



# M-3429-F150 F150 Tremor Front Half Shaft Kit

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PRIOR TO INSTALLATION READ THESE INSTRUCTION COMPETELY  
For questions, Call the FORD PERFORMANCE Techline 1-800-367-3788

Please visit <https://www.performanceparts.ford.com> for warranty information



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## Kit Contents

RH Half Shaft	QTY 1
LH Half Shaft	QTY 1
Wheel Hub Nuts	QTY 2
LH Axle Seal	QTY 1
Circlips	QTY 2
Motorcraft Threadlock 262, TA-26	QTY 1

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### Materials Required


Motorcraft High Temperature Anti-Seize lubricant, XL-2

Motorcraft Metal Brake Parts Cleaner, PM-4-A, PM-4-B


Motorcraft SAE 75W-85 Premium synthetic Hypoid Gear Lubricant, XY-75W85-QL


### Jacking and Lifting - Overview


#### Jacking Points – Front

 **WARNING:** When jacking or lifting the vehicle, block all wheels remaining on the ground. Set the parking brake if the rear wheels will remain on the ground. These actions help prevent unintended vehicle movement. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Never get underneath a vehicle that is supported only by a jack. The jack could unintentionally lower. Always support vehicle with floor stands. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Only raise the vehicle when positioned on a hard, level surface. Attempting to raise the vehicle on an uneven or soft surface may result in vehicle slipping or falling from the jack or jackstand. Failure to follow this instruction may result in serious personal injury.

 **WARNING:** Turn off (disable) the power running boards (if equipped) before jacking, lifting or placing any object under the vehicle. Never place your hand between the power running board and the vehicle. Extended power running boards will retract when doors are closed. Failure to follow these instructions may result in serious personal injury.

 **WARNING:** Front jacking point could be identified by an arrow marking on the vehicle frame. Raising a vehicle in any other location may result in vehicle shifting or falling. Failure to follow this instruction may result in serious personal injury.

**NOTE:** *SuperCrew Cab 4WD shown, others similar.*

**NOTE:** *LH side shown, RH side similar.*

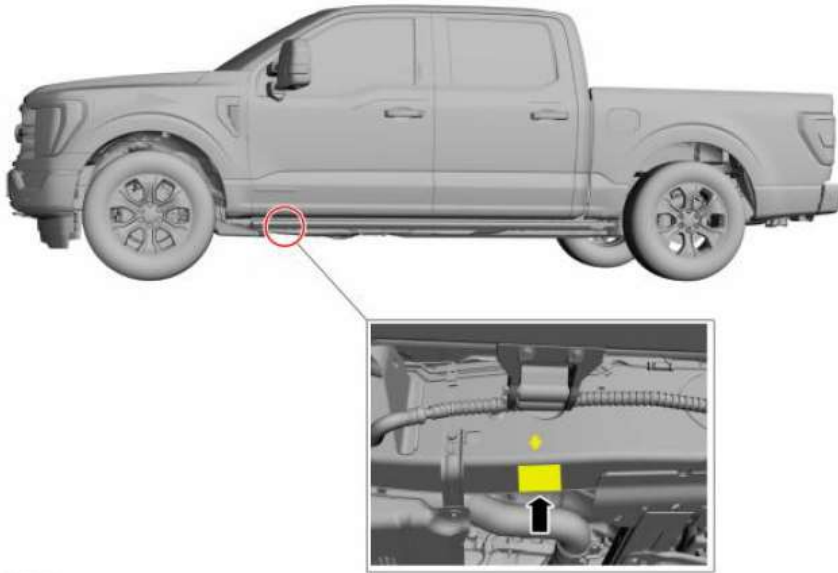
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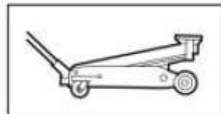
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Only the specified jacking points may be used for jacking and supporting the vehicle.

## Jacking Points – Rear



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**NOTICE:** Do not use the differential housing as a lift point. Leaks or damage to the rear axle cover and adjoining differential housing surface may occur if a floor jack or any lifting device is allowed to contact the cover at any point where the cover joins the housing.

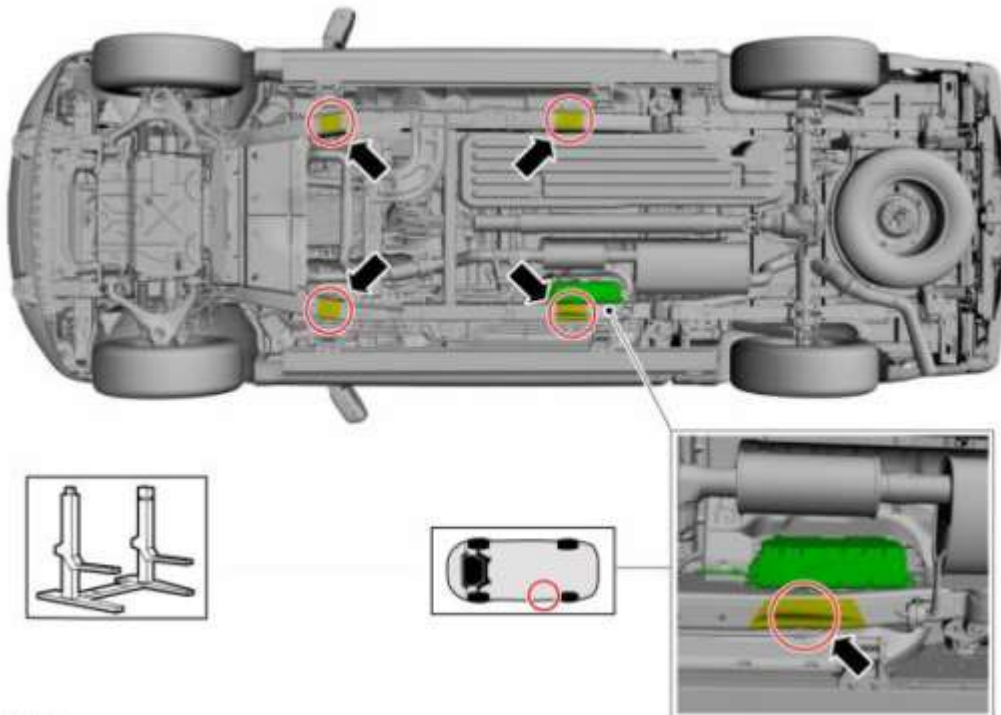
**NOTE:** Rear bumper removed for clarity.

Only the specified jacking points may be used for jacking and supporting the vehicle.

The rear jacking points are located on the rear axle.

## Lifting Points – Front and Rear

### HEV



**NOTICE:** Make sure that no load is placed on the Direct Current/Alternating Current (DC/AC) Inverter Module.

All vehicles

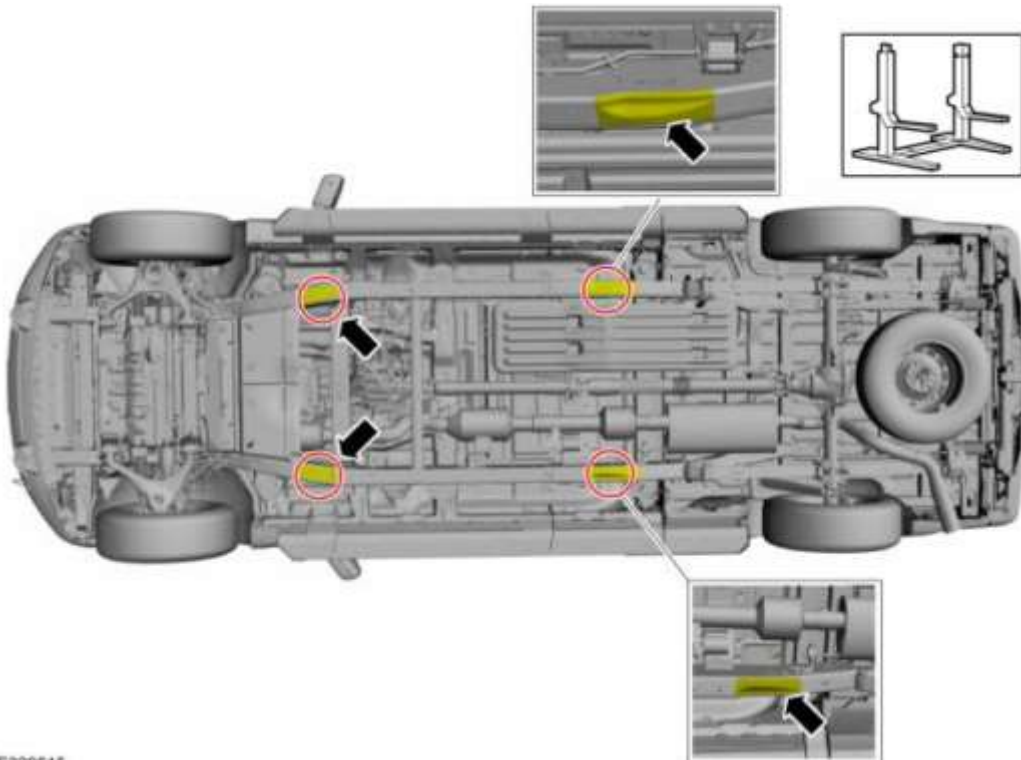
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**NOTE:** *4WD shown, RWD similar.*

**⚠ WARNING:** Position the hoist lift arms as shown in the illustration. Incorrect positioning could result in vehicle slipping or falling from the hoist. Failure to follow this instruction may result in serious personal injury.

**NOTICE:** The jack provided with the vehicle is intended to be used in an emergency for changing a deflated tire. To avoid damage to the vehicle, never use the jack to hoist the vehicle for any other purpose.

**NOTICE:** Do not attempt to use jack pressure on either the front bumper or the rear bumper on any vehicle. Damage to bumper covers will occur.

**NOTICE:** Place blocks underneath the lifting points if a two-column hoist is used.

**NOTICE:** Damage to the suspension, exhaust or steering linkage components may occur if care is not exercised when positioning the hoist adapters prior to lifting the vehicle.

**NOTICE:** To prevent possible damage to the underbody, do not drive the vehicle onto the drive-on lift without first checking for possible interference.

**NOTICE:** When raising a vehicle on a two-column hoist, use care when positioning the vehicle so that the hoisting forks do not interfere with suspension components, mounting brackets or stabilizer mounting brackets, if equipped. In addition, use care in hoist positioning to avoid possible damage to the axle or rear cover.

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### Wheel and Tire – Overview

Lift vehicle per Jacking and Lifting Overview.

**NOTICE:** Do not use heat to loosen a seized wheel nut or damage to the wheel and wheel bearing can occur.

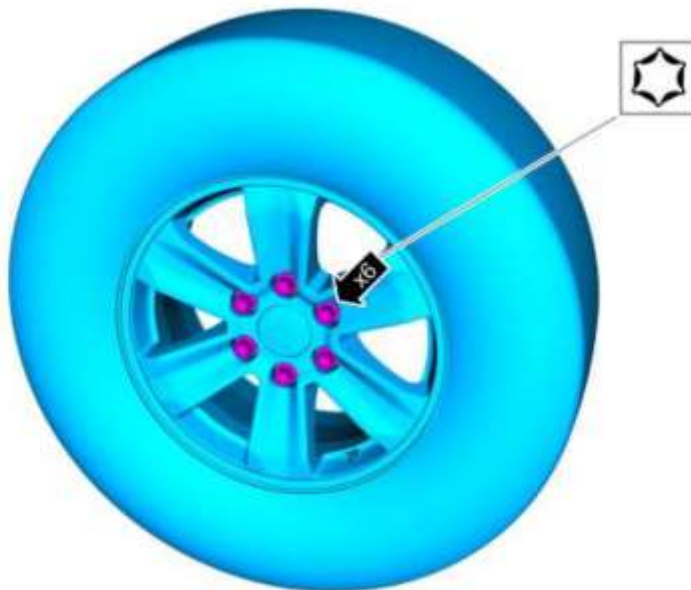
**NOTICE:** If equipped with full wheel cover with exposed wheel nuts, the wheel nuts must be removed prior to removing the wheel cover or damage to the wheel cover will occur.

**NOTE:** Use metric hexagonal socket.

### Removal

If equipped, remove center cap.

Remove lug nuts.



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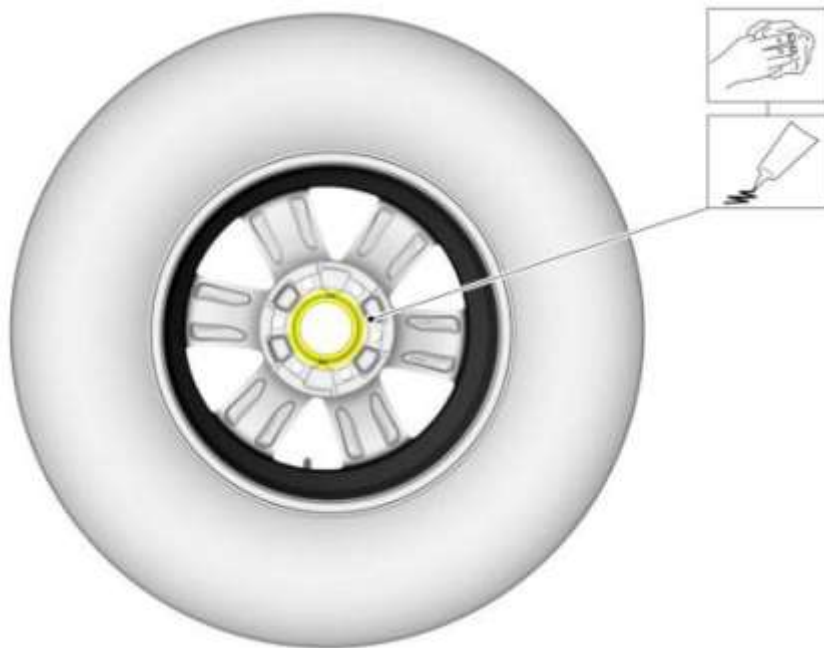
### Installation

**⚠ 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.

*Material:* Motorcraft® High Temperature Nickel Anti-Seize Lubricant / XL-2



Install wheel and tire and wheel nuts. Only tighten wheel nuts finger tight at this point.

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**⚠ 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.*

Tighten the wheel nuts  
Torque: 150 lb.ft (204 Nm)

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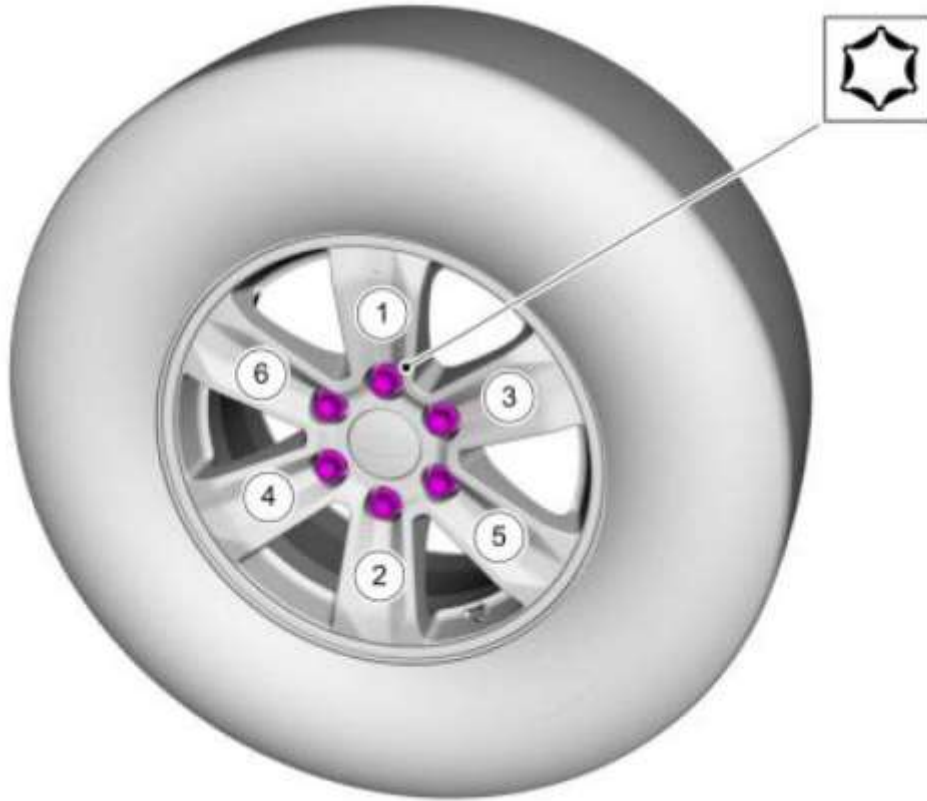




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If equipped, install center cap.

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### Brake Service Mode Activation and Deactivation (Brake Maintenance Mode) – Overview

#### 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 bleed manually.

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

1. Set the ignition to ON.
2. Release the EPB.
3. 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.
4. Set the ignition to OFF then set the ignition to ON **within 5 seconds**. Continue to hold the accelerator pedal and the EPB switch.
5. 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.

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### 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.
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.

### Front Engine Undersield – Overview

#### Removal

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

1. With the vehicle in NEUTRAL, position it on a hoist.  
Refer to: [Jacking and Lifting - Overview](#) (100-02 Jacking and Lifting, Description and Operation).
2. If equipped  
Remove the bolts and the underbody skid plate.  
Torque:
  - 1: 30 lb.ft (40 Nm)
  - 2: 71 lb.in (8 Nm)

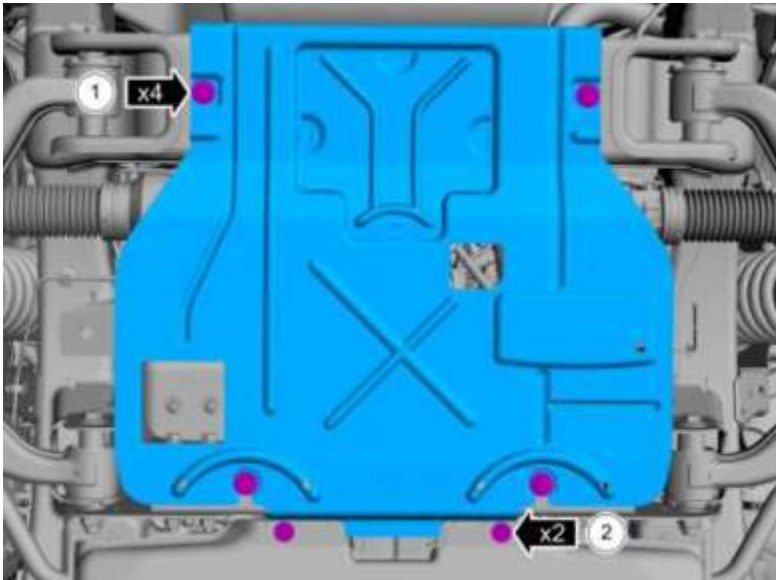
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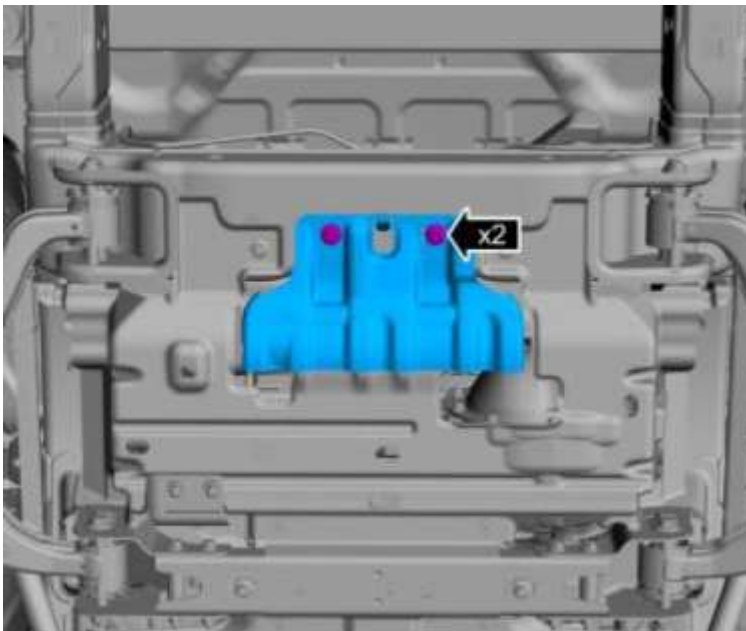
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3. **NOTE:** 4X2 vehicle shown, 4X4 vehicle similar.

If equipped,  
Remove the bolts and the underbody skid plate.  
Torque: 30 lb.ft (40 Nm)



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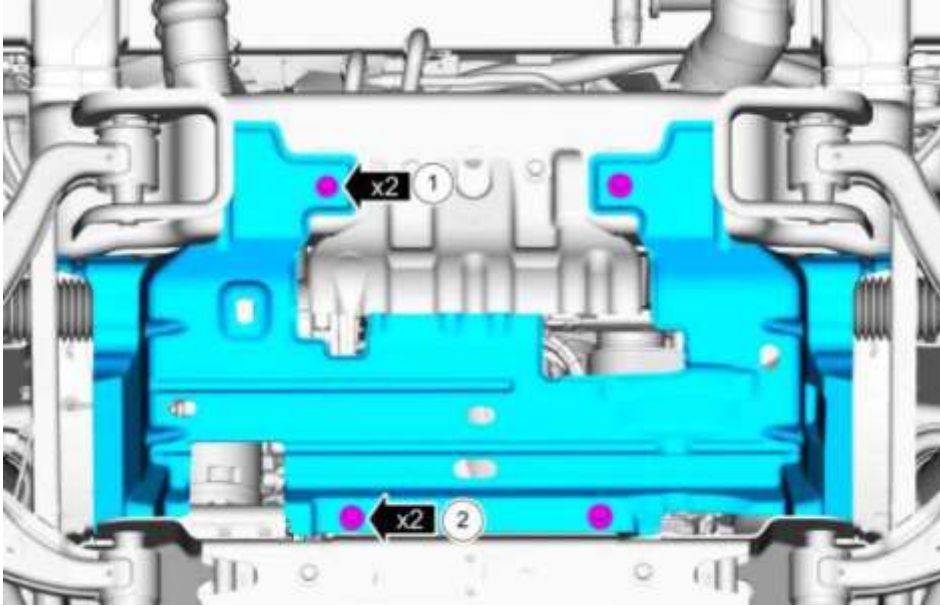
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#### 4. Remove the bolts and the engine front undershield.

*Torque: 30 lb.ft (40 Nm)*



### Installation

1. To install, reverse the removal procedure.

### Brake Disc – Overview

### Removal

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

1. Activate the brake service mode.  
Refer to: [Brake Service Mode Activation and Deactivation](#) (206-00 Brake System - General Information, General Procedures).
2. Remove the wheel and tire.  
Refer to: [Wheel and Tire](#) (204-04A Wheels and Tires, Removal and Installation).
3. **NOTICE:** Do not pry in the caliper sight hole to retract the pistons as this can damage the pistons and boots.

**NOTICE:** Do not allow the brake caliper and anchor plate assembly to hang from the brake hose or damage to the hose can occur.

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

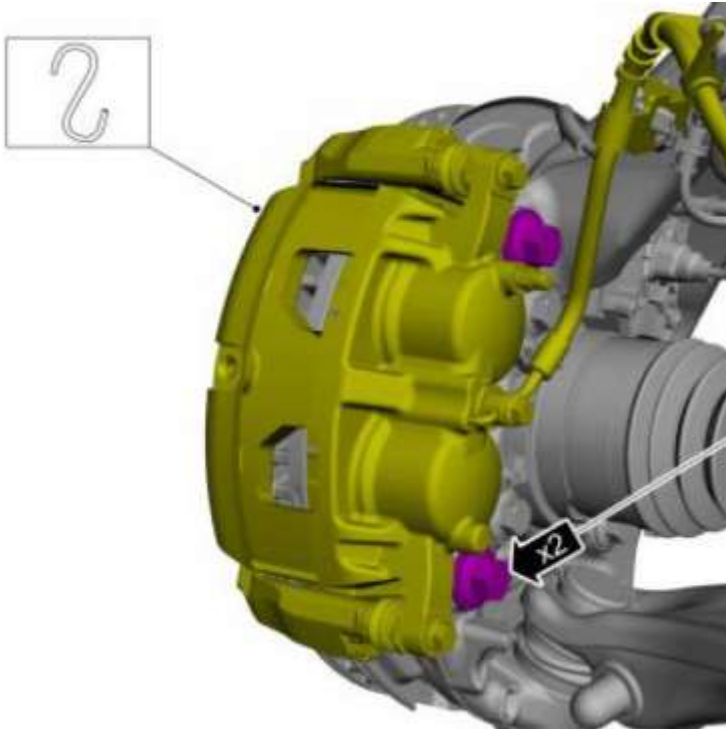
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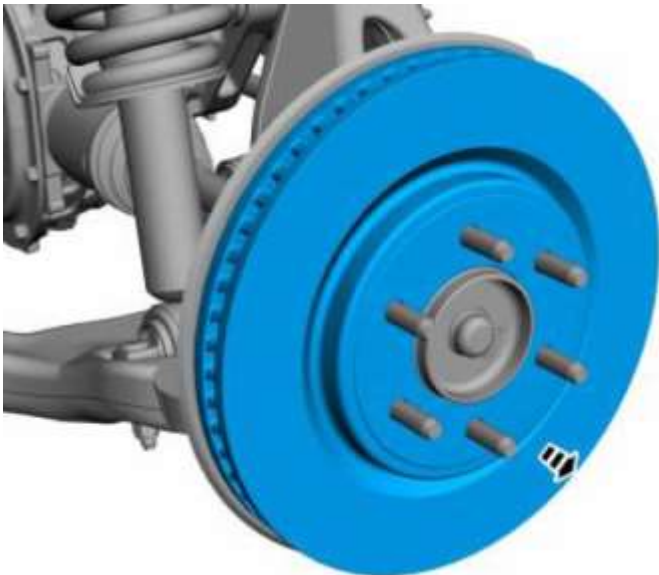
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4. Remove the brake disc.



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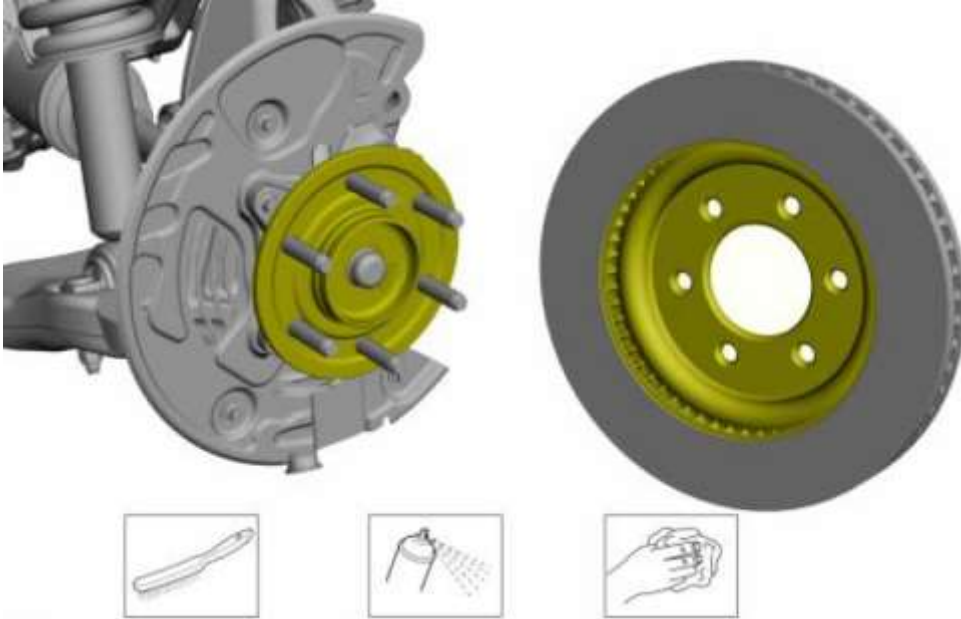
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### Installation

1. Clean the brake disc mating surfaces using a wire brush and the specified material.  
*Material: Motorcraft® Metal Brake Parts Cleaner / PM-4-A, PM-4-B*



2. **NOTICE:** Make sure that the brake hose is not twisted when installing the brake caliper or damage to the brake flexible hose may occur.

To install, reverse the removal procedure.

Notice: Use threadlock on anchor plate bolts!

3. Deactivate the brake service mode.  
Refer to: [Brake Service Mode Activation and Deactivation](#) (206-00 Brake System - General Information, General Procedures).
4. Apply the brake pedal several times to verify correct brake system operation.

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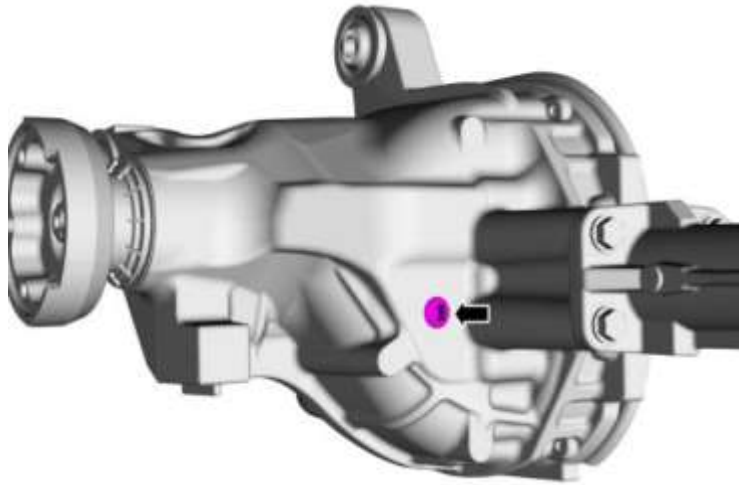
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### Differential Fluid Level Check – Overview

Remove the front differential fill plug.



Check and top off the differential with clean differential gear lubricant. The differential gear lubricant level should be within 3mm (0.118 in.) from the fluid level fill plug opening. Install the differential fill plug.

*Material:* Motorcraft® SAE 75W-85 Premium Synthetic Hypoid Gear Lubricant / XY-75W85-QL (WSS-M2C942-A)



Install the front differential fill plug.

*Torque:* 18 lb.ft (25 Nm)

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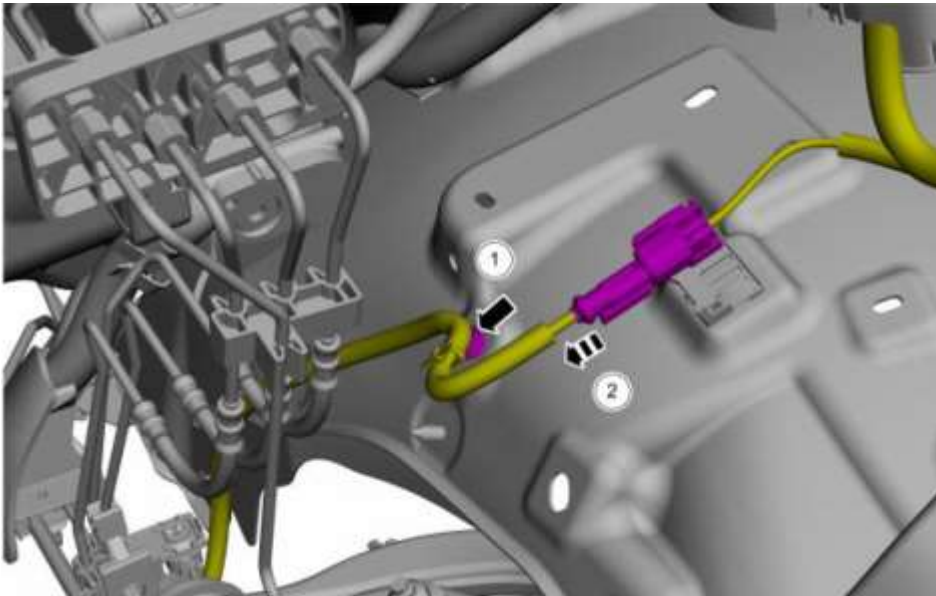
### Halfshaft Installation

#### Removal

**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.

1. Remove the engine front undershield.  
Refer to: [Engine Front Undershield](#) (501-02 Front End Body Panels, Removal and Installation).
2. Remove the brake disc.  
Refer to: [Brake Disc](#) (206-03 Front Disc Brake, Removal and Installation).
3.
  1. Detach the wheel speed sensor harness retainer.
  2. Disconnect the wheel speed sensor harness and position the harness aside.



4. Remove the wheel hub nut dust cap.

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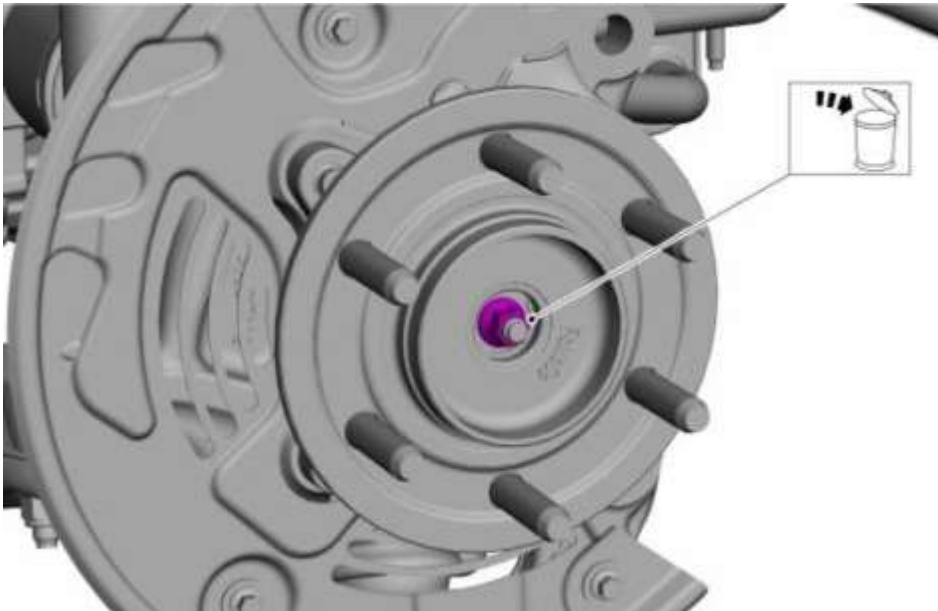
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5. **NOTICE:** When installing the halfshafts measure the depth of the **CV** shaft threaded end to the inner bearing race. The minimum depth is 15.5 mm (0.61 in). If the depth is less than 15.5 mm (0.61 in) rotate the **CV** shaft to clear a binding 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**.

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



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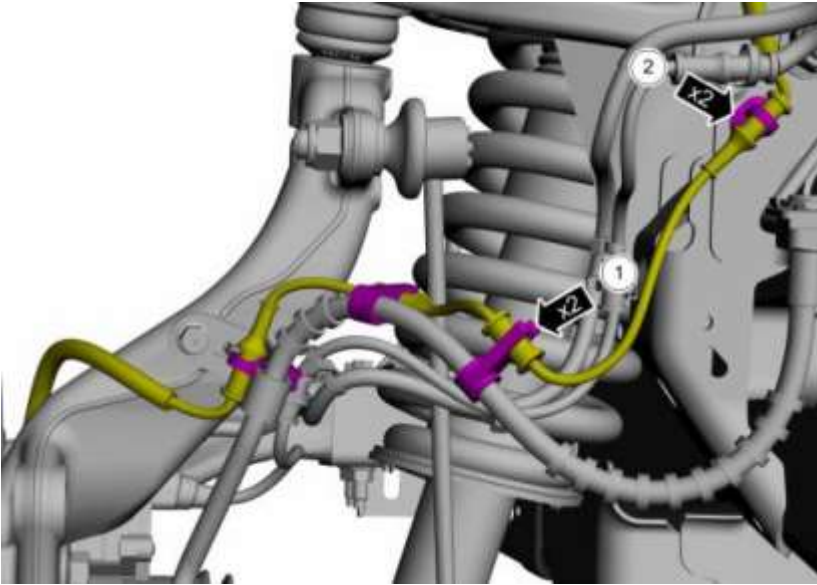


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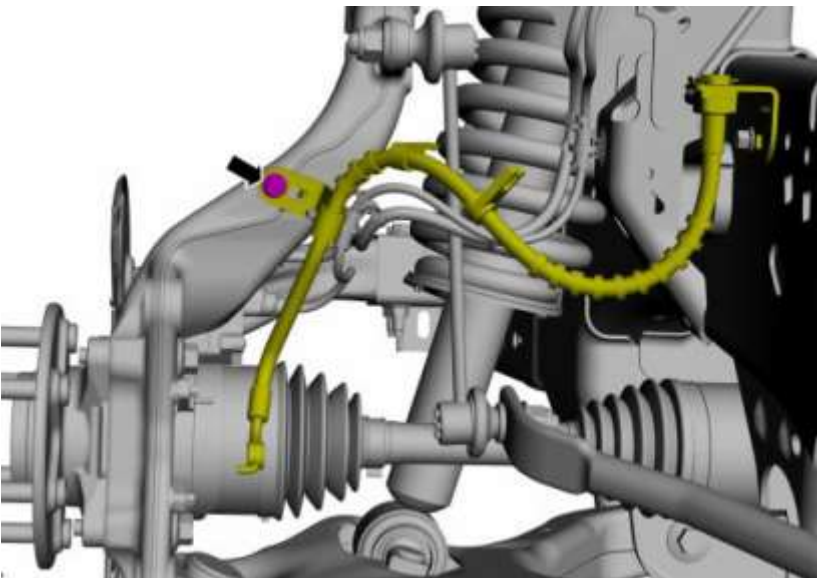
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6.
  1. Detach the wheel speed sensor harness from the brake hose.
  2. Detach the wheel speed sensor harness retainers and position aside the wheel speed sensor harness.



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



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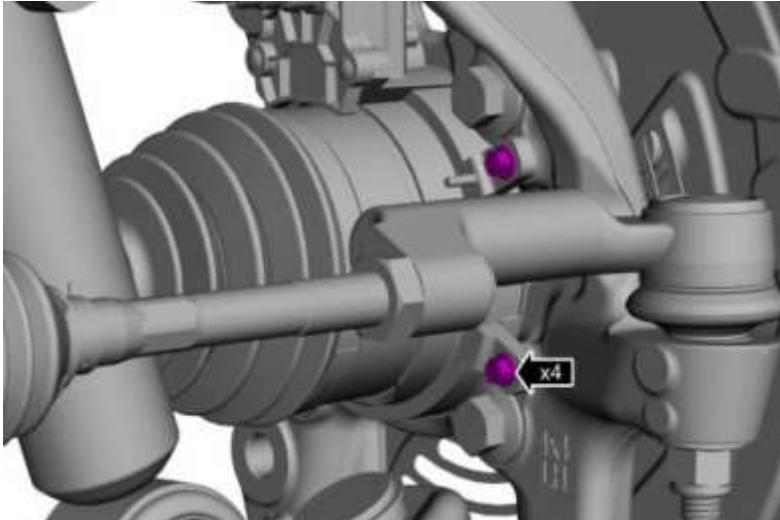


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8. Remove the IWE bolts.  
Torque: 106 lb.in (12 Nm)



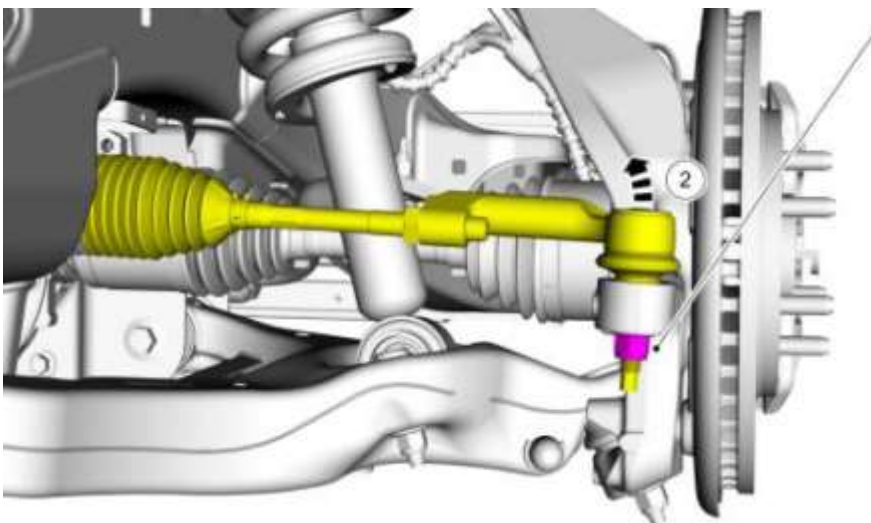
9. 1. Remove the outer tie rod end nut.  
Torque: 66 lb.ft (90 Nm)

2. **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 tie-rod end boot may occur.

Separate the outer tie rod end from the wheel knuckle.  
Use the General Equipment: Tie Rod End Remover

Notice: Use threadlock on outer tie rod end nuts.



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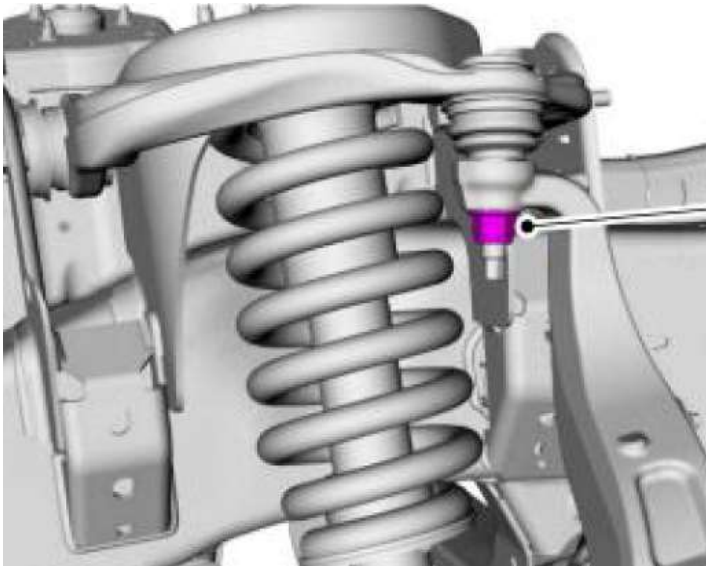
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10. Remove the upper ball joint nut.  
Torque: 46 lb.ft (63 Nm)

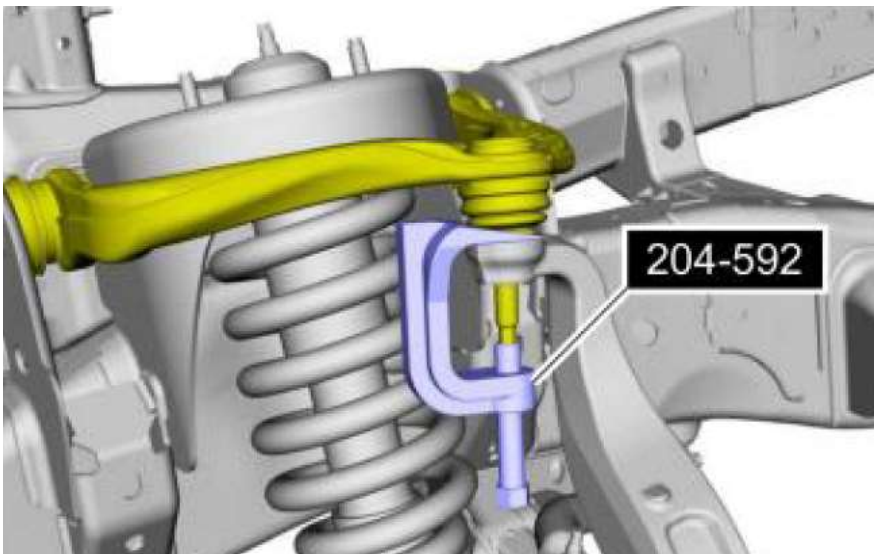
Notice: Use threadlock on upper ball joint nuts.



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

Separate the upper ball joint from the wheel knuckle.

Use Special Service Tool: [204-592 Separator, Lower Arm Ball Joint](#).



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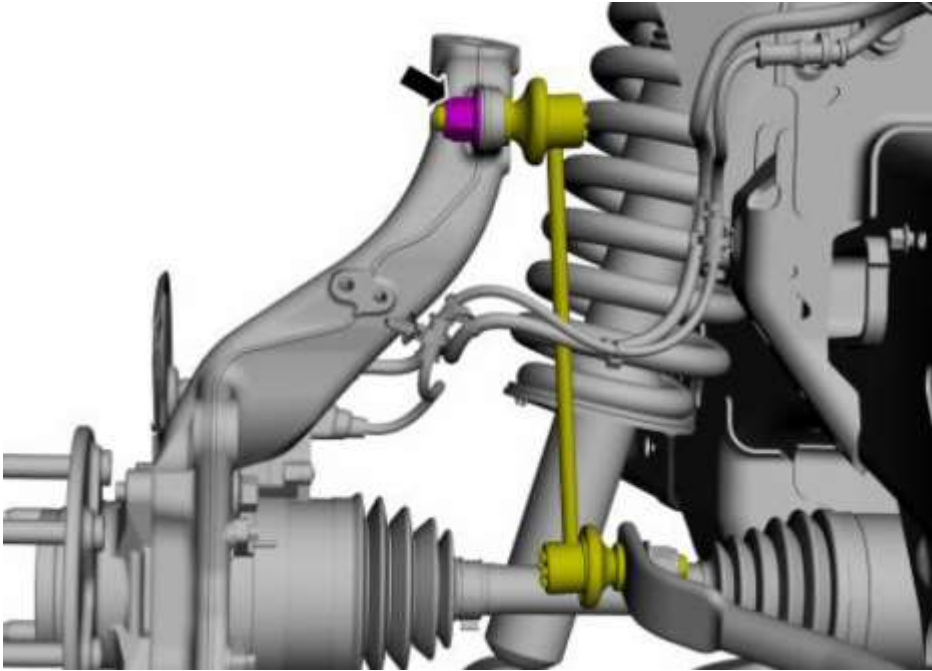


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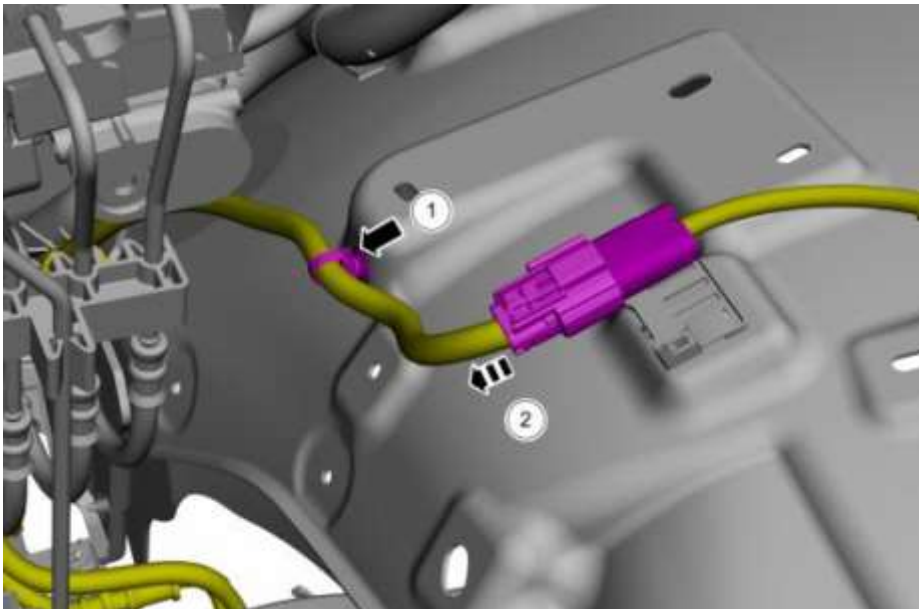
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12. Remove the nut and position aside the stabilizer bar linkage assembly.  
*Torque: 111 lb.ft (150 Nm)*



13. 1. Detach the IWE harness retainer.  
2. Disconnect the IWE harness and position the harness aside.



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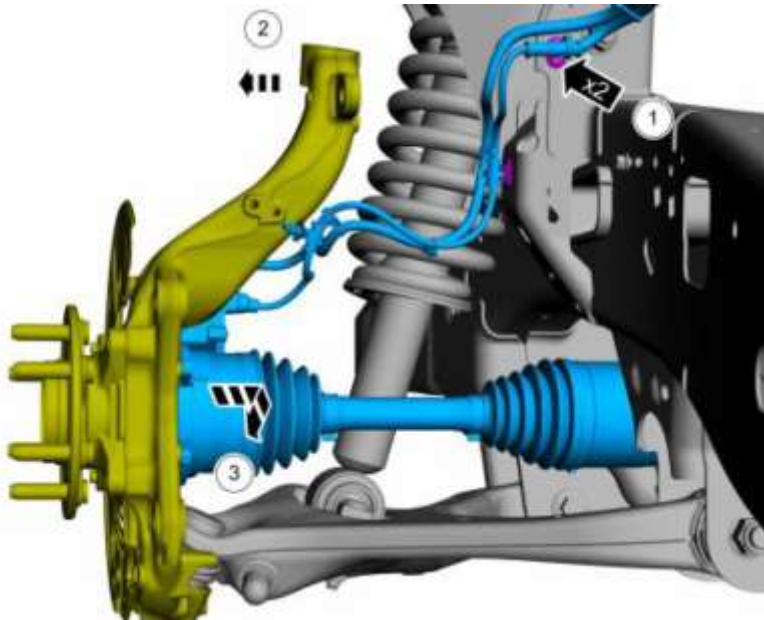


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## M-3429-F150 F150 Tremor Front Half Shaft Kit

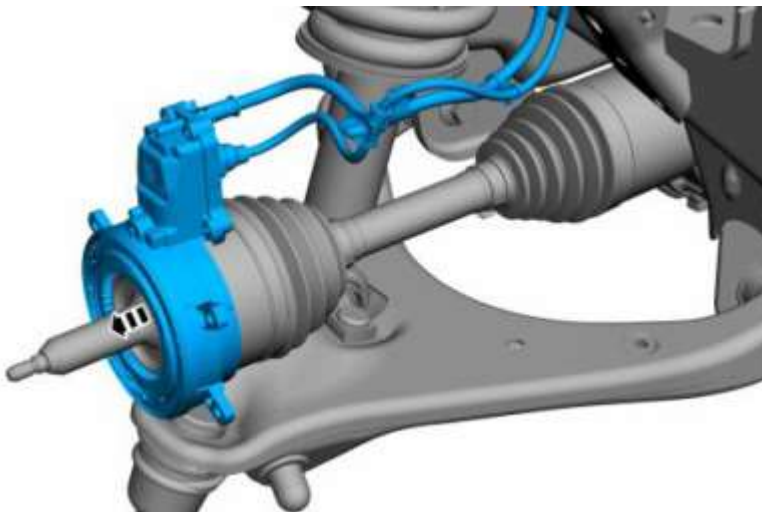
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- 14.
1. Detach the IWE harness retainers.
  2. Position aside the wheel knuckle to gain the access.
  3. Remove the outboard halfshaft end and IWE disconnect from the steering knuckle hub bearing.



15. **NOTICE:** For installation, apply 24 inches of vacuum (24 inHg) to the large port/supply port of the IWE. Hold the vacuum until the IWE bolts are installed.

Remove the IWE disconnect from the outboard CV joint housing.



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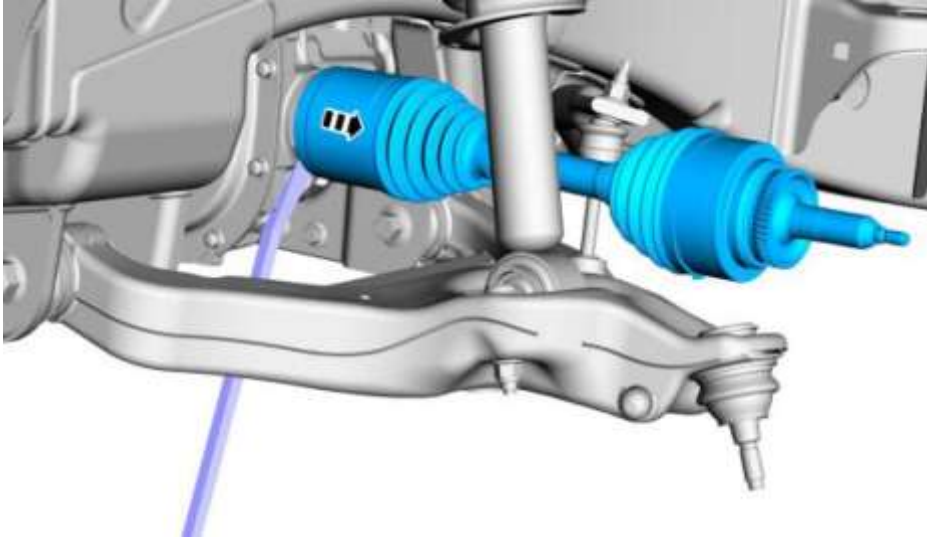
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## M-3429-F150 F150 Tremor Front Half Shaft Kit

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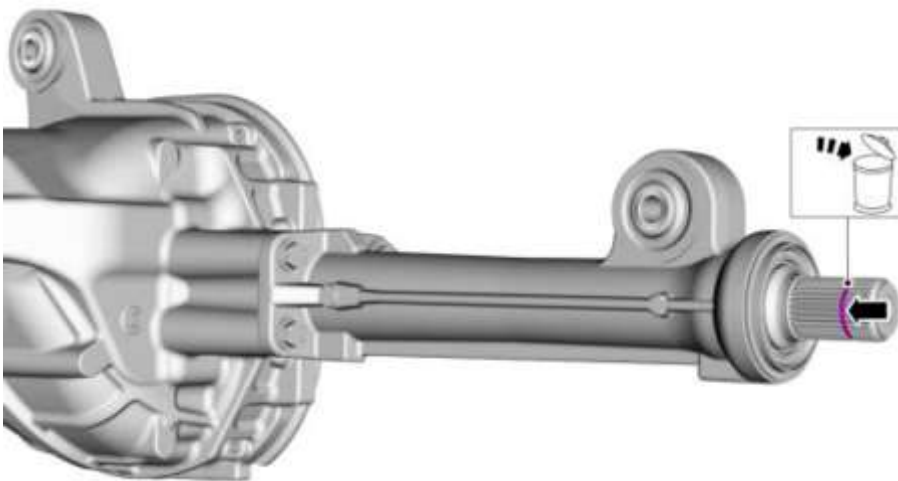
16. **NOTE:** Use care to not cause damage to the components.

Using the tire lever, remove the halfshaft from the differential and the intermediate shaft.  
Use the General Equipment: Tire Lever



17. **NOTE:** RH side.

Remove



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## M-3429-F150 F150 Tremor Front Half Shaft Kit

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18. **NOTE:** *LH side shown RH side similar.*

1. Clean the inner and outer halfshaft ends.
2. Inspect the inner and outer halfshaft ends.



### Installation

1. If the LH halfshaft is removed, replace the LH axle shaft seal.
2. **NOTICE:** 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.

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



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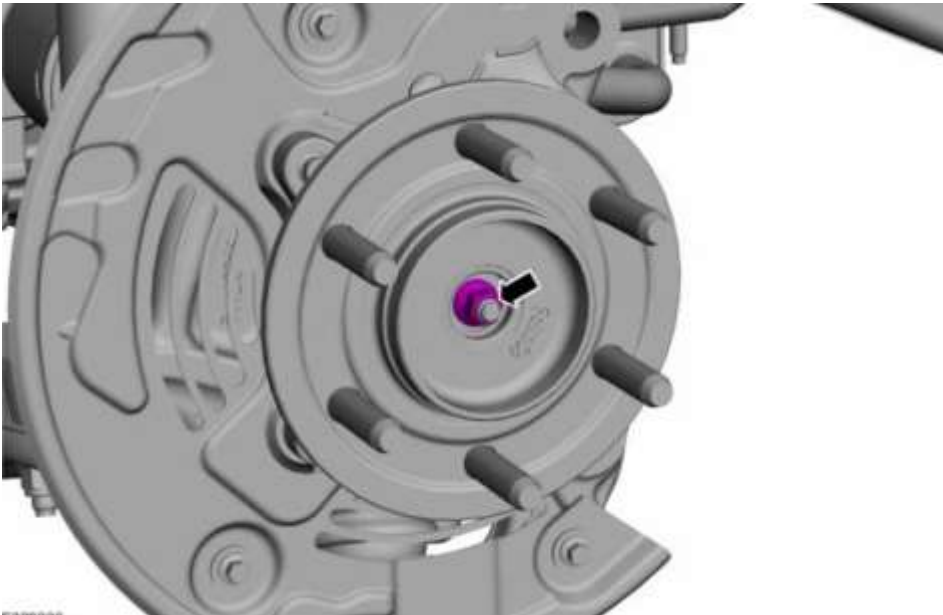
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3. **NOTICE:** Verify the spline engagement by checking for spline lash before installing the wheel hub nut or component damage may occur.

**NOTE:** With vacuum still applied to the IWE.

1. Install the new the axle nut.  
*Torque: 30 lb.ft (40 Nm)*
2. Verify free rotation of the hub with no CV joint rotation. No clicking or grinding noise should be present.
3. Release vacuum and rotate bearing slightly to engage actuator (may hear single click when IWE system engages). Verify hub and CV joint rotate together.



4. To install, reverse the removal procedure.
5. Check the front differential fluid level.  
Refer to: [Differential Fluid Level Check](#) (205-03 Front Drive Axle/Differential, General Procedures).

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