SPECIFICATION FOR VEHICLE MOUNTED DUMPER PLACER SKIPPER®

A) GENERAL:

The Dumper Placer shall be useful for transportation of refuse, silt, grit or any other waste from the collection point to its disposal point. The operation of lifting and placing the container on the vehicle, transporting to its disposal point and unloading shall be hydraulic. The lifting capacity of steel garbage container / bin shall be 3 cu.m. or 5 cu.m. The equipment shall be operated hydraulically.

The operations of this unit shall be such that one driver assisted by one helpers shall be adequate.

The unit shall consist of:

a. Prime mover – engine of the chassis shall be used for driving other unit through appropriate power take-off unit (PTO).

b. Frame

c. Lifting arms

d. Tipping hooks

e. Stabiliser

f. Hydraulic system

g. Controls

h. Accessories

i. Suitable Indian Vehicle Chassis

The above equipment shall be mounted on chassis like TATA / ASHOK Leyland / Eicher or equivalent. Bidder shall furnish full details of vehicle chassis. Bidder shall also make arrangements to procure the vehicle with cabin from the manufacturer. The client will make direct payment to the chassis manufacturer/their dealer against their Proforma Invoice to avail Govt. rates. The standard tools accessories and spares supplied with the chassis shall be handed over to the client at the time of delivery of the unit.

The Bidder shall make arrangements for mounting equipment on the chassis according to the rules laid down by the Regional transport Office, and loads recommended by the chassis manufacturer on the front and rear axles. The Client shall make arrangements for registration of the complete unit with the Regional Transport Office. The Government fees required for registration of the units shall be paid by the client.

B) DUMPER PLACER EQUIPMENT:

The unit comprises of a pair of lift arms actuated by double acting high pressure cylinders, hydraulically operated tipping hooks for operation of lifting, lowering and unloading of garbage container / bin, one double acting independently operated hydraulic stabilizer, oil tank, and control valves. The components are to be mounted on all steel welded sub- frames.

Unit shall confirm to the best practice known to the body fabrication trade in design, quality of material and workmanship. Assemblies, subassemblies, components and accessories shall be standard and interchangeable.

Unit shall be rear-Ioading type with loading height not more than 1.2 meter from ground level. The operation of lifting, lowering and unloading of garbage container / bin shall be hydraulic system. The system shall include the hydraulic pump, driven by the chassis engine, necessary filter, adjustable relief valves, directional control valves, restriction valves and associated pipelines.

The chain links shall be provided for lifting, lowering, unloading and holding the container.

a) PRIME MOVER:-

The unit shall be run on the power transmitted from vehicle engine through its P.T.O. (Power Take off Unit). The P.T.O. shall be of sturdy design of reputed make and should be able to provide sufficient power to run the system.

b) FRAME:-

The main frame shall be made out of suitability thick pressed steel channels and mounted on the vehicle chassis through rolled / pressed steel channel sub frame.

c) LIFTING ARMS:-

The lifting arms shall be of strong design made out of suitability thick steel box tube to withstand the operating load and shall be connected at ends through suitable bush / bearing joint. The distance between the lift arm and container, when the container is resting on the body, shall not be less than 200 mm.

d) TIPPING HOOKS:-

Hydraulically operated tipping hooks shall be provided with proper space for easy and correct holding of the container for tipping purposes. All the pivot pins are to be high chromium plated and in jig bored holes with easy lubrication points to ensure accurate alignment and smooth operation. The chain links provided for lifting and holding the container shall be strong enough.

e) STABILISER:-

The hydraulically operated stabilizer shall be designed in such a way to suit the requirement at transfer station. The stabilizer shall be strong enough to provide continued stability and should not take undue time. The stabilizing should have locking arrangement so that no malfunction operation is possible.

f) HYDRAULIC SYSTEM:-

1. The hydraulic pump shall be designed to operate continuously with peak loading at frequent and short interval. The maximum capacity of the hydraulic pump shall be 27 lpm at 1500 rpm.

2. The hydraulic system shall incorporate relief valves to protect all components from excessive pressure and overloads.

3. Hydraulic seamless pipes, hoses, couplings should be of high quality and standard to withstand high pressures. The pipe ends should be flared to ensure perfect seal and prevent leakage even at high pressure

4. A replaceable filter should be provided in return line of hydraulic system.

5. All hydraulic components should be easily accessible for inspection.

HYDRAULIC VALVES:-

The valves provided shall be of reputed make and of international standard. The valves shall be rated 140 kg/cm^2 pressure.

HYDRAULIC CYLINDERS:-

1. All cylinders must be tested at 1.5 times the rated working pressures.

2. Cylinder rods of all cylinders shall be constructed of high strength, hardened steel rods, centreless ground to an RMS smoothness rating of 8 and shall be hard chrome plated.

3. Where necessary, pin mounting connections of cylinders shall incorporate hardened spherical bushings on hardened pins.

4. The cylinders should be reputed make and should adhere to dimension given in technical schedule.

HYDRAULIC RESERVOIR AND FILTERS:-

The reservoir tank shall have 1.5 times capacity then the fluid required by the hydraulic system and includes a sight fluid level indicator, return line filter, suction line shut-off cock and filter cap with chain.

f) CONTROLS:-

The following controls shall be provided and located conveniently

1. Power take-off control shall be provided inside the cabin by the chassis manufacturer.

2. Hydraulic control valve lever for lifting arm.

3. Hydraulic control valve lever for stabilizer.

h) ACCESSORIES:-

i) Reverse audio visual horn – 1No.
ii) Mud guards – 2 Nos.
iii) Mud flaps – 4 Nos.
iv) Al. chequered plate lockable tool box – 1 No.

i) VEHICLE CHASSIS:-

The complete equipment shall be mounted on a suitable chassis with standard day cabin and PTO to be supplied by the purchaser (Ashok Leyland / TATA / Eicher). The chassis should be provided with front and rear shock absorbers with five forward and one reverse constant mesh gear box, complete original front show with headlights, starter, dynamo with batteries and fuel tank.

The truck chassis shall have the following general specifications:

Wheel Base	3400	mm
Max. GVW	7250	kgs.

PAINTING:-

The entire unit shall be painted with two coats of superior quality anti-corrosive primer with two coats of approved quality paint. The bidder shall get the paints and shades approved from the Engineer.

TRAINING:-

The successful bidder shall arrange at his own cost to train client’s operators for operating and maintaining the unit. The training period shall be 2 days.

TESTING AND INSPECTION: -

(i) Tests on equipment at manufacturer's premises as required will be carried out in accordance with the manufacturer’s standard. All inspection, examination and testing shall be carried out in presence of the Engineer’s representative in accordance with the specification.

If the Engineer's Representative witnesses a test he shall be given a copy of the test results and certificates, upon request.