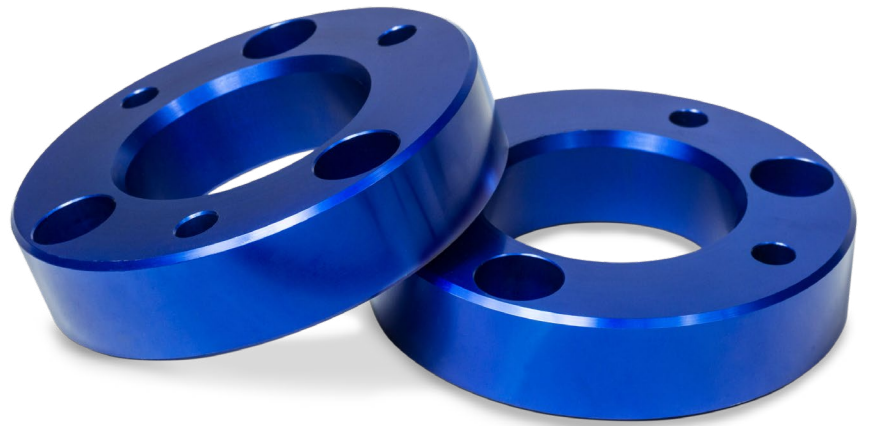


Installation Manual



10253 KIT

2" Leveling Kit

Ford F-150 (2WD/4WD)*
Excludes Raptor

Levels the stance of your vehicle by raising the front end a fixed amount, increasing both the ground and wheel well clearance for the installation of larger wheels.

Thank you and congratulations on the purchase of a leveling kit. Please read the manual (including "MULTIPLE INSTALLATION INSTRUCTIONS ENCLOSED" note on page 3) prior to starting the installation to ensure you can complete it once started.

KIT LAYOUT



KIT CONTENTS

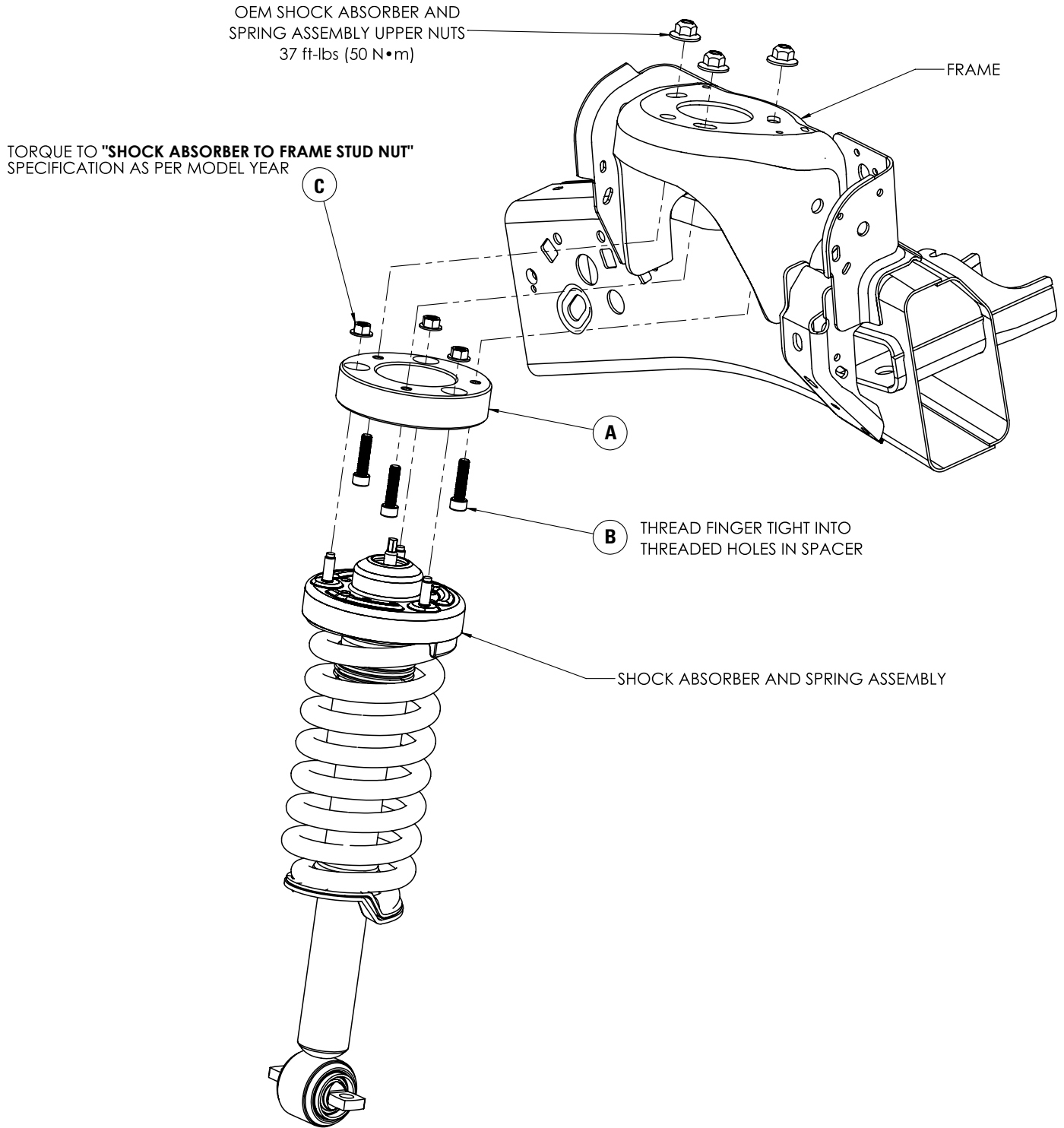
Please make sure all the items shown in the above kit layout are provided in your kit before starting the installation.

KIT CONTENTS			REQUIRED TOOLS	
	QTY	PART #		
A Spacer	2	HP1452 or HP1760	• Hoist or Floor Jack	
B Bolt, M10 – 1.5 X 40 mm Socket Head	6	HP1462	• Safety Stands	
C Nut, M10 – 1.5 Flange	6	HP1457	• Safety Glasses	
			• Standard Combination Wrenches	
			• Metric & Standard Sockets	
			• Torque Wrench	
			• Dead Blow Hammer	

WARNING: This product can expose you to the chemical Hexavalent Chromate, which is known to the State of California to cause cancer and birth defects or other reproductive harm. *For more information go to www.P65Warnings.ca.gov*

Please make sure all the items shown in this explosion diagram are provided in your kit before starting the installation.

KIT ASSEMBLY SHOWN:



OEM TORQUE SPECIFICATIONS:

MODEL YEAR	2004-2008	2009-2013	2014	2015-2020	2021
LOWER CONTROL ARM BALL STUD NUT	111 ft-lbs (150 N•m)		129 ft-lbs (175 N•m)	76 ft-lbs (103 N•m)	98 ft-lbs (133 N•m)
LOWER CONTROL ARM TO FRAME NUT	258 ft-lbs (350 N•m)				
UPPER CONTROL ARM BALL STUD NUT	85 ft-lbs (115 N•m)			46 ft-lbs (63 N•m)	
UPPER CONTROL ARM TO FRAME NUT	111 ft-lbs (150 N•m)			122 ft-lbs (165 N•m)	
TIE ROD BALL STUD NUT	111 ft-lbs (150 N•m) *	85 ft-lbs (115 N•m)		76 ft-lbs (103 N•m)	66 ft-lbs (90 N•m)
SHOCK ABSORBER TO FRAME STUD NUT	35 ft-lbs (48 N•m)	30 ft-lbs (40 N•m)	46 ft-lbs (63 N•m)	52 ft-lbs (70 N•m)	
SHOCK ABSORBER TO LOWER CONTROL ARM NUT	351 ft-lbs (475 N•m)	406 ft-lbs (550 N•m)	66 ft-lbs (90 N•m)		
STABILIZER SHAFT END LINK NUT	Upper Nut: 18 ft-lbs (25 N•m) Lower Nut: 66 ft-lbs (90 N•m)	59 ft-lbs (80 N•m)			111 ft-lbs (150 N•m)
STABILIZER SHAFT BRACKET BOLT	41 ft-lbs (55 N•m)		46 ft-lbs (63 N•m)		

* 2008 MODELS ONLY: TORQUE TIE ROD BALL STUD NUT TO 85 ft-lbs (115 N•m)

MULTIPLE INSTALLATION INSTRUCTIONS ENCLOSED:

PLEASE NOTE: *This installation manual covers multiple Ford F-150 model years.*

Please make sure to follow the correct installation instructions based on the year of your vehicle:

- **Installation for 2004 – 2014 Models:** ... *Proceed to Page 4*
- **Installation for 2015 – 2020 Models:** ... *Proceed to Page 7*
- **Installation for 2021+ Models:** ... *Proceed to Page 14*



BEFORE STARTING THE INSTALLATION:

Safety Warning!

Altering the suspension system of your vehicle may cause it to handle differently than it did from the factory. Larger wheel and tire combinations may increase the leverage on the suspension and steering components. This changes the way your vehicles handles and responds to abrupt maneuvers. Operate your vehicle at reduced speeds in all conditions to prevent loss of control. Failure to do so may result in serious injury. It is not recommend to combine the use of suspension lifts, body lifts, or other lifting methods.

Installation Warning!

Use caution when disassembling and reassembling the vehicle. The proceeding instructions are guidelines only, the installer is responsible for ensuring that the vehicle is safe for use after performing the installation. It is recommended to use the factory service manual for the model/year of the vehicle when disassembling and assembling factory related components.

Suspension components that use rubber or urethane bushings should be tightened with the vehicle at normal ride height. This will prevent premature wear or failure of the bushing. Prevent the suspension components from overextension by supporting them with a jack.

PLEASE NOTE: *Due to the suspension geometry and vehicle tolerances, the amount of lift is a base figure. **Spacer thickness does not equate to the amount of lift due to the suspension geometry.** For example: a 1" thick spacer may provide a 2" lift. Always measure the vehicle ride height at all 4 corners before and after installation to ensure the results are as expected.*

WHEEL ALIGNMENT AND HEADLIGHT ADJUSTMENT

It is necessary to have a proper and professional wheel alignment performed by a certified alignment technician to align the vehicle to factory specifications. After the installation is complete, check to ensure that the vehicle's headlights are aimed properly. If not, a headlight alignment is required.

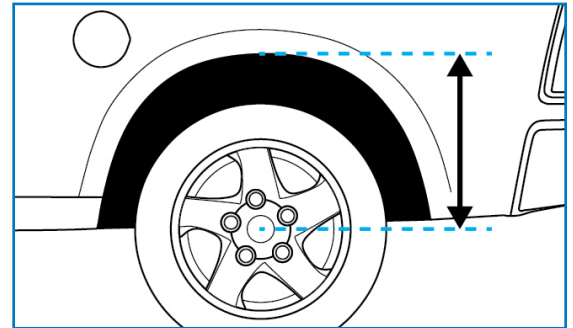


2004-2014 INSTALLATION**1 MEASURE STOCK RIDE HEIGHT**

Park the vehicle on a level surface.

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (as shown in Figure 1) this will give you your ride height.

Note the ride height for all four corners.



1

2 REMOVE FRONT WHEELS

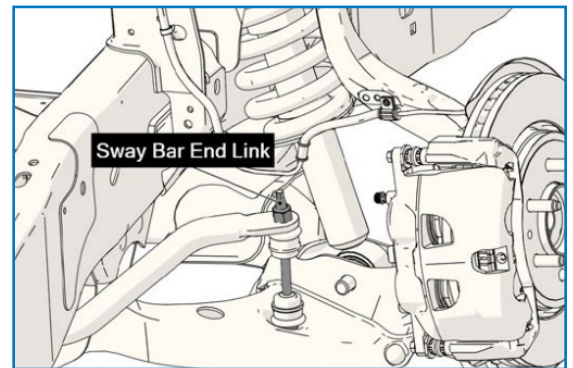
Place wheel chocks in front of and behind both rear wheels.

Raise front of the truck high enough to remove both wheels and attain a comfortable working height.

Place two jack stands under the vehicle's frame.

Lower vehicle until the frame is supported by the jack stands.

Remove front wheels with a 21 mm socket.



3

3 DISCONNECT SWAY BAR END LINKS

Remove the nut securing the sway bar end link to the sway bar and retain the nut.

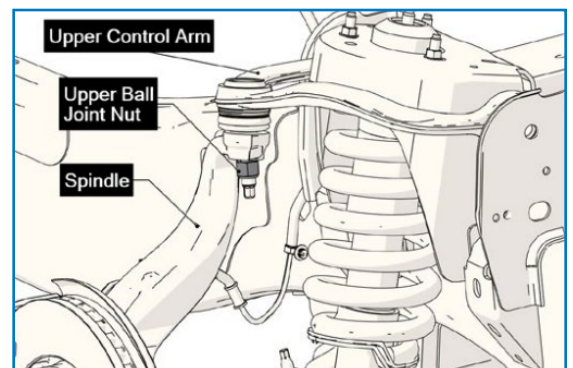
4 DISCONNECT UPPER CONTROL ARM

Loosen the nut securing the upper ball joint of the upper control arm (shown in Figure 4A), but do NOT fully remove.

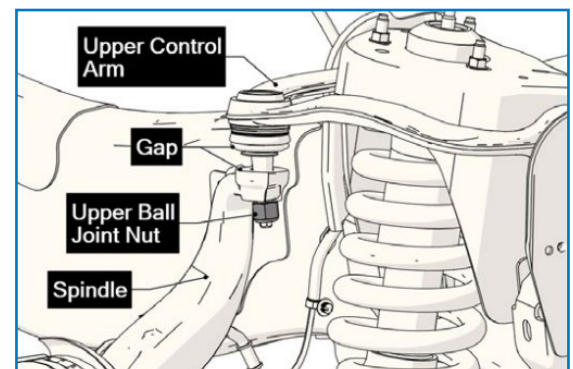
Strike the ball joint using a dead blow hammer to unseat it from the spindle.

When the joint is unseated (as shown in Figure 4B), support the lower control arm with a jack to prevent movement and remove the nut.

Retain nut for later use.



4A

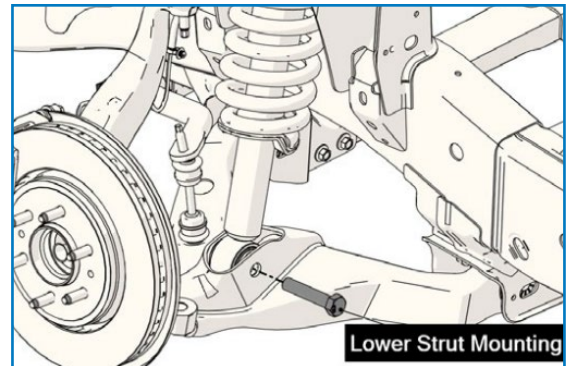


4B

5 REMOVE LOWER STRUT HARDWARE

Remove the bolt securing the strut to the lower control arm. (See Figure 5 for reference)

Retain hardware for later use.

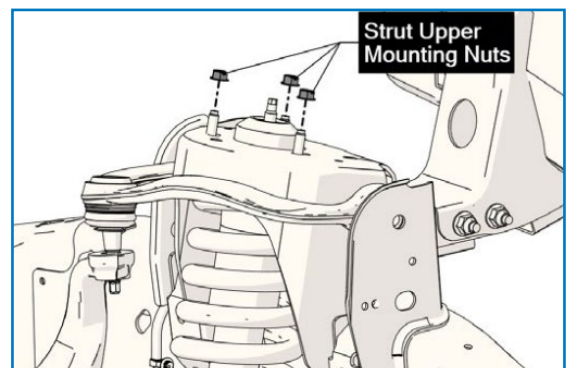


5

6 REMOVE UPPER STRUT HARDWARE

Remove the three nuts securing the strut to the vehicle frame (as shown in Figure 6).

Carefully lower the jack supporting the lower control arm until the strut can be removed from the vehicle.



6

7 INSTALL BILLET STRUT SPACER

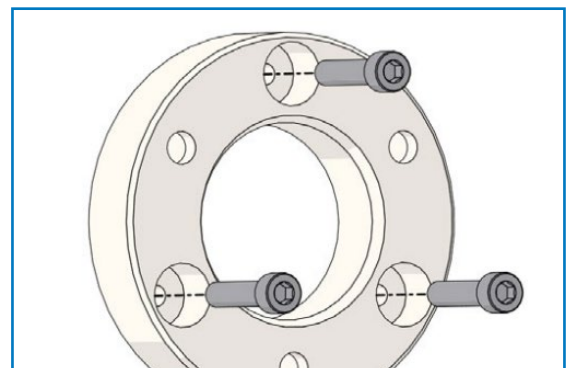
Thread the three M10 – 1.5 X 40 mm socket head bolts through the billet spacer (as shown in Figure 7A).

Tighten finger tight.

Place the spacer on the strut with the threaded bolts pointing upwards (as shown in Figure 7B).

Secure the spacer using the factory nuts which previously secured the strut assembly to the frame.

Torque the OEM nuts to the manufacturer's specifications (found on Page 4).



7A

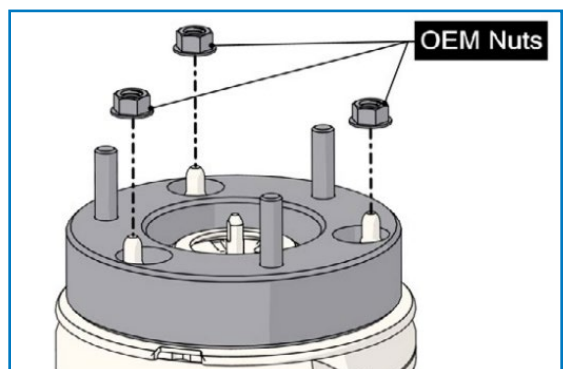
8 INSTALL STRUT ASSEMBLY

Insert the strut assembly into the vehicle.

Align the bolts protruding from the spacer and insert them through the holes in the frame which previously secured the upper strut. (See Figure 8 on following page for reference)

Attach three M10 – 1.5 flange nuts to the protruding studs.

Torque nuts to the manufacturer's specifications (found on Page 4).

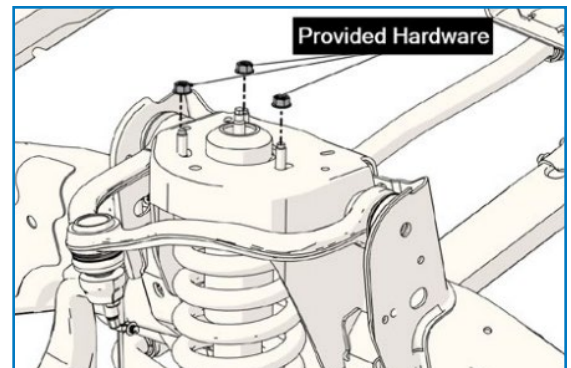


7B

9 INSTALL LOWER STRUT HARDWARE

Use the jack to raise the lower control arm and reinstall the lower strut mounting bolt previously removed in Step 5. (See Figure 9)

Torque OEM hardware to the manufacturer's specifications (found on Page 4).

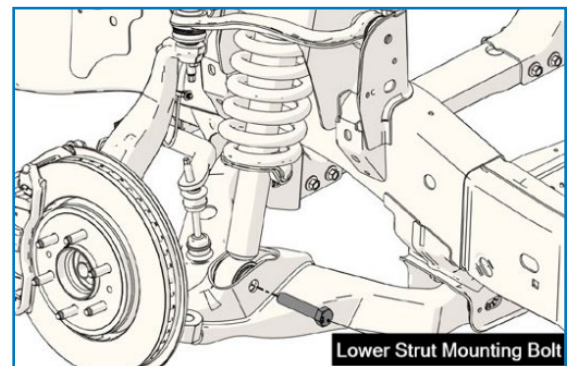


8

10 CONNECT UPPER CONTROL ARM

Install the factory nut to secure the upper control arm to the spindle.

Torque the OEM nut to the manufacturer's specifications (found on Page 4).

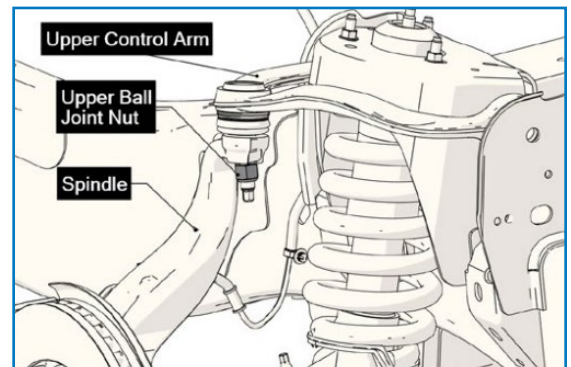


9

11 ATTACH SWAY BAR END LINK

Re-attach the sway bar end link to the sway bar using the removed factory nut.

Torque OEM nut to the manufacturer's specifications (found on Page 4).



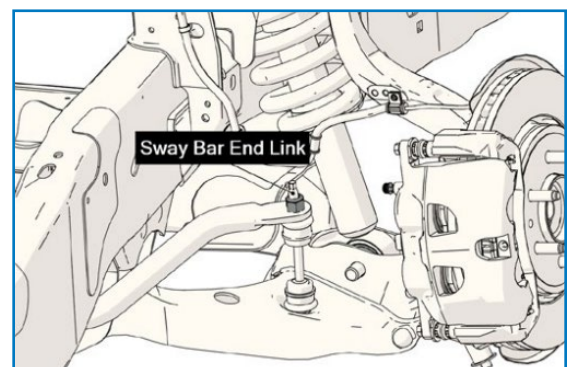
10

12 INSTALL WHEELS

Install the wheels on the vehicle hubs and secure with lug nuts.

Lower the vehicle onto the ground and evenly torque lug nuts to manufacturer specifications.

Continue to Page 18 for post installation info



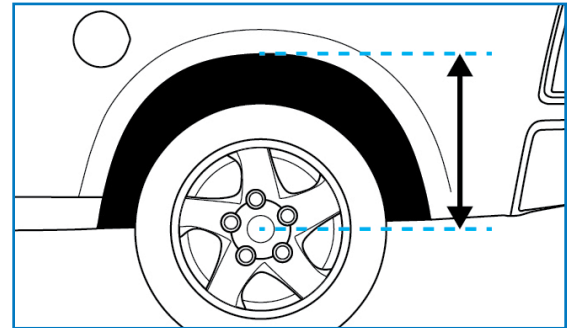
11

2015-2020 INSTALLATION**1 MEASURE STOCK RIDE HEIGHT**

Park the vehicle on a level surface.

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (as shown in Figure 1) this will give you your ride height.

Note the ride height for all four corners.



1

2 REMOVE FRONT WHEELS

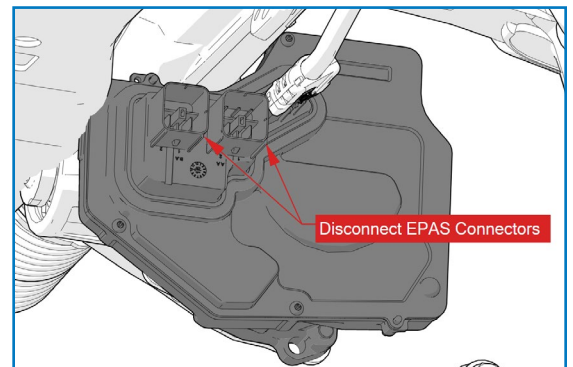
Place wheel chocks in front of and behind both rear wheels.

Raise front of the truck high enough to remove both wheels and attain a comfortable working height.

Place two jack stands under the vehicle's frame.

Lower vehicle until the frame is supported by the jack stands.

Remove front wheels with a 21mm socket.



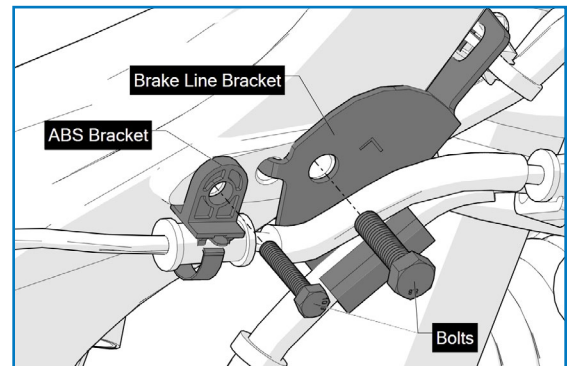
3

3 UNPLUG EPAS CONNECTORS

Remove the bolts securing the front skid plate to the frame cross member. Retain the bolts for later reinstallation.

Unplug the two connectors for the Electronic Power Assist Steering (EPAS) module (as shown in Figure 3).

Note: The EPAS module must be unplugged before beginning the installation. Damages to the module may occur due to electrical bridging caused by hammer strikes during the wheel hub removal process.



4

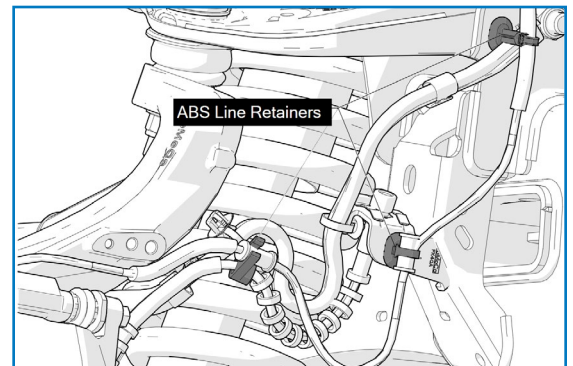
4 REMOVE ABS AND BRAKE LINE BRACKETS

Remove the ABS and brake line brackets from the knuckle by removing the two bolts securing their brackets.

Retain factory hardware for later use during reinstallation.

5 UNCLIP ABS LINE RETAINERS

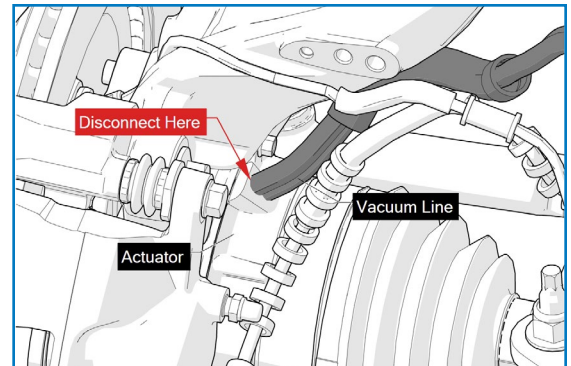
Unclip the indicated ABS line retainers (see Figure 5 for reference).



5

6 DISCONNECT VACUUM LINE

Carefully disconnect the vacuum line from the actuator. (See Figure 6)



6

7 REMOVE BRAKE CALIPER

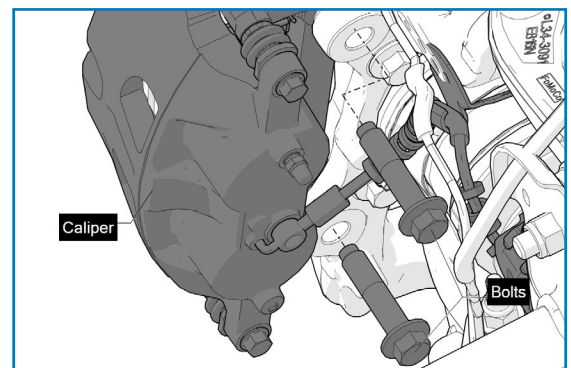
Remove the two bolts securing the brake caliper to the knuckle (as shown in Figure 7). Retain bolts for reinstallation.

Remove the caliper and secure it off to the side away from the suspension components.

NOTE: Do NOT hang caliper by the brake line hose. Doing so may cause damage to the hose or connection port.

Tie all loose brake lines away from the suspension to prevent any stretching or damage from occurring.

Remove the brake rotor and set aside.

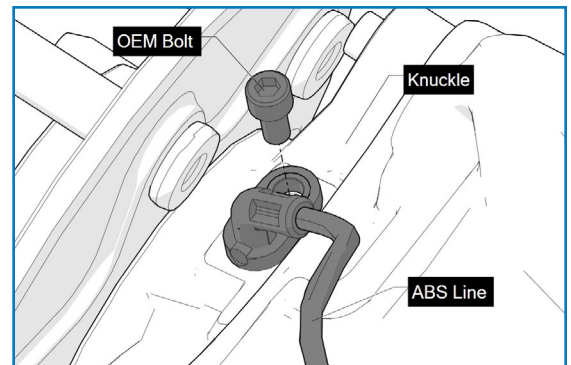


7

8 DISCONNECT ABS LINE

Disconnect the ABS line from the knuckle and retain factory hardware. (See Figure 8)

Tie the ABS line away from all suspension components to prevent any stretching or damage from occurring.



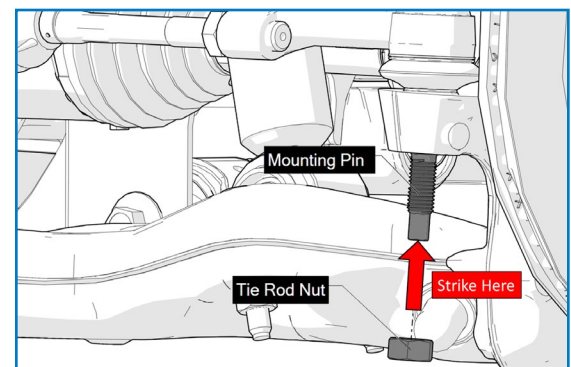
8

9 REMOVE TIE ROD

Place a jack under the lower control arm and slightly compress the suspension to support the knuckle.

Remove the nut securing the tie rod to the knuckle and retain the nut.

Use a dead blow hammer to strike the bottom of the tie rod mounting pin and remove it from the knuckle. (See Figure 9)



9

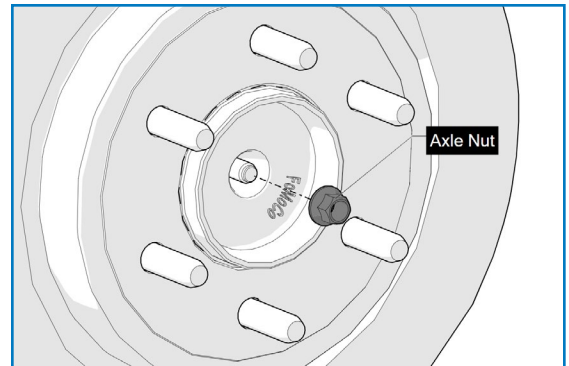
10 REMOVE AXLE NUT

Use a pair of pliers and carefully remove the cover protecting the axle nut.

Then, using a hand tool, remove the axle nut (see Figure 10).

⚠ WARNING:

Do NOT remove the axle nut with an impact tool. Doing so may damage the 4WD engagement system.



10

11 DETACH UPPER CONTROL ARM

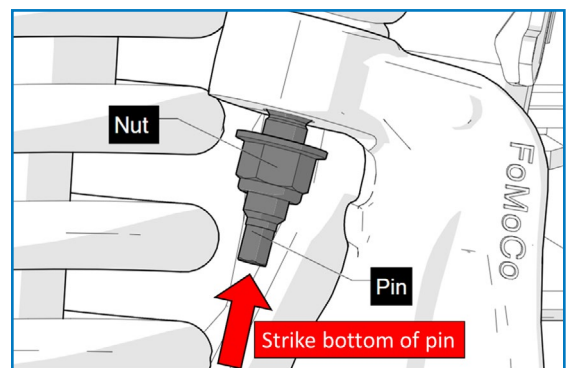
Loosen the nut securing the knuckle to the upper control arm, but do not fully remove.

Use a dead blow hammer to strike the mounting pin and release it from the knuckle (See Figure 11A).

Support the knuckle to prevent it from moving and fully remove the nut and control arm pin from the knuckle.

Carefully swing the knuckle outwards while pulling the axle out of the knuckle hub (as shown in Figure 11B).

PLEASE NOTE: Use extreme caution when removing the axle from the knuckle. The axle contains plastic components which are easily damaged or broken if forcibly removed.



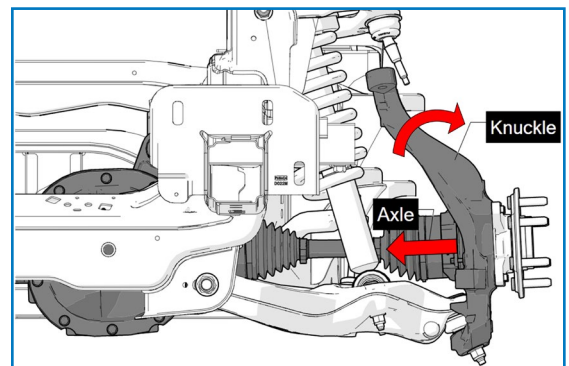
11A

12 DETACH SWAY BAR END LINK

Remove the nut securing the sway bar end link to the lower control arm (see Figure 12).

Pull the sway bar end link out of the lower control arm.

Retain nut for use during reinstallation.

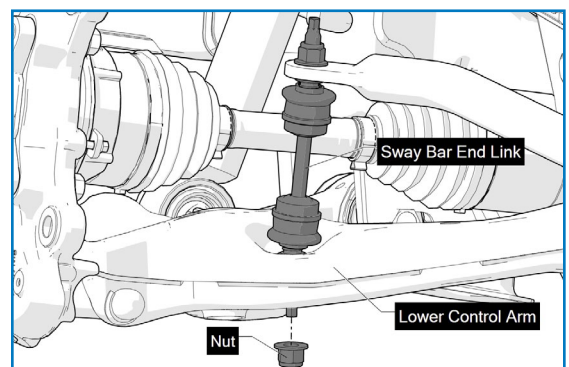


11B

13 REMOVE LOWER STRUT NUTS

Remove the two nuts securing the strut to the lower control arm.

Retain the nuts for use during reinstallation.



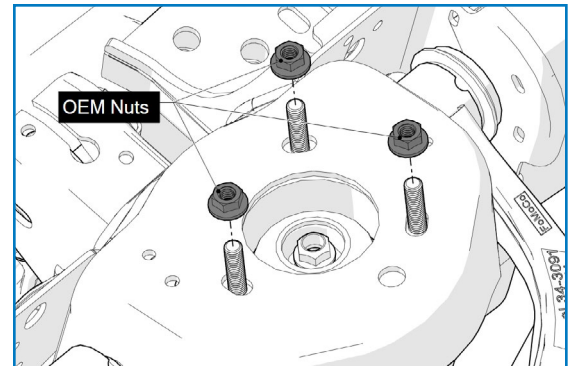
12

14 REMOVE UPPER STRUT NUTS

Remove the three nuts securing the strut to the frame (Figure 14A) and retain the nuts for use during spacer installation.

Lower the jack supporting the lower control arm to release pressure on the strut assembly.

Lower the control arm until the studs clear the mounting holes and the strut assembly can be fully removed. (See Figure 14B)



15 INSTALL BILLET STRUT SPACER

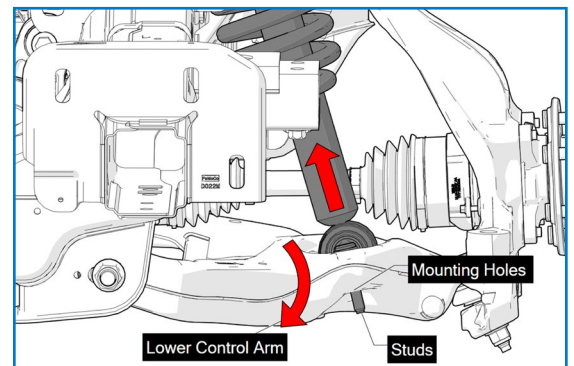
Thread the three provided M10 – 1.5 X 40 mm socket head bolts through the billet spacer (as shown in Figure 15A).

Tighten finger tight.

Place the spacer on the strut with the threaded bolts pointing upwards.

Secure the spacer using the three M10 – 1.5 flange nuts provided with the kit. (See Figure 15B)

Torque the provided nuts to the manufacturer's specifications (found on Page 4).



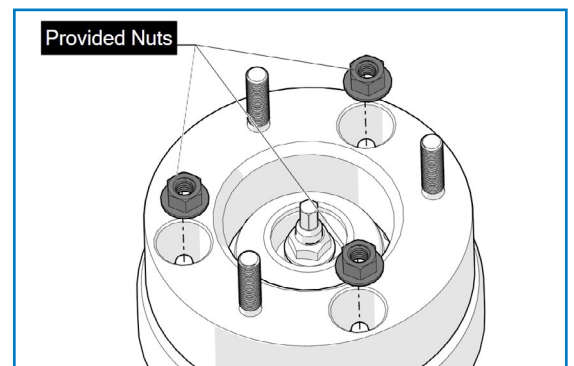
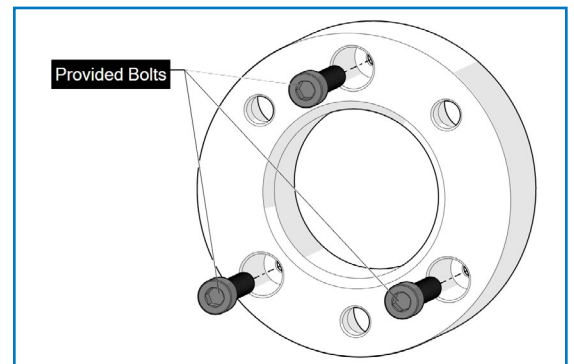
16 ROTATE LOWER STRUT STUDS

PLEASE NOTE: When the strut assembly is reinstalled in the vehicle, its orientation will be reversed by 180°.

The lower studs in the strut assembly must be realigned to allow for this orientation change.

Place the strut's lower studs in a soft grip vice.

Push on the top of the strut to rotate the studs to mirror their initial angle (see Figure 16 on following page).



17 INSTALL STRUT ASSEMBLY

Insert the strut assembly into the vehicle.

Align the bolts protruding from the spacer and insert them through the holes in the frame which previously secured the upper strut.

Attach the factory nuts which were removed in Step 14 to the studs.

Leave loose at this time.

Adjust the lower control arm and align the lower strut studs of the strut with their mounting holes.

Secure the strut to the lower control arm using the factory nuts previously removed in Step 13.

Torque the two lower nuts to the manufacturer's specifications (found on Page 4).

18 RE-ATTACH SWAY BAR END LINK

Insert the sway bar end link into its mounting hole in the lower control arm.

Secure using the factory nut previously removed in Step 12.

Torque OEM nut to the manufacturer's specifications (found on Page 4).

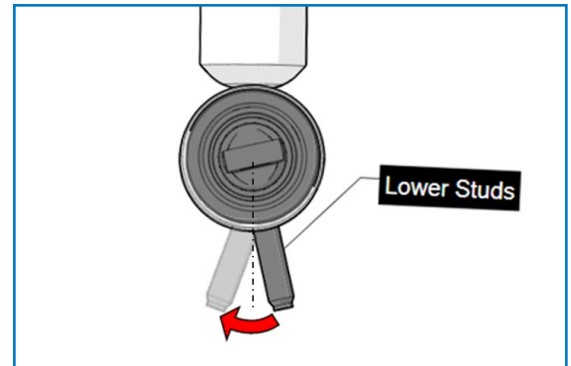
19 RE-ATTACH UPPER CONTROL ARM

Use a jack to lift the lower control arm and raise the knuckle towards the upper control arm.

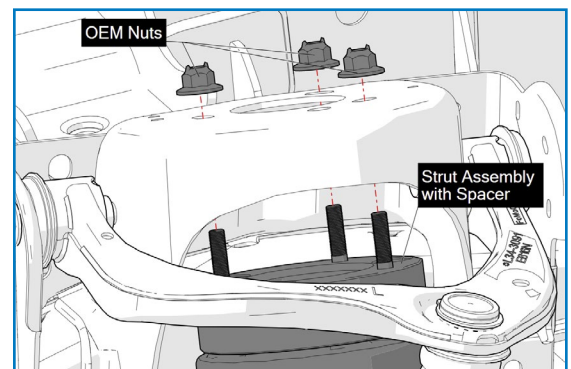
While raising the knuckle, carefully align the axle with the knuckle hub. **Use caution not to damage the vacuum actuator.**

Stop raising the knuckle when the upper control arm pin can be inserted and attached with the OEM nut.

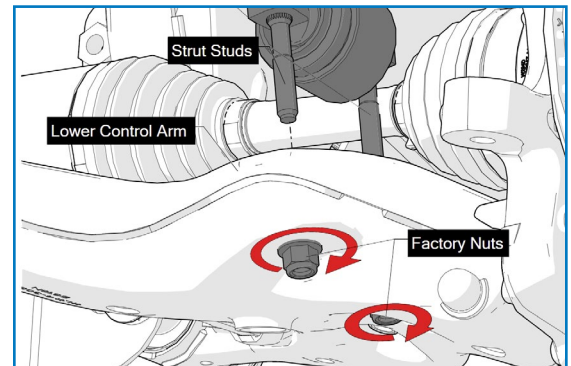
Install the factory nut previously removed in Step 11, and leave loose at this time.



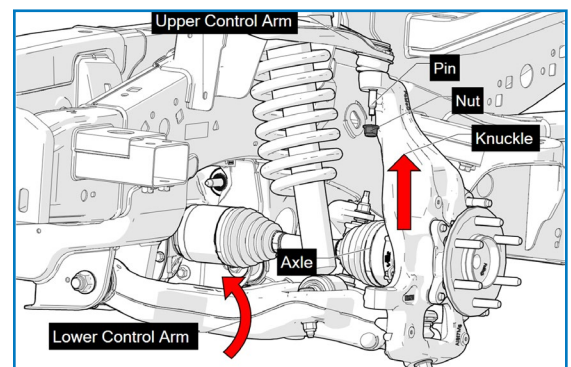
16



17A



17B



19

20 SEAT AXLE TO HUB ASSEMBLY

⚠ WARNING:

THIS STEP MUST BE PERFORMED WITH EXTREME CAUTION.

Damage to the 4WD vacuum actuator can easily occur if axle is not installed carefully or correctly seated.

Grab the axle and gently pull it towards the knuckle while rotating the hub assembly. (See Figure 20).

When the axle and hub splines are aligned, the axle will slide into the hub assembly.

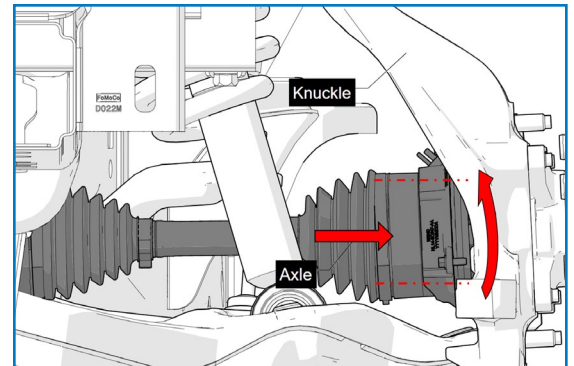
Continue to pull the axle while rotating the hub to fully seat the axle.

The shoulder of the axle bolt will be 2 mm under the axle nut mounting surface when fully seated.

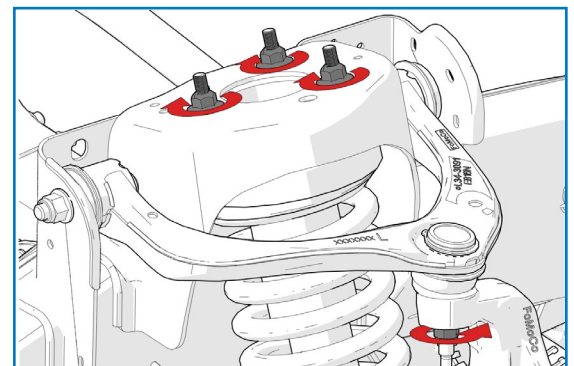
Attach the OEM axle nut and torque to the manufacturer's specifications (found on Page 4).

NOTE: Do NOT use an impact tool to install the axle nut. Damage to the 4WD actuation system may occur.

Re-install the factory axle nut cover.



20

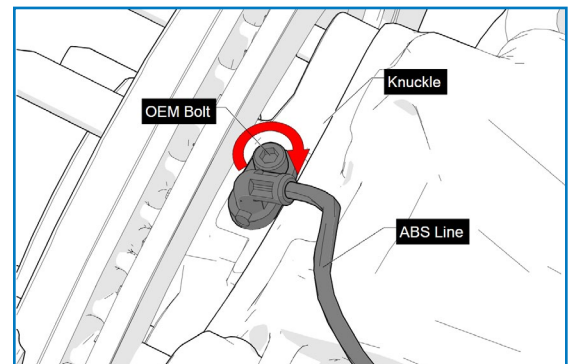


21

21 TORQUE SUSPENSION HARDWARE

Torque the factory nut securing the knuckle to the upper control arm to the manufacturer's specifications (found on Page 4).

Torque the three factory nuts securing the strut to the frame to the manufacturer's specifications (found on Page 4).

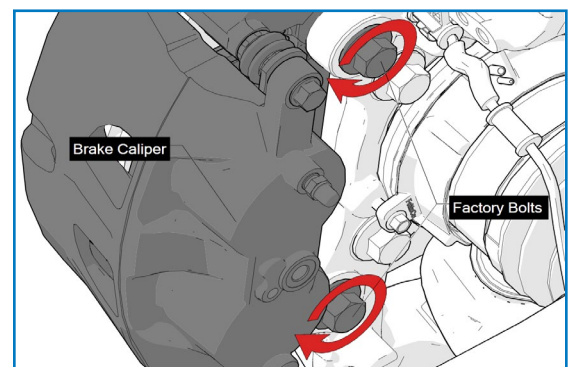


22

22 INSTALL ABS LINE TO KNUCKLE

Attach the ABS line to the knuckle with the factory hardware.

Torque OEM bolt to the manufacturer's specifications (found on Page 4).



23

23 INSTALL BRAKE CALIPERS

Place the brake rotor on the wheel hub and attach the brake calipers.

Secure the caliper assembly using the factory bolts previously removed in Step 7.

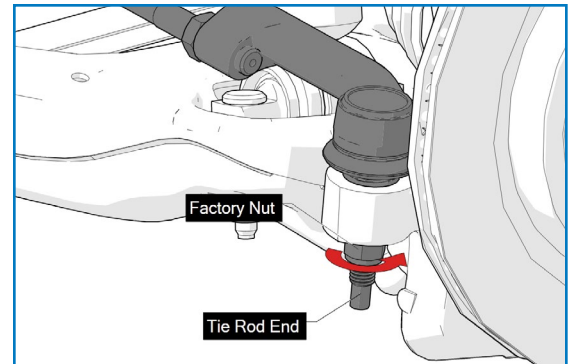
Torque OEM bolts to the manufacturer's specifications (found on Page 4).

24 INSTALL TIE ROD ENDS

Insert the tie rod ends into their mounting holes in the knuckle.

Secure using the factory nut removed in Step 9.

Torque OEM nut to the manufacturer's specifications (found on Page 4).



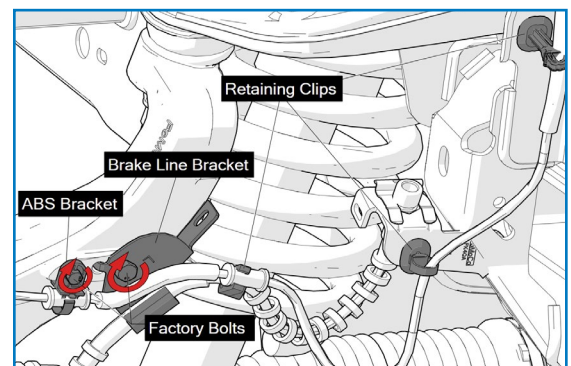
24

25 ATTACH ABS AND BRAKE LINES

Install the ABS and brake line brackets onto the knuckle using the factory bolts removed in Step 4.

Torque OEM bolts to the manufacturer's specifications (found on Page 4).

Secure the ABS line by reinstalling all removed retaining clips.



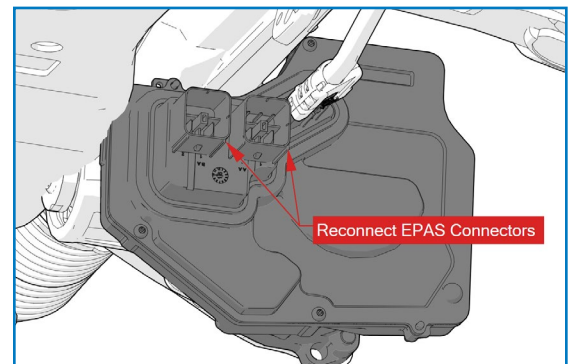
25

26 EPAS

Reconnect the two EPAS connectors removed in Step 3.

Install the removed skid plate using the factory bolts.

Torque OEM hardware to the manufacturer's specifications (found on Page 4).



26

27 INSTALL WHEELS

Install the wheels on the vehicle hubs and secure with lug nuts.

Lower the vehicle onto the ground and evenly torque lug nuts to manufacturer specifications.

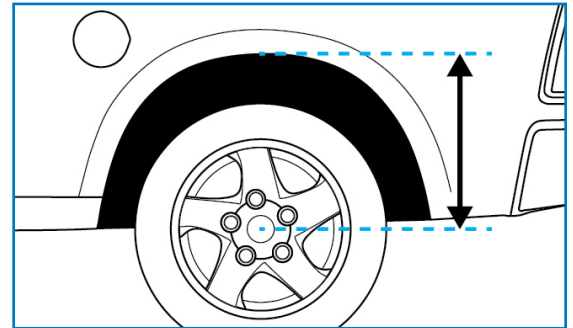
Continue to Page 18 for post installation info

2021+ INSTALLATION**1 MEASURE STOCK RIDE HEIGHT**

Park the vehicle on a level surface.

Using a measuring tape, measure the distance between the center of the wheel hub and the bottom of the fender well (as shown in Figure 1) this will give you your ride height.

Note the ride height for all four corners.



1

2 REMOVE FRONT WHEELS

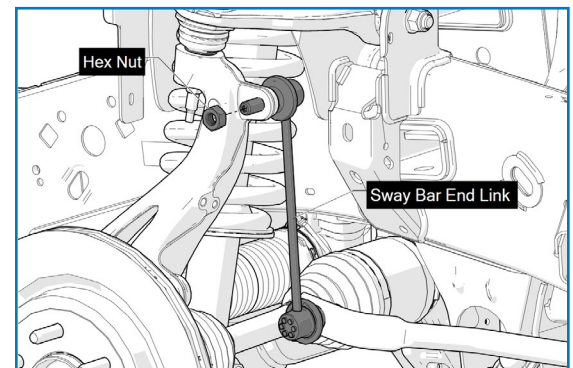
Place wheel chocks in front of and behind both rear wheels.

Raise front of the truck high enough to remove both wheels and attain a comfortable working height.

Place two jack stands under the vehicles frame.

Lower vehicle until the frame is supported by the jack stands.

Remove front wheels with a 21 mm socket.

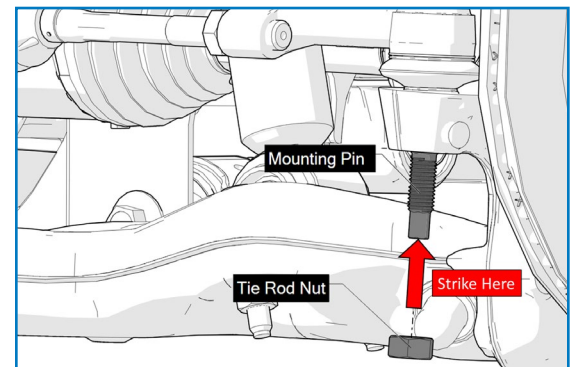


3

3 DETACH SWAY BAR END LINK

Remove the nut securing the sway bar end link to the knuckle (see Figure 3).

Pull the sway bar end link out of the knuckle and retain nut for use during reinstallation.



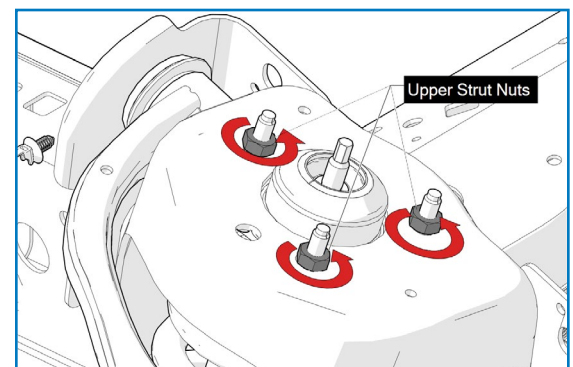
4

4 REMOVE TIE ROD

Place a jack under the lower control arm and slightly compress the suspension to support the knuckle.

Remove the nut securing the tie rod to the knuckle and retain the nut.

Use a dead blow hammer to strike the bottom of the tie rod mounting pin and remove it from the knuckle. (See Figure 4)



5

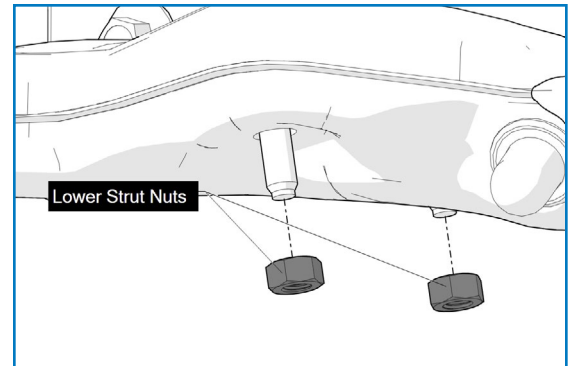
5 LOOSEN TOP STRUT NUTS

Loosen, but do not remove, the top strut nuts. (See Figure 5)

6 REMOVE LOWER STRUT NUTS

Remove the two nuts securing the strut to the lower control arm. (See Figure 6 for reference)

Retain the nuts for use during reinstallation.



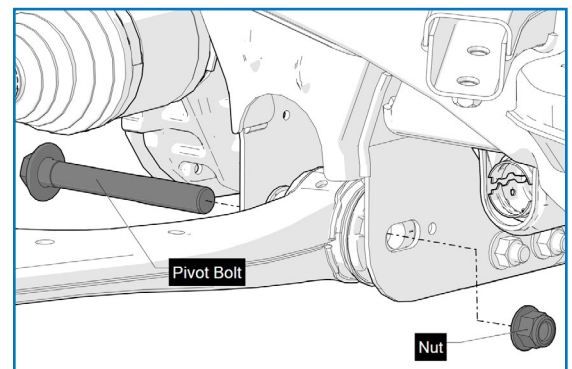
6

7 REMOVE LOWER CONTROL ARM BOLTS

Using a marker, mark a vertical line starting from the frame and going across the nut fastening each bolt on the lower control arm pivots.

Loosen and remove pivot bolts on the lower control arm (Figure 7).

Retain hardware for use during reinstallation.



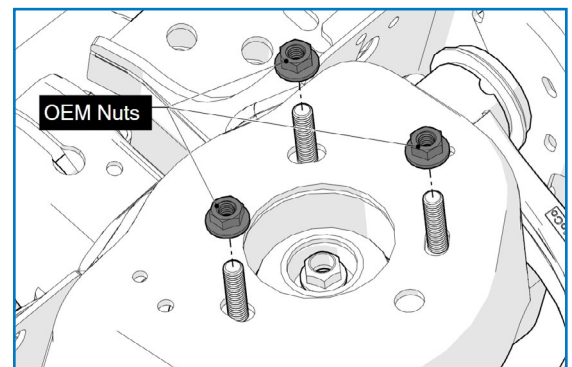
7

8 REMOVE STRUT ASSEMBLY

Remove the three nuts securing the strut to the frame (see Figure 8A) and retain the nuts for use during spacer reinstallation.

Lower the jack supporting the lower control arm to release pressure on the strut assembly.

Lower the control arm until the studs clear the mounting holes and the strut assembly can be fully removed (see Figure 8B).



8A

9 INSTALL BILLET STRUT SPACER

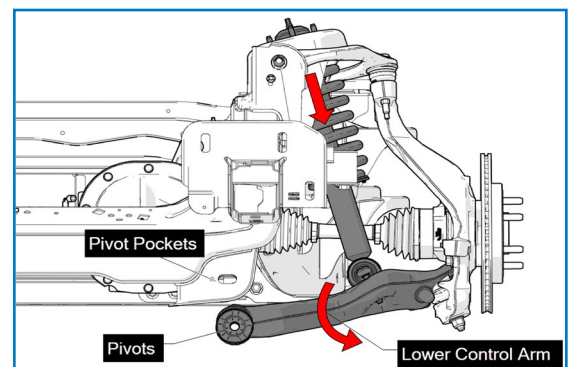
Thread the three M10 – 1.5 X 40 mm socket head bolts through the billet spacer (as shown in Figure 9A on following page).

Tighten finger tight.

Place the spacer on the strut with the threaded bolts pointing upwards (as shown in Figure 9B on following page).

Secure the spacer using the three M10 – 1.5 flange nuts provided with the kit.

Torque the provided nuts to the manufacturer's specifications (found on Page 4).



8B

10 INSTALL UPPER STRUT NUTS

Align bolts protruding from the strut assembly with holes on the frame (as shown in Figure 10).

Fasten the strut assembly to the frame using the factory nuts which were removed in Step 8.

Leave loose at this time.

11 STRUT INSTALLATION

Raise the lower control arm up while guiding the lower strut studs into place (Figure 11A).

Install factory nuts and torque to the manufacturer's specifications (found on Page 4), (as shown in Figure 11B on following page).

12 INSTALL LOWER CONTROL ARM PIVOT BOLTS

Use a jack to lift the lower control arm into frame side pivot pockets.

Place nuts into position with previously marked vertical lines on frame.

Adjust lower control arm such that holes on pivots align with these nuts.

Install pivot bolts.

Thread on nuts and leave loose at this time.

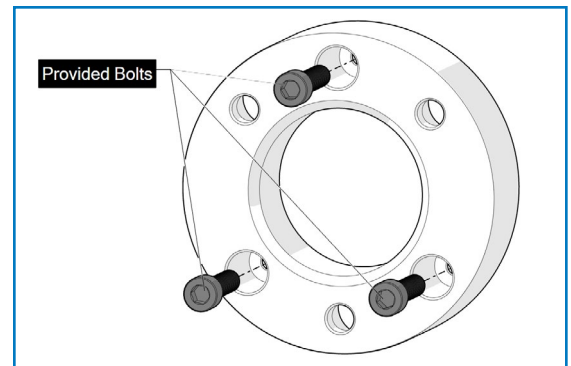
13 FASTEN TOP STRUT NUTS

Torque the three factory nuts securing the strut to the frame to the manufacturer's specifications (found on Page 4).

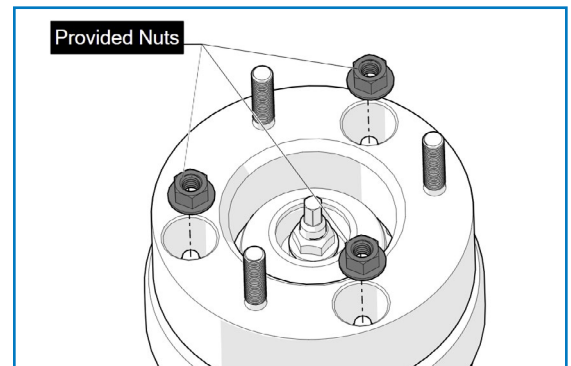
14 INSTALL TIE ROD END

Install the tie rod end into the knuckle using factory hardware.

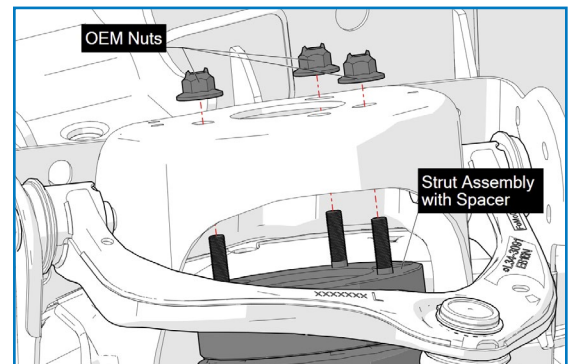
Torque the factory nut to the manufacturer's specifications (found on Page 4).



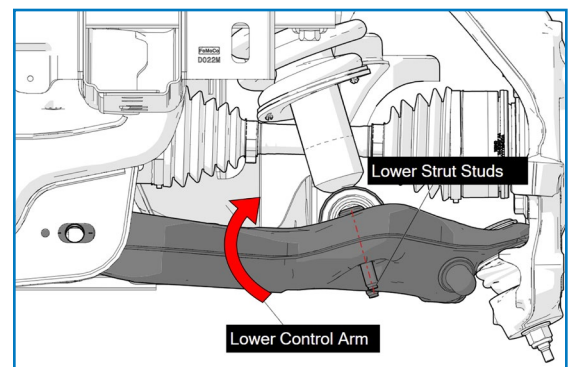
9A



9B



10



11A

15 INSTALL SWAY BAR END LINK

Install the sway bar end link into the knuckle using factory hardware.

Torque the factory nut to the manufacturer's specifications (found on Page 4).

16 INSTALL WHEELS

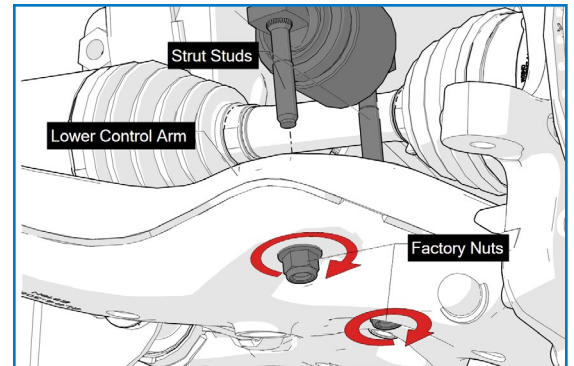
Install the wheels on the vehicle hubs and secure with lug nuts.

Lower the vehicle onto the ground and evenly torque lug nuts to manufacturer specifications.

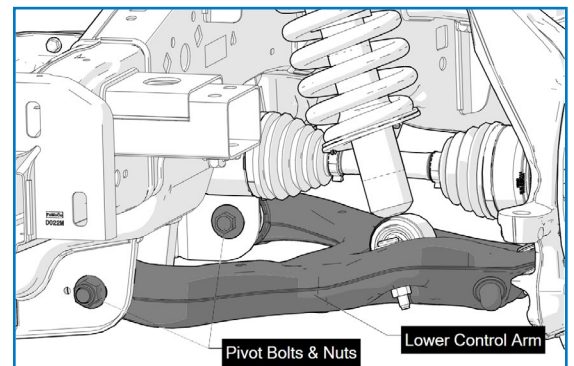
17 SETTLE SUSPENSION AND TORQUE

Jounce the vehicle to settle the suspension to the new ride height. Torque lower control arm bolts to the manufacturer's specifications (found on Page 4).

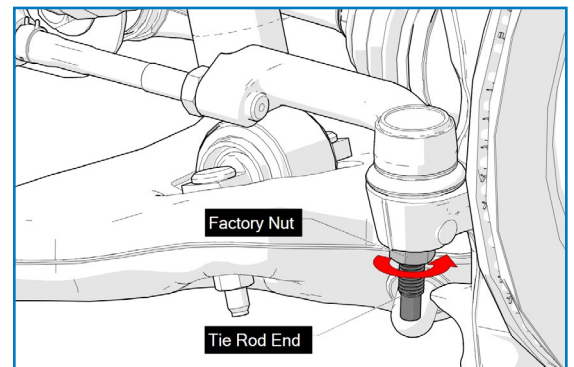
Continue to Page 18 for post installation info



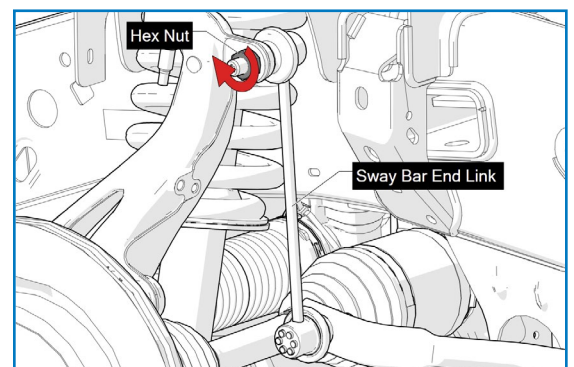
11B



12



14



15

POST INSTALLATION WARNING

After the kit installation is complete and the vehicle is on the ground at its normal ride height, roll the vehicle backward and forward to settle the suspension. Tighten all components containing rubber bushings to the specified torque values. Verify adequate tire, wheel, brake line and ABS wire clearance by turning the front wheels completely to the left and then to the right. Ensure brake/ABS lines are not stretched when the suspension is at full droop. Test and inspect steering, brake and suspension components. Vehicle damage may result if the post installation checks are not performed.

VEHICLE HANDLING WARNING

Larger wheel and tire combinations may increase the leverage on the suspension and steering components. Increasing the height of your vehicle increases the likelihood of rollover or loss of control during abrupt manoeuvres, especially at high speeds. Operate your vehicle at reduced speeds in all conditions to prevent loss of control. Failure to do so may result in serious injury.

WHEEL ALIGNMENT & HEADLIGHT ADJUSTMENT

After the kit installation is complete, a professional wheel alignment must be performed by a certified alignment technician to re-align the vehicle to within factory specifications. Additionally, ensure that the vehicles headlights are aimed properly. If not, a headlight alignment is required as well. If not properly aligned it can cause increased tire and suspension component wear.

VEHICLE RE-TORQUE & SAFETY INSPECTION

After the kit installation and adjustments have been completed and within 50 miles of driving, perform a check over of all applicable fasteners and hardware to ensure they are adequately tightened to the specifications given (or as noted in the vehicle's factory service manual).

WARRANTY

To be eligible for warranty, the owner must submit their warranty card or register online within 30 days of the purchase date.

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