



ARROW
SUSPENSION

OWL INSTALL GUIDE

2019-2022, MERCEDES SPRINTER ARROW FRONT 2" LIFT KIT, 4X4

UPDATED FALL 2025

NOTES

For the most up-to-date and current installation instructions, please visit our website at

www.owlvans.com

- Please read all instructions carefully before installing Owl products on your vehicle.
- This is a bolt-on shock kit designed for easy installation using basic hand tools.
- NOTE: Additional steps are required for installation on vehicles equipped with the HD rear A/C option, which includes refrigerant lines running down the passenger-side wheel well. Refer to step 36 for details.
- Removal and trimming of the plastic inner fender well liner is necessary for installation.
- Lift install involves removing brake hoses to fit drop brackets—plan to bleed the entire system afterward.
- **Critical Disclaimer:** To optimize driveline angles, you'll drill two holes in the suspension subframe for slight front differential rotation. Note: A right-angle drill is essential for installing the rotation cam washers. While this helps, the front driveshaft operating angle increases, and we cannot assure Mercedes dealer warranty coverage for any premature wear.

- 35" Tire Clearance (315/75/16): Achievable with these mods:
 - Trimming of front mudflaps.
 - Minor trimming on rear and front fenders.
 - Installation of aftermarket mudflap brackets.
 - Trimming of front bumper and plastic inner fender liner.
 - Minimum 9/16" (14mm) wheel spacers for inner tire-to-strut clearance (skippable with +9/16" offset aftermarket wheels).
- **System Limits:** Vehicles with Distronic/Brake Assist (Adaptive Cruise) limited to 275/75/16 or 275/70/17 max tires—larger sizes disable the system.
- **Skid Plate Note:** If equipped with Owl skid plate system, remove it fully during lift install. Reinstall afterward using Lifted skid plate kit.

PARTS LIST

2007-Up, Mercedes Sprinter Front Strut Spacer, 2" Lift

PART	P/N	QTY.	✓
MERCEDES SPRINTER VS30, FRONT LH STRUT SPACER	SP-FSS-D	1	
MERCEDES SPRINTER VS30, FRONT RH STRUT SPACER	SP-FSS-P	1	
M8-1.25 X 30MM HEX HEAD BOLT		8	
M8 FLAT WASHER		8	

2007-Up, Mercedes Sprinter, Front Sub Frame Drop Spacers, 2" Lift

PART	P/N	QTY.	✓
FRONT SUBFRAME DROP SPACER, FRONT AND REAR	SP-SBFRM-SP2	4	
FRONT SUBFRAME DROP SPACER, MIDDLE PUCK	SP-SBFRM-SP1	2	
M14-1.5 X 130MM FLANGE BOLT		2	
M14-1.5 X 165MM FLANGE BOLT		2	
M14-1.5 X 210MM FLANGE BOLT		2	
M14 FLAT WASHER		6	

2009-2019, Mercedes Sprinter VS30 4WD, Steering Shaft Extension, 2" Lift

PART	P/N	QTY.	✓
MERCEDES SPRINTER VS30 4WD, 2" STEERING SHAFT EXTENSION	SP-SCE-LFT	1	
M8-1.25 X 25MM SOCKET CAP SCREW		1	

2007-Up, Mercedes Sprinter 4X4, Transmission Mount Lift Bracket, 2" Lift

PART	P/N	QTY.	✓
TRANSMISSION MOUNT LIFT BRACKET	SP-4X4-TMS	1	
M10-1.50 X 130MM HEX HEAD BOLT		2	
M10 FLAT WASHER		2	
M8-1.25 X 70MM HEX HEAD BOLT		4	
M8-1.25 X 150MM HEX HEAD BOLT		3	
M8 FLAT WASHER		4	

2007-Up, Mercedes Sprinter NCV3/VS30, Motor Mount Lift Block, 2" Lift

PART	P/N	QTY.	✓
MOTOR MOUNT LIFT BLOCK, DRIVER SIDE	SP-MMS-L	1	
MOTOR MOUNT LIFT BLOCK, PASSENGER SIDE	SP-MMS-R	1	
M10-1.50 X 30MM HEX HEAD BOLT		4	
M10-1.50 NYLOCK NUT		4	
M10 FLAT WASHER		8	

2007-Up, Mercedes Sprinter NCV3/VS30, Front Brake Line Drop Bracket, 2" Lift

PART	P/N	QTY.	✓
FRONT BRAKE LINE DROP BRACKET 2" LIFT	SP-FBLB	2	
M12-1.50 X 25MM HEX HEAD BOLT		2	
M12-1.50 NYLOCK NUT		2	
M12 FLAT WASHER		2	

2015-2022, Mercedes Sprinter 4X4, Carrier Bearing Drop

PART	P/N	QTY.	✓
CARRIER BEARING DROP SPACER	SP-4X4-CBD	2	
DRIVESHAFT LOOP	SP-4X4-DSL	1	
M12-1.50 X 90MM LONG HEX HEAD BOLT		2	
M12 FLAT WASHER		2	

TOOLS NEEDED

1. Quality jack and four jack stands
2. Basic hand tools:
 - Wrench and socket set, including:
 - Metric sizes: 10mm (12 Point), 13mm, 16-19mm, 21mm, 24mm
 - T-25, T27, T-45, T55 Torx
 - 6mm Allen
 - Torque Wrench
 - Dykes or tool for cutting zip ties
 - Trim removal tools
 - Impact
 - E18 Inverted Torx (Or 12pt 14mm)
3. Right angle drill and 1/4" metal cutting drill bit for pilot holes
4. Heat gun
5. 4-1/2" Angle grinder with flap disc, or similar sanding tool for light material removal
6. Die grinder with 1/4" - 3/8" diameter burr bit

INSTALLATION

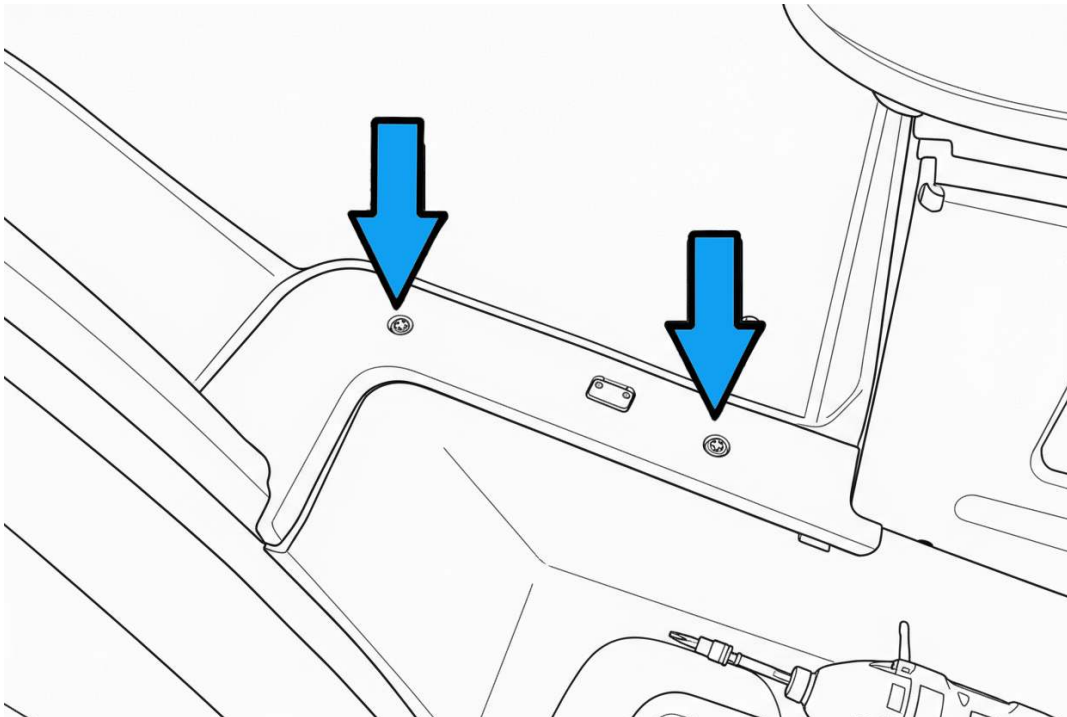
These instructions show installation on the driver's (left-hand) side. Passenger side installation is similar; any differences will be noted in the steps.

1.

Unhook the negative battery lead located beneath the driver's side floor panel.

2.

Find the pair of T25 Torx fasteners holding the floor mat panel to the door threshold.



3.

Remove the inner fender well liners by first removing the two push pins located near the front lower portion of the bumper. These connect the liner to the bumper.

4.

With the battery now visible, detach the negative terminal ground wire using a 10mm socket or wrench.

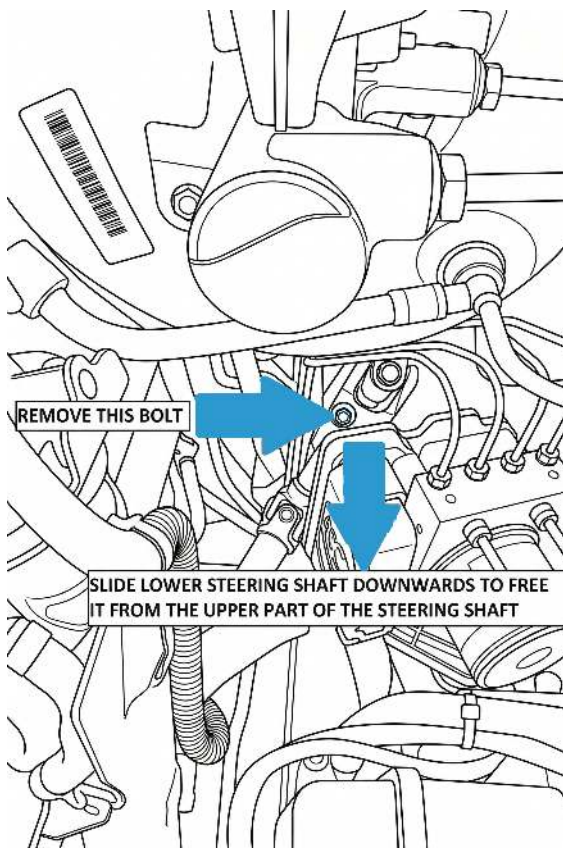
5.

Before raising the vehicle on a hoist or jack stands, separate the upper steering column from the lower shaft. Keep the steering wheel centered and note its position during the process—avoid rotating it a full turn to prevent misaligning the wheel position sensor.

6.

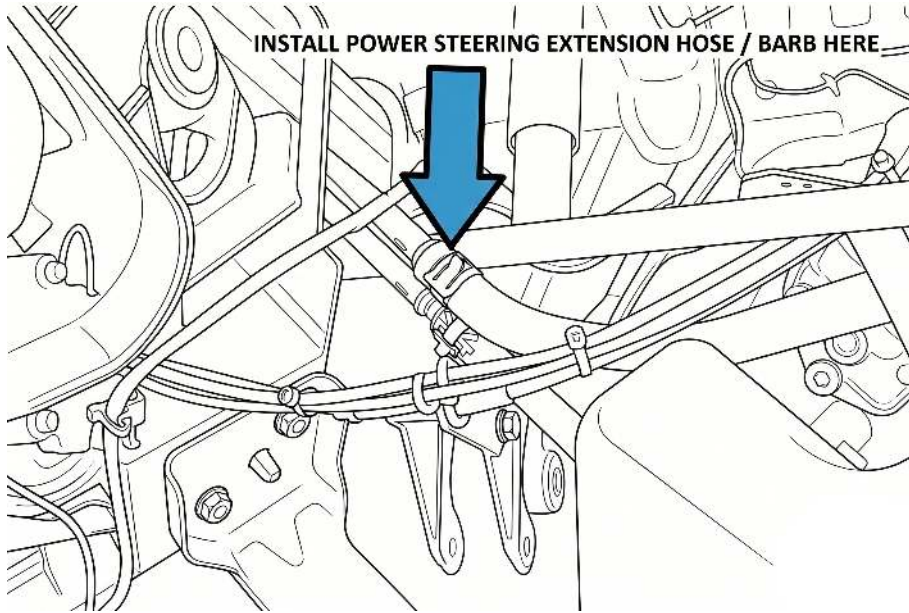
In the engine bay, find the steering coupler joint right behind the ABS module on the driver's side.

- a. Extract the pinch bolt with and E12 external Torx socket.
- b. Save the fastener for reinstallation.
- c. After removal, drop the lower steering shaft downward to disconnect it from the upper section.



7.

Identify the low-pressure power steering return hose connecting the steering rack to the power steering cooler.

**8.**

Disconnect the low-pressure power steering hose at the steering rack and cooler ends. Attach the supplied barb extension using the included power steering hose segment. Secure connections: Use provided clamps (3 total)—one at extension union, one at rack barb, one at cooler port. Discard OEM spring clamp (failure-prone).

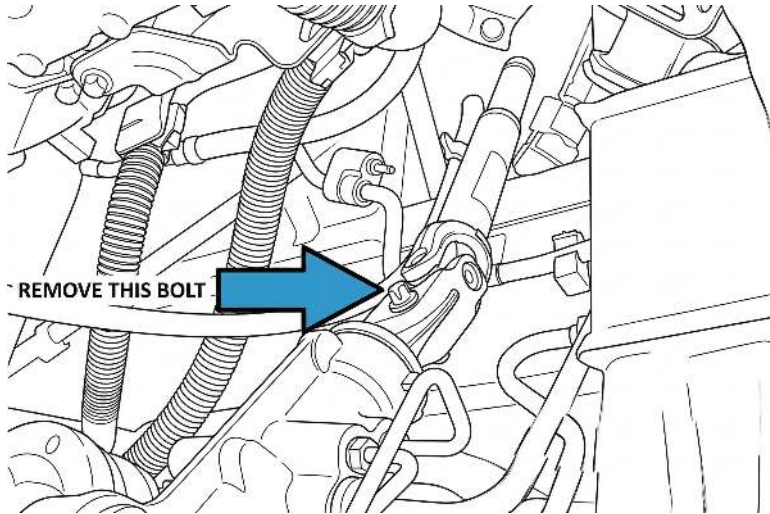
9.

Now raise the vehicle using jack stands or a hoist. Ensure the full front suspension cradle hangs freely below the chassis.

- a. For floor jacks, position stands ahead of the subframe; for lifts, use pads forward of the fuel tank on the frame rails, matching both sides.

10.

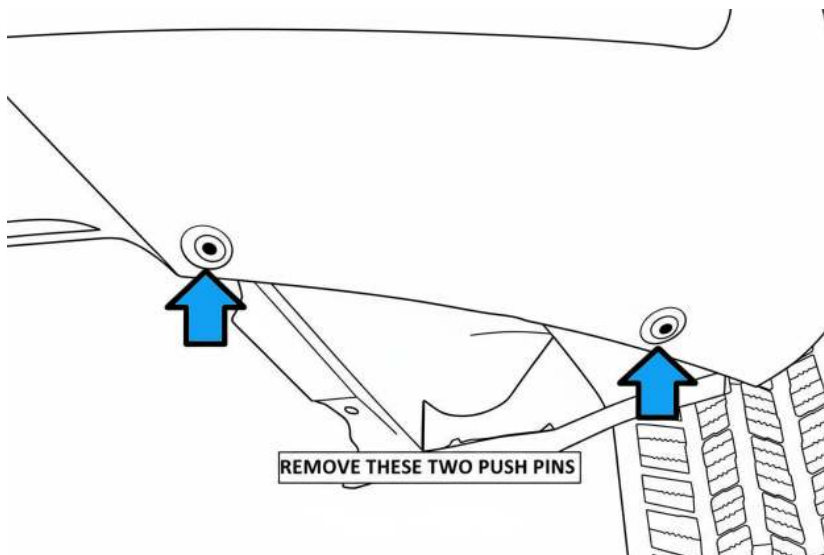
With the front end fully drooped, trace the steering shaft to its attachment at the rack & pinion beneath the van. Extract the E12 external Torx pinch bolt, then withdraw the shaft from the splines and pull it free.

**11.**

Install the front suspension upgrade evenly across left and right sides at the same time. Follow each step bilaterally unless directed otherwise.

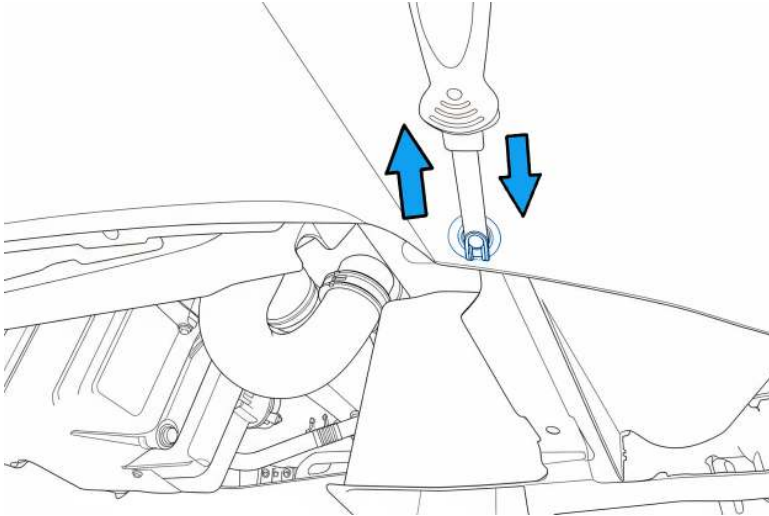
12.

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.

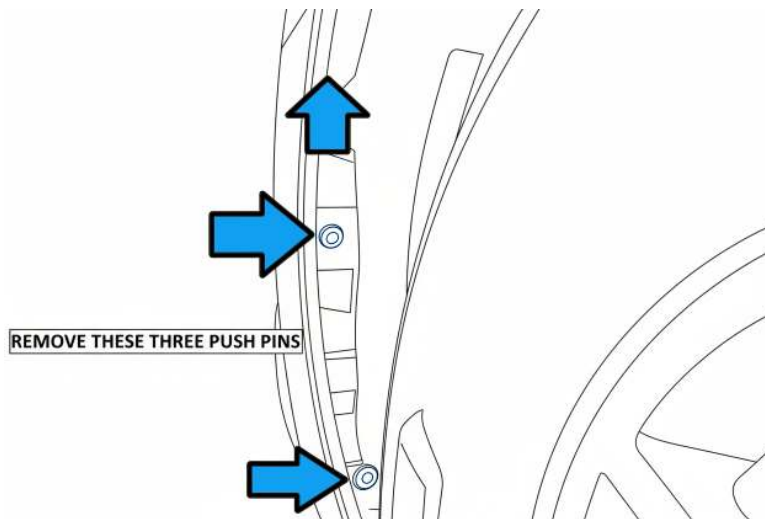


13.

Leverage a plastic trim pry tool beneath the push-pin head first, then under the retainer base to pop it out completely.

**14.**

Inside the wheel arch, extract the three retaining clips along the forward bumper edge.

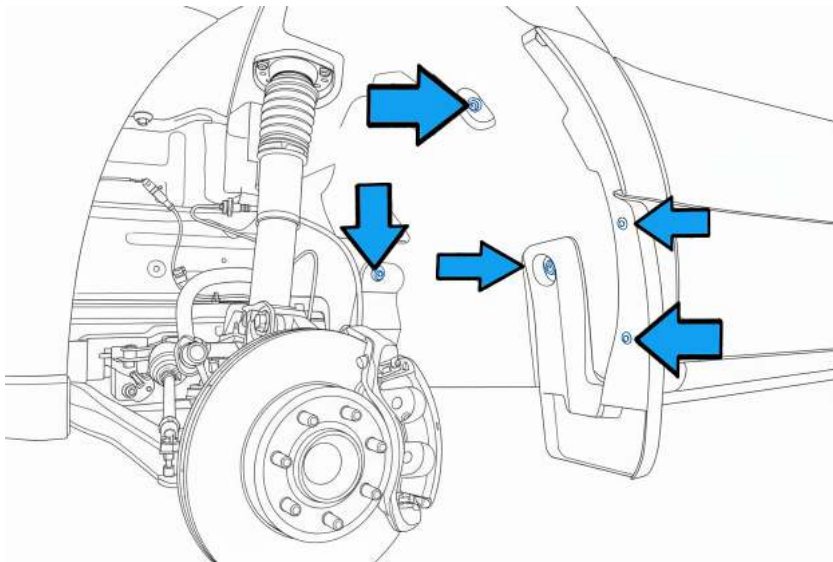
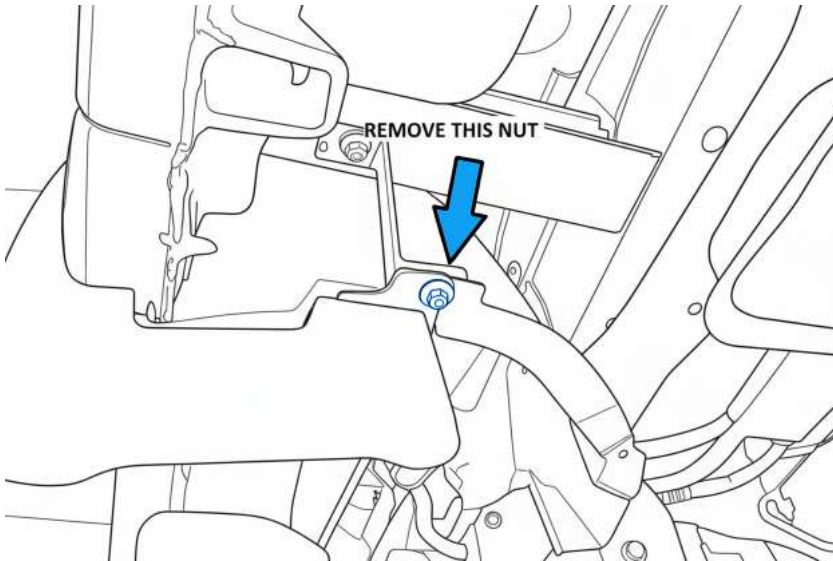
**15.**

Spot and pull the three 10mm plastic nuts fastening the forward inner fender liner section to the frame.

16.

Detach the splash guard by unscrewing two T25 Torx bits and two 10mm plastic nuts (blue arrows in pics).

- a. One 10mm nut hides underneath toward the wheel well center.



17.

Unfasten the last two 10mm plastic nuts (white arrows in pic) holding the aft inner wheel liner to the frame.

18.

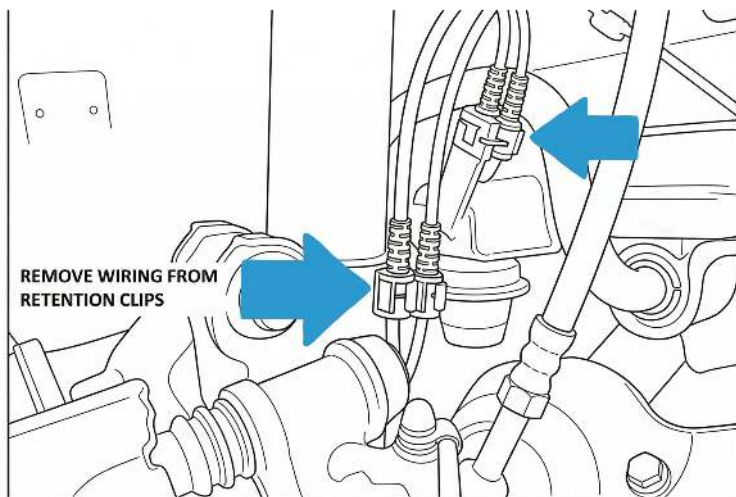
Extract the back wheel well liner section by yanking it off the studs and under the fender flange.

19.

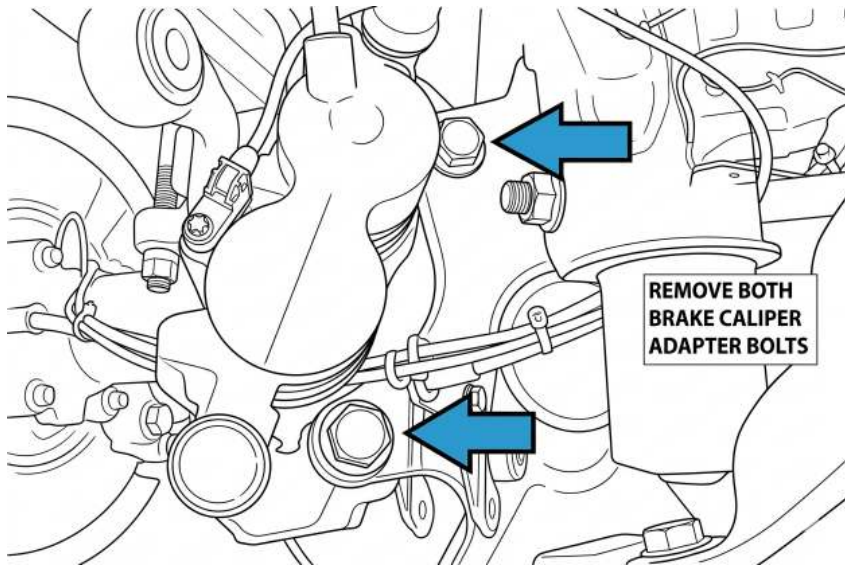
Dislodge the forward wheel arch liner by tugging its edge free from the bumper cover and fender rim, then pivot downward past the studs.

20.

Free the ABS sensor and brake wear indicator wires from their holders on the strut and wheel well liner.

**21.**

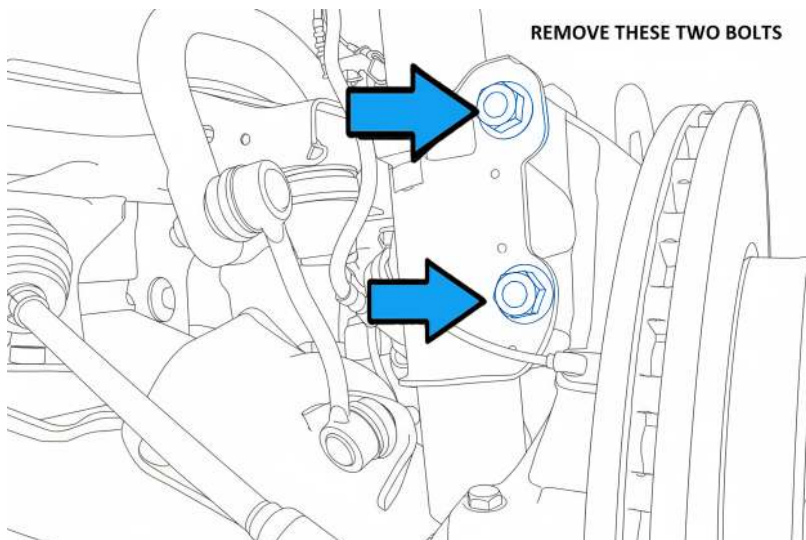
Unscrew the two 21mm caliper carrier bolts per side to release the front brake bracket.

**22.**

Slide off the brake caliper from the disc, then wire it safely aside—never suspend it by the hose.

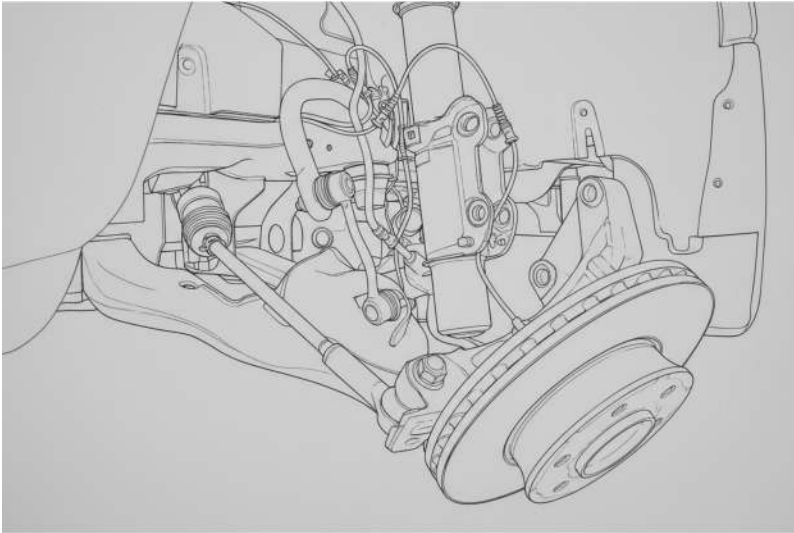
23.

Hoist the lower A-arm up 3/8 inch (10mm) to slack the strut, then remove its two 21mm pinch bolts from the knuckle.



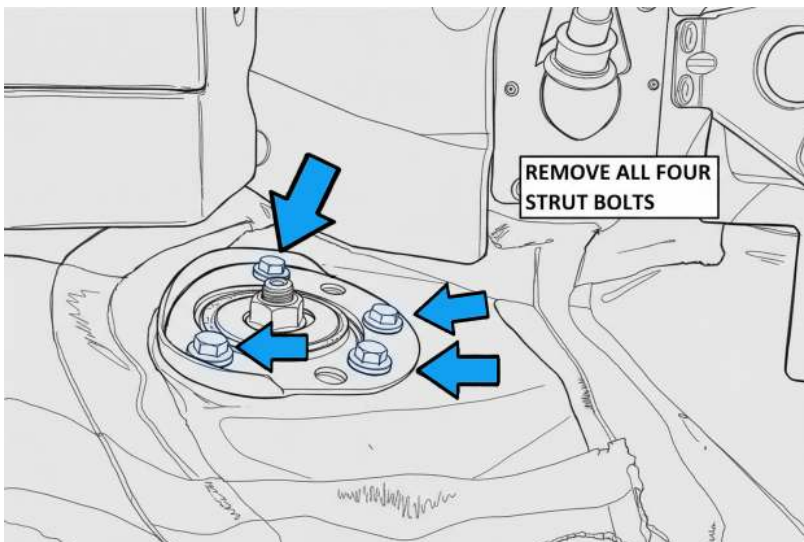
24.

Once detached from the knuckle, let the lower control arm drop freely; ease the upright away from the strut without stressing the ABS wire.

**25.**

Fully detach the strut via the four 13mm upper mount nuts inside the cab.

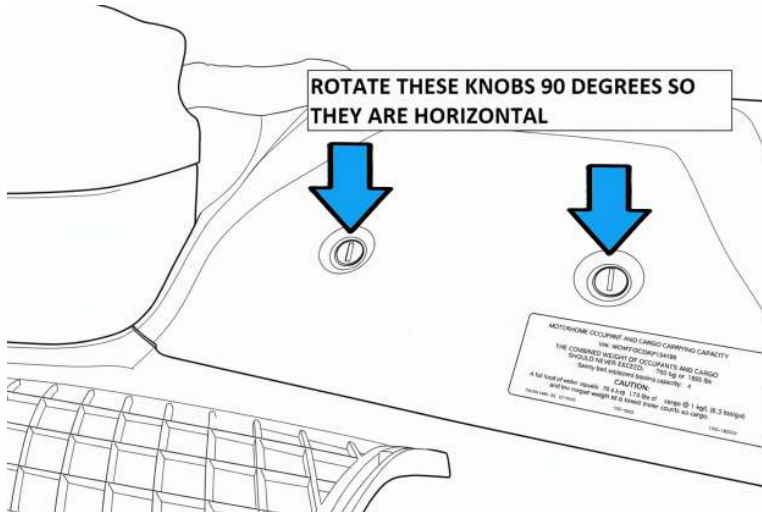
- a. Have a helper support it from below to avoid a drop.
- b. Tag each strut by side for matching reinstall.



26.

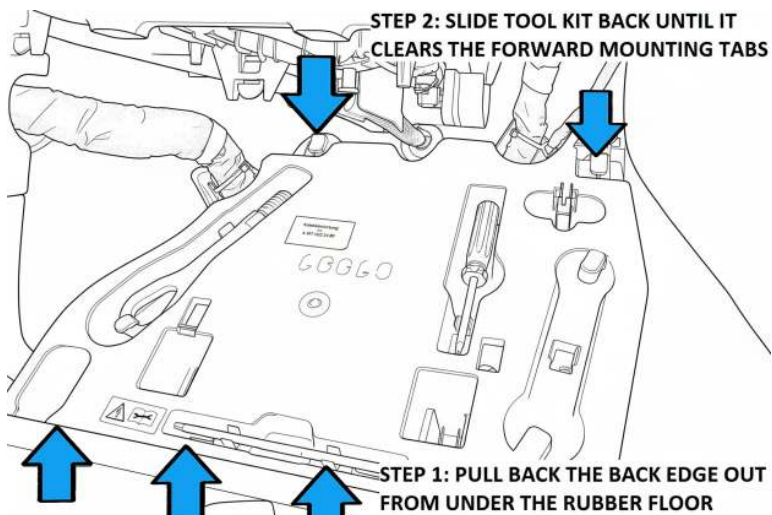
Access passenger upper strut fasteners by flipping up the footwell toolkit lid; twist the kick panel locks horizontal with a wide screwdriver.

- a. Pull off the panel.

**27.**

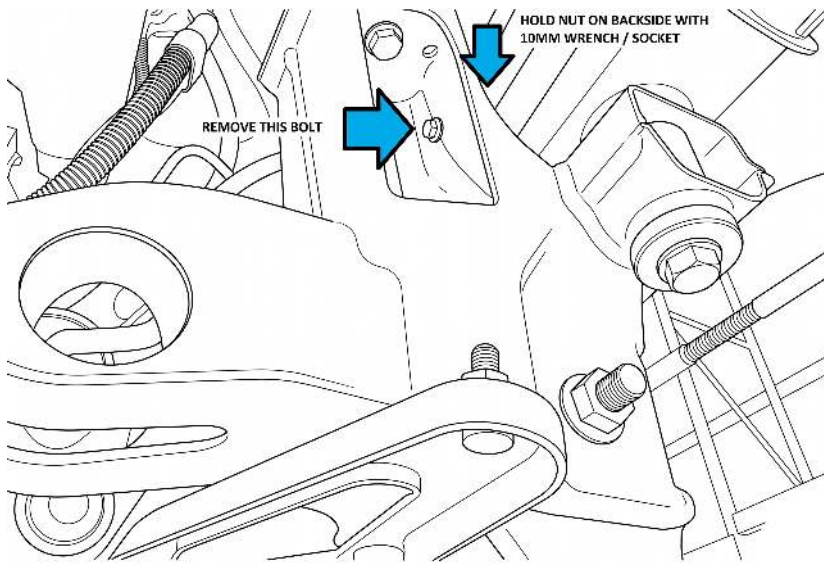
Post-panel removal, tug the toolkit's rear from under the mat.

- a. Then slide it aft past the firewall tabs.



28.

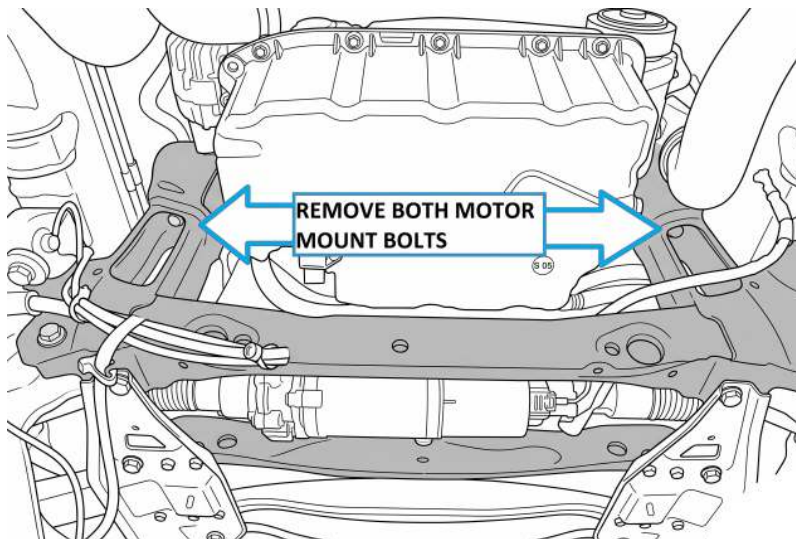
Locate the driver-side suspension subframe near the driver's motor mount. Remove the 10mm bolt securing power steering lines to subframe; hold uncaptured nut with 10mm socket/wrench to avoid spin. Retain bolt for reinstall.

**29.**

Position a floor jack under the oil pan to securely support the engine. Use a wood block or rubber pad on jack for protection. This prevents engine tilt during subframe work.

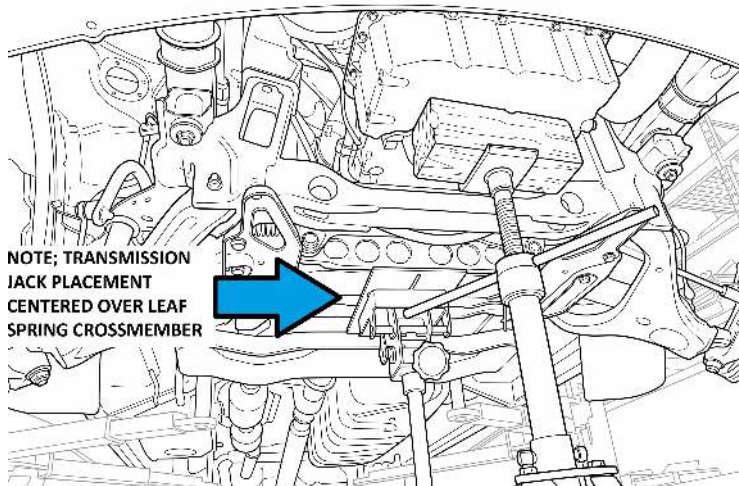
30.

Extract the 16mm engine mount through-bolts on both left and right sides

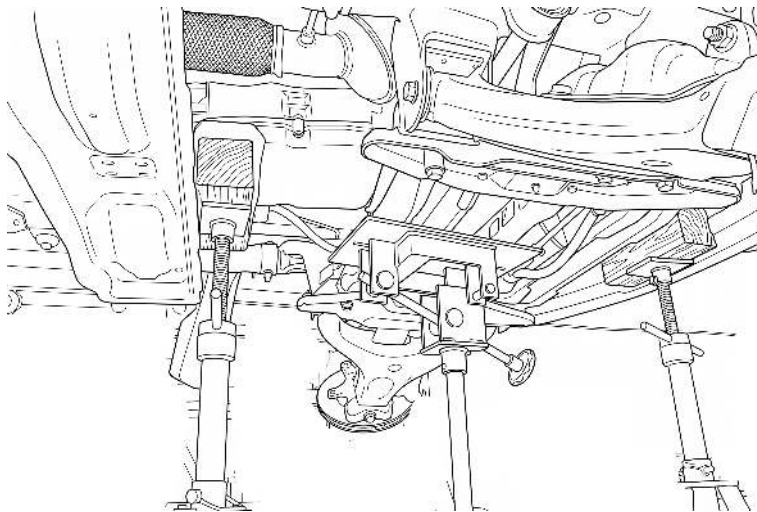


31.

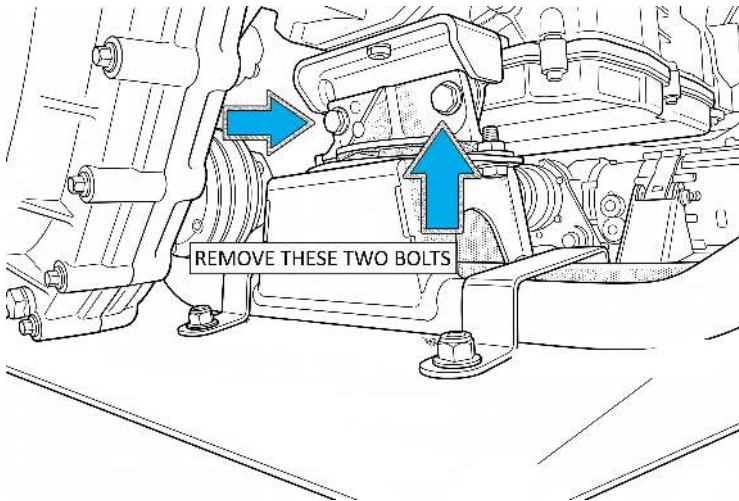
Cradle the engine via a jack under the sump.

**32.**

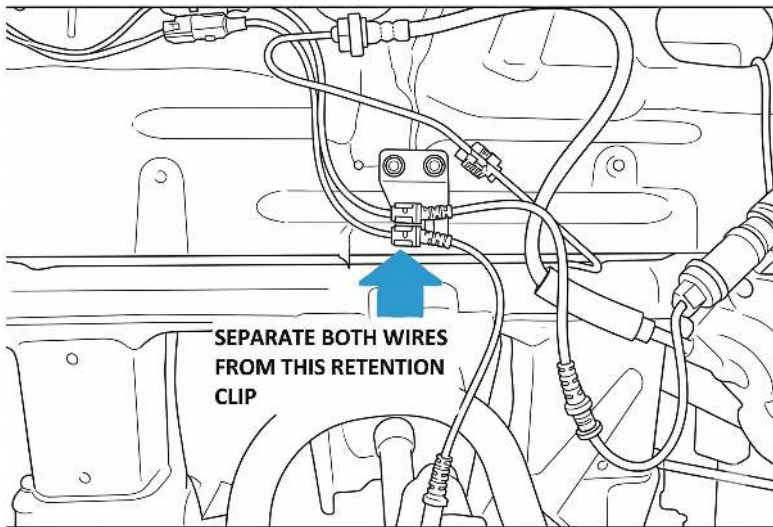
Prop up the front cradle using a trolley jack (see pic)..

**33.**

Remove the two 16mm trans mount fasteners (as shown).

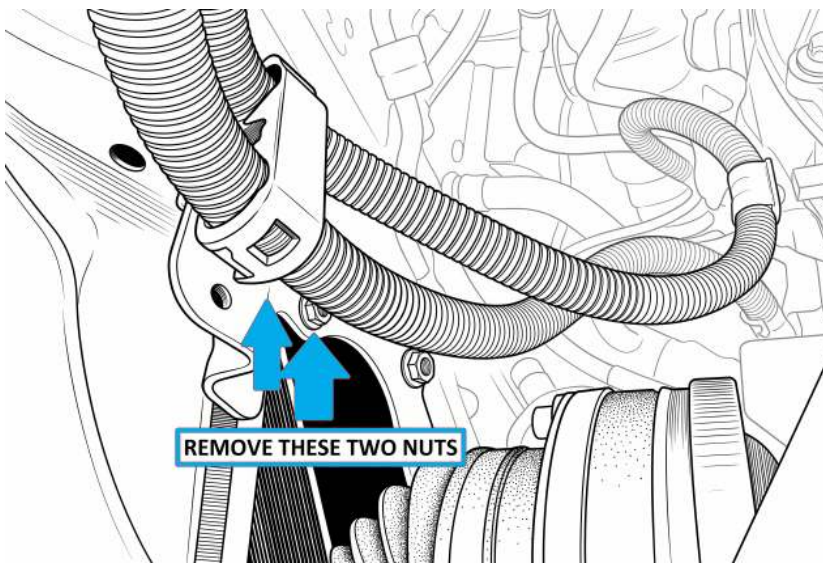
**34.**

Unclip wheel speed/ABS sensor wiring from lower chassis clip. See reference image.

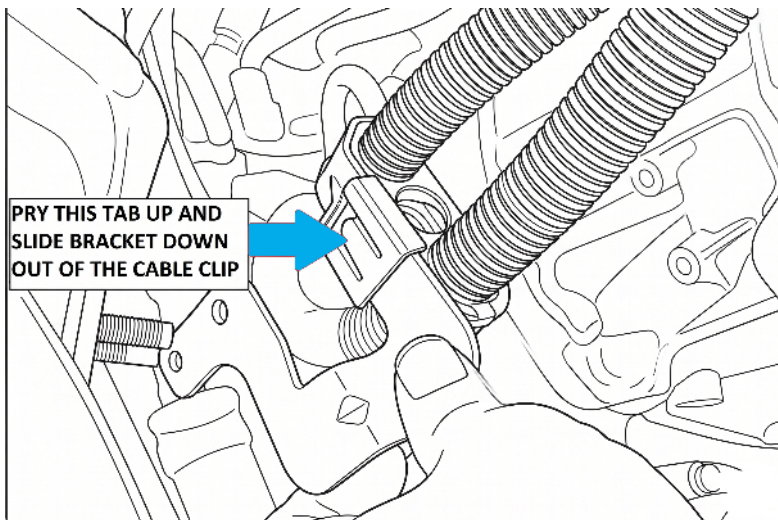
**35.**

Near the front prop shaft underside, spot the thick battery leads along the frame.

- a. Snip the zip tie on the small harness toward the anti-roll bar.
- b. Remove the two 10mm nuts holding the wire bracket to the cradle.

**36.**

Once unbolted, lever a slim flathead under the plastic clip to release the bracket from the cables.

**37.**

Reattach cable mounting bracket to suspension subframe using original 10mm nuts from prior step. Leave battery cables disconnected and floating at this stage.

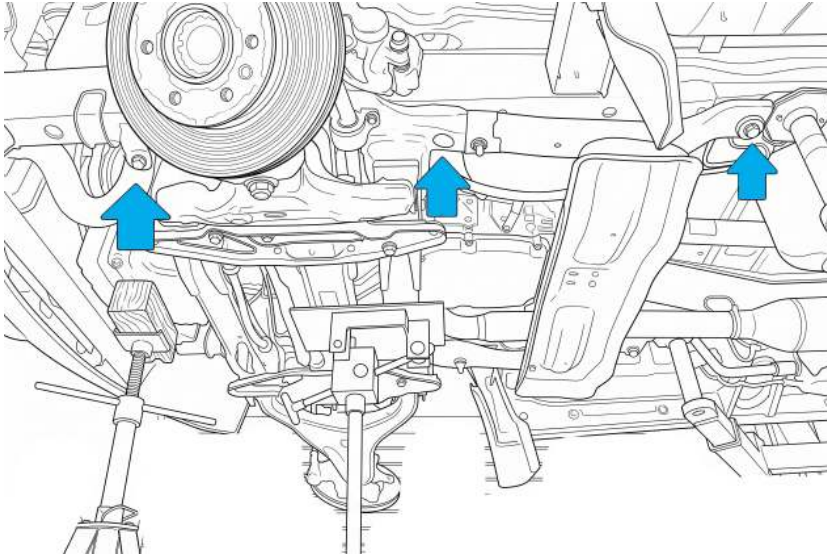
Note: Secure cables to bracket with zip tie after subframe drop.

38.

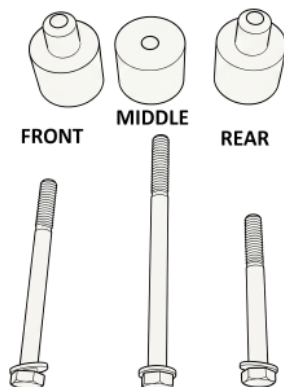
You'll need a second set of hands now for safely dropping the cradle.

39.

With powertrain and cradle jacked, pull the three 21mm subframe bolts per side (blue arrows in pic).

**40.**

Prep the risers and fresh cradle bolts; match each precisely to its spot (as pictured)—location matters.

**41.**

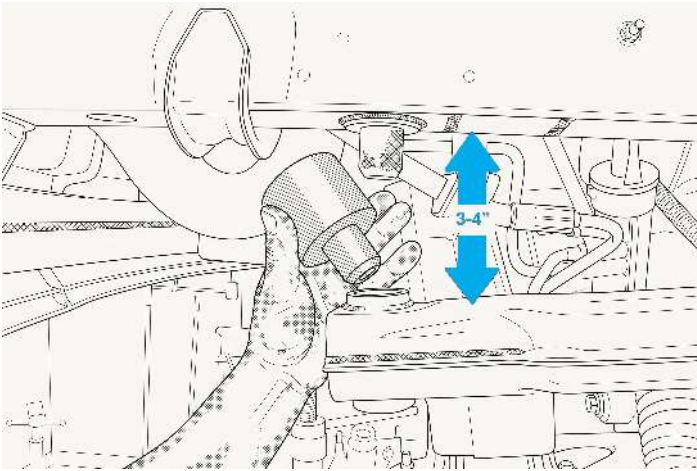
Drop all six cradle bolts (three each side) and ease the subframe downward gradually—a helper steadies it.

- a. Watch wiring on the left as it descends

42.

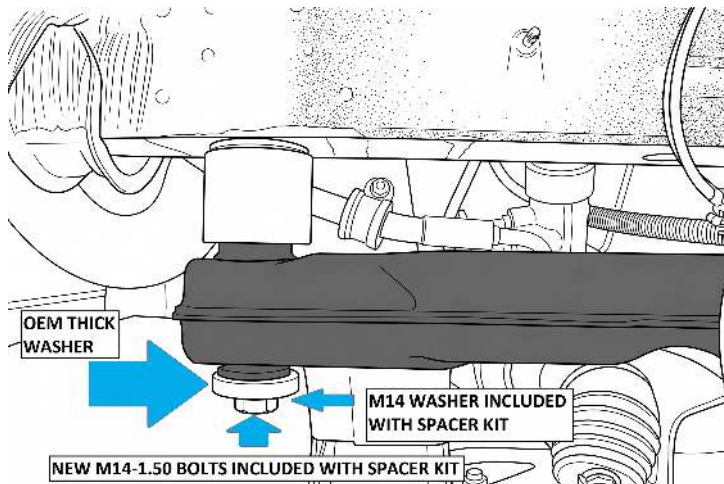
Gently lower the subframe until there's clearance for the spacers—typically around 3 inches for front and rear placement.

- a. Stop lowering once the forward spacer seats. (As pictured).

**43.**

Seat all six risers precisely, then hoist the cradle back up snug.

- a. **CRITICAL:** Reuse thick oem washers on front/rear bolts.
- b. Thread new bolts with Loctite; add fresh M14 washer per head.



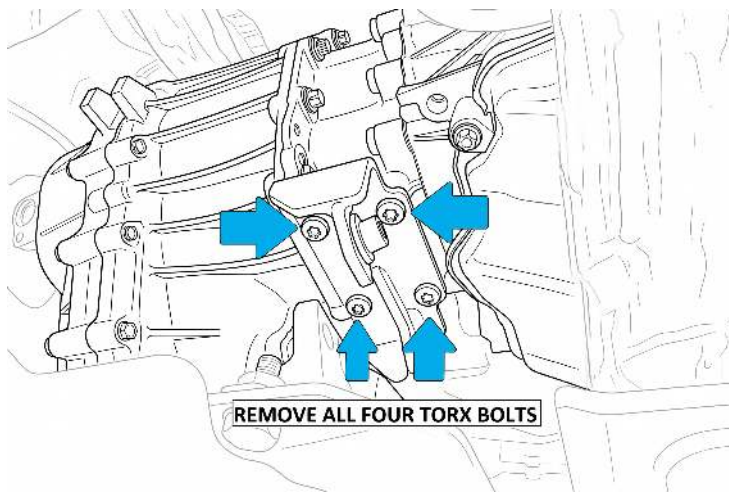
44.

Hand-tighten the six cradle fasteners now—defer full torquing until motor spacers are set and powertrain jacks cleared.

45.

Using a T45 Torx bit, remove the four Torx-head bolts fastening the upper transmission mount to the transmission body. Refer to images below.

- a. **Note:** Save all four bolts for reusing with new bracket.

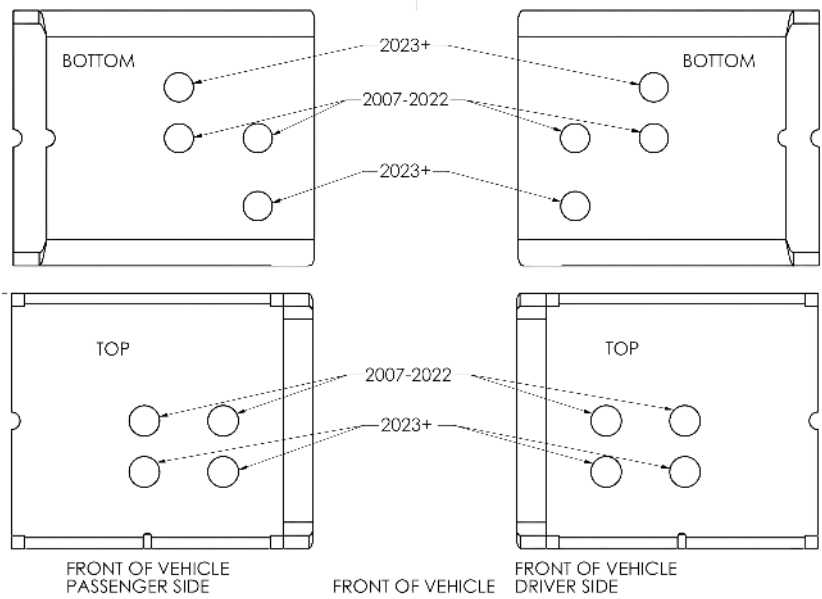
**46.**

Mount the Transmission Mount Lift Bracket per diagram below. Secure to transmission using original Torx bolts. Fasten to lower mount with kit's M10-1.50 x 35mm bolts, washers under heads and Nylock nuts (17mm tools). Snug only—final torque later.

47.

Confirm engine mount block alignment (side-specific, per diagram).

- a. Match holes by year.
- b. 2007-2022: Center top/bottom.
- c. 2023+: Forward top, front/rear bottom.

**48.**

Insert the risers; adjust engine jack height to seat blocks, then reinstall OEM mount bolt from earlier.

49.

Bolt risers to cradle via kit's M10-1.50 x 35mm fasteners, washers under heads/nuts.

50.

Hand-start all fasteners first; tighten after full assembly.

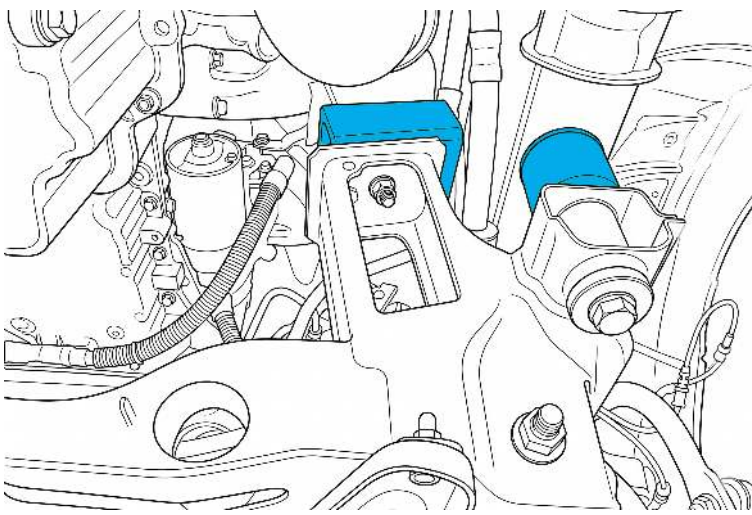
51.

With all fasteners installed, remove engine/transmission support jacks so assemblies load fully onto mounts.

52.

Torque M10-1.50 engine mount bolts to 43 ft-lbs (58 Nm).

- a. 16mm tool for OEM bolt.
- b. 17mm for Owl spacer hardware.

**53.**

Torque transmission mount Torx bolts to 22 ft-lbs (30 Nm) now.

54.

Torque M10-1.50 trans mount bolts to 43 ft-lbs (58 Nm).

55.

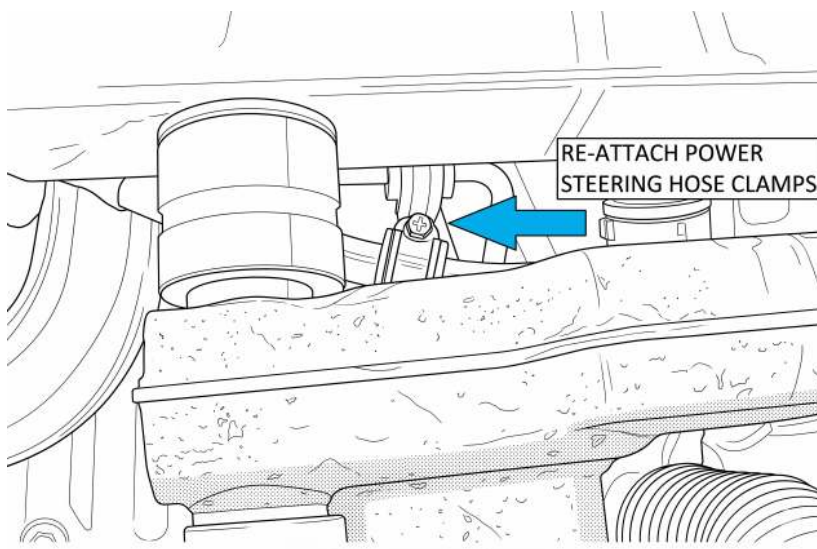
Torque front/rear cradle bolts to 127 ft-lbs (172 Nm).

56.

Torque center cradle bolts to 89 ft-lbs (120 Nm).

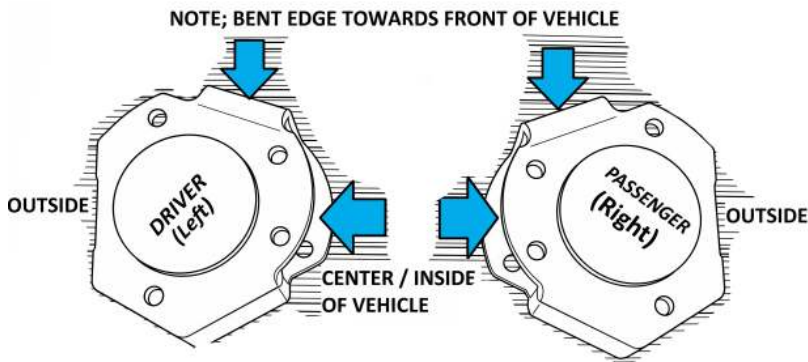
57.

Reinstall power steering hoses and clamps in factory position using bolt from step 27. See reference image below.



58.

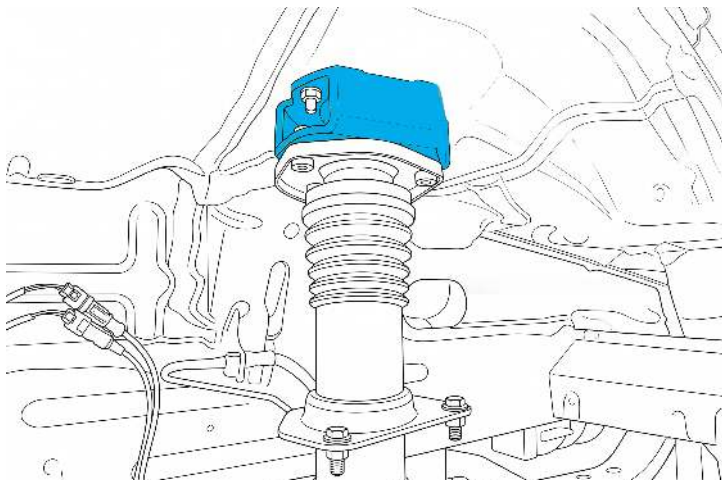
Strut spacers are side-specific (L/R); match to vehicle side per diagram.

**59.**

Reinstall OEM top strut bolts through spacers; snug + $\frac{1}{4}$ - $\frac{1}{2}$ turn (21 ft-lbs / 28 Nm spec).

60.

Position struts (with spacers) into place—extra help advised. Thread kit M8-1.25x30mm bolts (washer under heads) using 13mm socket; confirm spacer flush in chassis pocket.



61.

With bolts hand-tight, torque to 21 ft-lbs (28 Nm).

62.

Lift knuckle/control arm; reinstall lower strut bolts into prior worn spots for camber match.

- a. Target original alignment.
- b. Remount brake caliper (Loctite on adapter bolts).
- c. Recipe ABS/ESP wires.
- d. Zip-tie battery cables to bracket (from step 35).
- e. Secure loose wiring with the ties-avoid strain/heat/motion.

63.

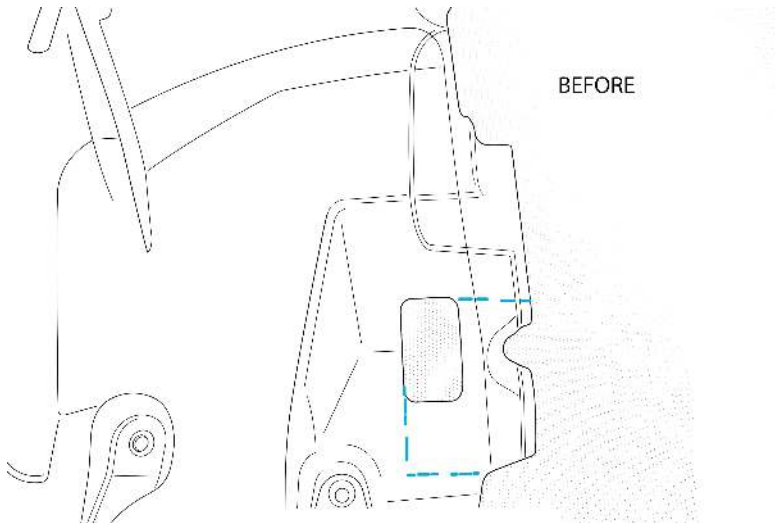
Torque lower strut bolts to 127 ft-lbs (172 Nm).

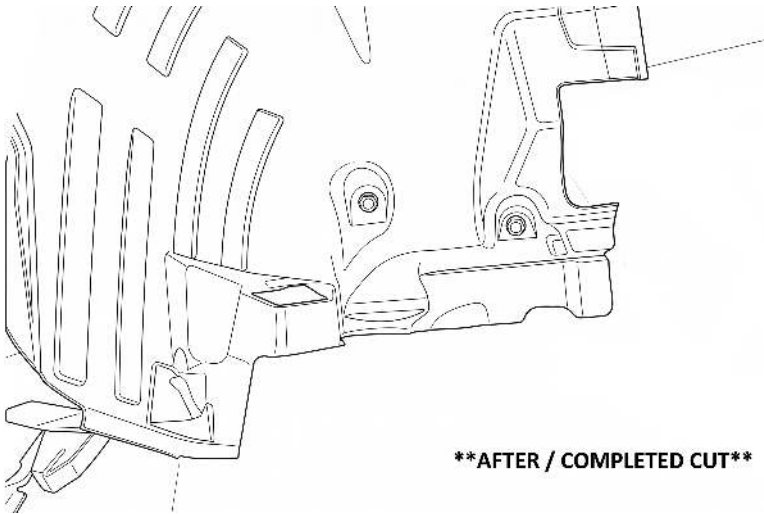
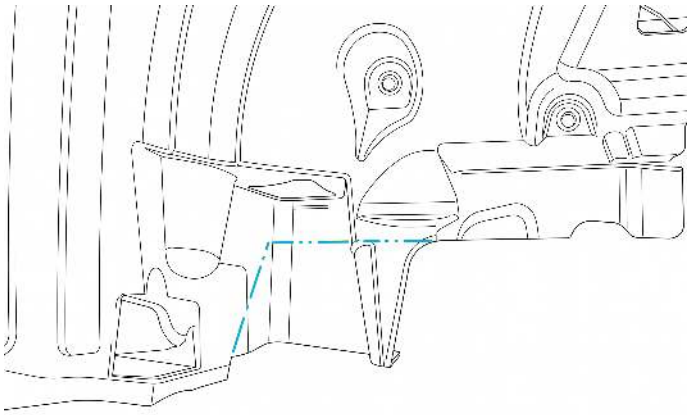
64.

Torque caliper adapter bolts to 59 ft-lbs (80 Nm), then +¼ turn.

65.

Trim front fender liner half along blue dashed lines per images; sheet metal snips ideal for plastic.

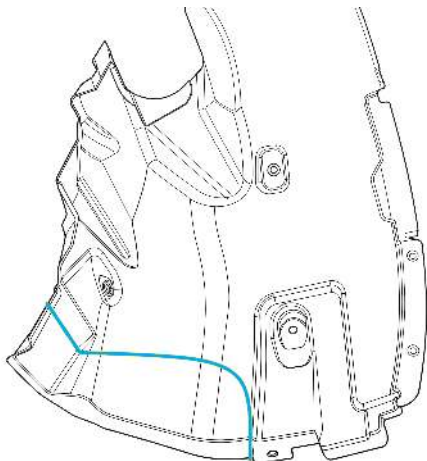




****AFTER / COMPLETED CUT****

66.

Cut rear fender liner sections per below images.



APPROXIMATE CUT LINE

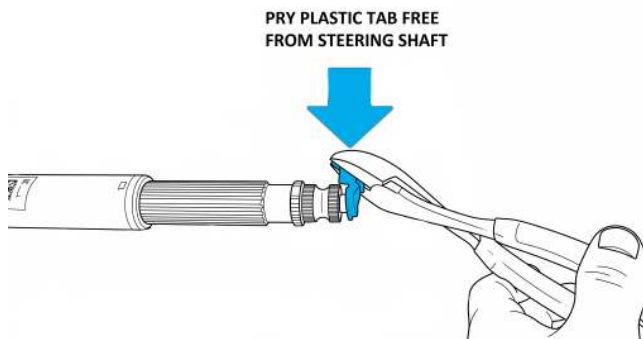
67.

Reinstall fender liners reverse of removal.

- a. For 35" tires a mud flap bracket needs to be purchased and installed, which requires trimming of fenders.

68.

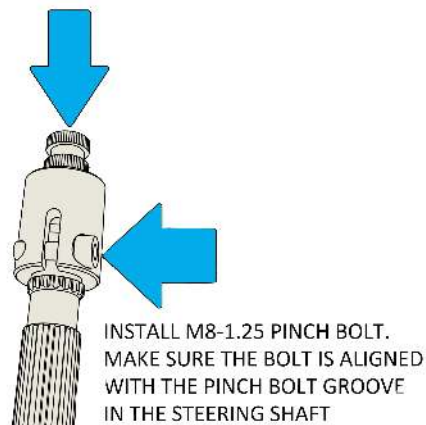
Remove OEM steering shaft plastic index tab using pliers to pry/pull from top.

**69.**

Fit steering extension to shaft.

- a. Loctite kit M8-1.25 cap screw; torque to 18 ft-lbs (24 Nm) with 6mm Allen.
- b. Extension fits tight. Lightly tap extension onto shaft.

INSTALL STEERING SHAFT EXTENSION PIECE



70.

See step 10; remount steering shaft to rack (Loctite on Torx bolt, torque 18 ft-lbs / 24 Nm).

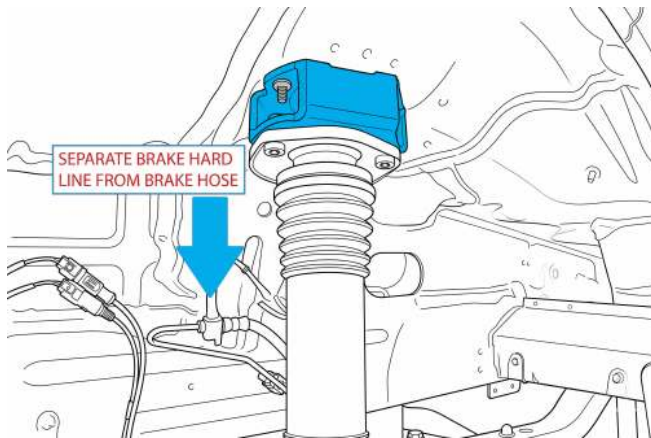
71.

Grease/anti-seize male spline on extension.

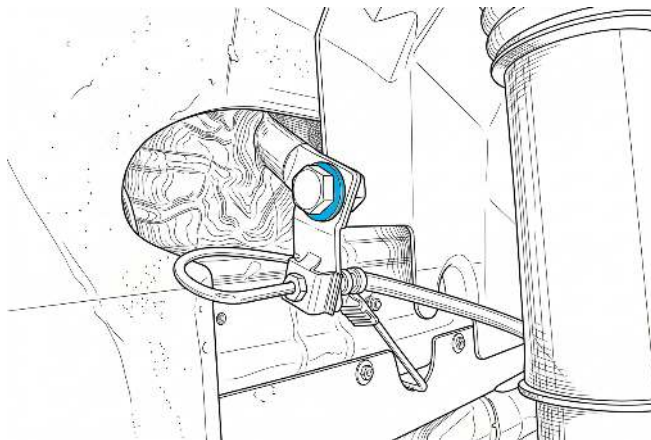
- a. Straighten wheels/steering; slide shaft up into firewall coupler.
- b. Spline tolerance allows flex, but track wheel phase.
- c. Loctite OEM Torx bolt (step 6); torque 18 ft-lbs (24 Nm).

72.

Disconnect front brake hardline from hose using 11mm flare wrench.

**73.**

Mount front brake line relocation bracket per image using kit M12-1.50 x 25mm bolts (washers under heads/nuts).



74.

Position tab per diagram; torque M12 bolt to 50 ft-lbs (67 Nm). Reattach hardline to hose; snug fitting.

75.

With front raised on stands, top off master cylinder using DOT 4+ synthetic fluid (check manual).

76.

Bleed fronts per OEM sequence for firm pedal/no air. Unremoved air risks safety + ABS dash light.

77.

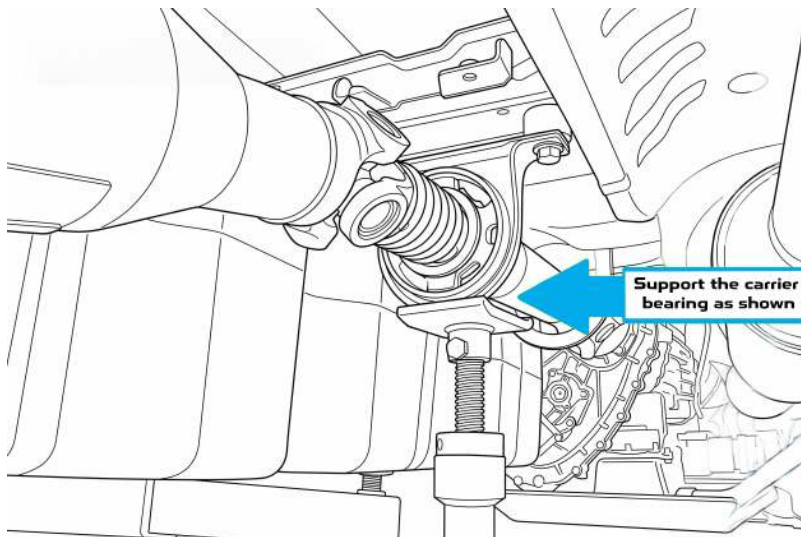
Find the driveshaft carrier bearing beneath the vehicle. **144"**

WB Sprinter: Single carrier bearing present. **170" WB**

Sprinter: Use rearmost carrier bearing (nearest rear axle).

78.

Support carrier bearing from below using a floor jack (see image). This maintains alignment during driveshaft work.

**79.**

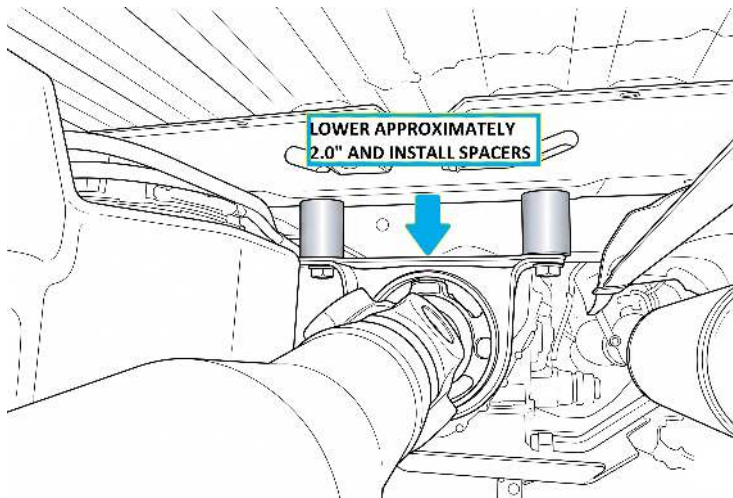
With bearing jacked, remove two M12 bolts to chassis using 18mm socket/wrench.

80.

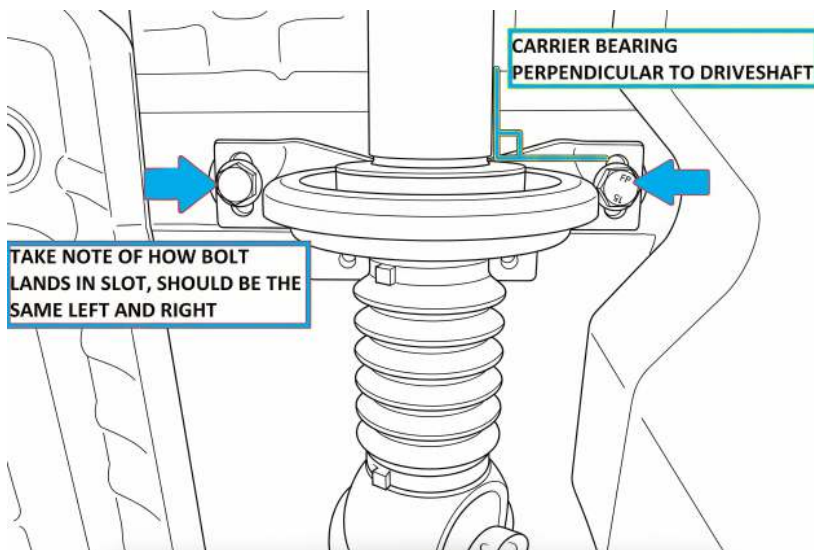
After OEM bolts out, remove factory carrier bearing spacers (if present). Lower bearing ~2 inches; install new spacers.

81.

Position spacer; thread in kit's M12-1.5 x 90mm bolts. Add washer beneath each bolt head.

**82.**

Install new bolts/nuts using 19mm socket/wrench. Verify neutral alignment before torquing; center bolts in carrier mount slots.

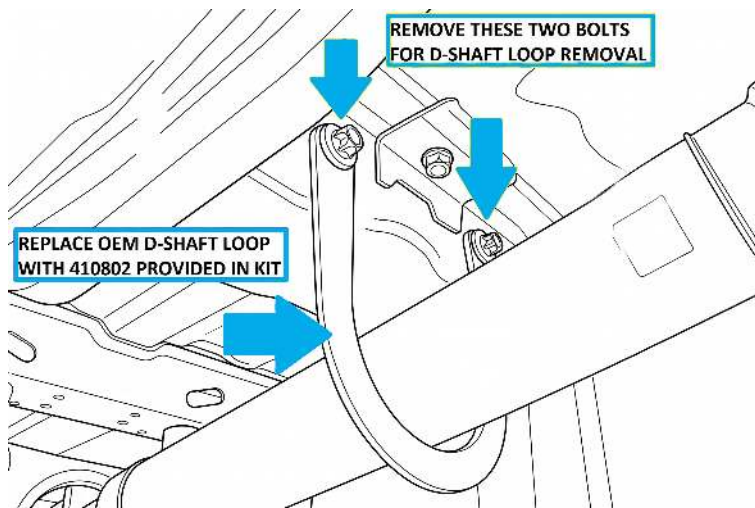


83.

Torque M12 carrier bearing bolts to 52 ft-lbs (70 Nm) once aligned.

84.

Locate front driveshaft loop on chassis. Remove two inverted Torx bolts with E18 Torx (or 12-pt 14mm socket/wrench).

**85.**

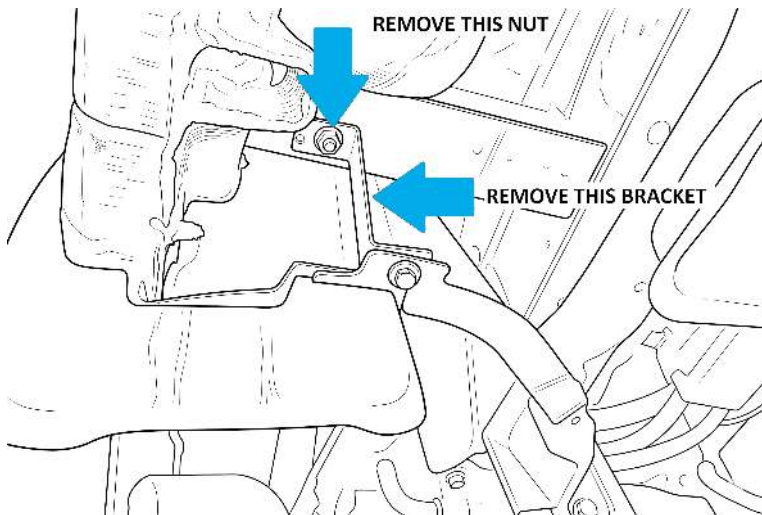
Swap OEM front driveshaft loop with kit-provided replacement. Reuse factory bolts; torque to 52 ft-lbs (70 Nm).

86.

Trim front fender liner half along yellow dashed lines per images; sheet metal snips ideal for plastic.

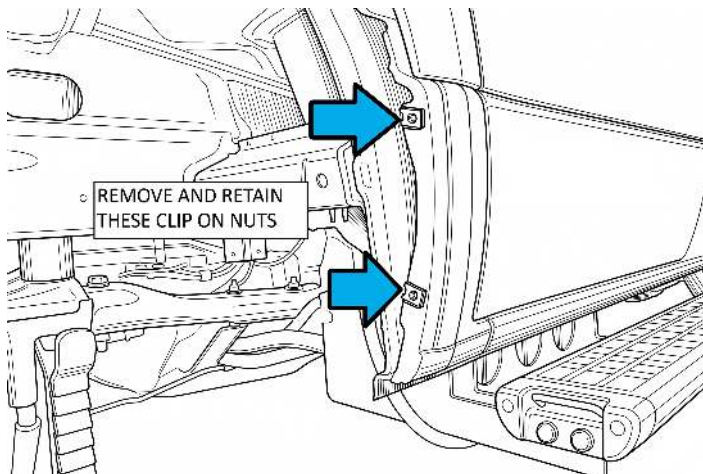
87.

Cut rear fender liner sections per below images.

**88.**

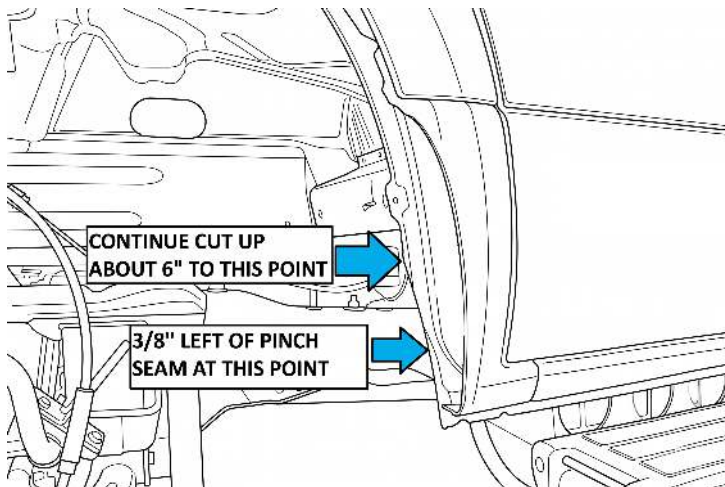
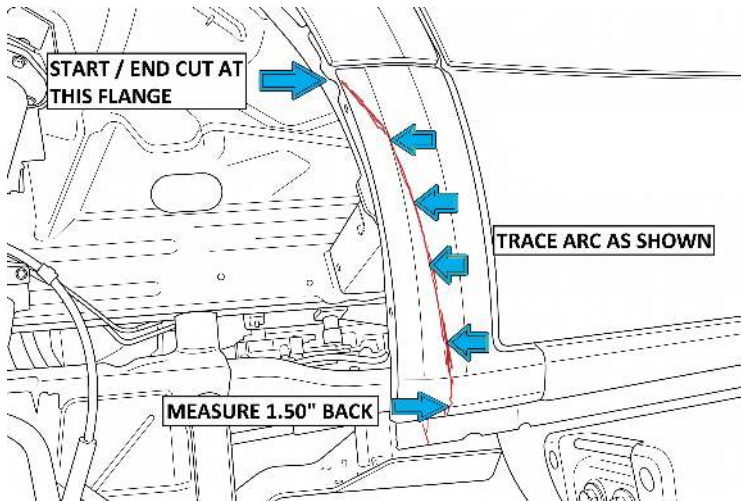
Reinstall fender liners reverse of removal.

- a. For 35" tires a mud flap bracket needs to be purchased and installed, which requires trimming of fenders.

**89.**

Remount wheels/tires; lower van. OEM lug torques:

- a. 2500 SRW: 177-187 ft-lbs (240-250 Nm).
- b. 3500 DRW: 140-150 ft-lbs (190-200 Nm).

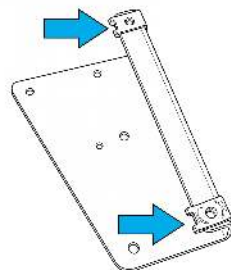
**90.**

On ground, reconnect final underhood items.

91.

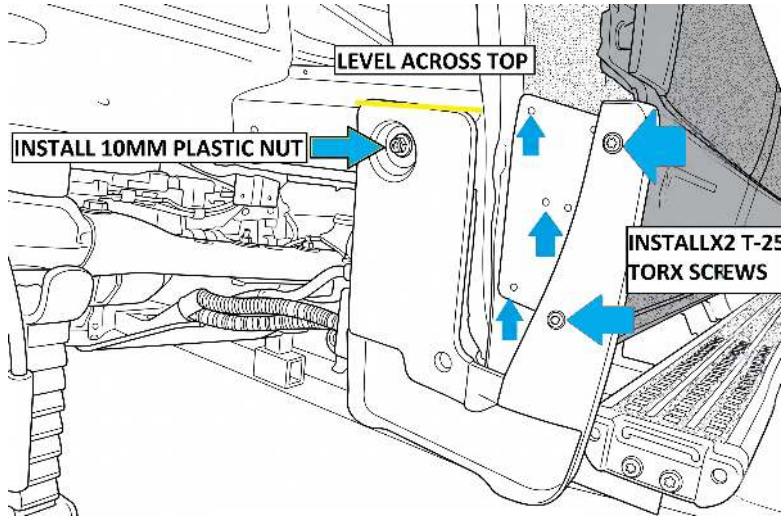
Reattach battery negative cable; replace interior access panels.

INSTALL OEM CLIP ON NUTS



92.

Drive to alignment shop for full professional alignment.

**93.**

After 100 miles, re-inspect and re-torque all suspension bolts to spec.

**CONGRATS!
YOUR INSTALLATION IS COMPLETE.**

RELEASE OF LIABILITY

I, the customer, do hereby release and forever discharge Owl Vans 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 Owl Vans 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 Arizona.

PRODUCT SAFETY WARNING:

Owl Vans 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 Owl Vans 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, Owl Vans 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. Owl Vans 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.

Owl Vans 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 Owl Vans LLC products unless you are willing to accept this responsibility. Do not install any Owl Vans 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.

Owl Vans 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.