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2015 JEEP Wrangler Unlimited OEM Service and Repair Workshop Manual

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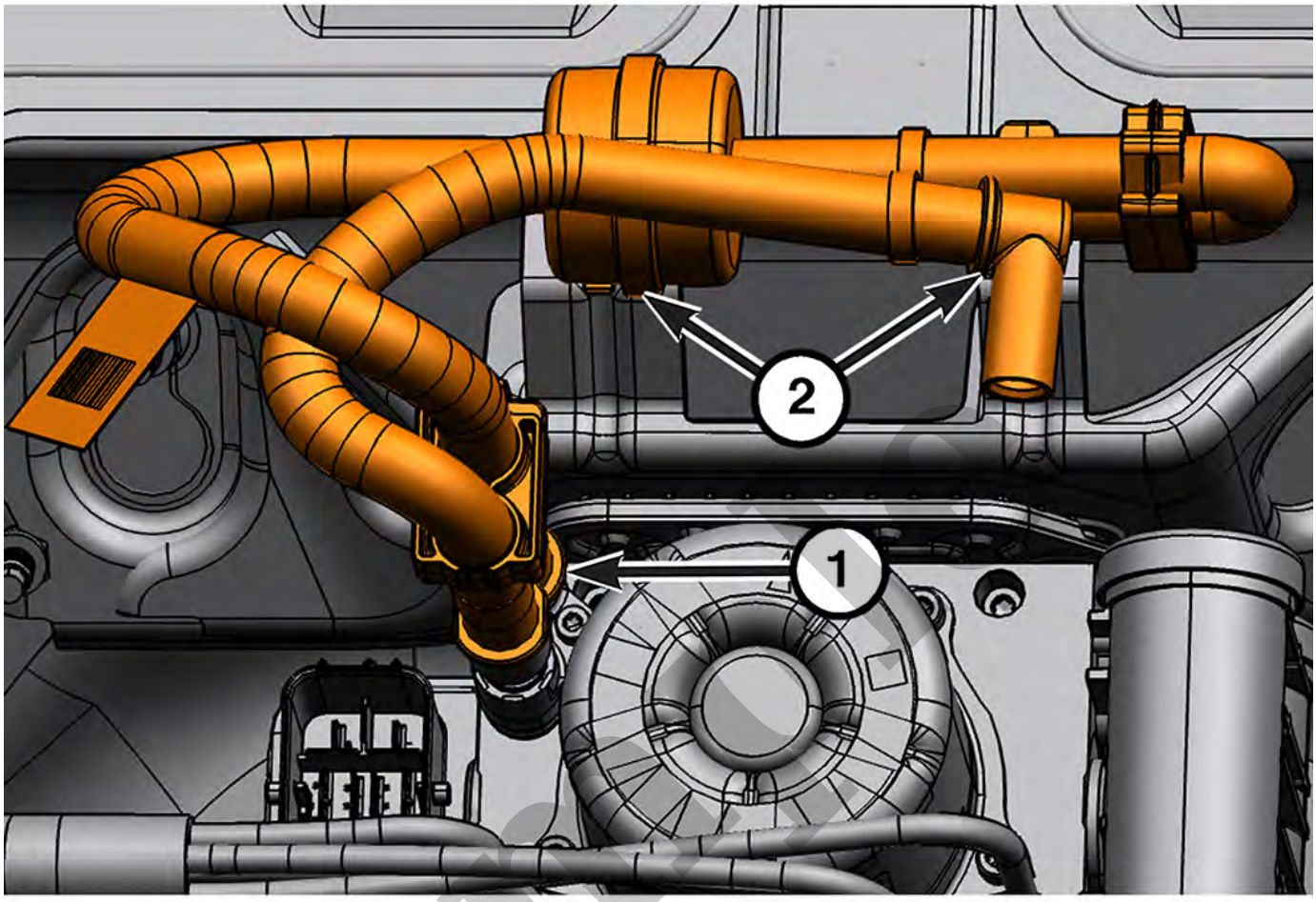

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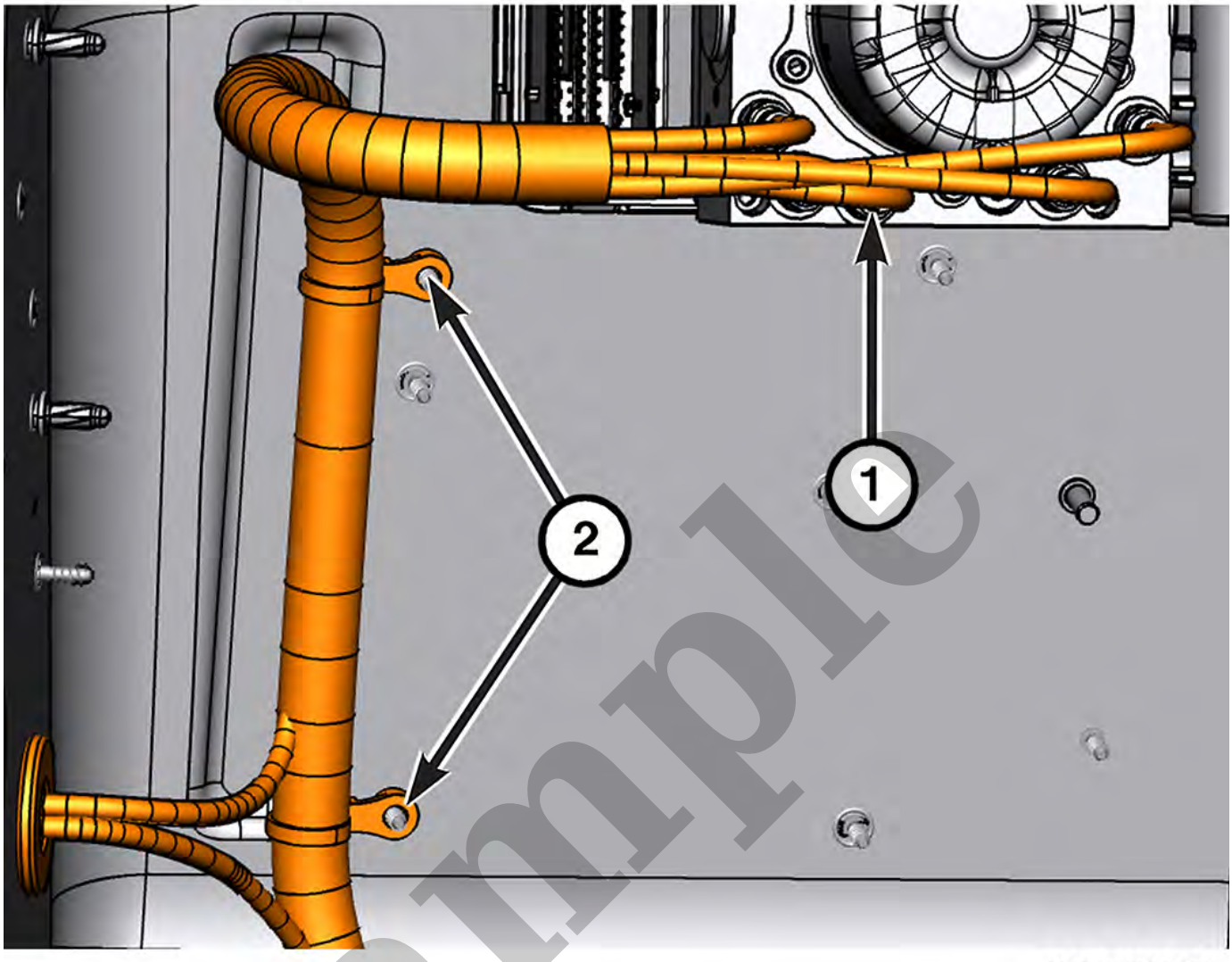
1 - Quick Connect Fittings
2 - Routing Clips

4. Disengage the routing clips.

5. Disengage the quick connect fittings and remove the air hoses.

INSTALLATION

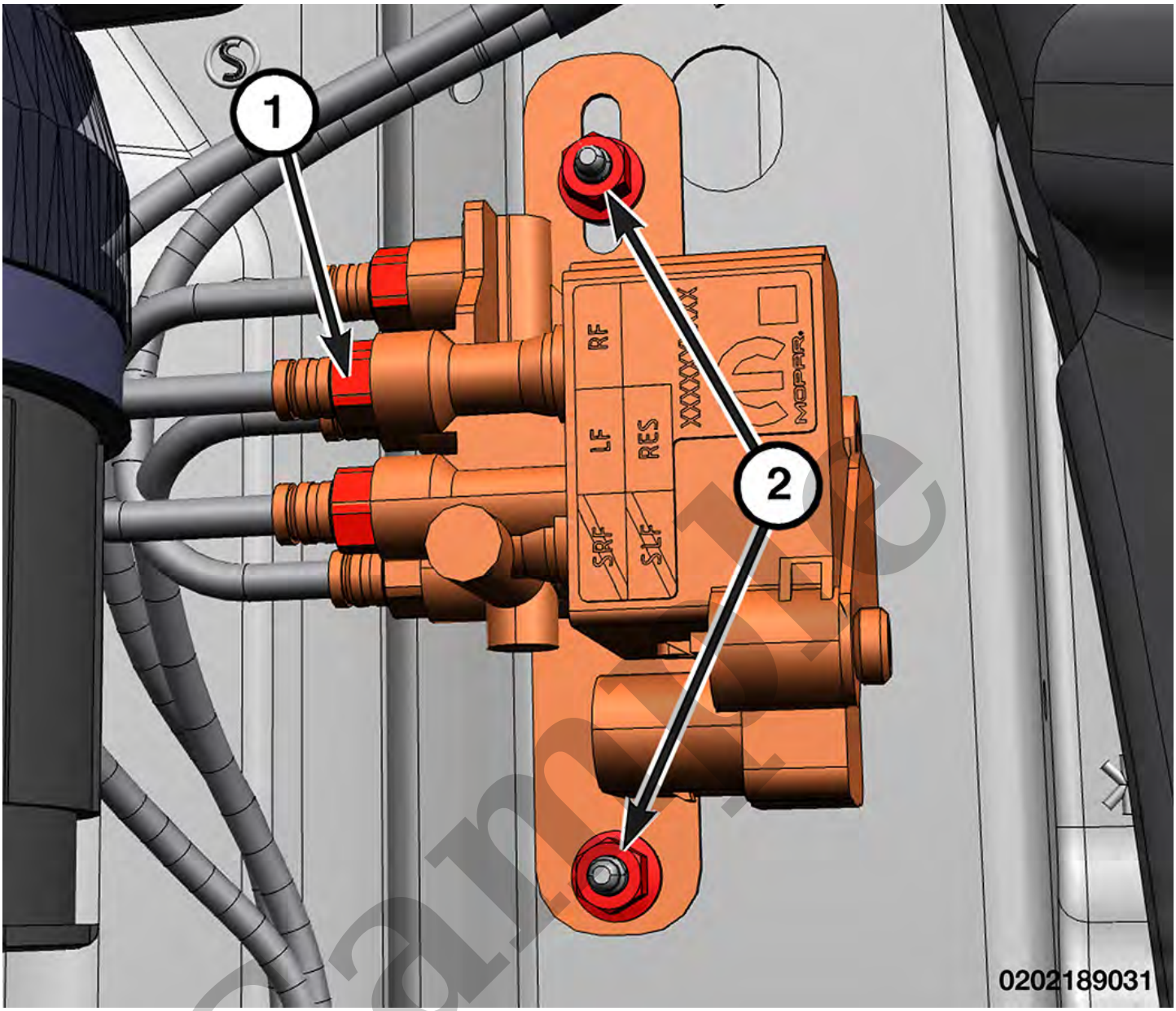
Follow the removal procedure in reverse for general reassembly of the components on the vehicle.



1 - Air Compressor Spring Line Nuts
2 - Routing Clips

6. Remove the air compressor spring line nuts.

7. Disengage the routing clips.



CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Fast Down Leveling Valve Air Line Nuts	**6 N·m (53 In. Lbs.)**	—
2	Fast Down Leveling Valve Nuts	**9 N·m (80 In. Lbs.)**	—

TORQUE SPECIFICATIONS - AIR RESERVOIR

Air Compressor With Three Row Seating

AIR COMPRESSOR WITH THREE ROW SEATING

REMOVAL

WARNING

All pressurized air suspension components contain high pressure air (up to 220 psig). Use extreme caution when inspecting for leaks. Wear safety goggles and adequate protective clothing when inspecting or servicing the air suspension system. A sudden release of air under this amount of pressure can cause possible serious or fatal injury.

WARNING

Before performing any service on the air suspension system, the system must be disabled to prevent the system from changing ride height. Before any given component is to be serviced it must be deflated. Servicing the air suspension system without the system disabled, or with pressure in any specific component, can cause possible serious or fatal injury.

CAUTION

When removing an air line from a component and the air line is to be reused, do not remove the 90° fitting or the brass fitting from the air line. If either is removed, the air line must be replaced. New components have air line fittings attached; however if the original air line is used the original fitting must also be used. Do not remove protective caps or plugs from air lines or components until ready to install the air line to prevent moisture or dirt intrusion. All air line fittings must be hand started to avoid cross threading.

CAUTION

The vehicle weight must be supported anytime an air spring is deflated. Vehicle damage could occur if an

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.

- If the ASCM is replaced, it must be initialized using the diagnostic scan tool. This will remove the ASCM from In-Plant mode. The ASCM can also be removed from In-Plant mode by driving the vehicle above 19 km/h (12 mph).
- Verify the diagnostic scan tool preferences are set to metric. When writing the measured values to the ASCM, they will need to be in millimeters.
- Perform the Complete System Fill standard procedure (Refer to Front Suspension/Air Suspension - Standard Procedure).
- Perform the Ride Height Measurement and record the values for input to the diagnostic scan tool in the next step (Refer to 02 - Front Suspension/Wheel Alignment - Standard Procedure).
- Using a diagnostic scan tool in ASCM, perform the following:
    1. Perform the “PROXI Configuration Alignment” found in the “Guided Diagnostic” sidebar.
    2. Perform ASCM Module flash to set correct Active Damping calibrations.
    3. Perform the Write Suspension Height Values routine and input measurements recorded as prompted by the diagnostic scan tool.
    4. Command the vehicle to Normal Ride Height (NRH).
    5. Run the Air Mass Calculation routine on the air suspension system.
    6. Run the Height Sensor Check routine on the air suspension system.
- If the ASCM is replaced, it must be initialized using the diagnostic scan tool. This will remove the ASCM from In-Plant mode. The ASCM can also be removed from In-Plant mode by driving the vehicle above 19 km/h (12 mph).
- Perform the ASCM Verification Test (Refer to 28 - DTC-Based Diagnostics/MODULE, Air Suspension Control (ASCM) - Standard Procedure).

TORQUE SPECIFICATIONS - AIR COMPRESSOR AND VALVES

air spring is deflated without the vehicle properly supported.

NOTE

The air suspension system can be disabled and enabled by using the Display Screen Module (DSM) in the vehicle under Tire Jack Mode, which is the preferred method. If the disable level control routine in the diagnostic scan tool is used, it will only disable the level control (automatic and manual) for that ignition cycle. The air suspension system can also be enabled by driving the vehicle above 19 km/h (12 mph). The air suspension must be disabled prior to lifting the vehicle or performing any work.

1. Raise and support the vehicle (Refer to Vehicle Quick Reference/Hoisting/Standard Procedure).
2. With a diagnostic scan tool, under the Air Suspension Control Module (ASCM) run the “Deflate to Atmosphere” routine and select “All Springs and Reservoir” then “Complete Deflate”.

   NOTE

   This routine will deflate the air springs and reservoir to a predefined pressure set point. It may be necessary to loosen air line fittings to release residual air pressure.
3. Disable the air suspension system (Refer to 02 - Front Suspension/Air Suspension/Standard Procedure).
4. Remove the right rear tire and wheel (Refer to Tires and Wheels/Removal and Installation).
5. Remove the right rear wheelhouse splash shield (Refer to Body/Exterior/SHIELD, Splash/Removal and 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.

- If the ASCM is replaced, it must be initialized using the diagnostic scan tool. This will remove the ASCM from In-Plant mode. The ASCM can also be removed from In-Plant mode by driving the vehicle above 19 km/h (12 mph).
- Verify the diagnostic scan tool preferences are set to metric. When writing the measured values to the ASCM, they will need to be in millimeters.
- Perform the Complete System Fill standard procedure (Refer to Front Suspension/Air Suspension - Standard Procedure).
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TORQUE SPECIFICATIONS - AIR COMPRESSOR AND VALVES

1.	Active Damping Sensor
2.	Ride Height Sensor
3.	Air Spring
4.	Active Damping Shock
5.	Body Control Module (BCM)
6.	Display Screen Module (DSM)
7.	Ride Height Switch Module (RHSM) and Selec-Terrain Switch
8.	Air Suspension Control Module (ASCM) and Air Suspension Compressor
9.	Air Lines
10.	Primary Air Reservoir
11.	Fast Down Leveling Reservoir
12.	Fast Down Leveling Valve
13.	Instrument Panel Cluster (IPC)

WARNING

All pressurized air suspension components contain high pressure air (up to 220 psig). Use extreme caution when inspecting for leaks. Wear safety goggles and adequate protective clothing when inspecting or servicing the air suspension system. A sudden release of air under this amount of pressure can cause possible serious or fatal injury.

WARNING

Before performing any service on the air suspension system, the system must be disabled to prevent the system from changing ride height. Before any given component is to be serviced it must be deflated. Servicing the air suspension system without the system disabled, or with pressure in any specific component, can cause possible serious or fatal injury.

When the ASCM or any ride height sensor is replaced, the ASCM will need to be initialized using a diagnostic scan tool. Refer to the appropriate installation procedure for specific instructions.

The air suspension system includes the active damping system. The active damping system consist of five vertical acceleration sensors and four damping valves (internal to the active damping shocks). The five vertical acceleration sensors consist of two wheel acceleration sensors located next to the upper ball joint nut and three body acceleration sensors, one secured to each front fender lower beam and one secured to the left side of the lower liftgate closure body panel behind the left side of the rear fascia. The damping valves are internal to the shock absorbers and adjust the firmness of the shock based on user input or automatically from the ASCM.

Air Suspension System Refilling

For information about the complete system fill procedure (Refer to Front Suspension/Air Suspension/Standard Procedure).

Changing Ride Height

When changing ride height using the RHSM, ride height can only be changed while the air suspension system is in normal operating conditions. Air suspension system normal operating conditions are as follows:

- Diagnostic scan tool disconnected
- All doors closed
- Engine running
- Minimum battery voltage greater than 10.5 volts

When changing ride height using a diagnostic scan tool, ride height can be changed regardless of the engine state (running or not), doors (open or closed). The only condition necessary is that battery voltage must be greater than 10.5 volts.

Manual Control

An air suspension system adjustment switch is located in the floor console bezel for driver control of the system. When the driver presses the switch forward or rearward to manually raise or lower the vehicle height, the Electronic Vehicle Information Center (EVIC) displays a vehicle "up" or "down" message icon and an LED indicator on the switch changes position. The EVIC displays the final position of the vehicle when the target height is achieved. When lowering the vehicle, the front is always first to move. When raising the vehicle, the rear is always the first to move. When the ASCM receives a command to change the vehicle more than one ride height position, the action is performed in multiple steps. If request to change by two positions, the rear will raise one position, then the front will raise one position, the rear again raises one position, then the front will raise to the final position. If requested to lower more than one position, the same steps happen EXCEPT the front moves first. This multi-step motion controls the angle the headlights are projected to by controlling the pitch of the vehicle, keeping them from going above their normal projection plane.