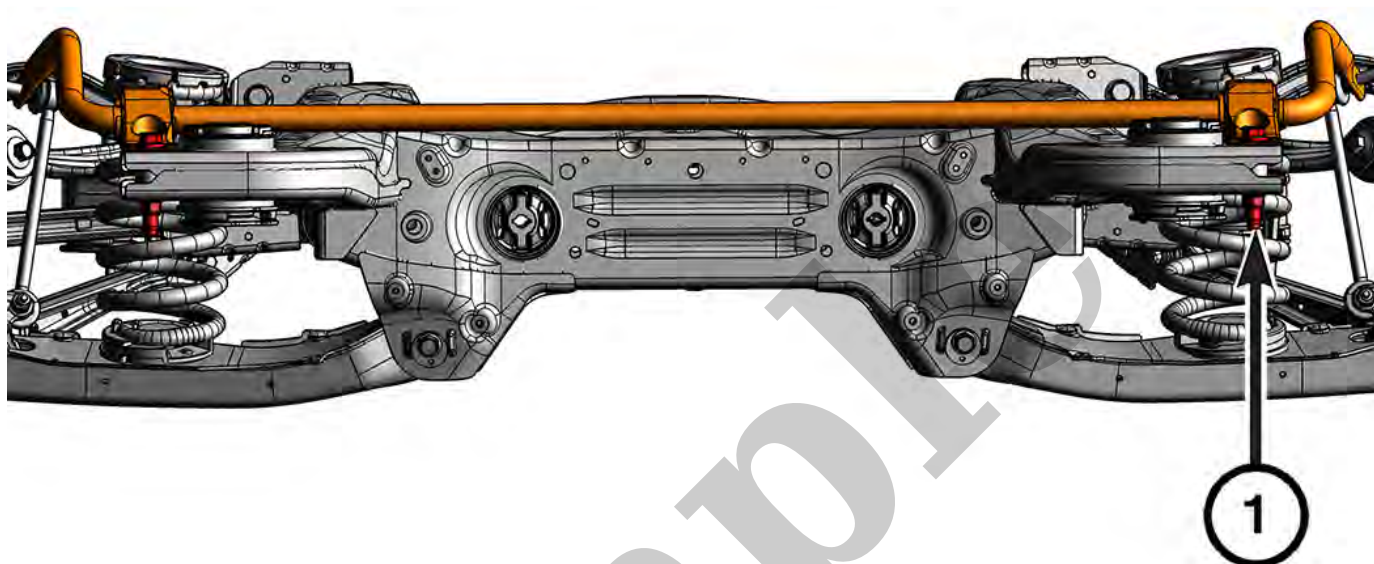


# Your Ultimate Source for OEM Repair Manuals

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.

## 2016 JEEP Renegade OEM Service and Repair Workshop Manual

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1 - Stabilizer Bar Bolts and Nuts

5. Remove the stabilizer bar bolts and nuts.
6. Remove the stabilizer bar, bushings, and brackets as an assembly.

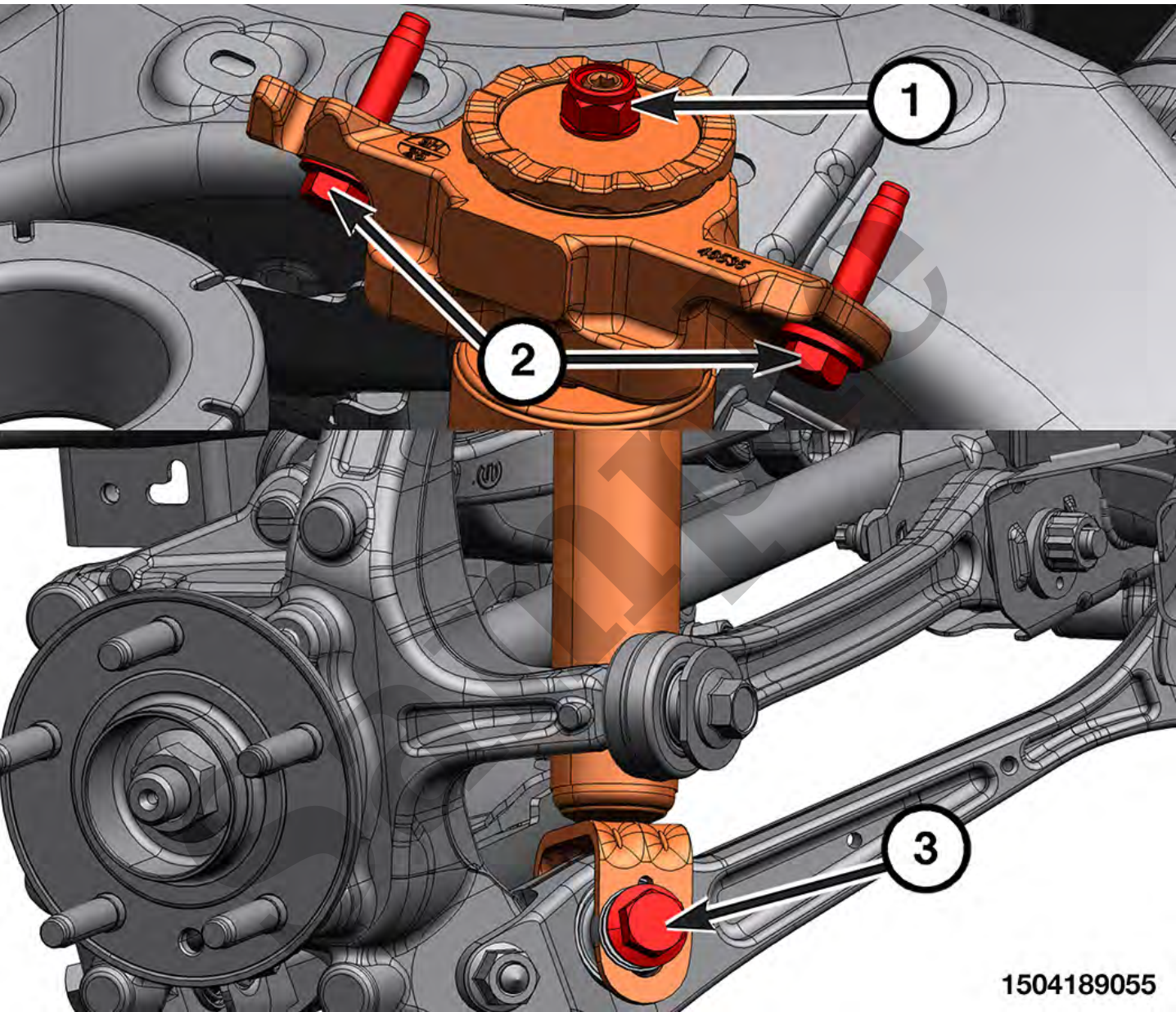
## INSTALLATION

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

## TORQUE SPECIFICATIONS - REAR STABILIZER BAR

12	Compression Link Inner Bolt	<b>170 N·m (125 Ft. Lbs.)</b>	Fastener must be torqued with the vehicle at normal ride height.
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**TORQUE SPECIFICATIONS - REAR SHOCK**



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CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Shock Absorber Upper Nut	<b>70 N·m (52 Ft. Lbs.)</b>	Do not reuse these fasteners. If removed, a new fastener must be installed and tightened to specifications.

Inspect for the following:

- Verify correct wheel and tire, as well as presence of wheel weights.
- Inspect tires for side wall damage such as deformation, stones in tread, mud packing and unusual tread wear. Clean or correct as necessary. (refer to tire diagnostics section)
- Inspect wheels for mud/snow packing, bent rim flanges (outer or inner) and presence of balance weights. If balance weights are missing, rebalance wheel. Clean or correct as necessary.
- Check and adjust tire air pressure to the pressure listed on the label attached to the driver's door opening. Note that pressures may be different front to rear.

## ROAD TEST

### NOTE

Use the Noise Vibration and Harshness (NVH) tester to diagnosis the issue during the road test ([Refer to Non-DTC Diagnostics/Noise, Vibration, Harness/Diagnosis and Testing](#)).

### NOTE

If the vehicle has been sitting for an extended period of time it is recommended to drive to warm the tires.

Use the following vehicle diagnosis and correction chart to diagnose and correct a vehicle with vibration or shake.

## 1 - Lug Nuts

1. Raise and support the vehicle ([Refer to Vehicle Quick Reference/Hoisting/Standard Procedure](#)).
2. Remove the lug nuts.
3. Remove the tire and wheel assembly.

### 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.

- Tighten the lug nuts in a star pattern.

### TORQUE SPECIFICATIONS - WHEEL LUG NUT



0:00 / 2:21

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## FORCE MATCHING

0:00 / 5:37

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### NOTE

Always verify the wheel and tire balance before removing any wheel weights. If assembly is within specification and weights are not corroded or loose, do not remove weights. The process of removing and adding weight could damage wheel protective coating.

### NOTE

Balance and road force variation equipment must be calibrated and maintained per equipment manufacturer's specifications.

### NOTE

If a tire sealant & inflator kit was used to temporarily repair small punctures then the tire must be removed from wheel and all the sealant must be removed with a water damped cloth before repairing and balancing the assembly.

### NOTE

YOUR CURRENT VEHICLE

## Tire And Wheel Rotation

### TIRE AND WHEEL ROTATION

Tires on the front and rear operate at different loads and perform different steering, driving, and braking functions. For these reasons they wear at unequal rates and tend to develop irregular wear patterns. These effects can be reduced by rotating the tires at regular intervals. The benefits of tire rotation are:

- Increase tread life
- Maintain traction levels
- A smooth, quiet ride

The suggested methods of tire rotation is shown in the graphics. Other rotation methods can be used, but they will not provide all the tire longevity benefits.



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The Tire Pressure Monitoring (TPM) System consists of the tire pressure sensors, RF Hub Module and antenna. Information, such as the warnings and pressure readouts for the TPM system, is displayed on the IPC. The RF Hub received RF signals from the Tire Pressure Sensors. Each sensor has a unique identifier that is read and programmed into the RF Hub in order to help determine at what wheel end the sensor located at.

## SYSTEM OPERATION – TIRE PRESSURE MONITORING (TPM) SYSTEM

The TPM monitors the pressure of each tire and warns the driver when either a low tire pressure conditions or a TPM malfunctions exists. The TPM will display the conditions through the Instrument Panel Cluster (IPC).

There are two TPM systems available for this vehicle, a **Base** and a **Premium** system. The **Base** systems only uses a TPM telltale (audible chime) and non-positional text messages to indicate low pressure or system fault conditions. The **Premium** system uses all the available functions of the **Base** system as well as the Electronic Vehicle Information Center (EVIC) located in the IPC to display the actual tire pressure values (or dashes when a sensor error has occurred) for each of the active road tires (up to five depending on vehicle configuration) in the correct vehicle position. Various text messages, when prompted by the system, will also be displayed in the vehicle information display.

After a tire rotation, the system auto locates the tire location and displays its pressure readings at the proper location in the EVIC. When equipped with the **Premium** system and the tire pressure is 48-55 kPa (7-8 psi) below the specification listed on the label, the system emits the TPM telltale chime, illuminates the low tire pressure warning light, and displays the pressure of the four active tires in the EVIC display. If a system fault is detected, the warning light will flash for 75 seconds, then remain on continuously. Dashes will take the place of the pressure reading if a sensor is not correctly operating. A five-sensor system is available for vehicles with a full-size spare tire and wheel (in markets where provided). The TPM system uses four or five tire pressure sensors designed for mounting in place of a traditional tire valve. The tire pressure sensor includes a stem that looks similar to a standard stem. The sensor body, located at the bottom of the stem, contains a sensor, a processor, a transmitter/receiver, and a non-removable coin battery that lasts up to 10 years. If the battery fails, the sensor must be replaced.

The RFH module is used in the TPM system to receive the radio signals from the tire pressure sensors and sends the relevant values to the other modules through the Controller Area Network – Flex Data (CAN-FD) bus and CAN – Interior High Speed (CAN-IHS) bus. The RFH module identifies the sensor position, receives the sensor data, compares the pressure data with the standard pressure values stored in the non-volatile memory, determines whether there is a problem in the tire pressure, and stores the warnings regarding tire pressure and system faults. The RFH module uses the RF data from the TPM sensor and the Brake System Control Module (BSCM) wheel speed data to determine the location of each tire pressure sensor. When a sensor is installed in a tire on the vehicle, the RFH module can automatically identify the sensor and its location during the first ensuing drive cycle. Identification will take approximately 20 minutes but the speed of the vehicle must exceed 24 km/h (15 mph). The TPM/RKE ANALYZER KIT 2046300080 can also be used to program the new sensor identification number in the RFH module. The sensor Identifications (IDs) can also be programmed using a diagnostic scan tool.

On a **Premium TPM systems**, the IPC displays the pressure values transmitted for all four active sensors in the proper vehicle position. The correct pressure values and vehicle positions to be displayed are determined from the TPM sensor locations. Any tire pressure unit conversion are performed by a software algorithm within the IPC.

An under-inflation condition will cause a text message to be displayed, an audible chime to sound, and the tire pressure Indicator Lamp to illuminate. The audible chime will occur once per ignition cycle for the first "warning" detected.

When an under-inflation condition is detected and sent in the tire pressure indication request message, the IPC turns the TPM indicator lamp ON continuously and the lamp remains ON when the ignition is in the ON/RUN position until the low tire pressure condition is corrected.

When an under-inflation condition occurs for **Base TPM systems**, a low tire pressure text message will be displayed.

When an under-inflation condition occurs for a **Premium TPM system**, a low tire pressure text message may be displayed or low tire pressure text messages including the location of the low tire may be displayed. The pressure value of the tire that is low and the IPC has a color display will change to a different color until the low pressure condition is corrected. The tire pressure display screen will remain displayed indefinitely or until another display screen is selected. If more than one low tire pressure condition exists, the pressure value of each tire that is low will change colors.

#### **CAN-FD Inputs**

- TPM chime request
- Tire pressure indication request
- TPM localization status
- TPM hazard flash
- Tire location for each wheel
- Tire pressure for each wheel
- Front tire maximum load inflation pressure
- Rear tire maximum load inflation pressure
- Base TPM present
- Premium TPM present
- TPM configuration

## Replacement Tires

### REPLACEMENT TIRES

#### WARNING

Failure to equip the vehicle with tires having adequate speed capability can result in sudden tire failure.

#### WARNING

In order to maintain the speed capability of the vehicle, replacement tires must have speed ratings equal to or higher than those fitted to the vehicle as original equipment. If tires with lower speed ratings are fitted, the vehicle's handling may be affected and the speed capability of the vehicle may be lowered to the maximum speed capability of the replacement tires. To avoid an accident resulting in severe or fatal injury, consult the tire manufacturer in regards to maximum speed ratings.

It is recommended that tires equivalent to the original equipment tires be used when replacement is needed.

Failure to use equivalent replacement tires may adversely affect the safety and handling of the vehicle.

The original equipment tires provide a proper combination of many characteristics such as:

- Ride
- Noise
- Handling
- Durability
- Tread life
- Traction
- Rolling resistance
- Speed capability

The use of tires smaller than the minimum tire size approved for the vehicle can result in tire overloading and failure.