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Service Tips and Best Practices

BMW Front Lower Thrust Arm Bushings

Brand	Supreme	Product	Control Arm Bushings	Date	January 2020
Part Number(s)	Various				

Various BMW models use a front suspension setup which feature two lower control arms and a MacPherson strut. The longer/larger control arm is commonly referred to as the thrust arm but may also be identified as the upper control arm, trailing control arm, tension rod, tension or traction strut.

It is this thrust arm which handles most of the longitudinal (front of vehicle to back of vehicle) load forces and is subject to the most wear. Common symptoms of a worn thrust arm include:

- Steering wheel shimmy while braking or not braking at a certain speed
- Wear and/or cupping on the front inner tires
- Front end "clicks" or "clunks" on acceleration/deceleration

It is up to the technician to determine if the entire thrust arm must be replaced due to excessive "play" in the ball joint or if just the bushings are to be renewed. Generally, the bushing rubber will crack and tear. Additionally, on some BMW models, this bushing is filled with a hydraulic fluid; which will leak once the rubber has torn. These failure modes can be verified by a visual inspection. Do note that solely manipulating the wheels and thrust arm for "play" may not indicate thrust arm bushing failure; both worn and new bushings may appear to have similar movements.

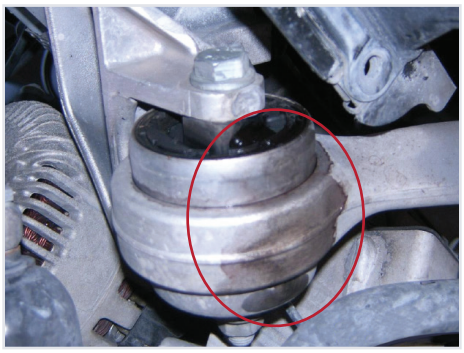

Figure 1: Hydraulic fluid leaking from bushing. One indicator of failed bushing.

To successfully replace the thrust arm bushing and ensure maximum part life, it is important to adhere to the following:

- Thrust arm bushings must be replaced in pairs.
- Thrust arm bushings cannot be replaced more than once on an arm. This is due to enlargement of the bore. If a vehicle encounters repeated bushing failures in a short span of time, inspect for wear, distortion/damage to suspension components and verify vehicle alignment.
- Use the factory tool for removal and installation. Aftermarket tools may not have the correctly sized press/receiver cups which may warp or otherwise damage the thrust arm bore.
- The factory tool will help ensure the bushing is even and square on the proper install axis. Correct seating and alignment are critical to part life longevity.

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- Do not use a heat source to aid in removal. This can warp/distort or otherwise damage the thrust arm 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 thrust arm bore and or ear; especially if aluminum.
- After removing the worn bushing, 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 bushing during install. Generally, this will mean locating the clocking indicator (this may be a notch or arrow) on the bushing face or sleeve and matching it to the raised tab on the arm. Depending on vehicle model, this indicator may be located on both sides or only one side of the bushing face or sleeve.

Figure 1: One type of clocking indicator

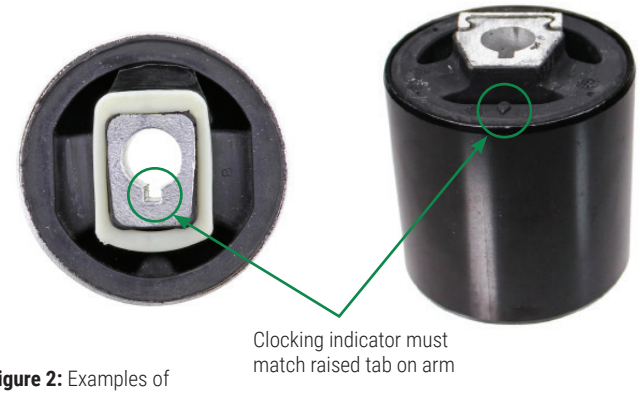

Figure 2: Examples of Clocking Indicators

- Ensure to renew hardware.
- 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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