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Service Tips and Best Practices

BMW Rear Knuckle/Wheel Carrier Ball Joint

Brand	Various	Product	Ball Joint and Bushings	Date	February 2020
Part Number(s)	Various				

Many BMW models use a lower ball joint mounted on the inside of a bore located at the bottom of the rear knuckle or wheel carrier. This ball joint allows the suspension to deviate during travel to keep the wheel in the correct position.

Generally, once this ball joint wears out, symptoms include:

- Rear tire inner tread wear and/or cupping.
- Poor handling, usually rear wandering or travel during turns.
- Rear vibration.
- Squeaks located in the rear over road imperfections (potholes, bumps).

To successfully install this ball joint and ensure maximum part life, it is important to adhere to the following:

- Use the factory tool for removal and installation. Aftermarket tools may not have the correctly sized adaptors and/or cups, and which may warp or otherwise damage the knuckle or wheel carrier ear.
- The factory tool will help ensure the ball joint is even and square on the proper install axis. Correct seating and alignment are critical to part life longevity. This may require more than one reset of the tool position during install.
- Do not use a heat source to aid in removal. This can warp/distort or otherwise damage the knuckle or wheel carrier bore and or ear; especially if aluminum.
- Do not use a hammer or apply blunt force to aid in removal or installation. This can warp/distort or otherwise damage the knuckle or wheel carrier bore and or ear; especially if aluminum.
- After removing the worn ball joint, remove all rust, burrs and other contaminants from the bore. Inspect the bore and ear for abnormal wear, enlargement, "out of roundness" and or other damage before installation.
- Ensure correct orientation of ball joint during install. Generally, this will mean the mounting lip will face the front of the vehicle.
- Ensure to renew hardware (new snap ring and self-locking nut)
- Ensure all components are torqued to the correct values. For most suspension repair, BMW requires the vehicle to be in an "empty weight position" or "normal position" when performing the final torque sequence. Look up and follow the correct torque procedure which is applicable to the vehicle being repaired.

- Empty weight position: vehicle on level ground, properly inflated tires and a full fuel tank

- Normal position: Empty weight position and that vehicle is weighed down (150LB in each front seat, 150LB in back seat centre, 50LB centre of trunk)

- After repair, perform vehicle alignment.

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