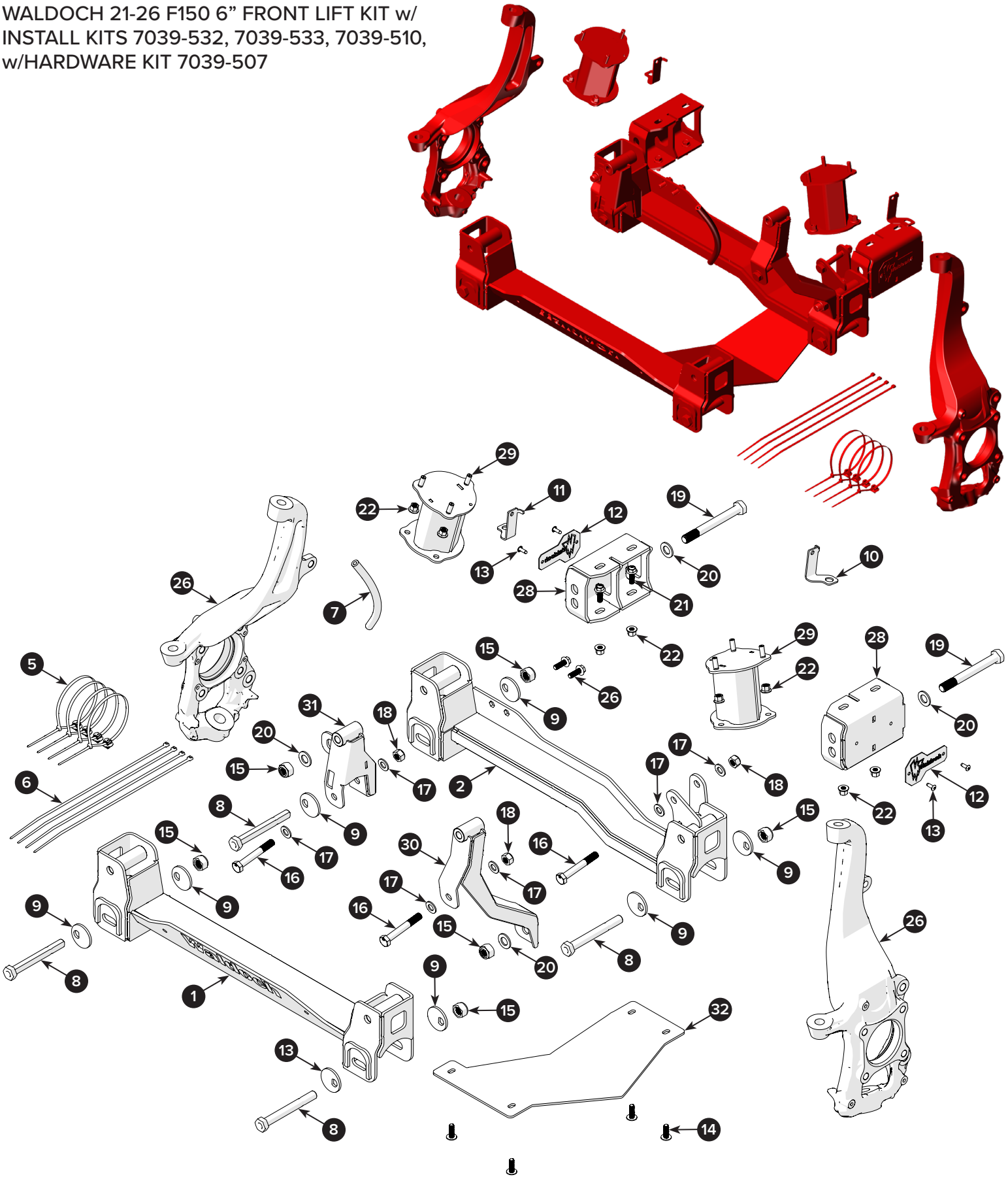
# INSTALLATION GUIDE

## 6” SUSPENSION LIFT KIT
## PN 7838-1158

**2021-2026 Ford F150 4WD**
**2021-2026 Ford F150 Tremor 4WD**

9919-375 Rev 03202026

WALDOCH 21-26 F150 6” FRONT LIFT KIT w/ INSTALL KITS 7039-532, 7039-533, 7039-510, w/HARDWARE KIT 7039-507



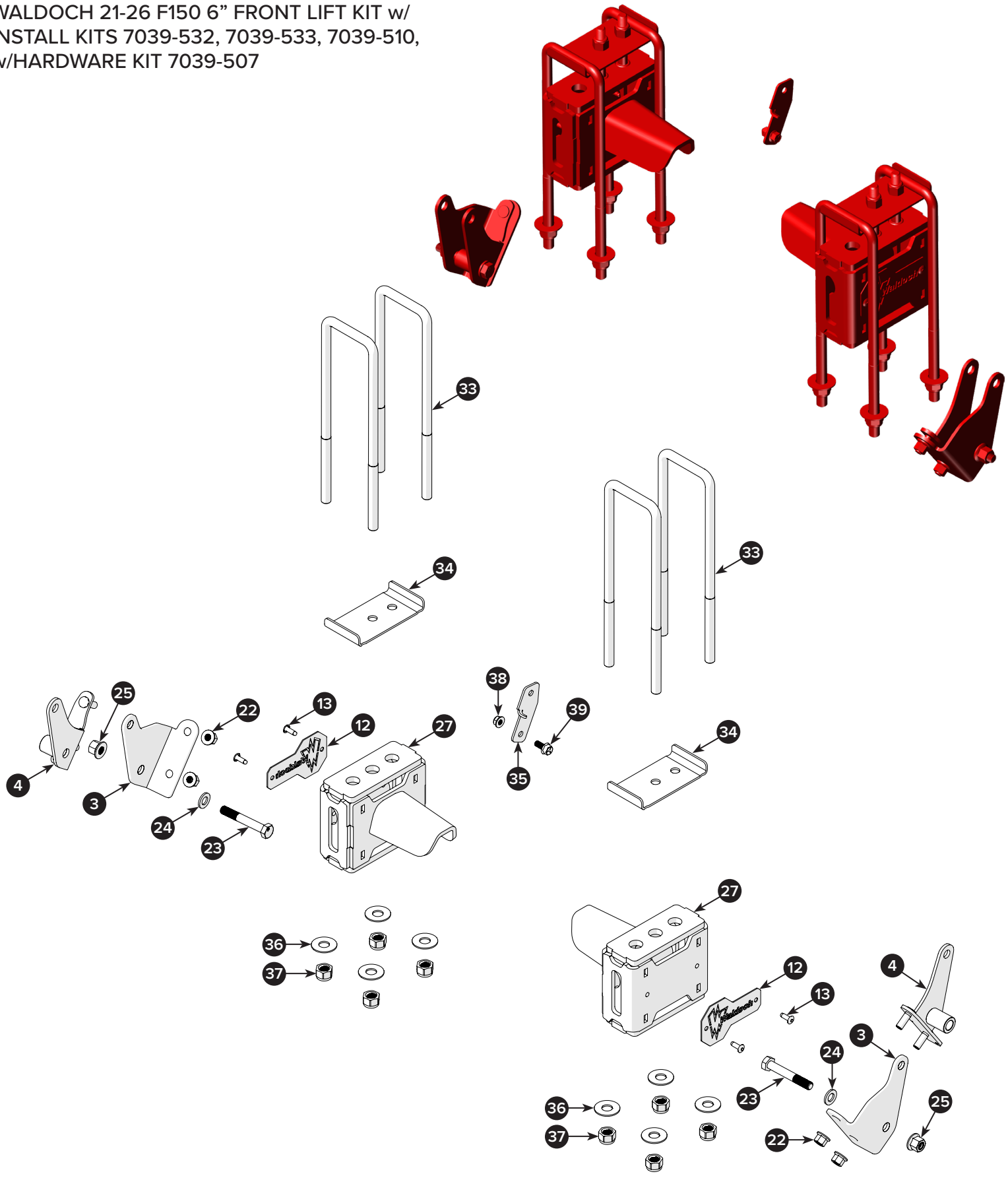
| 2021-2026 FORD F150 LIFT KIT, FRONT, INSTALL KIT 7039-532 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 1 | WELDMENT, CROSSMEMBER, FRONT | 1 | — |
| 2 | WELDMENT, CROSSMEMBER, REAR | 1 | — |
| 3 | WELDMENT, REAR SHOCK SPACER (SEE PAGE 4) | 2 | — |
| 4 | BRACKET, REAR SHOCK MOUNT, OUTER (SEE PAGE 4) | 2 | — |

| 2021-2026 FORD F150 LIFT KIT, INSTALL KIT, FRONT 7039-510 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 5 | CABLE TIE, OVAL FIR TREE W/DISC | 4 | — |
| 6 | ZIP TIE CABLE .140 IN x 10 IN LG | 4 | — |
| 7 | HOSE, 10” VENT HOSE, 5/16” ID | 1 | — |
| 8 | BOLT, CAM ADJUST M18 x 2.5 x 150 mm | 4 | — |
| 9 | WASHER, M18 SLOTTED x 2.14” OD | 8 | — |
| 10 | BRACKET, BRAKE LINE, FRONT, LH | 1 | — |
| 11 | BRACKET, BRAKE LINE, FRONT, RH | 1 | — |

| 2021-2026 FORD F150 LIFT KIT, INSTALL KIT 7039-509 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 12 | NAME PLATE, WALDOCH SIDE (PAGES 2 AND 4) | 4 | — |
| 13 | RIVET, 1/4” DIA, .25-.38” MAT THK (PAGES 2 AND 4) | 8 | — |

| 2021-2026 FORD F150 LIFT KIT, HARDWARE KIT COMPLETE 7039-507 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 14 | BHCS, FLANGED, M10 x 1.50 mm x 30 mm | 4 | — |
| 15 | NUT, NYLOCK, M18 x 2.5 mm | 6 | |
| 16 | BOLT, HEX HEAD, M14 x 2 mm x 100 mm | 3 | — |
| 17 | WASHER, FLAT, M14 | 6 | — |
| 18 | NUT, NYLOCK, M14 x 2 mm | 3 | |
| 19 | BOLT, HEX HEAD, M18 x 2.5 mm x 160 mm | 2 | — |
| 20 | WASHER, FLAT, M18 | 4 | — |
| 21 | BOLT, HEX HEAD, M10 x 1.5 mm x 30 mm | 6 | — |
| 22 | NUT, NYLOCK, FLANGED, M10 x 1.5 mm (PAGES 2 AND 4) | 14 | |
| 23 | BOLT, HEX HEAD, M12 x 1.75 mm x 80 mm (SEE PAGE 4) | 2 | — |
| 24 | WASHER, FLAT, M12 (SEE PAGE 4) | 2 | — |
| 25 | FLANGE NUT, HEX, M10 x 1.5 mm-6H (SEE PAGE 4) | 2 | |

WALDOCH 21-26 F150 6” FRONT LIFT KIT w/ INSTALL KITS 7039-532, 7039-533, 7039-510, w/HARDWARE KIT 7039-507



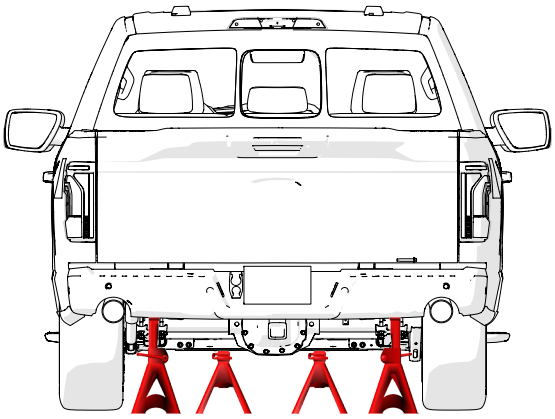
| 2021-2026 FORD F150 LIFT KIT, SPINDLES, INSTALL KIT 7039-533 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 26 | SPINDLE, PAIR, 6” LIFT LH/RH (SEE PAGE 3) | 1 | — |
| 27 | WELDMENT, 4" LIFT BLOCK | 2 | |
| 28 | WELDMENT, SWAY BAR DROP (SEE PAGE 3) | 2 | |
| 29 | WELDMENT, C-O SPACER (SEE PAGE 3) | 2 | |
| 30 | WELDMENT, DIFF DROP, DRIVER (SEE PAGE 3) | 1 | |
| 31 | WELDMENT, DIFF DROP, PASSENGER (SEE PAGE 3) | 1 | |
| 32 | BRACKET, DIFF SKID PLATE (SEE PAGE 3) | 1 | |

| 2021-2026 FORD F150 LIFT KIT, INSTALL KIT, REAR 7039-511 | | | |
|---|---|---|---|
| POSITION | DESCRIPTION | QTY | TORQUE SPECIFICATION |
| 33 | U-BOLT, SQUARE, 9/16-18 x 3.25 x 12.5” | 4 | — |
| 34 | BRACKET, LEAF SPRING | 2 | — |
| 35 | BRACKET, BRAKE LINE, REAR | 1 | — |
| 36 | WASHER, FLAT 9/16” USS | 8 | — |
| 37 | NUT, NYLOCK 9/16-18 | 8 | 98 lb-ft (in four stages) |
| 38 | NUT, HEX FLANGE NYLOCK 5/16-18 | 1 | |
| 39 | BOLT, HEX FLANGE 5/16-18 x .75” | 1 | — |

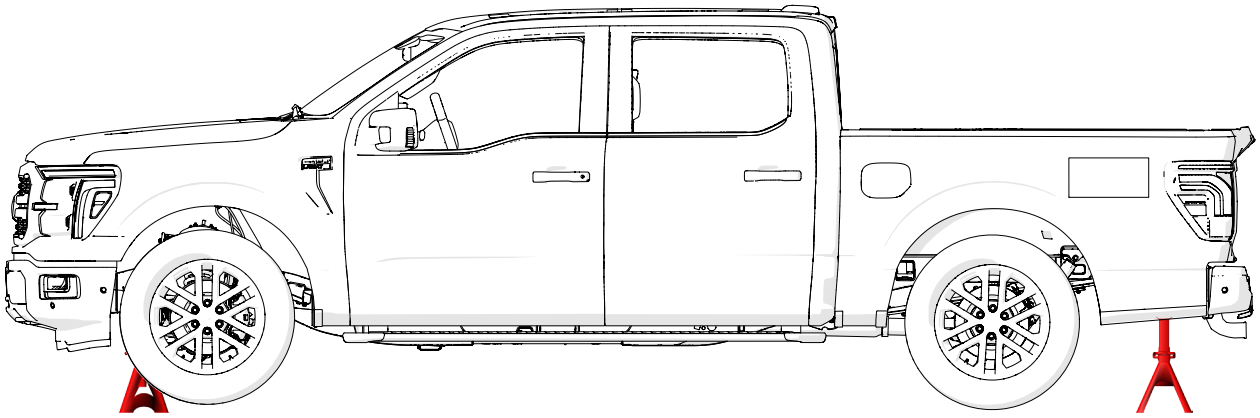
**Note:** The part positions listed above will be called out in this installation manual as a visual reference to their respective positions during the installation procedure. Refer to these pages during the installation. Count and compare all parts and fasteners to the list above.

***Installer's Note:*** *This instruction set primarily illustrates the frame and chassis of the pickup truck. To enhance visual clarity, the body is removed from some of the images.*

*The lift kit can be installed one end at a time. You can lift and support either the front or rear of the truck. Alternatively, you can lift all four corners simultaneously as shown.*

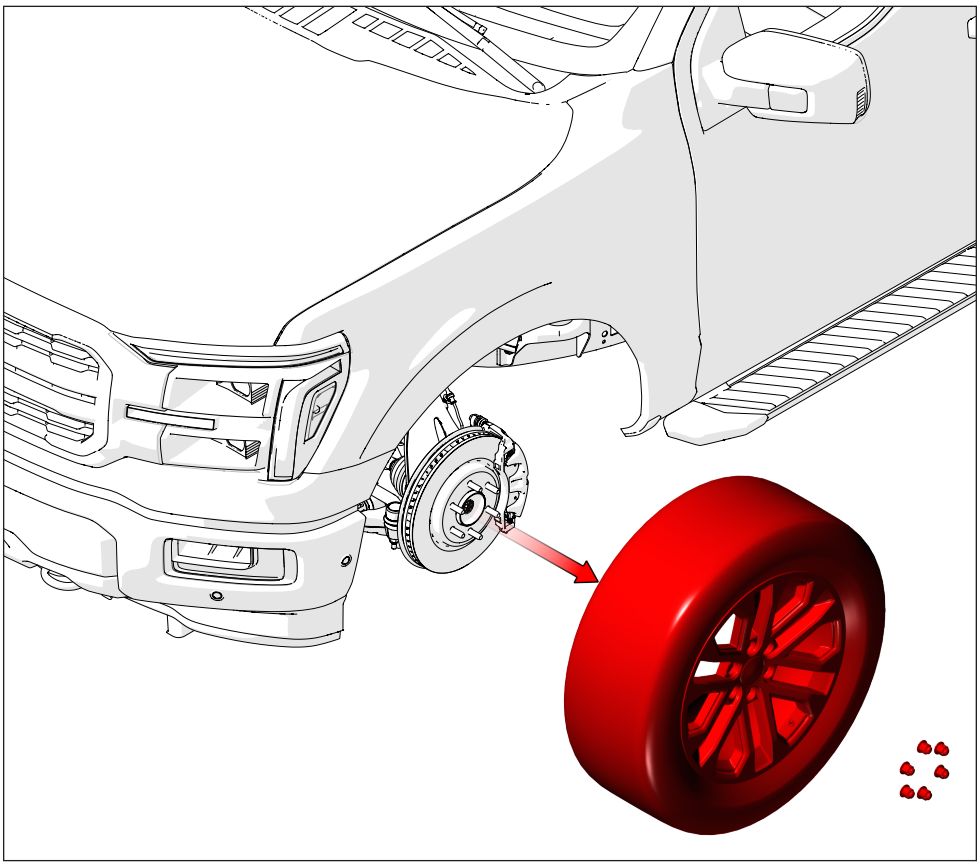


**1** Lift the truck and support it with the frame in designated lift points.



***Installer's Note:*** *These instructions begin on the front driver's side (LH) of the vehicle.*

**2** First, remove the lug nuts and front wheels from both the left and right sides of the vehicle.

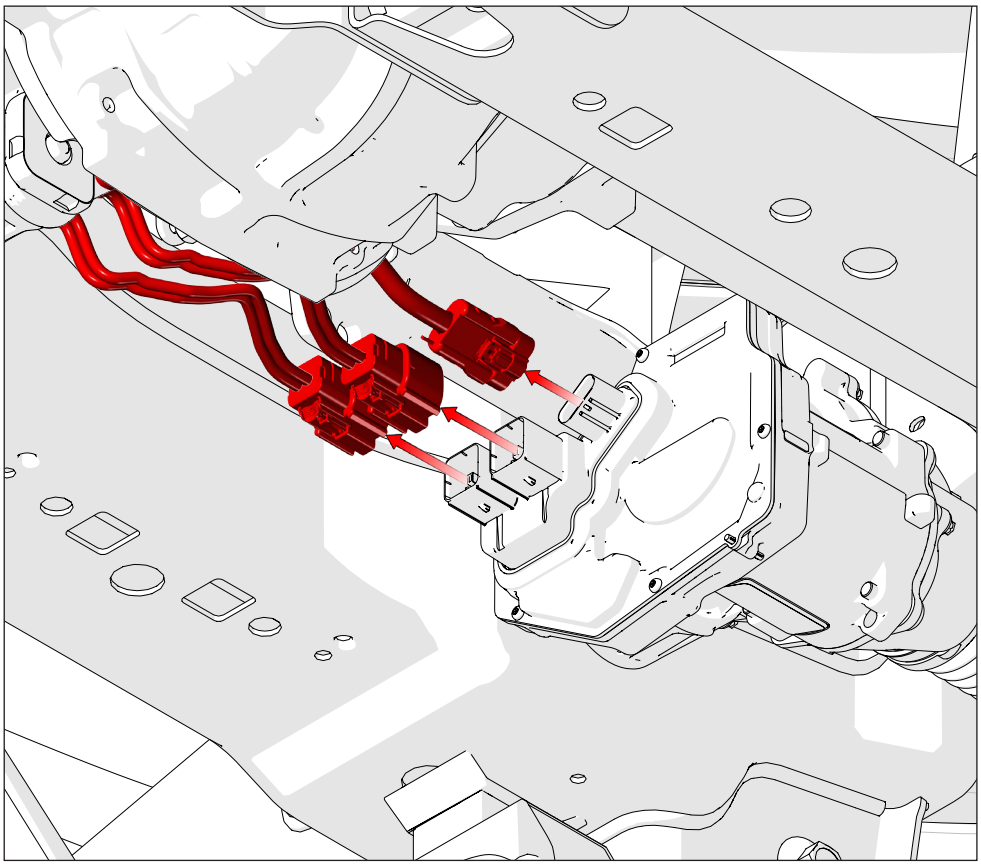


**3** First, remove the entire factory skid plate (not shown) from beneath the vehicle.

Discard the skid panel as it will not be reused.

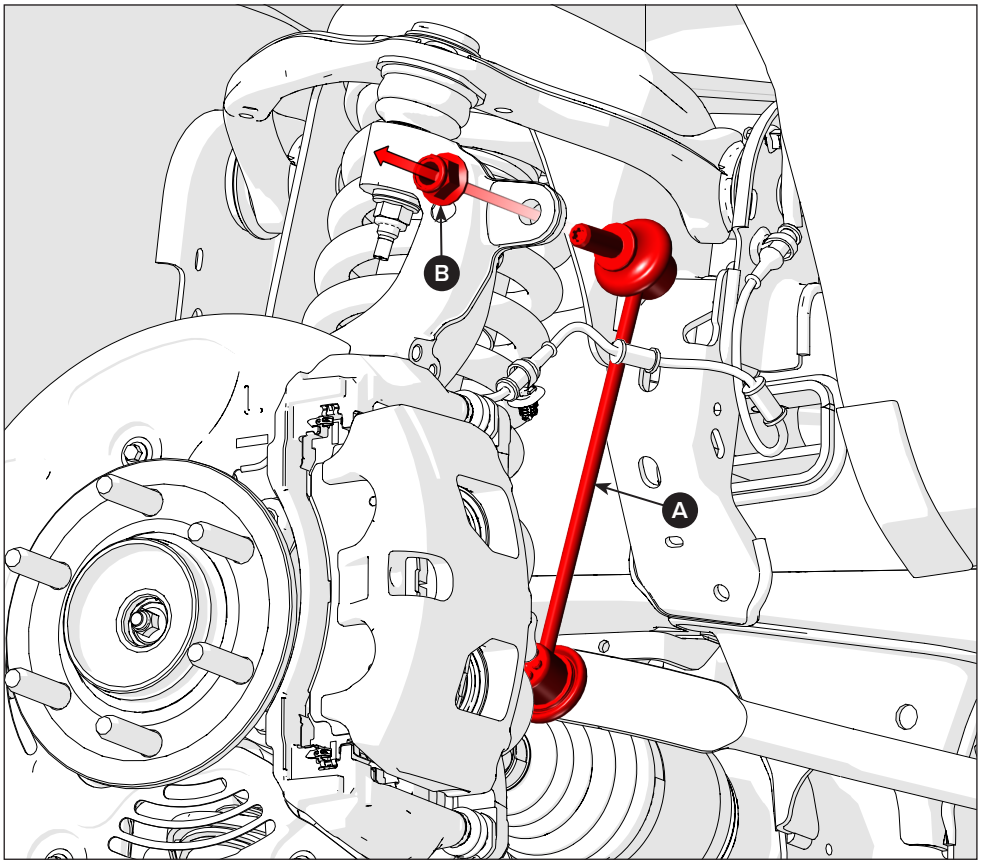
Then, to prevent accidental electrical arcs, disconnect the connectors from the electric power steering assist (EPAS).

**Note:** Mark each EPAS connector so they can be reattached in their correct positions and orientations.



**4** Now, disconnect the 4WD actuator hub assembly (if equipped) and ABS wire bracket (not shown) and sway bar end link (A) from the spindle.

**Note:** To prevent loss of the end link nut (B), put it back onto the end link stud from which it was removed.



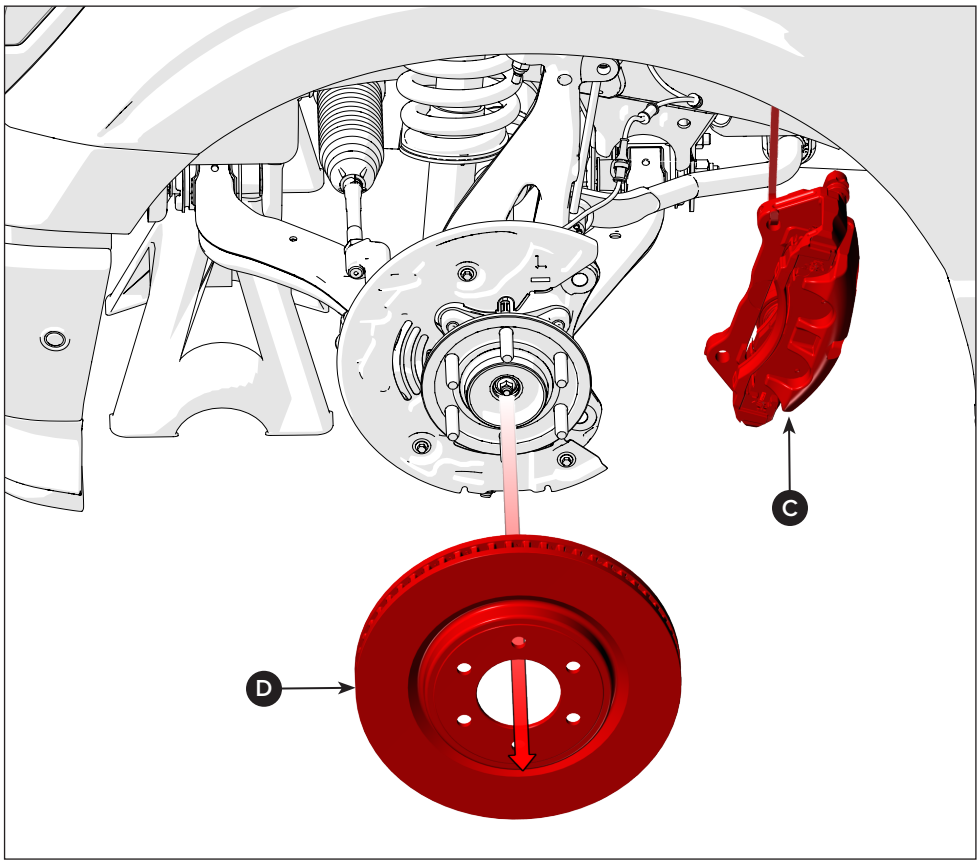
**5** Remove the brake line clip that attaches to the brake line bracket, then disconnect the brake line from the frame rail (not shown).

Remove the brake caliper and bracket (C) as an assembly and use a brake hanger or similar support to prevent damage to the brake hose.

Keep all brake caliper mount bolts, as they will be reused during brake reassembly.

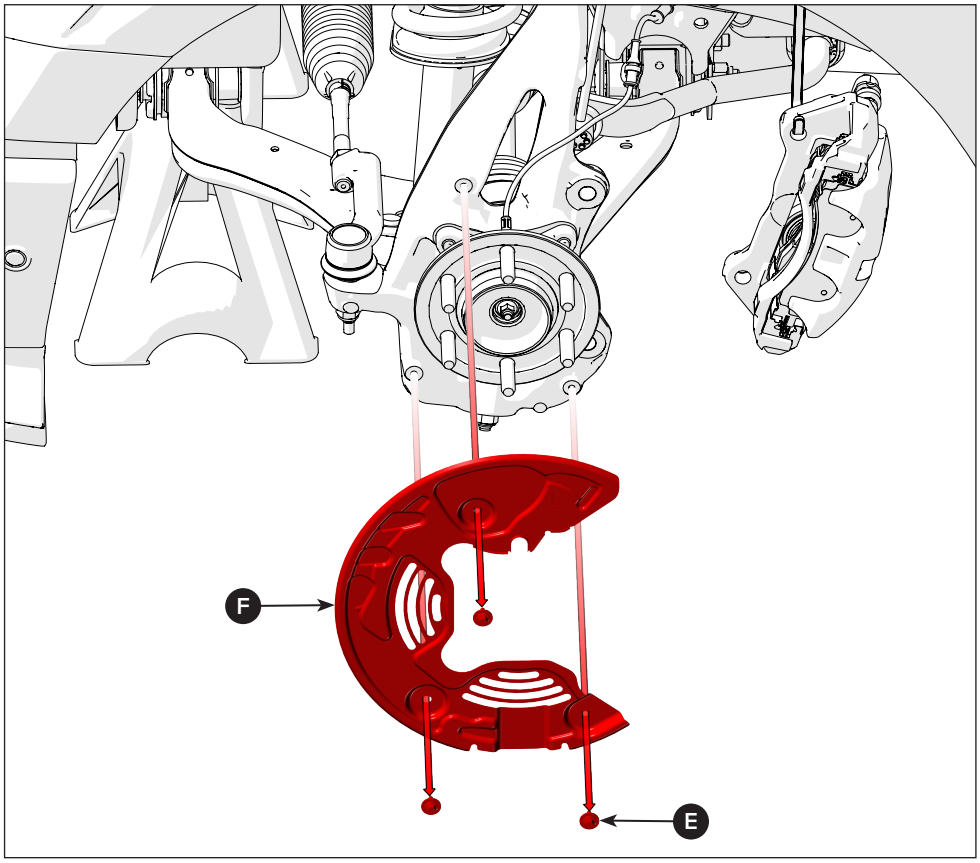
With the brake assembly out of the way, remove the rotor (D) and set it aside, as it will be reused.

**Note:** From this point onward, do not press the brake pedal. If pressed, the caliper pistons will be forced out of their respective bores.




**6** Remove the three 8 mm bolts (E) and then the brake dust shield (F).

Set these parts aside, as they will be reused during reassembly.



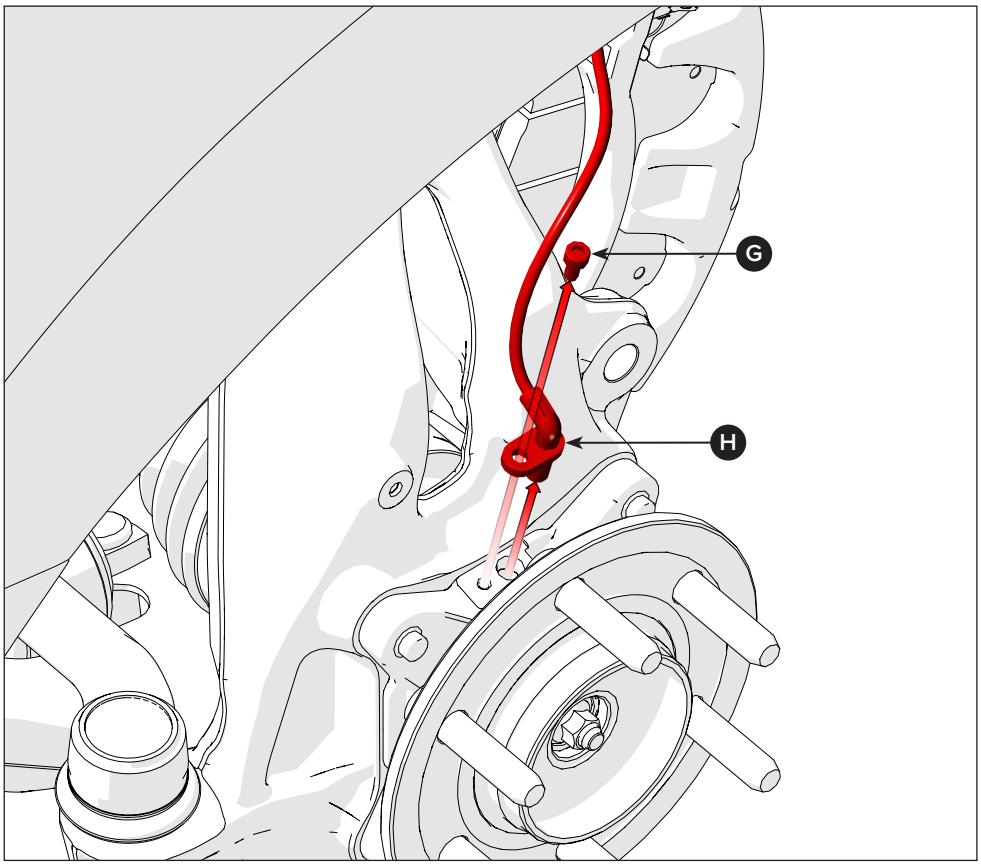
**7**

Disconnect all ABS wire tree clamps (not shown) from the frame.

Use a 5 mm hex bit to remove the ABS sensor's cap head screw (G).

Carefully twist and lift the ABS sensor (H) from its bore in the wheel's hub bearing assembly.

Set aside and safely suspend the ABS sensor wire.



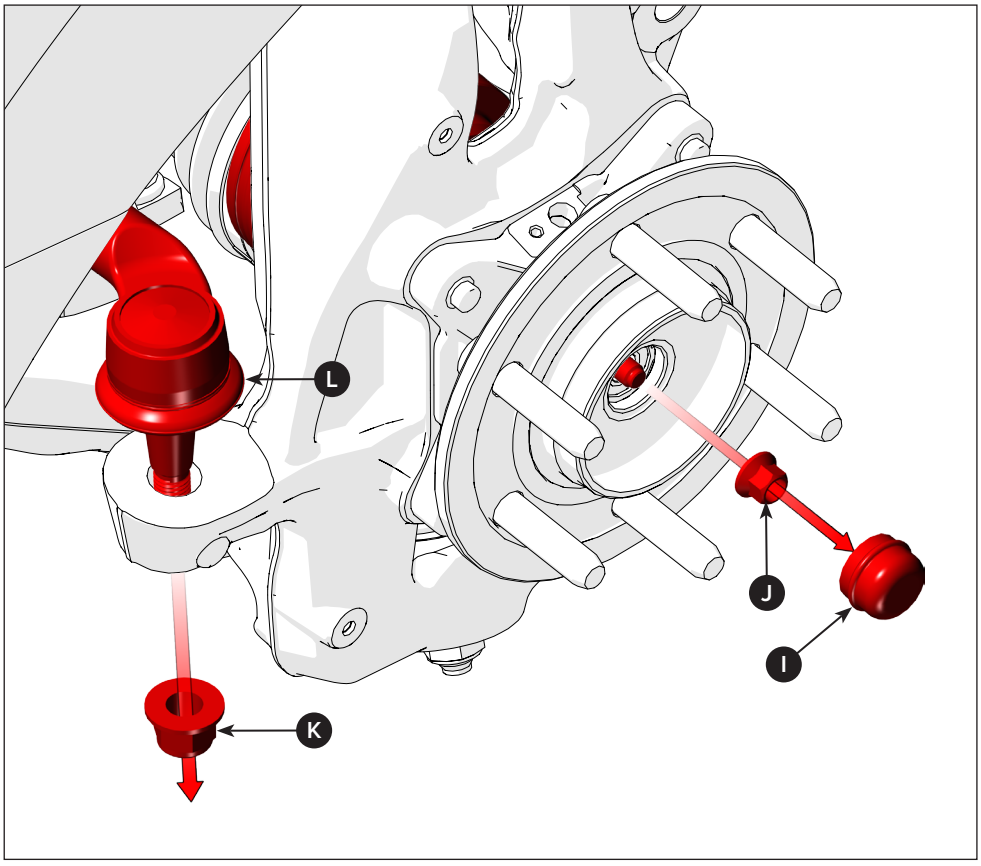

**8**

Remove the hub dust cap (I) then front axle nut (J) from the axle stub.

Remove the nut (K) from the tie rod end (L) and loosen the stud from the spindle.

Set the nut back and dust cover aside, as it will be reused during reassembly.

**Note:** The spindle is made from aluminum, so do not hammer on the spindle to loosen the tie rod end. Instead, use a dedicated tie rod puller or a press tool to loosen it.

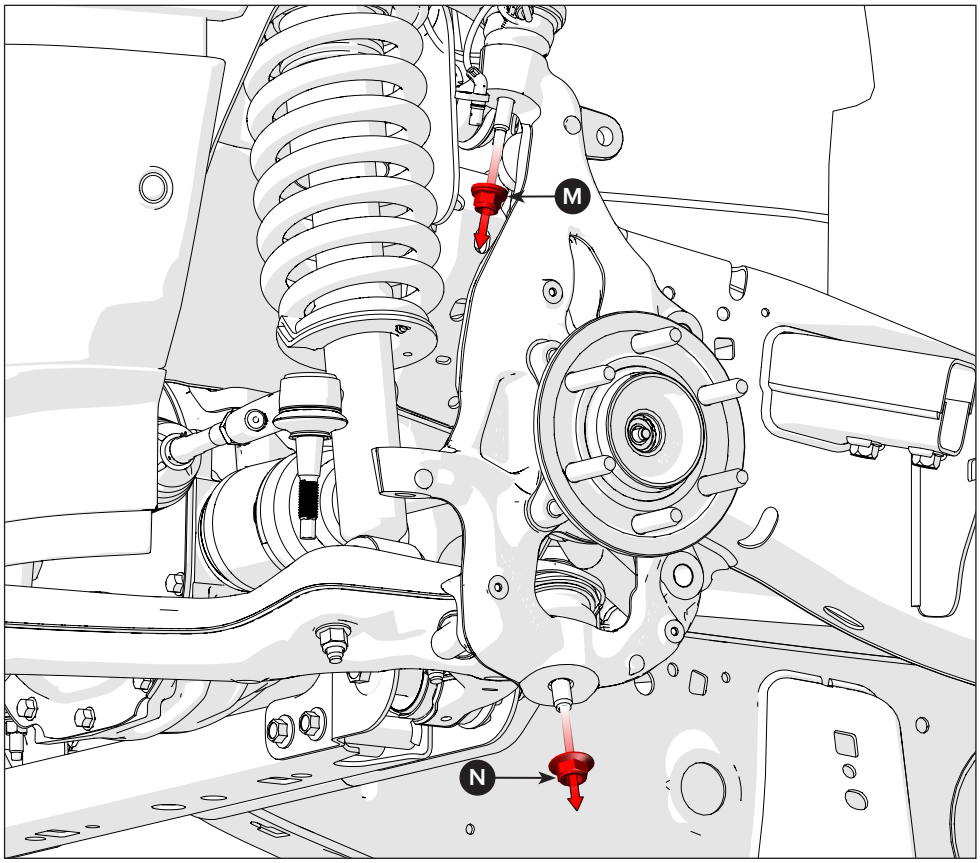


**9** To simplify spindle removal, put a floor jack (not shown) under the lower control arm to relieve the spring pressure.

Loosen, then remove the nut (M) from the upper ball joint.

Now remove the nut (N) from the lower ball joint.

Put the nuts aside, as they will be reused during reassembly.



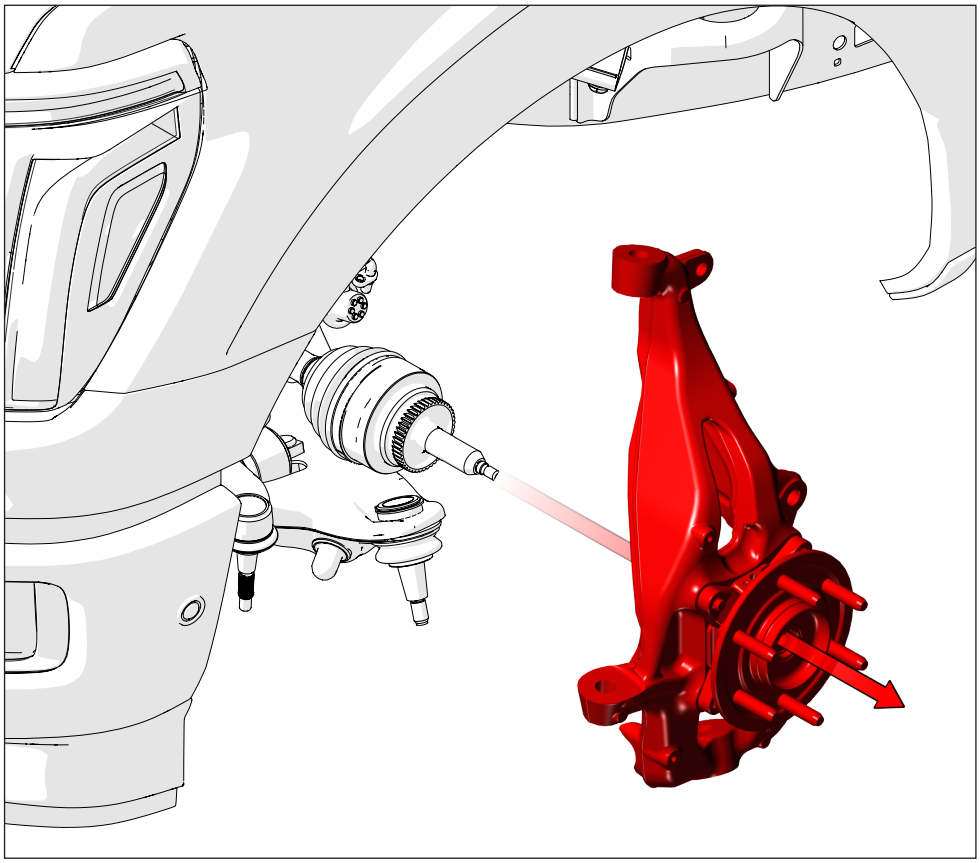

***Installer's Note:*** *If your vehicle is equipped with the 4WD actuator hub (not shown), carefully remove it from the knuckle, then securely hang it to prevent damage.*

**10** Lower the floor jack, then carefully push the ball joint stud out from the spindle on the upper control arm.

Now, tilt the top of the spindle outward and carefully slide the stub axle out of the hub.

Then, lower the spindle off the ball joint's stud on the lower control arm.

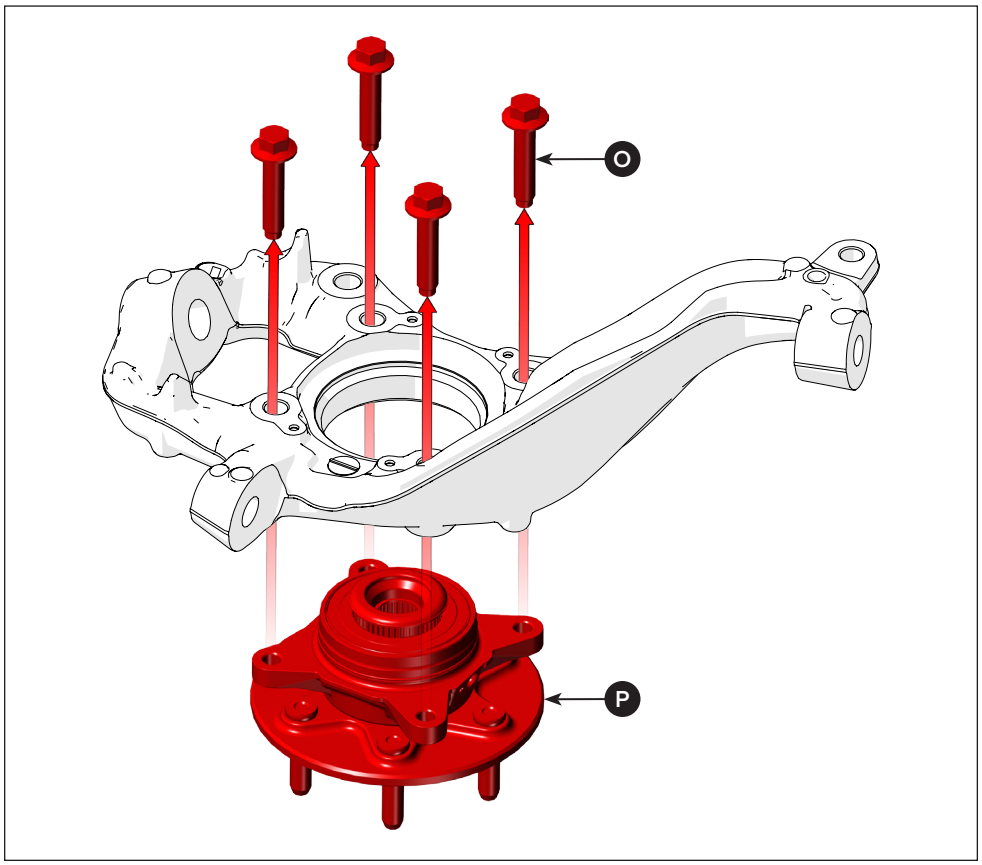
**Note:** Do not pull the axle assembly outward. This action can dislodge the roller bearings from the inboard joint cup or damage the CV boots.



**11** Remove the four 14 mm hub bolts (O) from the spindle assembly.

Press out the hub bearing assembly (P) from the spindle.

Discard the spindle, as it will not be reused.



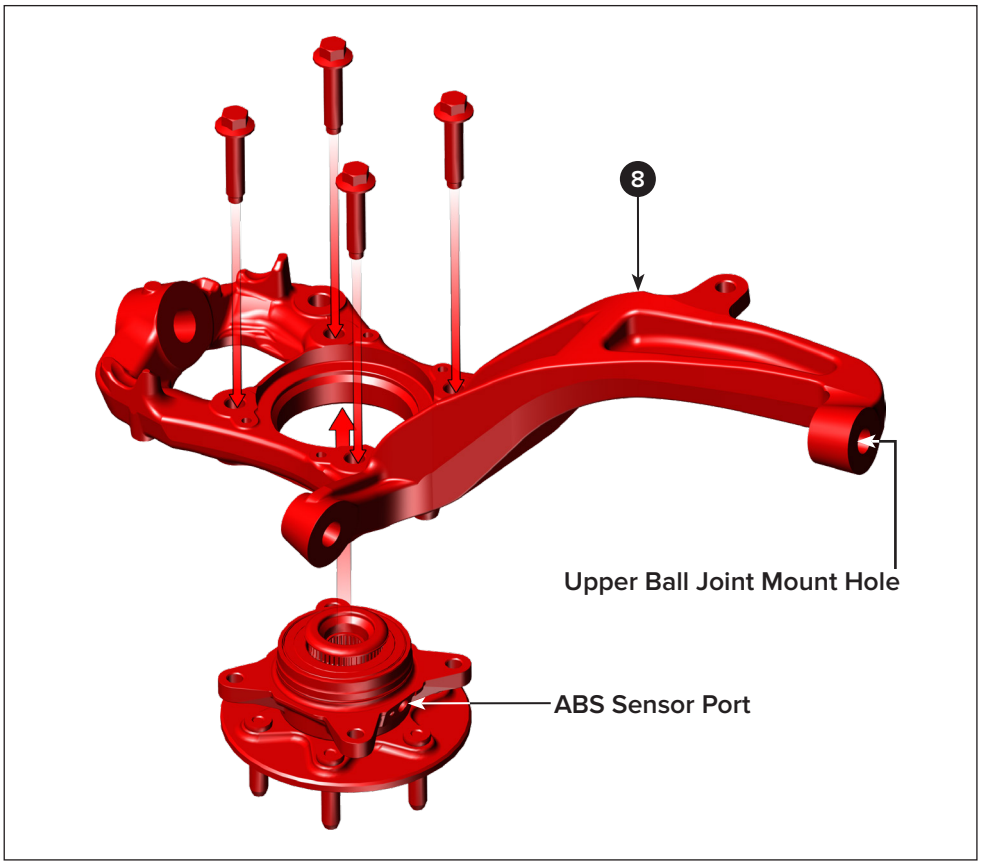

**12** Position the hub bearing assembly into the left-hand (LH) spindle (8).

Attach the hub bearing to the new spindle with the four 14 mm bolts removed during step 11.

Torque the bolts to the factory specified requirements.

**Note:** Make sure the hub is correctly aligned with the spindle. To do so, position the ABS sensor port toward the upper ball joint's mount hole on the spindle.

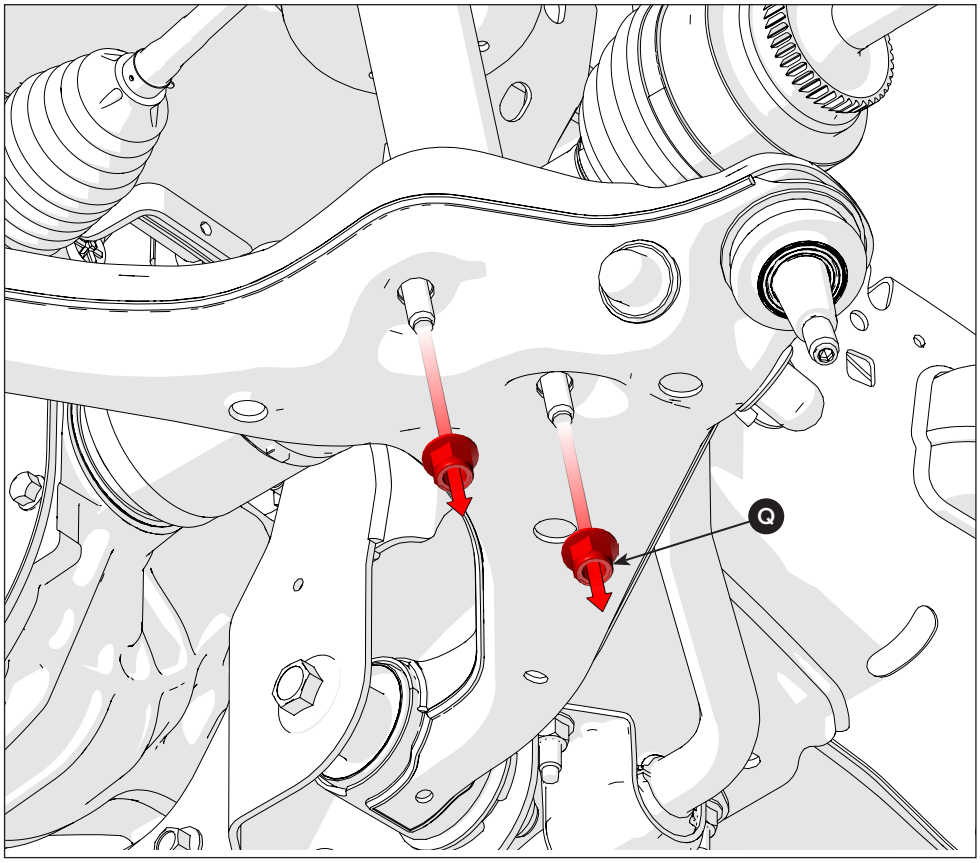
Set aside the spindle assembly on a work surface.



**13** The lower control arm must be removed to remove the factory crossmember.

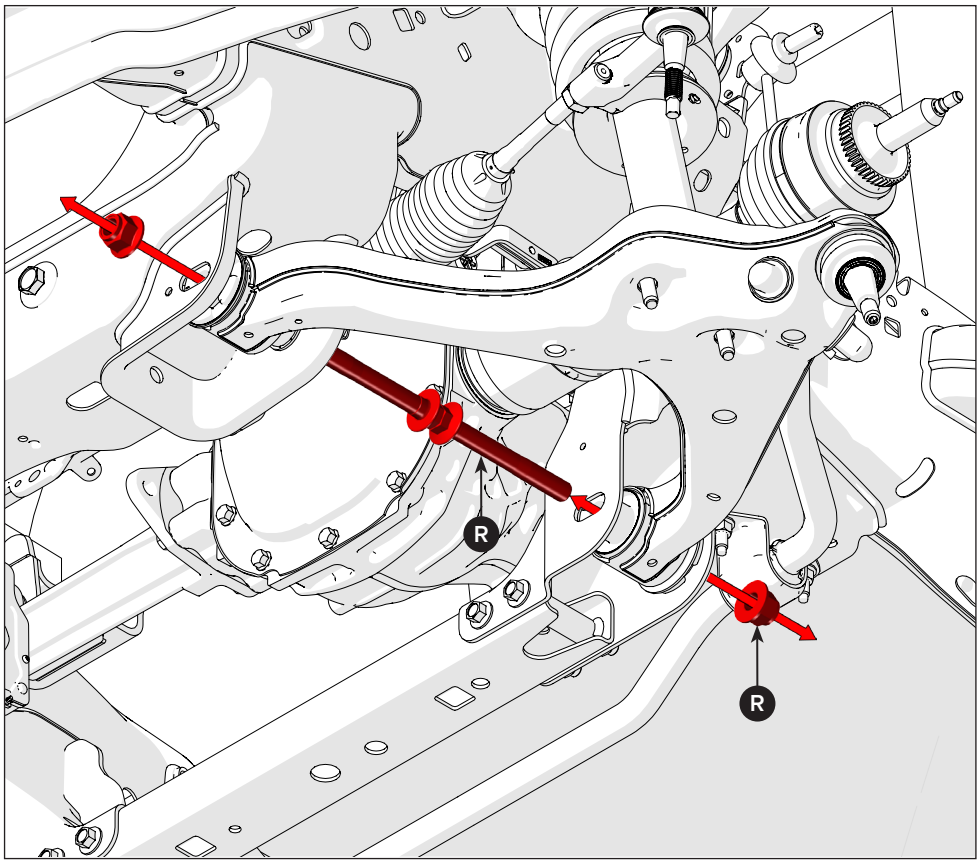
First, remove the two 12 mm flange shock nuts (Q) from the bottom of the lower control arm.

Set the nuts aside, as they will be reused during reassembly.



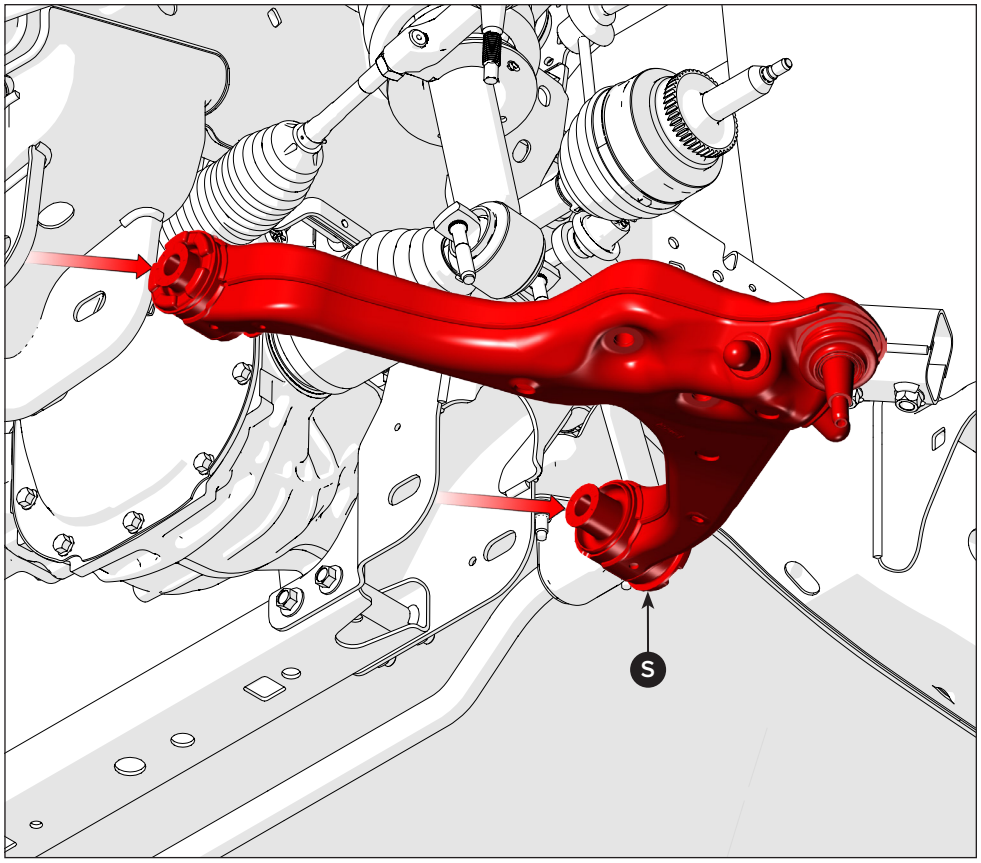

**14** Then, remove the lower control arm fasteners (R).

Set the hardware aside, as they will be reused during reassembly.



**15** Finally, remove the lower control arm (S) and set it aside, as it will be reused during reassembly.

With the left hand suspension now removed, repeat steps 4 through 15 to remove the right hand components.



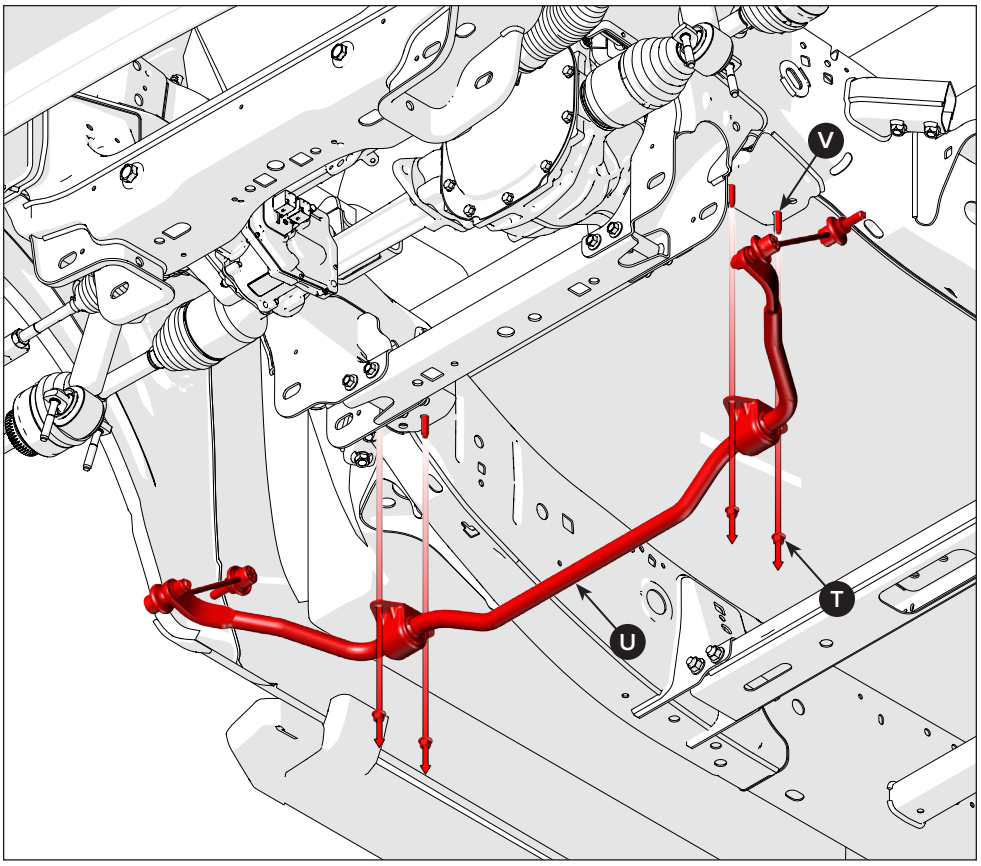

**16** Remove the flange nuts (T) from the sway bar brackets.

Now drop the sway bar assembly (U) from the vehicle.

Remove the stabilizer bar bracket with studs (V) from the frame pocket.

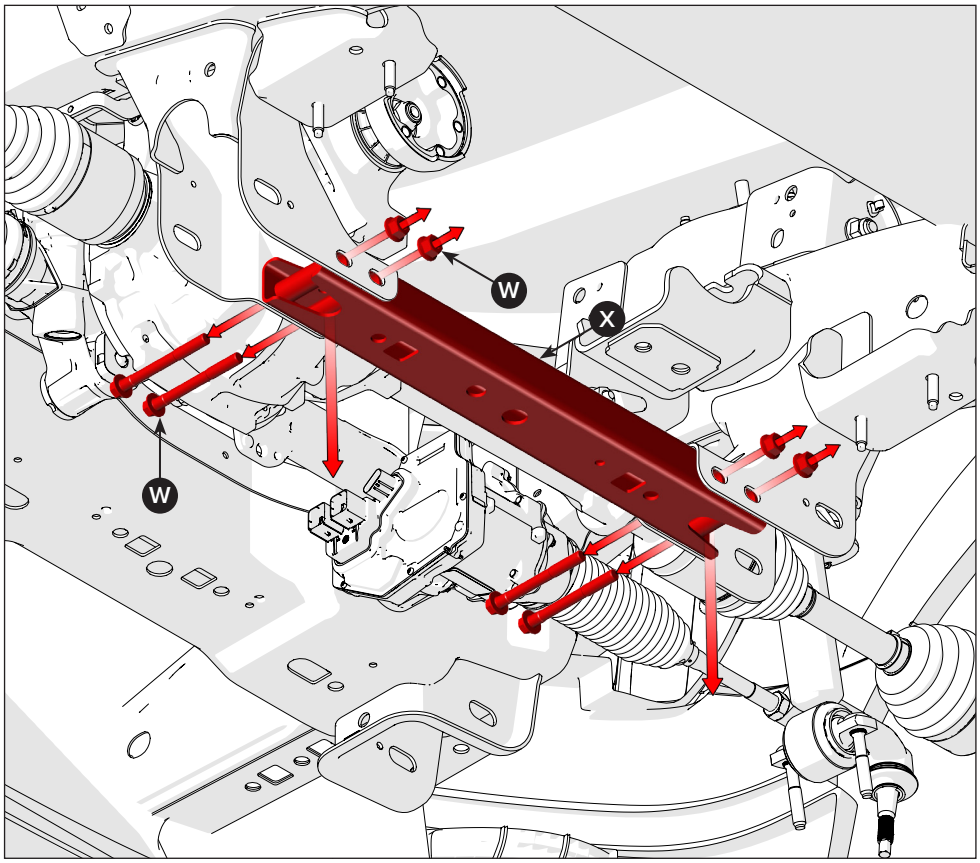
Set the sway bar assembly and hardware aside, as they will be reused during reassembly.

**CAUTION:** Sway bar assemblies are heavy. To prevent personal injury or damage to the sway bar, use extra care during sway bar removal.



**17** Remove the four crossmember bolts and nuts (W) from the frame as shown. Discard the hardware as they will not be reused.

Once the hardware is removed, drop the crossmember (X) from the vehicle.




***Installer's Note:*** *Though it is not shown in these instructions, the front driveshaft must be removed from the differential before the differential is removed. Save the hardware as it will be reused.*

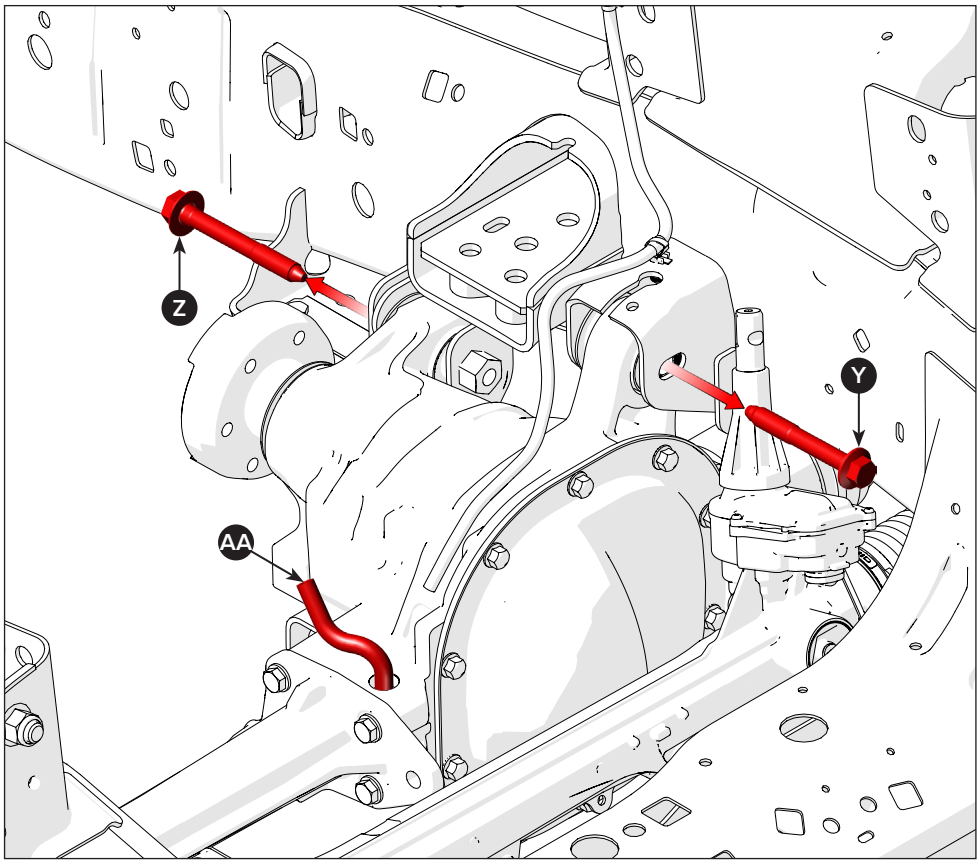
**18** First, disconnect the driveshaft from the front differential and let it hang at the front.

Now, place a transmission jack under the differential to support it for removal.

Then, remove the front upper bolt (Y) from the left-hand side of the frame. Set the bolt aside, as it will be reused during reassembly.

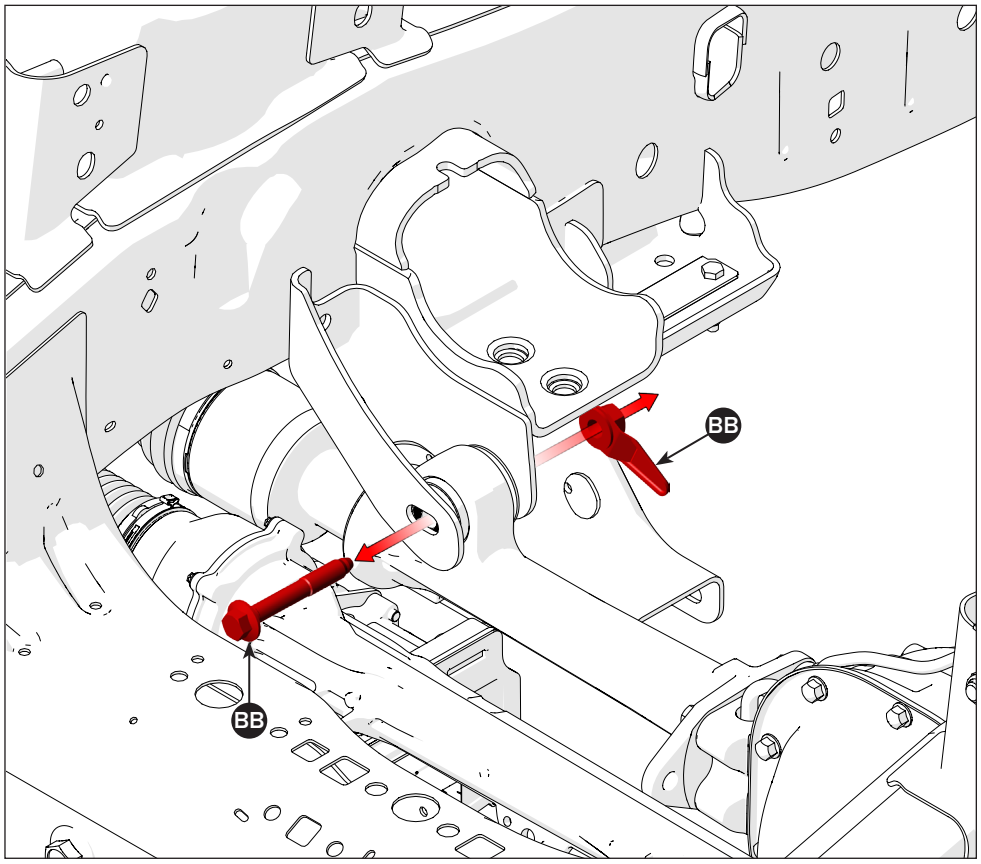
After that, remove the rear lower bolt (Z) from the left-hand side of the frame. Discard this bolt, as it will not be reused.

Finally, disconnect and discard the differential vent line (AA).



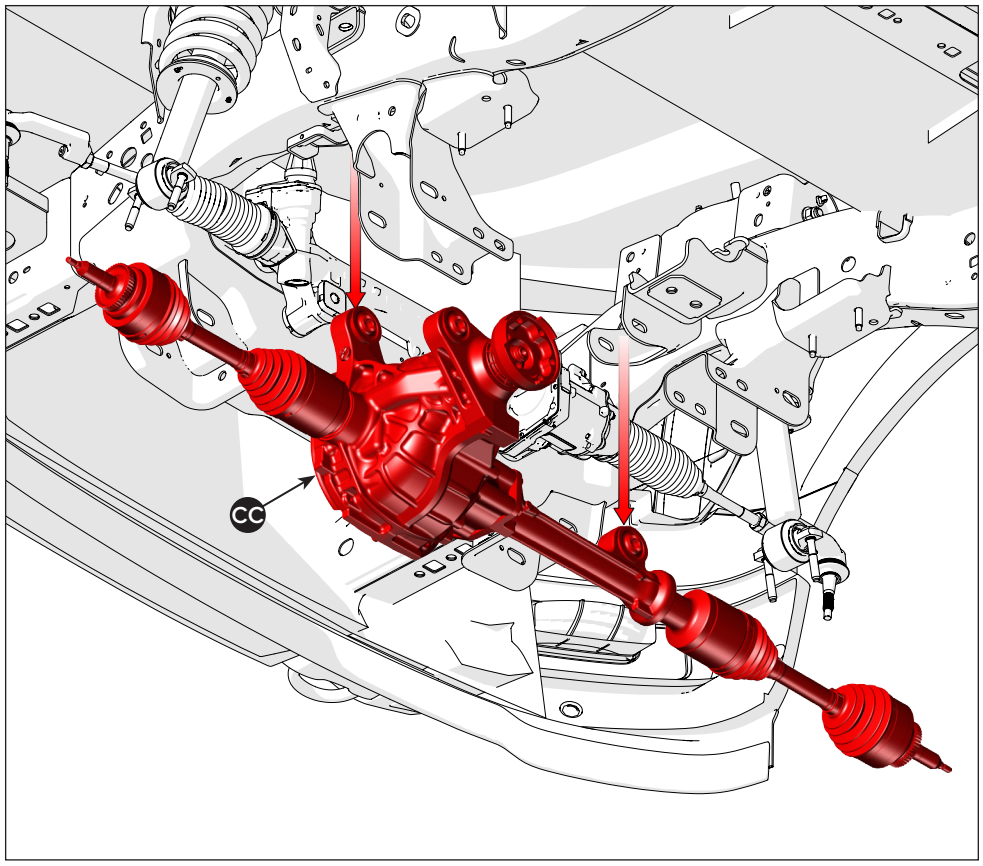
**19** Now, remove the single differential bolt and tabbed nut (BB) from the right-hand side of the frame.

Set the hardware aside, as it will be reused during reassembly.



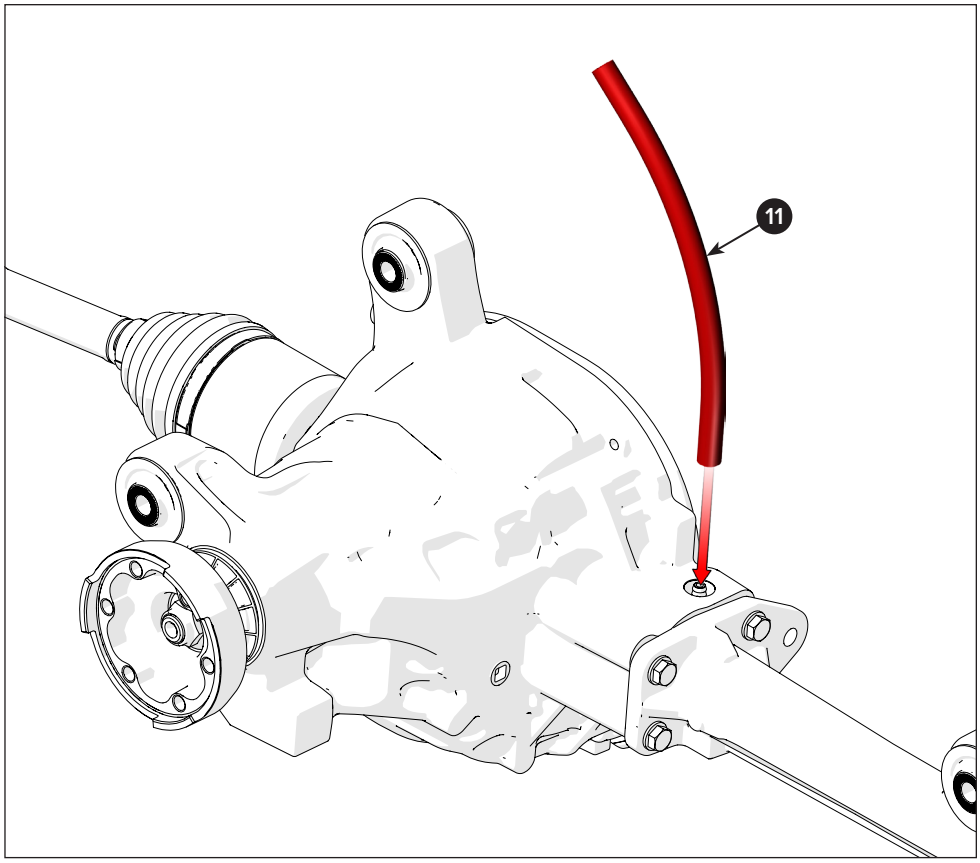

**20** Carefully lower the transmission jack to remove the differential from the vehicle's frame.

Put the differential aside so there is enough room under the vehicle for the next step.



**21** Remove the old vent hose from the hose barb on the differential.

Then install the new vent hose (11) into the hose barb.




**22** Remove the three flange nuts on the top of the spring mount.

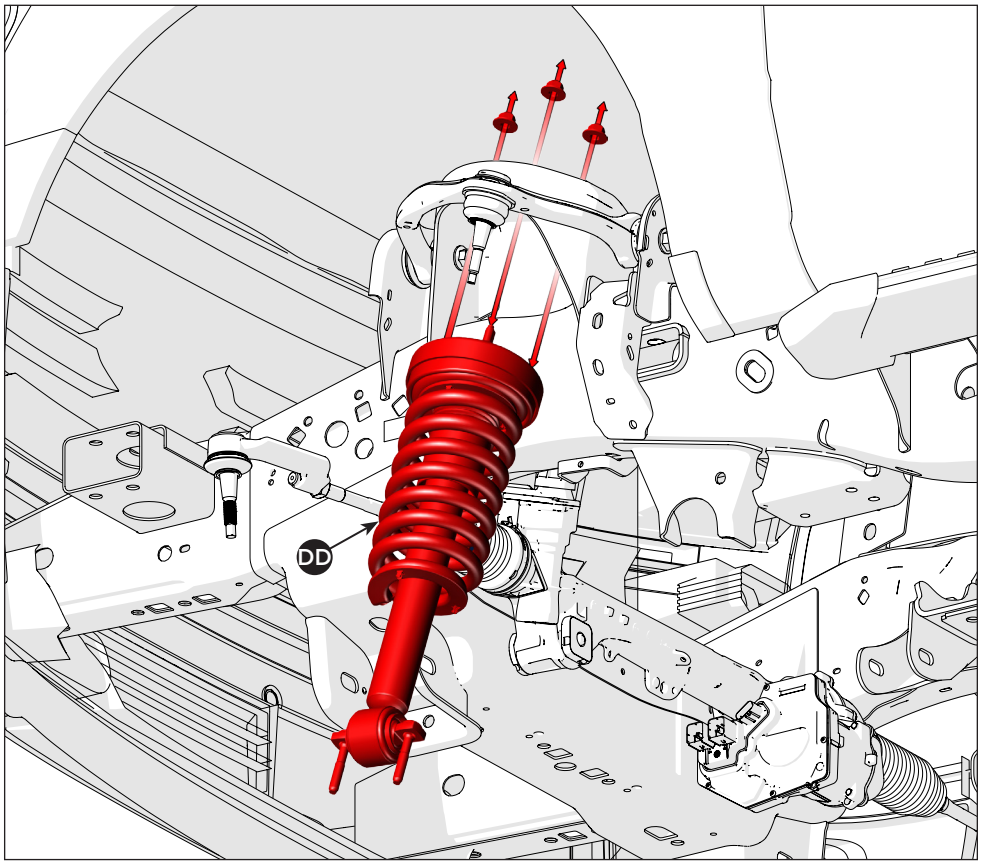
Then, remove the shock & coil spring assembly (DD) from the vehicle's frame mount.

Repeat this step to remove the passenger's side shock & coil spring assembly.

Now, remove the brake line bracket (not shown) attached to the frame.

Discard the factory bracket as it will not be reused.

Set the nuts, shock assemblies, and brake line bracket bolts aside. They will be reused during reassembly.



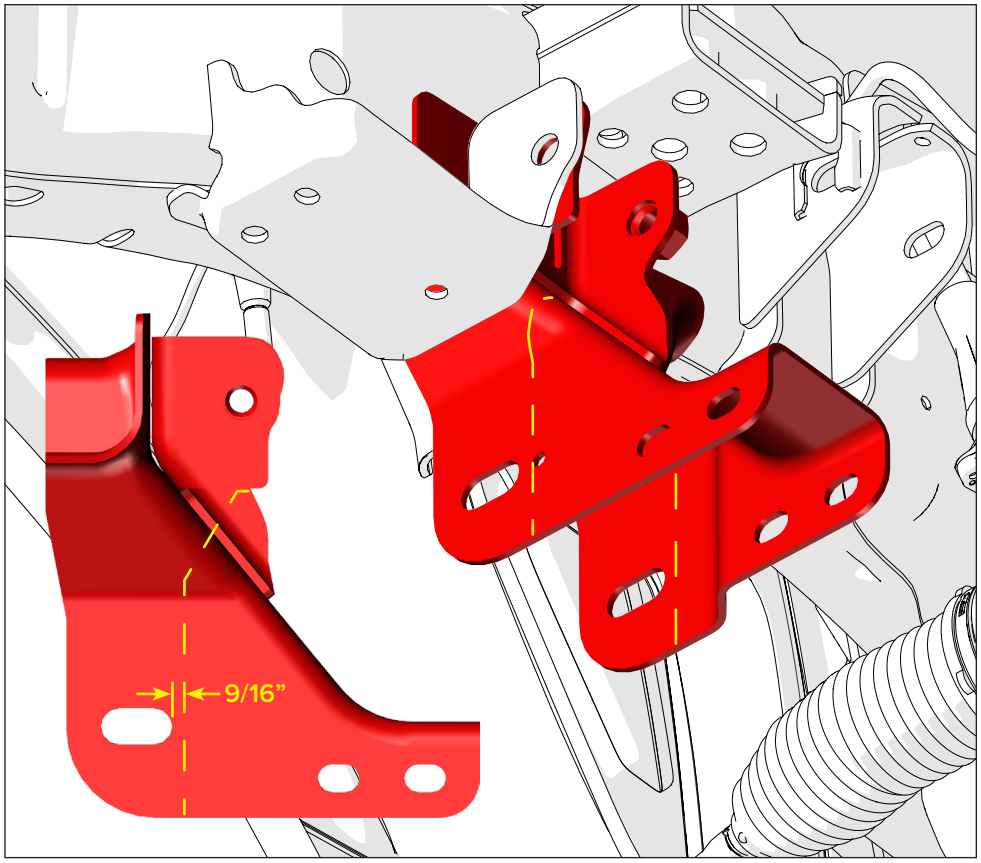
**23** Mark a line (shown in yellow) on the left-hand frame pocket where the crossmember was attached.

The line must be 9/16” away from the edge of the large slot where the lower control arm was attached.

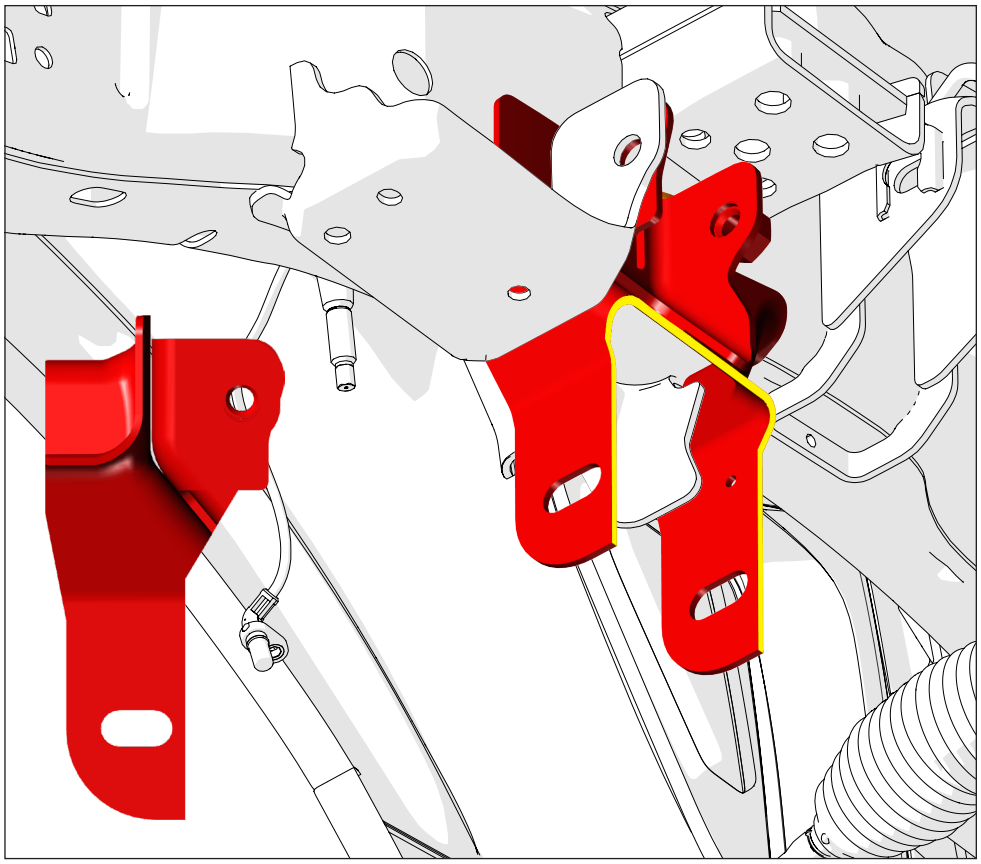
Make sure the line is vertical and square to the frame.

Use a cutoff tool or a reciprocating saw fitted with a bi-metal bit to cut the pocket’s flange along the line.

The factory differential mount will also be trimmed during this step.

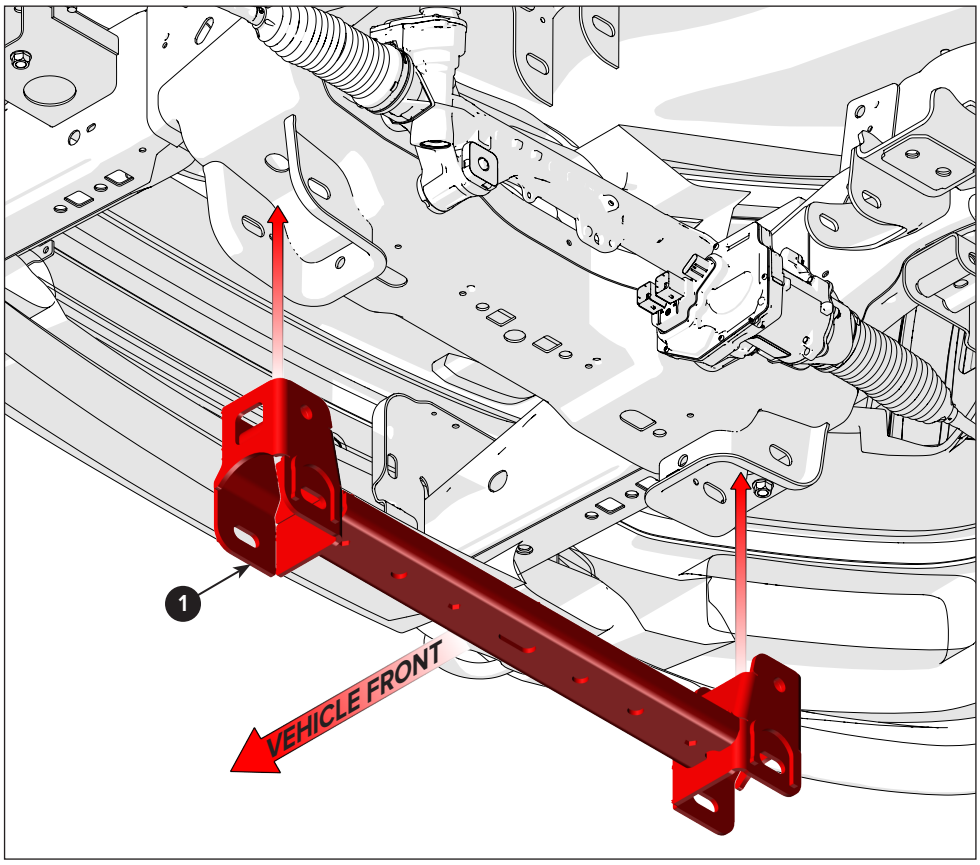



**24** With the flange cut as shown, it is recommended to prime and paint the cut edge shown in yellow to prevent future rust.



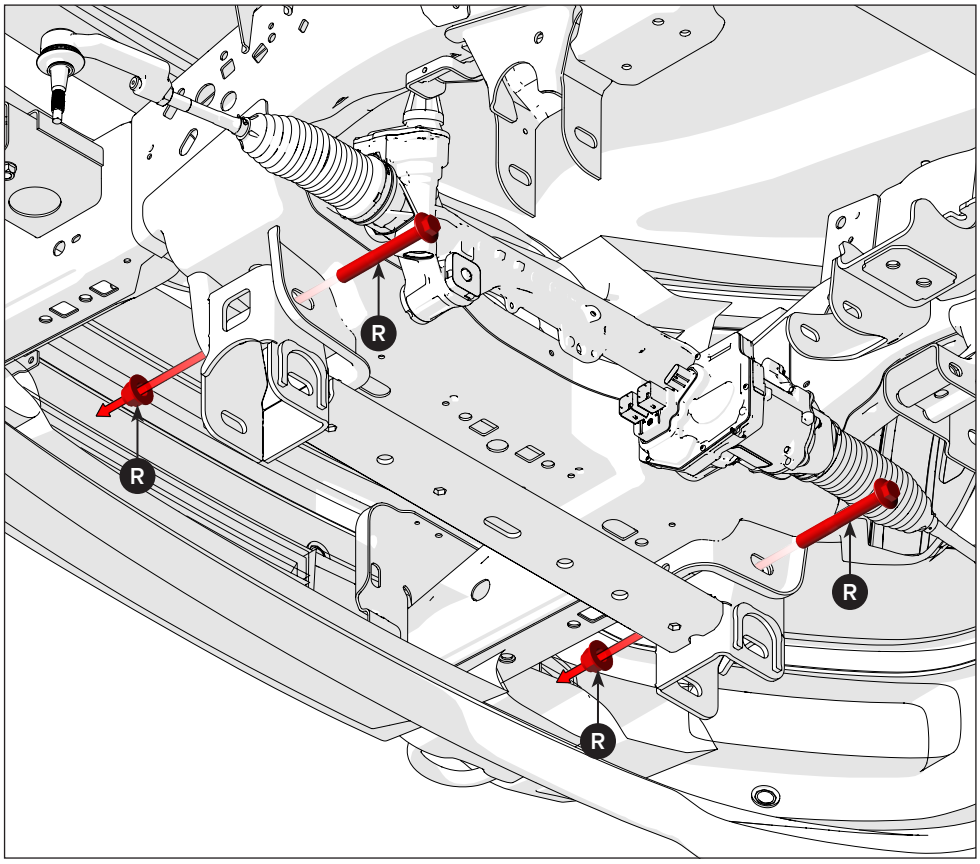
**25** Put the front crossmember (1) into the vehicle's frame pockets where the lower control arms were previously bolted.

Then, make sure that the angled side of the front crossmember with the logo faces the front of the vehicle.




**26** Now, fasten the front crossmember with the lower control arm hardware (R) removed during step 14.

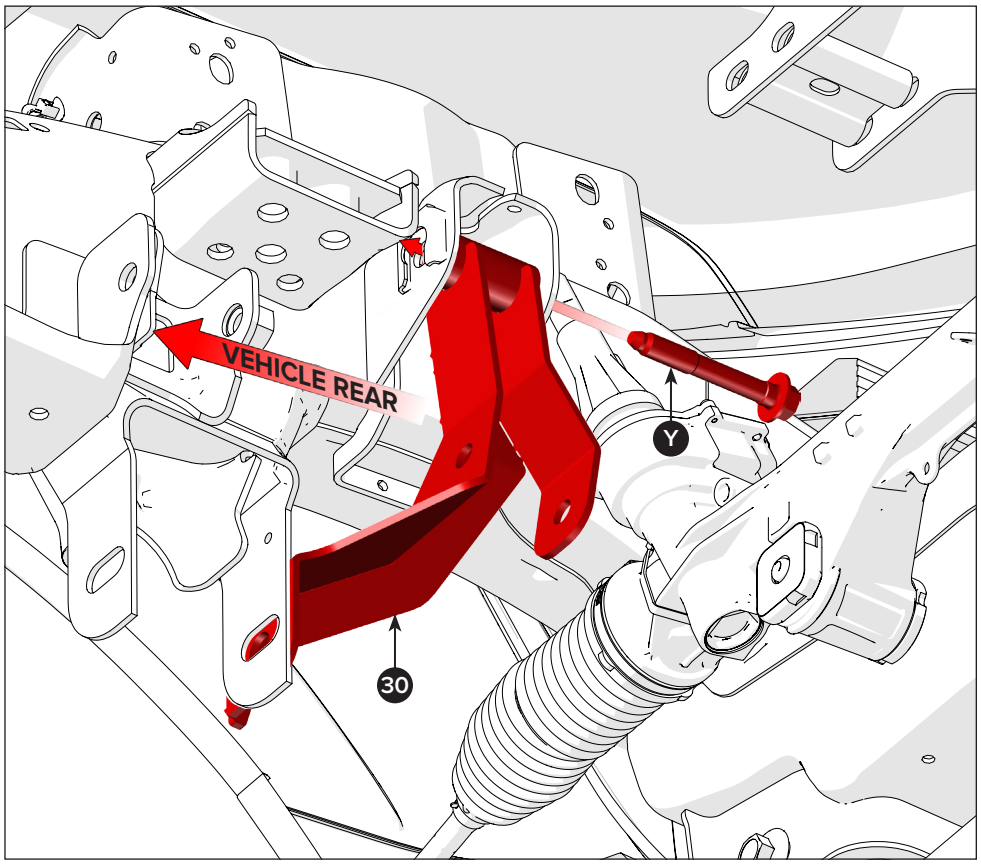
Torque them to 240 lb-ft.



**27** Put the driver-side differential drop bracket into the upper front mount pocket on the frame.

Fasten the bracket to the frame with the bolt (Y) removed during step 18.

Leave the hardware loose for now. It will be tightened later.

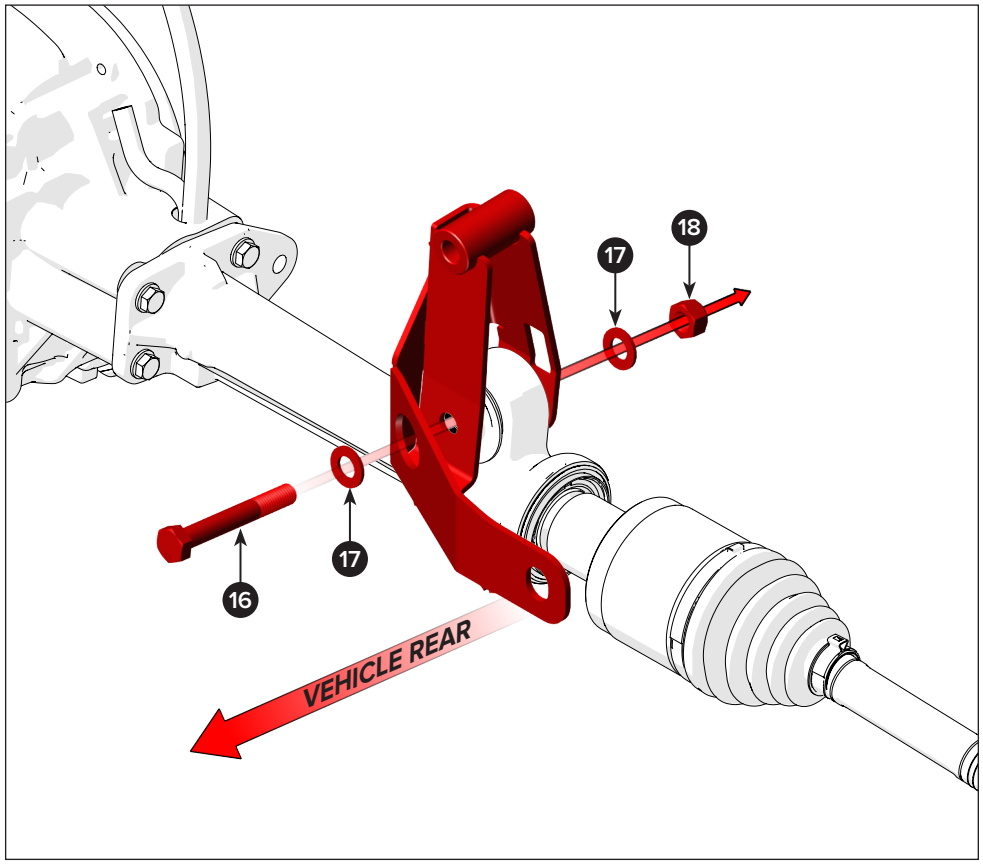



**28** Attach the new bracket (31) to the passenger's side of the differential.

Use one M14 x 100 mm bolt (16), two M14 flat washers (17), and one M14 Nylock nut (18).

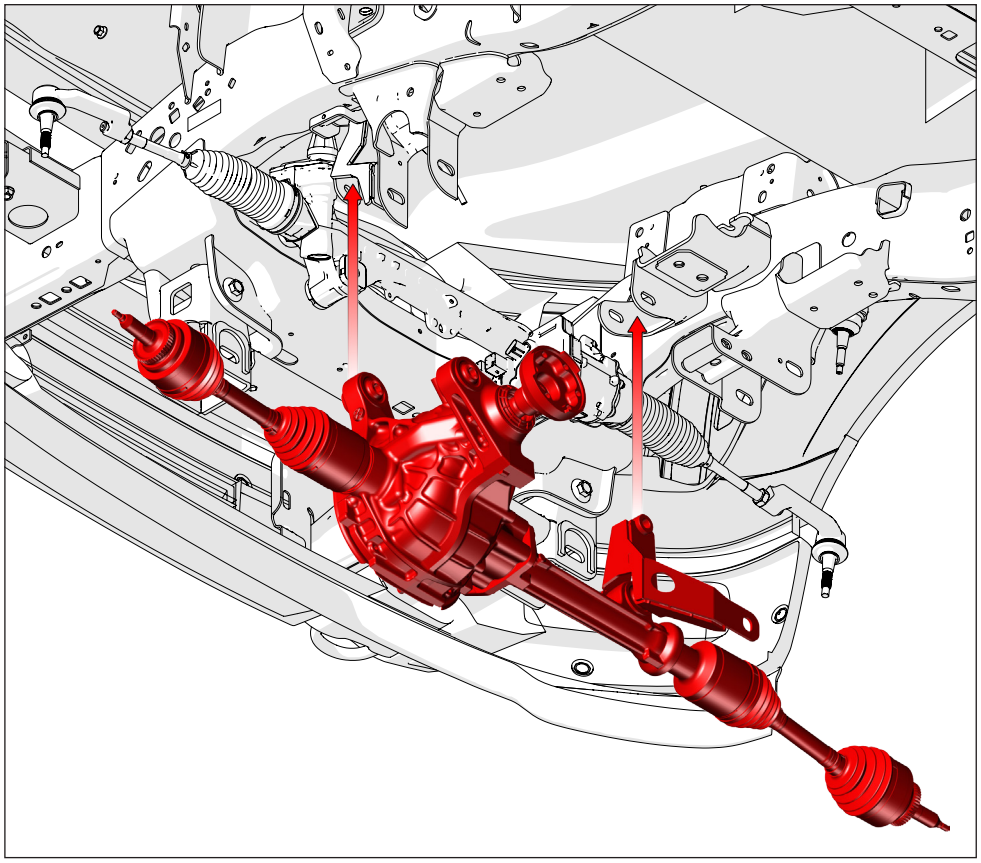
Leave the hardware loose for now. It will be tightened later.

**Note:** Because of tight clearances, the bracket must be installed to the differential before it is installed into the vehicle.



**29** Raise the front differential and bracket assembly with the transmission jack.

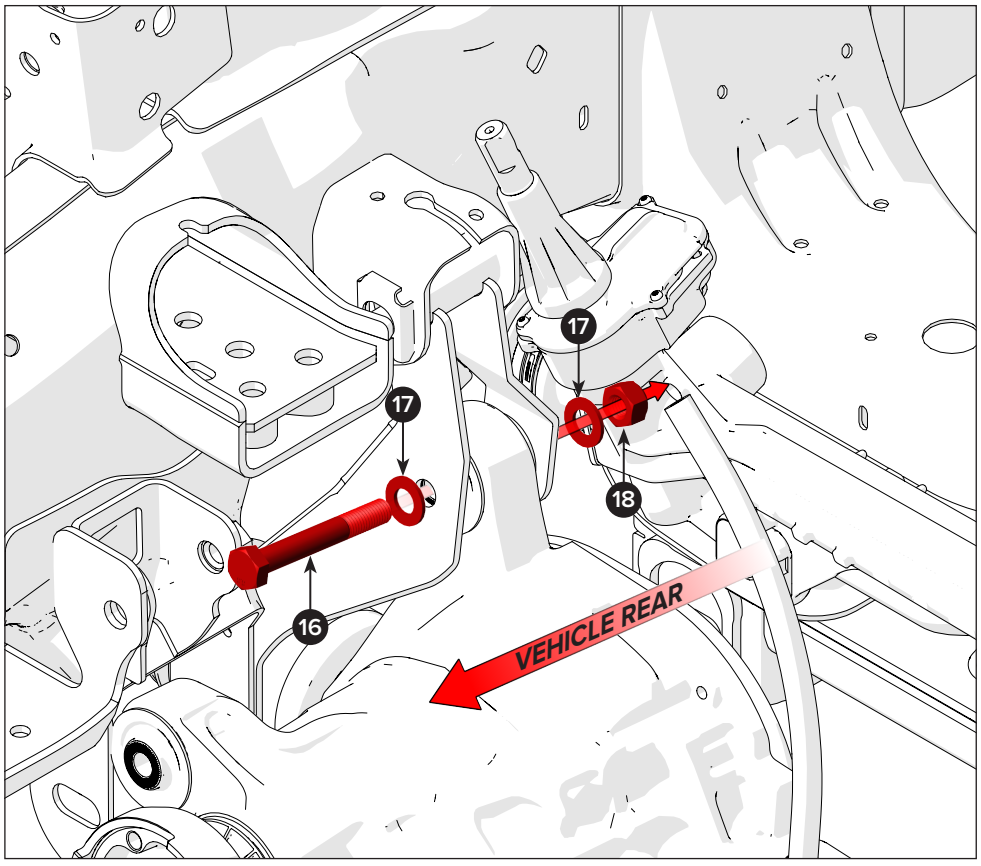
Align the driver side mount bushing with the differential drop bracket.



**30** Attach the driver's side of the differential to the new bracket. Use an M14 x 100 mm bolt (16), two flat washers (17), and a 14 mm Nylock nut (18).

Leave the hardware loose for now. It will be tightened later.

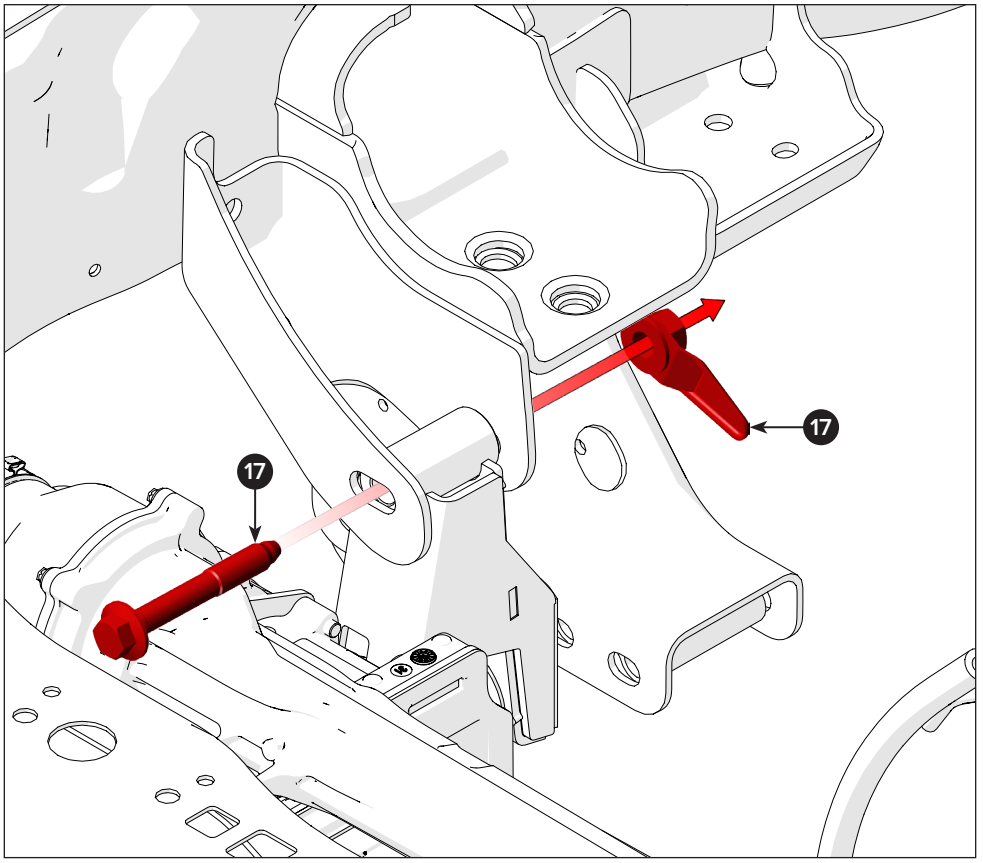
**Note:** Because of tight clearances, the bolt must be inserted from the back of the differential, with the nut and washer at the front.



**31** Put the driver-side differential drop bracket into the upper front mount pocket on the frame.

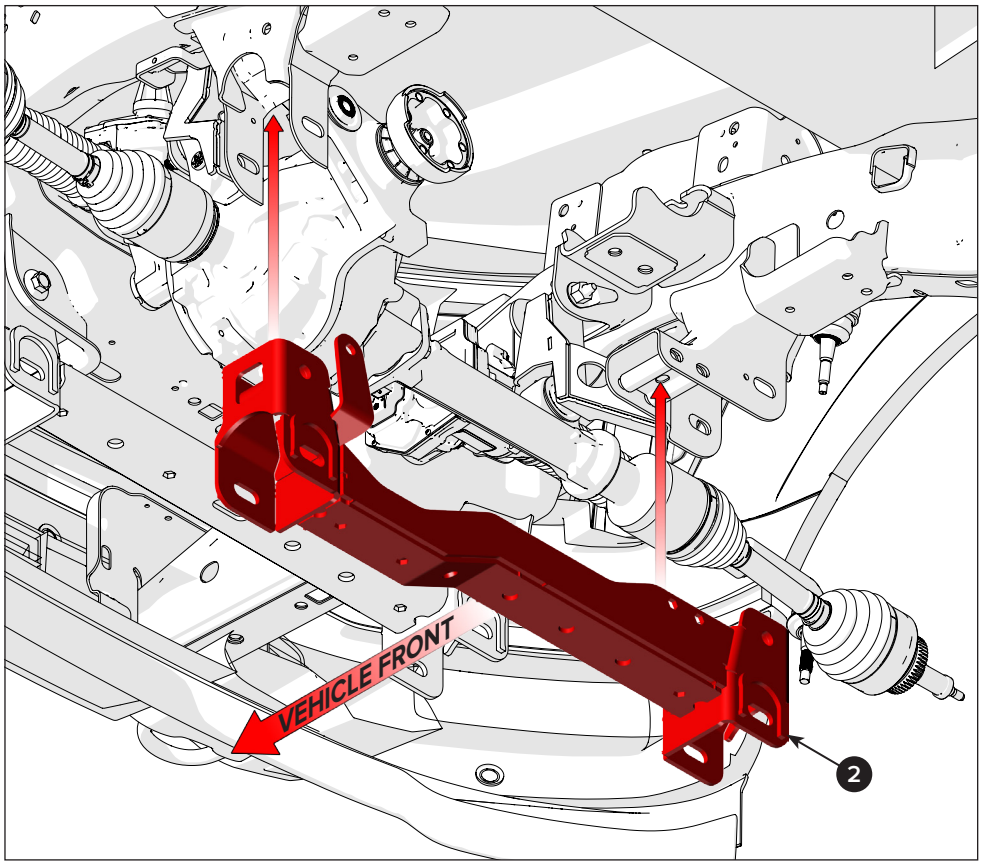
Fasten the bracket to the frame with the bolt (Y) removed during step 18.

Leave the hardware loose for now. It will be tightened later.




**32** Raise the rear crossmember (2) into the frame's factory crossmember pockets as shown.

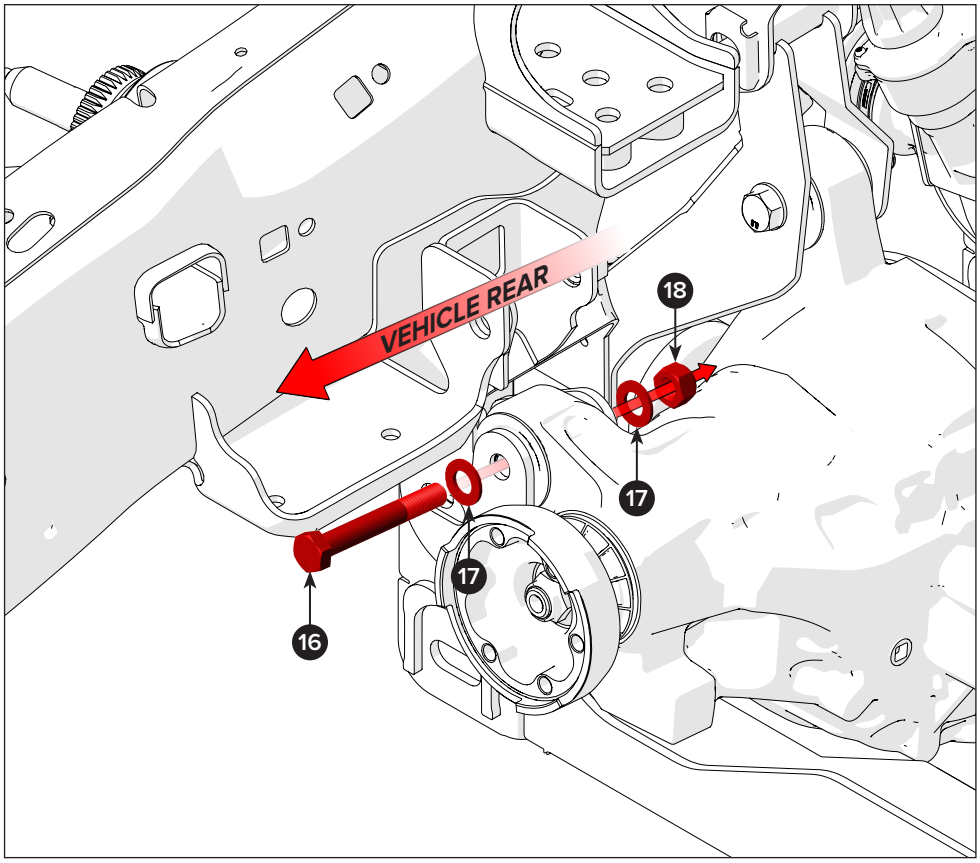
Make sure the notch of the new crossmember is positioned under the differential.



**33** Attach the bracket on the rear crossmember to the driver's side of the differential. Use an M14 x 100 mm bolt (16), two flat washers (17), and a 14 mm Nylock nut (18).

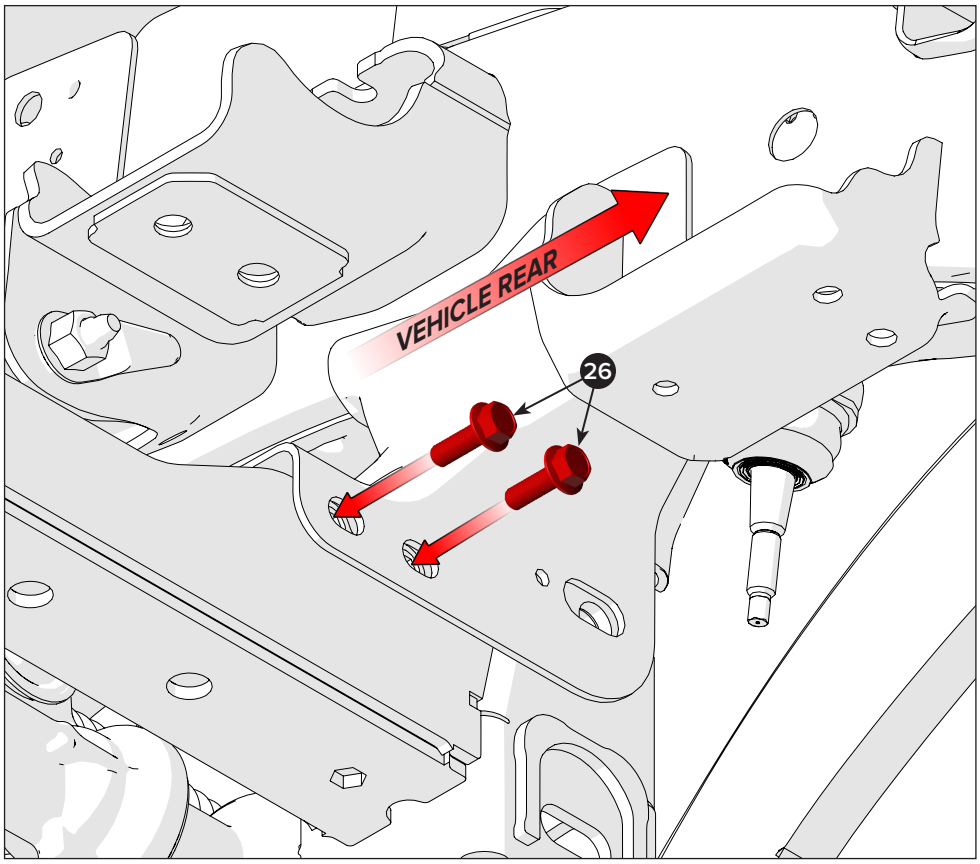
Leave the hardware loose for now. It will be tightened later.

**Note:** Adjust the bushing flange on the differential with a hammer, or cut the frame a little wider for additional clearance.




**34** Attach the right side of the rear crossmember to the frame with two M10 x 30 mm bolts (26).

Leave the hardware loose for now. It will be tightened later.

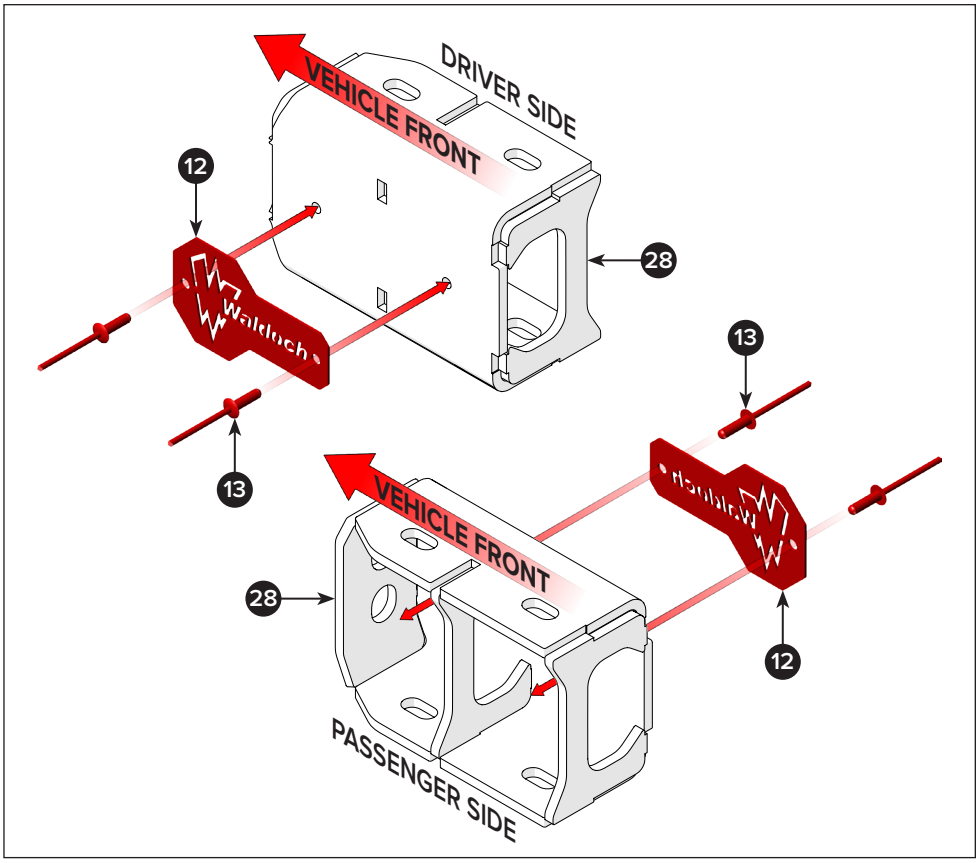


***Installer's Note:*** *The sway bar drop is identical and fits either side of the vehicle. For the branded nameplates to read upright once installed, the sway bar drop must be oriented before a nameplate is riveted on.*

**35** First, orient the sway bar drops (28) so the large plate hole faces the vehicle's back.

Next, attach the branded nameplate (12) to the sway bar drop with four 1/4" rivets (13).

The image shows the driver's and passenger's side sway bar drops and nameplate locations.

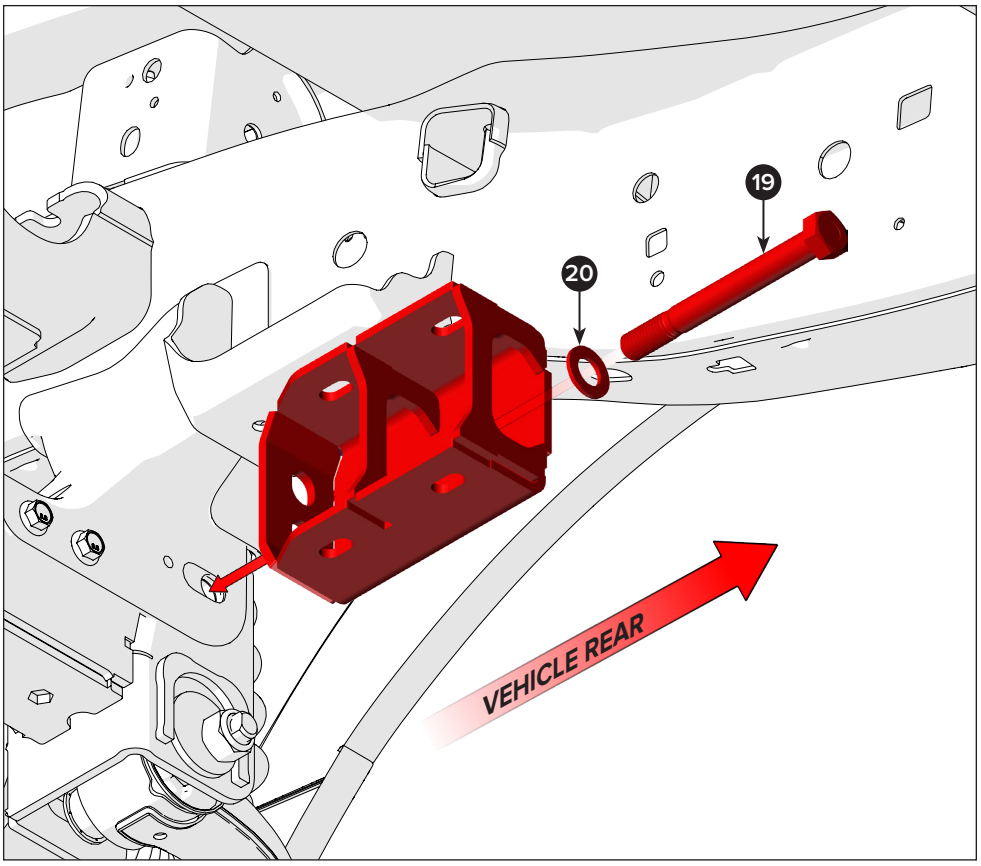



**36** Push the sway bar drop against the frame as shown.

Attach the drop to the frame with one M18 x 160 mm bolt (19) and one M18 flat washer (20).

Leave the hardware loose for now. It will be tightened later.

Repeat this step to install the driver's side sway bar drop.



**37** Put the stabilizer bar bracket (V) back into the factory frame where it was removed during step 16.

Attach the sway bar drop to the frame with two M10 Nylock nuts (22).

Repeat this step to install the driver-side sway bar drop.

Now torque the:

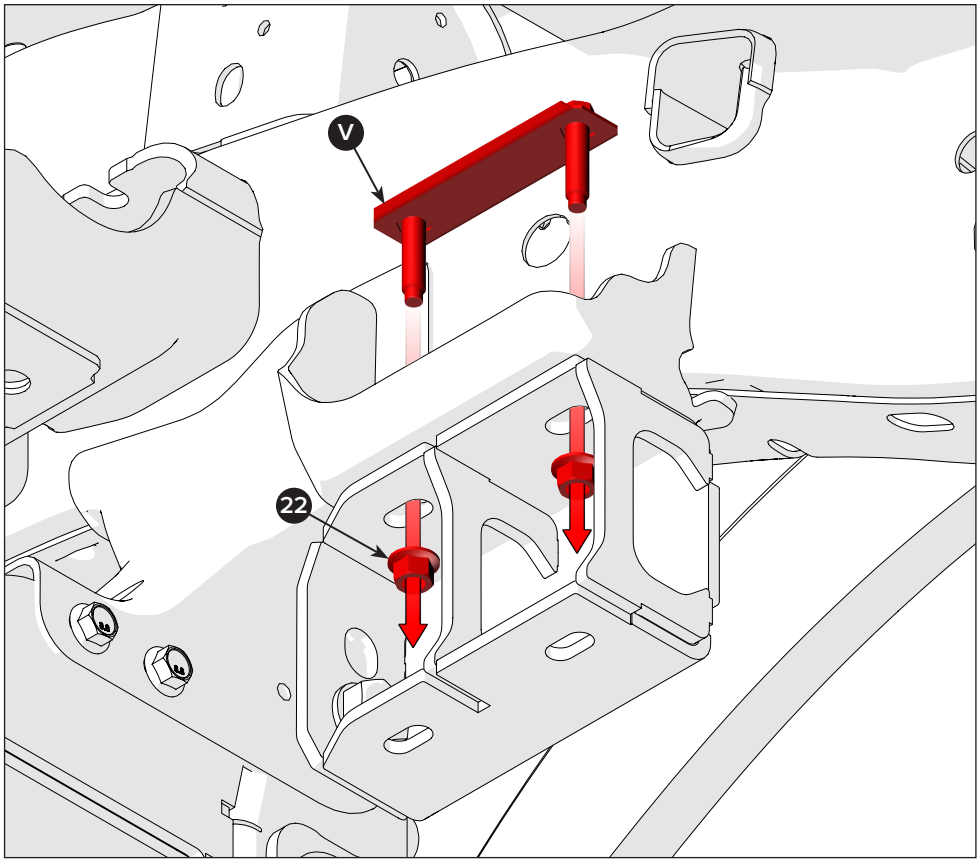
a) Bolts from steps 27 and 28 to the factory specification.

b) Bolts from steps 30, 31, and 33 to XX lb-ft.

c) Bolts from step 34 to XX lb-ft.

d) Bolts from step 36 to XX lb-ft.

e) Nuts from step 37 to XX lb-ft.




***Installer's Note:*** *The frame's bolt patterns are reversed from one side to the other. Make sure the assembled shock and new spacers match the images to the right as indicated.*

**38** Put the coilover spacers (29) on the top of the shock assemblies removed during step 21.

Make sure the spacers slant inward towards the center of the vehicle.

**Images EE through HH:**

EE: Front view driver's side assembly.

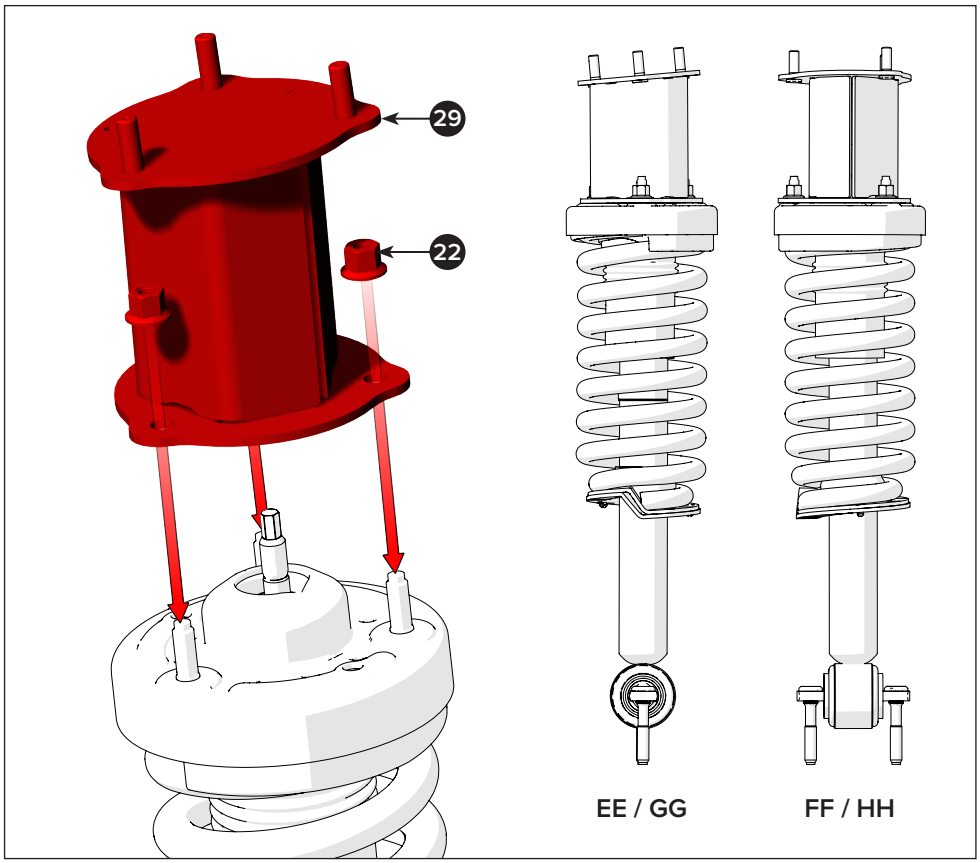
FF: Side view driver's side assembly.

GG: Rear view passenger's side assembly.

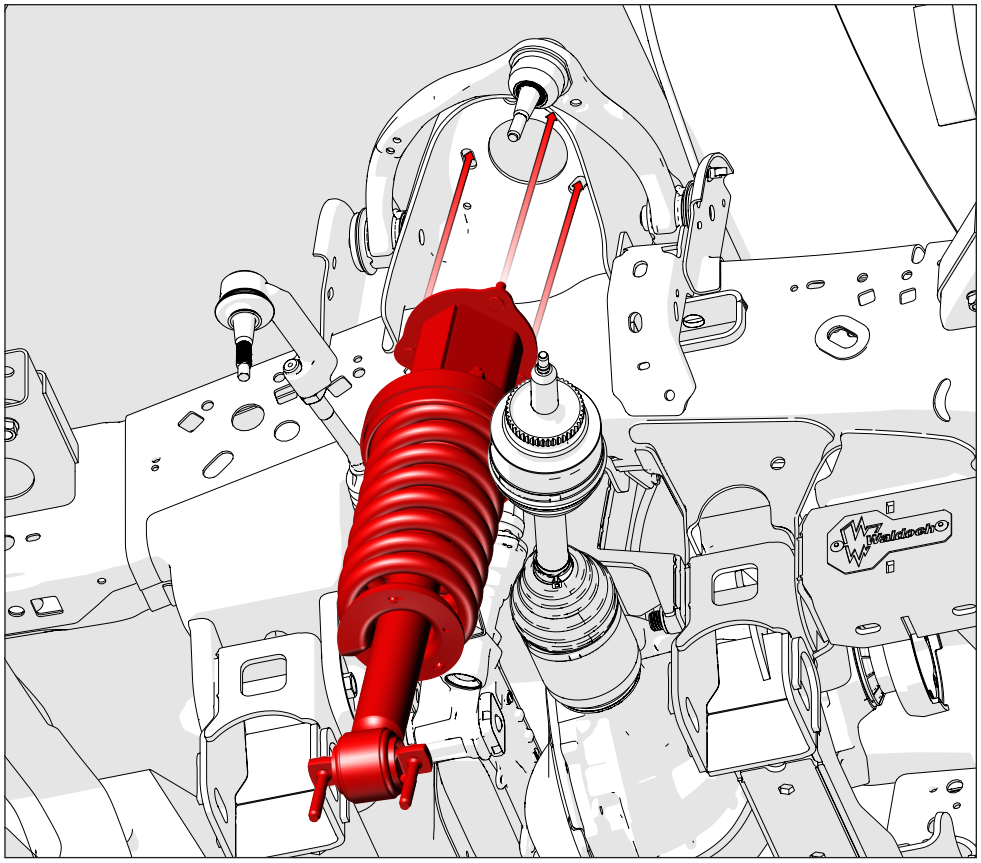
HH: Side view passenger's side assembly.

Use three M10 Nylock nuts (22) to attach the spacers to the top shock mounts.

Torque the nuts to XX lb-ft.



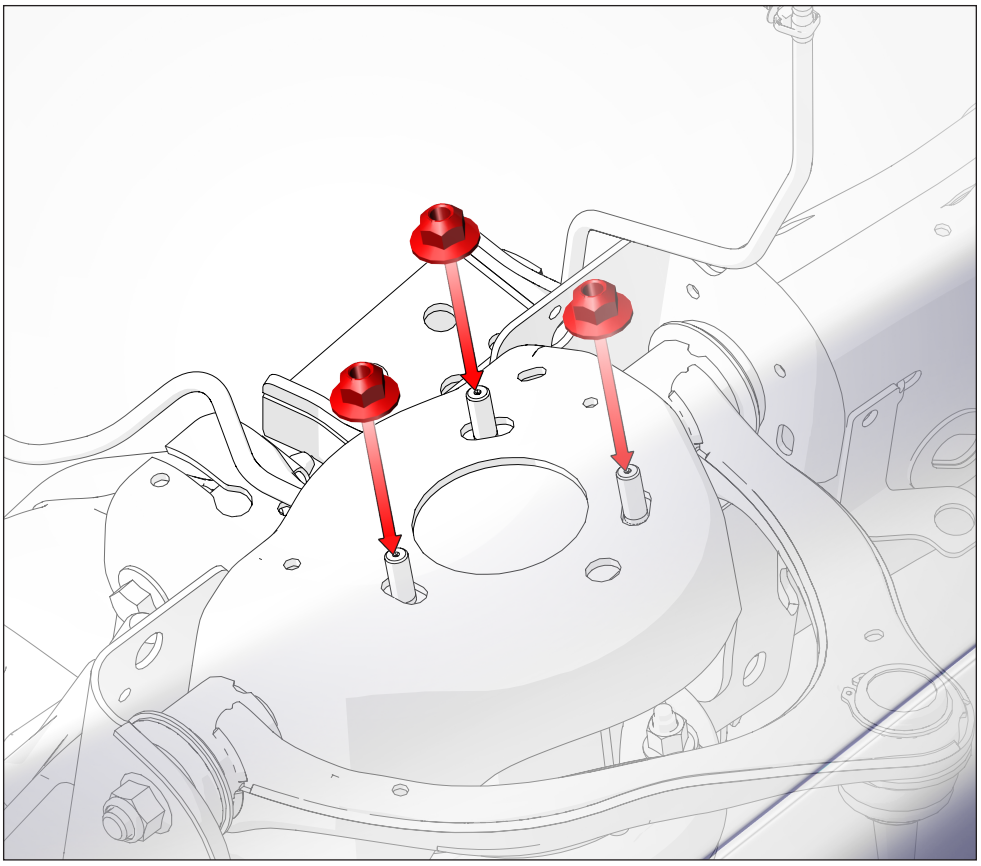
**39** Put the driver's side shock assembly into the frame mount.



**40** Attach the shock assembly to the frame mount with the flange nuts removed during step 21.

Torque the nuts to the factory specification.

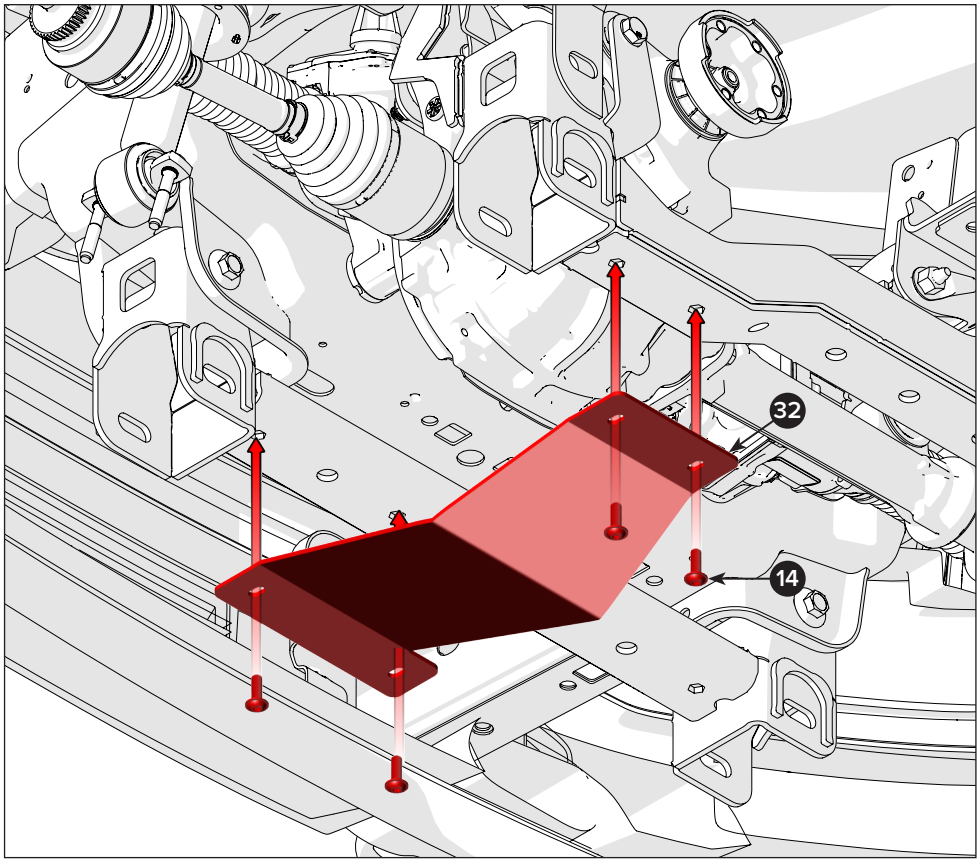
Repeat steps 39 and 40 to install the passenger's side shock assembly.



**41** Align the differential skid plate (32) to the holes in the front and rear crossmembers.

Attach the skid plate with four 10 mm button-head cap screws (14).

Torque the screws to XX lb-ft.

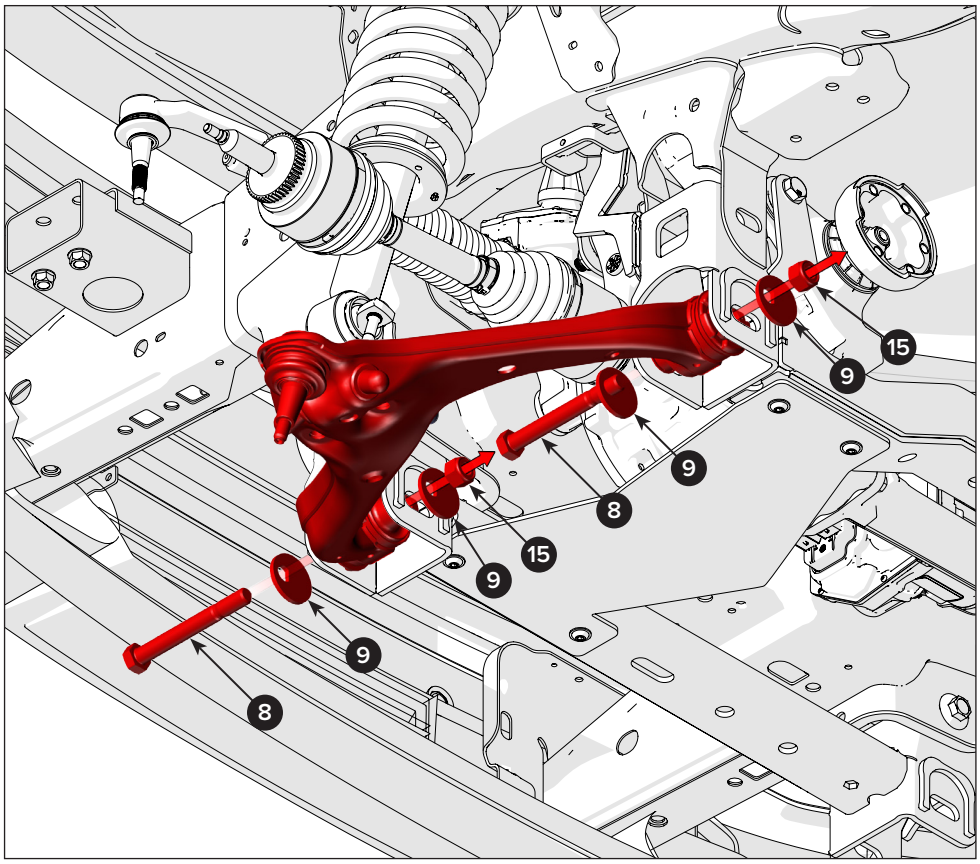



**42** Place the driver's side lower control arm (S), which was removed in step 15, into the mount pockets of the new crossmembers.

Secure the control arm using two M18 x 150 mm cam adjust bolts (8), four M18 slotted washers (9), and two M18 Nylock nuts (15).

Tighten the bolts, but do not torque them at this stage. They will be torqued during the alignment process after the lift kit is installed.

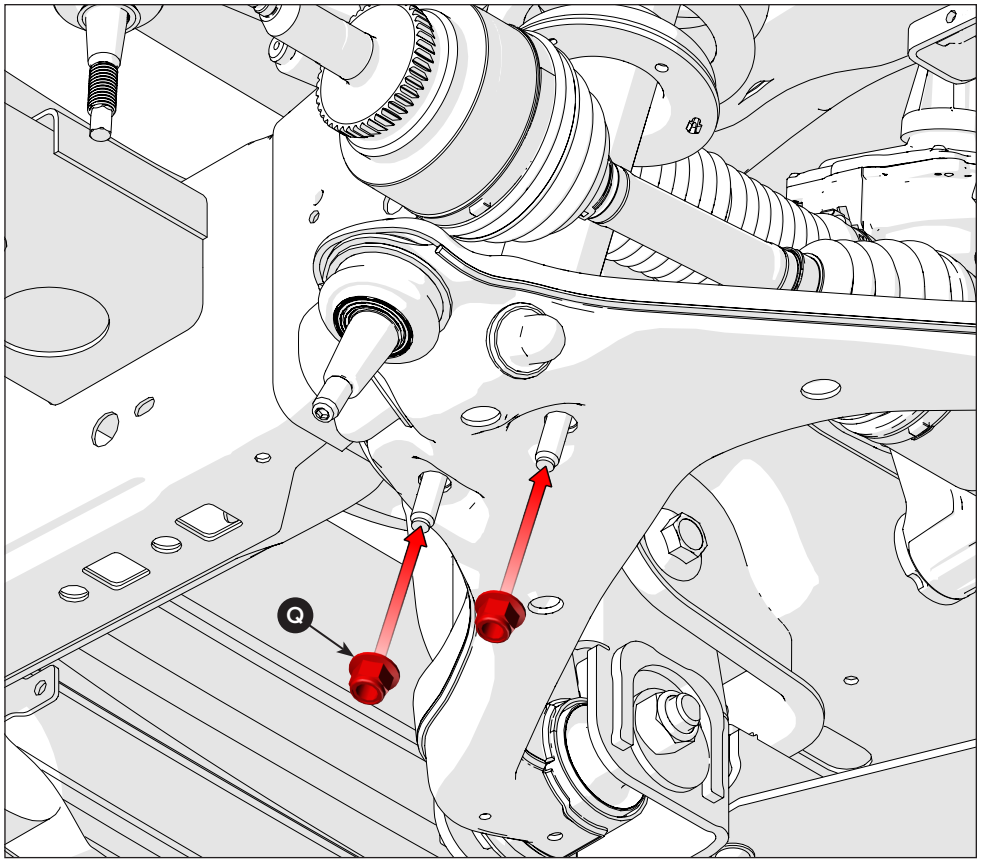
**Note:** Make sure the heads of the cam bolts face toward the front of the vehicle.



**43** Push the control arm up until the lower shock mount studs protrude through the mount holes in the arm.

Attach the shock to the control arm with the nuts (Q) removed during step 13.

Torque the nuts to the factory specification.

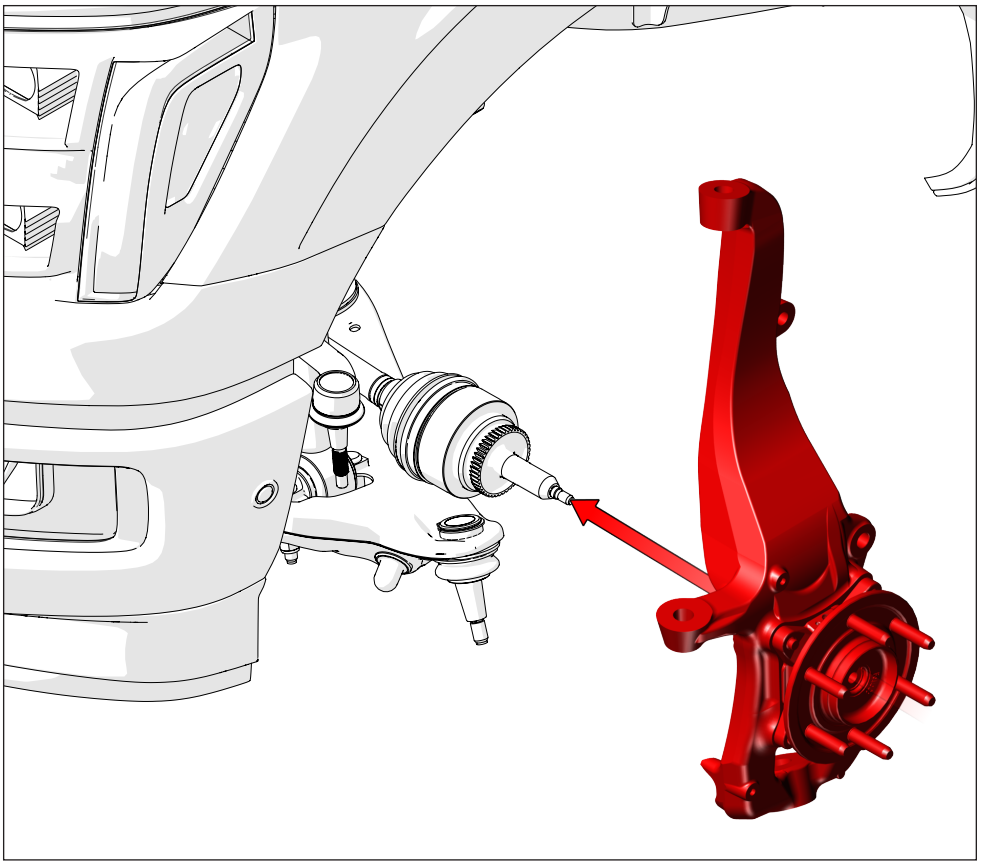



**44** To simplify the installation of the driver's side spindle assembly onto the vehicle, follow these steps:

Place the lower control arm's ball joint stud into the tapered hole of the lower spindle ball joint.

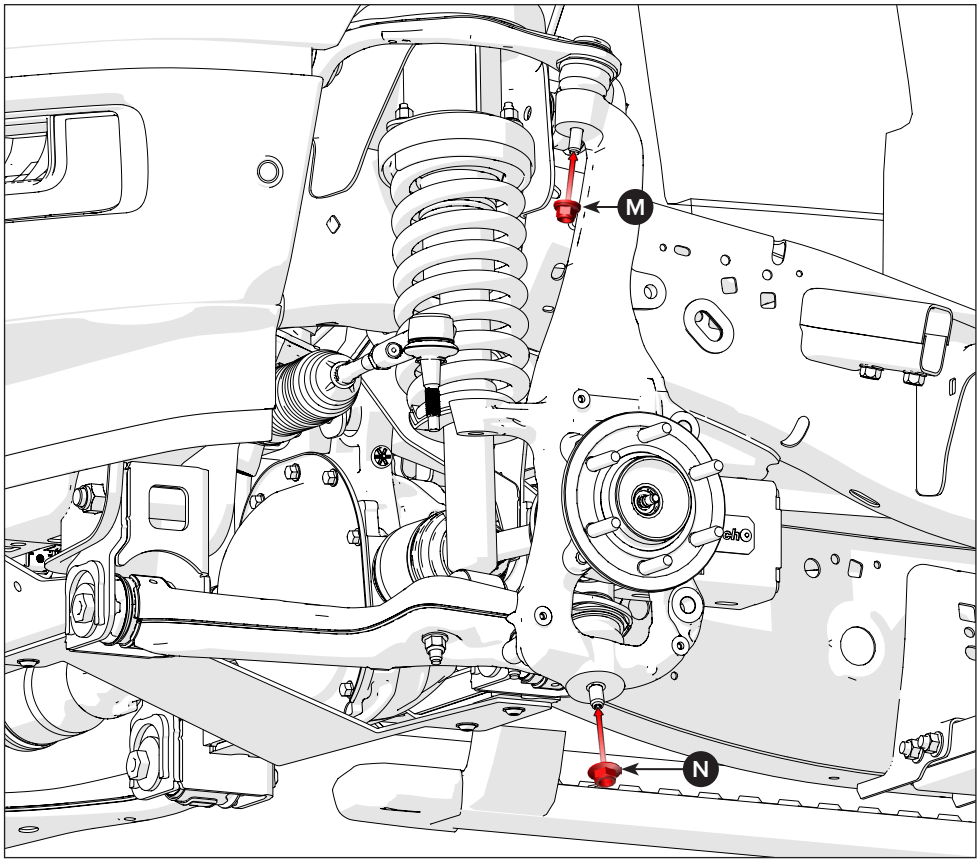
Then, insert the axle's stub shaft into the wheel hub.

Finally, position the upper control arm's ball joint stud into the tapered hole of the upper spindle ball joint.



**45** Attach the spindle assembly to the control arms with the nuts (M and N) that were removed during step 19.

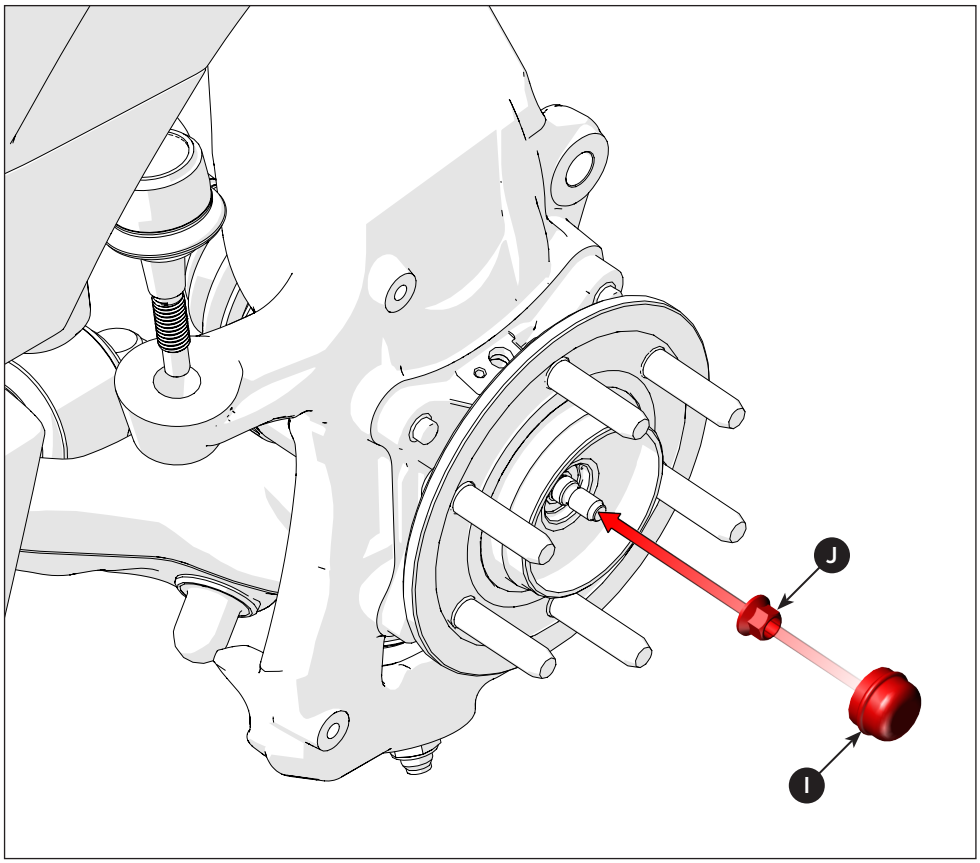
Torque the nuts to XX lb-ft.




**46** Attach the axle stub to the hub with the nut (J) removed during step 8.

Torque the nut to the factory specification.

Push the dust cap (I) into the hub.



**47** Attach the tie rod to the spindle with the nut (K) removed during step 8.

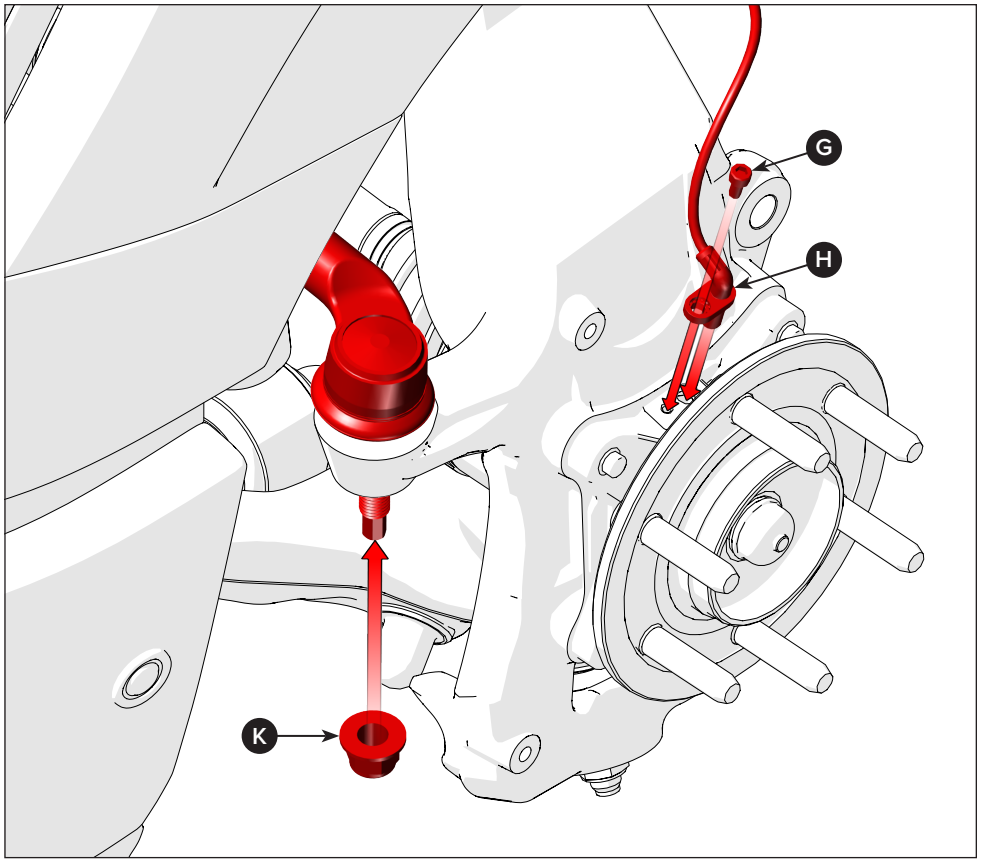
Torque the nut to the factory specification.

Carefully press the ABS sensor (H) into the sensor bore in the hub.

**Note:** If needed, gently twist the sensor to ease it into the bore.

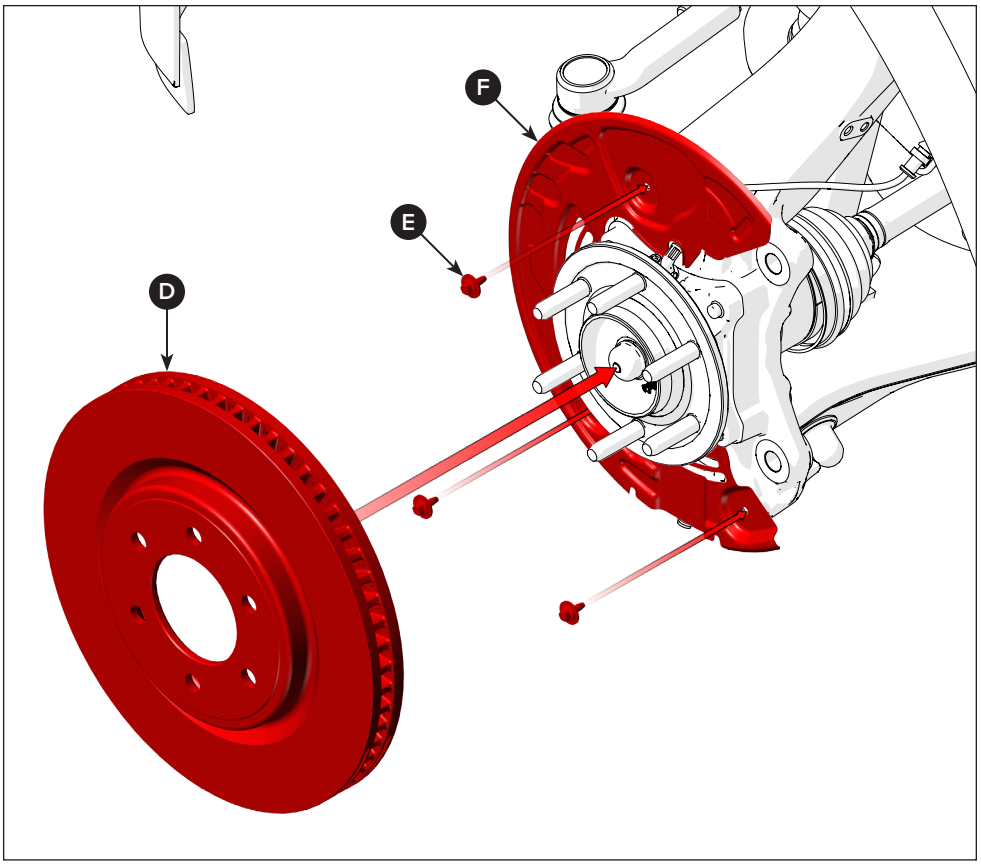
To attach the sensor to the hub, use a 5 mm hex bit and the cap head screw (G) removed during step 7.

Torque the screw to 80 lb-in.



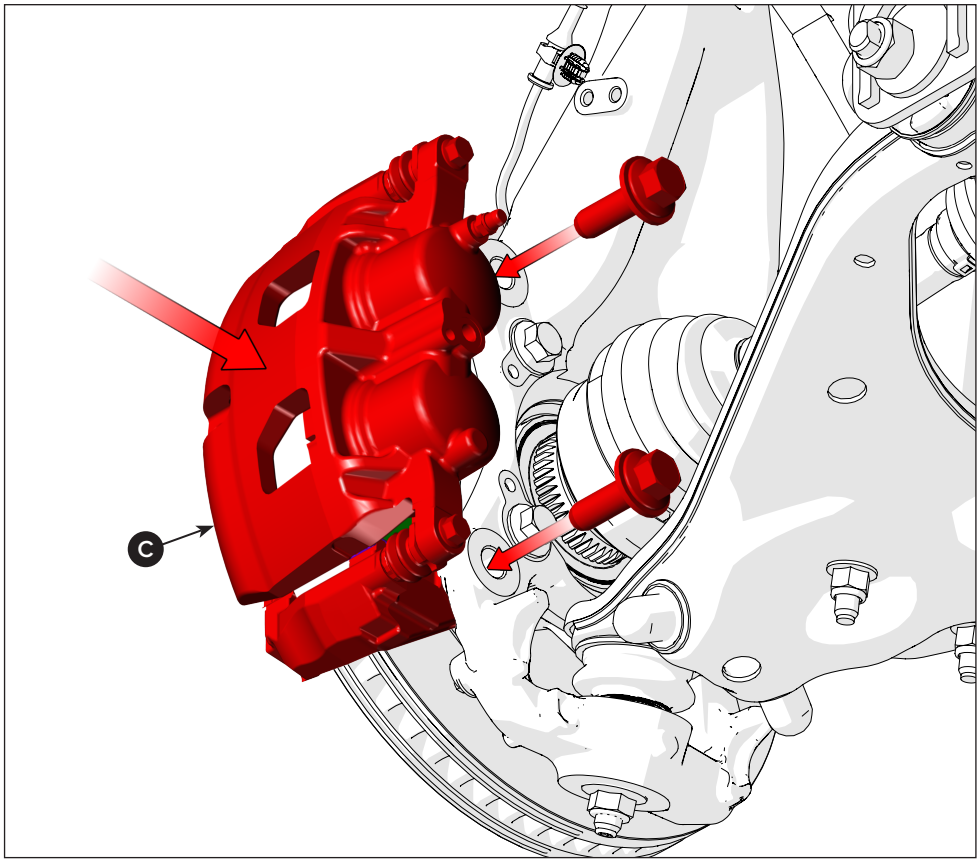

**48** Align the driver's side dust shield (F) to the hub with the three screws (E) removed during step 6.

Put the brake rotor (D) onto the hub and wheel studs removed during step 5.



**49** First, align the brake caliper bolt holes to the spindle's holes.

Now, attach the caliper with the bolts removed during step 5.

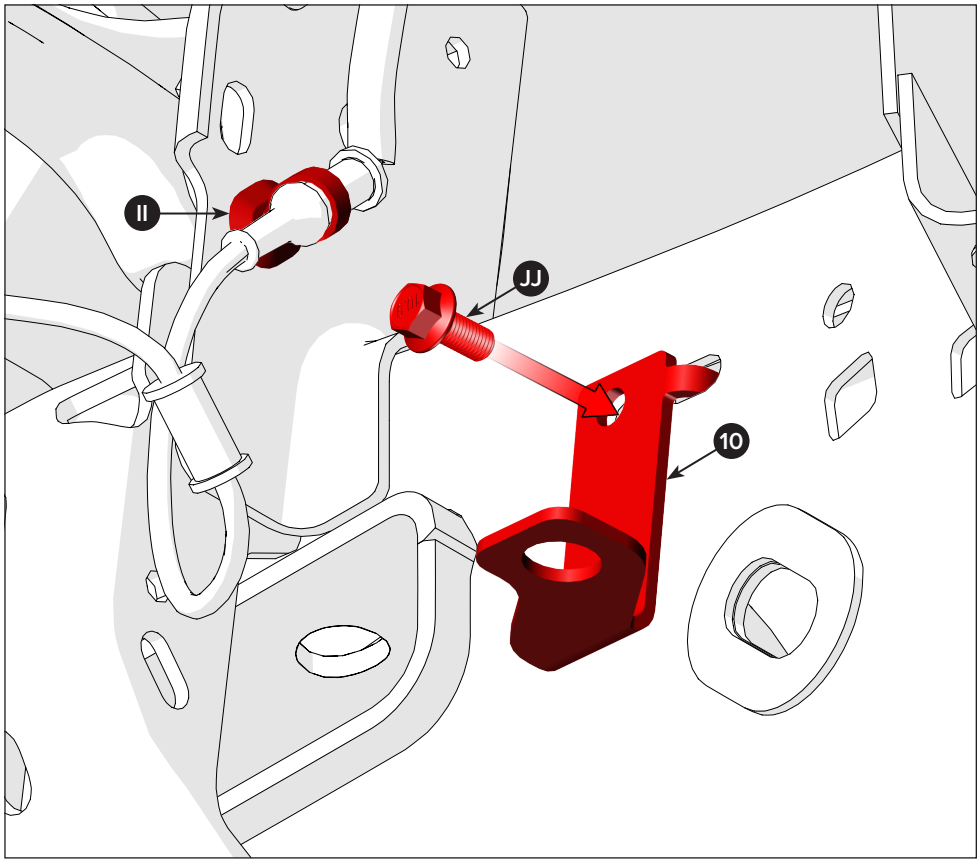



**50** Press the ABS wire trees (II) into the holes on the frame they were removed from during step 7.

Position the brake line bracket (10) to the frame where the factory bracket was attached.

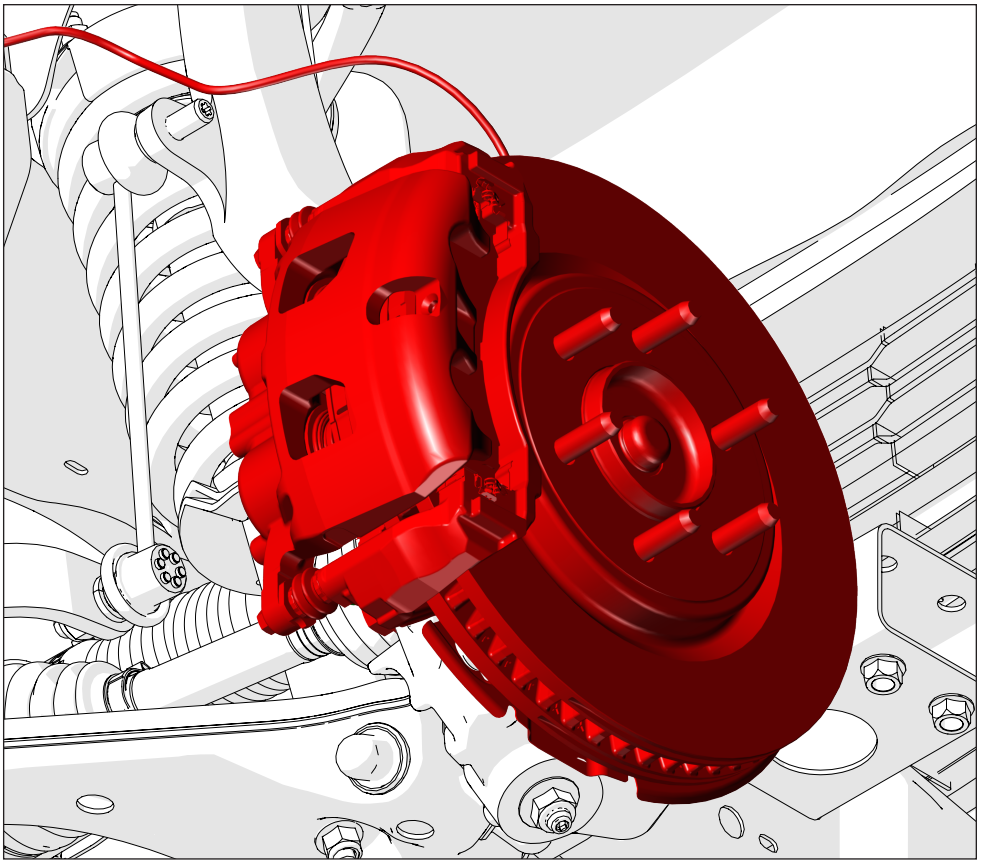
Use the original bolt (JJ) that attached the brake line bracket to the frame.

Torque the bolt to the factory specification.



**51** Repeat steps 42 through 50 to complete the passenger-side hub and wheel reassembly.

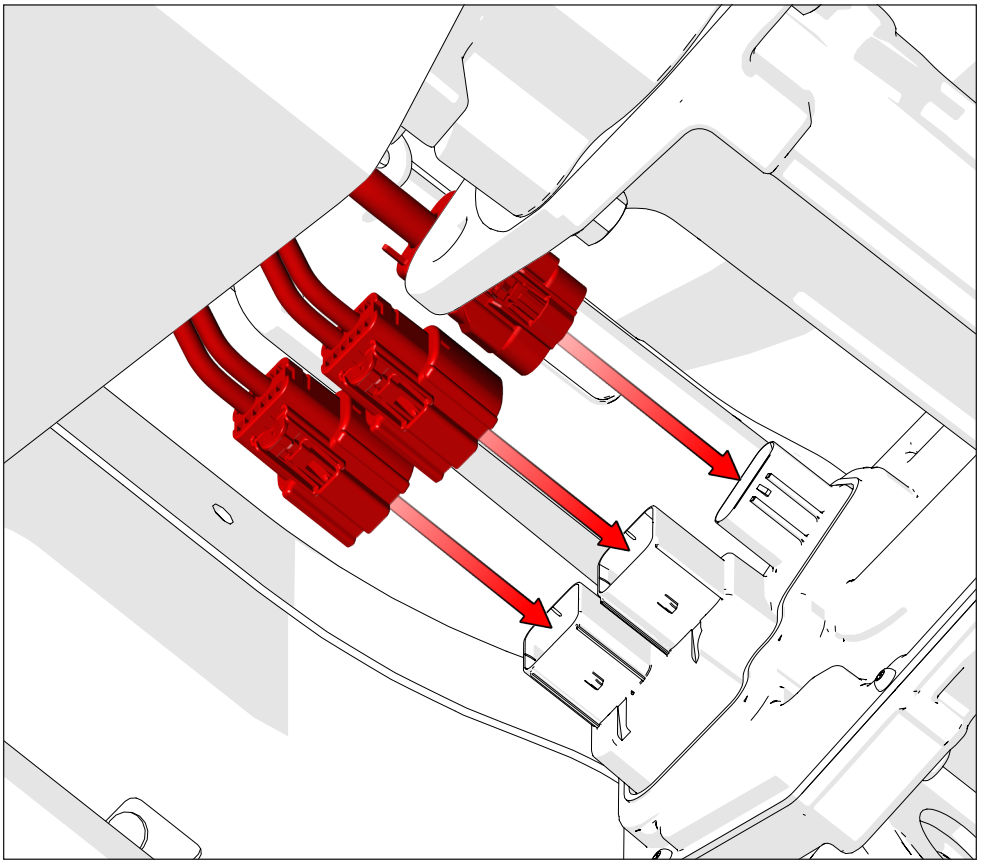
Once both sides are complete, torque all fasteners to the factory specifications.



**52** Reconnect the power steering EPAS connectors to their respective positions and orientations on the power steering motor, as disconnected in step 3.

Then, attach the front driveshaft (not shown) to the front differential that was disconnected during step 18.

Torque the driveshaft bolts to the factory specification.

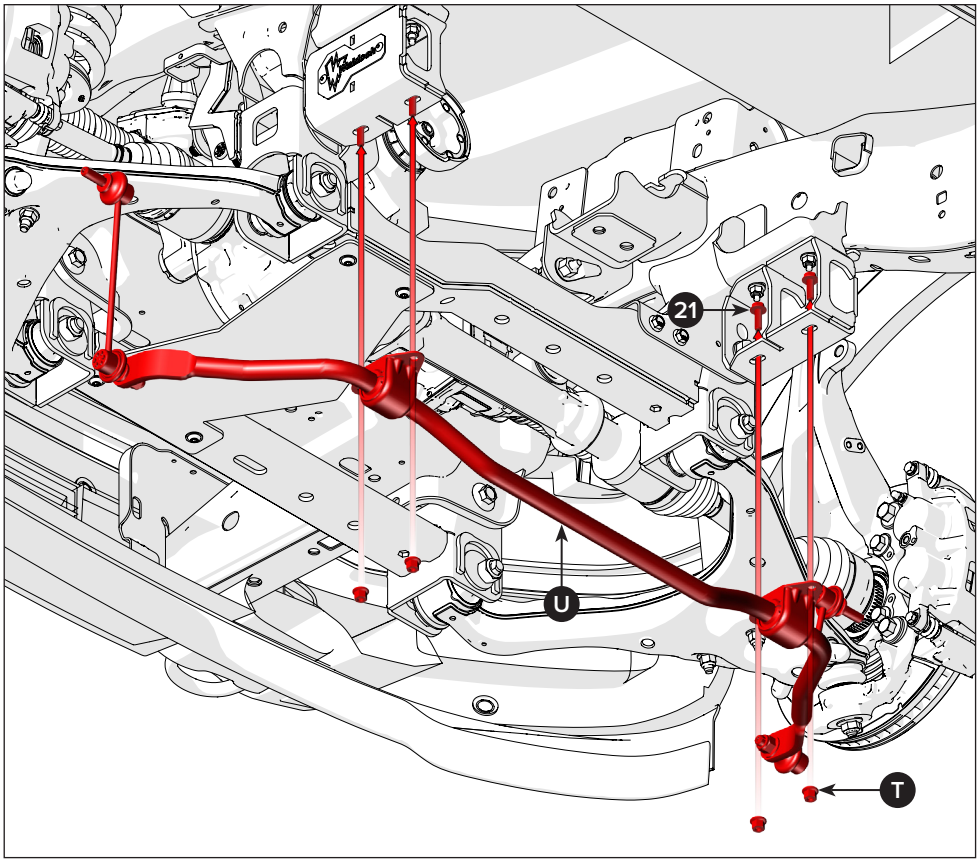


**53** First, put four M10 x 30 mm bolts (21) into the bottom bolt holes in the sway bar drops.

Next, install the sway bar assembly (U) removed during step 16.

Then, attach the sway bar brackets to the sway bar drops with the nuts (T) removed during step 16.

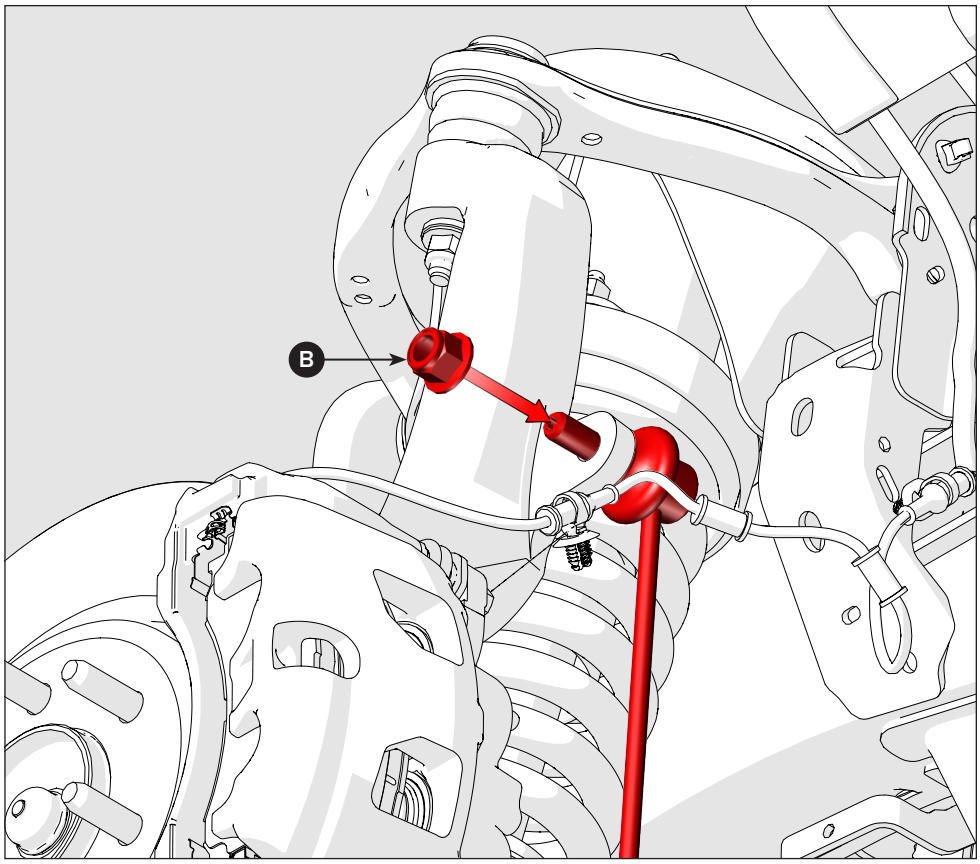
Finally, torque the nuts to the factory specification.




**54** Fit the upper ball studs on the sway bar end links (A) into the mount holes in the spindles.

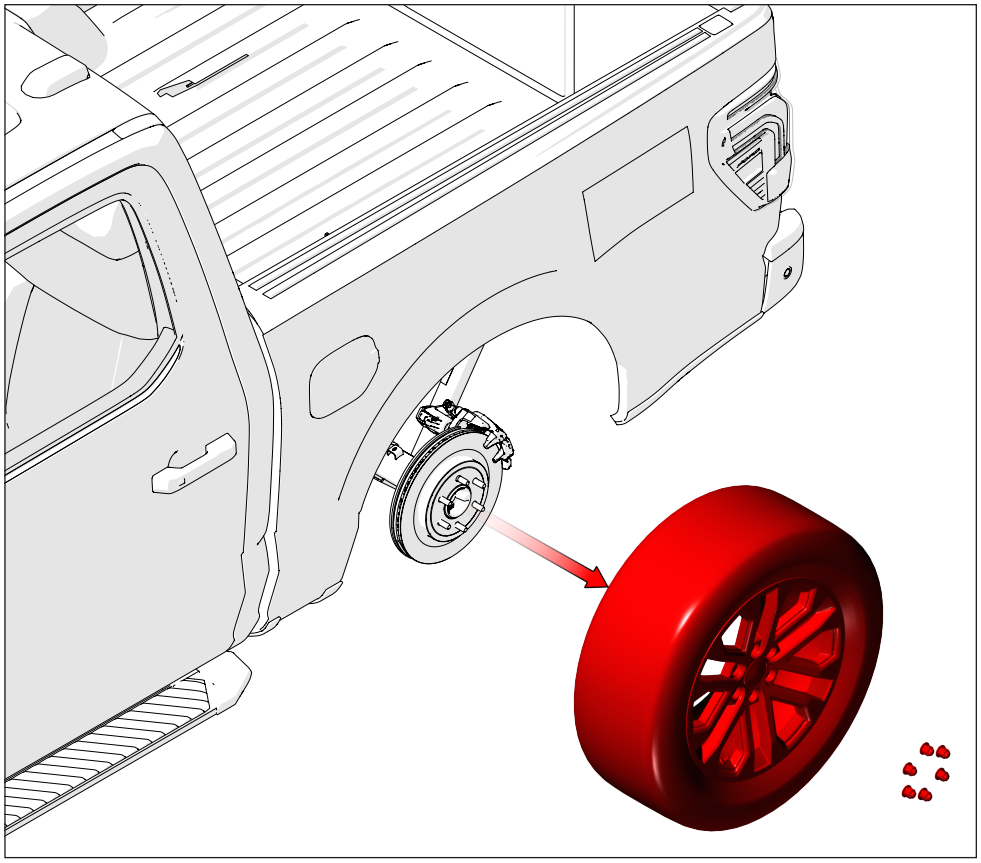
Attach the end links with the nuts (B) removed during step 4.

Finally, torque the nuts to the factory specification.



***Installer's Note:*** *These instructions begin on the rear driver's side (LH) of the vehicle.*

**55** Remove the lug nuts and rear wheels from both the left and right sides of the vehicle.



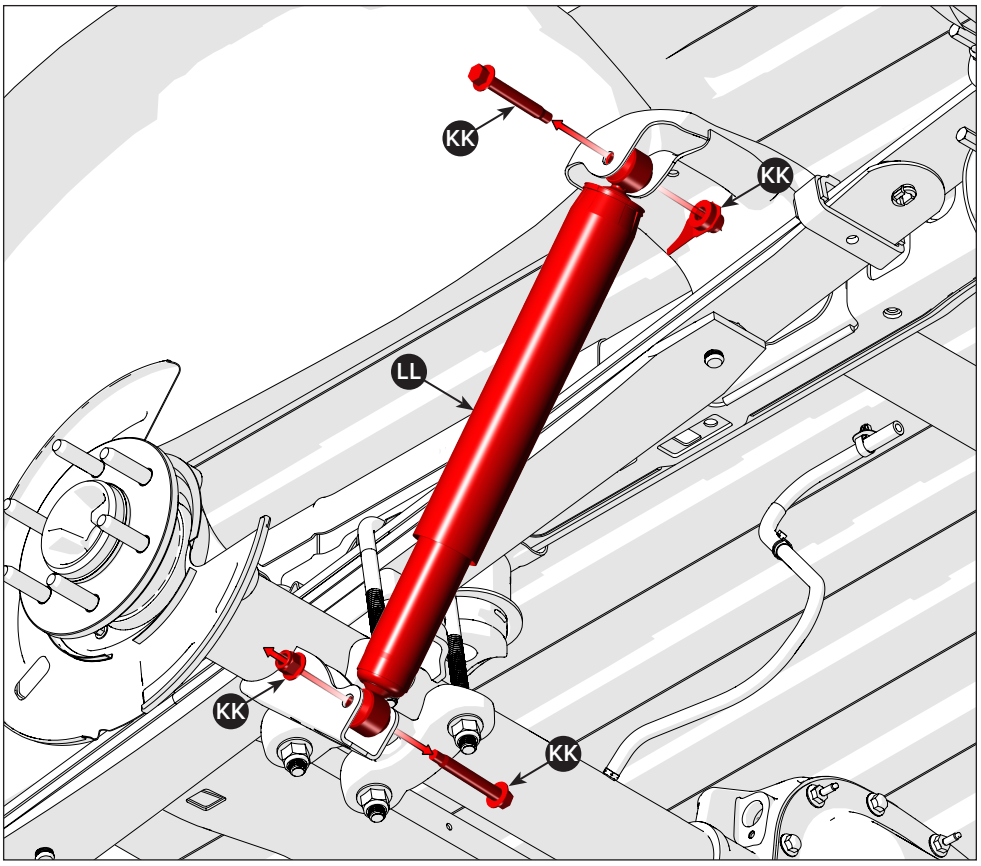
***Installer's Note:*** *For visual clarity, the brake calipers and rotors will not be shown.*

**56** First, position a floor jack under the rear axle assembly to support it during the lift kit installation.

Now, remove the upper and lower driver's side shock hardware (KK) and the shock (LL).

Then remove the passenger's side shock hardware and shock (not shown).

Finally, put the shock hardware and shocks in a safe place. They will be reused.

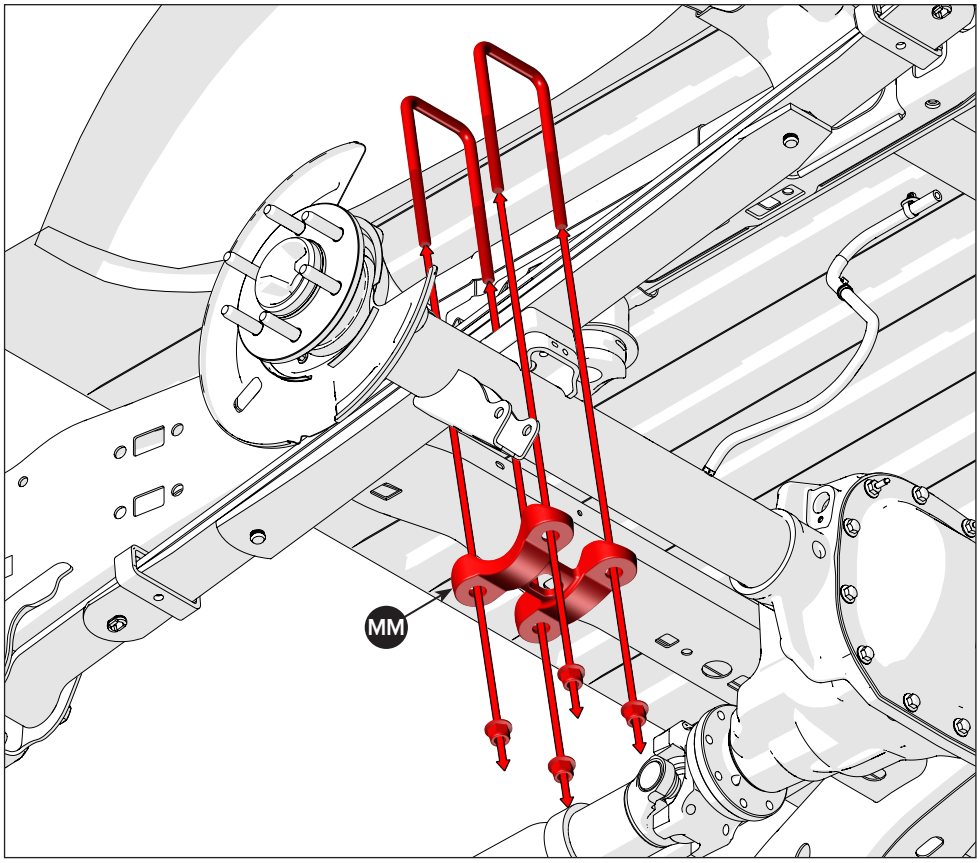


**57** First, remove the flanged locknuts and discard them, as they will not be reused.

Next, remove the factory lower axle mount plate (MM) and put it in a safe location, as it will be reused.

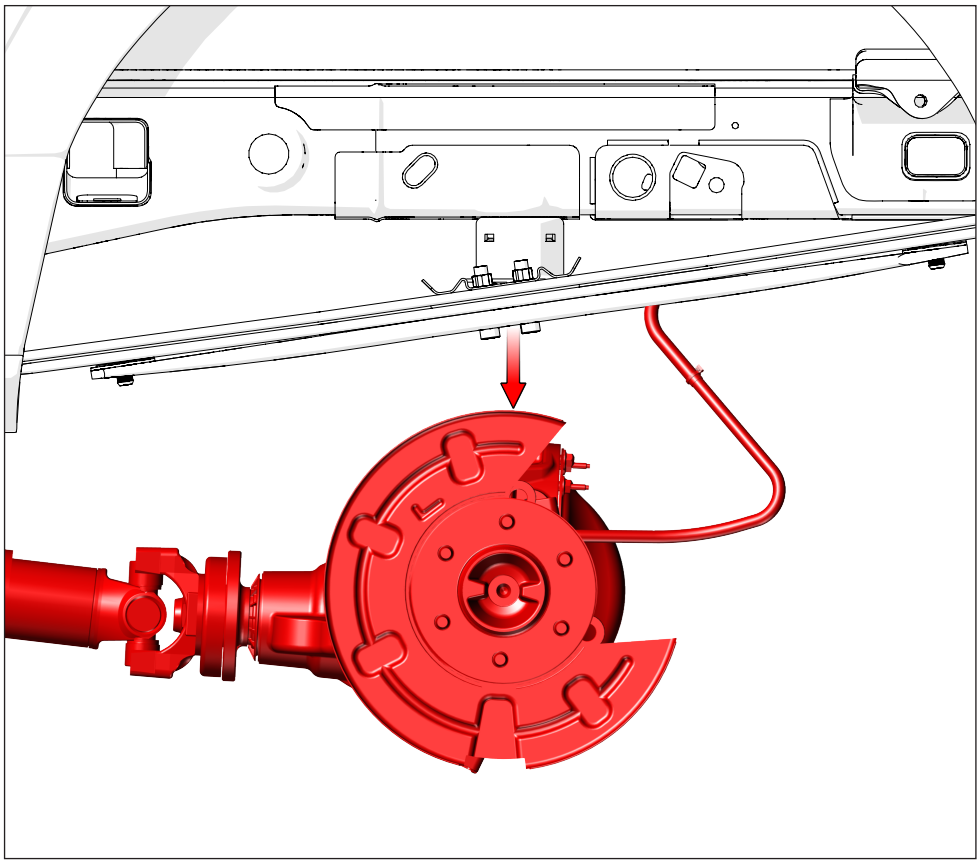
Finally, remove the factory U-bolts and discard them; they will not be reused.

Repeat this procedure for the passenger's side.



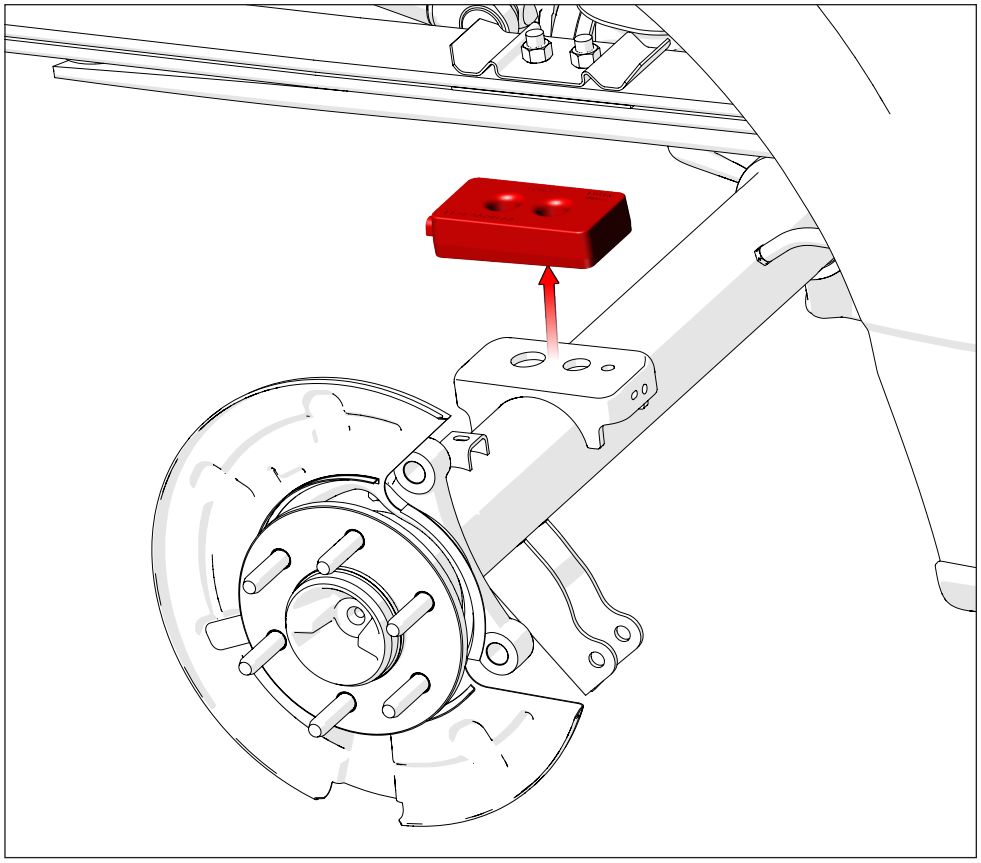

**58** Lower the axle assembly far enough to gain access to the spring assemblies.

**Note:** There is no need to disconnect the driveshaft for this procedure, so keep it attached to the axle's yoke.



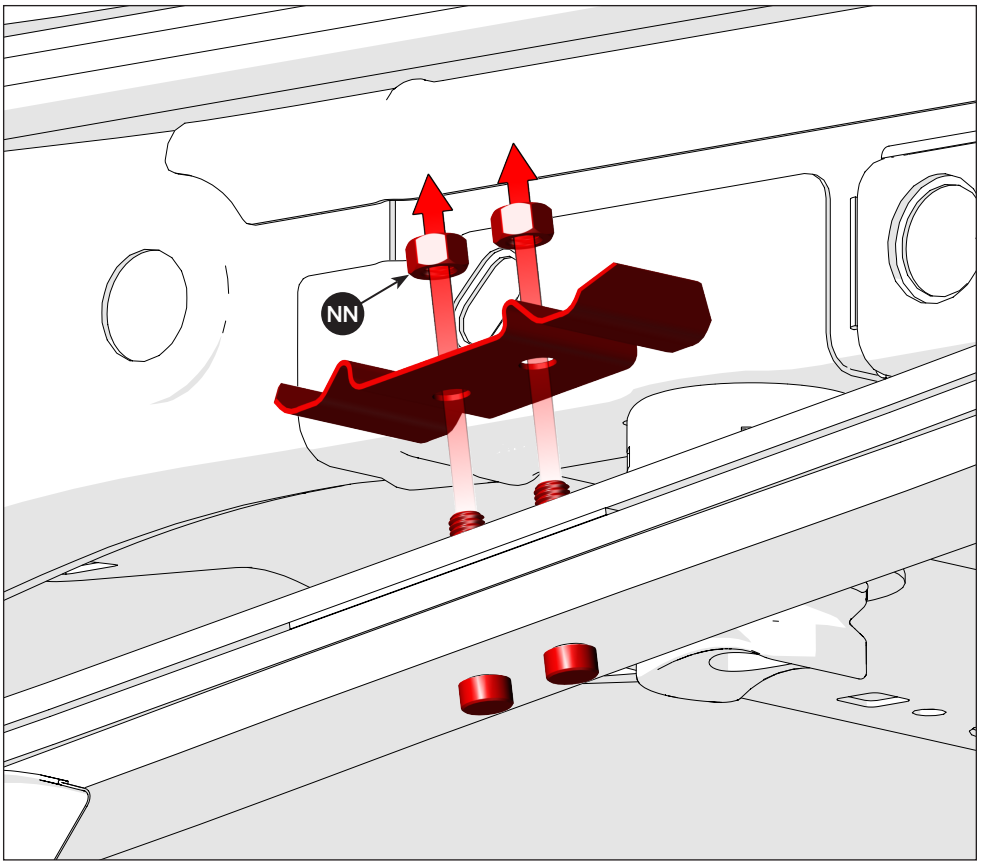
**59** With the axle lowered, remove the spring blocks from the driver and passenger-side axle perches.

Discard the blocks as they will not be reused.



**60** First, remove and keep the nuts (NN) from the spring pins.

Then, remove and discard the top plate from the spring, as it will not be reused.

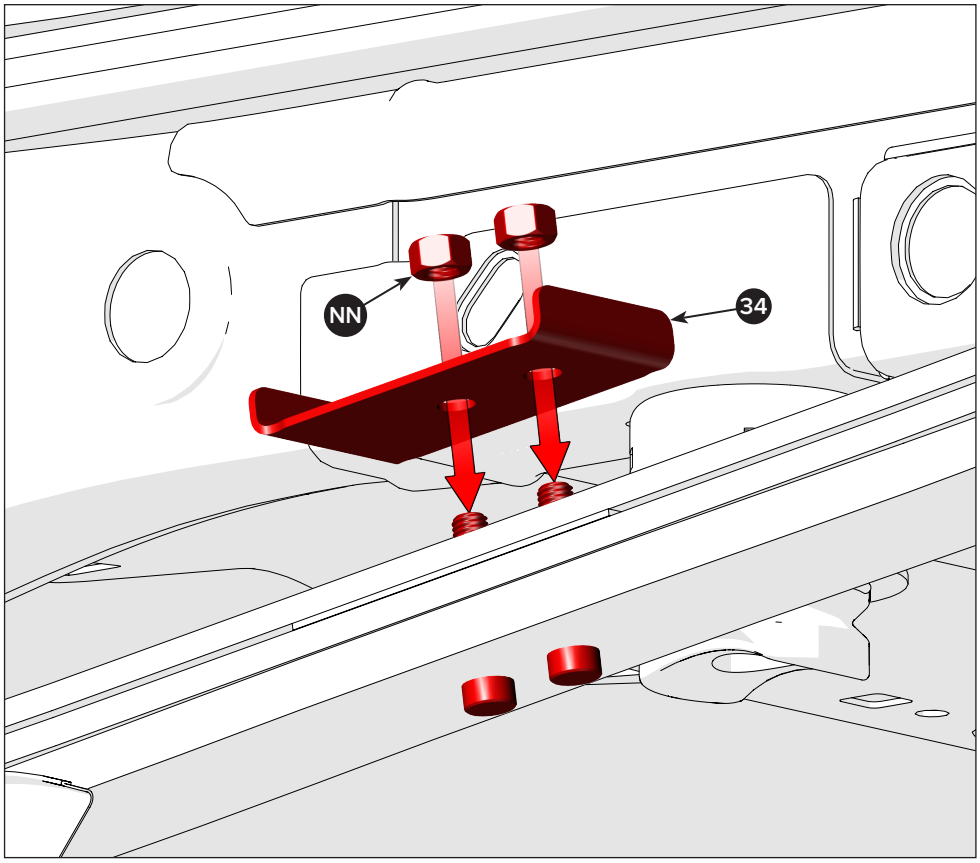


**61** Put the new leaf spring bracket (34) onto the spring pins.

Now, reinstall the nuts (NN) onto the spring pins.

Torque the nuts to the factory specification.

Repeat this procedure for the passenger's side.



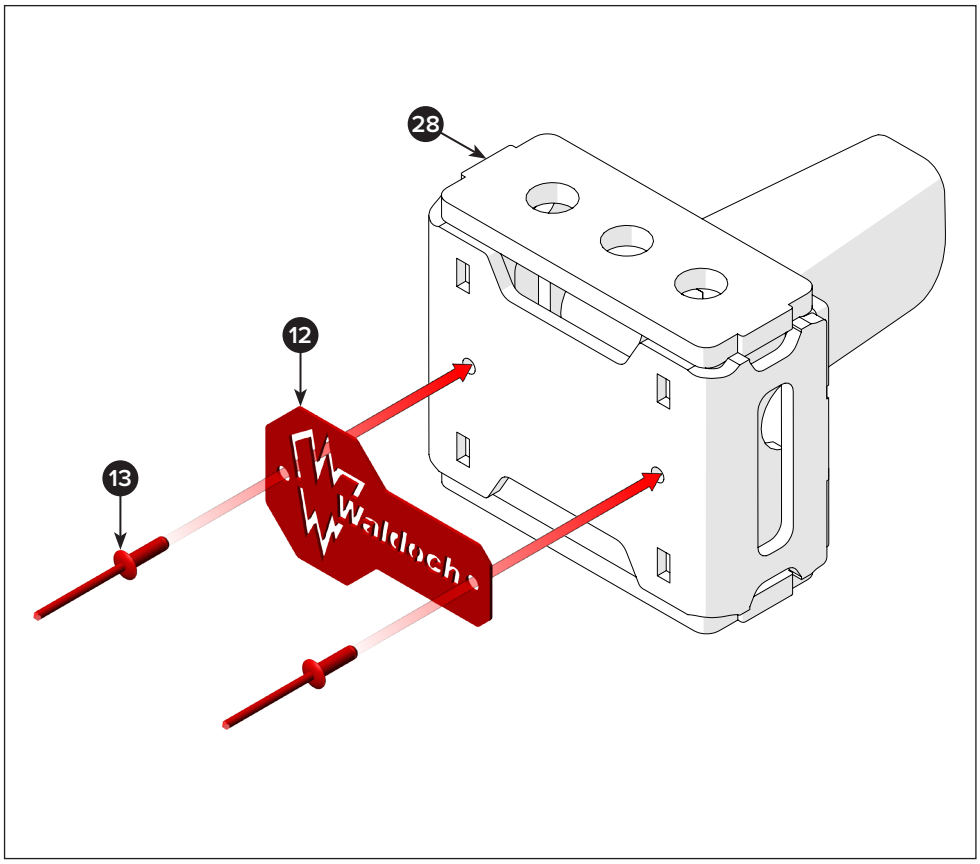

***Installer's Note:*** *The 4" rear lift blocks are identical and fit either side of the vehicle.*

*For correct nameplate orientation, make sure the rounded sides of the bump stop horns face upward and that the nameplates read upright before they are fastened to the lift blocks.*

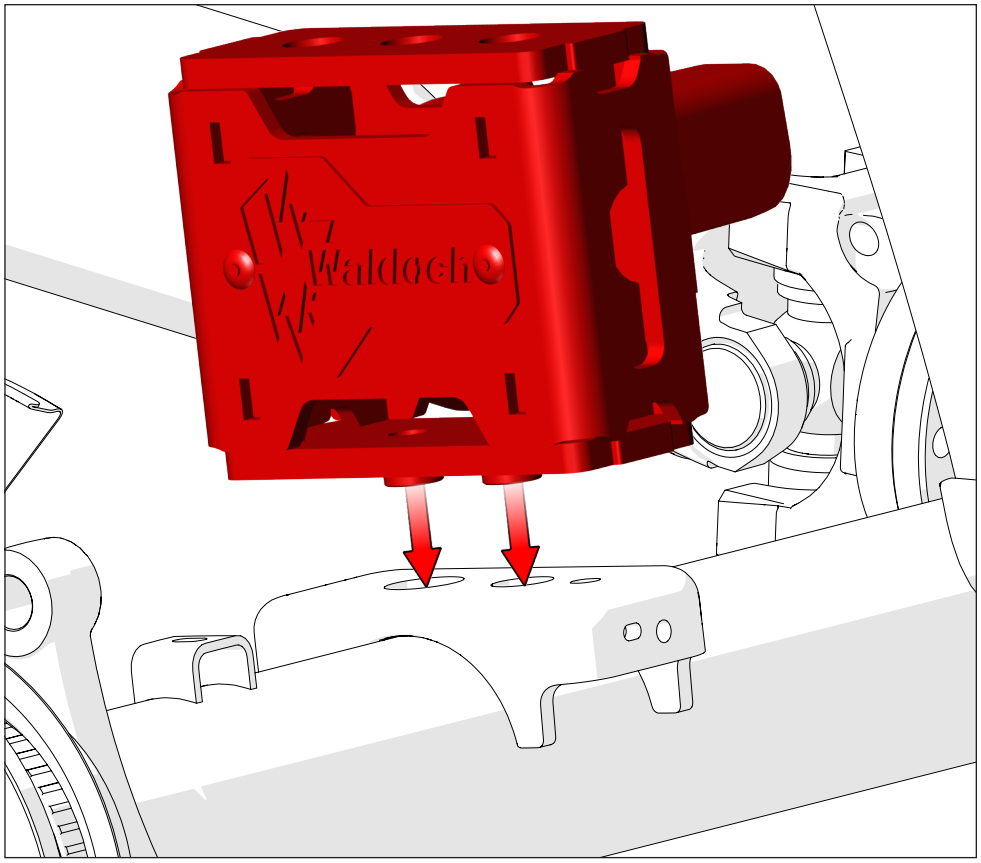
**35** First, orient a rear lift block (27) as shown.

Then, if desired, attach the branded nameplate (12) to the lift block with two 1/4" rivets (13).

Repeat this procedure for the remaining lift block.

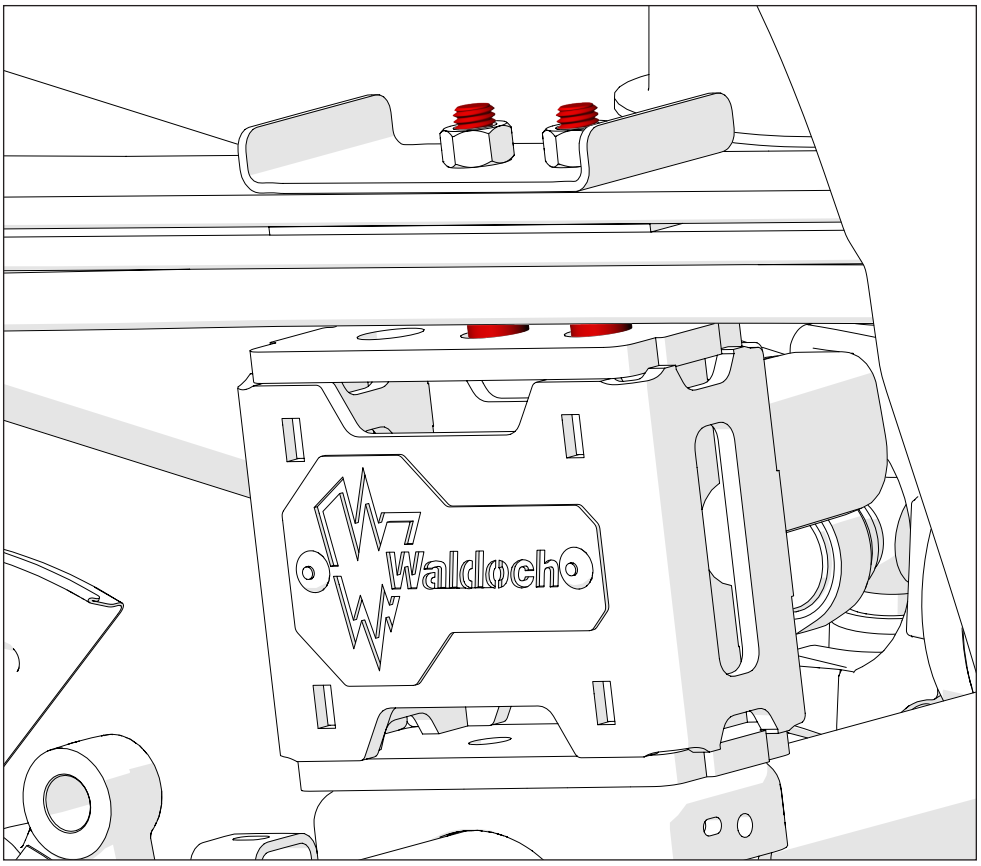


**63** Put the bottom pins on the lift blocks into the holes on the axle perches.




**64** Carefully lift the rear axle assembly until the leaf spring pins fit into the middle and rear holes in the lift blocks.

Make sure the passenger's side pins fit into the correct holes in the passenger's side lift block.



**65** Put the new U-Bolts (33) over the leaf spring bracket on each side of the axle.

Position the factory lower axle mount plate (MM) against the axle. Insert the U-Bolts through the plate.

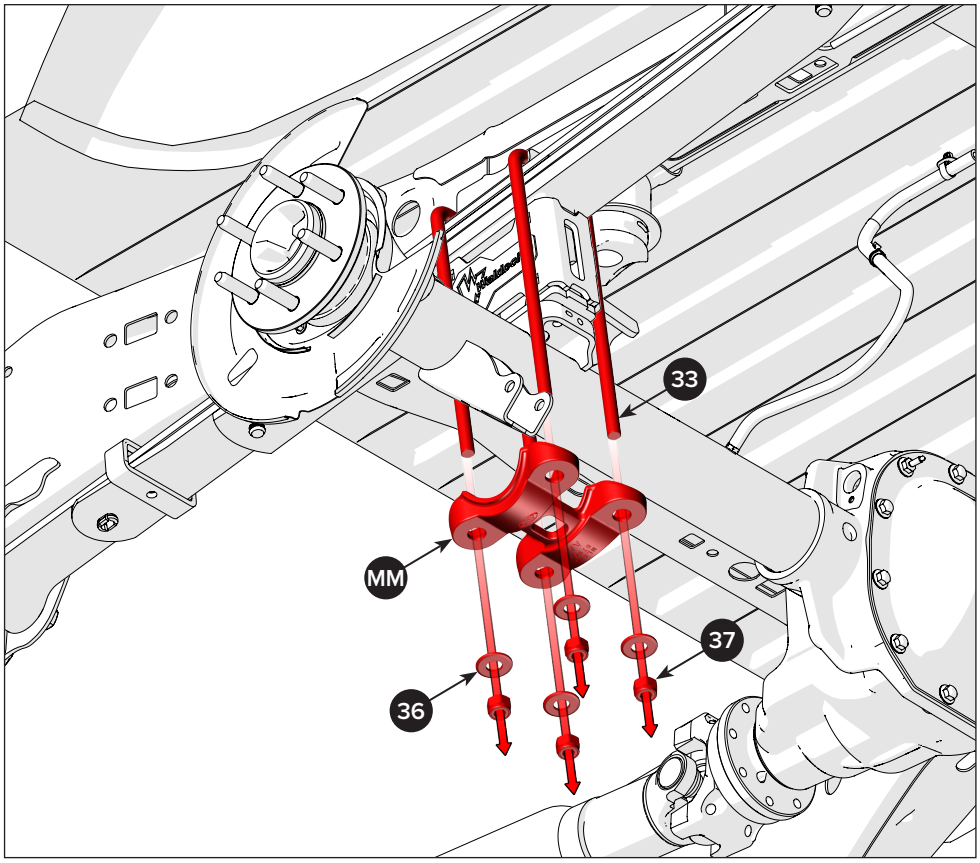
Attach the U-Bolts and mount plate to the axle with four 9/16” flat washers (36) and 9/16” Nylock nuts (37).

Do not tighten the nuts yet.

Repeat this procedure on the passenger side.

When both sides are assembled, torque the nuts as follows:

Step 1: 26 lb-ft
Step 2: 52 lb-ft
Step 3: 74 lb-ft
Step 4: 98 lb-ft

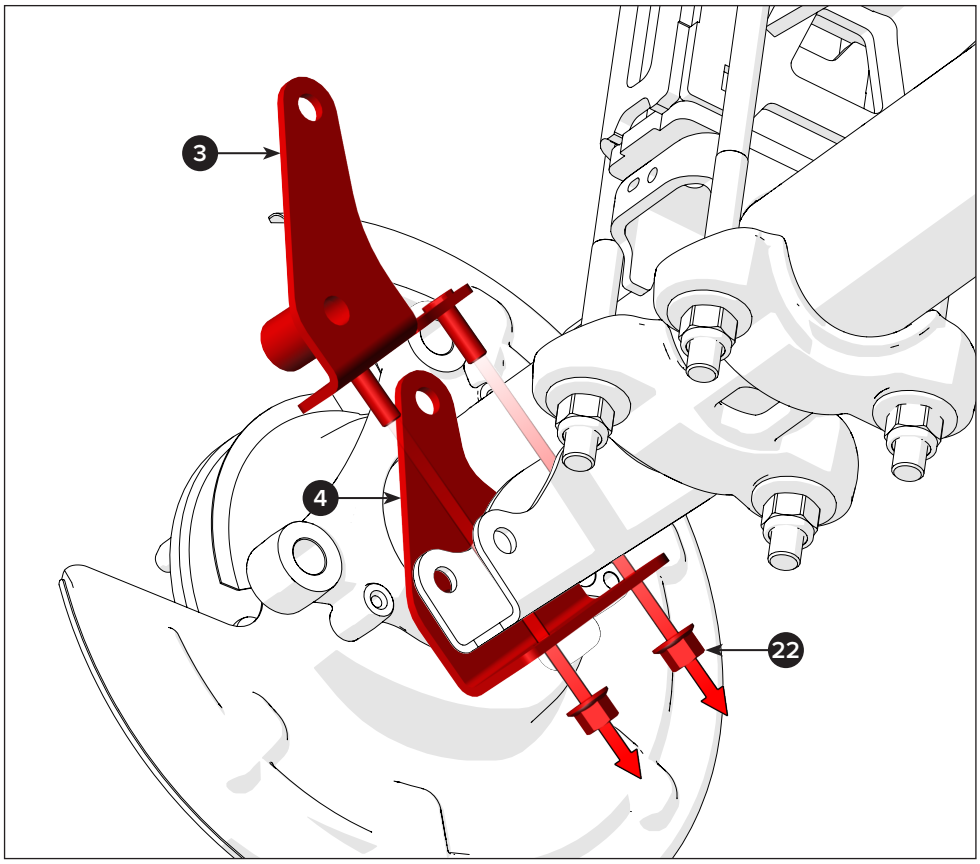



**66** Put the rear shock mount (3) under the axle’s shock mount.

Insert the rear outer shock mount (4) studs into the axle’s shock mount and through the rear shock mount.

Attach the shock mount assembly to the studs with two M10 Nylock flange nuts (22).

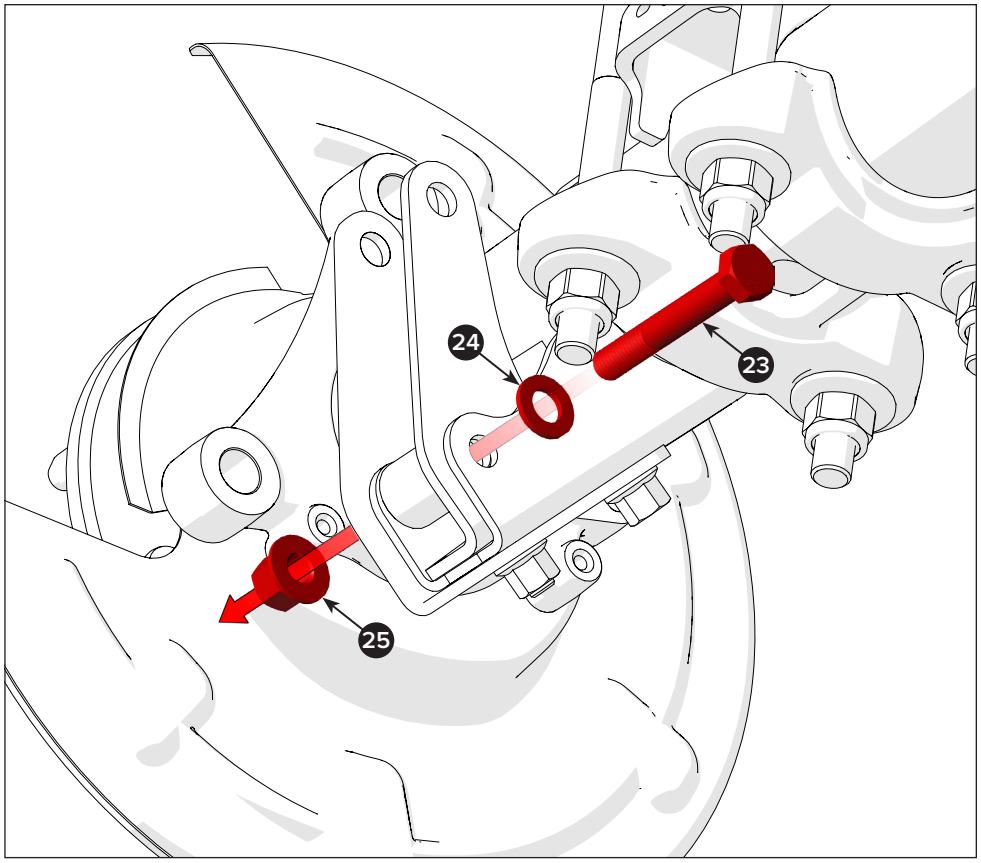
Do not tighten yet.



**67** Put one M12 x 80 mm bolt (23), M12 flat washer (24), and Nylock flange nut (25) through the axle as shown.

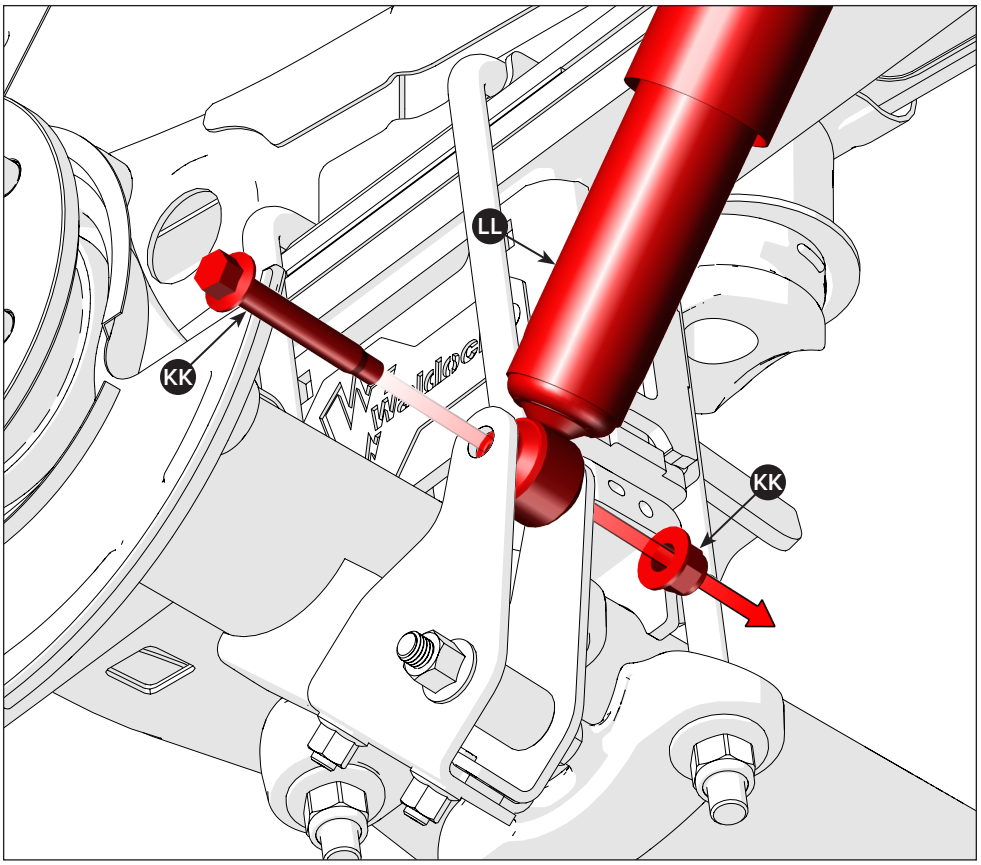
Torque the nut to XX lb-ft.

Now, torque the M10 nuts installed during step 68 to XX lb-ft.




**68** Put the rear shock (LL) removed during step 56 into the lower shock mount, as shown.

Now, attach the shock with the removed hardware (KK), but do not tighten it yet.



69 Fit the shock top into the frame pocket.

Finally, attach the shock to the frame with the removed hardware (KK).

Torque the upper and lower shock hardware to 65 lb-ft.

Repeat steps 66 through 69 to assemble the passenger's side shock mount and shock assembly.

Finally, align the vehicle to the manufacturer's specifications.