SPECIFICATION RT57-03-10-02

TRUCK TRACTOR 4X2, 20-TON – DOUBLE SLEEPER

1. **SECTION 1 – ANNEXURE**

1.1 The annexure forms part of this specification.

2. SECTION 2 – SCOPE

2.1 This specification covers the requirements for a 20ton, 4x2, Truck tractor, with a diesel engine developing not less than 1,600Nm of Torque, single rear axle, dual rear wheels, double sleeping-cab, and a GCM of not less than 43,000kg

3. SECTION 3 – DETAILS WITH TENDER

3.1 Equipment Offered:

Make: _____

Model: _____

3.2 If required, the tenderer is to supply a sample for evaluation purposes, or alternatively state where the equipment may be viewed.

_____

4. **SECTION 4 – REQUIREMENTS**

Description	**Particulars of Offer**
4.1 <u>ENGINE</u>	
4.1.1 The engine shall be not less than a 6 cylinder in line engine, water cooled, four-stroke diesel.	_____
4.1.2 The engine shall provide a minimum of not less than 230kW.	_____
4.1.3 The minimum engine torque shall be not less than 1,600 Nm.	_____
4.1.4 A dynamometer certificate shall be supplied for proof of brake kW.	_____
4.1.5 The engine oil lubrication system shall be pressure fed.	_____
4.1.6 The engine oil filter shall be of full flow, replaceable element type.	_____
4.1.7 A high performance air filter with exchangeable paper elements shall be fitted.	_____
4.1.8 The engine shall be equipped with the following:	
a. New generation ultra high-pressure common rail fuel system	_____
b. Economical fuel consumption.	_____
c. Virtually smoke free exhaust	_____
4.1.9 The vehicle emission levels MUST comply with the current legislation i.e.: Level ECE 49.02 (Euro 2).	_____

4.2 **Fuel System**

4.2.1 A fuel tank with a minimum capacity of 400 Liters shall be fitted. _____

4.2.2 Replaceable element type fuel filter(s) shall be fitted. _____

4.2.3 An optional fuel filtration system **must be made available** and be similar or better than a UDF (Ultrafine Depth Filtration) diesel fuel filter, capable of removing all impurities down to 0.5 micrometres in size. The filter is to be of sufficient size to suit the power rating of the engine _____

4.3 **Differential**

4.3.1 Single (single reduction hypoid differential). _____

4.3.2 Trunnion mounted inverted semi-elliptic steel leaf springs _____

4.4 **Steering**

4.4.1 The steering shall be power assisted. _____

4.5 **Wheels and Tyres**

4.5.1 All wheels shall be tubeless radials. _____

4.5.2 The spare wheel shall be mounted on a winch type carrier. _____

4.5.3 Safety rims shall be fitted to the front two wheels. _____

4.6 **Transmission**

4.6.1 A sixteen (16) speed full synchromesh transmission is required. _____

4.6.2 An option must be made available for an Automated Manual Transmission (AMT). _____

4.6.3 The transmission is to be of adequate strength for the power and torque to be transmitted and is to have cooling capacity appropriate for operation in mountainous terrain. _____

4.6.4 The fully loaded combination must be able to pull away from a standstill on a 10% gradient using 1000 rpm or less. (Grade ability under full load not less than 34%) _____

4.6.5 Gearing should be such that the maximum speed of the vehicle is at least 90km/h. _____

4.6.6 A power take off (PTO) point from the transmission shall be fitted. _____

4.6.7 FRONT AXLE CAPACITY = 7,500 kg (GA) _____

4.6.8 REAR AXLE CAPACITY (GA) = 13,000 kg _____

4.7 **Brakes**

4.7.1 A dual air-line braking system must be provided which acts, from a single pedal control, on all wheels of the truck tractor and semi-trailer. This system must comply fully with the requirements of the Road Traffic & Road Transportation Legislation. The braking system must be such that failure of pressure in any of the lines will not cause failure of the truck tractor and trailer brakes. _____

4.7.2 Anti-lock brakes (ABS) are to be fitted and the braking system is to comply with ISO 3450:1996. _____

4.7.3 All brake components are to be asbestos free

4.7.4 An additional emergency and parking brake system is to be provided which will act on at least 2 axles. This must be of the spring applied type. _____

4.7.5 An exhaust brake shall be fitted. _____

4.7.6 A full trailer brake, with couplings and hand control system shall be fitted. _____

4.7.7 An air dryer and unloader valve shall be fitted. _____

4.8 **Clutch**

4.8.1 A single or double dry plate type clutch shall be fitted _____

4.8.2 The clutch shall be hydraulic-air assisted. _____

4.9 **Number plates**

4.9.1 Two (2) Number Plate Carriers, conformed to the Road Traffic Act, shall be supplied and fitted. _____

4.10 **Chassis**

4.10.1 A ramp and roller shall be fitted to the back of the chassis. _____

4.10.2 A 5th wheel, similar or better than a Jost 36 C, shall be supplied and fitted that shall take a pin of 50 mm (2 inch). _____

4.10.3 Alternatively a double oscillating heavy duty 5th wheel, similar or better than a Jost 38G-1 that shall take a pin of 90mm (3.5inch) or 50 mm (2 inch) _____

4.10.4 Guiding ramps shall be fitted on the chassis. _____

4.10.5 A catwalk shall be fitted to the chassis between the winch and the 5th wheel. _____

4.10.6 Mudguards covering the rear axle group. _____

4.10.7 The batteries fitted to the Truck Tractor are to be fitted inside a lockable battery box. _____

4.10.8 An air pressure tapping for inflating tyres. _____

4.10.9 Heavy duty front pull hook to facilitate loading of equipment. _____

4.11 **Winch**

4.11.1 The dimensions from the back of the cab to the rear axle must be such that a 20 ton hydraulic winch plus fifth wheel in optimal position can be accommodated when the truck tractor is coupled to a low bed trailer. _____

4.11.2 A 20 ton single drum reversible winch to be fitted on truck tractor. The winch should be of the drum type with a horizontal shaft and an automatic holding brake. It should be fitted with adequate strength steel wire at least 30 meter in length. The winch will not only be used for the coupling and uncoupling of the trailer combination but also the recovering of stranded vehicles and equipment. _____

4.11.3 A hook must be attached to the end of the steel wire of sufficient strength for the winch rating. _____

4.11.4 An OEM approved gearbox driven PTO to be fitted to drive a hydraulic pump for the hydraulic operated winch. _____

4.12 **Cab**

4.12.1 The cab shall make provision for two (2) people to sleep. (Sleeping banks for two people) _____

4.12.2 The cab is to be well insulated and have adequate ventilation for a tropical climate. _____

4.12.3 The cab shall be fitted with an air conditioner. _____

4.12.4 The cab must be adequately rust proofed and sealed against the entry of dust. _____

4.12.5 A hydraulic cab tilt system shall be fitted. _____

4.12.6 The driver's seat must be fully adjustable. _____

4.12.7 Two (2) Flagpoles with red flags shall be fitted on both sides to the front of the cab. _____

4.12.8 Maximum noise level in the cab must not exceed 85dBA. _____

4.12.9 The cab shall be fitted with two (2), 4.5 Kg **ABE** fire extinguishers. _____

4.13 **Instruments**

4.13.1 Instrumentation shall consist of the following:

a. Tachometer and speedometer. _____

b. Dual-needle or two separate air pressure gauges. _____

c. Oil pressure gauge or light. _____

d. Engine coolant temperature gauge. _____

e. Fuel tank gauge. _____

f. Voltmeter. _____

g. Warning lights. _____

h. Warning buzzers. _____

4.13.2 The electrical system shall be 24 volt negative ground. _____

4.13.3 A 28v-70 amp alternator shall be fitted. _____

4.13.4 The battery shall be mounted in a steel box on the chassis side rail. _____

4.13.5 A battery isolation switch shall be fitted to the battery. _____

4.13.6 The key of the isolator switch shall be fitted with a chain. _____

4.13.7 All lights shall conform to the Road Traffic Act and Regulations and consist of the following:

a. Headlights. _____

b. Front and rear indicator lights. _____

c. Hazard lights. _____

d. Tail and brake lights. _____

e. Reverse lights. _____

f. Number plate light(s) _____

4.13.8 Two (2) amber rotating beacon lights shall be fitted to the cab. _____

4.13.9 Two (2) spot lights shall be fitted to the rear of the cab for night loading. _____

4.13.10 The rear lights shall be of the LED Truck type. _____

4.13.11 A heavy duty chevron and light box shall be fitted. _____

4.13.12 A trailer light plug shall be fitted. _____

4.13.13 All vehicle electrical wiring shall be adequately protected by means of a fuse box. _____

4.13.14 All electrical wiring shall be adequately insulated, sheaved and anchored. _____

4.14 **Equipment**

4.14.1 A lockable steel toolbox of 600mmx300mmx300mm shall be fitted on to the chassis. _____

4.14.2 The toolbox shall contain the following:

a. A jack (minimum capacity of 20 Ton). _____

b. A jack handle. _____

c. Wheel spanner. _____

d. Two (2)-tire levers. _____

e. Cab tilt lever if needed. _____

f. Spare wheel spanner and crank lever. _____

g. 2 (Two) Warning triangles. _____

h. Toolset if supplied. _____

i. An airline of sufficient length to reach all wheels, fitted with a tyre inflator and gauge. _____

4.15 **Bull bar**

4.15.1 A fold down bulbar shall be fitted. _____

4.16 **Information plate**

4.16.1 A plate shall be fitted on the left side in a conspicuous position in letters and figures of not less than 40 mm in height and which shall be clearly legible at all times. _____

4.16.2 The plate shall contain the following:

a. Tare in kg (denoted as T) _____

b Gross vehicle mass in kg (denoted as GVM/BVM) _____

c. Gross vehicle combination mass in kg (donated as GCM/BKM) _____

d. Permissible combination mass in kg (denoted as MD/T) _____

4.16.3 This plate shall not replace the plate that must be in the vehicle according to Road Traffic Regulations. _____

4.17 **General**

4.17.1 All caps and lids shall be fitted with a chain. _____

4.17.2 Provision for adequate lubrication of all working parts shall be fitted. _____

4.17.3 This equipment is to be of an up to date design and to embody all the latest improvements and appliances. _____

4.17.4 This specification is intended to include, whether mentioned or not, all items and accessories necessary for the proper functioning of the complete equipment. _____

4.17.5 Provision shall be made for training of personnel on driving, operating maintenance, servicing and repairs of the vehicle. _____