

Justification:
Safety Instruction

(Maintenance)

Private Owner Circular Letter 653 Issue 1

Title

Distorted Axle Bearing Abutment Rings

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AUTHORISATION

Authorised by:

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1. INTRODUCTION

NIR 2614 (Complete) identified that severe damage had occurred to the labyrinth seal surfaces of the abutment rings of SKF Ø150mm spherical roller axle bearings and scoring on at least one axle. The cause of this damage was attributed to the axle bearings being removed in an inappropriate manner, which caused distortion to the axle bearing abutment rings. When re-assembled onto the wheelsets the distorted axle bearing abutment rings in turn caused the severe damage to the labyrinth seal surfaces.

2. INSTRUCTION

Applicable to any wagons fitted with a similar design of axle bearing and abutment ring to the SKF Ø150mm spherical roller type that requires a similar force level to achieve axle bearing removal.

2.1 Visual inspections in service

For all such wagons visually inspect the axle bearings in service to determine if there is:

- a). Excessive grease loss.
- b). Any sign of overheating.
- c). Distortion/bruising to the rear flange of the abutment ring (see Figures 1 and 2).

Note: Inspection in service is possible using a powerful torch and a dental/inspection mirror).

- d). Metallic debris associated with contact within the labyrinth seal.

If any of the above are found the wagon shall be immediately withdrawn from service for rectification.

2.2 Removal of axle bearings/abutment rings

Axle bearings shall only be removed in accordance with the manufacturer's instructions and using the purpose designed equipment prescribed. In the case of the SKF Ø150mm spherical roller axle bearings (and similar) this shall be by using a full face adaptor (see Figure 3) rather than the more usual 'Horsehoe' half adaptor (see Figure 4).

2.3 Checking of removed abutment rings prior to further use

All abutment rings removed from wheelsets shall be subject to the following:

- a). A visual examination of the faces for any signs of damage or distortion.

- b). A visual examination of the labyrinth seal surfaces for any signs of abrasion, scoring or metal pick-up.
- c). A check of the bore diameter for ovality by measuring to confirm that it isn't out of round by more than 0.1mm.
- d). A check of the flatness by placing the abutment ring on a measuring table and checking that the flatness tolerance of the abutment ring faces is less than 0.1mm.

Any abutment ring failing to meet the above criteria shall be scrapped.

3. SCOPE

This document applies to any wagons fitted with a similar design of axle bearing and abutment ring to the SKF Ø150mm spherical roller type that requires a similar force level to achieve axle bearing removal.

4. IMPLEMENTATION

This document shall be implemented immediately.

In the event of any query arising or clarification required, please contact:

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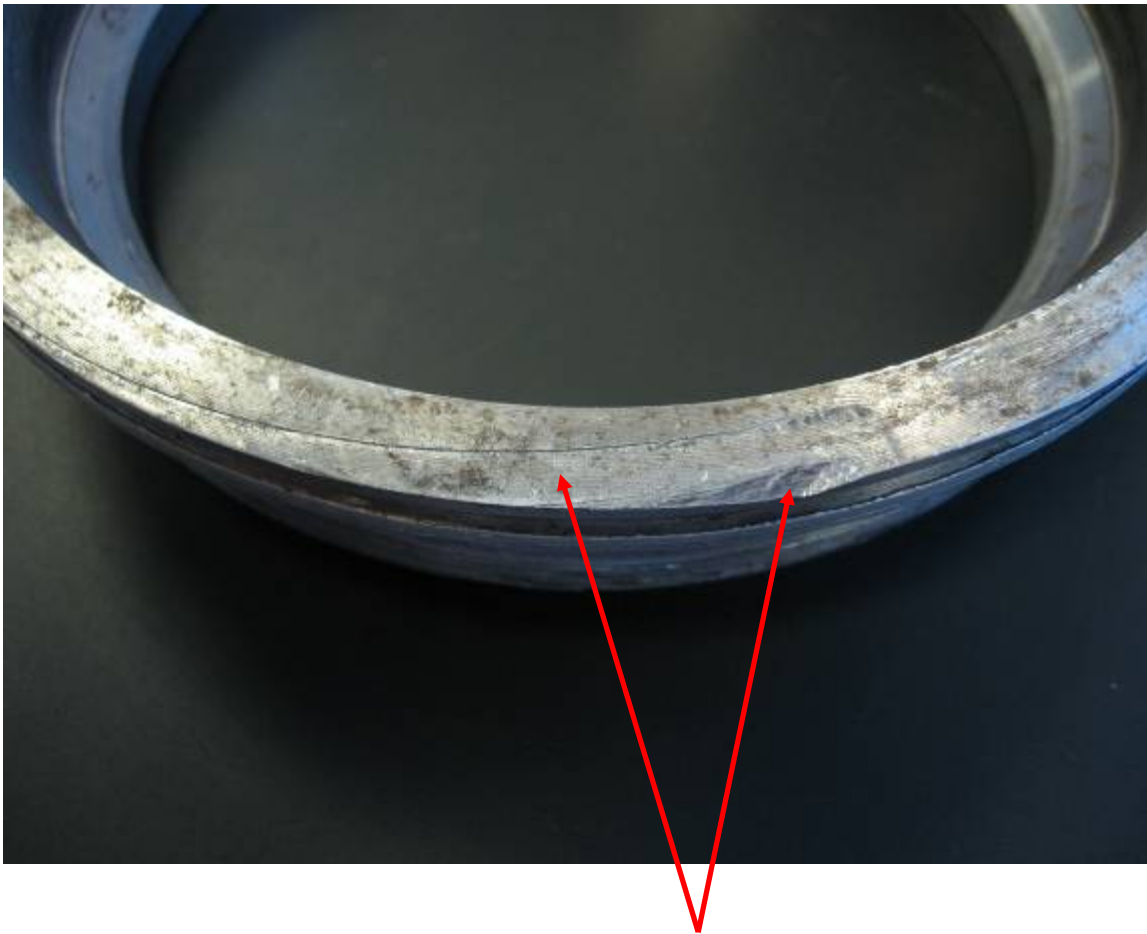


Figure 1 Damage caused by being removed in an inappropriate manner

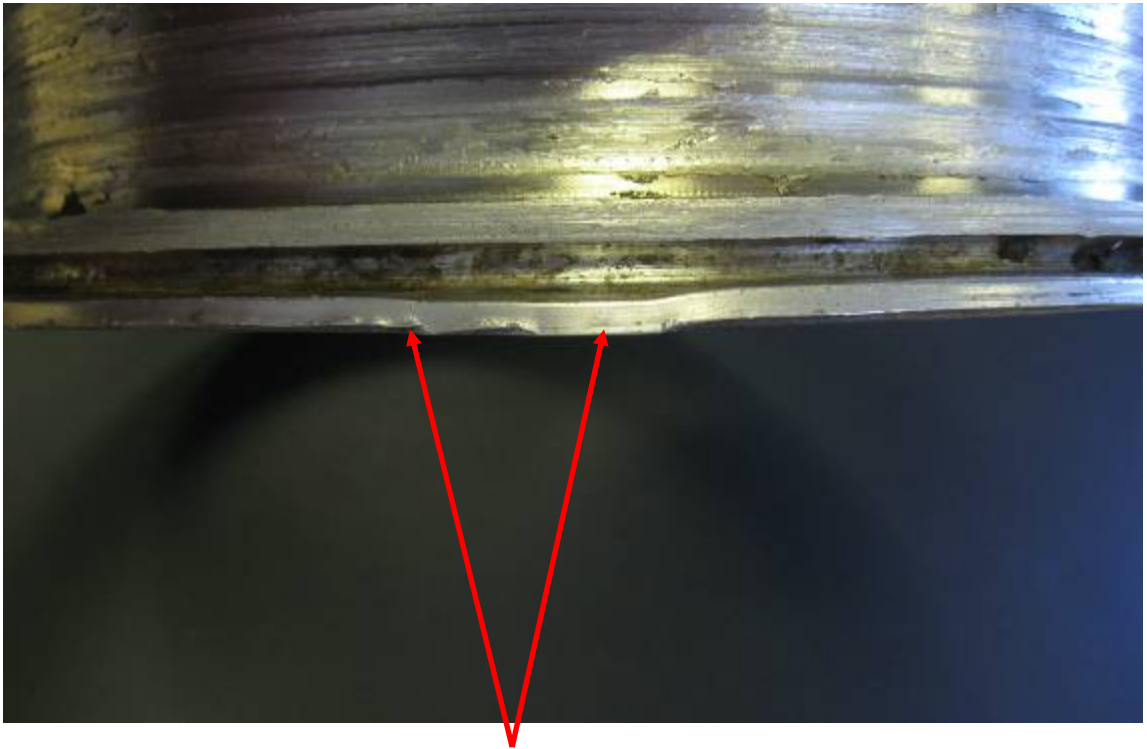


Figure 2 Damage caused by being removed in an inappropriate manner



Figure 3 Full face adaptor for removing axle bearings



Figure 4 'Horsehoe' half adaptor for removing axle bearings