



7020 – 2007-2018, MERCEDES SPRINTER NCV3 3500, FRONT 2.0” LIFT KIT

Version 1.0

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 lift kit that can be installed with basic hand tools.
- The installation of this lift kit will require removal of brake hoses to install brake line drop brackets. Bleeding the brake system will be required.
- The installation of this kit will require adding an extension piece to the low pressure power steering hose. Proper bleeding of the power steering system will be required.
- This suspension kit can be completely removed, allowing the vehicle to be returned back to stock configuration if desired.

Parts List

1013 – 2007-2018, MERCEDES SPRINTER NCV3, FRONT STRUT SPACER, 2.0” LIFT KIT

- (1) 101301-L FRONT STRUT SPACER, LEFT HAND SIDE
- (1) 101301-R FRONT STRUT SPACER, RIGHT HAND SIDE
- (8) HM08-1.25-30-10.9 M8-1.25 X 30MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (8) WFM08 M8 YELLOW ZINC FLAT WASHER

1014 – 2007-2018, MERCEDES SPRINTER NCV3, FRONT SUB FRAME DROP SPACERS, 2.0” LIFT KIT

- (4) 101401-01 FRONT SUBFRAME DROP SPACER, FRONT AND REAR PUCK
- (2) 101402-01 FRONT SUBFRAME DROP SPACER, MIDDLE PUCK
- (2) HM14-1.50-130-10.9 M14-1.5 X 130MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (2) HM14-1.50-165-10.9 M14-1.5 X 165MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (2) HM14-1.50-210-10.9 M14-1.5 X 210MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (6) WFM14 M14 YELLOW ZINC FLAT WASHER
- (1) LTBL-02 BLUE LOCTITE, 2ML TUBE

2002 – 2007-2018, MERCEDES SPRINTER NCV3, STEERING SHAFT EXTENSION, 2.0” LIFT KIT

- (1) 200201 STEERING SHAFT EXTENSION
- (1) SM08-1.25-25-12.9 M8-1.25 X 25MM LONG, GR12.9, CLEAR ZINC SOCKET CAP SCREW

4040 – 2007-2018, MERCEDES SPRINTER NCV3 3500, TRANSMISSION MOUNT LIFT BRACKET, 2.0" LIFT KIT

- (1) 404001 TRANSMISSION MOUNT LIFT BRACKET
- (2) HM10-1.50-35-10.9 M10-1.50 X 35MM LONG, GR10.9, CLEAR ZINC HEX HEAD BOLT
- (2) NNM10-1.50 M10-1.50 NYLOCK NUT, CLEAR ZINC
- (4) WFM10 M10 CLEAR ZINC FLAT WASHER

4017 – 2007-2018, MERCEDES SPRINTER NCV3, MOTOR MOUNT LIFT BLOCK, 2.0" LIFT KIT

- (2) 401701 MOTOR MOUNT LIFT BLOCK
- (4) HM10-1.50-30-10.9 M10-1.50 X 30MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (4) NNM10-1.50 M10-1.50 NYLOCK NUT, CLEAR ZINC FINISH
- (8) WFM10 M10 YELLOW ZINC FLAT WASHER

4024 – 2007-2018, MERCEDES SPRINTER NCV3, FRONT BRAKE LINE DROP BRACKET, 2.0" LIFT KIT

- (2) 402401 FRONT BRAKE LINE DROP BRACKET, 2.0" LIFT
- (2) HM12-1.50-25-10.9 M12-1.50 X 25MM LONG, GR10.9, YELLOW ZINC HEX HEAD BOLT
- (2) NNM12-1.50 M12-1.50 NYLOCK NUT, CLEAR ZINC
- (2)WFM12 M12 YELLOW ZINC FLAT WASHER

Tools Needed

- Two vehicle jacks and 4 jack stands.
 - Optional – Automobile lift, one transmission jack, and two screw jacks.
- Simple hand tools:
 - Torque Wrench
 - Dykes or similar tool for cutting zip ties.
 - Body trim removal tools
 - Basic wrench and socket set:
 - Metric sizes: 10mm, 13mm, 16-19mm, 21mm, 24mm
 - T-25, T-27, T-45 torx
 - 6mm Allen
- 4-1/2" Angle grinder with flap disc, or similar sanding tool for light material removal.
- Die grinder with 1/4" – 3/8" diameter burr bit.
 - A 4-1/2" angle grinder with grinding wheel can also be used in substitute of this.

Approximate Installation Time

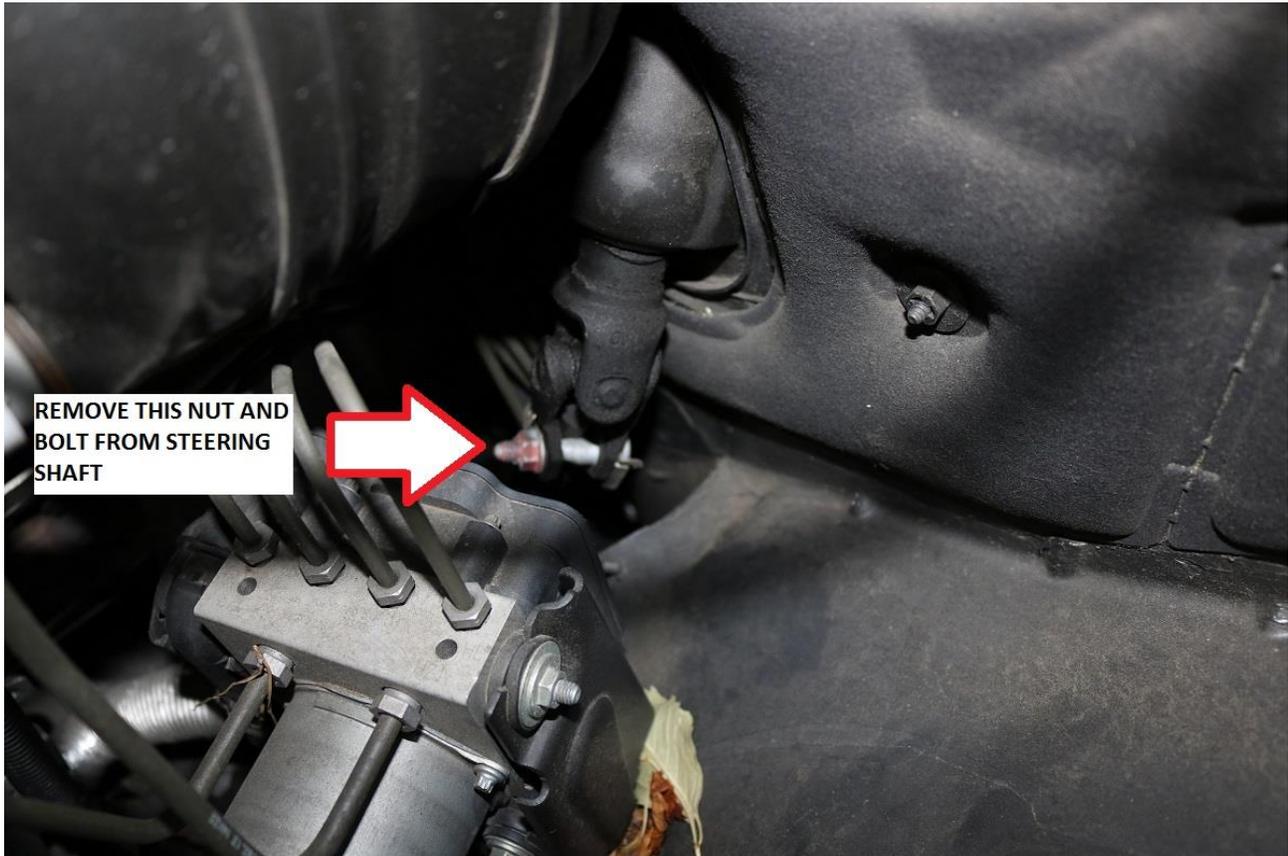
- Professional shop with automotive lift: 6-8 hours
- Driveway install with jack and jack stands: 8-11 hours

Installation

- 1) Before lifting the vehicle on a lift or placing it on jack stands, the lower portion of the steering shaft must be disconnected from the vehicle. Set the steering wheel straight and remove the key so the steering wheel locks into place for the duration of the install.
- 2) Disconnect ground cable from battery underneath the driver (left hand) side floor board.
- 3) Locate the three T25 torx screws which secure the floor mat cover to the door sill.



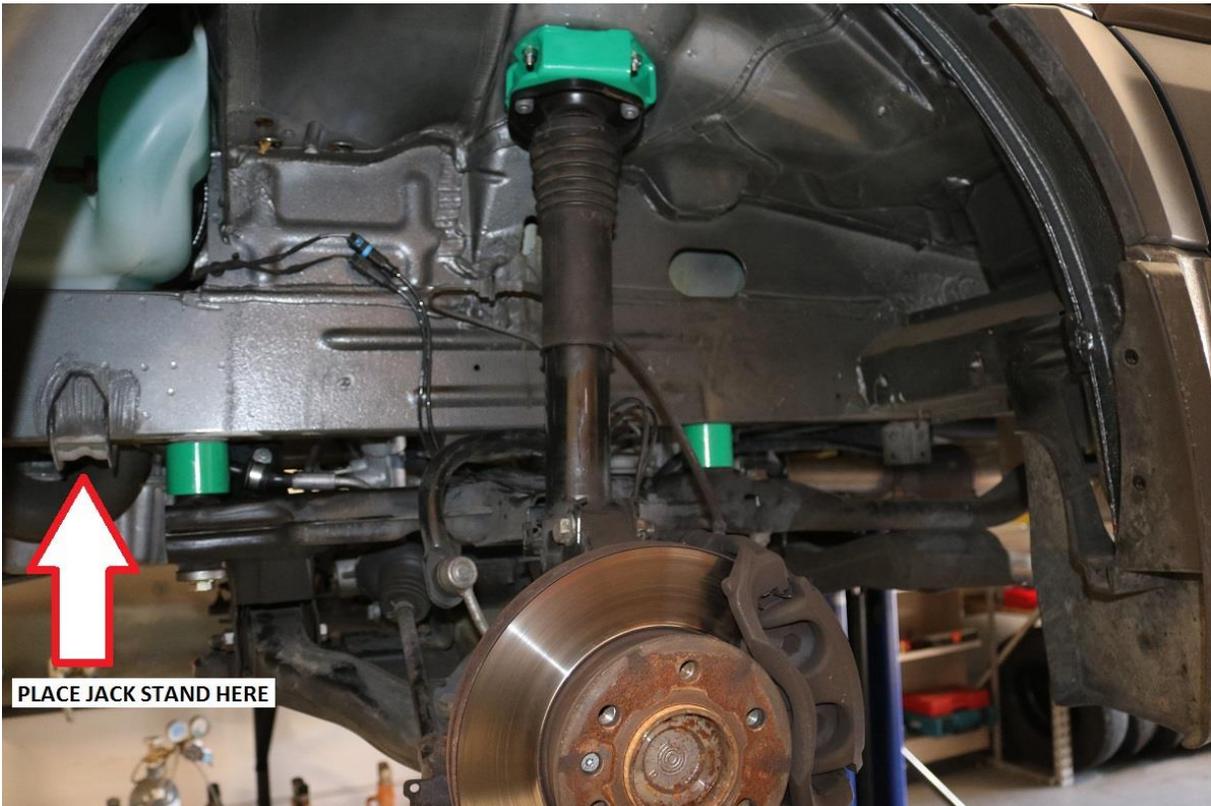
- 4) Remove the driver side floor mat and locate the four T-27 Torx bolts which secure the battery cover to the vehicle. Loosen all four bolts so the cover plate can be slid back and up for removal.
- 5) With the battery exposed, remove the ground cable from the negative side of the battery using a 10mm socket / wrench.
- 6) Under the hood, locate the steering shaft connection just behind the ABS control module on the driver side of the vehicle.
 - a. Remove the nut using a 13mm socket / wrench and remove the bolt from the steering shaft. There is a small metal retention clip which helps hold the bolt to the steering shaft joint. A small tap with a hammer may be needed to unseat the bolt from the clip.
 - b. Retain the nut, bolt and retention clip as they will all be reused.



- 7) Locate the low pressure power steering hose going from the steering rack to the power steering cooler. See image below for reference.



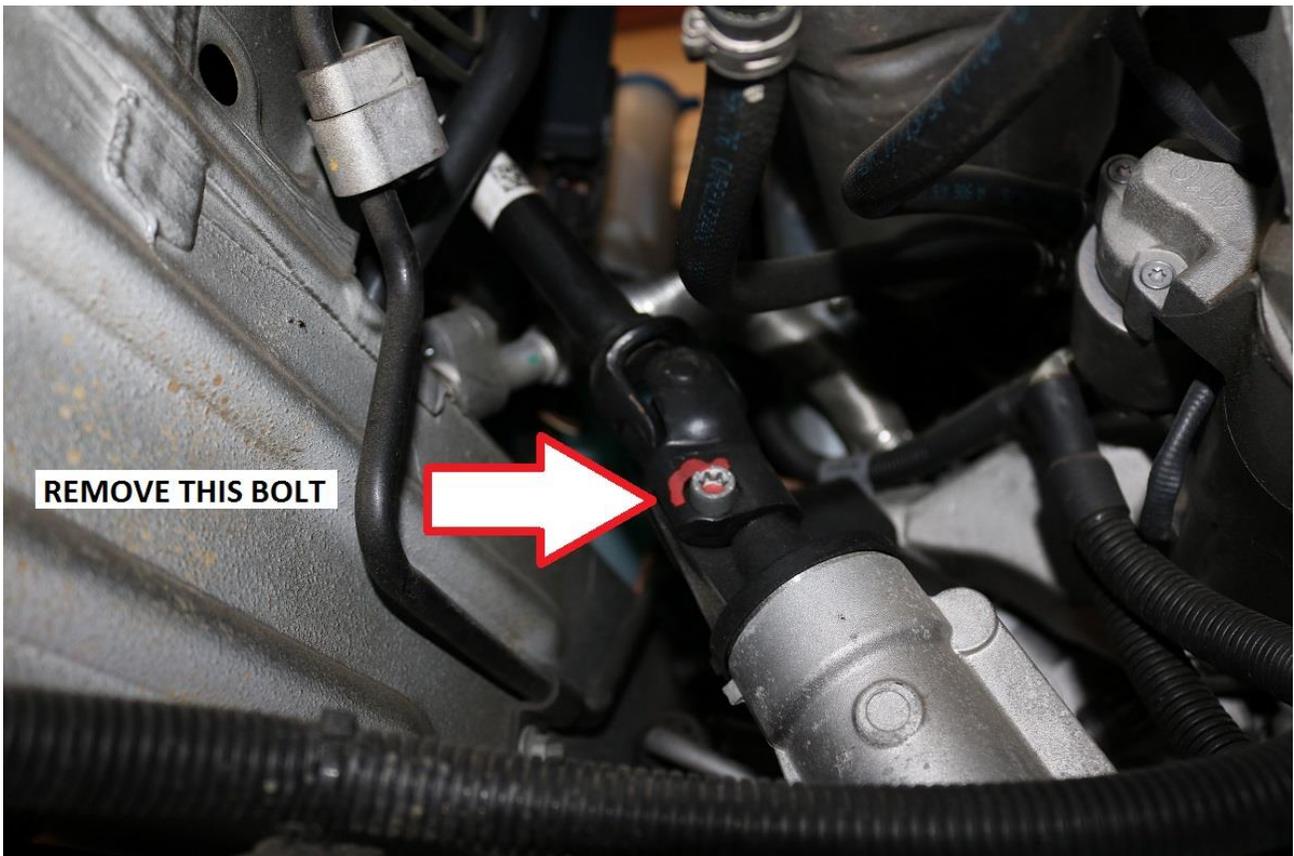
- 8) Remove this hose and install the barb extension with the included piece of power steering hose. Use the factory hose clamp at the barb union and the two included hose clamps at the remaining locations.
- 9) Now the vehicle can be placed on jack stands or raised on a lift. Be sure that the entirety of the front suspension sub frame is not supported and can be lowered away from the main chassis of the vehicle.
 - a. If performing this installation on the ground with a jack and jack stands, place the jack stands just forward of the suspension sub frame.



- b. If performing this installation on an automobile lift, place lifting point just forward of the gas tank on the vehicle's main chassis section. Mirror this location on the passenger (right hand) side.

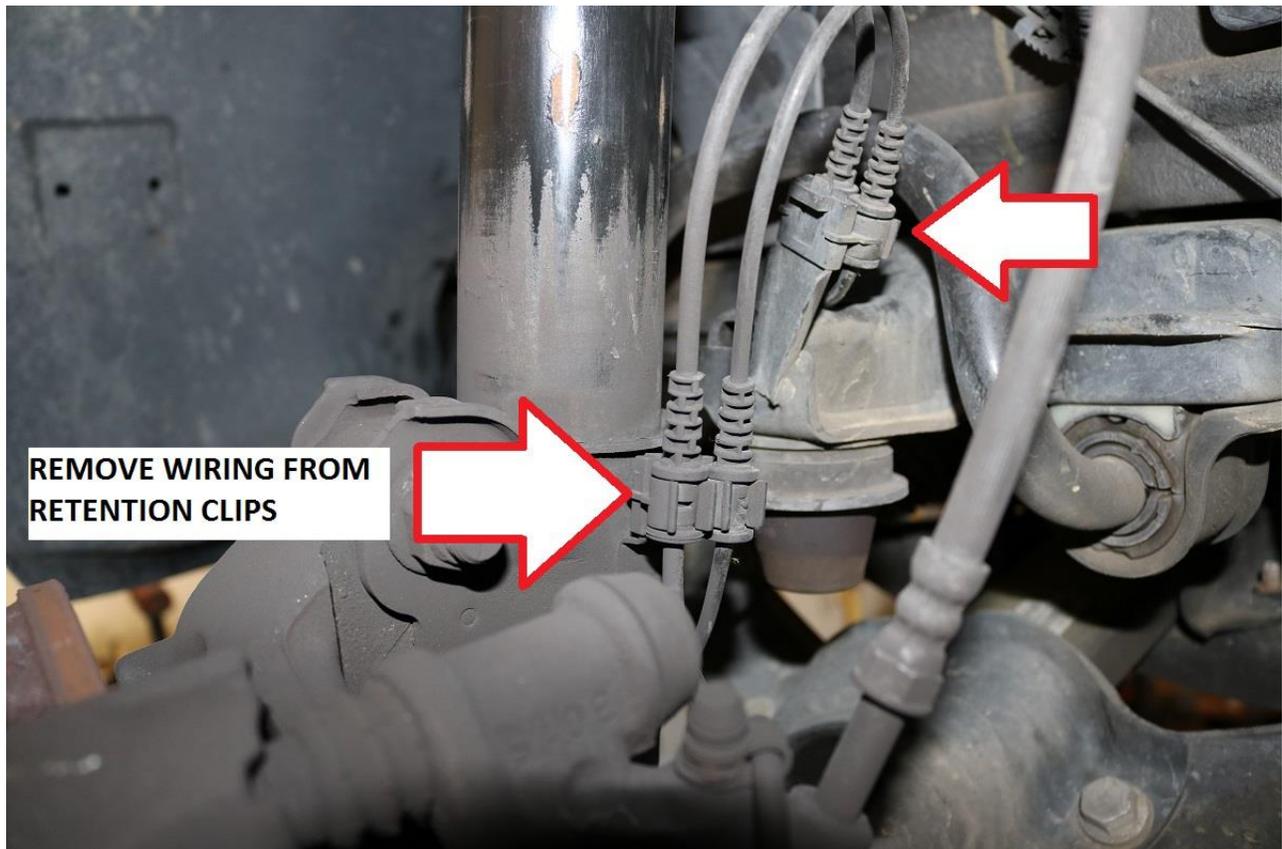


- 10) With the vehicle safely raised so the front suspension is completely unloaded, locate where the steering shaft connects to the steering rack underneath the vehicle. Use a T-45 torx bit and remove this bolt. Remove the steering shaft from the rack and pinion splines.

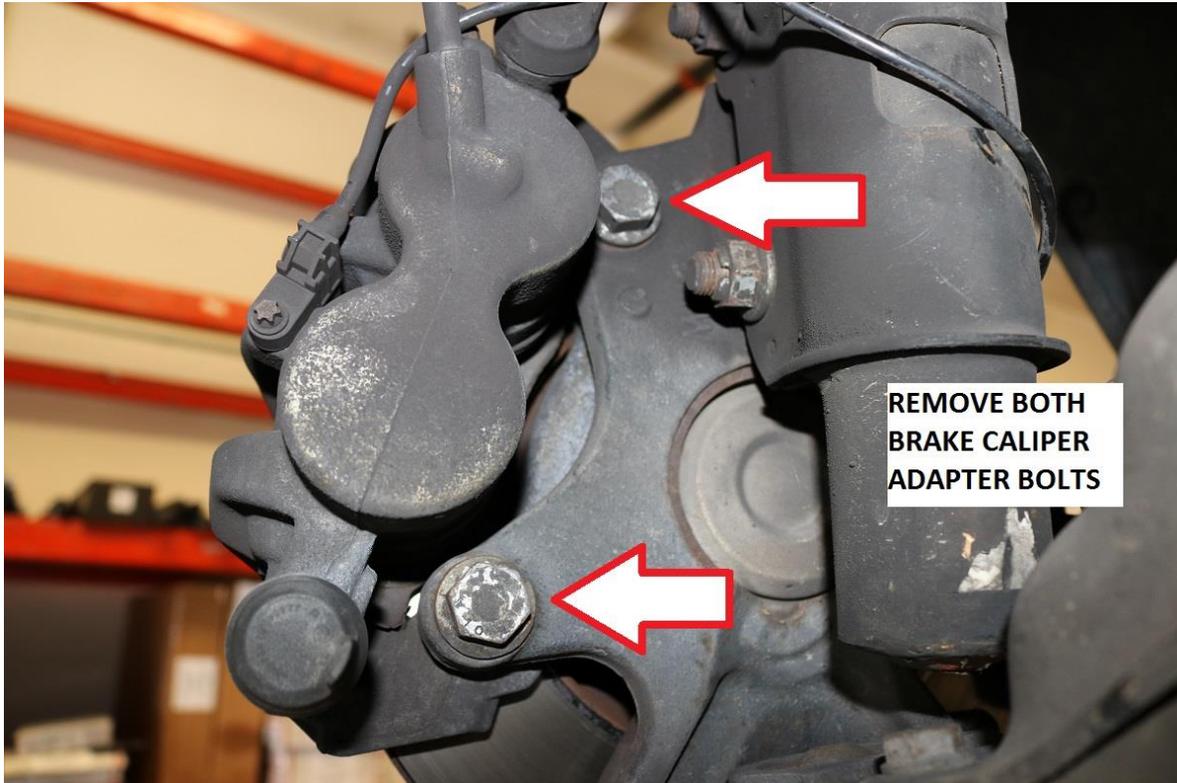




- 11) Note the installation of the front lift kit must be done simultaneously on both the left and right sides of the vehicle. Complete steps on both sides of the vehicles unless otherwise specified.
- 12) Remove wheel speed sensor and brake pad wear sensor wiring from their respective retention clips on the strut and above the bump stop mount.



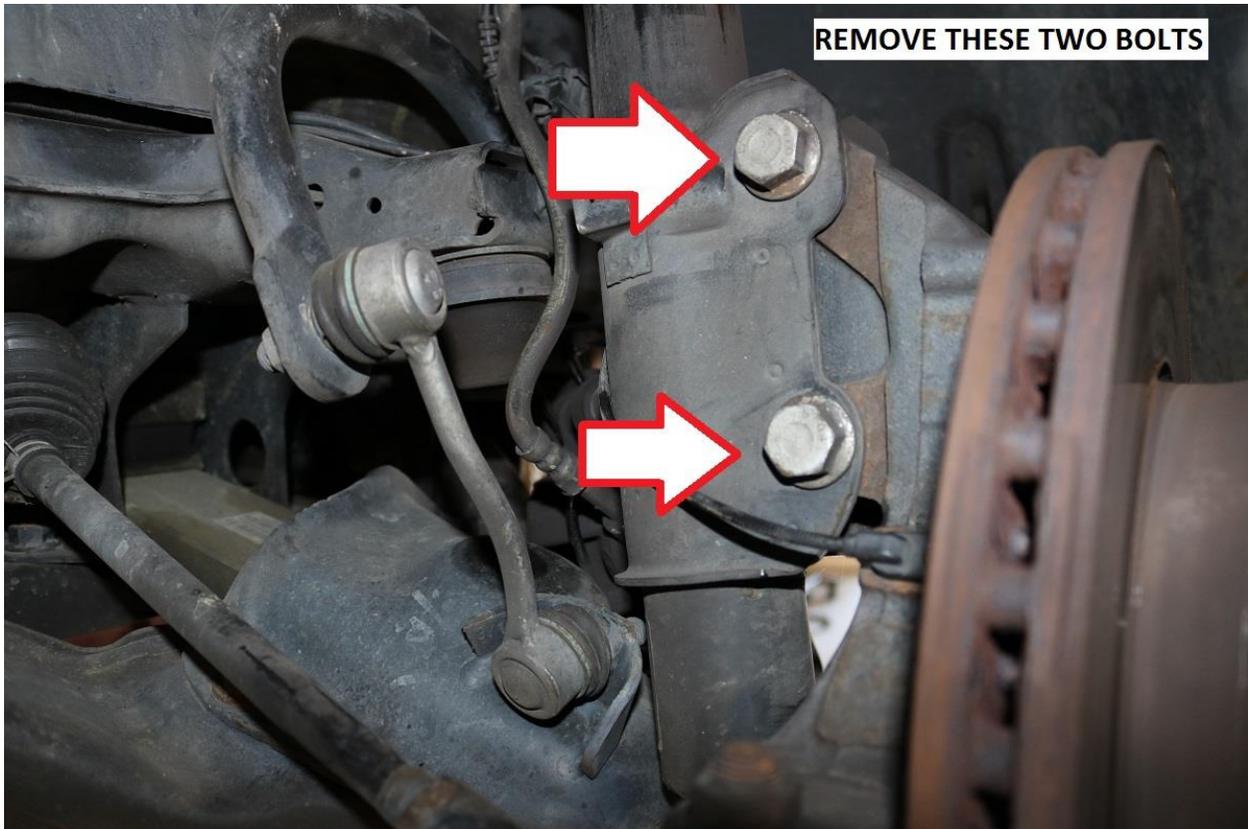
13) Use a 21mm socket to remove the front brake caliper adapter bolts. There are two bolts per caliper.



14) Remove the brake caliper from the rotor and secure up out of the way. Do not allow the caliper to hang by the brake hose.



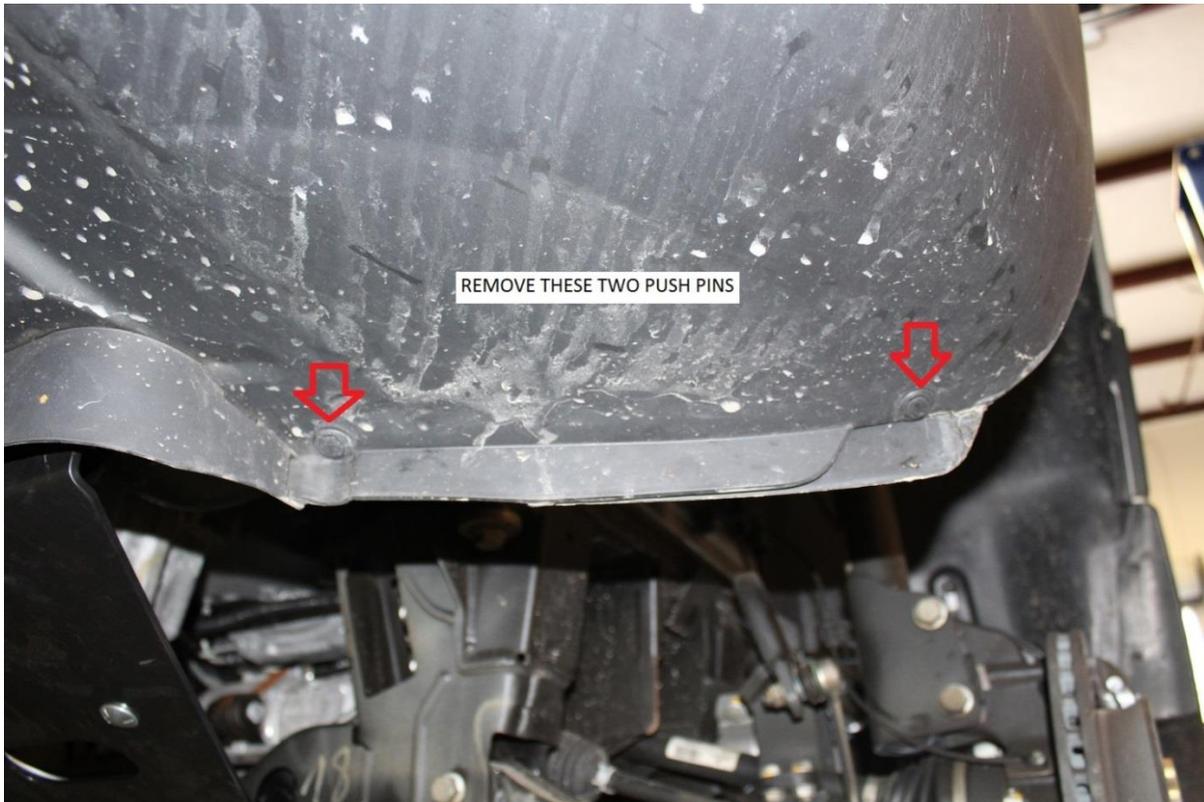
- 15) Raise the lower control arm about 3/8" (10mm) to remove tension from the strut. Use a 21mm socket to remove the 2 bolts securing the strut to the steering knuckle.



- 16) With the strut disconnected from the steering knuckle, allow the lower control arm to hang free again. Be careful to slowly lower the knuckle out of the strut. Be sure the wheel speed sensor wire is not strained.



17) Remove the front inner fender well liner 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.



18) This style of push pin is a 3 step removal process. Begin by rotating the head of the push pin 90 deg so it cams out of the indent in the push pin body.



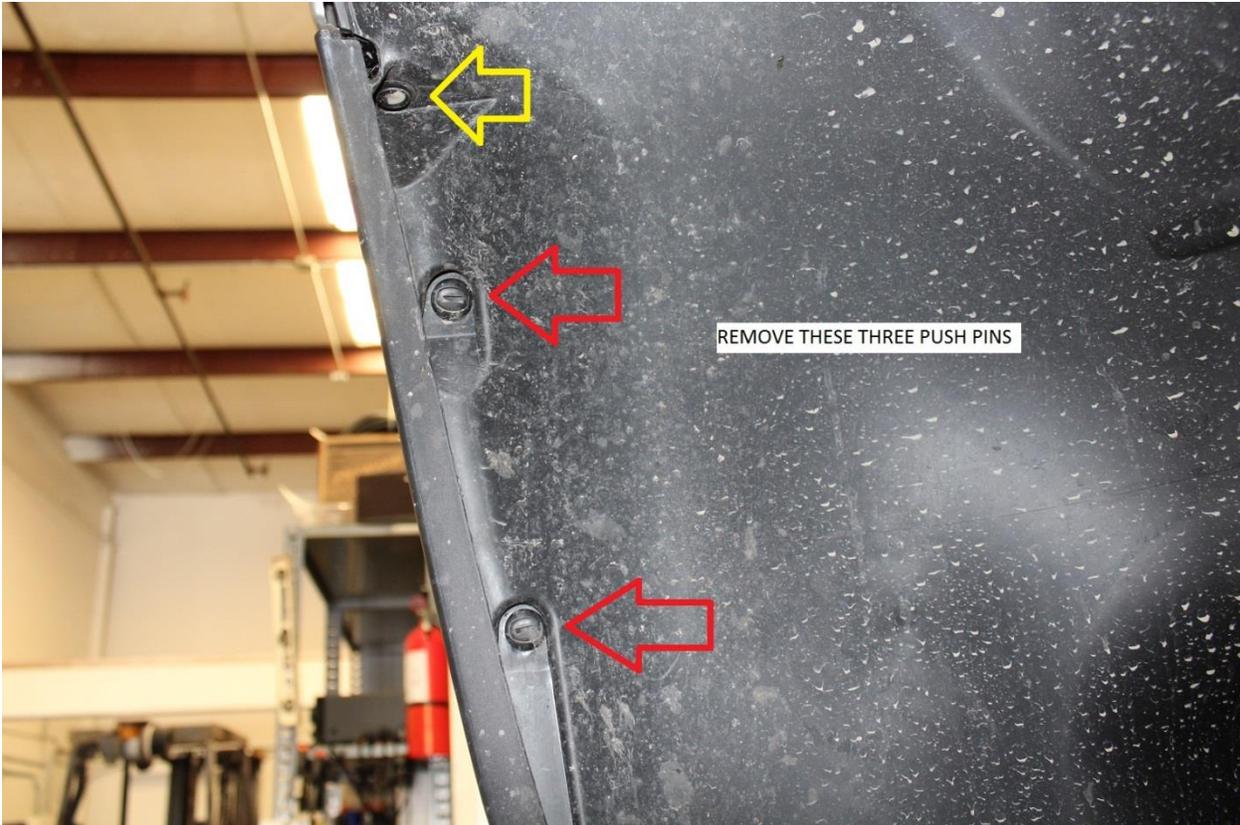
19) Next, using an automotive trim removal tool, pull up the head of the push pin.



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



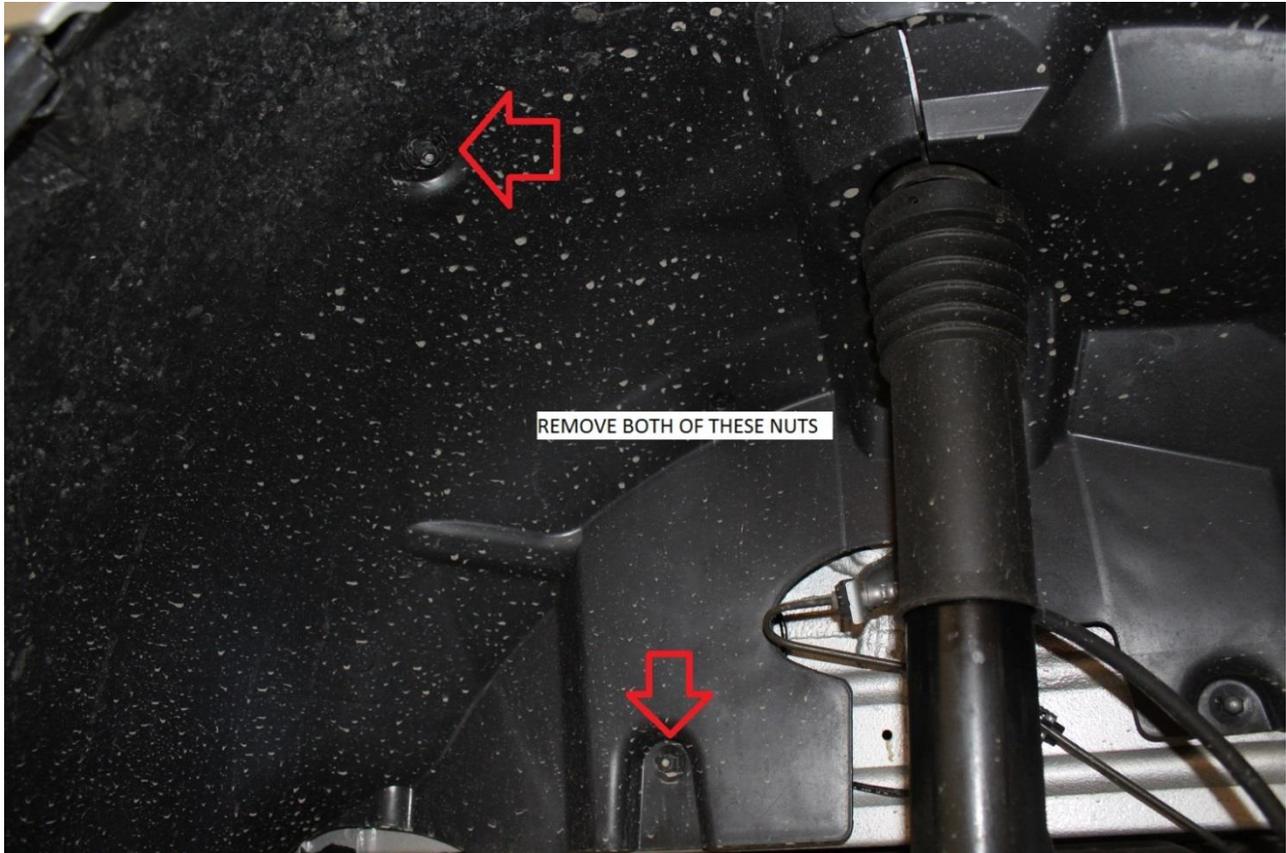
21) Next, on the inside of the fender well, remove the three push pin fasteners near the outer lip of the bumper.



22) Note, the bottom two fasteners (denoted with the red arrows) are the same “cam style” fastener from step 5. The upper fastener (denoted with the yellow arrow) is a standard style push pin which can be removed in two steps. Simply pry up under the push pin head prior to prying underneath the body of the fastener.



23) 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.



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



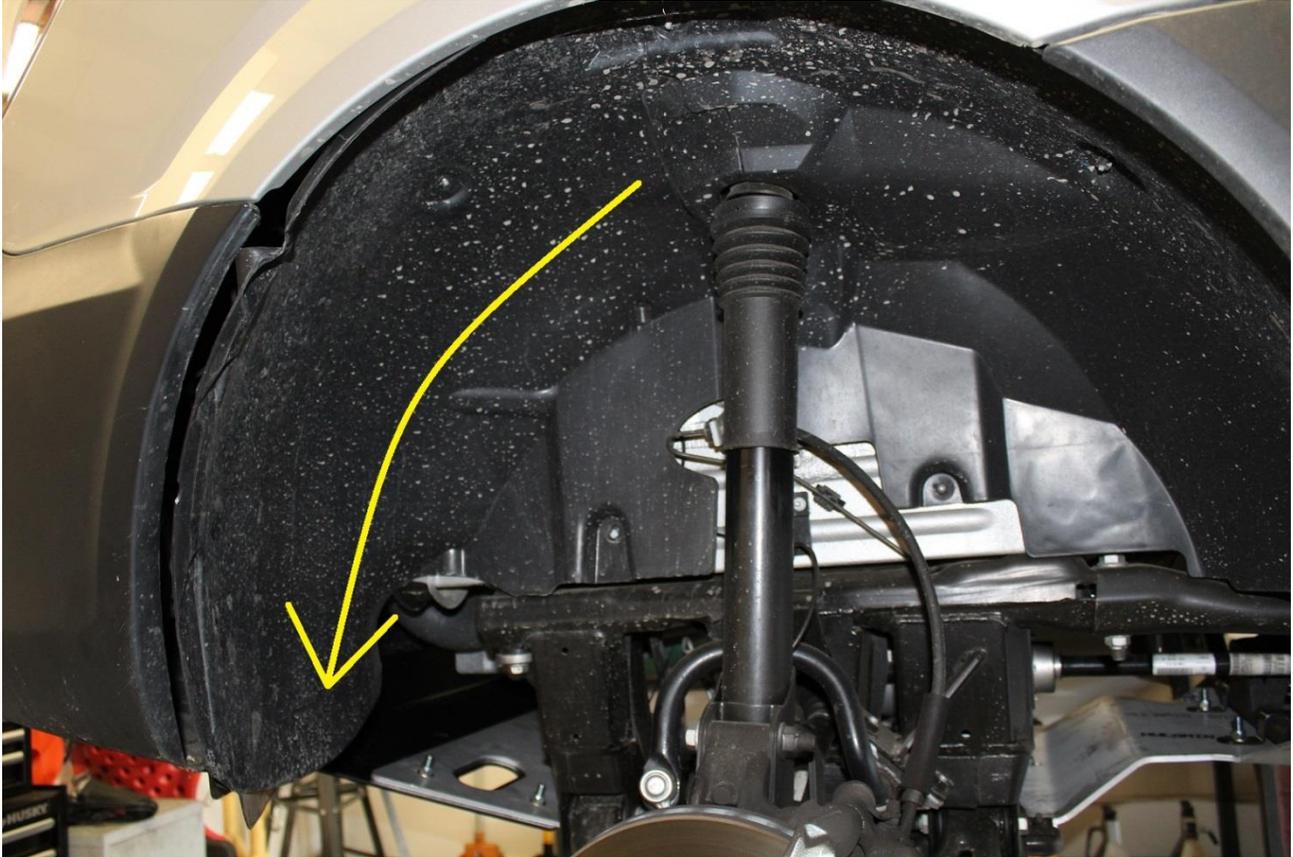
25) Lastly, remove the upper nut which secures both the front and rear half of the inner fender well liner to the chassis. Again, use a 10mm socket for removal.



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

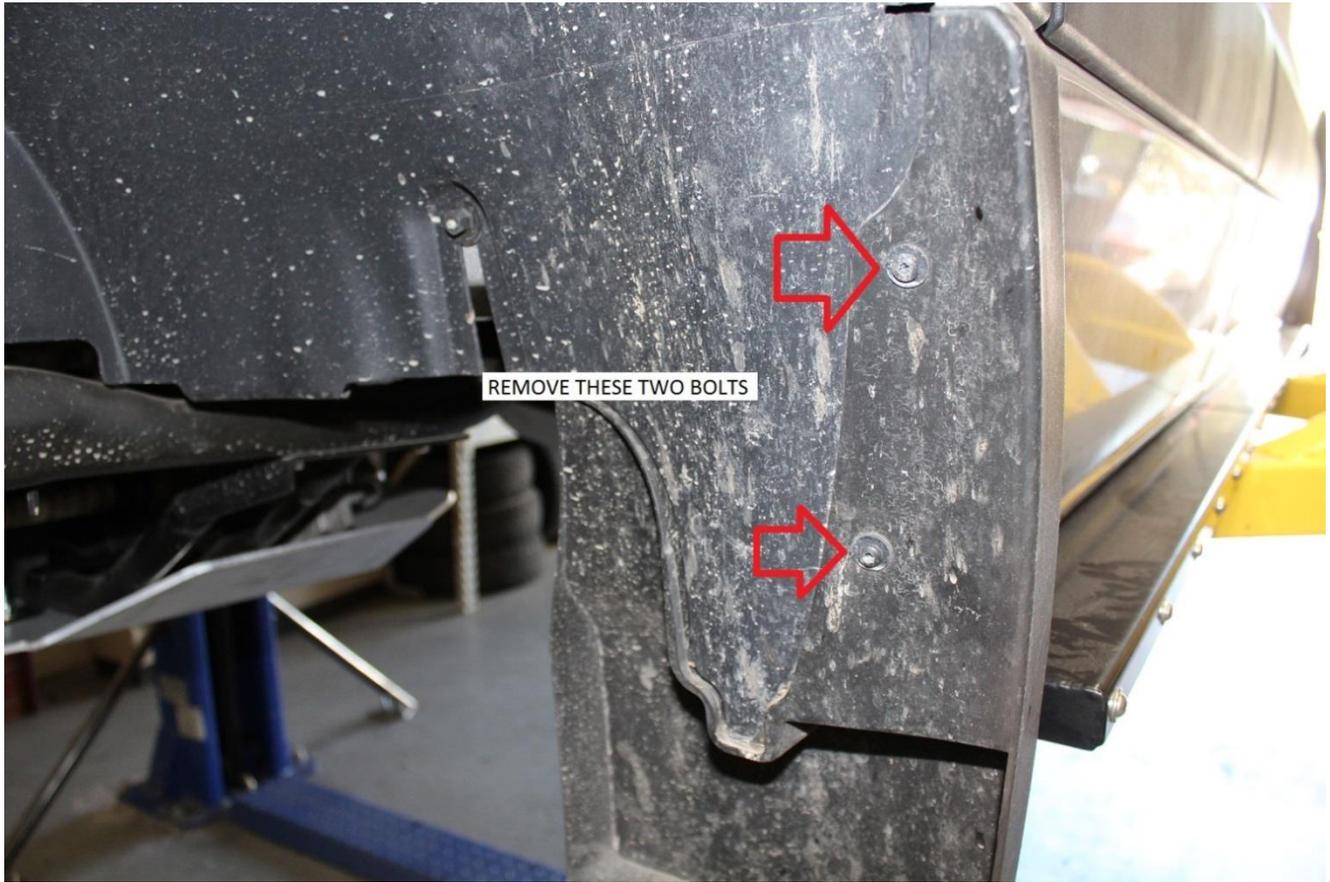


27) Next pull the inner fender well liner away from the bumper and out from under the fender lip until it appears as shown.

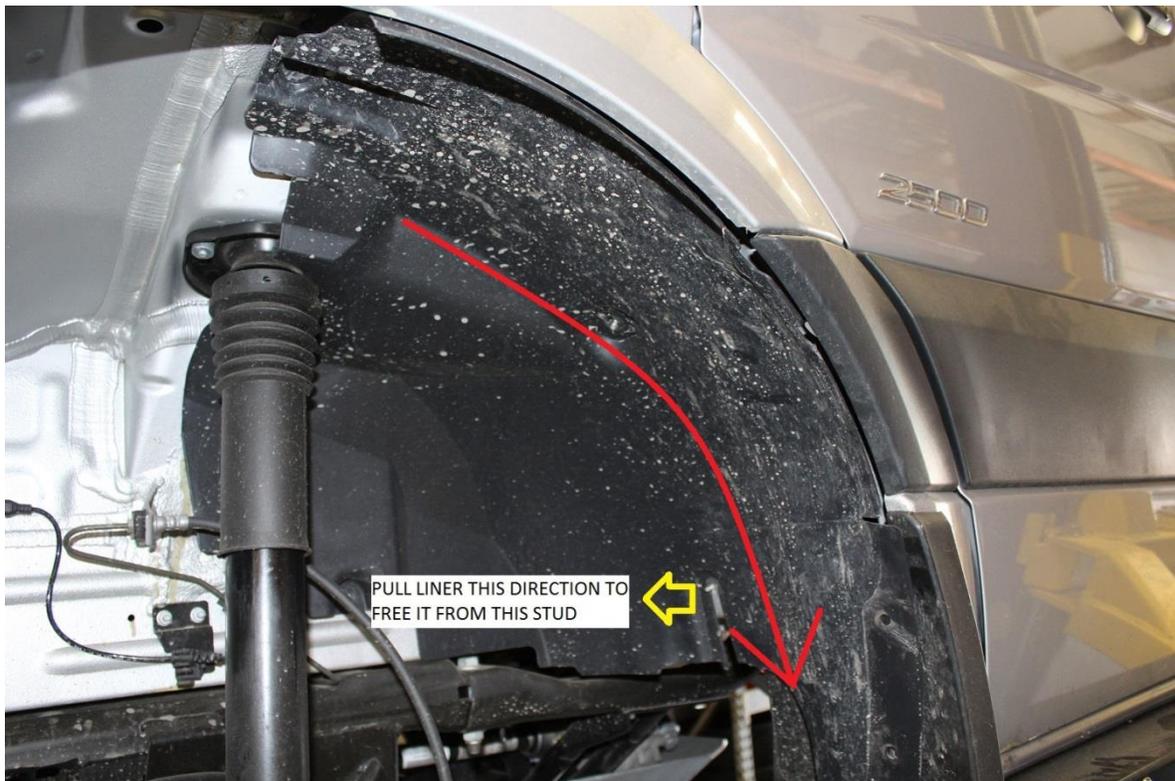


28) Slide the front half of the inner fender well forward and down until it clears from underneath the rear half of the inner fender well liner. Note arrow in above photo is there to denote direction of movement needed for removal.

29) With the front half of the inner fender well liner removed, 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.

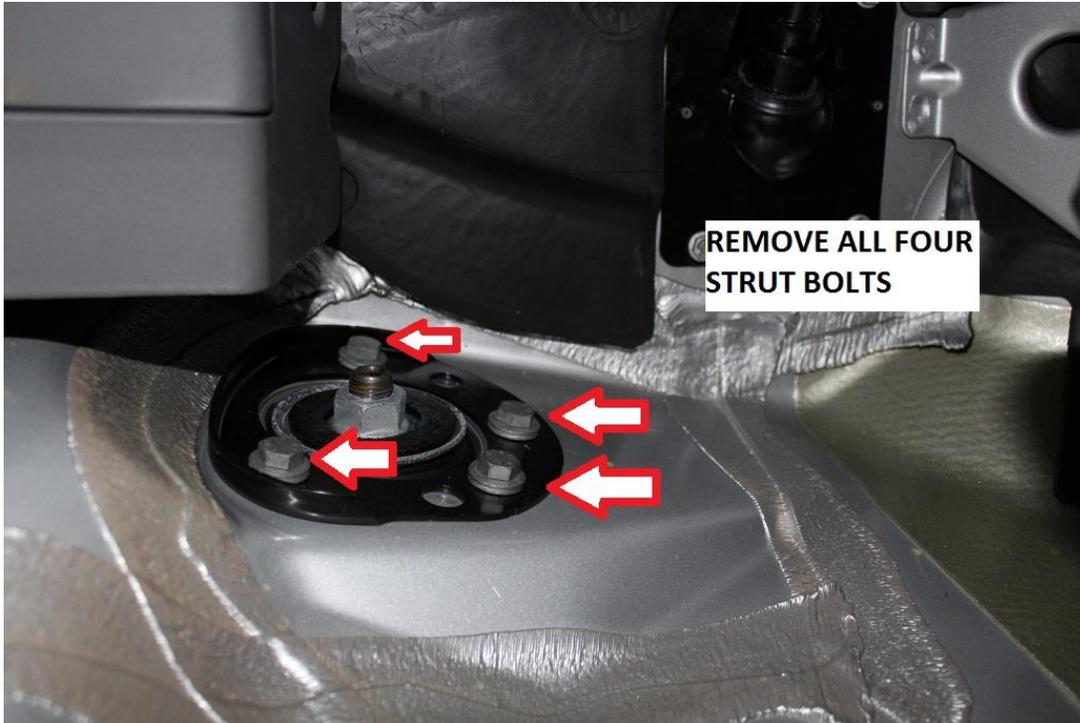


30) Pull the mudflap out away from the body so the inner fender well liner can be pulled free from behind it. Again, pull the inner fender well liner out from underneath the lip of the fender. And pull the liner away from the bottom stud.

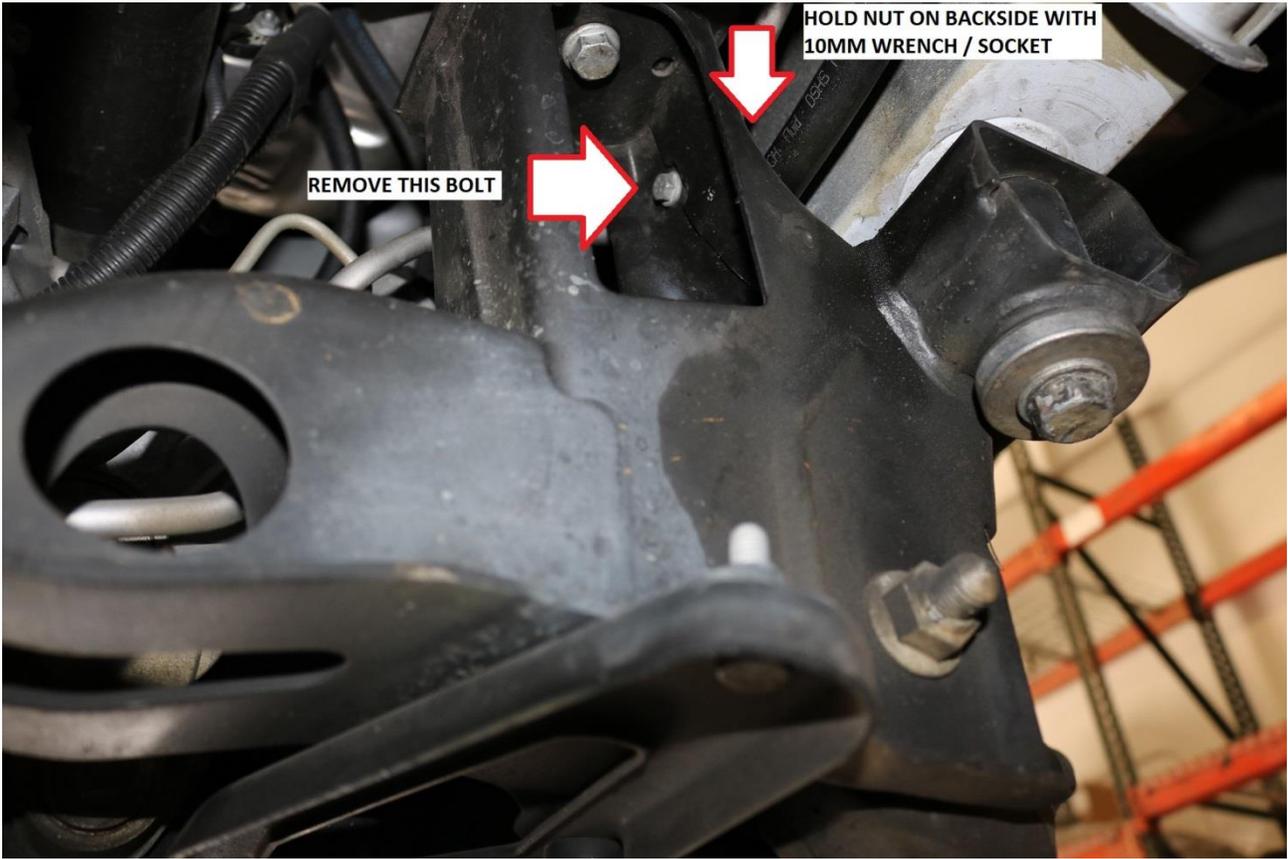


31) The liner should now be able to rotate down and out the direction denoted above with the large red arrow.

- 32) Fully remove the strut by removing the four upper strut bolts inside the cabin of the vehicle. Use a 13mm socket / wrench for removal.
- Note; it is helpful to have one person hold / remove the strut while another person removes the four bolts from inside the vehicle as to prevent the strut from just falling on the ground.
 - Label which side of the vehicle each strut came from. Re-install on the same side they were removed from.



- 33) The passenger side upper strut bolts can be accessed by pulling up the floor jack / tool kit cover panel in the passenger footwell. Refer to your owners manual for access if not already familiar with this procedure.
- 34) On the driver side of the suspension subframe, near the driver side motor mount. Remove the small 10mm bolt which secures the power steering lines to the suspension subframe. The nut for this bolt is not captured, it must be held with a 10mm socket / wrench to prevent it from spinning during removal.
- Retain this bolt as it will be re-used during installation.
 - See image on next page for reference.



REMOVE THIS BOLT

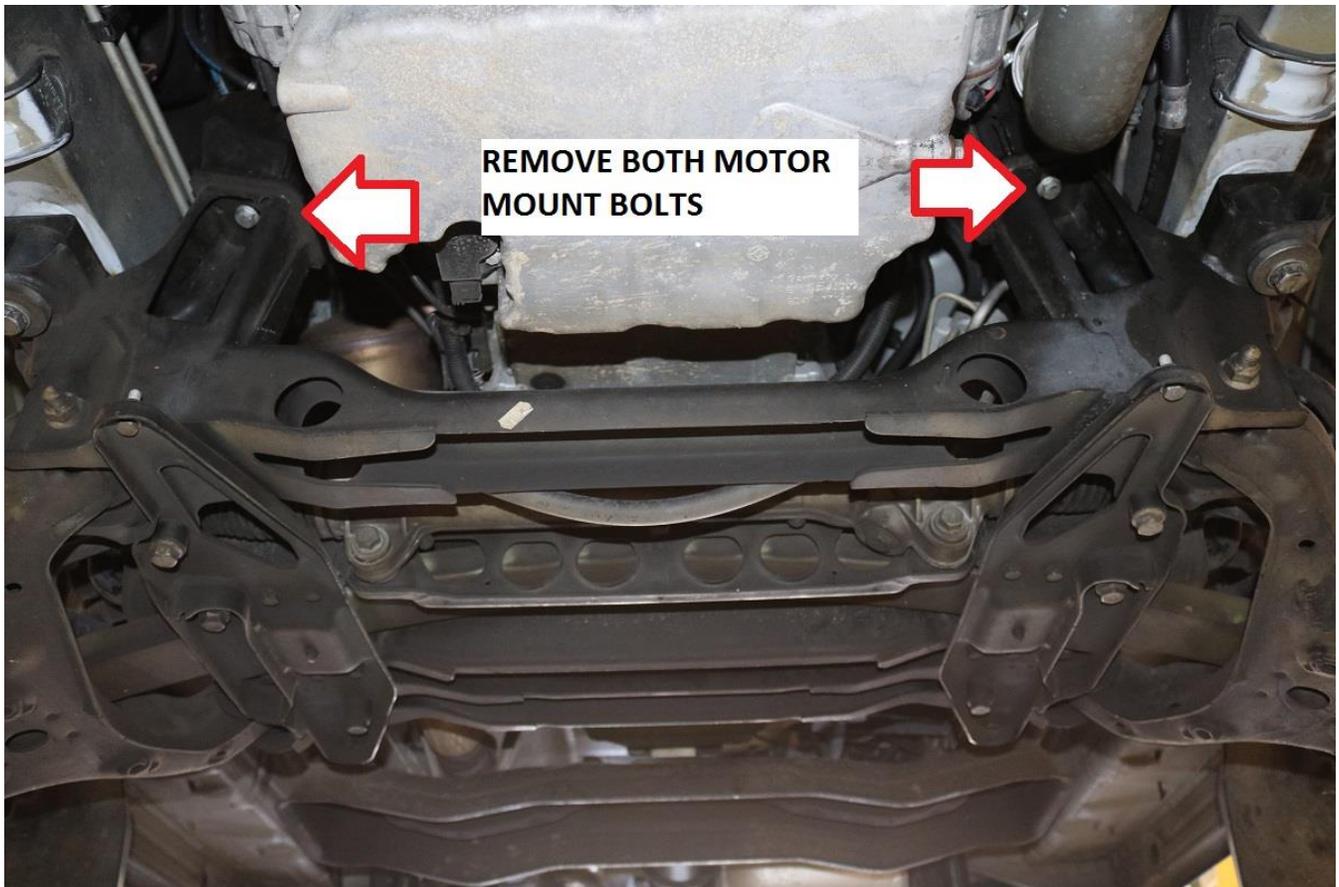
HOLD NUT ON BACKSIDE WITH
10MM WRENCH / SOCKET

1014 Front Sub Frame Drop Spacer Installation

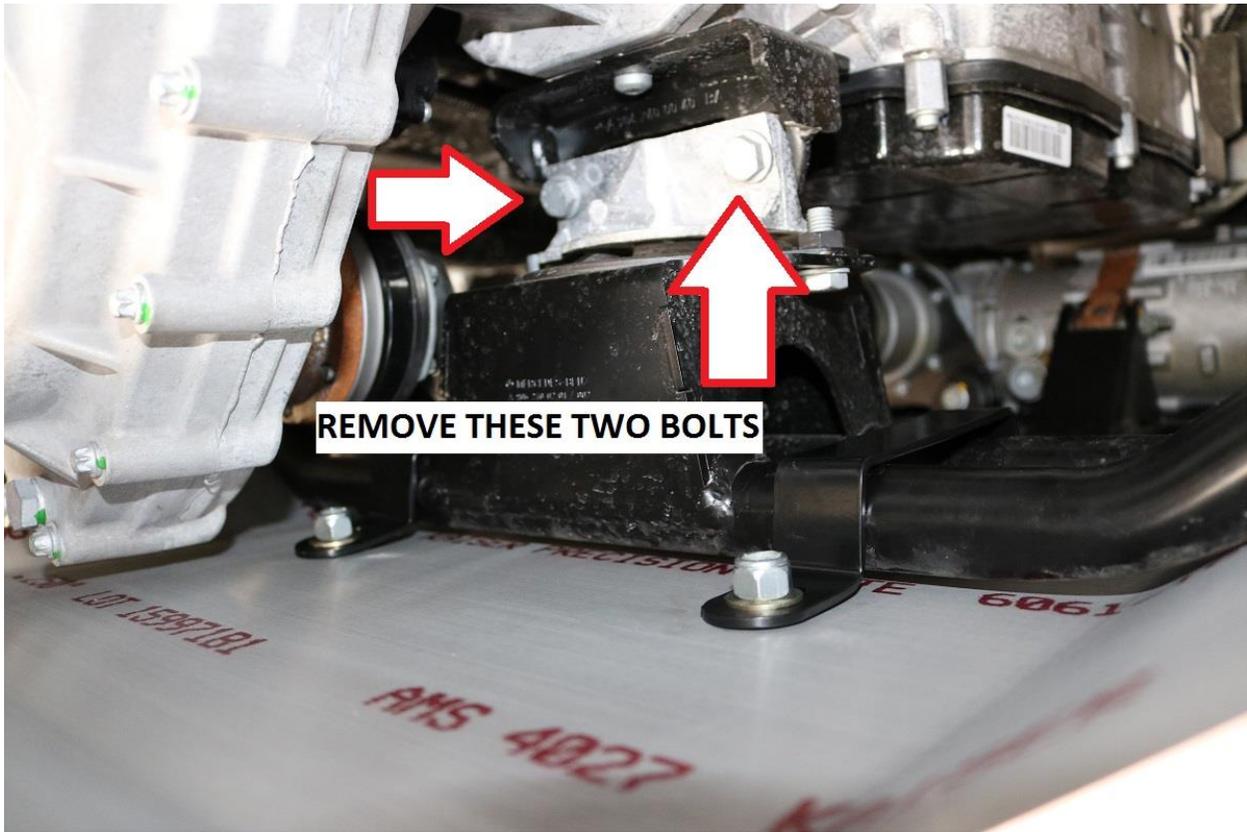
35) Support the motor with a jack underneath the oil pan.



36) Remove the motor mount bolt on both the driver and passenger side with a 16mm socket / wrench.



- 37) Remove the two transmission mount bolts shown below. Use a 16mm socket / wrench for removal.
- Note; 4wd transmission cross member shown in the image below. The 2wd chassis utilizes the same style transmission mount / bushing, but a different cross member.



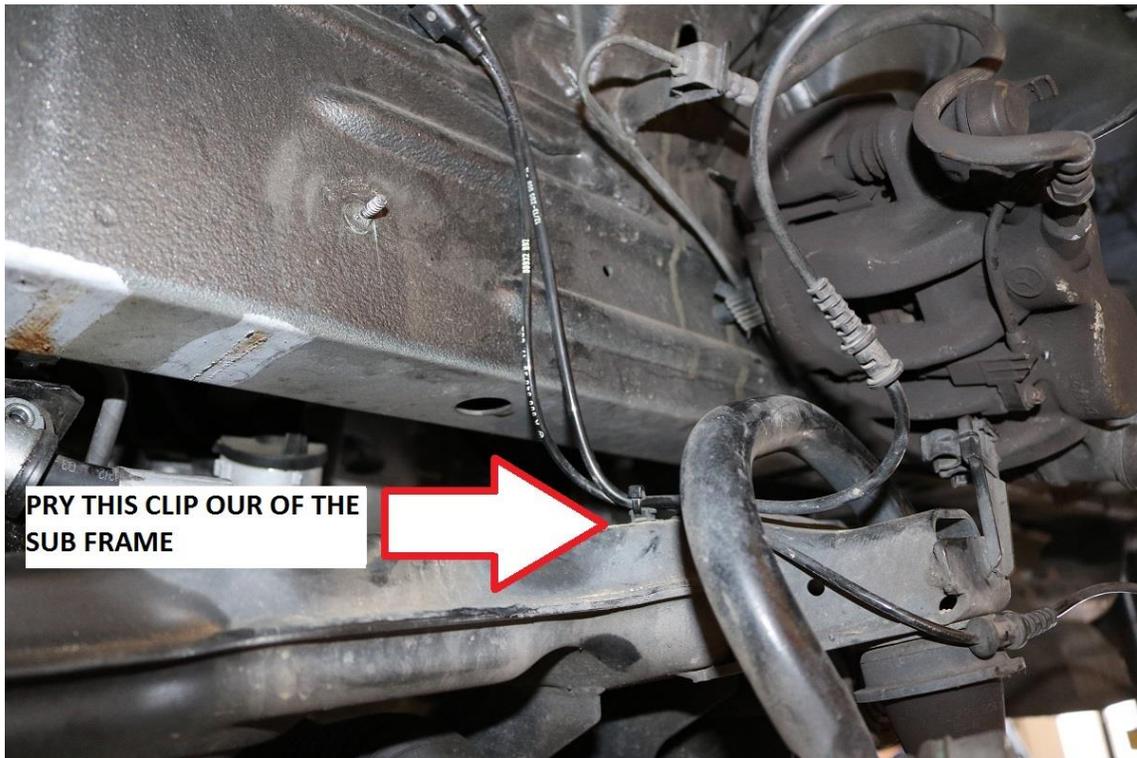
- 38) At this point, it is VERY helpful to have another person available to aide in the sub frame drop procedure.
- 39) Support the sub frame with a jack. See image below for reference.



40) Support the transmission with another screw jack or jack stand. See image below for reference.



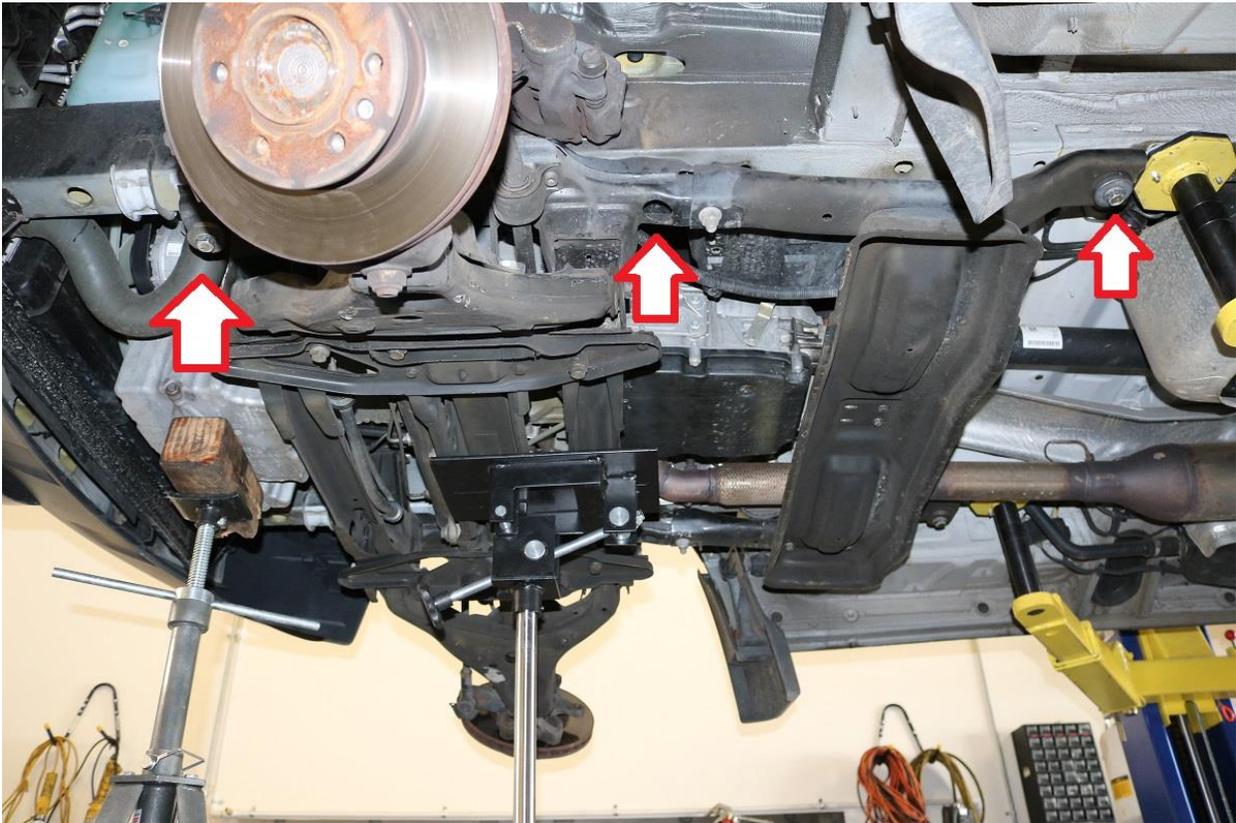
41) The ABS / ESP wiring barb retention clip may need to be pried out of the sub frame for installation of the spacers. Use an automotive trim removal tool to separate the clip from the sub frame.



42) Cut the zip tie near the transmission bell housing as the wiring can become strained during lowering of the sub frame. See the image below for reference.



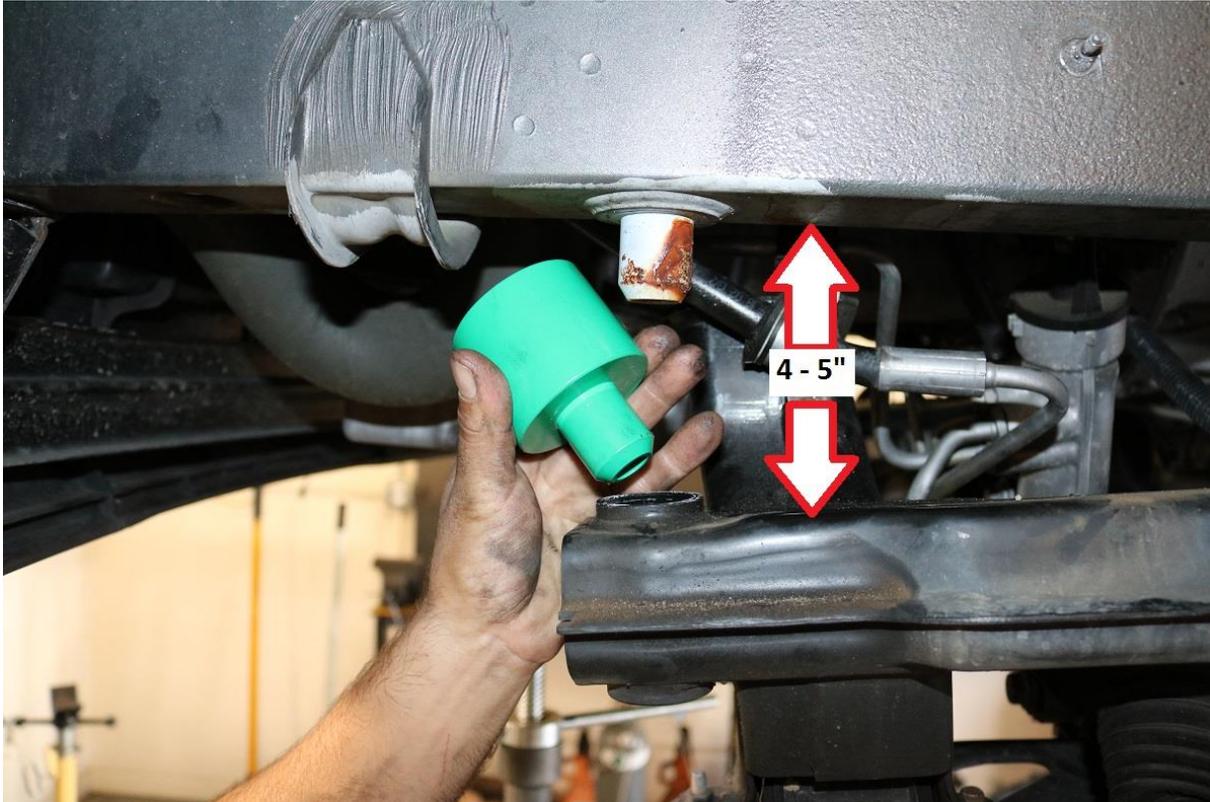
43) With the motor, transmission and suspension sub frame supported, remove the suspension sub frame attachment bolts. There are three per side. Use a 21mm socket for removal. Their locations are shown by the red arrows in the image below.



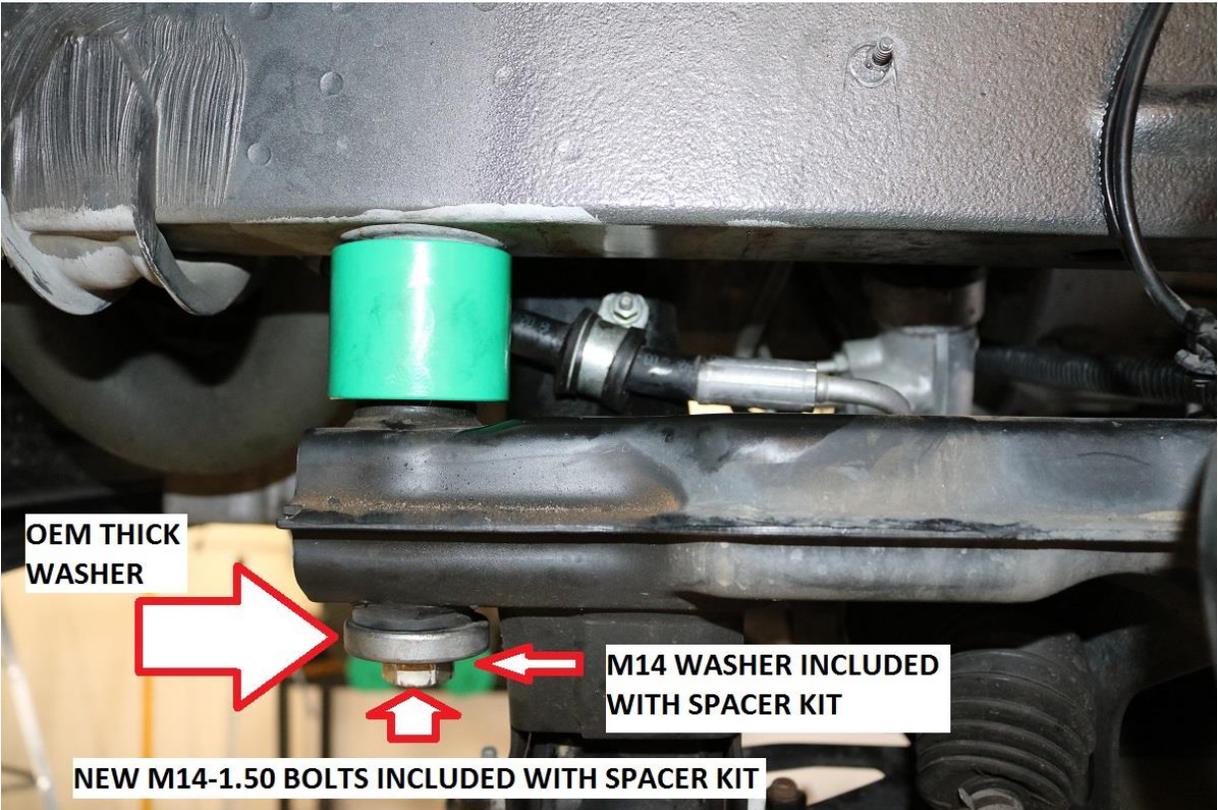
44) Prepare the spacers and new sub frame attachment bolts. The image below shows where each bolt / spacer is designed to be installed. It is critical to use the correct bolts / spacers in their corresponding locations.



- 45) Remove all 6 bolts (3 per side) and slowly start to lower the sub frame. This is where an extra person is very helpful to support / balance the sub frame as it is lowered.
- a. As the suspension sub frame is lowered, take careful notice of the ABS / ESP wiring.
 - b. Take careful notice of the power steering lines to ensure they are not being strained during sub frame lowering.
- 46) Lower the sub frame until the spacers can be installed. The sub frame will need to lower 4-5" in order to install the front and rear spacers.
- a. As soon as the front spacer can be installed as shown below, stop lowering the sub frame.



- 47) Install all 6 spacers in their corresponding locations and raise the sub frame into place.
- a. **CRITICAL: The front and rear spacer bolts must re-use the thick OEM washers which were originally equipped on the factory sub frame attachment bolts.**
 - b. Install the new sub frame attachment bolts using a dab of the included Loctite on the threads. Be sure to also use a new M14 washer under each bolt head.

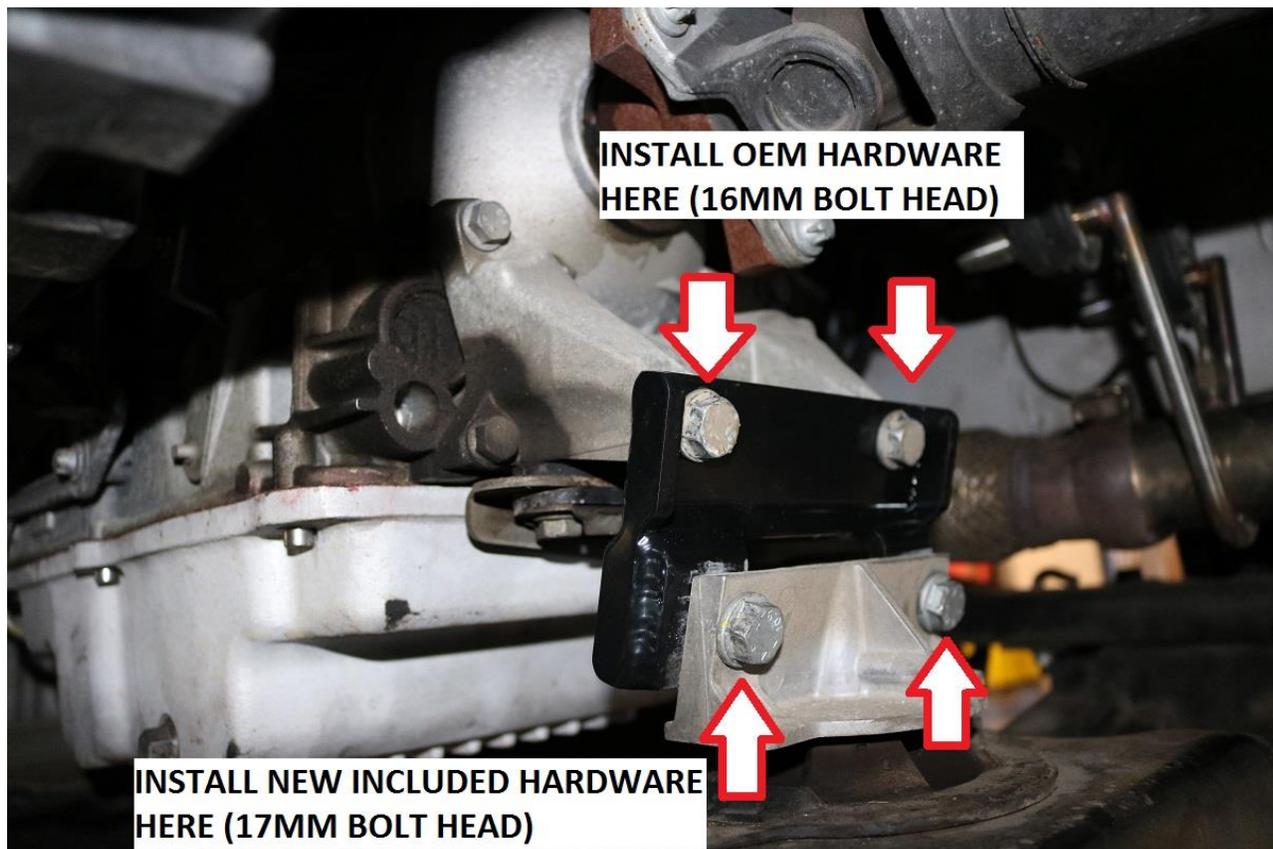


48) Snug all 6 bolts but do not torque at this time. Final torquing will occur once the motor mount spacers are installed and the engine / transmission support jacks & jack stands can be removed.

4040 Transmission Mount Lift Bracket Installation

49) Install the 404001 transmission mount lift bracket as shown below.

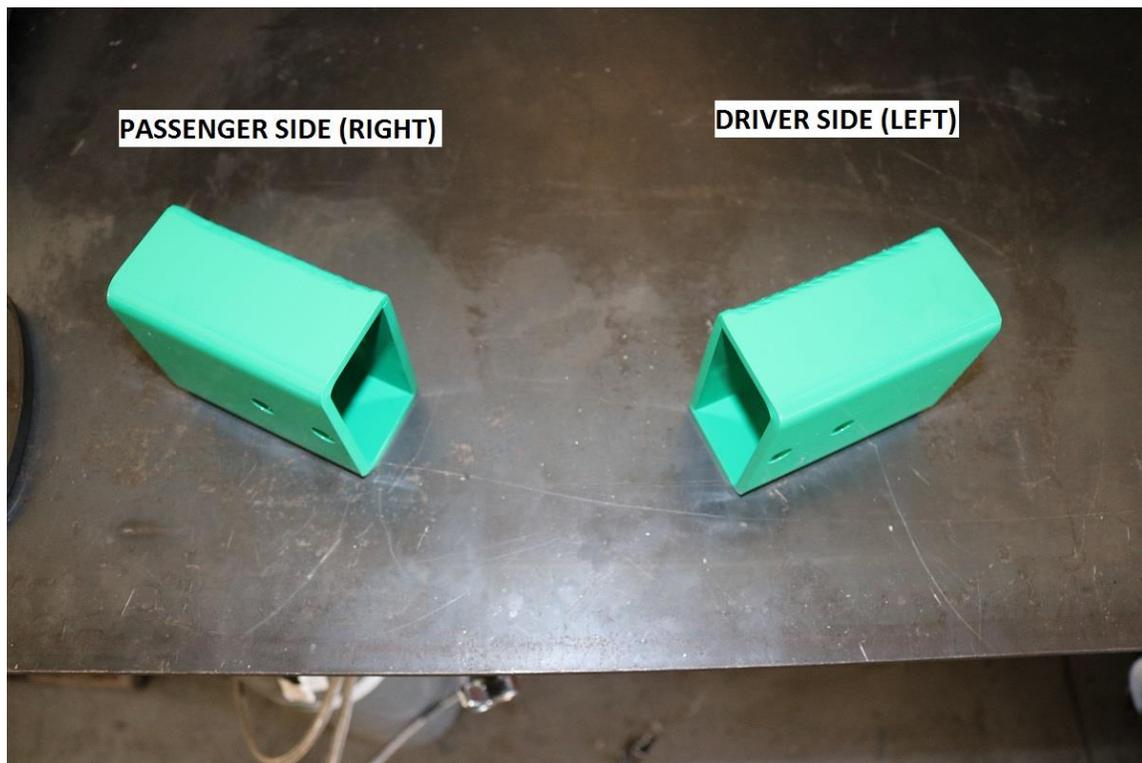




50) Install the factory M10-1.50 bolts in the upper mounting holes to attach the new lift bracket to the transmission. Install the M10-1.50 x 35mm long bolts provided with the kit in the lower mounting hole at the rubber transmission mount. Be sure to use a washer under the bolt head and nylock nut. Snug all hardware but do not fully tighten. Final tightening will occur once the motor mount lift spacers are installed.

4017 Motor Mount Lift Spacer Installation

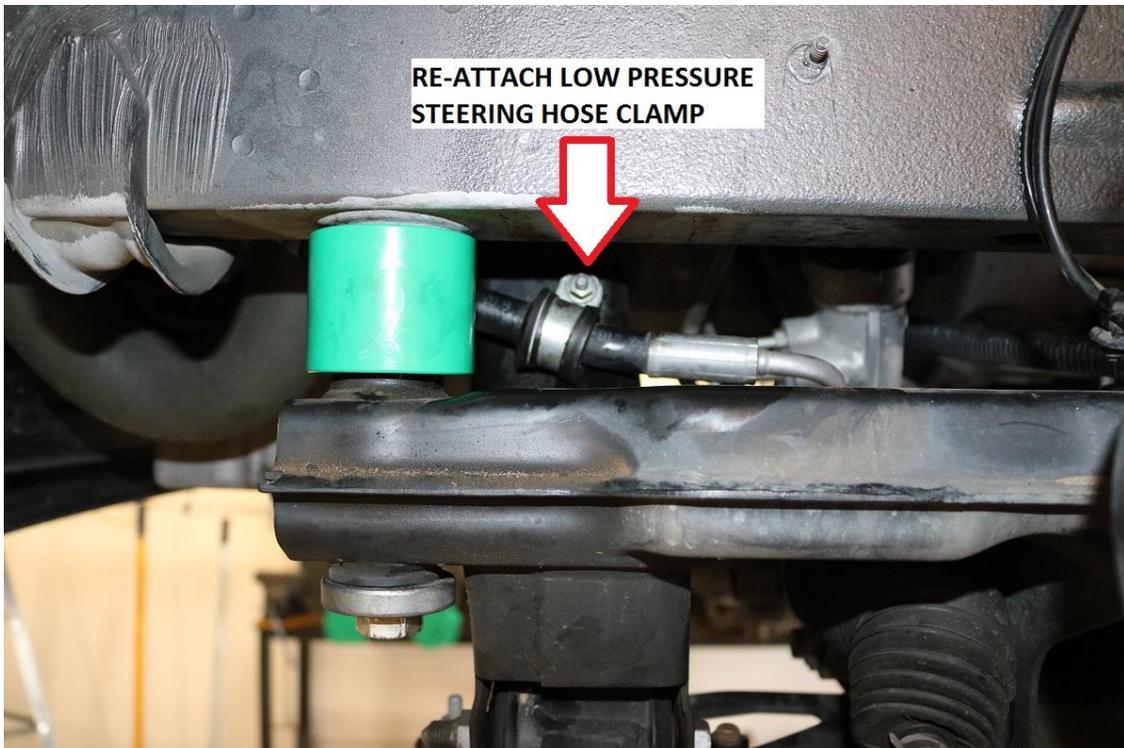
- 51) Take note of the motor mount lift block orientation as shown below. The lift blocks are the same left to right, but they need to be oriented in the vehicle correctly.
- The image below shows the proper orientation when looking at the motor mount lift blocks from the front of the vehicle.



- 52) Fit the spacers into the vehicle. Raise / lower the motor as needed to get the lift blocks into place. Install the OEM motor mount bolt removed in step 36 into the motor mount.
- 53) Attach the motor mount lift spacers to the sub frame using the supplied M10-1.50 x 35mm long bolts provided in the kit. Use a washer under both the bolt head and nylock nuts included.
- 54) Start all hardware before fully tightening.
- 55) Once all hardware has been installed, remove any support jacks to the engine / transmission is sitting fully on its respective mounts.
- 56) Tighten the M10-1.50 motor mount bolts.
 - a. Use a 16mm socket / wrench for the OEM motor mount bolt.
 - b. Use a 17mm socket / wrench for the new Van Compass supplied hardware for the lift spacers.
 - c. Torque all motor mount bolts to 43 ft-lbs (58 N.m)

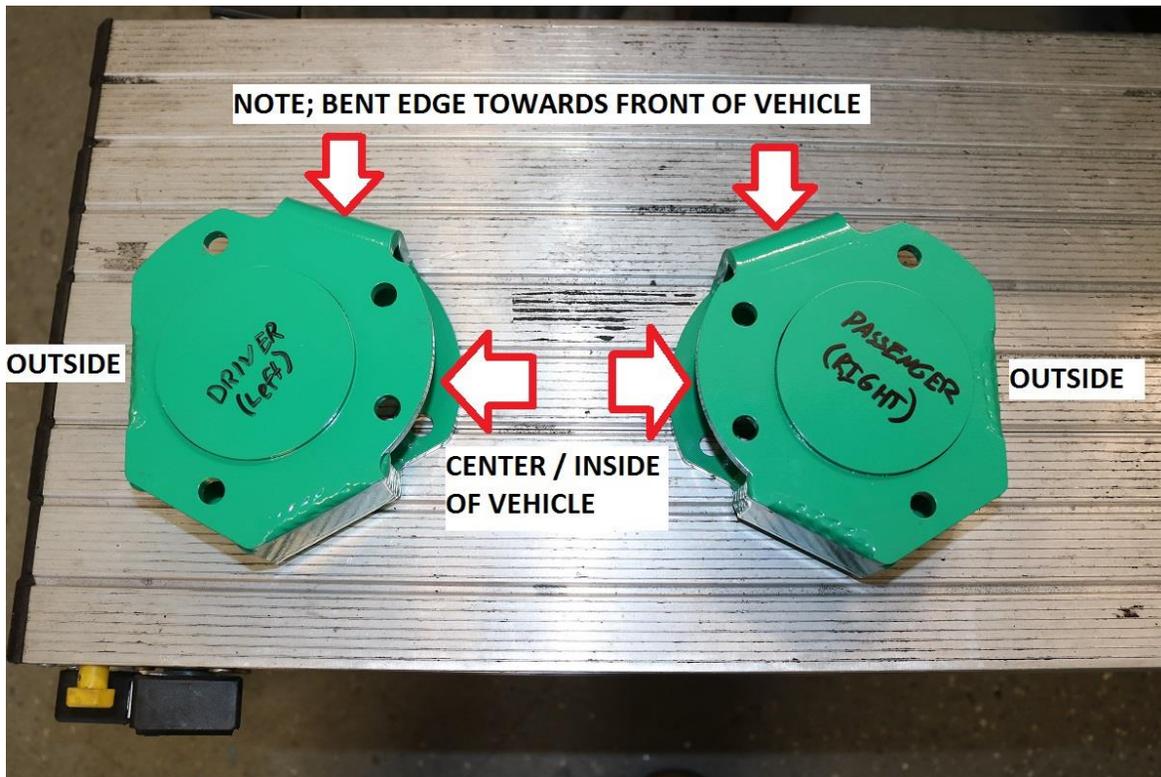


- 57) At this time, torque the transmission mount bolts to 43 ft-lbs (58 N.m)
- 58) Torque the front and rear sub frame attachment bolts to 127 ft-lbs (172 N.m)
- 59) Torque the middle sub frame attachment bolts to 89 ft-lbs (120 N.m)
- 60) At this time, separate the clamp securing the low pressure and high pressure power steering hoses together. This is the clamp / bolt from step 34.
- 61) Secure the low pressure hose / clamp back in the OEM position using the bolt removed in step 34. See image below for reference. The high pressure hose can't be secured using the OEM clamp. Secure the high pressure hose to the low pressure hose with a zip tie.



1013 Strut Spacer Installation

62) The strut spacers are left and right specific. Be sure to install the correct spacer on the correct side of the vehicle. See image below for reference / orientation.



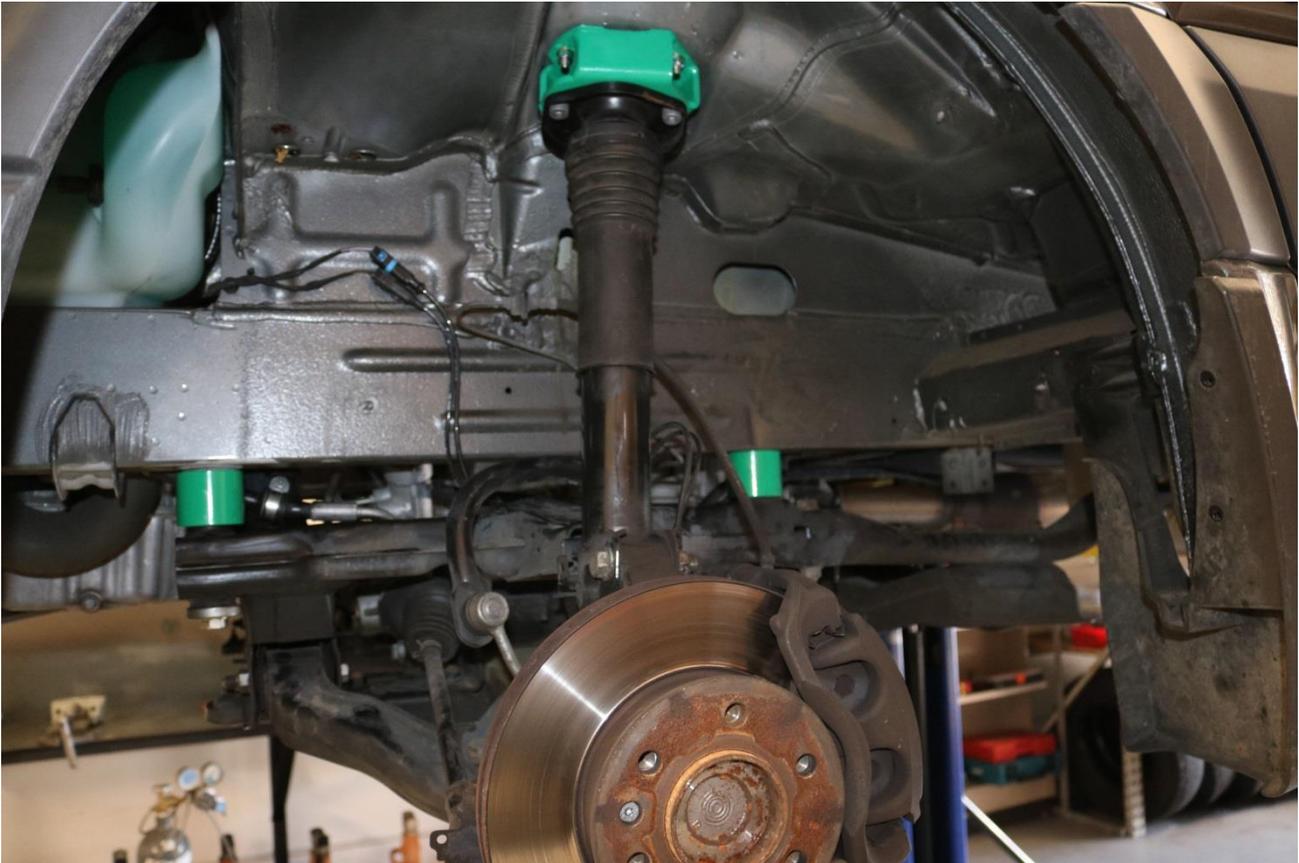
- 63) Install the spacers onto the top of the struts using the OEM strut bolts originally removed. Snug all bolts tight, and add an additional $\frac{1}{4}$ - $\frac{1}{2}$ turn. The torque spec on these bolts is only 21 ft-lbs (28 N.m).
- 64) With the spacers installed, fit the strut back into the vehicle. Again, an extra set of hands is very helpful at this stage. Use a 13mm socket to thread in the included M8-1.25 x 30mm long bolts included with the kit from above. Use a washer under the head of each bolt. Make sure the spacer is sitting flush in the strut hole in the chassis.



65) With all bolts installed and snug, torque to 21 ft-lbs (28 N.m)

66) Raise the steering knuckle / lower control arm and re-install the lower strut mounting bolts.

- a. Try to center the lower strut bolts back in the same “worn in” spot on the strut. This should set the camber approximately to what was prior to removal.
- b. Now is also an appropriate time to re-install the brake caliper onto the knuckle.
 - i. Note; We recommend putting a dab of blue Loctite on the brake caliper adapter bolts
- c. Re-attach all ABS / ESP wiring back into their respective retention clips on the chassis / knuckle.



67) Torque lower strut bolts to 127 ft-lbs (172 N.m).

68) Torque brake caliper adapter bolts to 59 ft-lbs (80 N.m). Turn an additional $\frac{1}{4}$ turn after torquing.

69) Trim the inner fender well liner to clear the strut spacer. A set of sheet metal shears work very well for trimming the inner fender well liner.

70) Start with the front half of the inner fender well liner. Trim as shown in the images below. The cutting occurs on the creases / lines which are already in place on the liner.



71) The rear half of the fender well liner trimming is very similar. Again, see the images below for reference.



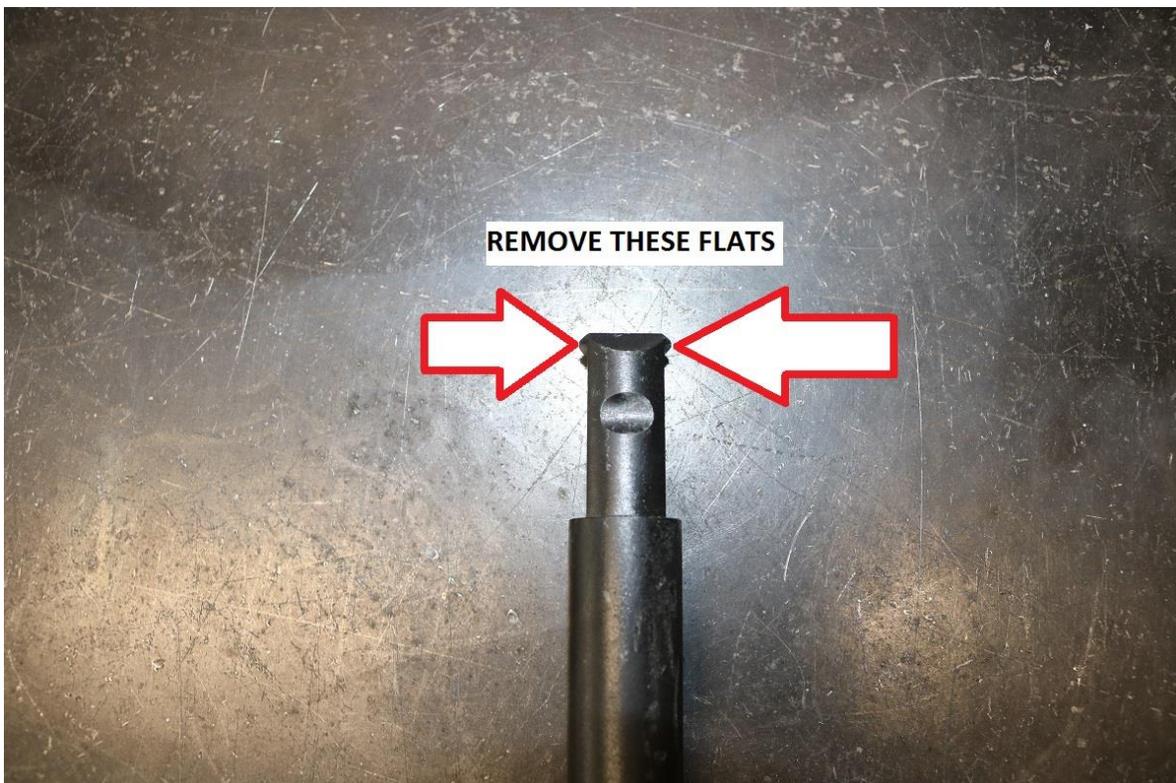
72) Re-install the fender well liners in the reverse order of removal. The trimmed liners should appear as shown below.



2002 Steering Shaft Extension Installation

73) The factory steering shaft requires slight modification for fitment of the steering shaft extension.

74) Note the two flats on the top portion of the steering shaft. These flats need to be sanded off for the 200201 steering shaft extension to be installed. See images below for reference.





75) Test fit the steering shaft extension onto the steering shaft as shown below.

- a. Note, the pinch bolt hole should align with the notch in the steering shaft.
 - i. Test fit the M8-1.25 x 25mm long socket cap screw provided at this time. We have found some steering shafts require their notch to be slightly increased between .030-.060" for the bolt to be installed. Do not force the bolt in with a wrench as it may damage the threads.



76) If the notch needs to be modified to allow for the bolt to be installed, use a small die grinder with burr bit or a 4-1/2" angle grinder with metal grinding wheel. Remove as little material as possible to allow fitment.



77) Once the pinch bolt can easily be installed, paint any newly exposed areas of metal to prevent corrosion. Assemble the steering shaft extension onto the steering shaft as shown below. Use a small dab of blue Loctite on the threads of the socket cap screw and torque to 18 ft-lbs (24N.m) using a 6mm Allen wrench.



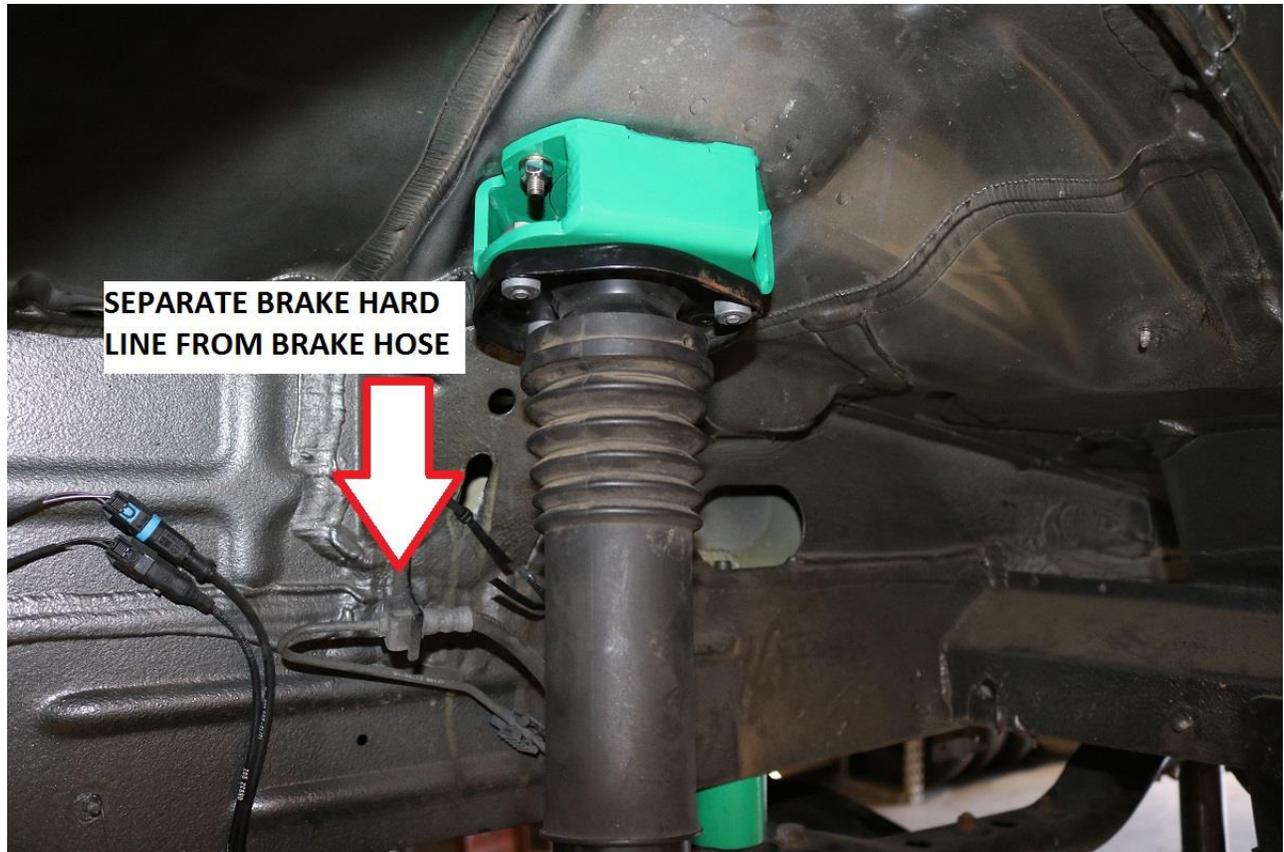
- 78) Install the steering shaft onto the splines of the rack and pinion. Be careful not to damage the plastic alignment tab on the splines. Once fitted, install the T-45 torx bolt removed in step 9. Again, we recommend using a dab of blue Loctite on the threads. Torque the bolt to 18 ft-lbs (24N.m)
- 79) Install the top portion of the steering shaft into the steering shaft universal joint near the ABS module. Be sure the notch in the steering shaft extension is lined up with the bolt hole for the pinch bolt removed in step 6.



- 80) Install the bolt, retaining clip and nut removed in step 6 back onto the steering shaft. Use a 13mm socket / wrench and torque to 18 ft-lbs. (24 N.m)

4024 Front Brake Line Drop Bracket Installation

81) Separate the front brake hard line from the brake hose using an 11mm brake line wrench.



82) Install the front brake line drop bracket as shown below. Use the M12-1.50 x 25mm long bolts provided in the kit. Use a washer under both the nut and the head of the bolt.



- 83) Orient the tab as shown above. Tighten the M12 bolt to 50 ft-lbs (67 N.m). Reconnect the hard line to the brake hose and snug the brake line fitting tight.
- 84) With the front of the van still on jack stands / unloaded. Refill the power steering system and bleed the steering using the factory recommended procedure.
- 85) Re-install wheels / tires and lower van to ground. OEM torque spec for wheel studs is as follows:
 - a. 2500 SRW: 177-187 ft-lbs (240-250 N.m)
 - b. 3500 DRW: 140-150 ft-lbs (190-200 N.m)
- 86) With the vehicle on the ground, the last remaining under-hood components can be hooked back up.
- 87) Re-connect battery ground cable onto battery and re-install any interior component removed for access.
- 88) Refill the master cylinder with DOT 4+ Synthetic Brake Fluid. Refer to owner's manual for certainty.
- 89) Bleed the front brakes using the factory recommended sequence. Ensure there is good pedal feel and all air is eliminated from the system. Failure to eliminate all air from the braking system is not only dangerous, but will also trigger an ABS warning light on the instrument cluster.
- 90) Take vehicle to alignment shop for a proper alignment to be done.
- 91) 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, of 8778 Plata Ln. STE B. Atascadero, Ca 93422 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 California.

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.