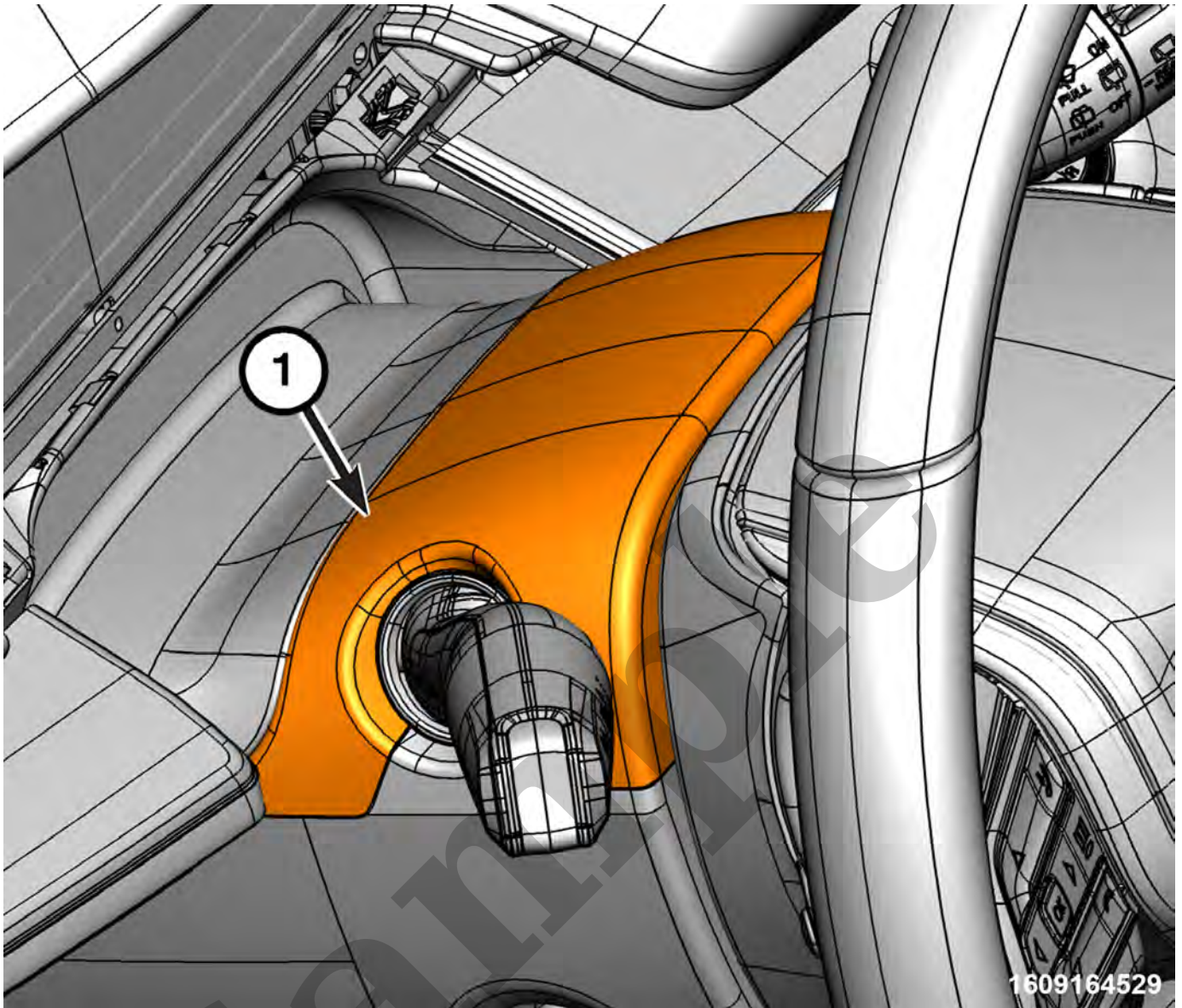


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FactoryManuals.net is a great resource for anyone who wants to save money on repairs by doing their own work. The manuals provide detailed instructions and diagrams that make it easy to understand how to fix a vehicle.

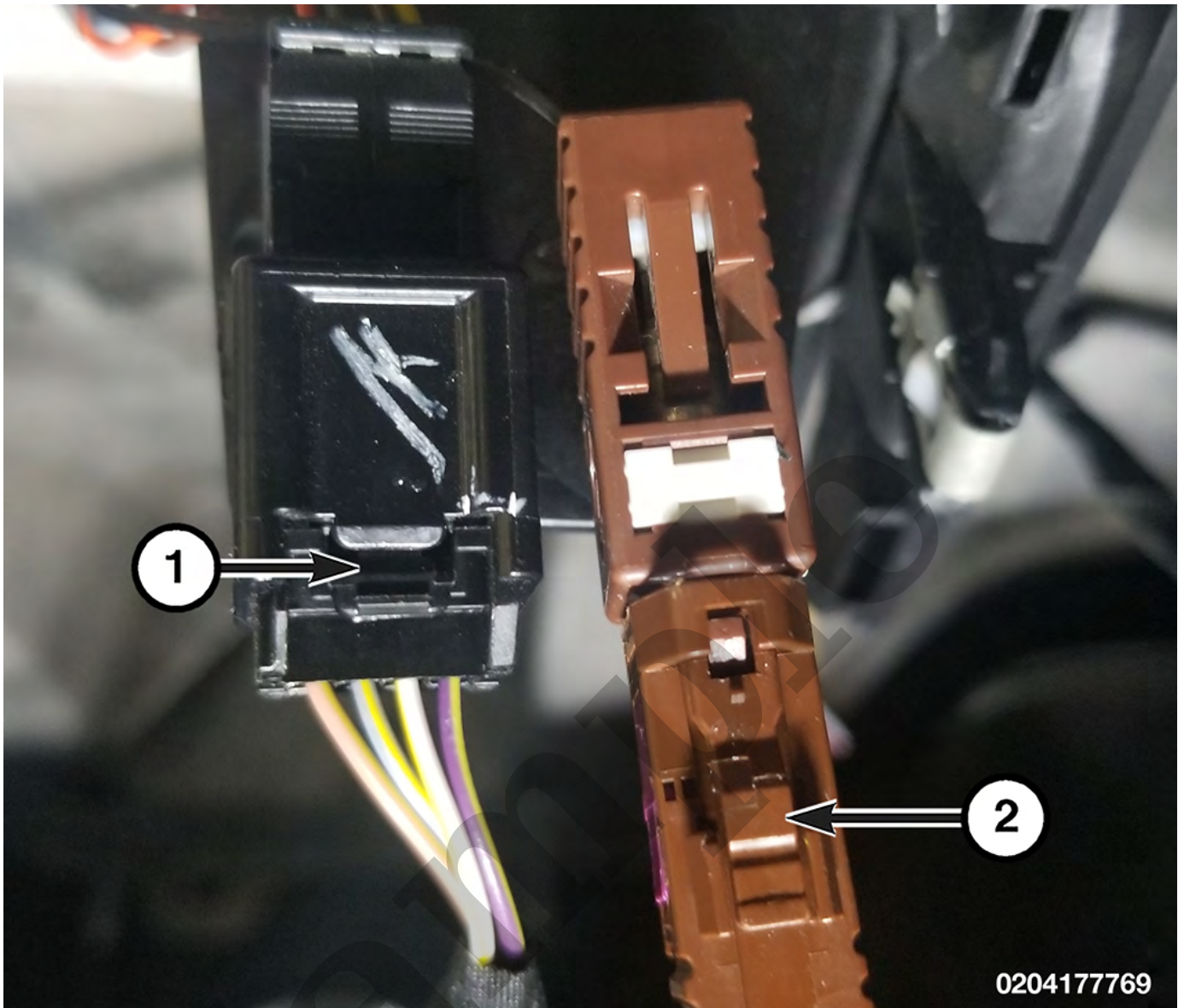
2015 Jeep Wrangler Rubicon Manual - Complete Service & Repair

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1 - Upper Steering Column Shroud

4. Use a suitable tool to disengage the gap hider from the upper steering column shroud.
5. Use a suitable tool to release the tabs and separate the upper shroud from the lower shroud.
6. If equipped with a steering wheel camera, lift the upper steering column shroud slightly.



1 - Wire Harness Connector

2 - Wire Harness Connector

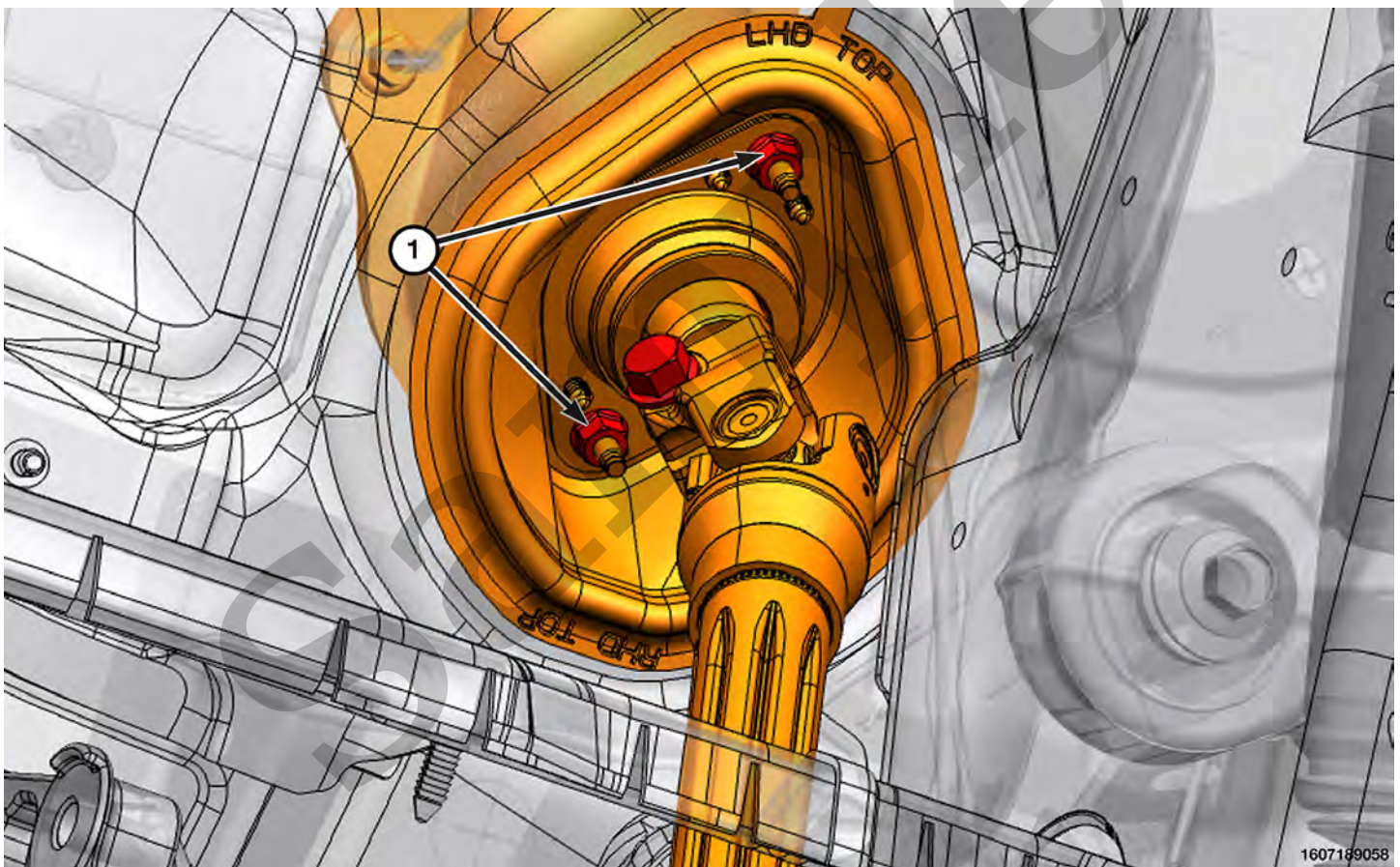
10. If equipped with a steering wheel camera, disconnect the camera wire harness connectors and remove the upper shroud.

11. If equipped with a steering wheel camera, remove the camera from the upper shroud.

INSTALLATION

Follow the removal procedure in reverse for general reassembly of the components on the vehicle.

3	Intermediate Shaft Pinch Bolt	45 N·m (33 Ft. Lbs.)	Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.
4	Upper Steering Column Shaft Coupling Pinch Bolt	45 N·m (33 Ft. Lbs.)	Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.
5	Lower Steering Column Shaft Coupling Pinch Bolt	45 N·m (33 Ft. Lbs.)	Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.



CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Intermediate Shaft Bearing Nuts	8 N·m (71 In. Lbs.)	—

module over-temperature condition from becoming active. When the EPS temperature goes below the activation temperature, the EPS will stop requesting the engine fan activation. During an over-temperature event, steering assist will be reduced until the EPS temperature is back within the expected operating range.

The steering gear is not serviceable and is replaced as a complete assembly. The inner and outer tie rods and the tie rod bellows are serviced separately from the steering gear.

Manual steering control of the vehicle can be maintained if power steering assist is lost, however, under this condition, steering effort is significantly increased.

Body Control Module (BCM)

[Component Index](#)

The BCM receives the following:

CAN INPUTS

- Transfer case range status
- BSCM data – vehicle speed, front wheel RPM, yaw rate, longitudinal and lateral acceleration
- Engine Stop/Start (ESS) status
- Engine status
- Engine RPM
- Active Driver Assist (ADA) status
- Hybrid propulsion system active
- Electronic Shift Module (ESM) gear position
- EPS warning display request

The BCM provides the following:

CAN OUTPUTS

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- BSCM data – vehicle speed, front wheel RPM, yaw rate, longitudinal and lateral acceleration
- Engine Stop/Start (ESS) status
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- Engine RPM
- ADA status
- Hybrid propulsion system active
- ESM gear position
- EPS warning display request

Coupling

Diagnosis And Testing

DIAGNOSIS AND TESTING

If the vehicle is involved in a collision where the airbag has been deployed or the steering wheel deformed, then steering column replacement is required.

Verify the correct software and calibration files are loaded in the Electric Power Steering (EPS) module.

If any EPS Diagnostic Trouble Codes (DTCs) are present, perform the appropriate diagnostic procedure before continuing ([Refer to DTC-Based Diagnostics/MODULE, Electric Power Steering \(EPS\)/Diagnosis and Testing](#)).

NOTE

The EPS gear may have residual grease from the supplier for water intrusion prevention purposes and does not constitute failure of the EPS gear.

MECHANICAL PERFORMANCE ISSUES

CONDITION	EVALUATION / CORRECTION
STEERING WHEEL IS OFF CENTER	1. Perform the wheel alignment standard procedure (Refer to Front Suspension/Wheel Alignment - Standard Procedure).
VEHICLE PULLS LEFT OR RIGHT	1. Perform the wheel alignment standard procedure (Refer to Front Suspension/Wheel Alignment - Standard Procedure).
PERCEIVED COLUMN/STEERING WHEEL FREE PLAY	1. Check the intermediate shaft pinch bolt torque. Replace the intermediate shaft pinch bolt and tighten to the proper (Torque Specifications).
	2. Check steering gear mounting bolt torque. Replace if necessary and tighten to the proper (Torque Specifications).

CONDITION	EVALUATION / CORRECTION
	<p>3. Make sure the coupling is fully seated on gear input shaft. Re-torque or re-seat as necessary.</p> <p>5. If the previous steps did not fix the issue, (Refer to Differential and Driveline/Diagnosis and Testing).</p> <p>4. If issues remain despite previous steps, perform further evaluation in the steering joints (Refer to Steering/Gear/Diagnosis and Testing).</p>
SQUEAKING / RUBBING	<p>1. Refer to recent TSBs. If procedures outlined do not fix issue, proceed through the following:</p> <p>2. While turning the steering wheel, check interference between moving components. Move, realign, or replace shrouds or shaft as necessary.</p> <p>3. Remove the clockspring and reinstall steering wheel for testing. If the noise is gone, replace the clockspring.</p> <p>4. Remove the boot seal and recheck for noise. Lubricate the seal as necessary.</p> <p>5. While a helper turns the steering wheel, use an electronic listening tool to determine which front suspension joint produces the noise. Replace as necessary.</p>
SCRUBBING / KNOCKING	<p>1. Refer to recent TSBs. If procedures outlined do not fix issue, proceed through the following:</p> <p>2. Verify the size tire or wheel installed is compatible with the original equipment size.</p> <p>3. Drive the vehicle, moving accelerator pedal rapidly up and down attempting to locate noise. Try in both forward and reverse. Replace mounts as necessary.</p> <p>4. Make sure the wheel house is properly positioned. If not, reposition as necessary.</p> <p>Check for bent or misaligned components. Correct or replace as necessary.</p>

Refer To List:

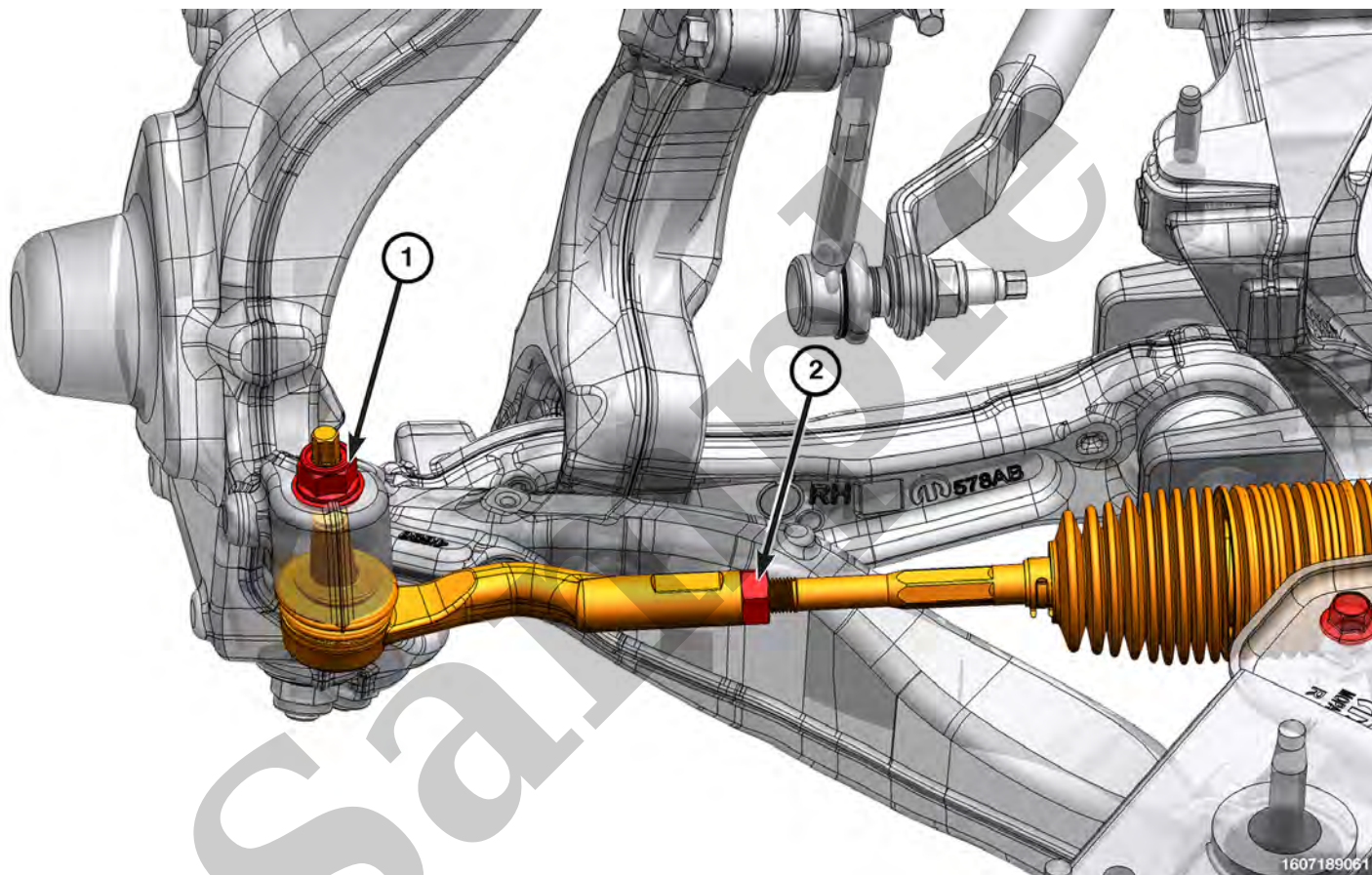
6. Remove and the inner tie rod boot (gaiter).

INSTALLATION

Follow the removal procedure in reverse for general reassembly of the components on the vehicle. The steps listed below are calling out specific procedures that should be followed during installation.

- Perform the wheel alignment standard procedure ([Refer to Front Suspension/Wheel Alignment - Standard Procedure](#)).

TORQUE SPECIFICATIONS - TIE ROD END

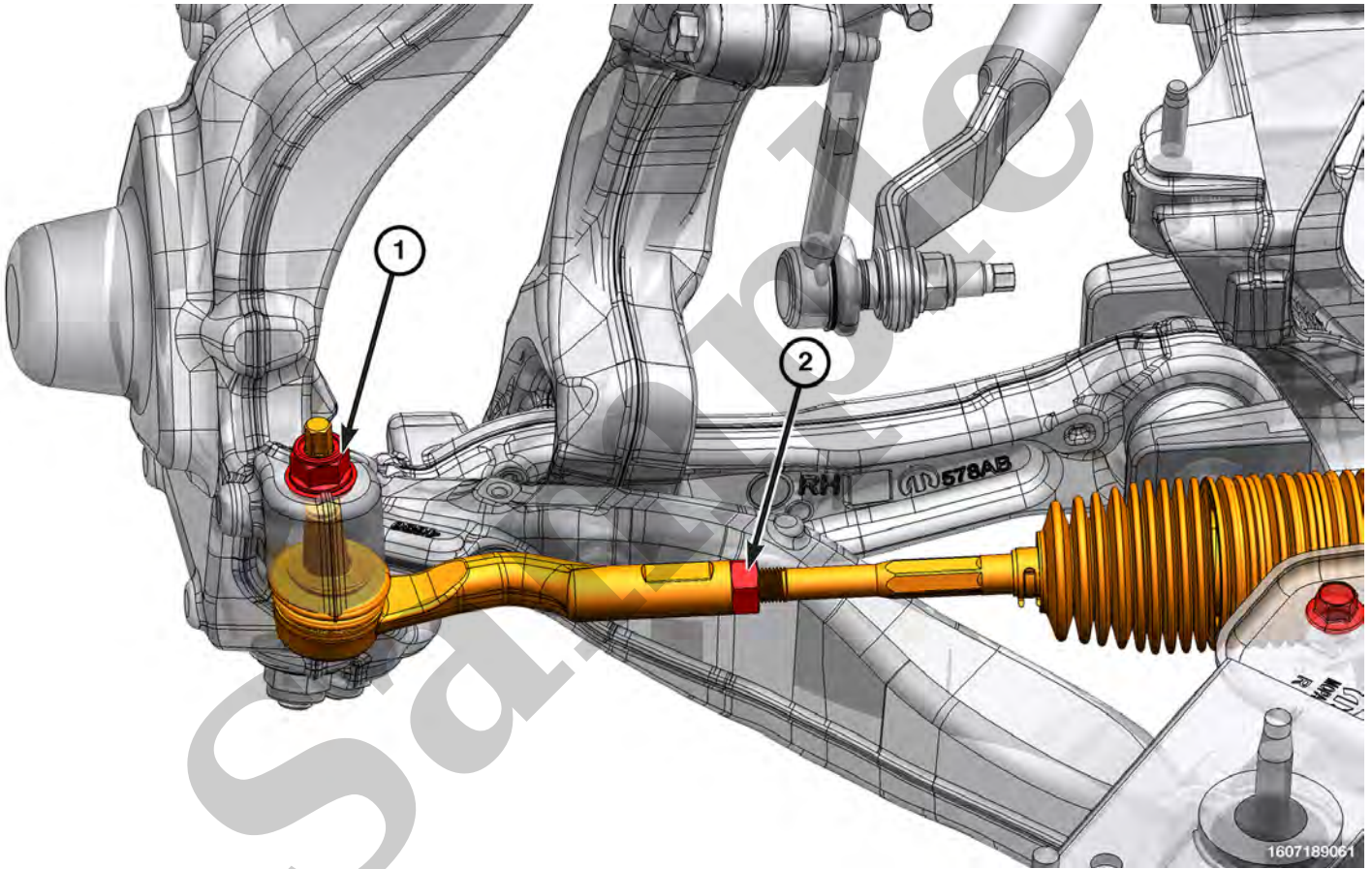


CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Tie Rod End Nut	54 + 110° N·m (40 + 110° Ft. Lbs.)	Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.
2	Tie Rod Jam Nut	100 N·m (74 Ft. Lbs.)	—

Sample

1	Steering Rack Rear Bolts	113 N·m (83 Ft. Lbs.)	—
2	Steering Rack Front Bolts	125 N·m (92 Ft. Lbs.)	—
3	Steering Rack Bracket Bolts (Short)	70 N·m (52 Ft. Lbs.)	—
4	Steering Rack Bracket Bolts (Long)	100 N·m (74 Ft. Lbs.)	—

TORQUE SPECIFICATIONS - TIE ROD END



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