



भारत सरकार  
रेल मंत्रालय

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS**

**SPECIFICATION  
FOR  
LOCOMOTIVE DRAFT GEAR WITH ELASTOMER PADS  
FOR PASSENGER LOCOMOTIVES**

**SPECIFICATION  
NO. MP- 0.41.00.06(Rev. 0)  
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## **Specification for draft gear with elastomer pads along with yoke for passenger locomotives fitted with 'H' type tight lock couplers**

### **1.0 SCOPE:**

**1.1** This schedule covers scope of supply, design parameters, performance requirements, inspection procedure and maintenance requirements of this draft gear.

### **2.0 DESIGN REQUIREMENTS:**

**2.1** Window type Draft Gear design shall be such that the condition of draft gear pad can be seen. Material of draft gear housing, buff plate and other mechanical components shall be steel to AAR M-201 Grade E and shall withstand drag and buff load 300 t.

**2.2** Draft gear pocket size shall be as per AAR S-141-83 to dimension 625.5 L x 327 W x 235 H mm. For fitment dimension details, see annexure-1.

**2.3** Material of draft gear pad should be synthetic polymer/ hytrel with high damping and should have minimum service life of 10 years. Only those offers which comply draft gear pad, procured from AAR/UIC approved sources, shall be acceptable.

**2.4** The draft gear shall have travel of 110 mm in compression with end load 200 t(max). It shall have 70KJ dynamic energy capacity with test speed 30 mm /minute. The level of energy absorption shall be not less than 70%.

**2.5** Preload of draft gear assembly to be kept between 30000 N to 40000 N.

**2.6** There shall be an arrangement to adjust the pre-load of draft gear with an increment of 500 kg.

**2.7** There shall be provision for suitable wear plate to be made at location where relative movement takes place during service.

### **3.0 DESIGN APPROVAL:**

Design approval shall be subjected to fulfillment of the following requirements.

**3.1** The manufacturer shall submit outline drg. of the draft gear.

**3.2** A very basic specification has been drafted. Design details and drawings shall be submitted along with the offer for evaluation.

**3.3** The manufacturer shall submit a detailed quality assurance plan to RDSO for approval before manufacturing.

**3.4** Capacity test, endurance test of draft gear shall be carried out in accordance with AAR M901 E at premises of the manufacturer of elastomer pads in the presence of RDSO representative.

### **4.0 PARTICULAR REQUIREMENTS:**

**4.1** No draft gear pads should be found sticking during testing.

**4.2** Submission of test results of chemical and physical properties and manufacturing processes used for manufacturing draft gear and its components.

**4.3** All components including draft gear, castings and rubber pads shall be interchangeable.

**4.4** Gauge drgs. in original shall also be made available for checking tolerances and dimensions on the gauges.

**4.5** Castings shall be procured from class 'A' foundry as per IS: 12117 if it is manufactured in india. The firm shall also be ISO 9000 certified organization.

**4.6** Mechanical fitment of the offered draft gear in the pocket provided on IR passenger locomotives shall be the sole responsibility of the manufacturer.

**5.0 DEVIATION STATEMENT:**

**5.1** In case the offer does not correspond to this specification in any respect a deviation statement shall be furnished. If there is no deviation from specification, manufacturer shall submit "NO DEVIATION" certificate.

**6.0 MARKINGS:**

**6.1** Draft gear shall have manufacture's Name/initial, date of manufacture, serial No. and type of draft gear at suitable location of housing in 10 mm raised type letters.

**6.2** Marking on elastomer pad shall be moulded in an area not subjected to wear or stress concentration, if possible, where they can be readily seen without removal of pads.

**6.3** Draft gears with illegible markings shall not be acceptable.

**7.0 INSPECTIONS AND REJECTION:**

**7.1** The inspection and rejection shall be done in accordance with the relevant clauses of special conditions of the contract issued by the Railway Board.

**7.2** The manufacturer shall provide labour, appliances and other facilities necessary for the inspection at his own cost.

**8.0 PAINTING:**

**8.1** Draft gear and draft gear follower shall be painted with black paint on only exposed surfaces excluding working portions.

**9.0 MAINTENANCE REQUIREMENT:**

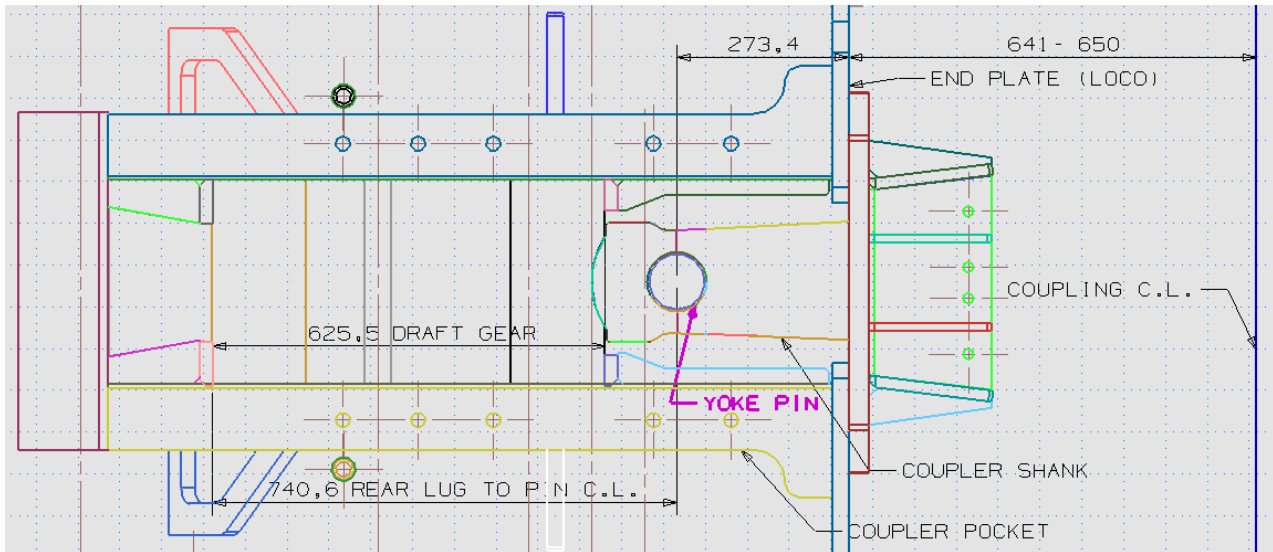
**9.1** The manufacturer shall furnish maintenance recommendation and spares required to keep draft gear functional, clearly indicating service and safety limits of various components of draft gears.

**10.0 WARRANTY/GUARANTEE:**

**10.1** The draft gear shall be guaranteed for satisfactory performance for a period of 48 months after supply or 36 months after putting into service whichever is later. The guarantee shall cover design, material and workmanship. The defective draft gear supplied shall be replaced free of cost.

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**Annexure-1**



**END ARRANGEMENT OF PASSENGER LOCOMOTIVE**