washer (x 2)** and a **5/16 Lock Washer (x 1)** from **Hardware Package B**. Leave the finished assembly loose as it will be fine tuned and locked into place later in the installation.





We'll assemble the top contact point of the **Swing Arm** first using hardware from **Hardware Package B**. Take one of the **5/8x18 Heim Joints** and thread a **5/8x18 Jam Nut** onto it followed by a **5/8 Flat Washer**, the **Bump Stop Plate** assembly and a second **5/8 Flat Washer**. Now thread this entire assembly into the **Swing Arm**.

Thread this **Heim Joint** as far into the **Swing Arm** as you can. There should be no threads showing past the first **Jam Nut**.



Assemble the lower contact point of the **Swing Arm** by using hardware from **Hardware Package B**. Take one of the **5/8x18 Heim Joints** and thread a **5/8x18 Jam Nut** onto it followed by a **5/8 Flat Washer**. Now thread this entire assembly into the **Swing Arm**.

Thread this lower joint in leaving a few thread visible before the **Jam Nut**. This **Heim Joint** location will need to be finalized once it's in place on the van.

Place the remaining hardware aside as they won't be needed til later in the installation.



If you have difficulty threading the **Heim Joints** into the Swing Arm you can use one of the **5/8x11x3" LG Hex Head Bolts** located in **Hardware Pack B** in order to help get more leverage on the **Heim Joint** while threading it into place.



## Prepping The Vanagon

Prior to any work being done on the van we must mention that if you have any structural damage in the area shown our **Swing Arm Carrier** may not mount correctly to your van. Our **Main Support Bracket** and **Support Backing Plate** follows the contours of the van very closely so if there is visible damage the required support plates may not fit properly.





Place all of the included parts and hardware onto the rear cushion of your van for easy access.





Use a **Phillips Head Screwdriver** in order to remove the two mounting screws holding the plastic side vent in place. Remove the vent.



Once the two mounting screws are removed, pull the bottom of the vent outwards then pull the entire vent downwards releasing it from its mounting location.



Pull the rubber door seal away from the van so that it's not damaged during the installation process.



Pull the rubber door seal away from the van so that the entire side you're working on is free of rubber trim. Place it to the side out of the area of your workspace.





Place **Masking Tape** on the van's body as shown. This layer of **Masking Tape** will help protect your van's paint from the **Main Support Bracket** while you test fit it in order to locate the holes to be drilled.





Place the **Main Support Bracket** onto the van.



Line up the **Main Support Bracket** to the contour of the van's body lines. Here you can see how the raised portion of the **Main Support Bracket** fits into the recess of the van's body panel.



The second point of reference is a small bump that resides in the pillar. We have a small area of the **Main Support Bracket** removed in order to accept that small bump.



Once you're confident in the location of the **Main Support Bracket**, use a **Sharpie** in order to locate the center point of the mounting holes in the **Main Support Bracket**.





Once all seven holes have had their center points located with a **Sharpie**, set the **Main Support Bracket** aside. Use a **Center Punch** in order to create an indentation at all of the marks you've made. These indentions will help keep your drill bit in place and not "walk away" during the drilling process.





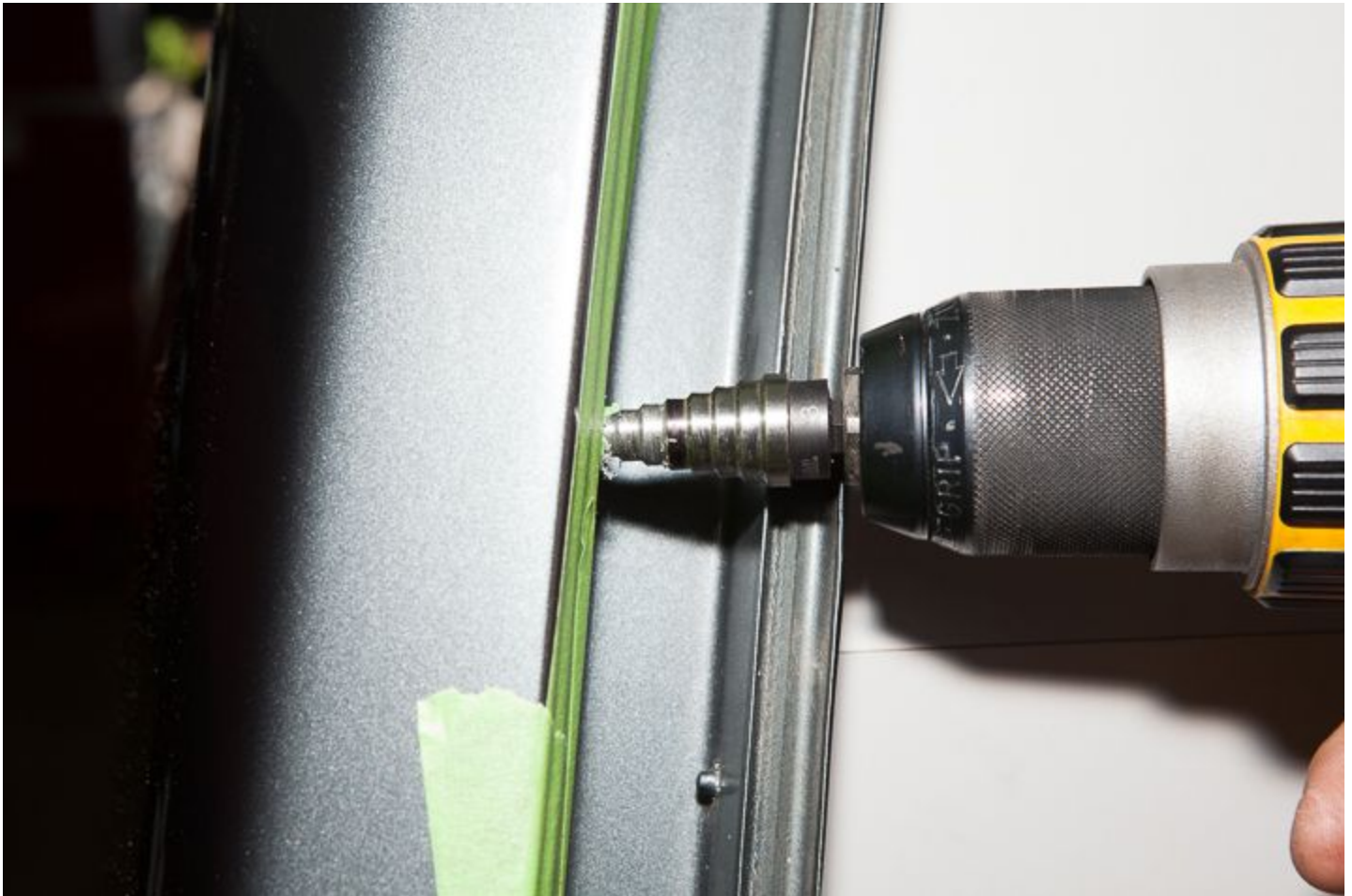
Use a **Drill** and a **1/8" Drill Bit** with a **Stop Collar** in order to drill your pilot holes. Set the location of the **Stop Collar** about a half inch from the tip of the **1/8" Drill Bit**. The **Stop Collar** will allow you to drill through your van's body without accidentally pushing all the way through and damaging the inside wall of your van's exterior body.

Proceed to drill pilot holes at all seven locations.

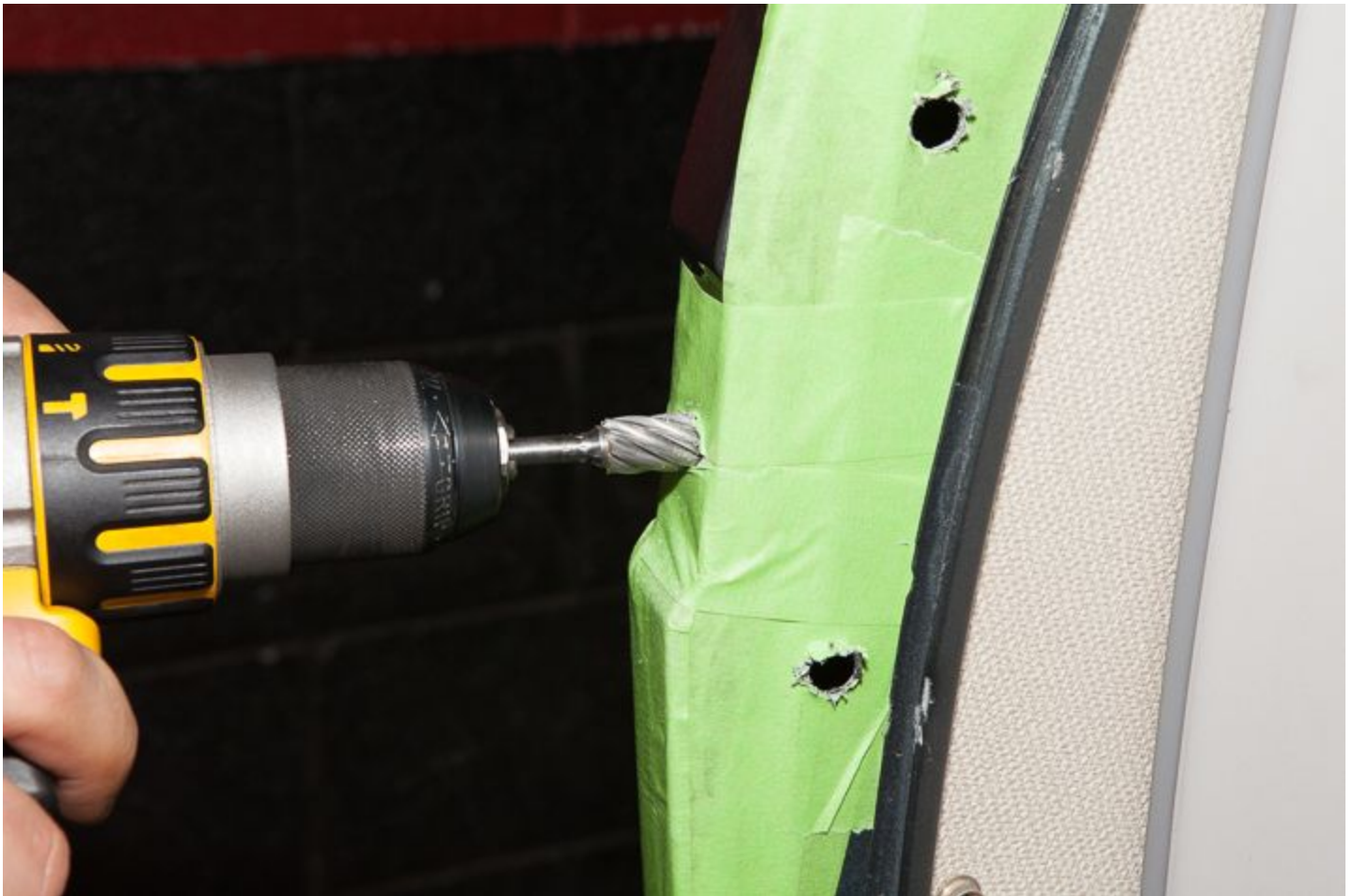


Use a **Step Bit** on your **Drill** in order to drill the seven pilot holes out to a 7/16" diameter. We recommend marking your step bit with a **Sharpie** as shown in order to see the 7/16" diameter shoulder of the **Step Bit**. Be very careful not to drill the holes out any larger than the required 7/16" diameter.

A 7/16" drill bit would also work but the advantage of the **Step Bit** is that it allows you to drill the hole out a little bit at a time. The slower method of the **Step Bit** is much more forgiving than using a standard 7/16" drill bit.



Use a **Deburring Tool** on your **Drill** in order to remove and metal flashing on the seven 7/16" diameter holes you've just drilled. This will clean up the edges nicely which should make them smooth to the touch once completed.





Remove the **Masking Tape** from the van's pillar. Use some **Retouching Paint** in order to paint the raw metal holes you just drilled into the van. This paint will help seal and protect the van's body from rusting. Cover all exposed areas of the holes with this **Retouching Paint**.



## Installing The Mounting Plate

Slide the **Support Backing Plate** into the vent opening on the rear quarter panel of the van. The end of the **Support Backing Plate** that has one of the perpendicular ears is the end that goes in first. The **Cage Nuts** should be facing outward towards you.

It's beneficial to have a second person helping in this portion of the installation. The **Support Backing Plate** will need to be placed far into the lower portion of the quarter panel so it'll be necessary to have one person guide it in and hold it in place while a second person helps to line up the mounting holes in the **Support Backing Plate** with the holes in the van.





While the **Support Backing Plate** is being held in place, thread the two **3/8x16x4" LG All Thread Rods** from **Hardware Package A** into the rear of the van insuring that they grab and thread into the **Cage Nuts** on the **Support Backing Plate**. These **All Thread Rods** are used as an installation guide and will help keep the **Support Backing Plate** in its proper location for the duration of the installation.



Slide the **Support Plate** onto the **All Thread Rods** that you've threaded into the **Support Backing Plate**.



The seven **3/8x16x1" LG SS Button Head Screws** and **3/8 SS DIN Washers** from **Hardware Package A** are needed in order to mount the **Support Plate** onto the **Support Backing Plate**. Place a **SS Washer**



over each of the seven **SS Button Head Screws**. Put a couple of drop of **Thread Lubricant** onto the threads of the **SS Button Head Screws**.



Use a **5.5mm Hex Bit Socket** and a **Ratchet** in order screw the five **SS Button Head Screws** into the side of the **Support Bracket**. Don't fully tighten them at this point.



Remove both **All Thread Rods** that were in place as guides. Use a **5.5mm Hex Bit Socket** and a **Ratchet** in order screw the two **SS Button Head Screws** into the front side of the **Support Bracket**.



Don't fully tighten them at this point.



Tighten all seven **SS Button Head Screws** to about 40ft lbs.



Reinstall the rubber door seal onto the van.



## Swing Arm Installation

Place the upper **Heim Joint** into the upper slot of the **Support Plate**. Add one **7/16 Aluminum Heim**

**Spacer** from **Hardware Package B** above and below the **Heim Joint**.



Place a **5/8 Flat Washer** on top of the **Support Plate** and then insert a **5/8x11x3" LG Hex Head Bolt** from **Hardware Package B** through the assembly.

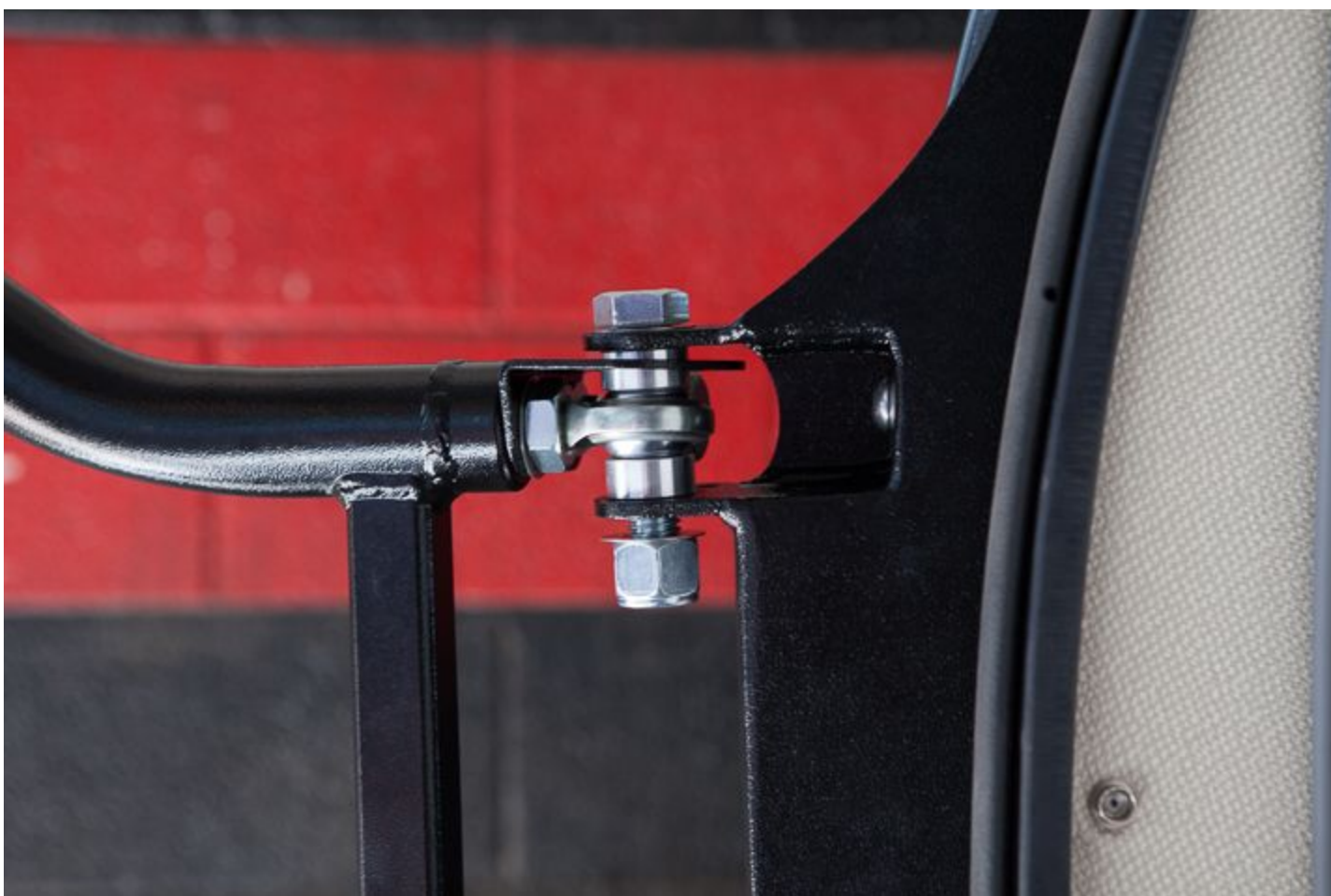




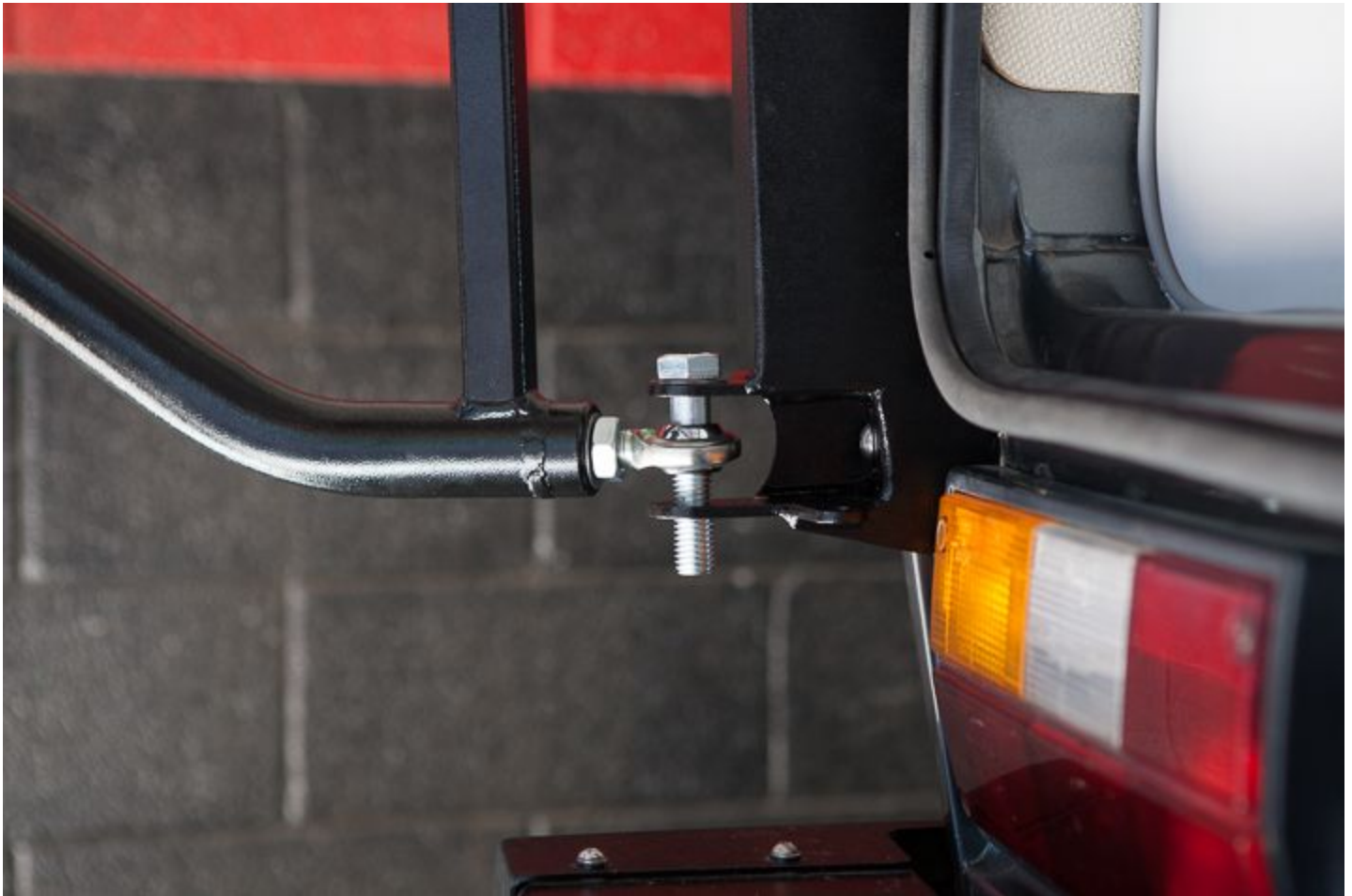
Now the upper **Heim Joint** is held in place.



Place a **5/8 Flat Washer** and a **5/8x11 Nylock Nut** to the bottom of the **Hex Head Bolt**. Only hand tighten at this point.



Place the lower **Heim Joint** into the lower slot of the **Support Plate**. Temporarily insert a **5/8x11x3" LG Hex Head Bolt** from **Hardware Package B** through the **Support Plate** and **Heim Joint**.



Close the van's rear hatch door. Swing the **Swing Arm** to a simulated closed position. Notice the horizontal member of the **Swing Arm** is not parallel with the lines in the van itself. We need to adjust



the lower **Heim Joint** by unscrewing it a bit in order to help make the **Swing Arm** level with the lines in the van.

Remove the **Hex Head Bolt** from the lower connection point of the **Swing Arm** and unscrew the **Heim Joint** a few threads in order to make the correction. Replace the **Hex Head Bolt** and recheck for level.



This is the corrected position of the **Swing Arm**. We want the **Swing Arm** level with the horizontal lines of the van.

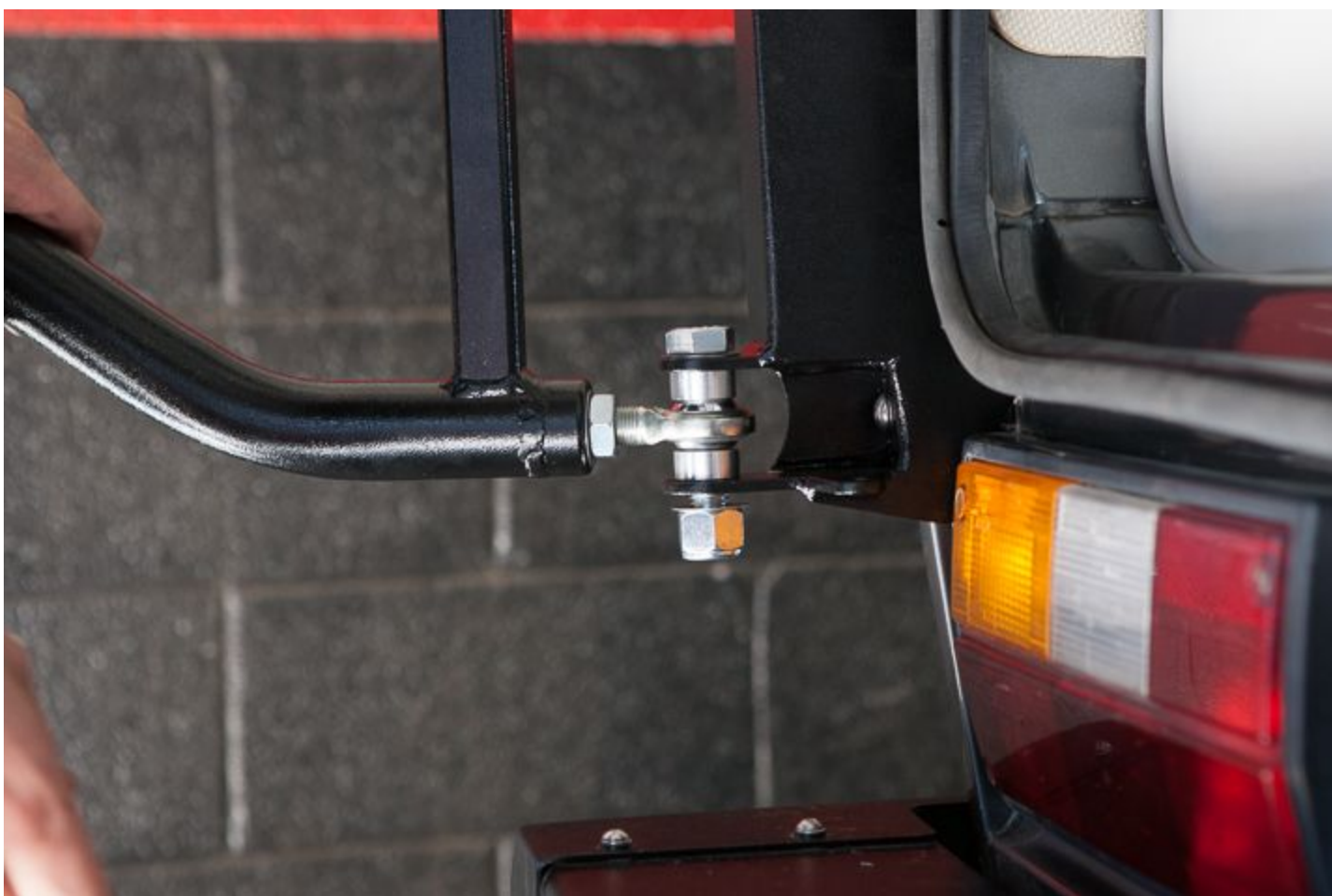


Now that the location is correct. Place the lower **Heim Joint** into the lower slot of the **Support Plate**. Add one **7/16 Aluminum Heim Spacer** from **Hardware Package B** above and below the **Heim Joint**.

Place a **5/8 Flat Washer** on top of the **Support Plate** and then insert a **5/8x11x3" LG Hex Head Bolt** from **Hardware Package B** through the assembly.

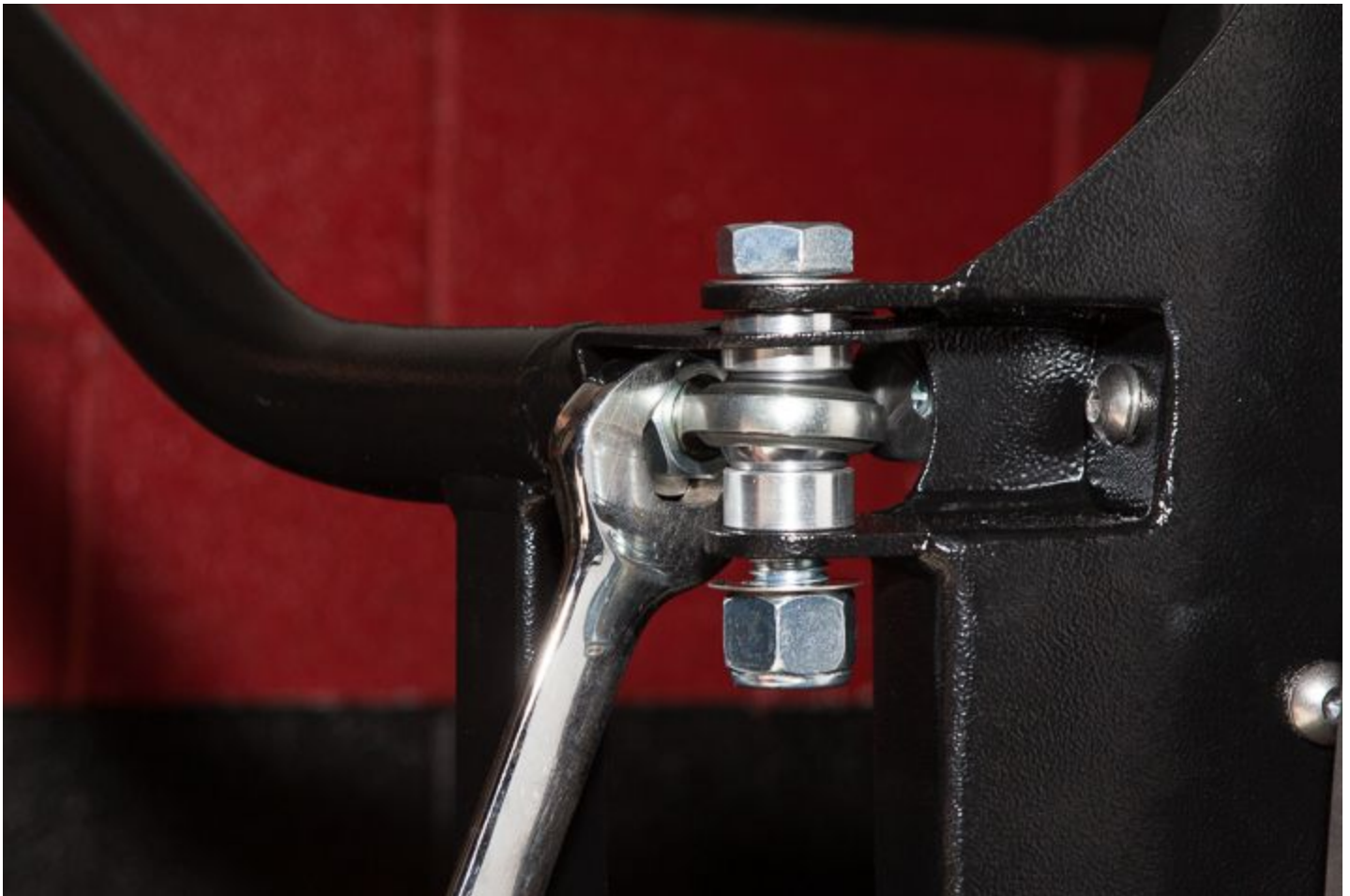


Place a **5/8 Flat Washer** and a **5/8x11 Nylock Nut** to the bottom of the **Hex Head Bolt**. Only hand tighten at this point.



Use a **15/16" Wrench** in order to fully tighten down the **Jam Nut** on the upper **Heim Joint**.





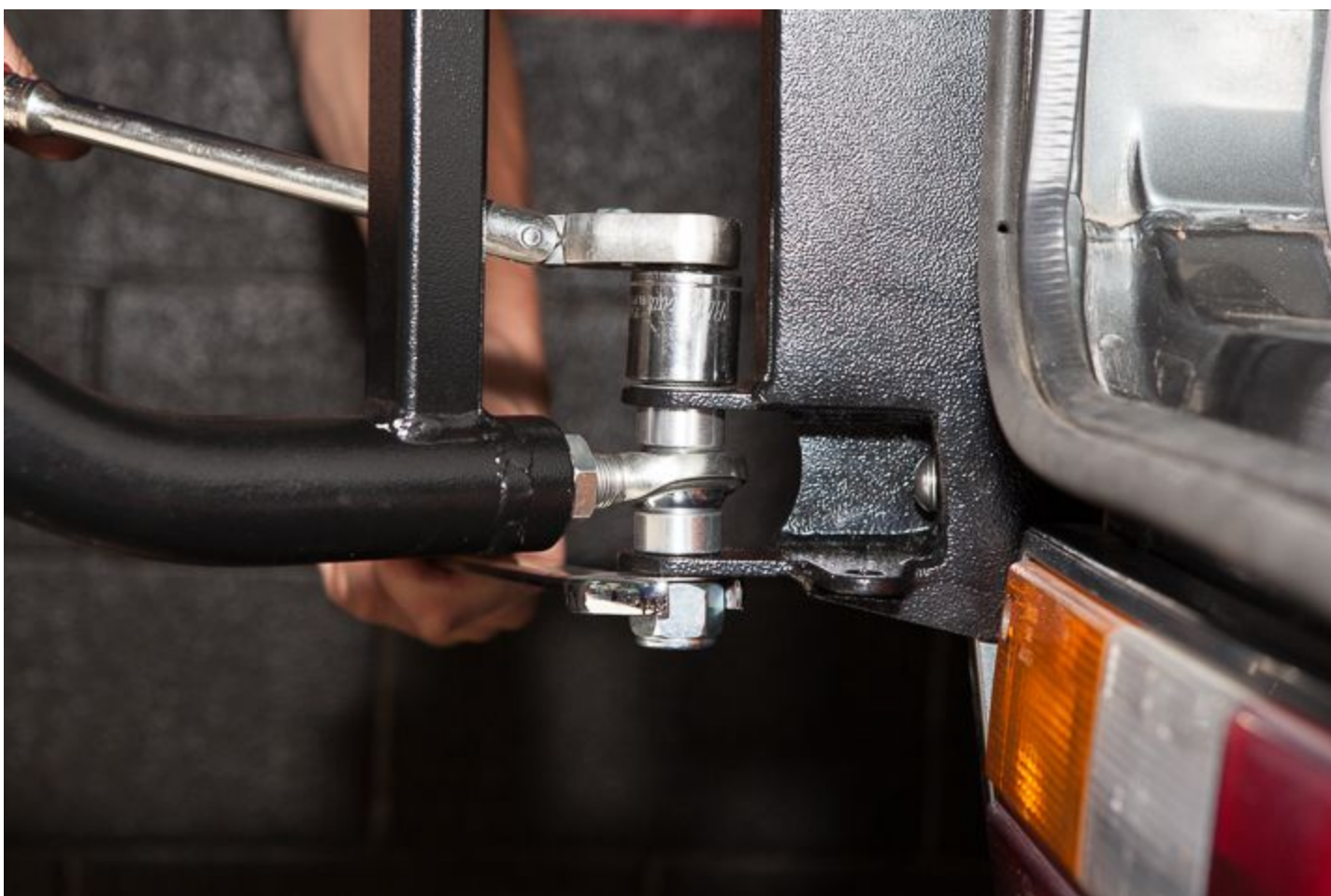
Use a **15/16" Wrench** in order to fully tighten down the **Jam Nut** on the lower **Heim Joint**.



Use a **15/16" Wrench** and a **15/16" Socket** on a **Ratchet** in order to fully tighten down the **Hex Head Bolt** and **Nylock Nut** on the upper **Heim Joint**.



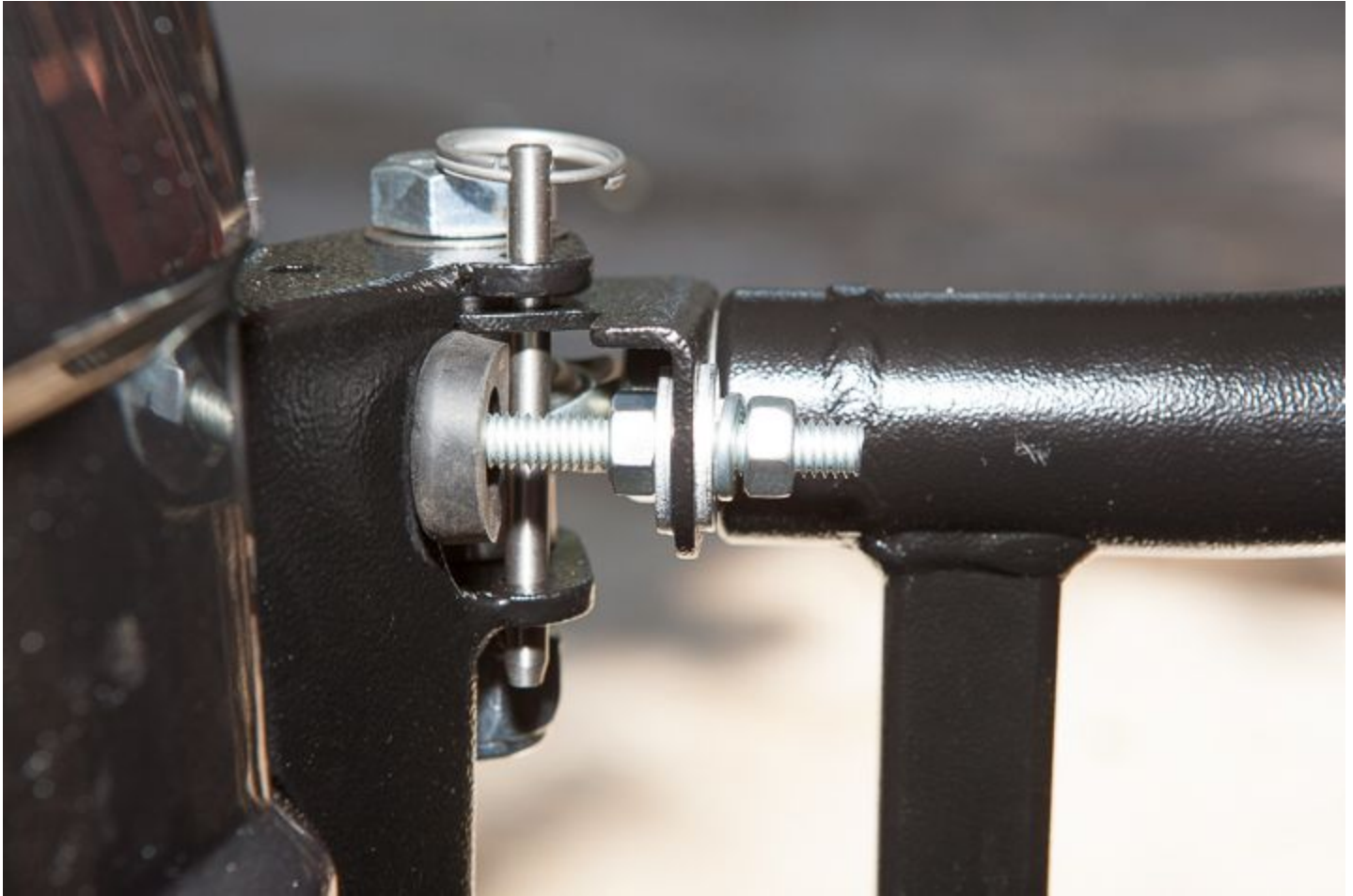
Use a **15/16" Wrench** and a **15/16" Socket** on a **Ratchet** in order to fully tighten down the **Hex Head Bolt** and **Nylock Nut** on the lower **Heim Joint**.



Insert the **SS Quick Release Pin** from **Hardware Package D** into the hole in the **Support Plate** and **Bump Stop Plate** locking the **Swing Arm** in it's most open position. Apply pressure from the back side



of the **Foot Adjuster** in order to make a firm fit against the **Support Plate**. Hand tighten both **Jam Nuts** securing the **Foot Adjuster** in place.



Use two **13mm Wrenches** in order to fully tighten the **Jam Nuts** on the **Foot Adjuster**. Once secured, place the protective **5/16 Rubber Cap** from **Hardware Package B** covering the exposed threads of the

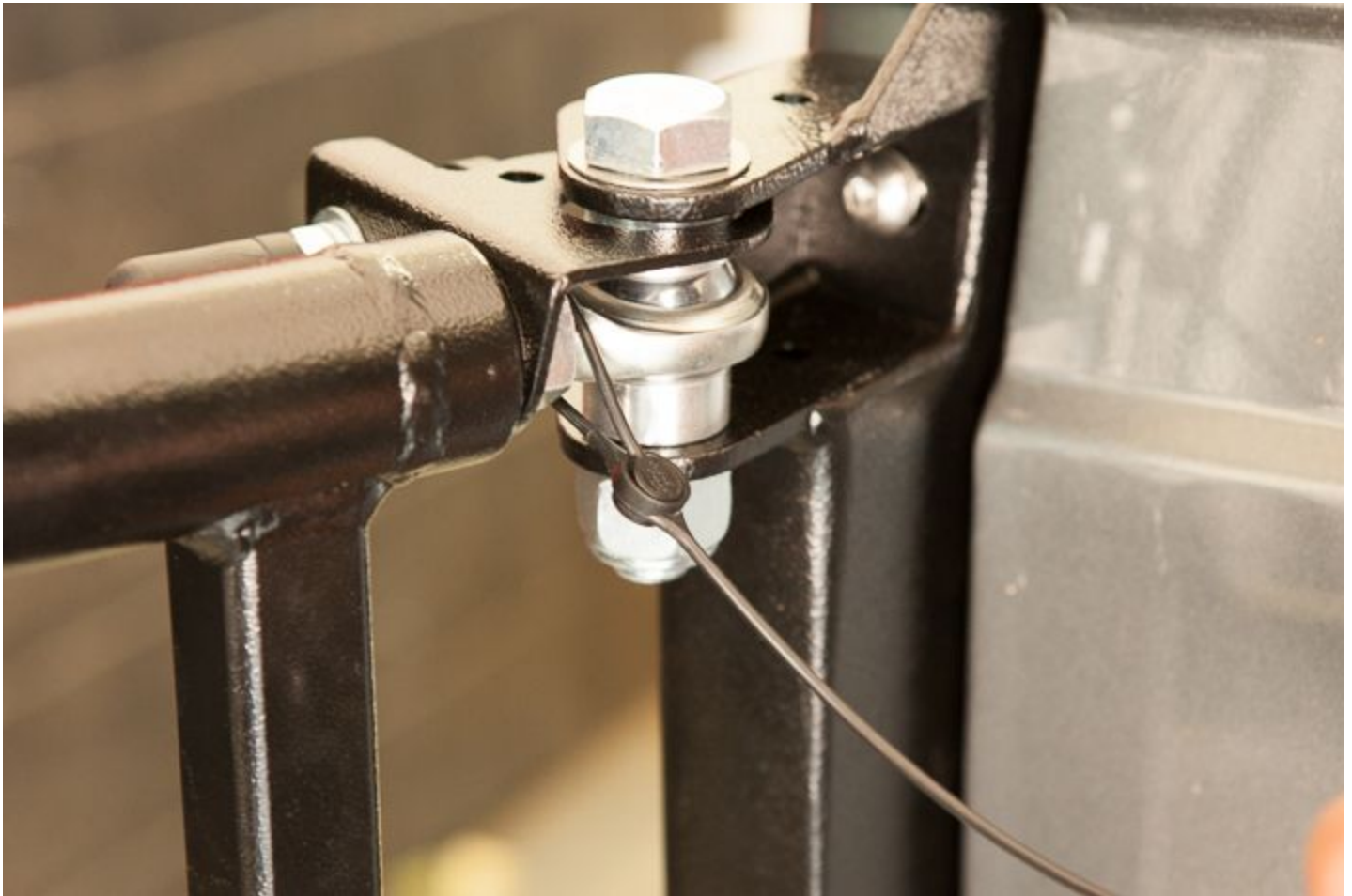
## Foot Adjuster.



Thread the **Nylon Lanyard** from **Hardware Package D** around the upper **Heim Joint** and snap it closed.



The **Nylon Lanyard** will lock onto itself.



The loop on the end of the **Nylon Lanyard** is to be threaded onto the key ring of the **SS Quick Release**



**Pin.** This **Lanyard** will keep the **SS Quick Release Pin** from getting lost.



The **SS Quick Release Pin** it to be kept in this position. Remove the **SS Quick Release Pin** and place it

into one of the other holes while the **Swing Arm** is in its opened position in order to keep it stationary.

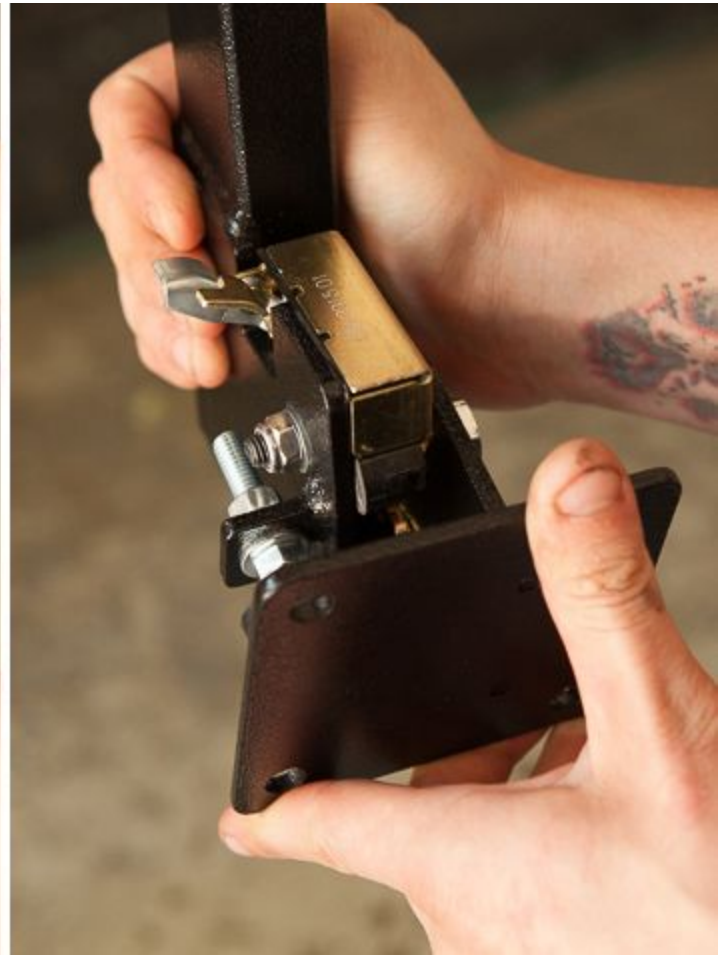


## Striker Plate Installation

Cover the area just to the left of the license plate door with **Masking Tape**. This **Masking Tape** will help protect your van's paint while drilling the mounting holes for the **Striker Plate**.



Snap the **Striker Plate** into the **Locking Latch** located on the **Swing Arm**.





Swing the **Swing Arm** into the closed position so that the back of the **Striker Plate** butts up against the van.



Use a **Sharpie** in order to locate the center point of the four mounting holes in the **Striker Plate**.



Once all four holes have had their center points located with a **Sharpie**, swing the **Swing Arm** out of the way. Use a **Center Punch** in order to create an indentation at all of the marks you've made. These indentions will help keep your drill bit in place and not "walk away" during the drilling process.



Use a **Drill** and a **1/8" Drill Bit** with a **Stop Collar** in order to drill your pilot holes. Set the location of the **Stop Collar** about a half inch from the tip of the **1/8" Drill Bit**. The **Stop Collar** will allow you to drill through your van's body without accidentally pushing all the way through and possibly damaging something on the other side.

Proceed to drill pilot holes at all four locations.





Use a **Step Bit** on your **Drill** in order to drill the four pilot holes out to a 7/16" diameter. We recommend marking your step bit with a **Sharpie** as shown in order to see the 7/16" diameter shoulder of the **Step Bit**. Be very careful not to drill the holes out any larger than the required 7/16" diameter.

A 7/16" drill bit would also work but the advantage of the **Step Bit** is that it allows you to drill the hole out a little bit at a time. The slower method of the **Step Bit** is much more forgiving than using a standard 7/16" drill bit.



Use a **Deburring Tool** on your **Drill** in order to remove and metal flashing on the seven 7/16" diameter holes you've just drilled. This will clean up the edges nicely which should make them smooth to the touch once completed.

Remove the **Masking Tape** from the van. Use some **Retouching Paint** in order to paint the raw metal holes you just drilled into the van. This paint will help seal and protect the van's body from rusting. Cover all exposed areas of the holes with this **Retouching Paint**.



Use a **Phillips Head Screwdriver** in order to remove the four mounting screws holding the driver's side tail light in place. Remove and unplug the tail light.



Orientate the **Striker Backing Plate** as shown with the flat sides of the **U-Nut Slip-Ons** facing towards the rear of the van. This is how it will need to sit behind the van body.





With one hand place the **Striker Backing Plate** through the tail light opening and up against the backside of the van where you drill the mounting holes. The **U-Nut Slip-Ons** should line up with the four holes you've drilled.



Place the **Striker Plate** back in place and then hand thread a **3/8x16x1" LG SS Button Head Screw** with a **3/8 SS Washer** into one of the mounting holes. Make sure the screw threads into the **U-Nut Slip-On** that's attached to the **Striker Backing Plate**. Using a couple of drops of Thread Lubricant on each of the **SS Button Head Screws** will help with the installation.

Use a **5.5mm Hex Bit Socket** and a **Ratchet** in order screw the four **SS Button Head Screws** into the **Striker Backing Plate**. Tighten all four **SS Button Head Screws** to about 40ft lbs.

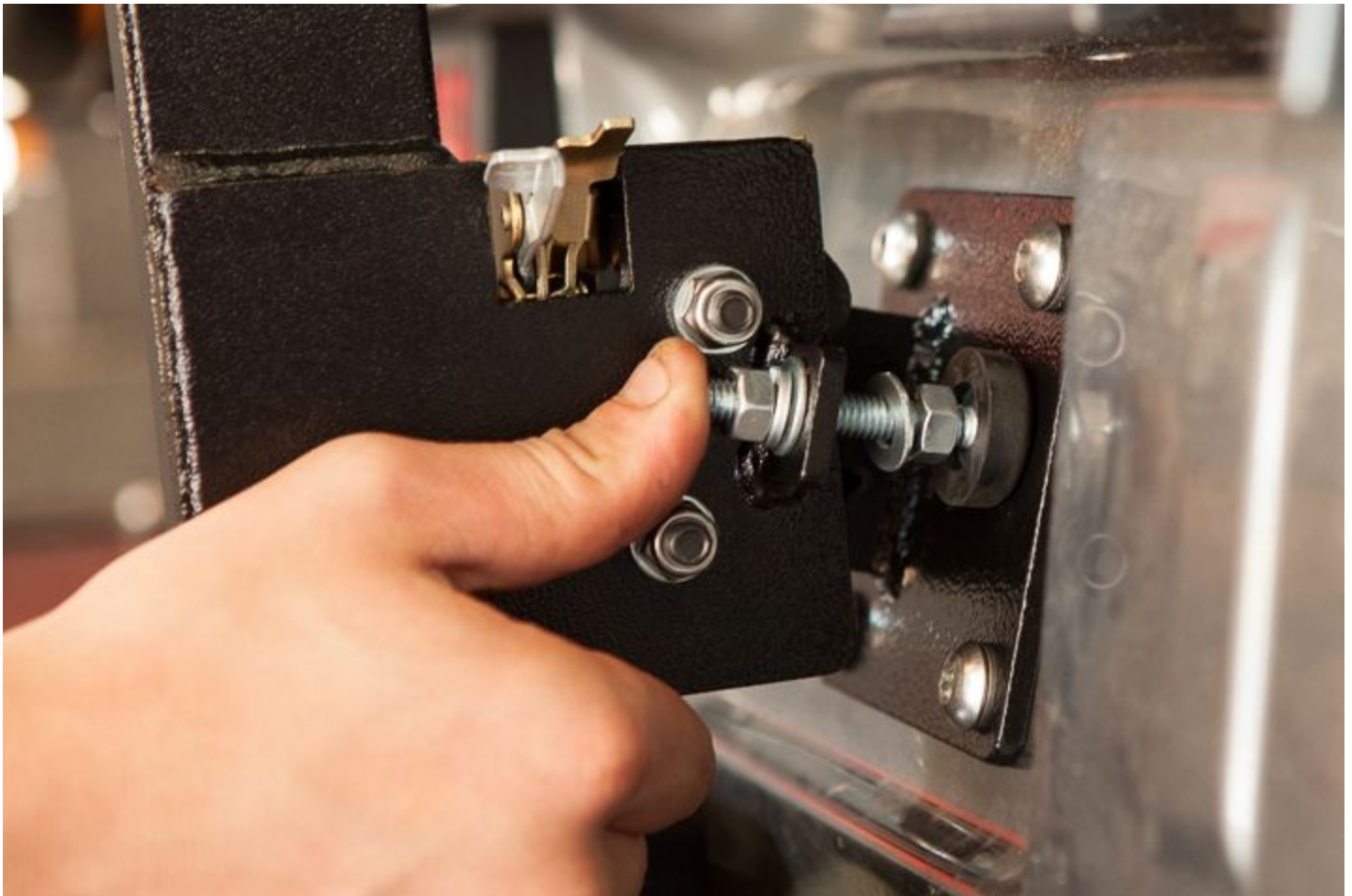


Plug the tail light back up and use a **Phillips Head Screwdriver** in order to reinstall the four mounting screws.



Swing the **Swing Arm** closed and let the **Latch Lock** connect to the **Striker Pin**.

Assemble the lower **Bump Stop Plate** as shown by using the **5/16x18x2" LG Foot Adjuster**, **5/16x18 Nut (x 2)**, **5/16 Washer (x 2)** and a **5/16 Lock Washer (x 1)** from **Hardware Package D**. Apply pressure from the back side of the **Foot Adjuster** in order to make a firm fit against the **Striker Plate**. Hand tighten both **Jam Nuts** securing the **Foot Adjuster** in place.





Use two **13mm Wrenches** in order to fully tighten the **Jam Nuts** on the **Foot Adjuster**.



## Tire Carrier Installation

The **Tire Carrier** will come with it's own **Hardware Package** and **Tire Mount Stand Off**. Place a **1/2 Flat Washer** onto each of the **1/2x13x1.5 LG Hex Head Bolt** and put them through the **Tire Mount Stand Off** and the vertical flat bar of the **Swing Arm**.



Place a **1/2 Flat Washer** and a **1/2 Nylock Nut** onto each of the **Hex Head Bolts**.



Use a **19mm Wrench** and a **19mm Socket** on a **Ratchet** in order to fully tighten down the **Hex Head Bolt** and **Nylock Nut** securing the **Tire Mount Stand Off** to the **Swing Arm**.





Place your spare tire onto the three studs on the **Tire Mount Stand Off**. Use a **19mm Socket** and **Ratchet** in order to tighten the three **14x1.5 Lug Nuts** into place.



## Installation Complete

You have now finished the Rocky Mountain Westy **Swing Away Carrier w/ Spare Tire Carrier** installation. We're confident you'll enjoy the product as it'll provide many years of use.



Thank you for your continued support of Rocky Mountain Westy products....