# TECHNICAL SPECIFICATION FOR TREAD CLEANING UNIT FOR LHB COACHES

**MDTS-194**  
Rev- Nil  
Dtd. 14 11 09  
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<tr>
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<td>14.11.09</td>
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1. Foreword

The Specification is relevant to "Tread Cleaning Unit" consisting of Cylinder mounted on Bogie frame for each wheel and pneumatic piping. System shall be capable of withstanding the movements deriving from the relative displacements between axle and the alternator.

2. Technical Responsibility

a. The Supplier shall be fully responsible for the delivery of hardware, technical documentation and type testing, within the schedule included in the purchase order.

b. The Supplier shall be fully responsible for successful running of the system.

c. Design reviews and progress meetings shall be organized at suitable dates, to control the progress.

d. The tenderer should submit a general arrgt. and outline drawing alongwith the offer indicating various proposed items to be provided on coach.

e. Supplier shall provide the following detail:

   i. Effect of "Tread Cleaning device force" on Braking distance calculation.
   ii. Drawing of fixing bracket to be welded on Bogie frame to Drg No. LW03007.
   iii. Interface drawing of Tread Cleaning Unit on Bogie General Arrangement to Drg No. 1267400
   iv. Changes required in existing pneumatic piping arrangements to drg No.LW36004.

f. The vendor shall put up his detailed & dimensional drawing for the offered unit taking into consideration the requirements of this specification. This drawing will be got approved from RCF.

3. Scope of supply

3.1 The Scope of supply for each set shall include the following unless otherwise stipulated in the tender:

<table>
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<tr>
<th>S. No.</th>
<th>Description</th>
<th>Qty. per Coach</th>
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<tbody>
<tr>
<td>1.</td>
<td>Brake Cleaning Block Unit (left Hand) with cleaning block</td>
<td>04 Nos.</td>
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<tr>
<td>2.</td>
<td>Brake Cleaning Block Unit (Right Hand) with cleaning block</td>
<td>04 Nos.</td>
</tr>
<tr>
<td>3.</td>
<td>Pipes, pipe fitting and accessories</td>
<td>One coach set</td>
</tr>
</tbody>
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The scope of this specification also covers association of well-qualified and competent engineers of the contractor in the installation and commissioning of the equipment/system besides supply of equipment and accessories to the complete system.

3.3 Technical requirement and its details:

Tread Cleaning Device shall be robust in construction & design and shall be fitted on LHB type Coaches where Axle Mounted Disc Brake is Fitted as per detail given in RCF specification No. MDTS077. Tread Cleaning device may be provided with fail-safe arrangement to prevent falling down of it in case of any failure.

4. TECHNICAL DATA

BOGIE MAIN DATA

Wheels tread diameter (new) 915mm
Wheels tread diameter (worn out) 845mm

Max. primary suspension displacement during service

Vertical upward from tare to offload 37.5mm
Vertical downward from tare to shock 25mm
Vertical downward from tare to maximum 45mm
Lateral ±7mm
Longitudinal ±7mm
Max. angle of the wheelset around Z axis ±0.25°
Max. angle of the wheelset around X axis ±0.50°
5. Environmental conditions

The system shall be designed for mounting on the FIAT type bogies and shall be suitable for working in heavily dusty atmosphere which may also contain brake block dust and shall function satisfactorily with an ambient temperature of 0°C to +50°C and 100% of relative humidity.

The cleaning agents to T.S. 17.617 100 02 shall be used for cleaning with water pressure up to 40 bar.

6. Life

Based on the above-mentioned environmental conditions and service, the life of various components of the system should be more than ten years. Replacement schedule / condemning limit of cleaning shoe should be defined and marked properly.

7. Painting:

The corrosion protection shall be effective for eight years. Final Paint shade is to be done as per RAL7012.

8. Maintenance

The system should not require frequent maintenance. Suggested preventive maintenance schedule and activities to be carried out are to be submitted with the offer. The overhaul interval of system should be minimum 4 years or 10 lakh km, whichever is earlier. Tenderer should submit relevant data/information to support this.

9. Tests:

Prior to the production, the Supplier shall run a type test to ensure that the unit meets all the Specification requirements for all the specified loads and environmental conditions.

10. Quality Issues

The supplier shall have in place a Quality Management System that meets the relevant requirements of ISO 9000 for all aspects of the scope of work defined in this specification.

The Supplier will be responsible, of constant quality and tractability of the components and the material employed.
11. Contractual Documentation

The supplier will furnish after the acquisition of the purchase order the following documentation to the purchaser.

a) Layout of the unit with mass report, performance characteristics, list of materials, preliminary stress analysis, Interfacing drawing with bogie, requirement of bkt on bogie and changes required in pneumatic piping of bogie.

b) Reliability Documentation

c) Final drawings of the principal and all components with dimensioning, mass, material and center of gravity.

d) Documentation of First Article Inspection & Acceptance tests, material characteristic certificate.


12. Guarantee

The supplier shall be fully responsible for satisfactory functioning of system, he shall replace the component free of cost and shall give the guarantee against failing or providing unsatisfactory service due to defective design, material or workmanship within 4 years from date of supply or 3 years from the date of installation and commissioning.