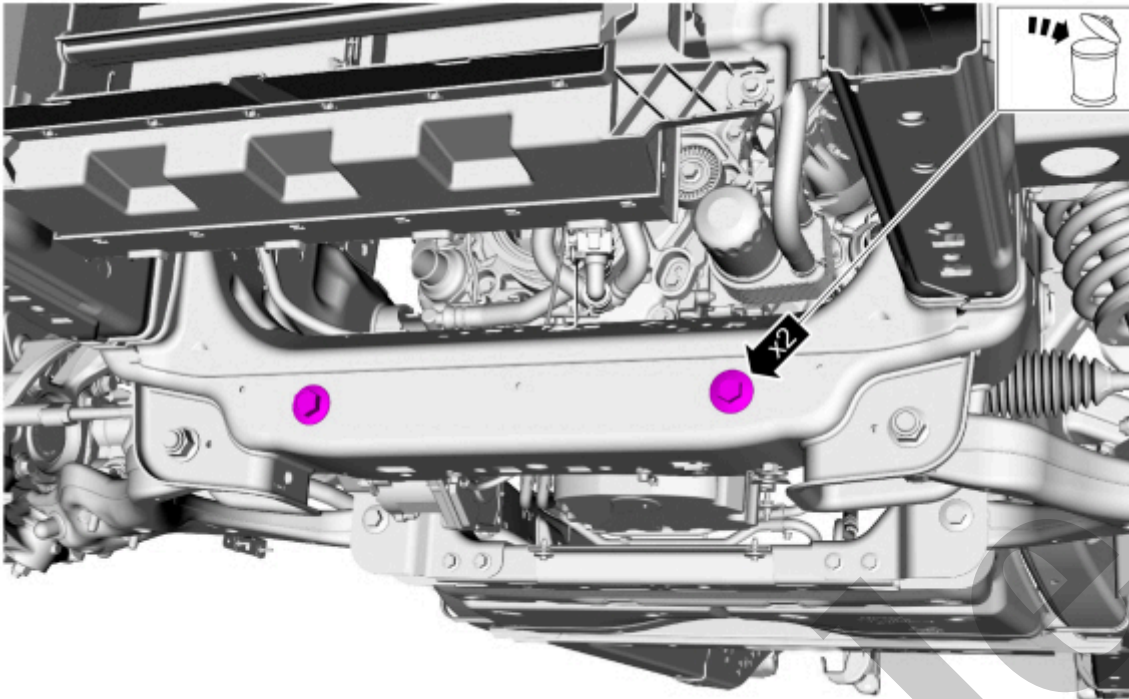


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## 2006 FORD Freestar OEM Service and Repair Workshop Manual

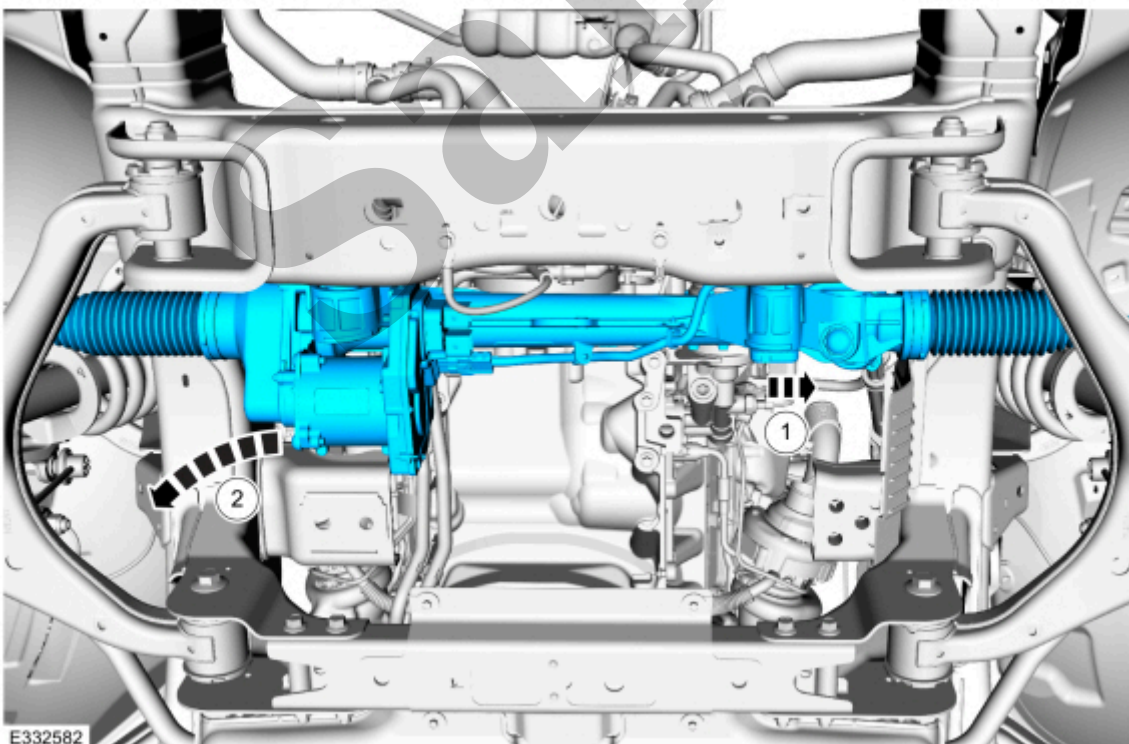
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E332581

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10. 1. Shift the steering gear towards the driver side of the vehicle.
2. Remove the steering gear.



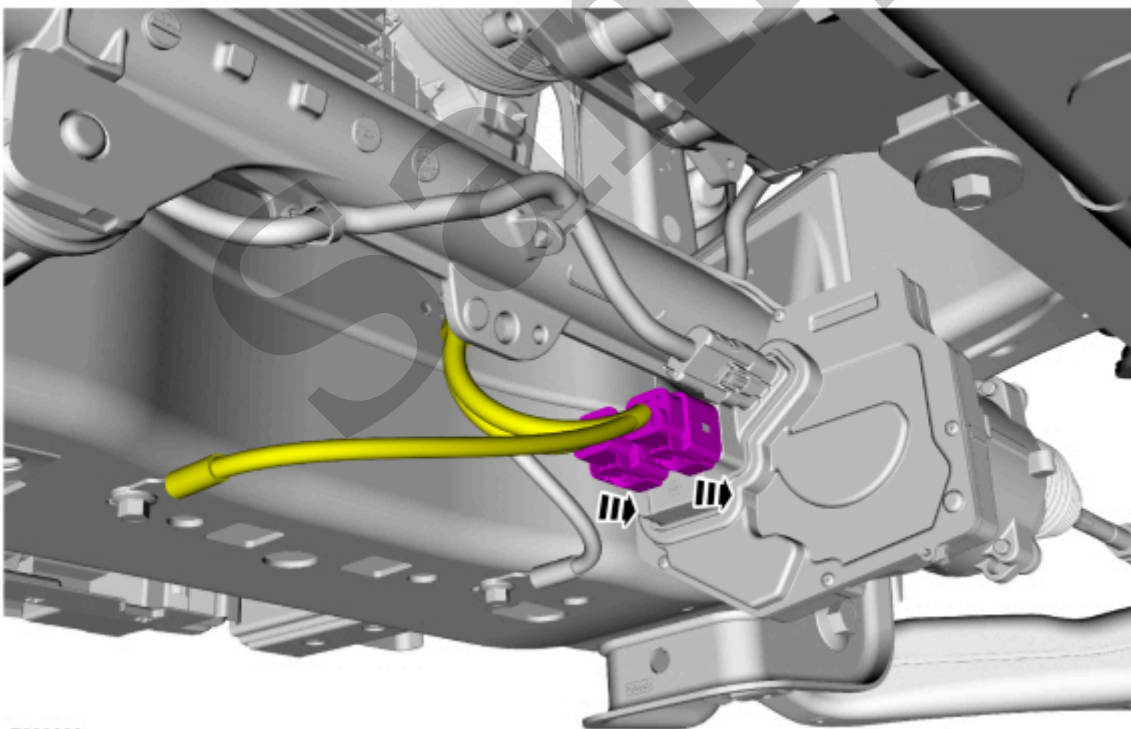
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3. Connect the EPAS (electronic power assist steering) gear electrical connectors.

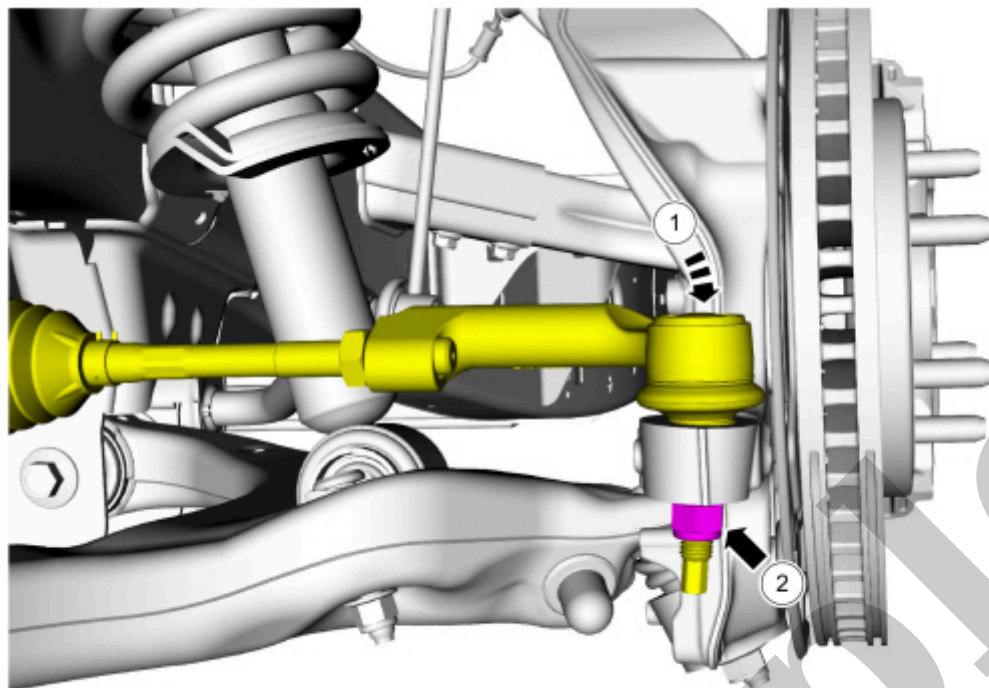


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Install the new tie rod end nut.

**Torque** : 66 lb.ft (90 Nm)



E332605

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7. Install the wheel and tire.

Refer to: [Wheel and Tire](#)(204-04A Wheels and Tires, Removal and Installation).

8. Connect the battery ground cable.

Refer to: [Battery Disconnect and Connect](#)(414-01 Battery, Mounting and Cables, General Procedures).

9. When installing a new steering gear, it must be configured. Using a diagnostic scan tool, carry out the PSCM (power steering control module) Module Configuration.

Refer to: [Module Configuration - System Operation and Component Description](#)(418-01A Module Configuration, Description and Operation).

10. Check and if necessary, adjust front toe.

Refer to: [Front Toe Adjustment](#)(204-00 Suspension System - General Information, General Procedures).

Refer to: [Front Toe Adjustment - Vehicles With: Adaptive Steering](#)(204-00 Suspension System - General Information, General Procedures).

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

Remove and discard the outer tie rod end nut.

**Torque** : 66 lb.ft (90 Nm)

### 3. NOTICE

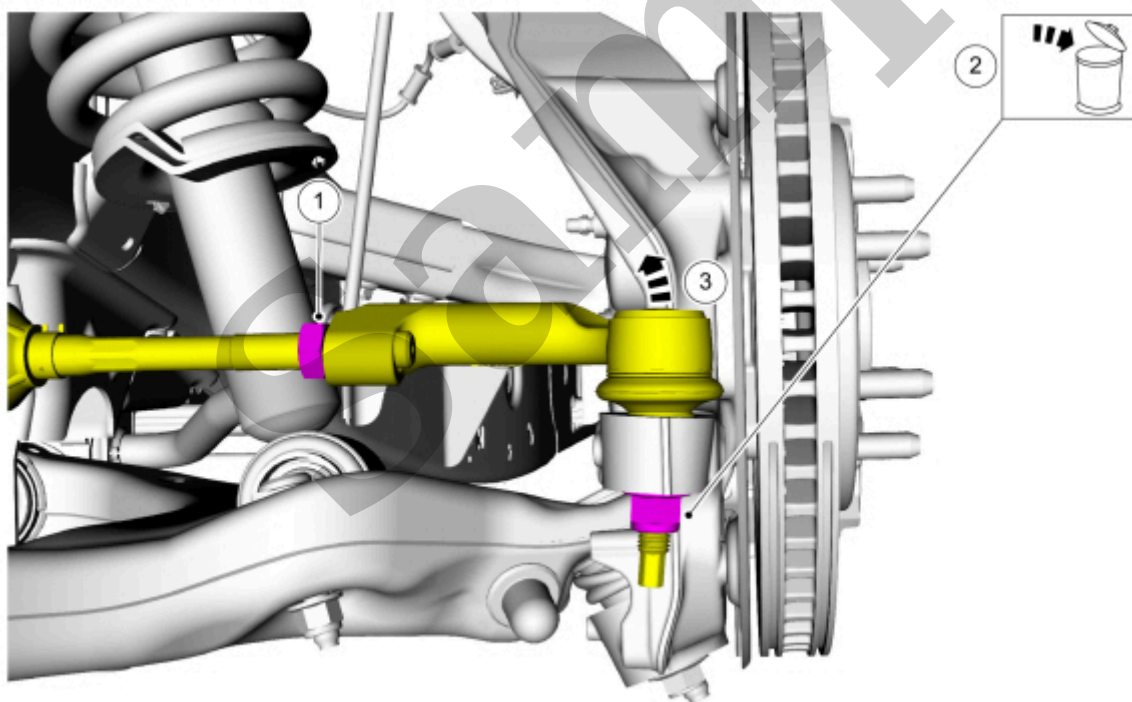
Do not use a hammer to separate the outer tie-rod end from the wheel knuckle or damage to the wheel knuckle may result.

### 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 spindle.

Use the General Equipment: Tie Rod End Remover



E332309

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### 4. NOTE





## Tie Rod

<b>211-02 Power Steering</b>	<b>2022 F-150</b>
<b>Removal and Installation</b>	<b>Procedure revision date: 09/21/2020</b>

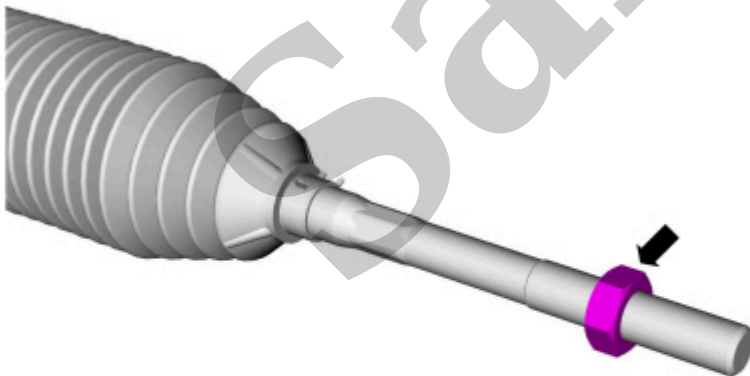
### Tie Rod

#### Removal

1. Remove the tie rod end.

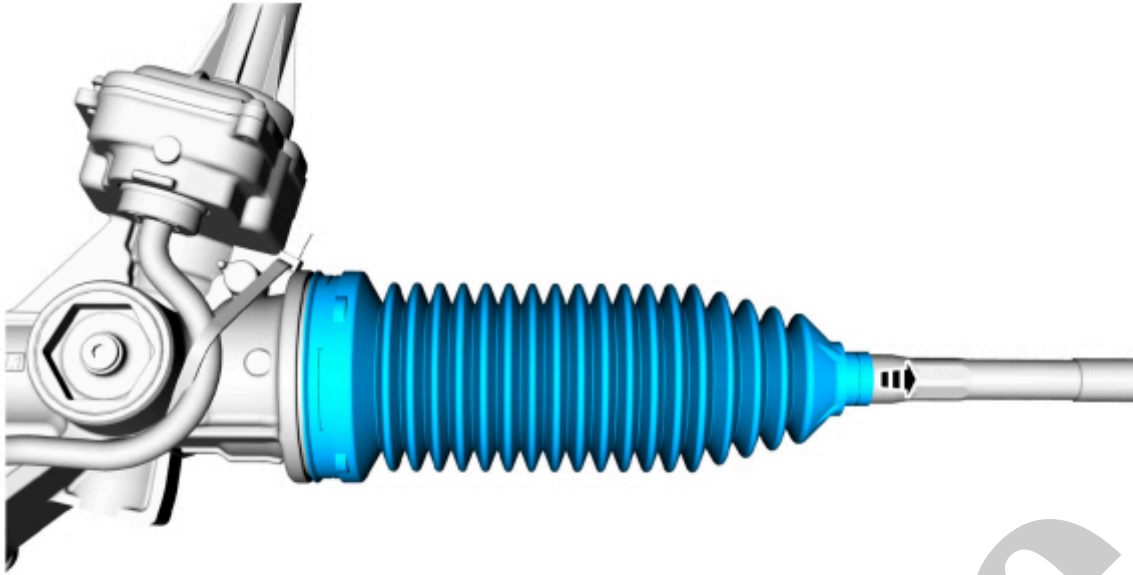
Refer to: [Tie Rod End](#)(211-02 Power Steering, Removal and Installation).

2. Remove the tie rod end jamb nut.



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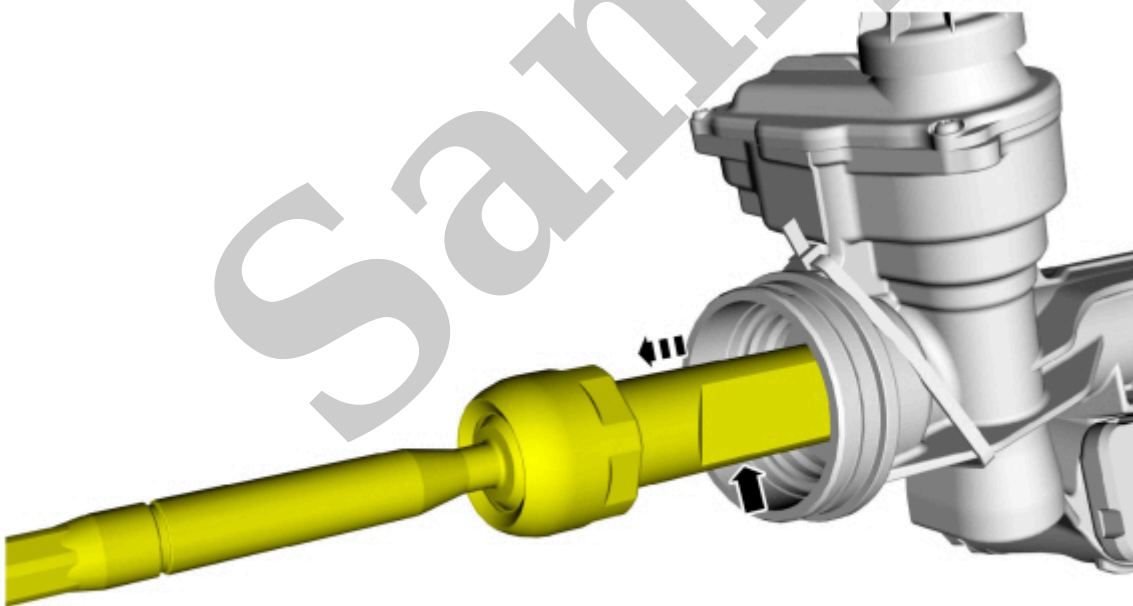
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6. Position the steering rack far enough to the LH (left-hand) side to expose the flat surface.



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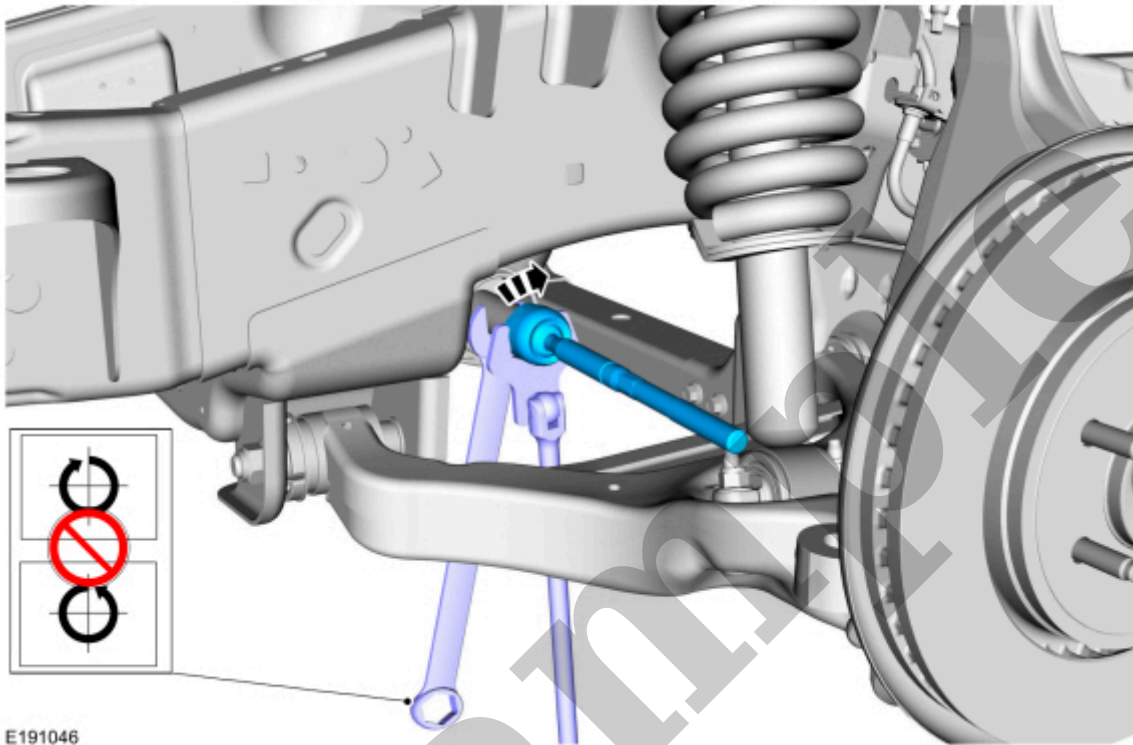
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## NOTE

The help of an assistant may be necessary to torque the RH (right-hand) tie rod.

Using an appropriate-sized wrench on the flat/teeth to hold the rack and an appropriate size crows foot wrench or open end wrench, install the tie rod.

**Torque** : 89 lb.ft (120 Nm)

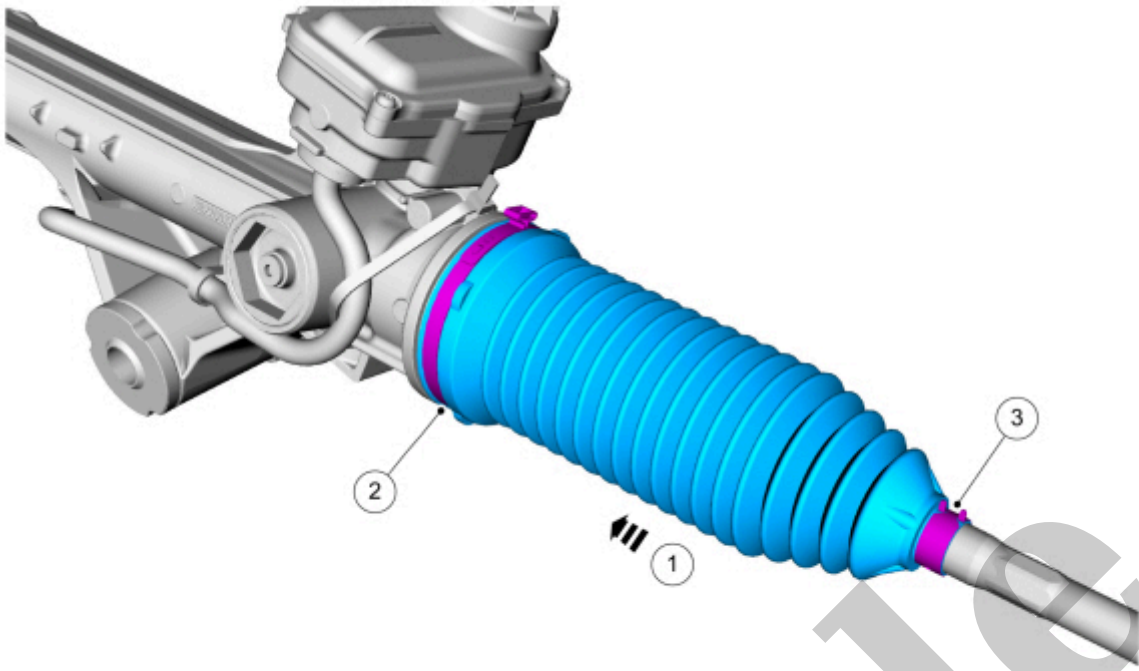


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2. Apply the specified grease to the steering gear-to-bellows boot mating surface and bellows boot groove on the tie rod.

**Material** : Motorcraft® Premium Long-Life Grease / XG-1-E1 (ESA-M1C75-B)





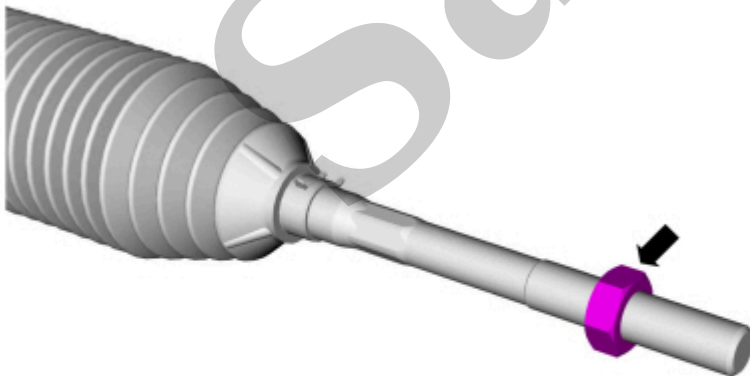
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4. Install the front engine undershield.

Refer to: [Engine Front Undershield](#)(501-02 Front End Body Panels, Removal and Installation).

5. Thread the tie-rod end jam nut onto the tie rod.



E191042

## Steering Column - Overview

<b>211-04 Steering Column</b>	<b>2022 F-150</b>
<b>Description and Operation</b>	<b>Procedure revision date: 10/21/2014</b>

### Steering Column - Overview

#### Steering Column Overview

The steering column system consists of the following components:

- Steering wheel
- SCCM (steering column control module)
- Telescope and tilt motors (power steering column)
- Upper and lower steering shafts
- Steering column control switch (power steering column)

The steering column is the mechanical linkage between the steering wheel and the steering gear. The steering wheel is mounted to a shaft which passes through the center of the steering column to the steering gear. The steering column shaft utilizes non-servicable U-joint type couplings.

Vehicles with the manual tilt/telescope steering column are controlled by a mechanical lever on the underside of the steering column to lock and unlock the steering column. When the lever is pulled down, the steering column can be adjusted up or down and in or out to the desired position. While holding the steering wheel in the desired position, pulling the lever up to its original position locks the steering column.

Vehicles with the power tilt/telescope steering column are controlled by operating the steering column control switch, using the steering column tilt/telescope motors to achieve the desired steering column position. The steering column can be adjusted up or down and in or out to the desired position. The power tilt/telescope steering column is also part of the driver memory feature, positioning the seat, column and mirrors to programmed positions.