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2016 Jeep COMPASS PATRIOT Service Manual

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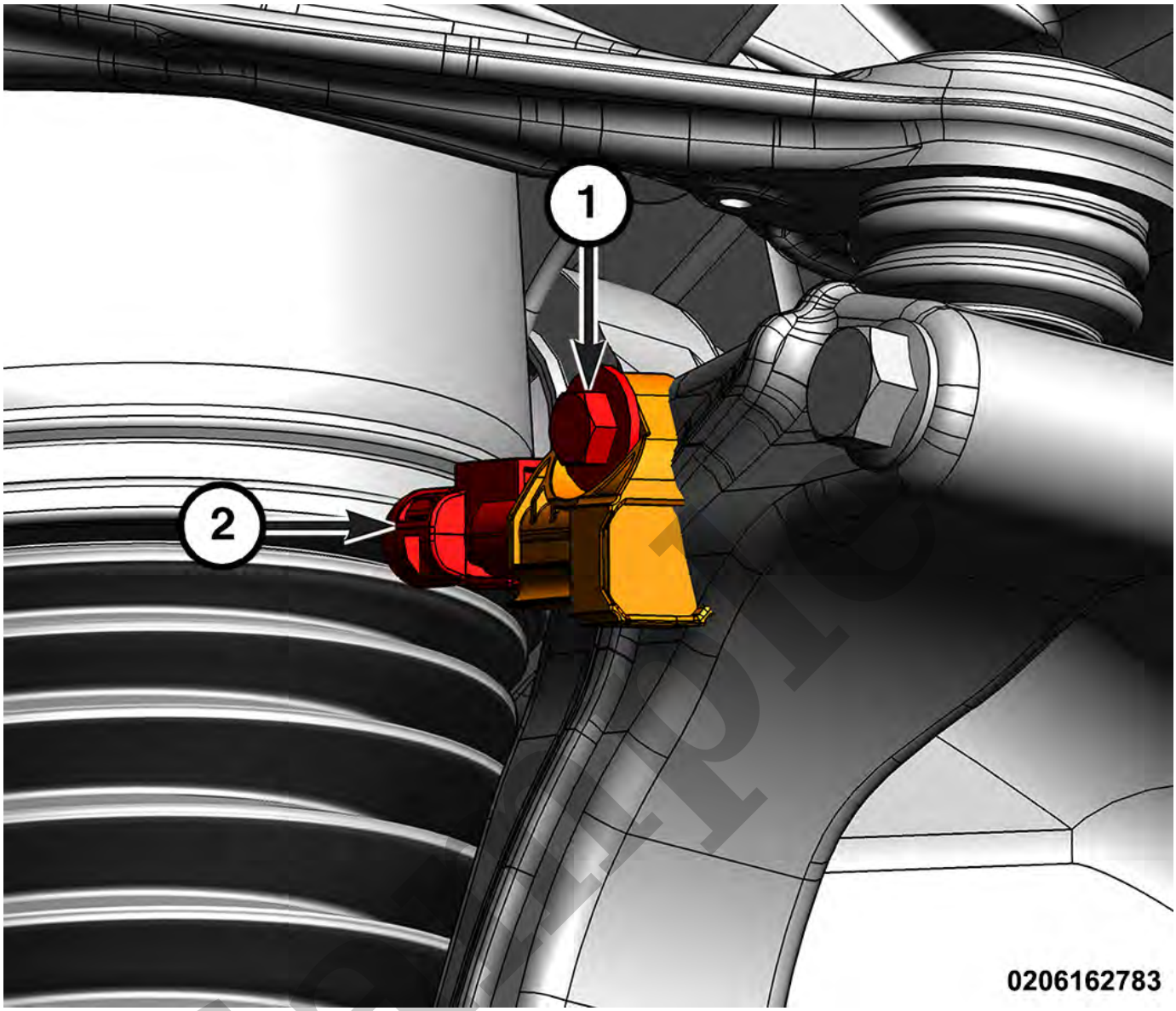


1 - Active Damper Sensor Bolt
2 - Wire Harness Connector

7. Disconnect the active damping sensor wire harness connector.

DO NOT attempt to rotate the clevis lower nut. The clevis lower nut is pressed in the clevis bracket and damage will occur if the nut is rotated.

14. Disengage the clevis from the shock absorber.
15. Remove the clevis.

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.

CAUTION

DO NOT attempt to rotate the clevis lower nut. The clevis lower nut is pressed in the clevis bracket and damage will occur if the nut is rotated.

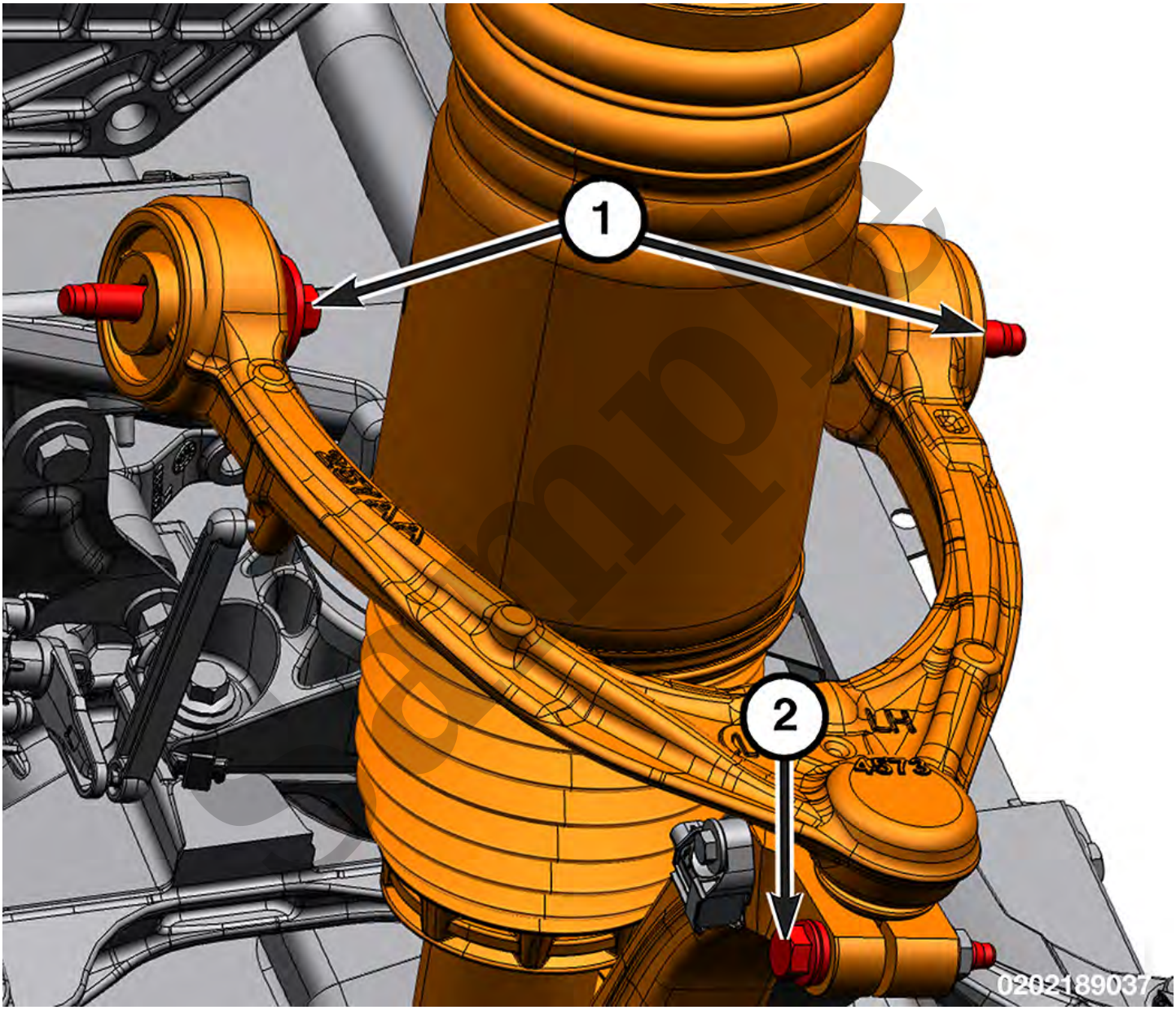
CAUTION

DO NOT attempt to rotate the clevis bracket pinch nut. The clevis bracket pinch nut is pressed in the clevis bracket and damage will occur if the nut is rotated.

- Hold the nut while tightening the clevis lower bolt.
- Hold the nut while tightening the clevis pinch bolt.

TORQUE SPECIFICATIONS - SENSORS

7	Spring Link Nut (With Cam)	**180 N·m (133 Ft. Lbs.)**	Fastener must be torqued with the vehicle at normal ride height.
8	Spring Link Bolt (Without Cam)	**180 N·m (133 Ft. Lbs.)**	Fastener must be torqued with the vehicle at normal ride height.



CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Upper Control Arm Bolts	**90 N·m (66 Ft. Lbs.)**	Fastener must be torqued with the vehicle at normal ride height.

4.	Tension Link
5.	Spring Link
6.	Stabilizer Bar
7.	Stabilizer Bar Link
8.	Clevis Bracket
9.	Upper Control Arm

The front suspension is designed to allow each wheel to adapt to different road surfaces independently. The wheels are mounted to hub and bearing units which are bolted to the steering knuckles. The double-row hub bearings are sealed and lubricated for life. The steering knuckles turn (pivot) on ball joints.

OPERATION

Clevis Bracket

Component Index

The clevis bracket provides physical connection between the shock absorber and the spring link.

Hub and Bearing

Component Index

The hub and bearings are bolted to each steering knuckle and facilitate the mounting of the tires and wheels.

Shock Absorber

Component Index

Shock absorbers dampen suspension travel in a controlled and predictable fashion. Shock absorbers also limit suspension travel at full rebound. The air spring is integral to the shock absorber and serviced as one component, if equipped. The lower end of the shock absorber connects to the spring link to provide damping in the suspension system.

Spring Link

Component Index

CONDITION	POSSIBLE CAUSES	POTENTIAL CORRECTIONS
FRONT END CLUNK OR SNAP ON TURNS	1. Loose wheel lug nuts	1. Verify wheel lug nut torque (Torque Specifications).
	2. Worn or broken C/V joint	2. Replace the C/V joint.
	3. Worn or loose tie rod or ball joint	3. Tighten to the proper (Torque Specifications) or replace the tie rod end. Or tighten to the proper (Torque Specifications) or replace the appropriate ball joint.
	4. Worn control arm bushing	4. Replace the control arm.
	5. Loose stabilizer bar or upper strut attachment	5. Tighten the stabilizer bar or upper strut attachment to the proper (Torque Specifications).
FRONT END POPPING/CLICKING/SNAPPING DURING ACCELERATION AFTER DRIVE-TO-REVERSE SHIFT, REVERSE-TO-DRIVE SHIFT, OR WHILE TURNING	1. Insufficient grease on the mating surface of axle half shaft outer C/V joint mating surface the wheel to the hub and bearing	1. Separate the half shaft from the hub and bearing and wipe the mating surfaces clean. Apply a light coat of wheel bearing grease to C/V joint mating surface and reassemble. Tighten the **NEW** hub nut to the proper (Torque Specifications).
FRONT END WHINE WITH THE VEHICLE GOING STRAIGHT AT A CONSTANT SPEED	1. Worn or damaged wheel bearing	1. Replace the hub and bearing.
	2. Incorrect wheel alignment	2. Check and reset the wheel alignment.
	3. Worn tires	3. Replace the tires.
FRONT END GROWL OR GRINDING WITH THE VEHICLE GOING STRAIGHT AT A CONSTANT SPEED	1. Engine mount grounding	1. Reposition the engine as required.

0:00 / 2:34

NOTE

The hub and bearing is designed to last for the life of the vehicle and requires no periodic maintenance. If it becomes necessary to replace a hub and bearing, do not replace in pairs unless the parts manual specifically states to do so.

Bearings will produce noise if worn or damaged. The noise will generally change when the bearings are loaded. A road test of the vehicle is normally required to determine if there is a bearing noise, or if it is some other component. To assist in finding the location, the following procedure, together with the **DIAGNOSTIC TABLE** , should help determine if a bearing is causing the noise, and if so, which one. Keep in mind that bearing noises are not typically intermittent. If a particular vehicle road test maneuver results in noise only part of the time, it is not likely a hub and bearing issue.

NOTE

Wheel bearings normally purge a small amount of grease, sometimes resulting in wet appearance on or around the seals or adjoining knuckle. This is normal and is not cause for replacement. The only circumstance requiring replacement solely for grease loss would be if a seal is visibly damaged. Evidence of only wetness, such as might be seen during an inspection, is not cause for replacement.

DIAGNOSTIC PROCEDURE:

1. Perform a drive evaluation. Find a smooth, level road surface void of traffic or obstructions. Turn OFF any accessories which may cause background noise. Evaluate for noise at 50 km/h (30 mph) and 100 km/h (60 mph), and with vehicle in neutral at each road speed to eliminate potential drivetrain noises. With the vehicle at a constant speed, steer back and forth to the left and right. This will load and unload the bearings and may change the noise level. When bearing damage is slight, the noise is sometimes noticeable at lower speeds and at other times is more noticeable at higher speeds.

2. Drive evaluation results: Did the noise increase when turning right which may indicate a problem with the left bearing? Did the noise increase when turning left which may indicate a problem with the right bearing?

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HEAVY MISTING SHOCK (DO NOT REPLACE)

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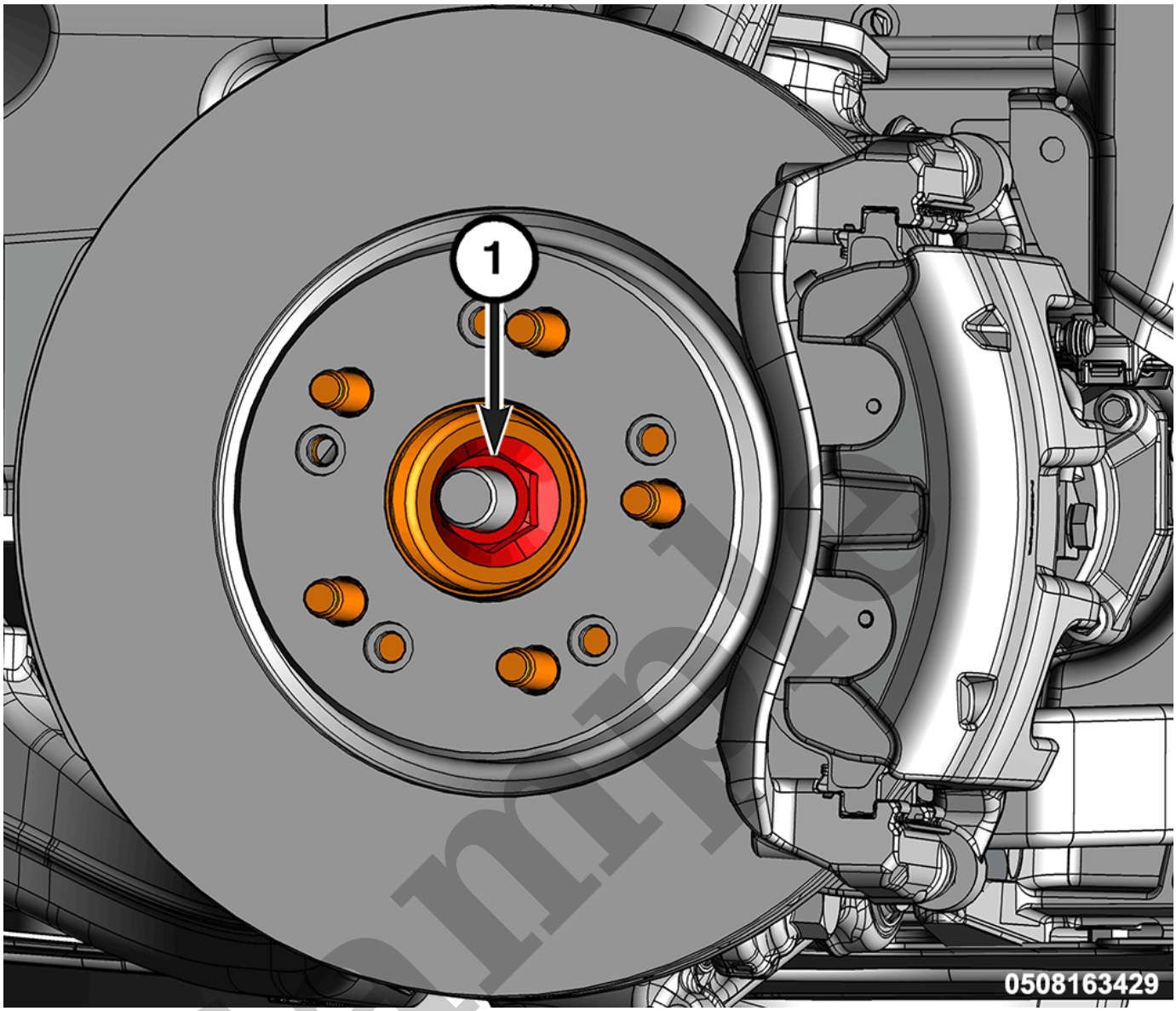
FAILED LEAKING SHOCK (REPLACE)

SPRING LINK BALL JOINT

1. Raise and support the vehicle (Refer to Vehicle Quick Reference/Hoisting/Standard Procedure).
2. Mount a dial indicator solidly to the steering knuckle.
3. Position the indicator plunger against the top surface of the spring link centered on the ball joint axis, then zero the dial indicator.
4. Position a pry bar under the tire assembly. Pry upward on the tire assembly.



1 - Halfshaft Hub and Bearing Nut

3. If equipped, have a helper apply brake pressure and remove and **DISCARD** the halfshaft hub and bearing nut.

CAUTION

Never allow the disc brake caliper to hang from the brake hose. Damage to the brake hose will result. Provide a suitable support to hang the caliper securely.

4. Remove the front brake rotor (Refer to Brakes, Base/Hydraulic/Mechanical/ROTOR, Brake/Removal and Installation).

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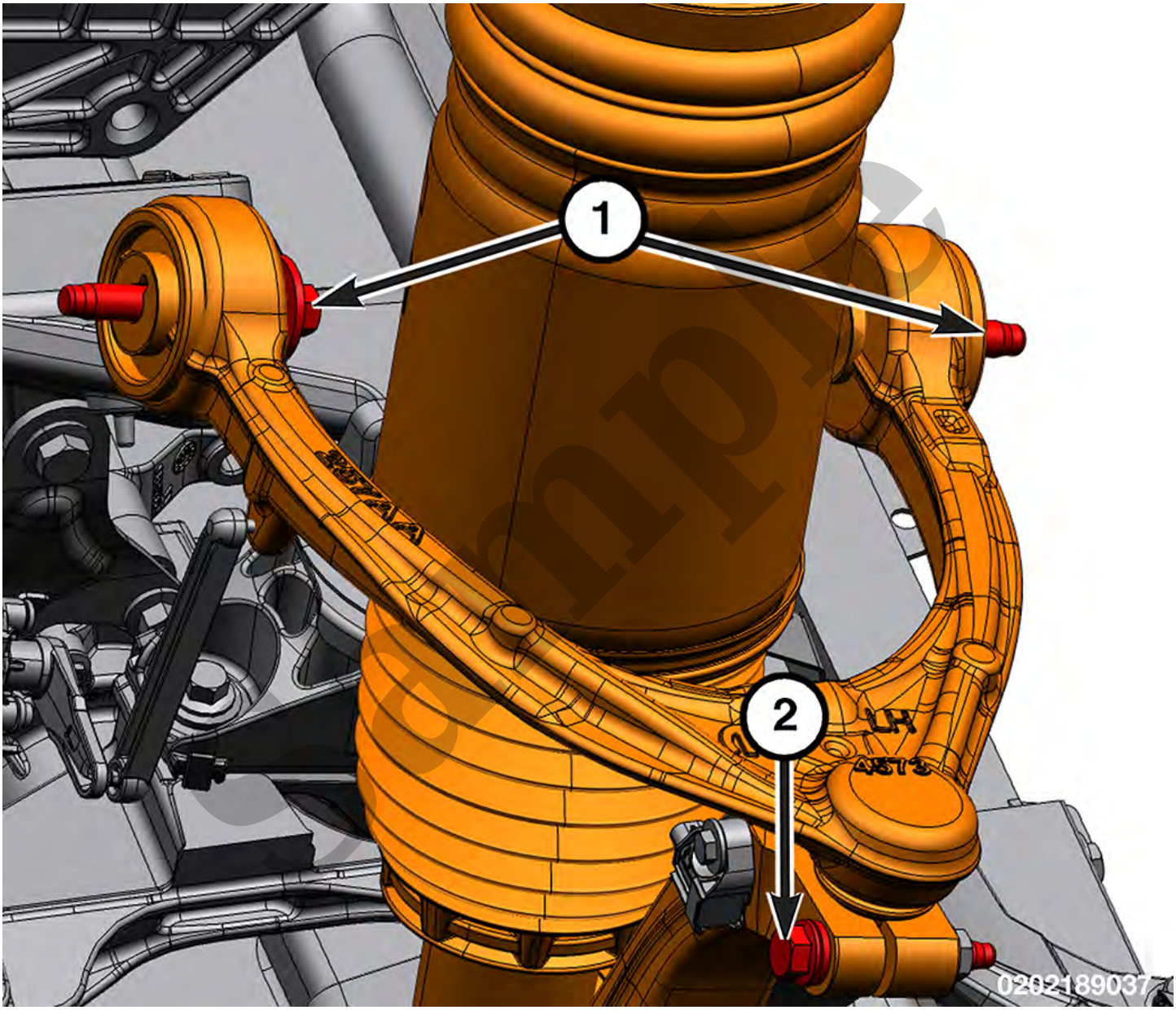

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