

September 11, 2017

## FM Tech Bulletin - Hurricanes Harvey & Irma - Submerged Trailer Wheel Ends

All wheel ends submerged in water because of a hurricane, flood and / or any other means of water ingress should have a wheel end inspection conducted as soon as possible. Federal Mogul recommends installing new seals & lubricant on all wheel ends that have been submerged in water or have experienced water ingress. Please consult with your bearing provider for bearing inspection / replacement recommendations.

### Spindle Mount Seal Installation Instructions:

- Inspect all wheel ends that have been submerged.
- Inspect spindle for rust, burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfections with emery cloth & wipe clean. If sealer is needed, apply a thin film #2 sealer to the seal journal.
- Place seal on spindle with the words "FLUID SIDE" or "OIL SIDE" visible when view from the end of the axle. Press seal by hand as far as possible onto the seal journal.
- Place the Federal Mogul installation tool over spindle with flange against the seal. Use RD-386 for TN (tapered) or RD-295 for TP (straight) axle. Strike the end of tool with a 3 to 5-pound hammer until the tool flange bottoms on axle shoulder and a tone change is heard. Rotate tool 90° to 180° between each strike to assure seal is installed completely and squarely. Once the tone changes of the tool hitting the shoulder face is heard, rotate tool another 180° and hit one more time. Remove installation tool and verify that the seal is aligned squarely.
- Inspect seal OD for presence of oil. If seal appears dry, apply a thin film of clean oil to the seal OD (Too much pre-lube on seal OD can lead to an indication of false leakage)
- Install inner bearing cone assembly onto spindle as prescribed by the bearing manufacturer. Make sure the bearing cone bottoms onto the axle shoulder.
- Inspect hub chamfer and bore for burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfection.
- Assemble hub over spindle. Fill with **new** grease or oil as necessary. Install outer bearing onto spindle as prescribed by the bearing manufacturer.
- Fasten spindle nut to the proper adjustment procedure. Install **clean & dry** hubcap with new hubcap gasket using the proper bolt torque. Finish the grease or oil fill as necessary. Install hubcap plug.

### Hub Mount Seal Installation Instructions:

- Inspect all wheel ends that have been submerged.
- Inspect hub chamfer and bore for rust, burrs, nicks, roughness, deep scratches, etc. Clean and correct imperfections with emery cloth and wipe clean.
- Pre-lubricate the inner bearing as instructed by your company's work instructions. Insert inner bearing into hub.
- Using the correct tool, place the seal onto the adapter plate until it is flush. The words "AIR SIDE" are to face the plate and "OIL SIDE" is to be opposite the plate.
- If the OD of the seal has rubber, wipe a thin film of clean application fluid to the OD of the seal. Do not use silicone.
- Hold the tool straight and drive the seal into the hub with firm hits on the end of the tool handle until the sound of impact changes. Rotate tool 180 degrees and strike again. Check that the bearing rotates freely.
- Wipe a thin film of clean application fluid to the ID of the seal. Take care not to get oil onto the face of the seal.
- Inspect spindle for rust, burrs, nicks, roughness, deep scratches, etc. Clean or correct any imperfection.
- Assemble hub over spindle. Fill with **new** grease or oil as necessary. Install outer bearing onto spindle as prescribed by the bearing manufacturer.
- Fasten spindle nut to the proper adjustment procedure. Install **clean & dry** hubcap with new hubcap gasket using the proper bolt torque. Finish the grease or oil fill as necessary. Install hubcap plug.

The above installation instructions can also be found at:

[www.fme-cat.com/nationaloilbathseal](http://www.fme-cat.com/nationaloilbathseal)

Please refer to the following TMC procedures for lubrication & wheel end adjustment procedures:

- TMC RP 631A "Recommendations for wheel end lubrication"
- TMC RP 624 "Lubricant Fundamentals"
- TMC RP 618 "Wheel bearing adjustment procedures"