



7004 – 2015-2018, MERCEDES SPRINTER NCV3 4X4, AUXILLARY FRONT SHOCK KIT

Version 4.4

General Notes

- For the most up to date and current instructions, please visit our website at www.vancompass.com
- Please read all instructions thoroughly before starting installing Van Compass products.
- This is a bolt on shock kit that can be installed with basic hand tools.
- Removal and trimming of the plastic inner fender well liner will be required for installation.
- This suspension kit can be completely removed, allowing the vehicle to be returned back to stock configuration if desired.

Parts List

1010 – 2015-2018, MERCEDES SPRINTER NCV3 4X4, AUXILLARY FRONT UPPER SHOCK MOUNT

- (2) 101001 MERCEDES SPRINTER NCV3 4X4, AUXILLARY FRONT UPPER SHOCK MOUNT
- (1) 101002 DRIVER (LEFT HAND) SIDE FRONT NUT TAB
- (1) 101003 REAR NUT TAB
- (1) 101005 PASSENGER (RIGHT HAND) SIDE NUT TAB
- (4) HC8-8-12 ½-13 UNC, GR8, HEX HEAD BOLT
- (4) WF8-8 ½" GR8 FLAT WAHER
- (4) WL8-8 ½" GR8 LOCK WASHER
- (6) HC8-6-10 3/8-16 UNC X 1" LONG, GR8, HEX HEAD BOLT
- (4) NSC-6 3/8-16 UNC STOVER NUT
- (10) WF8-6 3/8" GR8 FLAT WASHER
- (2) WL8-6 3/8" GR8 LOCK WASHER

1023 – 2015-PRESENT, MERCEDES SPRINTER NCV3 4X4, AUXILLARY FRONT LOWER SHOCK MOUNT

- (2) 102301 MERCEDES SPRINTER NCV3 4X4, AUXILLARY FRONT LOWER SHOCK MOUNT
- (2) HC8-9-30 9/16-12 UNC X 3.0" LONG, GR8, HEX HEAD BOLT
- (2) NS8-9 9/16-12 UNC STOVER NUT
- (4) WF8-9 9/16" GR8 FLAT WASHER

- (2) HM10-1.50-70-10.9 M10-1.50 X 70MM LONG, GR10.9, HEX HEAD BOLT
- (4) HM10-1.50-40-10.9 M10-1.50 X 40MM LONG, GR10.9, HEX HEAD BOLT
- (6) NSM10-1.50 M10-1.50 STOVER NUT
- (10) WF-M10 M10 FLAT WASHER

1016 – 2015-PRESENT, MERCEDES SPRINTER 4X4, FOX FRONT SHOCKS

- (2) 101601 MERCEDES SPRINTER 4X4, FOX FRONT SHOCKS

OR

1037 – 2015-PRESENT, MERCEDES SPRINTER 4X4, FALCON ADJUSTABLE PIGGYBACK RESERVOIR FRONT SHOCKS

- (1) 1037-LH MERCEDES SPRINTER 4X4, FALCON ADJUSTABLE PIGGYBACK FRONT SHOCK, DRIVER SIDE
- (1) 1037-RH MERCEDES SPRINTER 4X4, FALCON ADJUSTABLE PIGGYBACK FRONT SHOCK, PASSENGER SIDE

OR

1038 – 2015-PRESENT, MERCEDES SPRINTER 4X4, FALCON MONOTUBE FRONT SHOCKS

- (2) 103801 MERCEDES SPRINTER 4X4, FALCON MONOTUBE FRONT SHOCK

Tools Needed

- Quality Jack and 2 jack stands.
- Simple hand tools:
 - Basic wrench and socket set:
 - Metric sizes: 10mm, 13mm, 16mm, 17mm
 - SAE sizes: ½", 13/16", 7/8"
- Automotive trim removal tool
- Drill with 3/8" (10mm) diameter metal cutting drill bit.
- Cutting tool for plastic inner fender well trimming.
 - Tin snips
 - 4-1/2" angle grinder or 3" pneumatic cut off tool
 - Die grinder or Dremel style tool

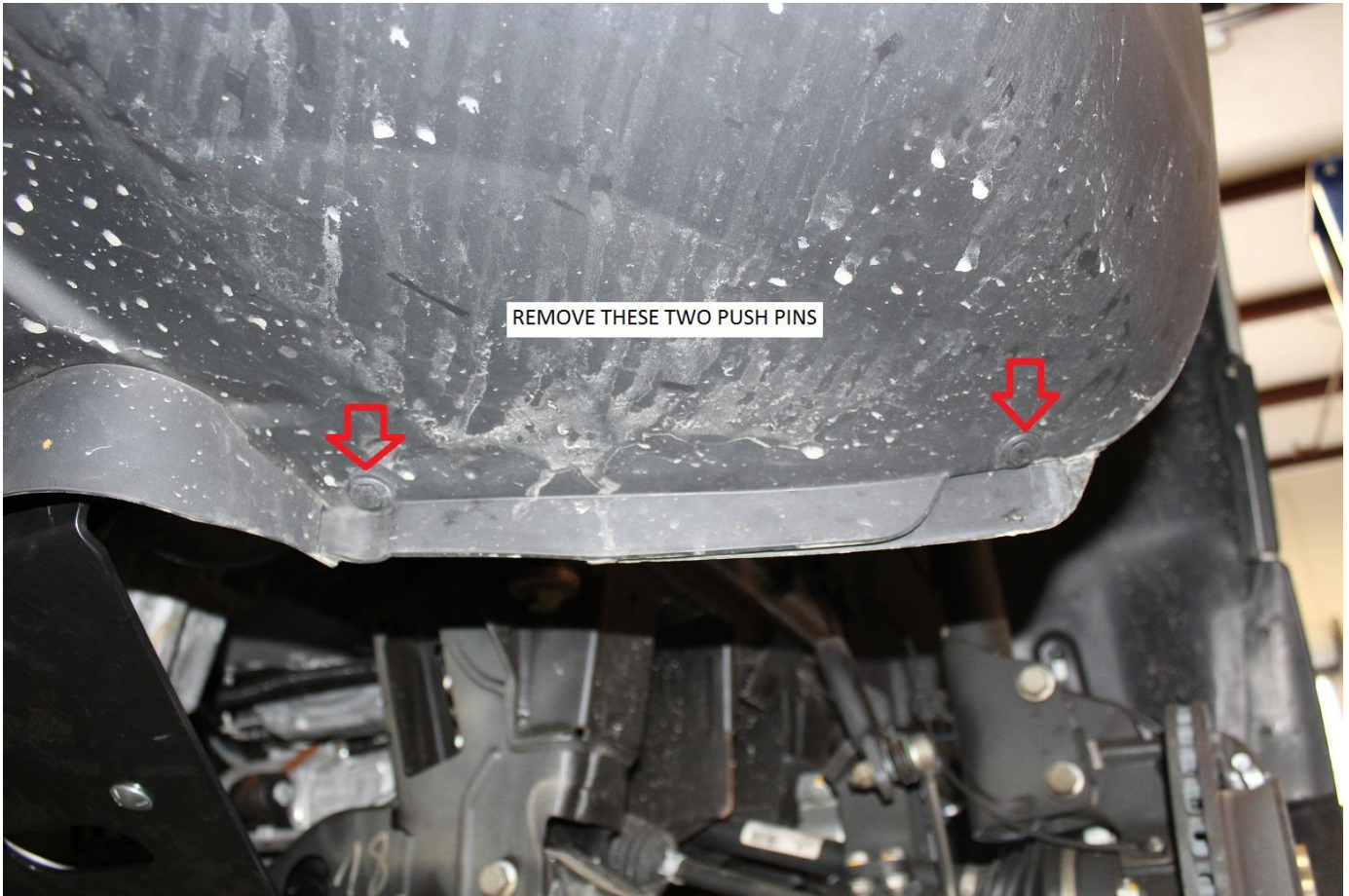
Approximate Installation Time

- Professional shop with automotive lift: 3-4 hours
- Driveway install with jack and jack stands: 4-6 hours

Installation

- 1) Begin by safely supporting the vehicle so that the front suspension can hang free.
- 2) With the front suspension hanging free, remove the front wheels / tires. Factory lug bolts are typically a 19mm bolt head.

- 3) These instructions will show installation on the driver's (left hand) side of the vehicle. Installation on the passenger side is similar. Any differences will be addressed in the following instructions.
- 4) Remove the inner fender well liners by first removing the two push pins located near the front bottom side of the bumper which connect the inner fender well to the front bumper. See image below.



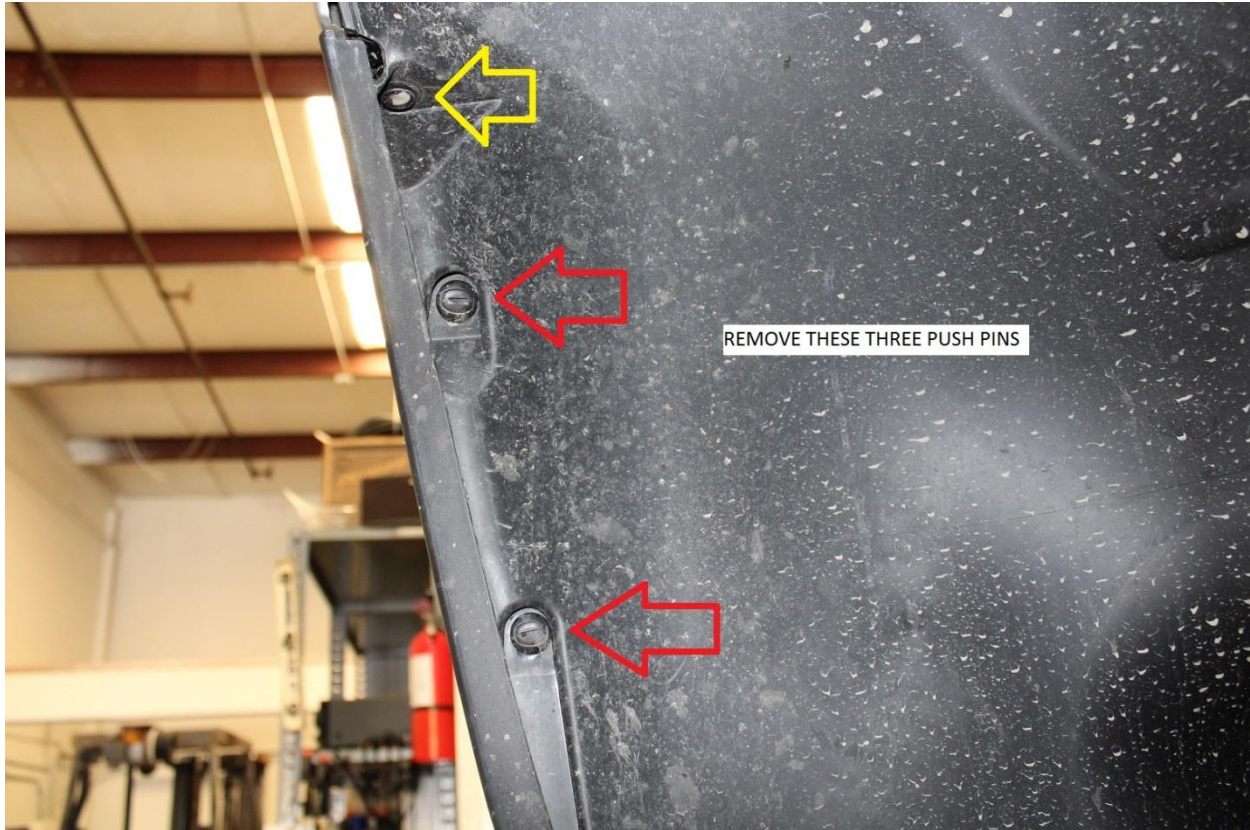
- 5) Using an automotive trim removal tool, pull up the head of the push pin. In most instances, the entire push pin assembly will come out.



- 6) Using the same automotive trim removal tool, pry up under the head of the push pin body to fully remove the fastener.



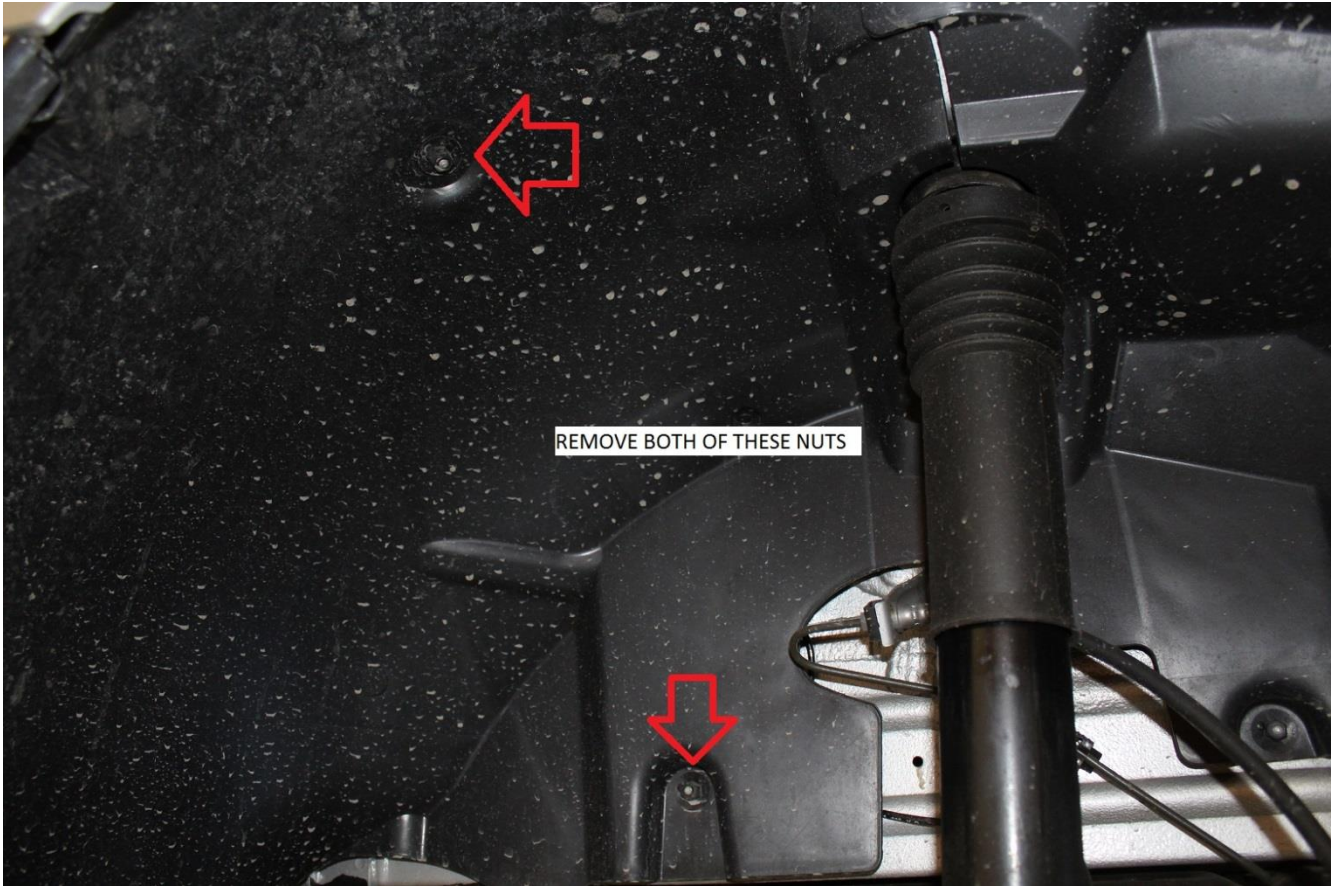
- 7) Next, on the inside of the fender well, remove the three push pin fasteners near the outer lip of the bumper.



- 8) Note, the bottom two fasteners (denoted with the red arrows). The upper fastener (denoted with the yellow arrow) is a slightly larger push pin, take note of the different head style and be sure to reinstall in the same location during reassembly.



- 9) Locate and remove the two plastic nuts securing the front half of the inner fender well liner to the chassis. Use a 10mm socket for removal.



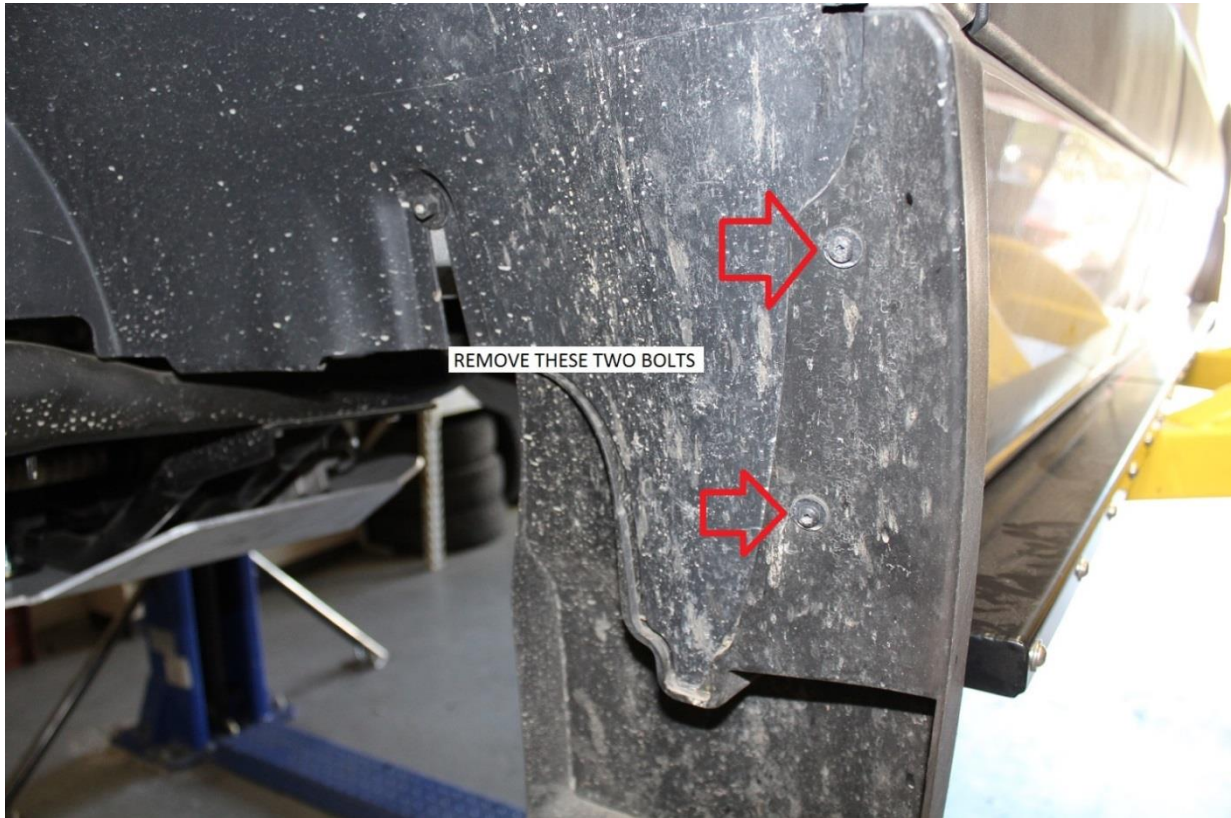
- 10) Locate and remove the 3 plastic 10mm nuts securing the rear half of the inner fender well liner to the chassis.



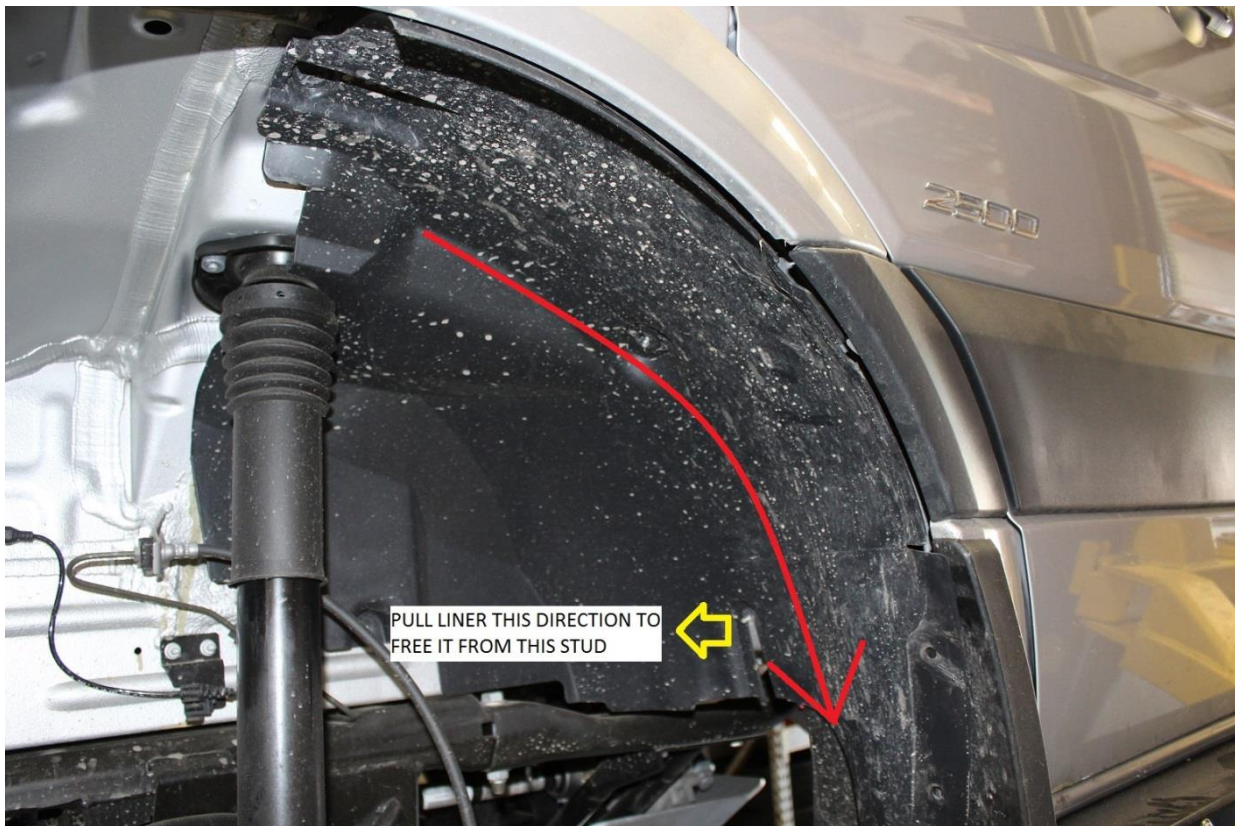
11) Lastly, remove the upper nut which secures both the front and rear half of the inner fender well liner to the chassis. Again, use a 10mm socket for removal.



12) Remove the two torx head bolts securing the rear half of the inner fender well liner to the mud flap. Use a T-25 Torx bit tool for removal.



13) Pull the mudflap out away from the body so the inner fender well liner can be pulled free from behind it. Pull the inner fender well liner out from underneath the lip of the fender and pull the liner away from the bottom stud.

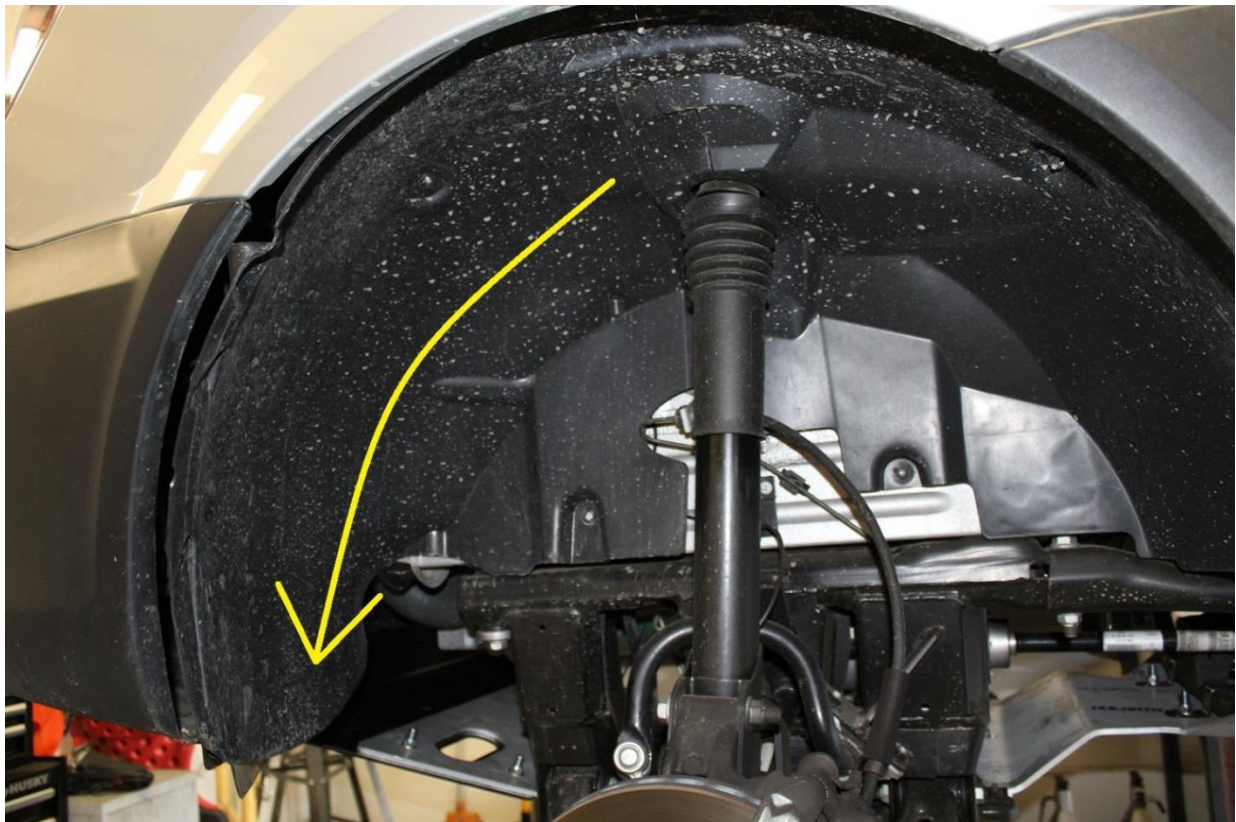


14) The liner should now be able to rotate down and out the direction denoted above with the large red arrow.

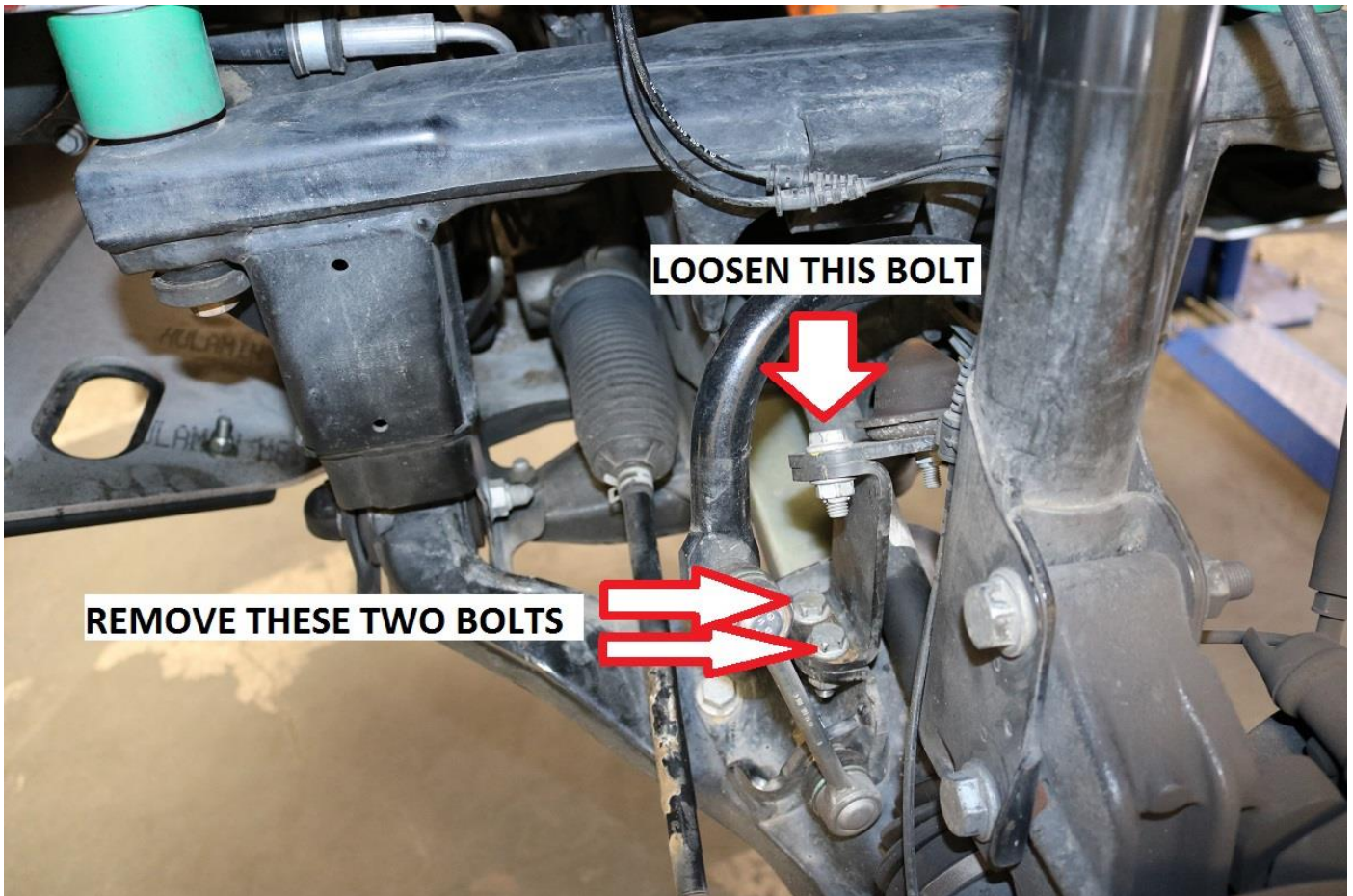
15) Remove the front half of the inner fender well liner by pulling the liner away from the bottom stud as shown.



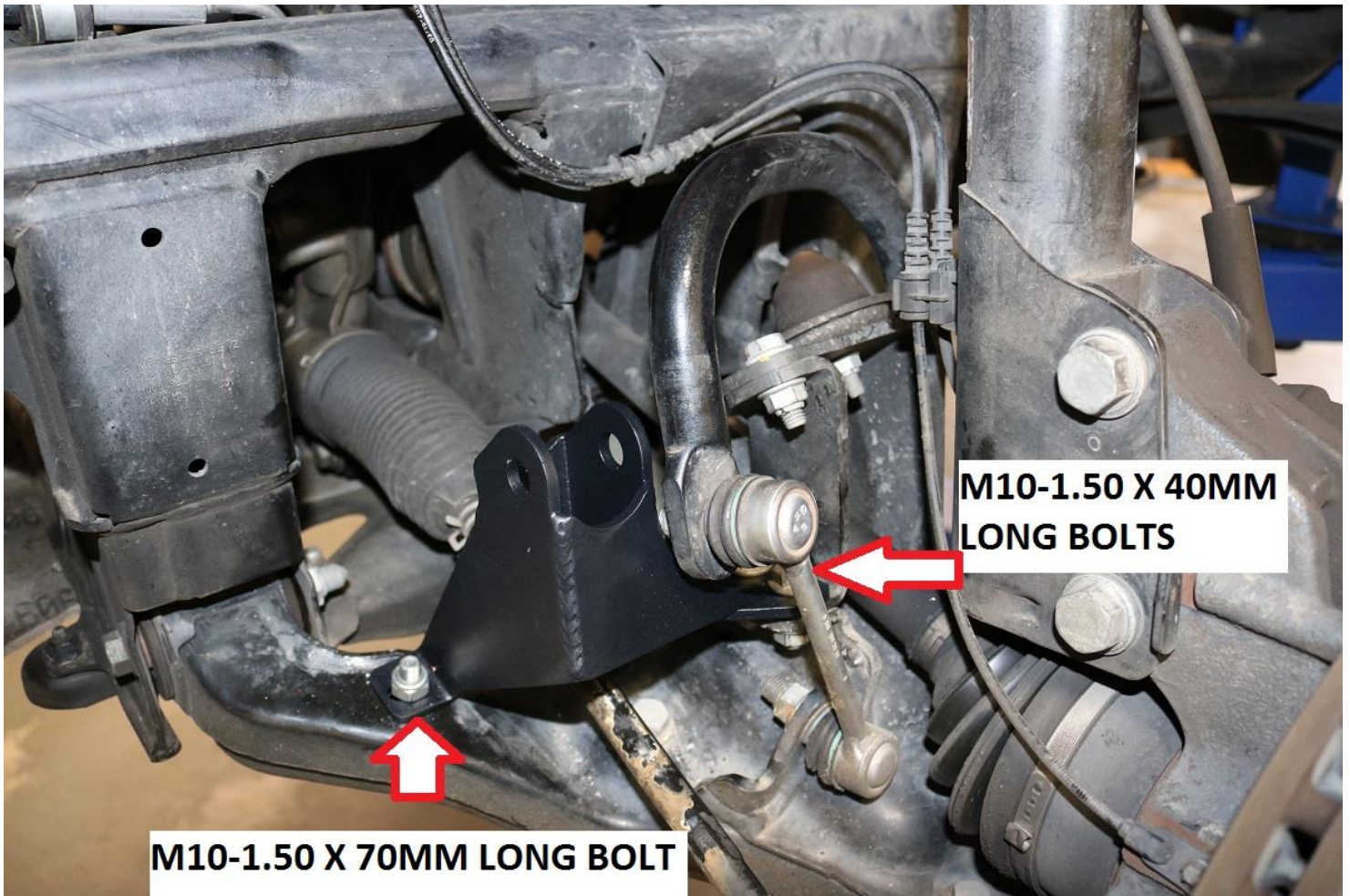
16) Next pull the inner fender well liner away from the bumper and out from under the fender lip until it appears as shown.



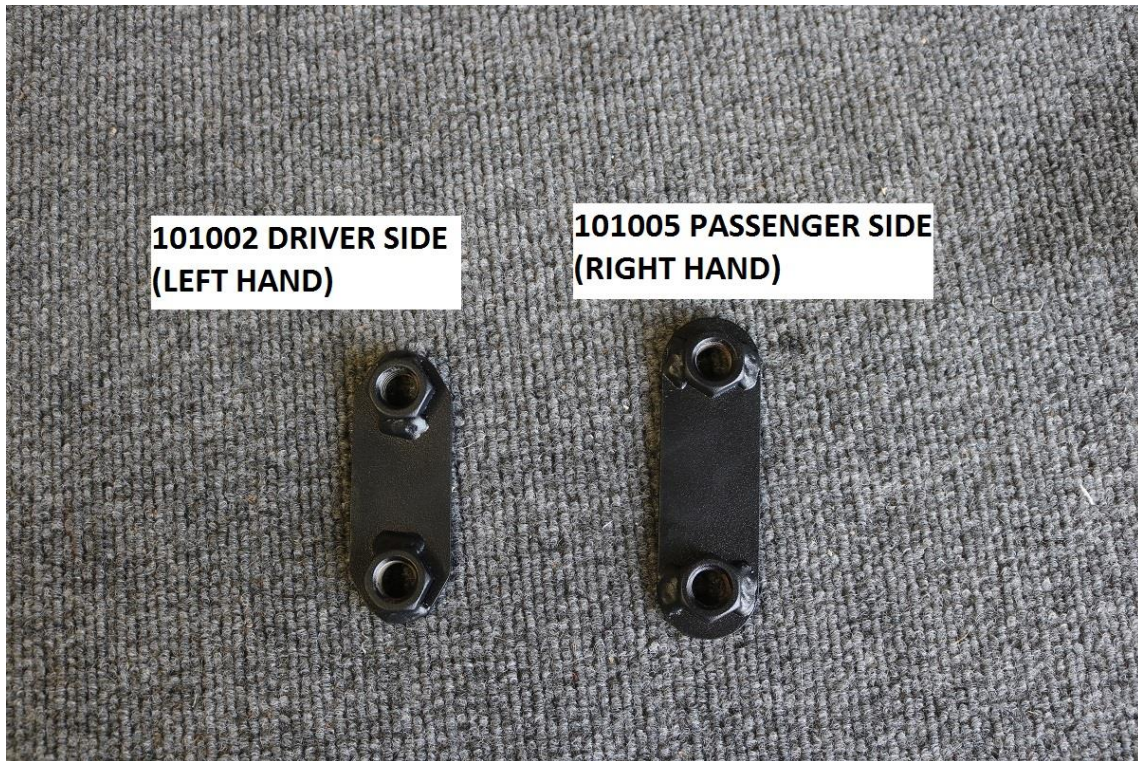
- 17) Slide the front half of the inner fender well forward and down until it clears from underneath the rear half of the inner fender well liner. Note arrow in above photo is there to denote direction of movement needed for removal.
- 18) Install the 102301 lower shock mount by locating the front gusset plate of the bump stop mount on the lower control arm.
- 19) Remove the two bottom bolts on the front gusset using a 16mm socket / wrench. Loosen the top bolt approximately 3 turns but do not fully remove it.



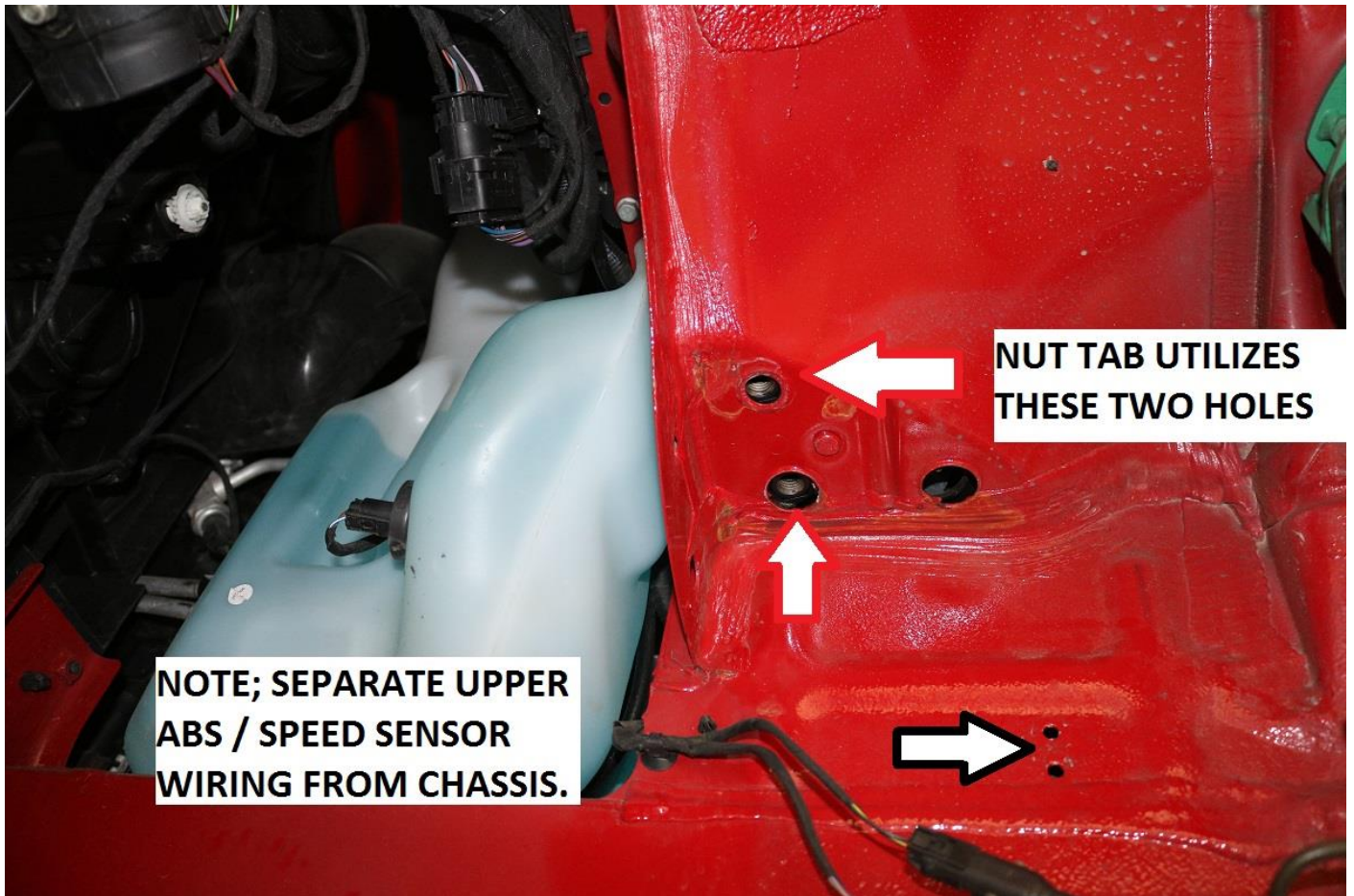
- 20) Install the lower shock mount as pictured below. The mounts are left and right specific and will only install one way. Use the new M10-1.5 x 40mm long bolts in the bump stop mount gusset. Use a washer under the bolt head and under the stover nut. Start all hardware but do not tighten at this time.
 - a. Install the M10-1.5 x 70mm long bolt provided from the bottom of the control arm and up through the slotted hole near the lower control arm's front pivot bushing. Use a washer under the bolt head but not under the nut.
 - b. See image below for reference.



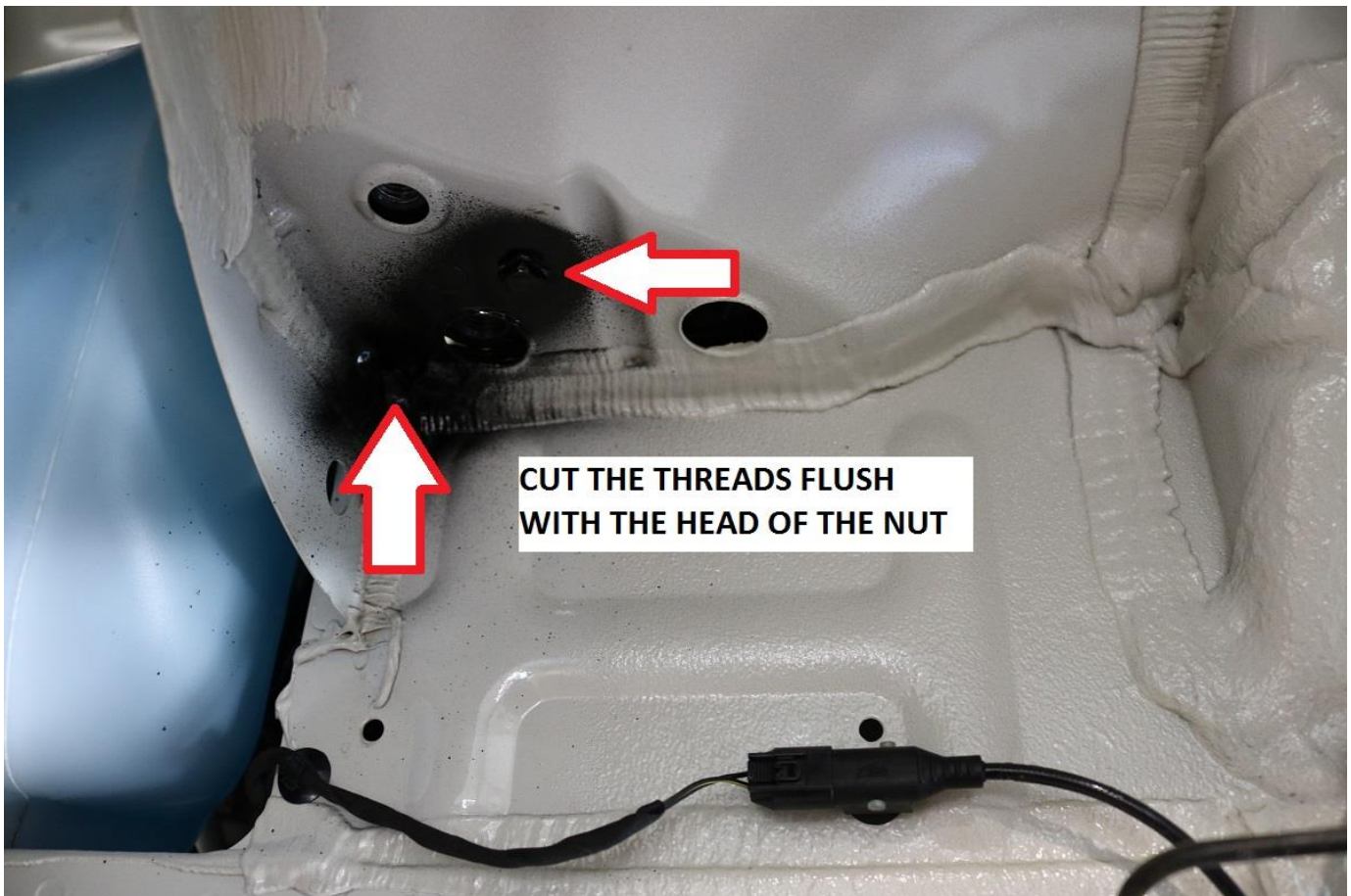
- 21) Once all three bolts have been started snug all hardware. Use a 17mm socket / wrench for the new hardware and a 16mm socket / wrench to re-tighten the upper bolt of the bump stop gusset which was loosened in step 20.
- Torque all hardware to 43 ft-lbs (58 N.m)
 - Repeat lower shock mount installation on the passenger side.
- 22) Begin installation of the 101001 Upper shock mount on the driver (left hand) side by first placing the appropriate upper nut tab into the fender well. The image below denotes which side of the vehicle each nut tab goes on.



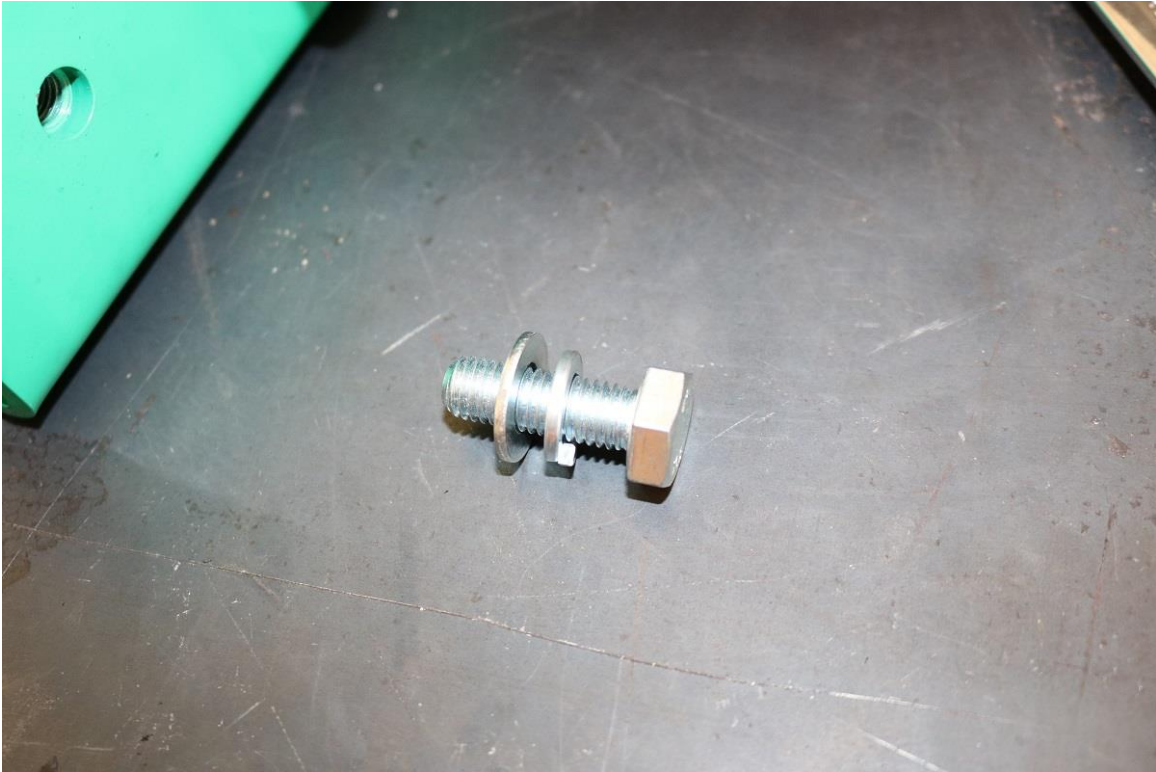
23) Install the nut tab from the engine bay so the threads are centered over the holes shown in the image below. Install so the plate is flat against the body, the welds on the nuts should be on the top side.



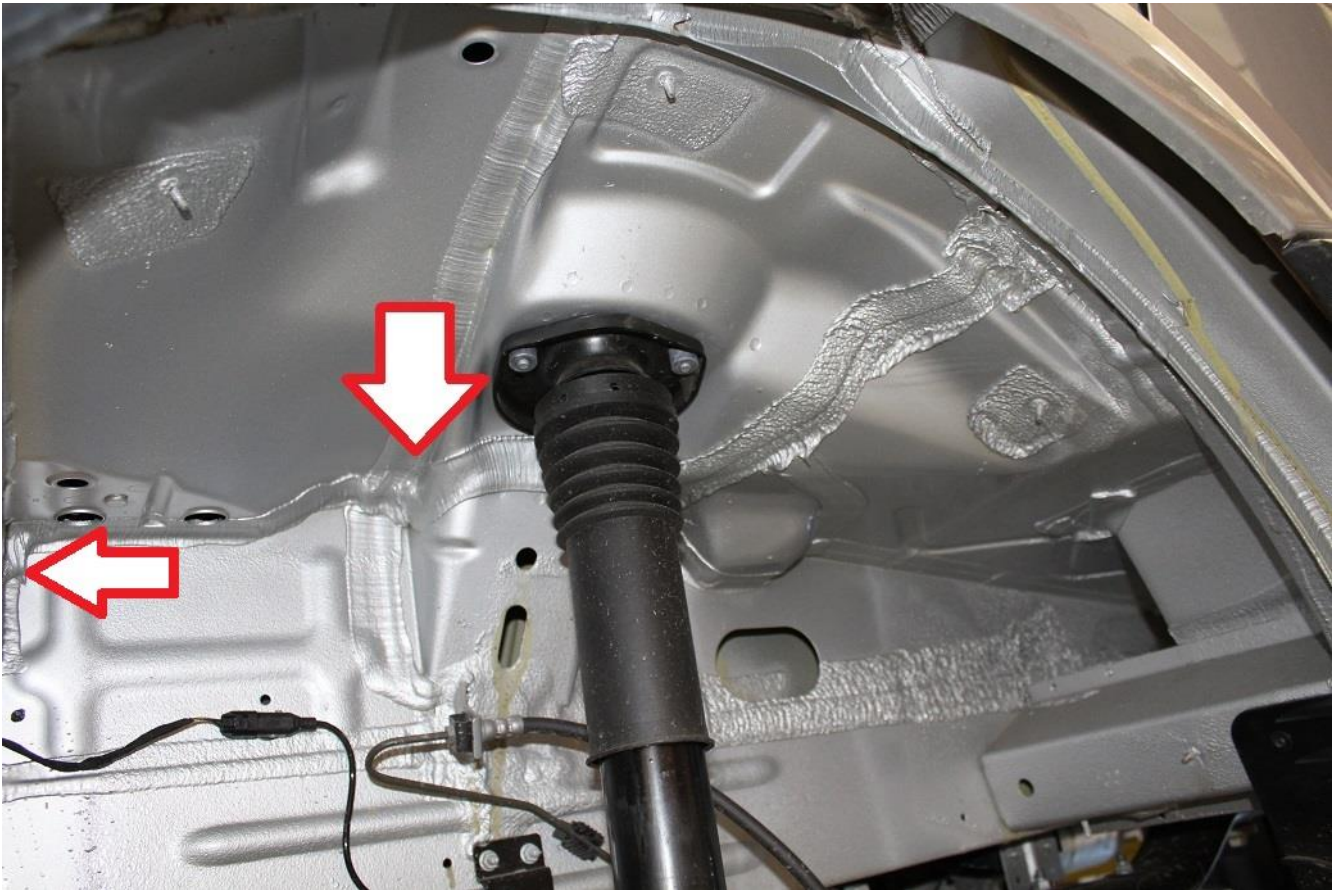
- 24) Note in the image above that the ABS / speed sensor wiring has been pried free from the chassis denoted by the black outlined arrow. Use an automotive trim tool under the connector to separate it from the chassis.
- a. Although the image above shows both wires separated, only the upper wire needs to be separated.
 - b. Some vehicles will only have one wire on the driver (left hand) side. If this is the case and it is installed in the lower of the two mounting holes, it can be left in place.
- 25) On some 2017 and newer models, there will be two bolts protruding through square nuts in the upper left hand corner where the shock bracket is to bolt against. These bolts will need to be cut flush with the head of the square nut. **DO NOT CUT THE NUT OFF!** Just cut the threads flush with the bottom of the nut.
- a. Touch up any exposed areas of metal with paint to prevent corrosion.



- 26) Install the 101001-L bracket on the driver side (left hand). The mounts are left and right specific and can only be installed one way. Use a lock washer under the bolt head, followed by a flat washer as shown below.



27) Note; make sure the bracket sits relatively flat in the fender well. In some instances, the factory glue / undercoating is applied in excess and can cause the bracket to not sit completely flush against the fender well. A small chisel and hammer can easily knock off any excess glue so the bracket can sit flush. The image below shows where we have encountered excess glue during installations.

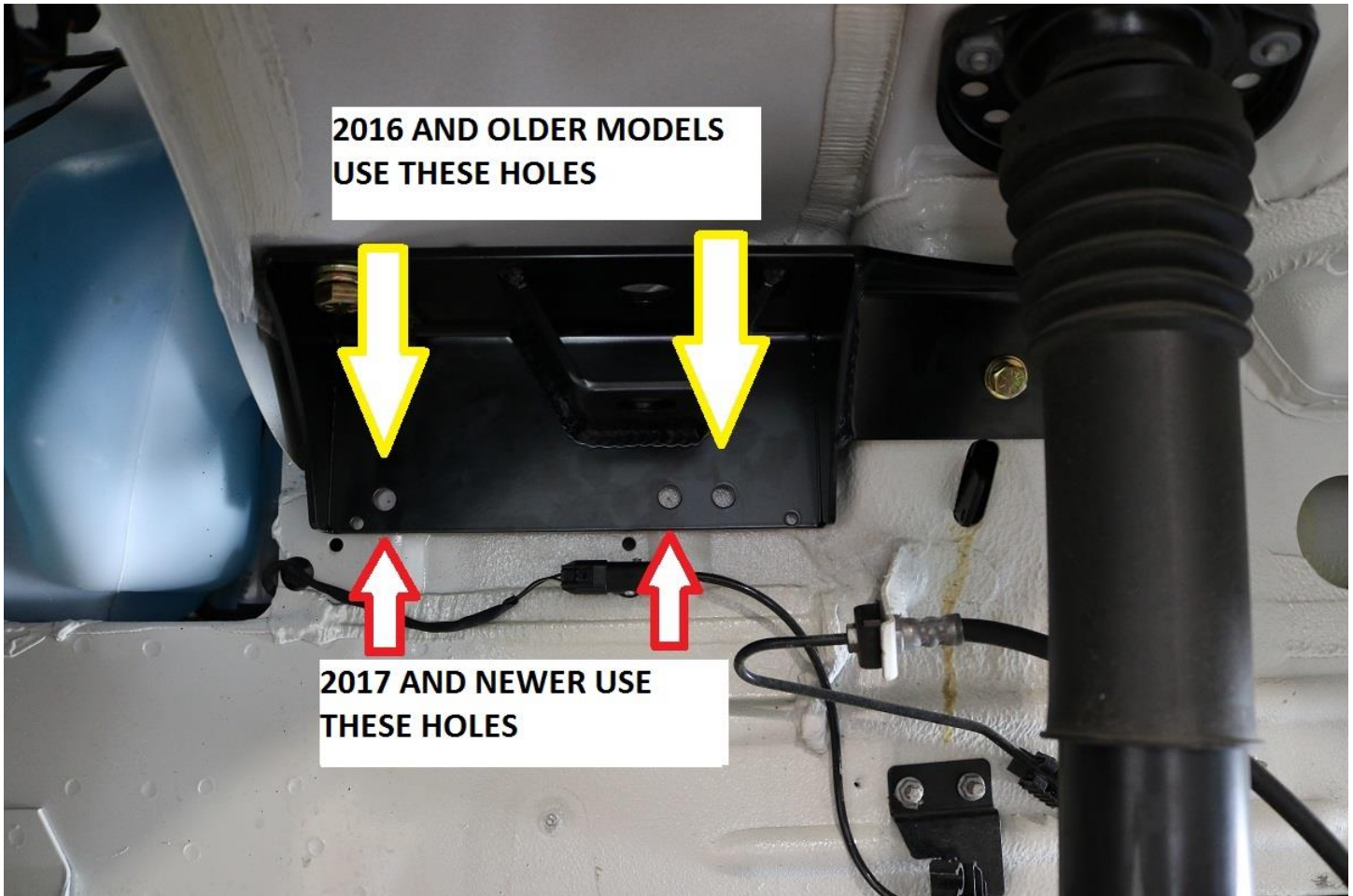


- 28) Install the $\frac{1}{2}$ -13 x 1-1/2" long bolts in the front mounting holes. Start both bolts so the bracket stays in place on the chassis.
- 29) Next use the 101003 rear nut tab to attach the rear part of the bracket to the chassis.
- Insert the rear nut tab through the slot behind the strut as shown below. Once in the slot, rotate the nut tab so the nut is flush against the inside of the chassis.
 - Be careful not to drop the nut tab into the chassis as it is difficult to fish back out.

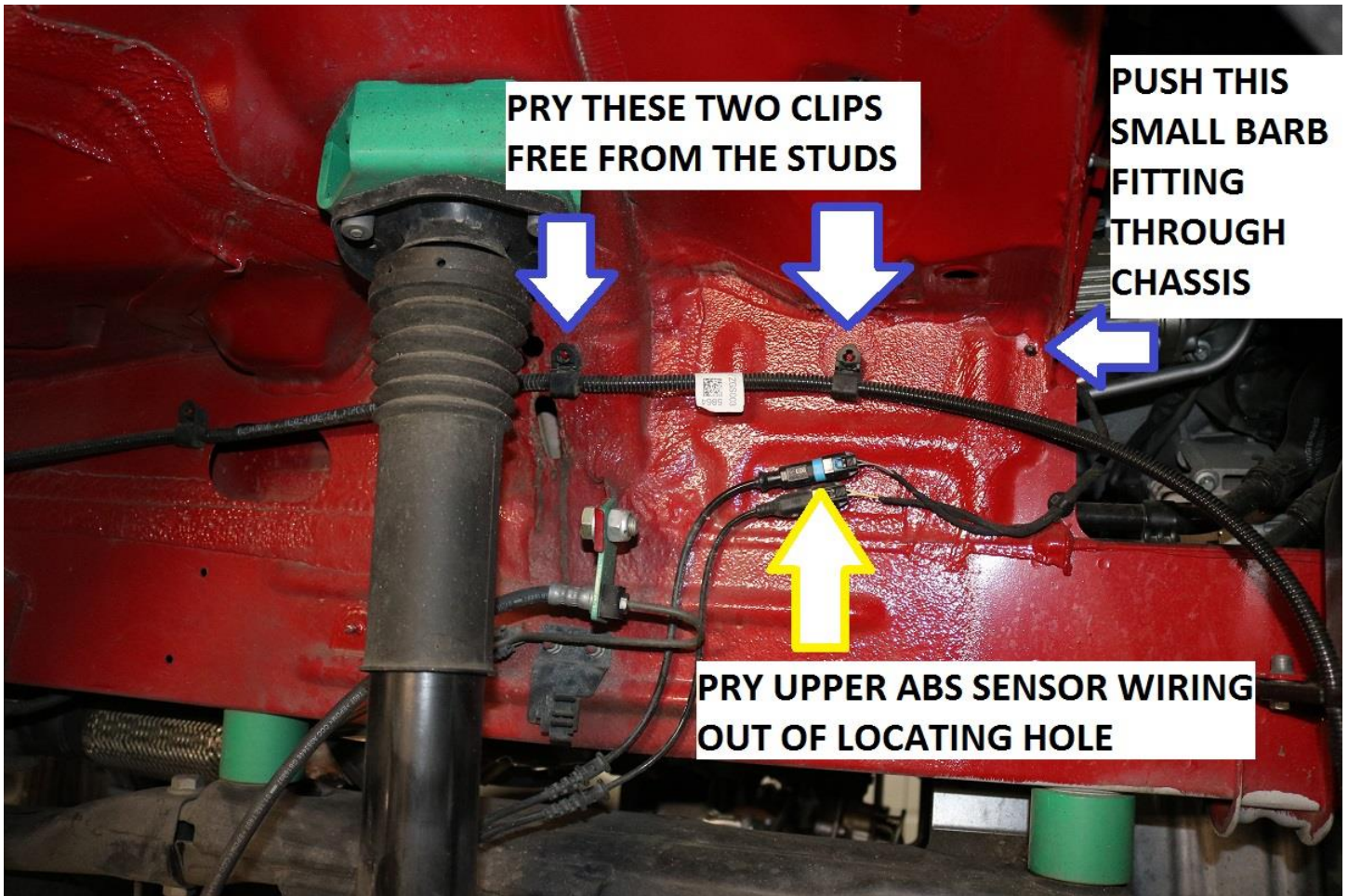


- 30) Use the 3/8-16 x 1" long bolt provided in the kit. Again use a lock washer under the bolt head, followed by a flat washer. Snug bolt but do not fully tighten at this time. Use a 9/16" socket / wrench to snug.
- 31) Go back to the two $\frac{1}{2}$ -13 bolts at the front of the bracket and snug using a $\frac{3}{4}$ " socket / wrench. Again, do not fully tighten at this time.
- 32) With the upper mounting bolts installed and the upper mounting bracket snugged into place, mark and drill the two lower mounting holes.
- Note; Take note of where the chassis protrudes outwards towards the bracket's mounting surface. On 2017 and newer models, the protrusion is further forward on the chassis and thus requires using the forward rear mounting hole. 2016 and older models, use the rear most mounting hole.
 - Drill using a 3/8" (10mm) drill bit.
 - Use the bracket itself as a drill guide and carefully drill through the inner fender.

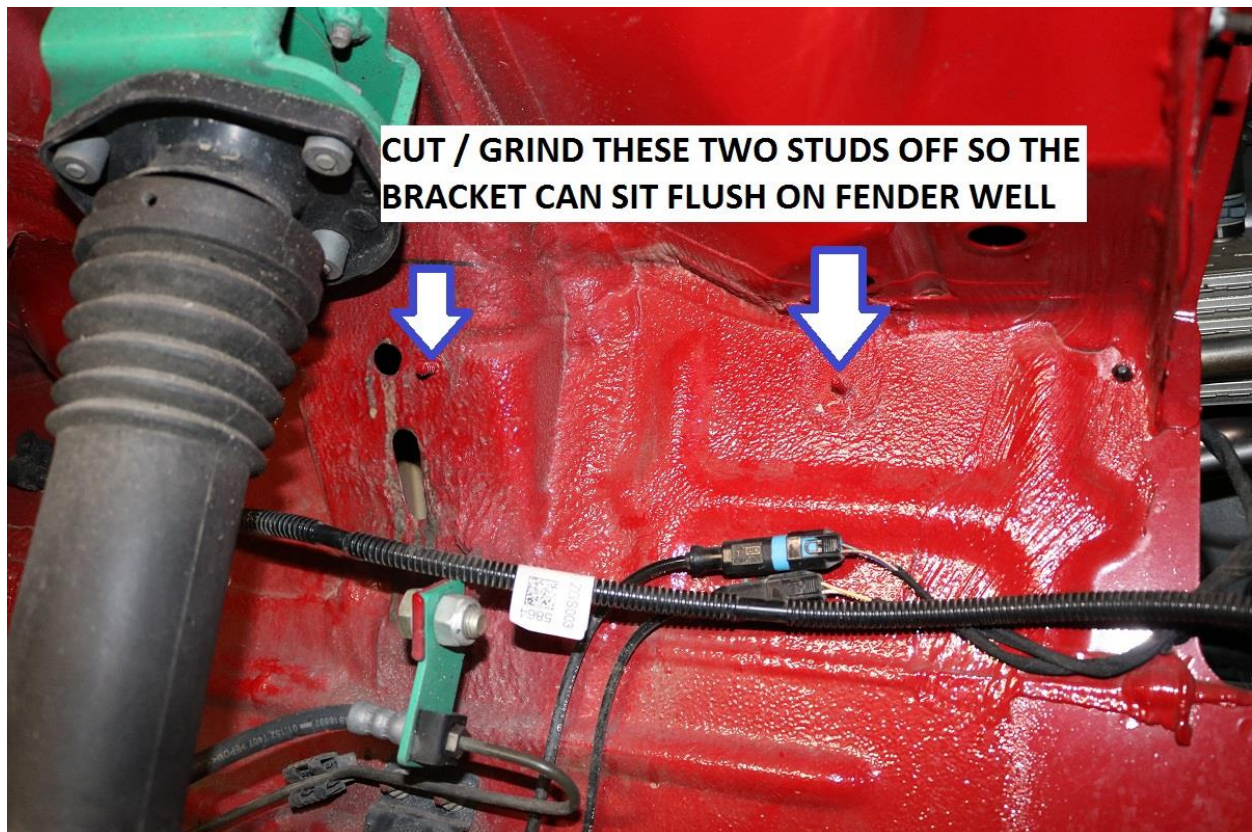
- d. ****NOTE**** There shouldn't be anything behind the drill locations on the fender but always double check prior to drilling that there are no accessories or wiring behind the fender which could potentially be damaged from drilling.
- e. The image below shows installation on a 2017 model van.
- f. ****NOTE**** Do not drill and install the rear mounting bolt on the passenger side of vehicles with factory installed rear A/C. There is an A/C hard line that is in the way on most models.

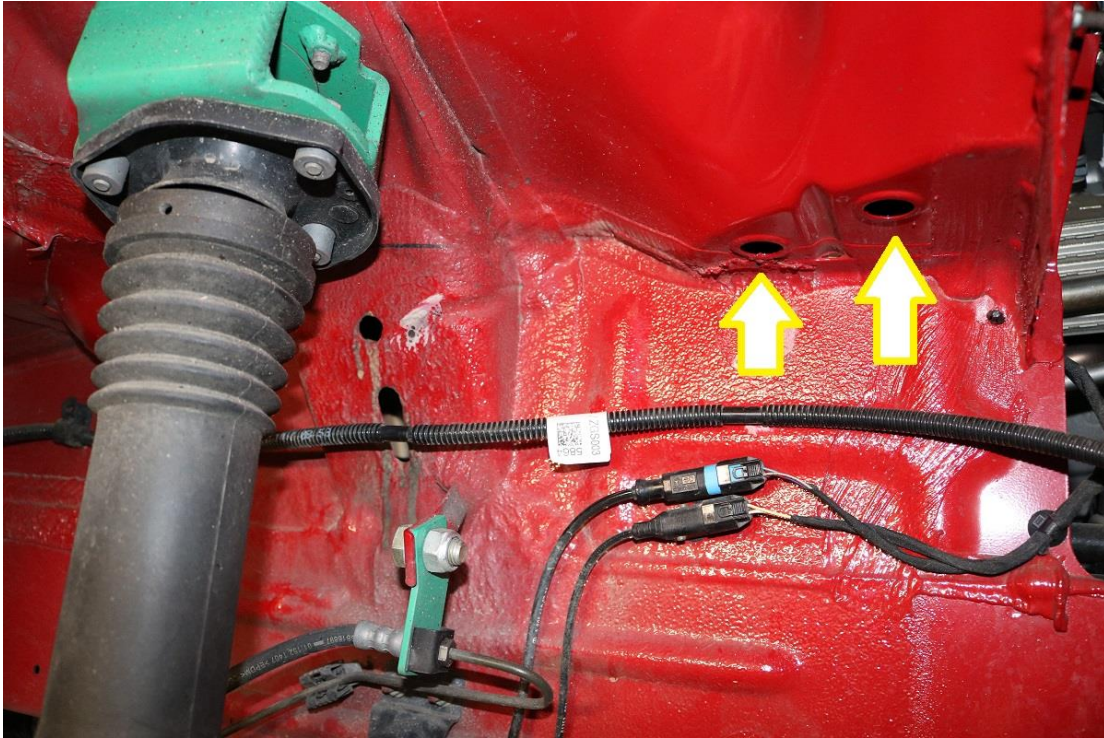


- 33) With the holes drilled, install the included 3/8-16 x 1" long bolts provided in the kit. Use a washer under the bolt head and under the stover nut on the back side. Snug hardware.
- 34) Fully tighten hardware.
 - a. Torque the upper ½-13 bolts to 50 ft-lbs (68 N.m)
 - b. Torque the 3/8-16 bolts to 20 ft-lbs (27 N.m)
- 35) On the passenger (right hand) side of the vehicle, locate the wiring that runs the length of the fender well above the ABS / wheel speed sensor wiring.
 - a. Pry this wiring free from its threaded studs. We've found it easiest to unclip the wire from the plastic fasteners and spin them off rather than try to pry them free of the studs.
 - b. Just like on the driver side, pry the upper ABS / speed sensor wiring free from its mounting hole.
 - c. Lastly, at the upper corner of the shock bracket's mounting location, locate the small barb wiring fastener that is protruding through the fender well in the upper right corner. Push this fastener through the fender well so the bracket can sit flush on the fender well.
 - d. See image below for reference.



36) Cut / grind smooth the threaded studs where the upper wiring was attached to. See the following two images for before / after reference images.

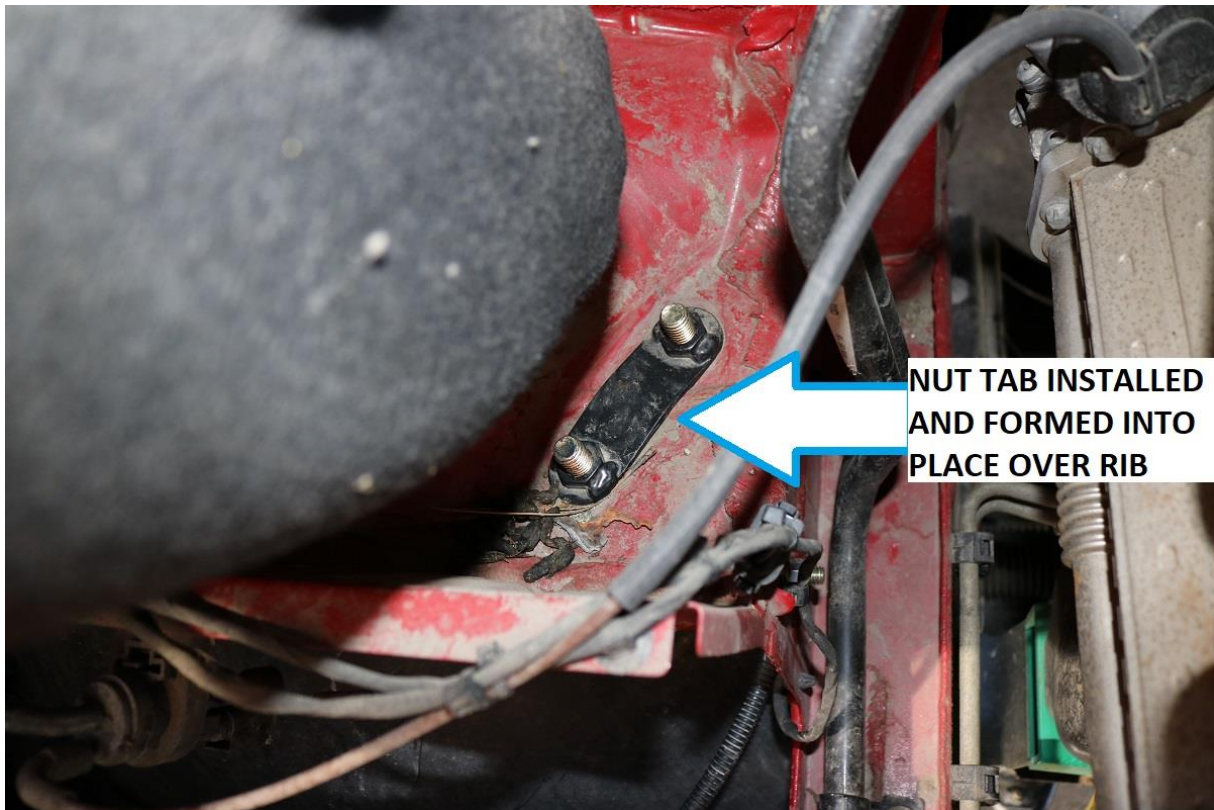




37) Touch up any bare areas of metal with paint to prevent corrosion.

38) Install the passenger side bracket in the same order / fashion as the driver side.

- a. Start by inserting the upper nut tab from above and aligning it with the two holes in the fender well denoted by the yellow arrows in the image above.
- b. NOTE: Install nut tab with the welds up. The nut tab is thin gauge material that will deform over the ridge on the chassis. Below is an image of the nut tab fully installed and formed over the inner fender rib.



39) Reference steps 26-34 to complete bracket installation on the passenger side.

40) With brackets installed, install the shocks into the lower mounting bracket first. Use the 9/16-12 x 3.0" long bolt provided in the kit and install as shown below. Use a washer under the bolt head and stover nut.



41) With the shock installed in the lower mount use a 13/16" socket / wrench for the head of the bolt, while a 7/8" socket or wrench is used for the nut and snug the lower shock bolt. Do not fully tighten at this time.

42) Install the shock into the upper mount. Step 43 covers Fox shock installation. Step 44 covers Falcon installation.

43) For installing Fox front shocks, remove the upper nut, washer and bushing from the shock and compress the shock down until it can be positioned into the upper mount.

a. Once the shock is in position on the upper mount, re-install the shock bushing, washer and nut as shown below. Tighten nut using a 3/4" open ended wrench. Tighten until the bushings have compressed approximately 1/8" (3-4mm).

b. Torque the lower shock bolt to 100 ft-lbs (135 N.m)

44) If installing Falcon Adjustable Piggyback shocks, the shocks are left and right specific. Make sure the correct shock is installed on each side of the vehicle. 1037-LH is for the driver (left hand) side. 1037-RH is for the passenger (right hand) side. Falcon monotube (nonadjustable) shocks are the same left to right.

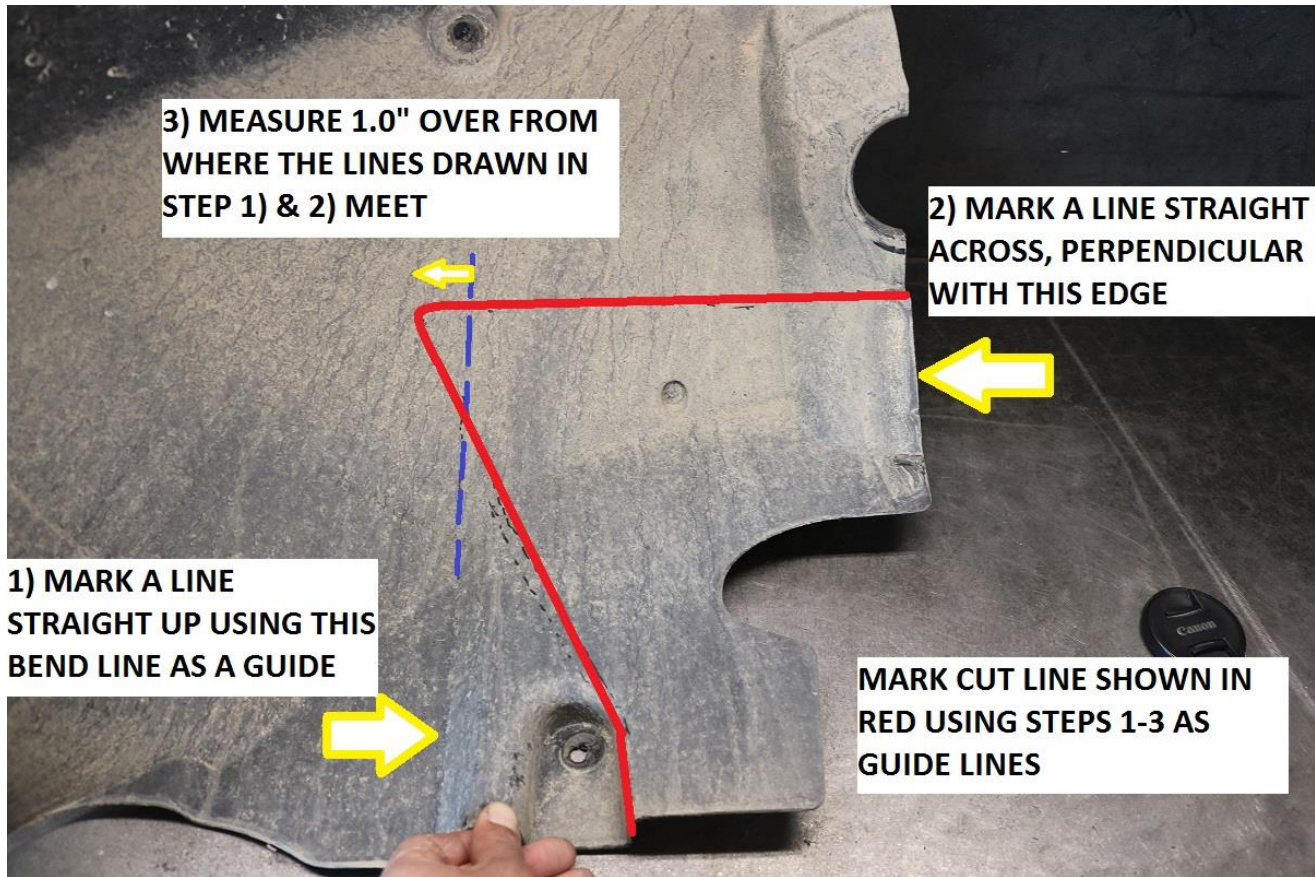
a. Remove the upper nut, washer and upper bushing from the shock and compress the shock down until it can be positioned into the upper mount. Orient the reservoir towards the front of the vehicle.

i. Note; the Falcon sticker and VC logo on the reservoir should be positioned out.

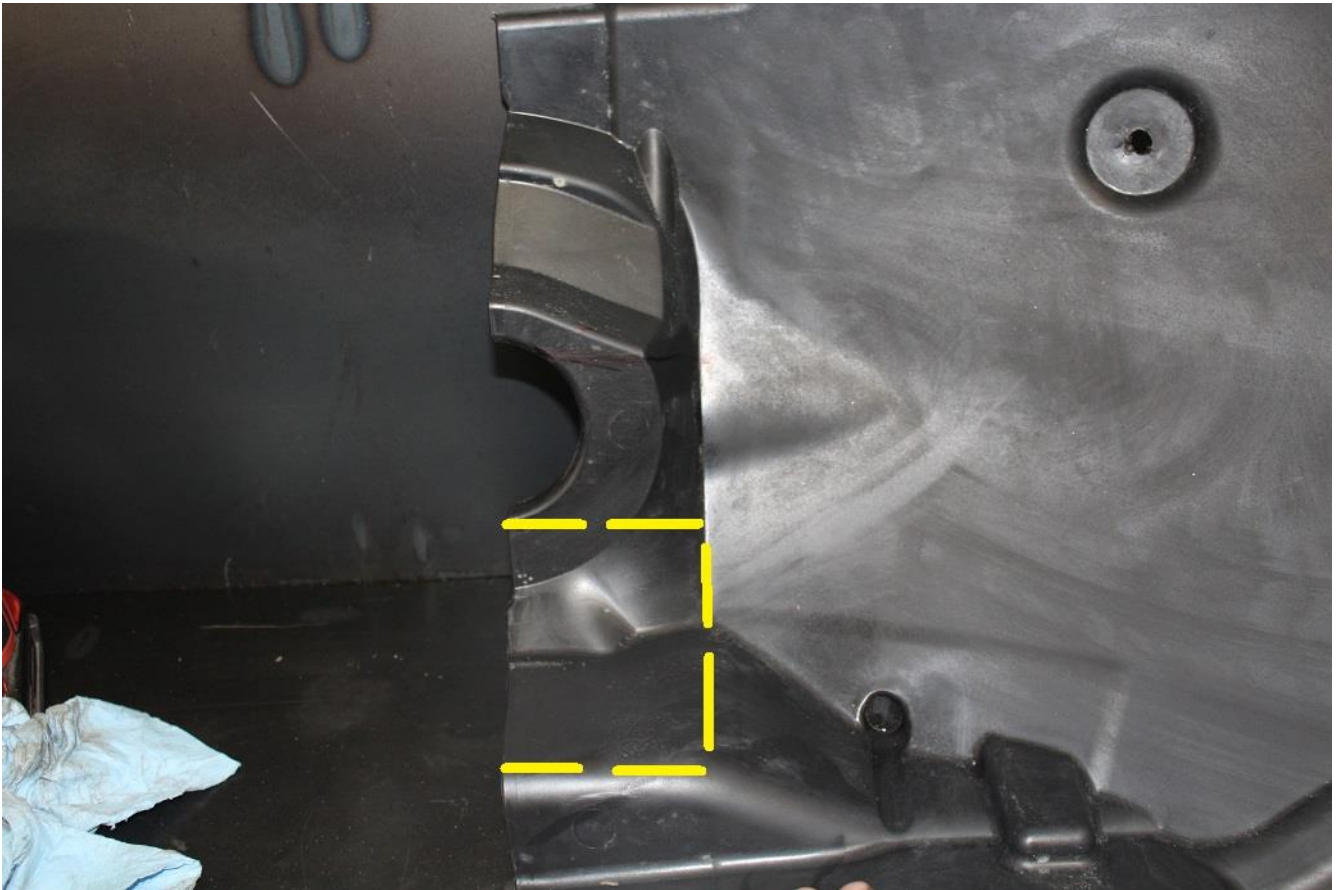
- c. Once the shock is in position on the upper mount, re-install the shock bushing, washer and nut as shown below. Tighten nut using a 19mm open ended wrench. Tighten the nut until it bottoms on the shoulder of the stud.
- d. Torque the lower shock bolt to 100 ft-lbs (135 N.m)



- 45) Trim the front half of the factory inner fender well liner. See reference photos below for cut location.
- a. Trim out the plastic using some tin snips or similar metal cutting shears. Round the edges with a dremel or die grinder.
 - b. A small rounded file works well for removing any remaining plastic burrs before re-installing.



46) Trim the rear half of the factory inner fender well liner as shown in the images below.



47) Re-install fender well liners and zip tie upper ABS / wheel speed sensor wiring in place as shown below.



48) Re-install wheels and tires and lower van to ground. OEM torque spec for wheel studs are as follows:

c. 2500 SRW: 177-187 ft-lbs (240-250 N.m)

d. 3500 DRW: 140-150 ft-lbs (190-200 N.m)

49) Re-check all bolt torques after 100 miles of driving.

Installation is Complete

RELEASE OF LIABILITY

I, the customer, do hereby release and forever discharge Van Compass LLC their agents, employees, successors and assigns, and their respective heirs, personal representatives, affiliates, successors and assigns, and any and all persons, firms or corporations liable or who might be claimed to be liable, whether or not herein named, from any and all claims, demands, damages, actions, causes of action or suits of any kind or nature whatsoever, whether known or unknown, fixed or contingent, which I now have or may hereafter have or claim to have, as a result of or in any way relating to the following: Parts sold & installed by Van Compass LLC or parts sold & installed by end-user; any parts sold online, any parts sold online or installed by a re-seller, any parts installed by an installation shop.

It is understood and agreed that this payment is made and received in full and complete settlement and satisfaction of the aforesaid actions, causes of action, claims and demands; that this Release contains the entire agreement between the parties; and that the terms of this Agreement are contractual and not merely a recital. Furthermore, this Release shall be binding upon the undersigned, and his respective heirs, executors, administrators, personal representatives, successors and assigns. This Release shall be subject to and governed by the laws of the State of Idaho.

PRODUCT SAFETY WARNING:

Van Compass LLC strongly recommends the installation of products be done by a certified mechanic. If this does not occur, be certain the person(s) installing the product read, understand and follow all instructions and warnings pertaining to the application before installation. Do not add, alter, or fabricate any factory or aftermarket parts to increase vehicle height over the intended height of the Van Compass LLC product purchased. Mixing component brands is not recommended.

Installation of suspension lift kits or any other lifting kits or devices will raise the center of gravity. For this reason, Van Compass LLC urges that extreme caution be used when encountering driving conditions which may cause vehicle imbalance. Furthermore, the driver's field of vision and judgment will not be as good due to the height of the vehicle. Due to the installation of larger tires, the speedometer will read slower than the actual speed being traveled and more distance will be required to stop the vehicle. It is the owner's responsibility to caution and warn any potential driver of the vehicle about these driving and handling conditions. Van Compass LLC will not be held liable or responsible for damages or personal injuries resulting from the use of lifting devices and or related products. The tires and rims should be changed to sufficiently increase the vehicle's total overall width and stability to help accommodate lifting devices.

Van Compass LLC aftermarket suspension products and accessories modify a vehicle for uses which exceed conditions anticipated by the vehicle manufacturer. The uses include the high performance demands required during off-road. These conditions vary in the degree of extremity and cannot be controlled by the vehicle or product manufacturer. If the components within the suspension system or accessories become worn due to frequent and/or extreme use, the safety and reliability of the vehicle is at risk. The maintenance of aftermarket equipment to ensure the vehicle occupants safety is entirely your responsibility. Do not purchase Van Compass LLC products unless you are willing to accept this responsibility. Do not install any Van Compass LLC suspension products or accessories unless you feel competent at installing the product without causing present or future injury to yourself or other vehicle occupants; seek an authorized installation center.

Most states have some type of law limiting vehicle height. The amount of lift allowed, and how the lift can be achieved, varies greatly. Several states offer exemptions for farm and commercial registered vehicles. It is the vehicle owner's responsibility to check state and local laws to ensure that their vehicle will be in compliance. Van Compass LLC reserves the right to make changes in design, materials and specifications as deemed necessary without prior notice and without assuming obligation to modify any product previously manufactured. Obligation or liabilities will not be assumed with respect to similar products previously advertised.

This Release of Liability and Product Safety Warning has been read and fully understood by the undersigned and has been explained to me.