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Service Tips and Best Practices

Importance of Replacing Hardware- Circlips

Brand	All	Product	All	Date	February 2021
Part Number(s)	Various				

Circlips are a type of retaining ring commonly used to position, seat and or retain various components on automotive applications. Circlips are typically installed into a groove or recessed slot and allow components to be joined to an assembly (such as a ball joint to a control arm) or fitted into an opening (such as a wheel bearing to a knuckle). It is important to note that circlips may provide either a primary or supplementary retention method, depending on the component.

When fitting a component that requires a circlip, it is critical to ensure the old circlip is discarded and is replaced by a new correctly sized and type circlip. Some components, such as wheel bearings, may require the replacement of multiple circlips.

As a best practice, circlips should not be reused due to the following:

- While in service, a circlip may be exposed to debris, corrosion, water and other contaminants. This exposure may fatigue the circlip. This fatigue may not be visually apparent.
- Typically, by the time a component needs replacing, the associated circlip is often already past the measurable usable service life.
- Removing a circlip may distort, over-stress or cause other damage which may cause an out of specification condition. For example, a removing a circlip seized into a knuckle groove will often warp or simply break the circlip.

To successfully remove and replace a circlip, it is important to adhere to the following:

- Ensure to use adequate and proper protective eye wear.
- Ensure to use the appropriate circlip plier (size and type).
- Avoid using force when attempting to remove a circlip. This may distort or damage the retaining slot/groove. Penetrating oil may be used to assist in the removal of seized circlips.
- Ensure to discard old circlip(s). Do not reuse.
- Inspect mating components for damage. Replace all damaged or out of specification mating components.
- Remove all rust, burrs and corrosion from mating components.
- Only use a new replacement correctly sized and type circlip.
- Only use a calibrated torque wrench for final fastening.

Failure to adhere to the above and or improper assembly may cause premature failure of the circlip and the associated components.

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