Specifications for Axles
Rhodesia Railways

Notes to readers

The source documents for this file were held in the National Railways of Zimbabwe Drawing Office in Bulawayo. They were discovered, in March 1998, while I was helping with searching for a complete set of drawings of the 15th Class locomotives after No. 398 had been purchased by a private group in New Zealand for eventual export to that country.

The original documents were duplicated copies, hence the slightly indistinct type in some places. These were photocopied (with permission) on to A4 size paper while in the Drawing Office and the photocopies scanned when we were back in New Zealand.

The scanned files have been lightly "Photoshopped" to remove most of the artefacts resulting from the photocopying and scanning processes and to increase the contrast to make them more readable.

Any alterations, amendments or corrections done by hand have all been left in place and this file is a reasonably accurate reproduction of the original.

Alan Bailey
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RHODESIA RAILWAYS
SPECIFICATION
FOR
STEEL AXLES FOR LOCOMOTIVES, TENDERS, CARRIAGES & WAGONS

1. LOCOMOTIVE & TENDER AXLES.

(a) The Locomotive and Tender Axles are to comply with B.S.24 Part I 1956 Section Two, except that the steel is to be made by the acid open hearth or electric process.

CARRIAGE & WAGON AXLES.

(b) The Carriage and Wagon Axles are to comply with B.S.24 Part I 1956 Section Four, except that the steel is to be made by the acid open hearth or electric process.

2. ANALYSIS.

(a) The steel shall show an analysis of:-

(i) not more than 0·050% of sulphur and not more than 0·050% of phosphorus for Locomotive and Tender Axles;

(ii) not more than 0·060% of sulphur and not more than 0·060% of phosphorus for Carriage and Wagon Axles.

3. DIMENSIONS.

Each axle is to be machined all over to the finished sizes as shown on the exhibited drawing(s).

4. PHYSICAL TESTING.

All tests are to be strictly in accordance with those laid down in B.S.24 Part I 1956 Sections Two and Four. The Manufacturer is to bear the costs of such testing whether carried out at his works or elsewhere.

5. HEAT TREATMENT.

All axles are to be oil hardened and tempered.

6. FREEDOM FROM DEFECTS.

The steel axles shall be free from harmful defects.

7. MARKINGS & IDENTIFICATION.

Each end of the axle, but not the body, is to be hot stamped with the identification letters and figures clearly, as shown on the exhibited drawing(s).

8. GUARANTEE.

(a) The Manufacturer is to be held to guarantee for each axle a life of six years reckoned from the date when it is first put into service.

(b) If before expiry of the period of guarantee any axle is condemned by the (Chief Mechanical Engineer) Rhodesia Railways as unfit for further use on account of any defect, it is to be replaced by the Manufacturer.

(c) In every such case the replace axle is to be supplied and delivered by the Manufacturer free of charge, provided that if the (Chief Mechanical Engineer) Rhodesia Railways shall certify that the condemned

axle.....

axle has been in service for not less than five years and that its failure has not caused damage to the Rhodesia Railways or persons or goods carried thereon, half the F.O.B./F.O.R. costs of the replace axle are to be credited to the Manufacturer.

(d) The replace axle is to comply in all respects with this specification.

19. PAINTING & PROTECTION AGAINST CORROSION.

(a) Journals and collars are to be coated with a suitable inhibitor of corrosion or white lead and tallow and journals are to be protected with canvas and wood lagging.

(b) The remainder of the surface is to be given two coats of grey paint.

10. INSPECTION.

The Railway Administration will arrange for inspection, and their Inspector or Representative shall have access to the Manufacturers' works at all reasonable times; and he shall be at liberty to inspect the manufacture at any stage. Material that does not comply with the terms of the specification is liable for rejection.

11. SHIPPING MARKS.

The shipping marks and numbers are to be applied so as to be visible in all conditions of lie and stacking.

W. J. L. Dolan

CHIEF MECHANICAL ENGINEER

Date: _____

MECHANICAL BRANCH,
ENGINEERING DIVISION,
RHODESIA RAILWAYS,
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pct.