

SPECIFICATION FOR THREE WHEELER LOAD CARRIER

Technical Specification No. MECH/M&P/2500/GM/12

1.0 DESCRIPTION: -

Diesel Operated Three Wheeler Load Carrier, Cap. 425 kgs.

2.0 SCOPE

The scope of this specification covers design manufacture, supply, commissioning and proving tests of Diesel operated three Wheeler load carrier, Cap. 425 kgs.

3.0 CAPABILITIES

3.1 Diesel Operated three wheeler load carrier should be capable of

- a) Transportation of materials of different sizes and shapes, having 425 kgs .of load carrying capacity.
- b) Transporting the loads efficiently over rough surfaces as well.
- c) High order of maneuverability so as to be able to operate in very narrow aisles and to negotiate very sharp turns.
- d) Efficient working in hot, humid and dusty atmosphere of Railway Workshops. Temperature variation may be form 0° C to 50° C and relative humidity will be up to 98%.
- e) Heavy duty working round the clock.
- f) Diesel Operated three wheeler load carrier should be capable of auto start.

4.0 STANDARDS

Three wheeler should be confirm to road motor vehicle act. Firm shall submit all the necessary documents required for registration form RTA.

5.0 DESIGN FEATURES

5.1 Diesel Operated Three Wheeler Load Carrier:

5.1.1 Carrying Capacity: 425 kgs

5.1.2 **Size and Maneuverability:**

The Three Wheeler Load Carrier should be of compact design so as to be capable of operating in very narrow aisles and negotiating very sharp turns. The Three Wheeler Load Carrier should also be of rugged and sturdy design to be capable of heavy duty working.

5.1.3 **Chassis**

The chassis frame should be of robust construction constructed from rolled steel section and heavy steel plates adequately braced and gusseted.

5.1.4 **Steering and Drive:**

The steering should be of scooter/wheel type, easy in maneuvering. The Three Wheeler Load Carrier should be provided with gear box of reputed make and best quality with at least four forward and one reverse speeds, and heavy duty clutch. The speed reduction from the engine to the rear driving wheel should be through a reliable system.

5.1.5 **Cargo Box:**

A cargo Box should be designed in the rear of operator's cabin. Cargo Box made of corrugated sheet should be of 1480 X 1400 mm approx.

5.1.6 **Brakes:**

Expansion type twin shoe type hydraulic operable by a foot pedal may be provided.

5.1.7 **Wheels Assembly:**

All wheels assembly should be non-skid pneumatic type.

5.1.8 **Suspension:**

Suitable suspension system should be provided to absorb shocks and to provide greater riding comfort to the operator. The springs used for suspension system should be of reputed make and best quality. Leaf spring suspension system is preferable.

5.1.9 **Lubrication:**

The bearings should be prepacked with grease, and self lubricating bushes should be used to the maximum extent possible to reduce routine maintenance to minimum. Grease nipples and other lubrication points should be provided at easily accessible locations.

5.1.10 **Seat**

Cushioned seat for the driver with back-rest should be provided for maximum comfort to the driver.

5.1.11 **Controls:**

All controls should be designed so as to give maximum accessibility to the driver taking into consideration the comfort of the driver.

5.1.12 **Gear Box:**

The gear box should be capable of providing at least four forward and one reverse speeds. The gear box should be of reputed make and best quality. Spare parts for its maintenance should be easily available in the market.

5.1.13 **Diesel Engine:**

The diesel engine of reputed make and type and of suitable horsepower should be provided to facilitate hauling of specified loads at specified speeds. Diesel Three Wheeler Load Carrier should be capable of Auto Start preferably of Lucas make.

6.0 **LEADING DIMENSIONS**

The Three Wheeler Load Carrier should be designed according to the leading dimensions given in Schedule-I

7.0 **PAINTING**

All surfaces to be painted should be thoroughly cleared of loose mill scales, rust, foreign matter by wire brush etc. All surfaces to be painted should be suitably subjected to anti-corrosive treatment before applying two coats of primer like red oxide/zinc chromate and two coats of synthetic enamel paint yellow and black. The colour scheme should be submitted for approval along with the tender offer.

8.0 **MAINTAINABILITY**

The design of equipment will ensure that all important equipments like engine, gear box and transmission system are so positioned as to ensure easy accessibility for normal maintenance and removal for repairs etc. Grease nipples/oil cups should be provided to ensure positive lubrication at required locations.

9.0 **SPARE PARTS**

The tendered should quote separately item-wise spare parts recommended for two years normal maintenance. The list should also include battery.

10.0 ACCESSORIES

10.1 List of standard accessories which will be supplied free of cost with Diesel Operated Three Wheeler Load Carrier should be furnished.

10.2 List of optional accessories which may be useful to improve the working/ efficiency of Diesel Operated Three Wheeler Load Carrier with Trolleys duly indicating price of each should be furnished.

11.0 SPECIAL FEATURES

The tenderer should separately explain the special features, if any, of the equipment offered by him.

12.0 COMMISSIONING AND PROVING OUT

12.1 The tenderer shall arrange erection, commissioning and testing of the equipment at site Rail Coach Factory, Kapurthala (Punjab), India and after successful commissioning, will demonstrate the performance of the equipment, to the staff of Rail Coach Factory at consignee's premises.

12.2 The tenderer will be required to commission the equipment within one week from date of supply of the material at destination,

13.0 TECHNICAL LITERATURE

The successful tenderer will also have to furnish, for each machine 2 copies of spare parts catalogue giving the part list number of each component with exploded views and assembly drawings of major assemblies, maintenance manual, trouble shootings guide, operational manual of the machine and all electrical circuit diagrams to the consignee. The bidders should provide a list of literature, they will supply along with the machine. The bidders should provide a list of literature, they will supply along with the machine. The technical literature shall be provided in English/Hindi Language only.

14.0 COLOUR SCHEME

The tenderer will indicate three colour schemes for the equipments in his tender offer. The purchaser will approve one of these colour schemes at the time of issue of purchase order.

15.0 WARRANTY

Minimum one year warranty for all manufacturing defects.

SCHEDULE –I

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LEADING DIMENSIONS OF THREE WHEELER LOAD CARRIER

1. Type : Diesel Operated,4 Stroke.
2. Capacity : 390-420cc
3. Stroke : 68-70mm approx.
4. Bore : 85 mm approx.
5. Compression ratio : 18:01
6. Wheel base : 1800-1950 mm approx
7. Fuel efficiency : 35± 5 KM/L
8. Starting System : Electric (Self start with battery)
9. Cooling system : Air Cooled.
10. Transmission : Propeller Shaft.
11. Clutch : Multi plate, wet/dry type.
12. Electrical system
Operation : 12 V
13. Cargo Box size : 52” X 60” X 36” approx.
14. Gear system : Four Forward & one Rear