



**Part Number: M-3429-WU**  
**Part Description: BRONCO RAPTOR HALF SHAFT KIT**  
**INSTALLATION INSTRUCTIONS**

NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT PRIOR AGREEMENT AND WRITTEN PERMISSION OF FORD PERFORMANCE PARTS.

ITTEN PERMISSION

Please visit [www.performanceparts.ford.com](http://www.performanceparts.ford.com) for the most current instruction information

**!!! PLEASE READ ALL OF THE FOLLOWING INSTRUCTIONS CAREFULLY PRIOR TO INSTALLATION.**

**AT ANY TIME YOU DO NOT UNDERSTAND THE INSTRUCTIONS, PLEASE CALL THE FORD PERFORMANCE TECHLINE AT 1-800-367-3788!!!**



**Kit Contents:**

<b>Quantity</b>	<b>Part Name</b>
1	LH Half Shaft
1	RH Half Shaft
2	Half Shaft Nut
2	Outer Shaft Bearing



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**NOTICE:** Suspension fasteners are critical parts that affect the performance of vital components and systems. Failure of these fasteners may result in major service expense. Use the same or equivalent parts if replacement is necessary. Do not use a replacement part of lesser quality or substitute design. Tighten fasteners as specified.


**NOTE:** *Removal steps in this procedure may contain installation details.*

### Vehicle with Electric Brake Booster

Step 1:     Activate the brake service mode.

#### Activation

 **WARNING:** Service actions on vehicles equipped with electronic parking brakes may cause unexpected parking brake application, which could result in injury to hands or fingers. Put the electronic parking brake system into service mode prior to servicing or removing rear brake components. Failure to follow this instruction may result in serious personal injury.

 **WARNING:** Service actions on vehicles equipped with electronic brake booster without activating the brake system service mode may result in unexpected hydraulic brake application or a false leak detection DTC. This will significantly reduce the performance of the brake system. Failure to follow this instruction may result in serious personal injury.

**NOTE:** *Brake service mode is also known as brake maintenance mode.*

**NOTE:** *Prior to carrying out the brake service mode activation steps below, clear all EPB and EBB related DTC's.*

**NOTE:** *Carry out the following service mode activation procedure to deactivate the EPB and EBB systems. The EPB and EBB system can also be deactivated using the diagnostic scan tool and following the on-screen instructions.*

**NOTE:** *This mode is required to deactivate the brake boost and to allow the entire brake system to be bled manually.*

**NOTE:** *This mode will cause all the associated brake warning indicators and text messages to appear.*

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- 1a. Set the ignition to ON.
- 1b. Release the EPB.
- 1c. Press and hold the accelerator pedal and place the EPB switch to the RELEASE (downward) position. Continue to hold the accelerator pedal and EPB switch.
- 1d. Set the ignition to OFF then set the ignition to ON **within 5 seconds**. Continue to hold the accelerator pedal and the EPB switch.
- 1e. Set the ignition to OFF then release the accelerator pedal and EPB switch.
  - **NOTE:** *The brake system will be deactivated, preventing brake application until service has been completed and service mode has been deactivated. The yellow EPB indicator will be illuminated, and Maintenance Mode will display on the message center.*
  - **NOTE:** *When replacing brake pads in service mode, the brake caliper piston must be compressed into the caliper housing. The brake caliper piston does not have to be rotated while compressing the piston.*

**NOTICE: Disconnect the battery ground cable anytime the steering linkage is being serviced or damage to the steering gear may occur resulting in steering gear replacement.**

Step 2: Disconnect the battery negative cable.

Step 3: With the vehicle in NEUTRAL, position it on a hoist.

**NOTICE: If equipped with full wheel cover with exposed wheel nuts, the wheel nuts must be removed prior to removing the wheel cover or damage to the wheel cover will occur.**



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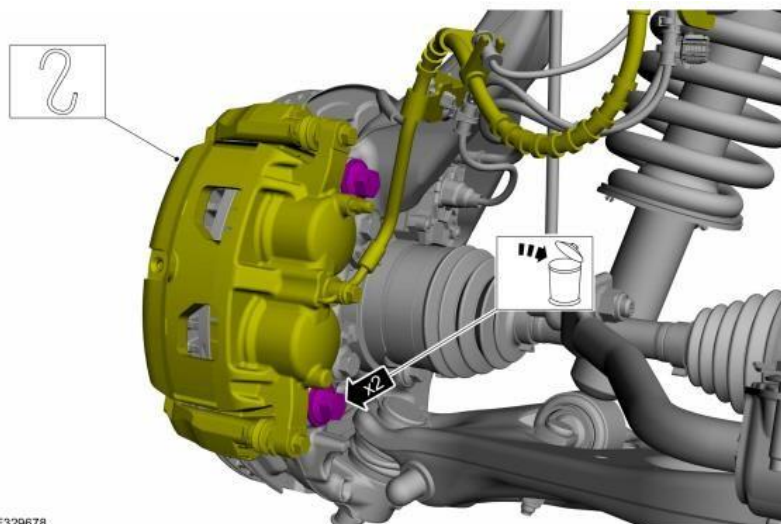
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Step 4: Remove the wheel nuts.



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Step 5: Remove the 2 anchor plate bolts and position the brake caliper and anchor plate assembly aside. Discard the bolts. *Torque: 184 lb.ft (250 Nm)*



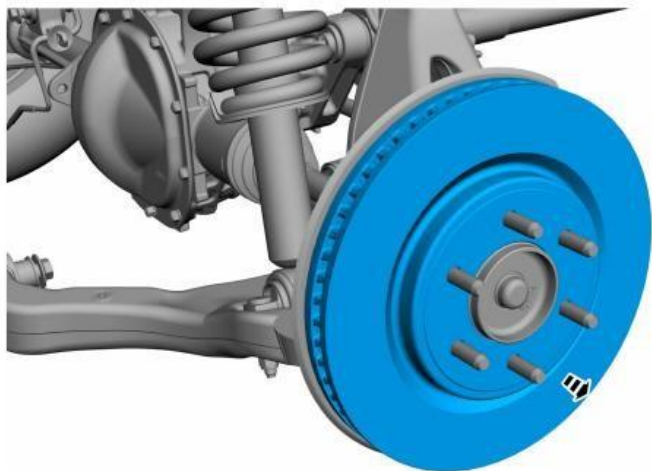
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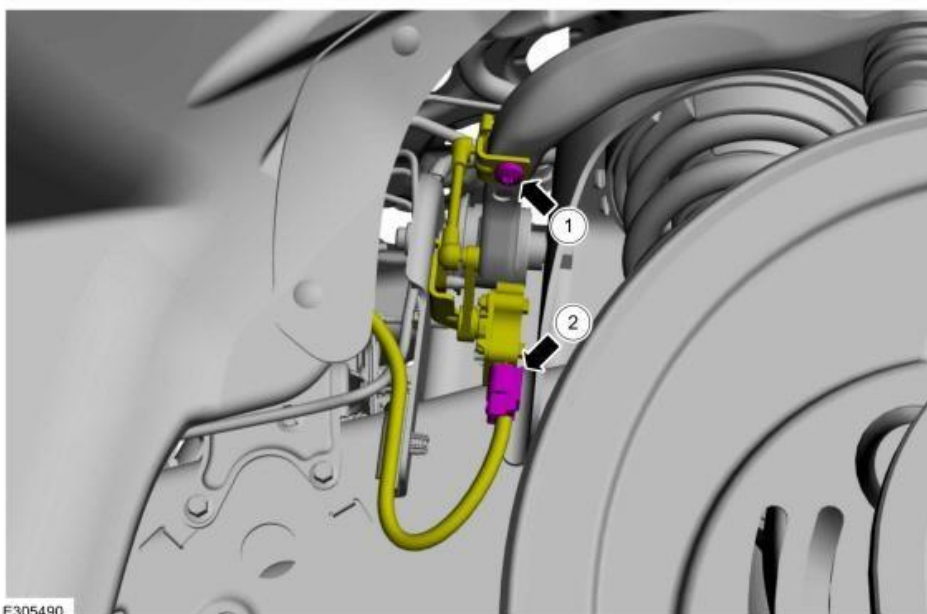
Step 6: Remove the brake disc.



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Step 7:

- 1: Remove the height sensor arm bracket screw. *Torque: 177 lb.in (20 Nm)*
- 2: Disconnect the height sensor connector and keep aside the height sensor arm bracket.



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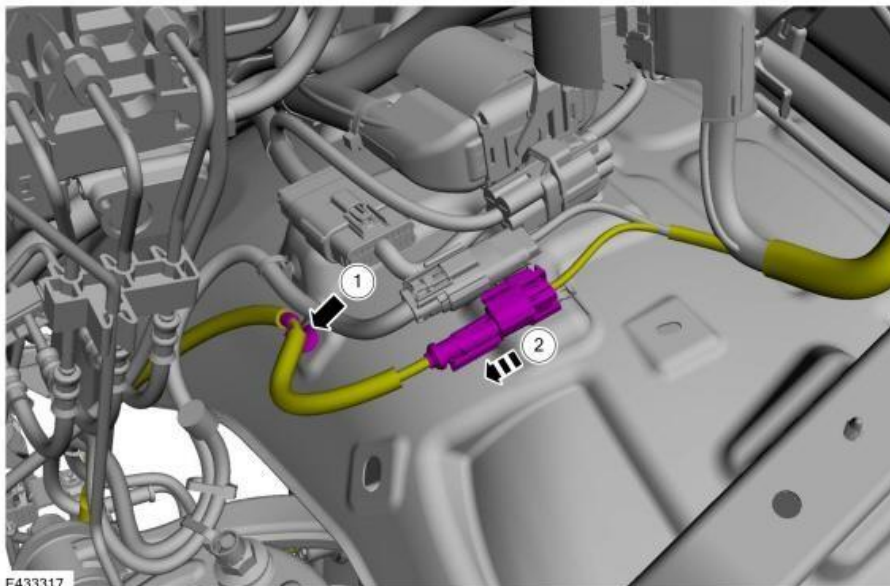


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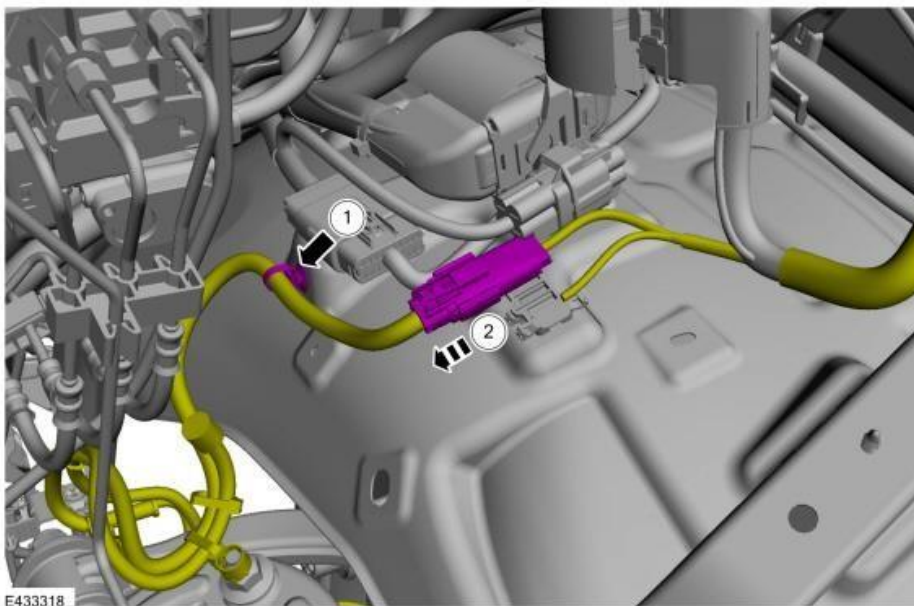
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- Step 8:
- 1: Detach the wheel speed sensor harness retainer.
  - 2: Disconnect the wheel speed sensor harness and position the harness aside.



- Step 9:
- 1: Detach the IWE harness retainer.
  - 2: Disconnect the IWE harness and position the harness aside.

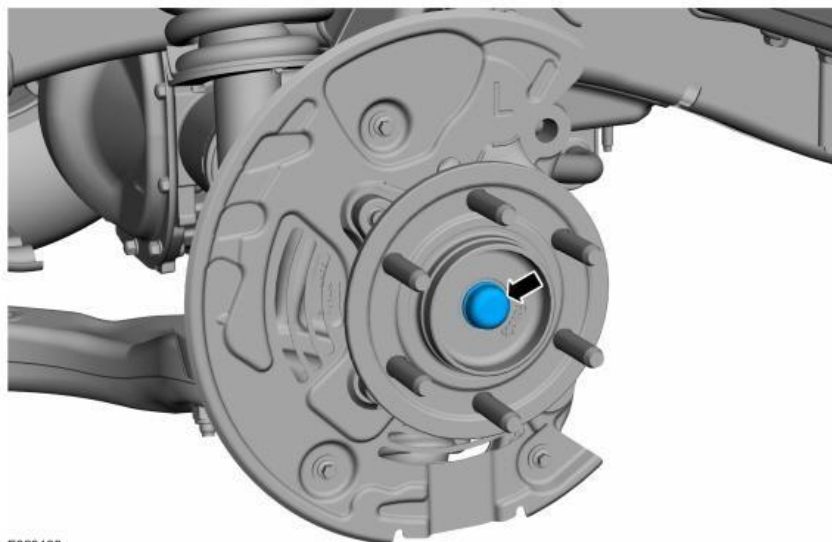


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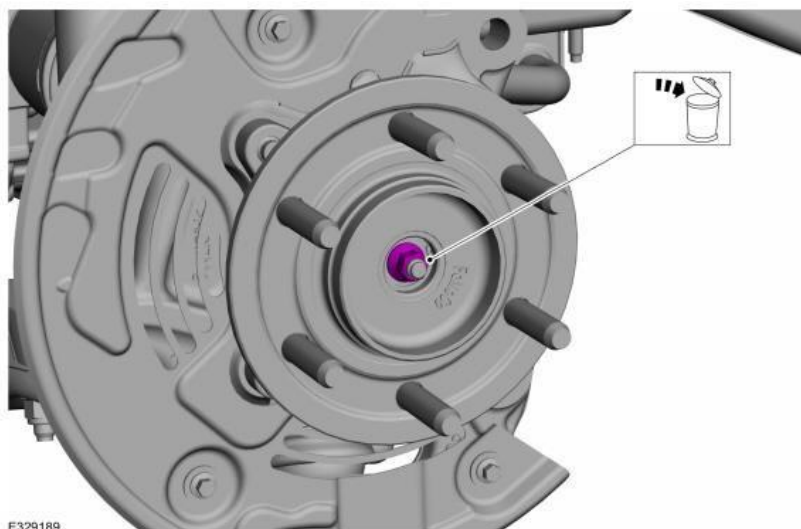
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Step 10: Remove the wheel hub nut dust cap.



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Step 11: Remove and discard the wheel hub nut. *Torque: 30 lb.ft (40 Nm)*



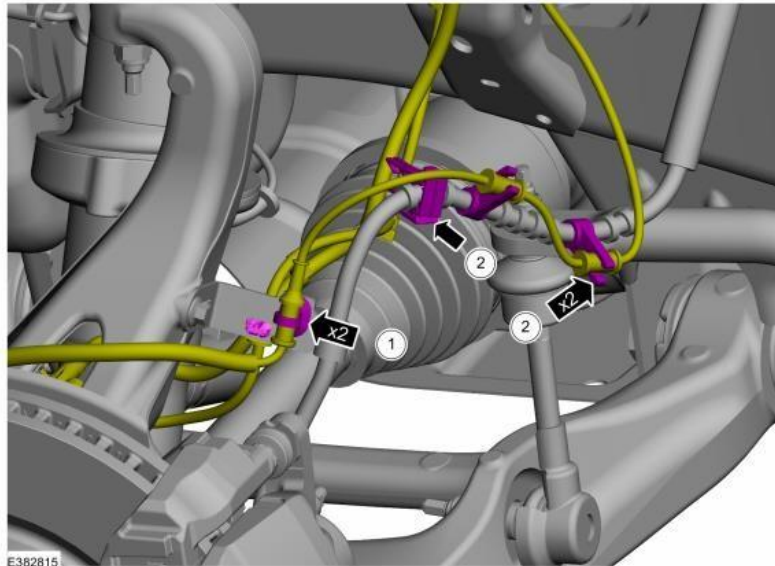
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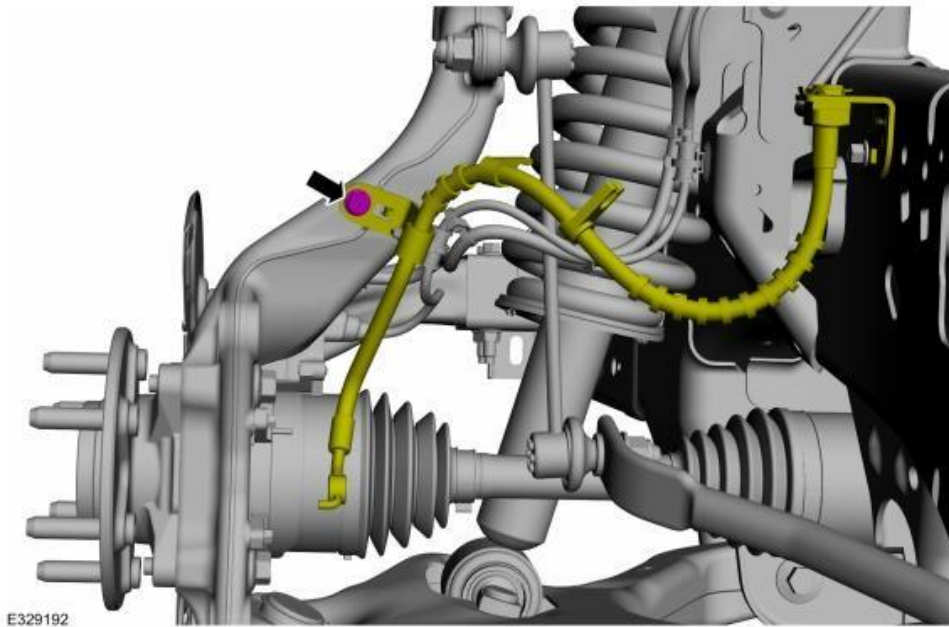
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- Step 12:
- 1: Unclip the wheel speed sensor and IWE (integrated wheel end) harness from the brake hose.
  - 2: Detach the wheel speed sensor and IWE wiring retainers.



- Step 13: Remove the flexible brake hose bracket bolt and position the flexible brake hose aside. *Torque:* 22 lb.ft (30 Nm)



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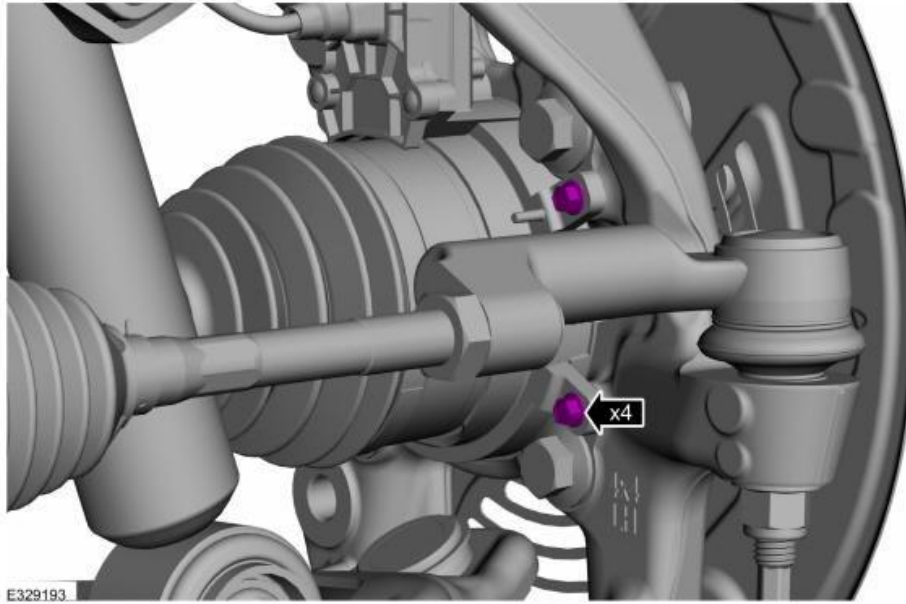


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step 14: Remove the IWE bolts. *Torque: 106 lb.in (12 Nm)*



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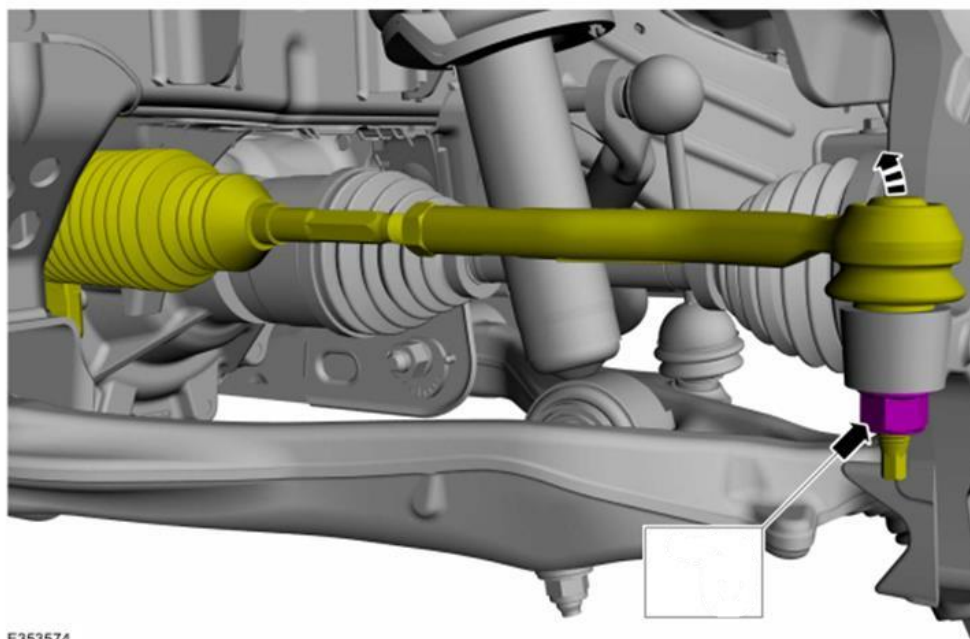
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Step 15: **NOTICE: Do not use a hammer to separate the outer tie-rod end from the wheel knuckle or damage to the wheel knuckle may result.**

**NOTICE: Use care when installing the tie rod separator or damage to the outer tierod end boot may occur.**

**NOTE: Use the hex-holding feature to prevent the stud from turning while removing the nut.**

Remove the tie rod end nut and separate the tie rod end from the wheel knuckle. Use the General Equipment: Tie Rod End Remover *Torque: 66 lb.ft (90 Nm)*



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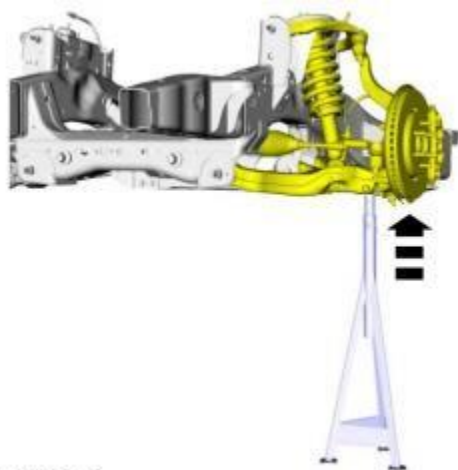
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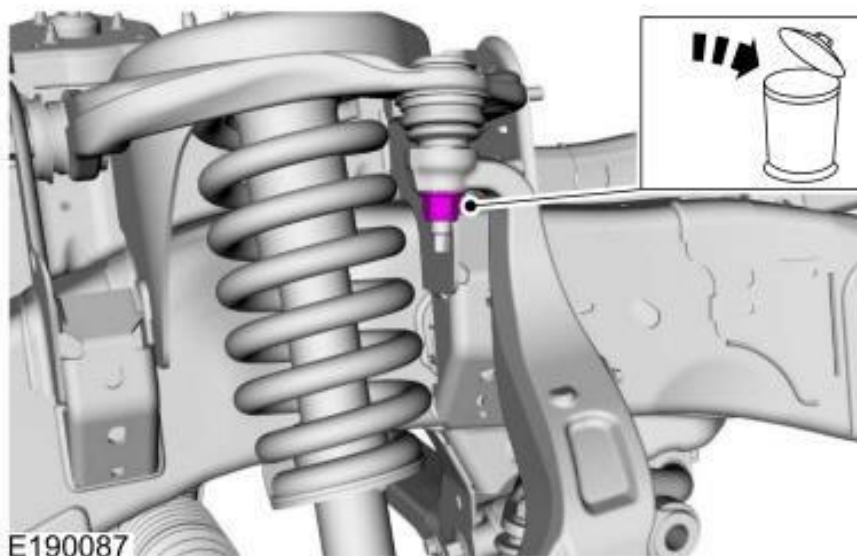


Step 16: Use a suitable jack to support the lower control arm at ride height.  
Use the General Equipment: Vehicle/Axle Stands



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Step 17: Remove and discard the upper ball joint nut. *Torque: 46 lb.ft (63 Nm)*



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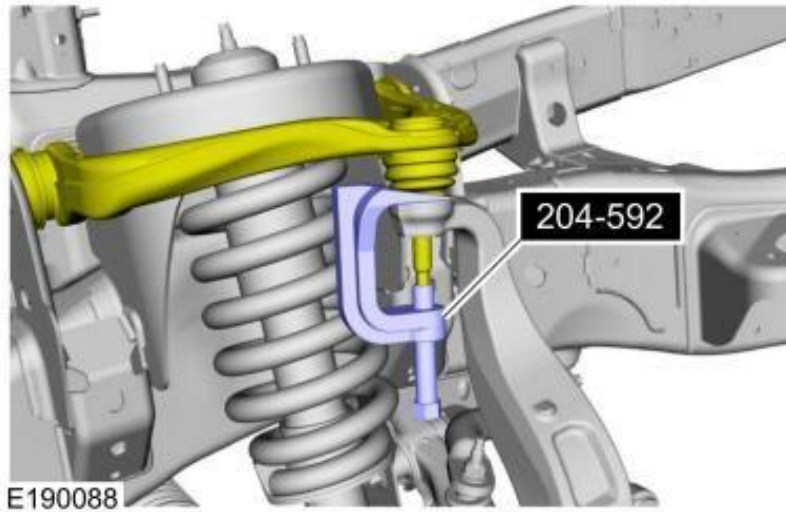
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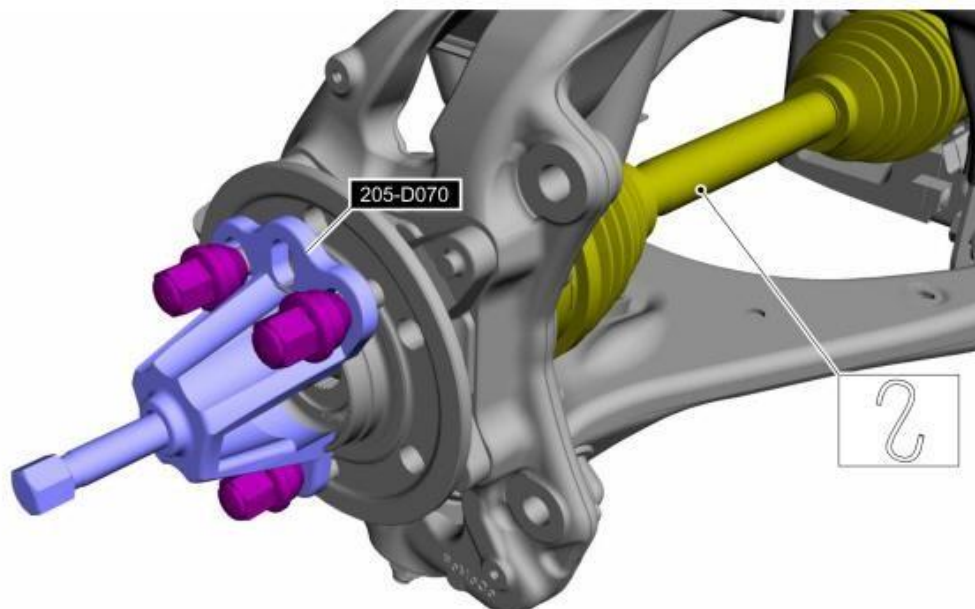
Step 18: Separate the upper ball joint from the wheel knuckle.

**NOTE:** Be sure not to damage the ball joint boot when installing the Ball Joint Separator.



Step 19: Using the special tool, press the halfshaft from the wheel bearing and hub. Support the halfshaft in a level position.

**NOTE:** Do not bend the inner joint more than 18 degrees and the outer joint more than 45 degrees. Damage to the shaft will occur.



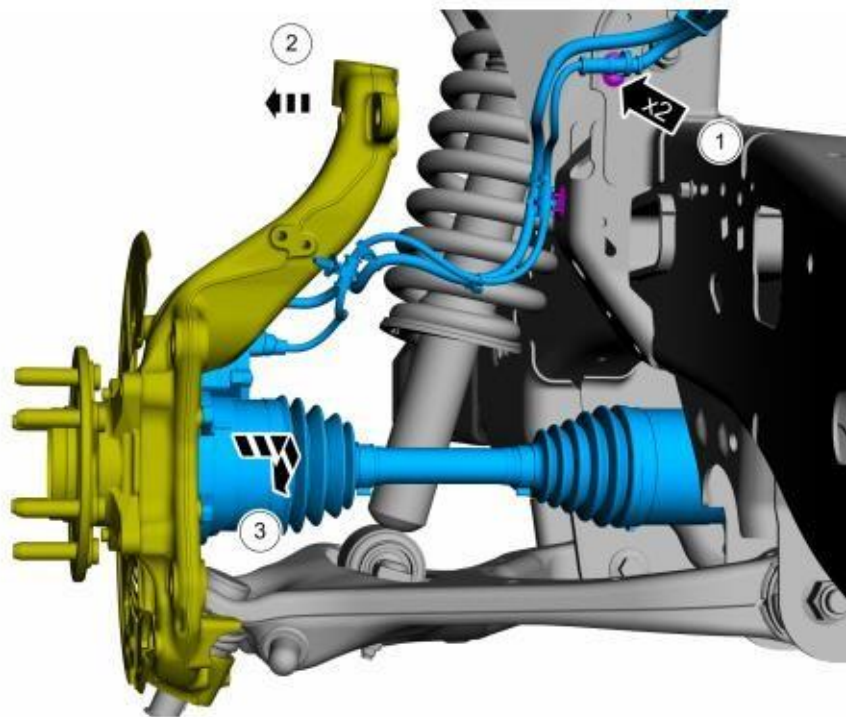


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Step 20:

- 1: Detach the IWE harness retainers.
- 2: Position aside the wheel knuckle to gain the access.
- 3: Remove the outboard halfshaft end and IWE disconnect from the steering knuckle hub bearing.



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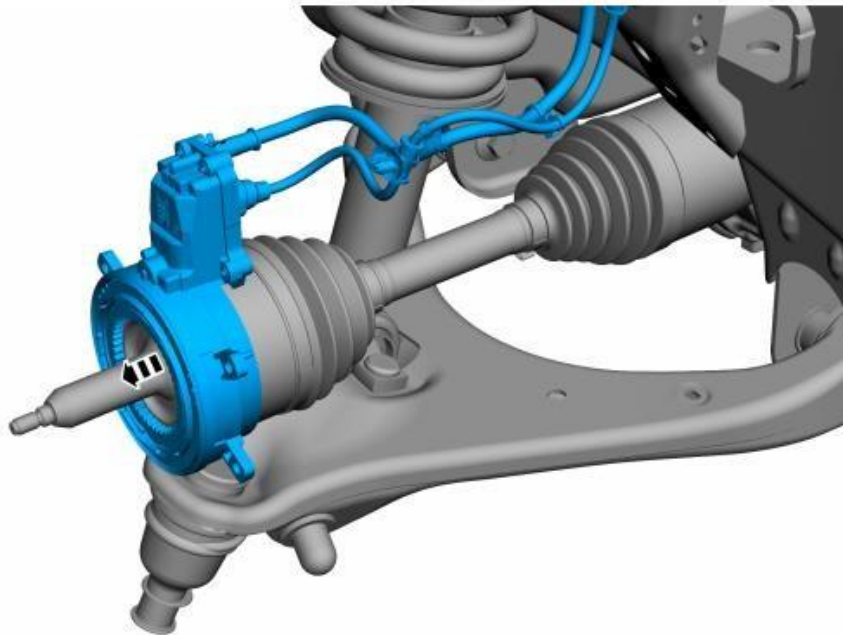
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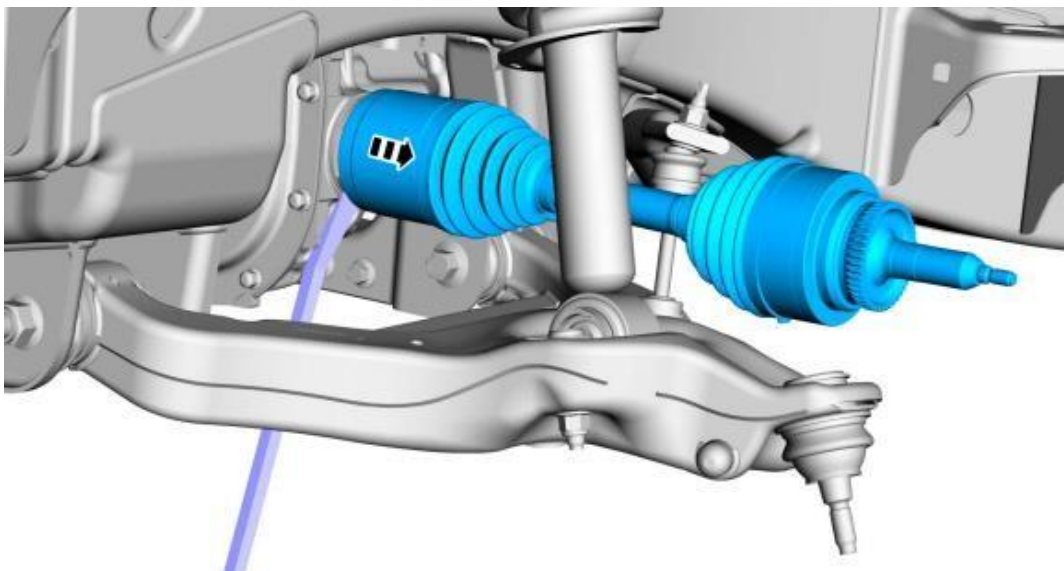
Step 21: Remove the IWE disconnect from the outboard CV joint housing.



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Step 22: Using the tire lever, remove the halfshaft from the differential and the intermediate shaft.

**NOTE:** Use care to not cause damage to the components.





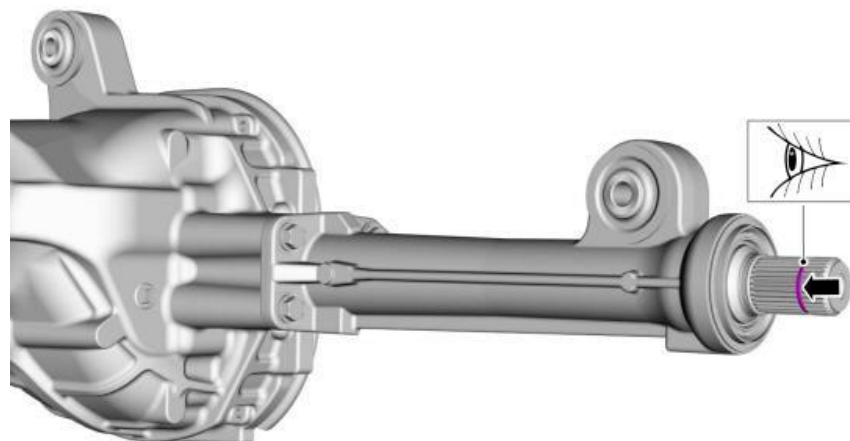
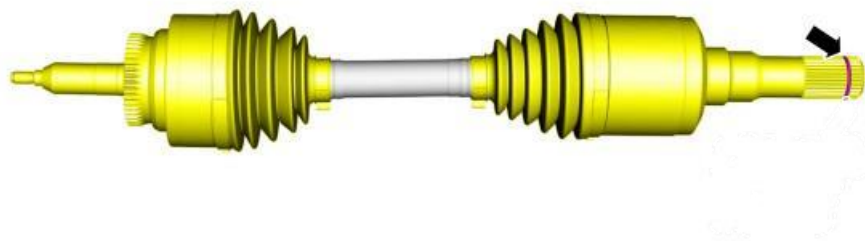
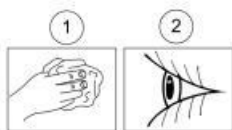
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Step 23: **NOTE:** *LH side shown first, RH side similar.* 1.

Clean the inner and outer halfshaft ends.

2. Inspect the inner and outer halfshaft ends.



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Step 24: Remove and replace halfshaft bearing retained in the hub with the new provided bearings.

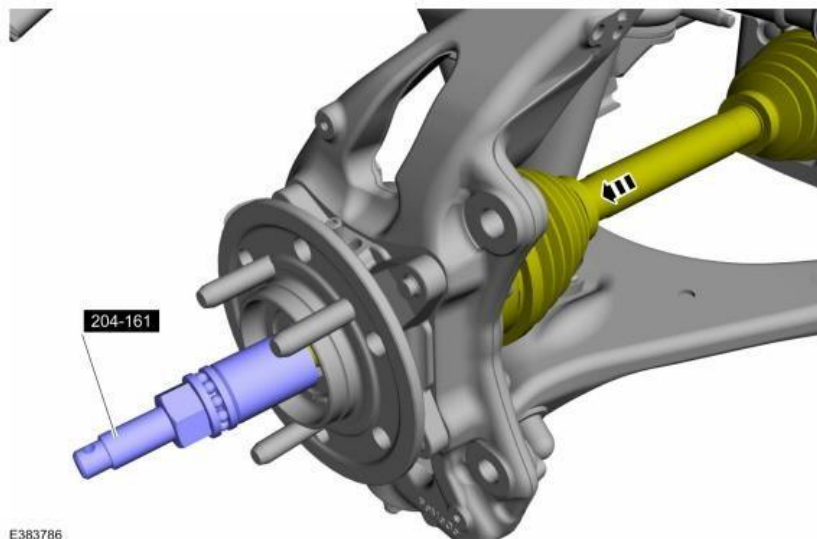
Step 24a) Flip the hub upside down on flat surface. Using a small punch, lightly tap around the outside of the bearing to push it out of the wheel hub. Bearing will exit the hub from the inside out.

Step 24b) Once OE bearing is out of the hub, inspect the bearing surface inside of the hub for any debris.

Step 24c) Flip up back around so the outer side is facing upward. Place the provided bearing into the hub. Using a 21 MM socket, lightly tap the bearing into place until fully seated in the hub.

Step 24d) Once bearing is seated, re-insert the factory c-clip as it was originally installed into the hub to retain the new bearing.

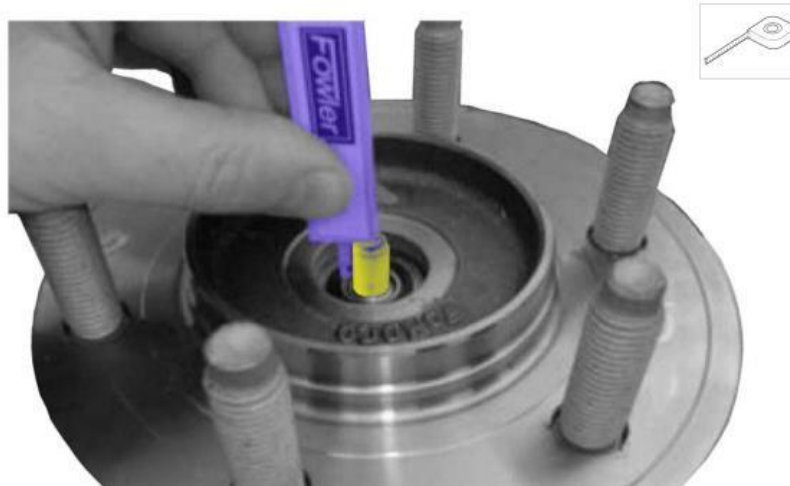
Step 25: Pull the halfshaft into the front wheel bearing and wheel hub. Use Special Service Tool.





Step 26: When installing the halfshaft, measure the CV shaft threaded end to the inner bearing race.

**NOTE: Measure the depth of the CV shaft threaded end to the inner bearing race (shown in illustration). The minimum depth is 15.5 mm (0.61 in). If the depth is less than 15.5 mm (0.61 in) rotate the CV shaft to clear a binding condition between the IWE and CV splines. Installing the axle nut and tightening without the proper depth of protrusion will result in damage to the IWE**



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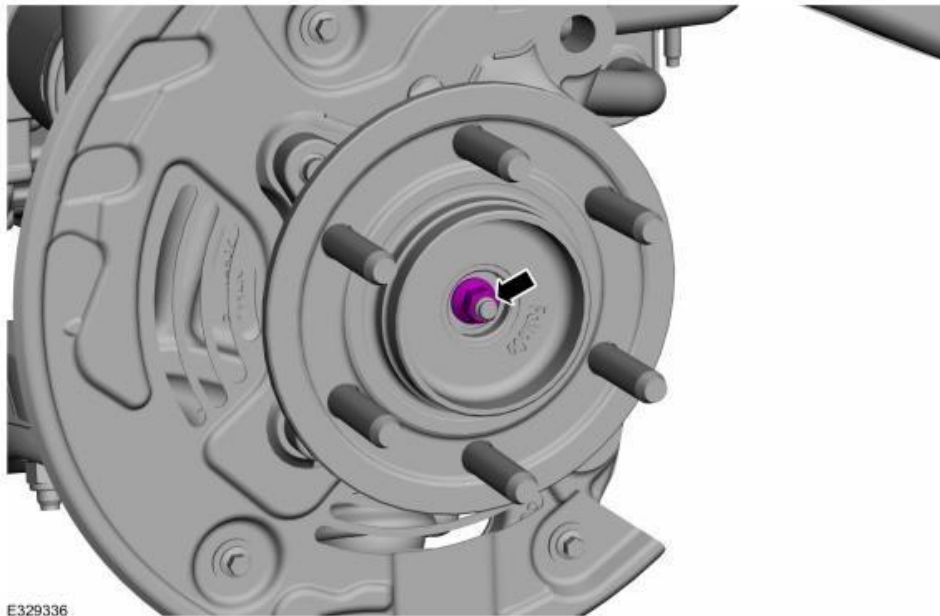
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Step 27: **NOTICE: Verify the spline engagement by checking for spline lash before installing the wheel hub nut or component damage may occur**

1: Install the new the axle nut. *Torque: 30 lb.ft (40 Nm)*

**Note: New Nyloc Axle Nut provided MUST be used.**

2: Verify free rotation of the hub with no CV joint rotation. No clicking or grinding noise should be present.



Step 28: To install, reverse the removal procedure.



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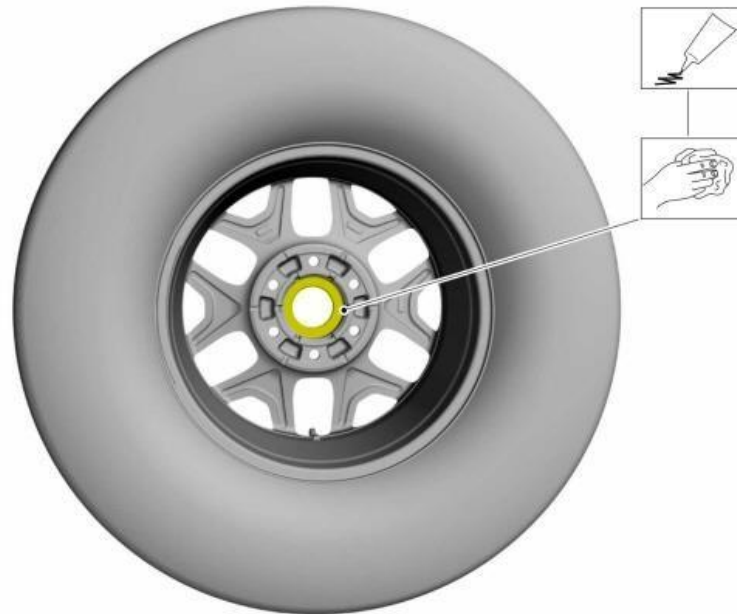
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Step 29:

**⚠ WARNING:** When a wheel is installed, always remove any corrosion, dirt or foreign material present on the mounting surface of the wheel and the mounting surface of the wheel hub, brake drum or brake disc. Make sure that any fasteners that attach the rotor to the hub are secured so they do not interfere with the mounting surfaces of the wheel. Failure to follow these instructions when installing wheels may result in the wheel nuts loosening and the wheel coming off while the vehicle is in motion, which could result in loss of control, leading to serious injury or death to vehicle occupant(s).

**NOTICE:** Make sure to apply a thin coat of anti-seize lubrication only to the interface between the wheel pilot bore and the hub pilot. Do not allow the anti-seize to make contact with the wheel-to-brake disc/drum mounting surface, wheel studs, wheel nuts, brake pads or brake disc friction surfaces or damage to components may occur.

Clean the mounting surfaces. Apply anti-seize lubrication. Anti-Seize Lubricant (-;XL-2)



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Step 30: Install the wheel and tire and install the wheel nuts.

**NOTE:** *Only tighten the nuts finger tight at this stage.*



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Step 31: Tighten the wheel nuts. Torque: 147.5 lb.ft (200 Nm)

**⚠ WARNING:** Retighten wheel nuts within 160 km (100 mi) after a wheel is reinstalled. Wheels can loosen after initial tightening. Failure to follow this instruction may result in serious injury to vehicle occupant(s).

**NOTICE:** Failure to tighten the wheel nuts in a star/cross pattern can result in high brake disc runout, which accelerates the development of brake roughness, shudder and vibration.

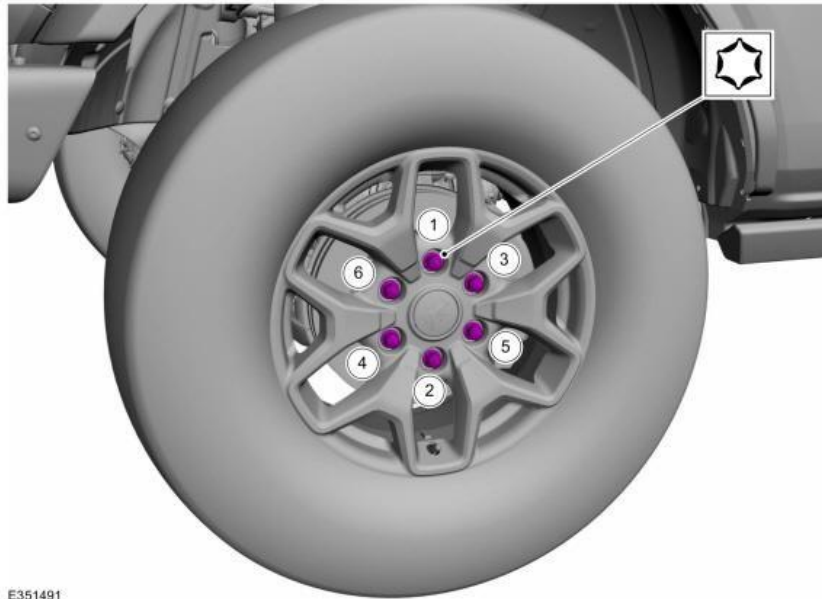
**NOTE:** *The wheel nut torque specification is for clean, dry wheel stud and wheel nut threads.*

**NOTE:** *Use metric hexagonal socket.*

**NOTE:** *Final tightening to be performed with vehicle resting on tires.*

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Step 32: Deactivate the brake service mode.

### Deactivation

**NOTICE:** The brake system performance will be significantly reduced when the brake system is put in service mode.

**NOTE:** Carry out the following Brake Maintenance Mode deactivation procedure to activate the EBB and EPB systems. These systems can also be activated using the diagnostic scan tool and following the on-screen instructions.

1. Set the ignition to ON.
2. Press and hold the accelerator pedal.
3. Place the EPB switch in the APPLY (upward) position. Continue to hold the accelerator pedal and the EPB switch.
4. Firmly press the brake pedal for at least 1 second. Release the brake pedal while continuing to hold the accelerator pedal and the EPB switch.

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5. Set the ignition to OFF then set the ignition to ON within 5 seconds, then release the accelerator pedal and the EPB switch.

**NOTE:** *Once the ignition is set to ON, the EPB system will immediately apply and release the parking brake to guarantee sufficient air gap between the rear brake pads and brake disc. If the EPB switch is not released prior to completion of this sequence, it will apply the EPB. The EPB will have to be released prior to moving the vehicle.*

**NOTE:** *When Brake Maintenance Mode is deactivated, the Yellow Parking Brake and Red Brake Warning Indicators turn off and "Brake Maintenance Mode" no longer displays in the message center.*

