

CCM Technical Maintenance Bulletin



Bulletin 04 - June 1, 2010

Reporting of Errors

Your help can improve this bulletin. If you find mistakes or you know of a way to improve the procedures, please let us know at mnr@ccmpool.com



All CCM repair vendors are required to comply with Safety & Security Regulations imposed by Terminal Operators where work is performed, in accordance with the License Agreement and Article 5.8 of the Form Agreement D.

Are you registered with DRS?

All truckers and depots are encouraged to register no later than June 1, 2010. For details visit us at www.chassis.com



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OTR Wheel-End Work Practices

Summary

Proper maintenance and repairs to the wheel-end components is important to the safe operation of intermodal equipment. CCM has made a concerted effort to ensure that all wheel-end work is properly performed, and that all repair vendors are properly trained in the performance of wheel-end repairs.

Given the importance of this issue, CCM feels that it's critical that anytime a chassis has wheel-end repairs performed on the roadside the repaired wheel, as well as all the remaining wheels, be checked to reduce the probability of future equipment failures. This Bulletin is issued to maintenance vendors and pool management staff to reemphasize procedure as it pertains to wheel-end repairs. All mechanics performing repairs on CCM pool chassis should be briefed and properly trained to ensure compliance with this and all CCM publications.

Stage Two Bearing Check

Upon the return of any chassis where wheel-end work was performed on the roadside, the chassis should be placed out-of-service pending the completion of a stage two wheel bearing check on all four wheels. The correct procedure for performing a stage two bearing check is as follows:

- 1) Chassis is to be lifted and brakes fully released to allow free movement of wheel(s) being inspected.
- 2) The wheel being inspected, and specifically the area adjacent to the hubcap are to be cleaned, all loose dirt and debris is to be removed, and the hubcap is to be pulled.

**** Inspect what you expect—Safety first! ****

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OTR Wheel-End Work Practices

Stage Two Bearing Check—Continued

3) When performing a stage two bearing check, the grease is to be inspected for:

- **Presence of metal shavings or foreign substances** - When a sample of the grease is rubbed between thumb and forefinger, it should have a smooth feel. There should be no grit felt or particles observed in the sample.
- **Proper viscosity/mixed viscosities** - If the grease is liquefied, it needs to be replaced. Grease that has begun caking needs to be replaced. A sample of the grease rubbed between thumb and forefinger should feel consistent and have uniform coloration. If the grease is not uniform, it must be repacked.
- **Any evidence of overheating** - As the grease overheats, it will change color and eventually take on a dark brown/blackish color and give off a distinctive burned odor requiring replacement.
- **Any presence of water or other contaminates** - A milky, bright orange or rust color to the grease indicates the presence of water in the hub and the grease must be changed. The presence of any other substance other than the prescribed grease requires the cleaning, inspection, and repacking of the hub and bearings.
- **Adequate supply of grease** - Grease should be evident between the rollers in the bearings. If there is no grease evident between the rollers, the bearings should be repacked.

4) The wheels are then to be rotated with the brakes in full release. The mechanics are to listen for:

- Grinding
- Popping
- Clicking
- Other unusual noises

When inspecting lubrication please be guided by examples as provided in [TMC RP644F](#)

OTR Wheel-End Work Practices

Stage Two Bearing Check—Continued

- 5) Mechanic is also to check for binding during rotation to check for over load on the bearings.
- 6) Mechanic should attach a dial indicator to axle and ensure that end play on the bearing does not exceed the limits set within specifications as contained in **TMC RP618**.

NOTE: Acceptable end play on bearings is .001 to .005 inches. Very slight movement is normal. Any movement that produces an audible click or pop, or visible movement of the wheel requires repair.

Any chassis exhibiting irregularities is to have the wheels pulled, the bearings, spindles, and hubs cleaned, and inspected in accordance with the guidelines provide in **TMC RP644** and repaired/repacked as necessary.

NOTE: Any time a wheel is pulled, the inner seals are to be replaced. Preferred replacement seals are Triseal or Stemco manufactured. Hubcaps are to be inspected for distortion from over torquing of bolts, and replaced if outer flange is warped or bent. New hubcap gaskets are to be installed with each reinstallation. Hub caps are not to be filled with grease during installation. Whenever repacking the bearings, Shell Retinax LX should be used. The inside of the cap should be covered with a thin coating of grease to prevent condensation and corrosion but they should not be filled. Caution should be taken when coating the hubcap to ensure that the vent tube is not blocked.

In cases where the grease does not show irregularities but the end play is excessive or binding, the wheel may be re-torqued without repacking the bearings. All wheels when being pulled for any reason must be re-torqued correctly in accordance with the specs. A torque wrench **MUST** be used without exception.