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# **RAIL**INFRASTRUCTURE CORPORATION

Discipline  
**Rolling Stock Engineering Standard**

Category  
**Maintenance**

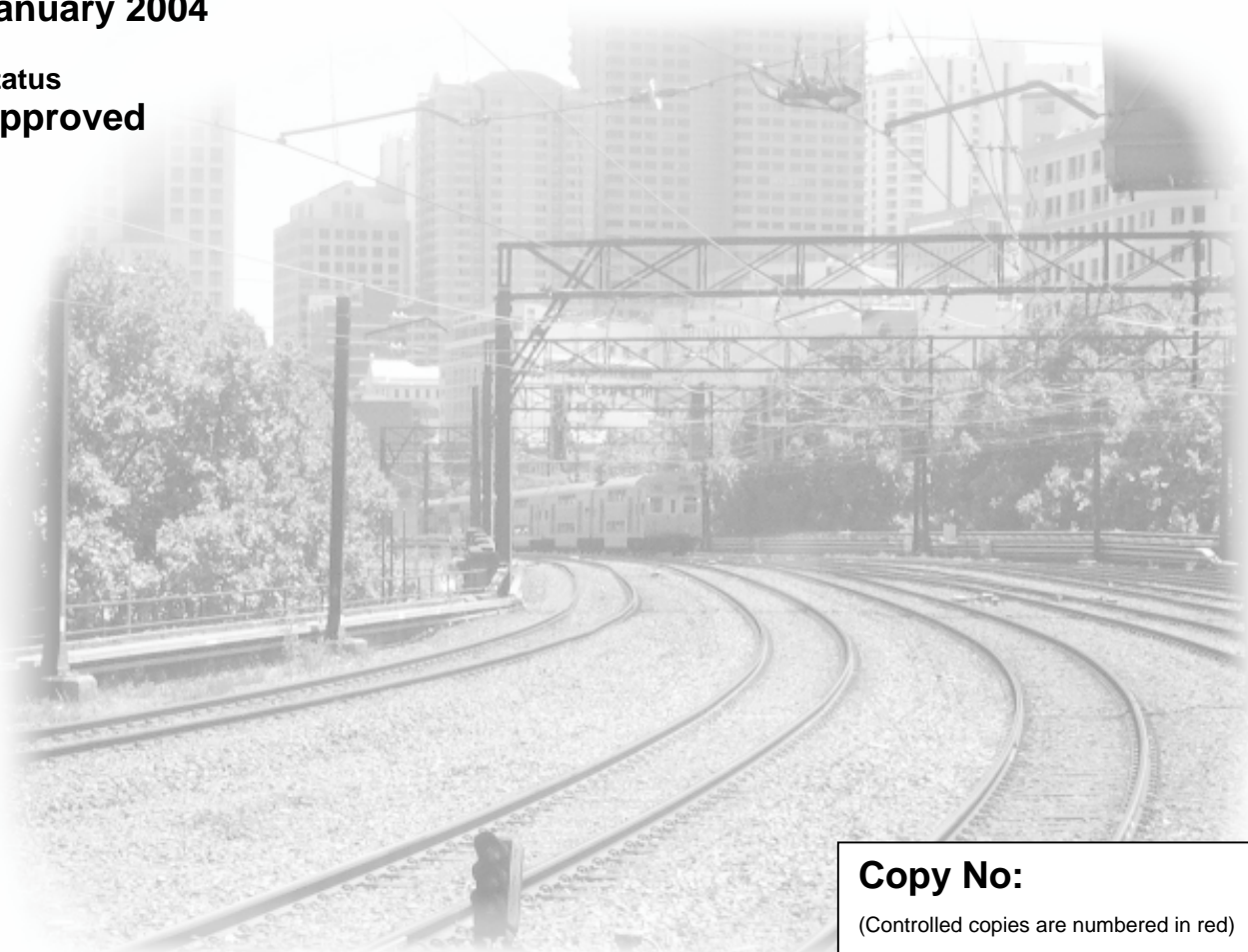
## **SECURING OF CENTRE BEARINGS**

Reference Number  
**RSS 0023**

Version  
**1.0**

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**Approved**



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## About This Standard

This standard is based on the following TRS Standard:

TRS 1085    Securing of centre bearings on freight rolling stock.

## Version History

### Version 1.0

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# 1 Scope

Centre bearings (king castings) on freight rolling stock are at present bolted to underframes. Huck bolting is now an approved method of securing centre bearings and this instruction covers requirements for both huck bolting and conventional bolting methods.

## 2 Centre Bearing Inspection

At bogie changes check for any fractures, excessive wear or unusual score marks. Check for any loose or missing securing bolts, nuts and washers. Existing bolts that have had the nut come loose must not be re-used. Replace any missing or loose with brand new high strength structural bolts, nuts and washers in accordance section 5.

### 2.1 Flat type

Minimum dimensional requirements are as follows:

#### 2.1.1 Diameter

Centre Plate Nominal Diameter	Diameter Must Not Be Less Than
305 mm (12")	294 mm
356 mm (14")	344 mm
406 mm (16")	394 mm

Table 1 -

#### 2.1.2 Vertical Wear

Centre Plate Liner Type	Minimum Vertical Clearance Between the Bogie Bolster Rim and the Body Centre Plate
Steel	2 mm
Non-metallic	5 mm

Table 2

## 2.2 Spherical Type

Inspect spherical surface for defects that could cause uneven liner wear or binding between the body and bogie centre bearings.

## 3 Machining Requirements

Underframe bolster surfaces to take the centre bearings are machined at manufacture: these surfaces and the mating centre bearing surfaces are to be clean and flat to ensure good seating between the centre bearing and bolster.

Centre bearing bolt holes are to be spotfaced on the underside, if not already done.

## 4 Huck Bolting

### 4.1 Huck bolts

For enquiries regarding huck bolts contact:-

Huck Australia Pty. Ltd. Telephone 02 9838 9900 Sydney

1800 335 030 Toll free to Head Office

### 4.2 305 mm Diameter Centre Bearings drilled for 22mm (7/8") bolts

Applies to vehicles built since 1950's

Used with vehicles having 'X', 'A' or 'F' as the last letter in the code and three piece bogies, but not including vehicles with DBA bogies.

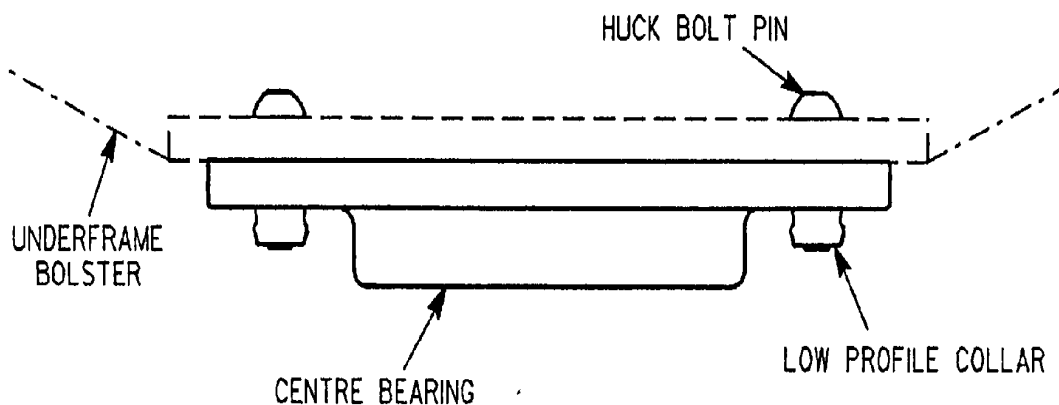


Figure1



Use Huck bolt Pin Part No. C50LR-BR28-(GRIP)

with Low Profile Huck Bolt Collar Part No. 8LC-2R28G

**Note:** GRIP = Actual thickness of material in inches divided by 0.0625.

### 4.3 305 mm Diameter Centre Bearings drilled for 20 mm (3/4") bolts

Applies to old vehicles.

Use Huck bolt Pin Part No. C50LR-BR24-(GRIP)

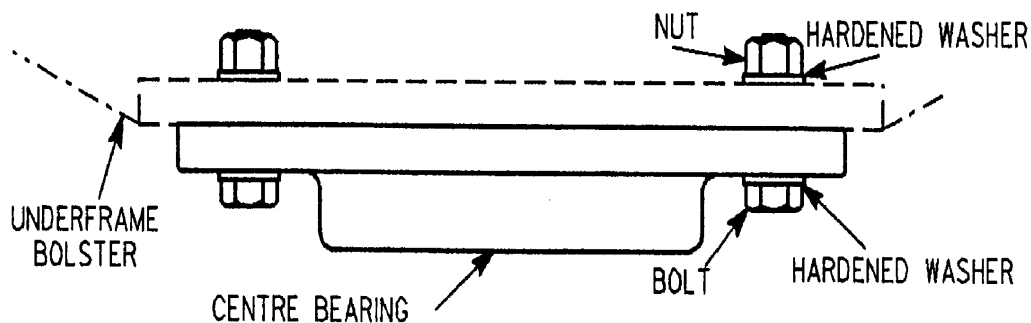
With Low Profile Huck Bolt Collar Part No. 8LC-2R24G

**Note:** GRIP = Actual thickness of material in inches divided by 0.0625.

Low Profile collars must be used with 305mm diameter centre bearings to give adequate vertical clearance between the collar and bogie bolster.

## 5 Bolting

Applicable to both 305mm and 356mm diameter centre bearings



**Figure 3**

Secure in position with 22 mm diameter high strength friction grip structural steel bolts, nuts and hardened washers to Australian Standard AS 1252.

Bolts shall be installed with hardened washers under both nut and bolt heads. The bolt head is to be on the centre bearing side of the assembly.

Tensioning of the bolts may be in accordance with the requirements of AS 4100 using the part turn method of tightening. Using this method bolts with up to 114 mm grip are to be tightened by rotating the nut 4/6 of a turn (4 flats of hexagonal nut) from the snug tight position.

It is permissible to tension bolts using other acceptable methods provided the torque value is in the range 400 – 500 Nm.

## **6 Reference Documents**

### **6.1 RIC Standards**

### **6.2 Australian Standards**

AS 1252	High Strength Steel Bolts with Associated Nuts & Washers for Structural Engineering
AS 4100	Steel Structures