

LIFTMAK

SPECIFICATION OF LIFTMAK 11M WORKING HEIGHT BUCKET VAN MODEL LMHP11 ON 4-TYRE LCV TRUCK CHASSIS

1. SCOPE

The design of Liftmak model **LMHP11** 2-boom hydraulic platform incorporates several advantageous features as under:

- * Sturdy design
- * Dual mechanical parallelogram linkage to keep cage level
- * Safety belt anchorage points at cage
- * Fibre glass cage tested for insulation to 600 volts
- * Load holding valves on all cylinders
- * Optional 4-point outriggers for stabilizing vehicle with optional single push-button outrigger auto-levelling system. Standard is 2-outriggers



Action photographs of Liftmak LMHP11



2. TRUCK CHASSIS

Liftmak model **LMHP11** telescopic platform is mountable on any LCV chassis having a wheel-base exceeding 3100mm

3. POWER SUPPLY

Power for the hydraulic platform is provided by a hydraulic pump driven from chassis power take off unit only. The pump is of ample and sufficient output for normal smooth operation of the platform with low engine speed.

Hydraulic reservoir is incorporated in the main frame and hydraulic circuit is fully protected by efficient filters.

Pump and motor is of reputed make such as Dowty, Vickers, Danfoss or equivalent

4. HYDRAULIC HOSES

The hydraulic hoses are located so that they do not interfere with the movement of the platform, booms etc. Make of hoses offered is Dunlop/Swastik/Superseal or equivalent.

5. STRUCTURE

The booms are made from MS structural steel of good quality. Boom sections are rigid, reinforced box section. All fabricated sections are rust inhibited from the inside while the exterior surfaces are pretreated and finished to give a glossy look.

6. STABILIZERS

Two A-frame stabilizers, hydraulically powered, are provided, at rear. Each of the stabilizers is operated independently, to allow levelling on uneven ground. Suitable level indicators are provided to check the level, both along the width of the chassis/vehicle.

When stowed, no part of the stabilizers protrude beyond the chassis

Suitable interlocks are provided to ensure that the stabilizers cannot be retracted until platform booms are stowed and also to ensure that booms cannot be operated until stabilizers are deployed.

As an option, four outriggers can be provided with a single push-button outrigger auto-levelling system is available, which automatically commands the outriggers to level the vehicle up to an accuracy of 0.5 degree. The auto-levelling mechanism eliminates the possibility of human error in leveling the machine. Levelling of the vehicle before use is most important, to prevent the possibility of accident/toppling.

7. HYDRAULIC CYLINDERS

All platform motions are performed either by double acting hydraulic cylinders or hydraulic motors with automatic brake.

- The cylinder tubes are of ST52, cold drawn seamless tubes conforming to DIN 2391, having H8 tolerance and surface roughness Ra0.2 microns

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- The piston rods are of CK45, hard chrome plated and ground steel rods having minimum 20 microns hard chrome plating and surface roughness Ra0.2 microns and corrosion resistance NSS ISO 3768 & ASS/ISO3769
- Piston glands are from EN8
- Seals are of Bushak, Shamban
- U-cup seal are of Polyurethane
- Hoses are tested to twice rated pressure and the bursting pressure shall be at least four times the rated pressure.

8. SLEWING

The hydraulic telescopic platform model **LMHP11** is designed for continuous slewing by a high torque, low speed motor, through reduction gear box up to 360° in either direction – continuous, unlimited. Slewing speed is precisely controlled by using fine restrictors in the circuit.

9. PERSONNEL CAGE

A special designed reinforced fibre-glass basket of size 1.1x0.7x1.1M approx. is provided. All attachment points are bonded to withstand most arduous use. The non-slip floor with drain holes is provided to give the operator safe working condition. The basket is insulated to withstand 600 volts, even though the platform is not to be used on live line and hoses/links/controls need not be insulated. The basket is designed to carry a safe working load of 200 kgs. The hydraulic platform design is such that entry and exit into/from cage is easy. Test certificate for cage insulation shall be provided.

10. CAGE LEVELLING

The cage is level in all positions, achieved through a dual mechanical parallelogram linkage levelling system.

11. PLATFORM CONTROLS

The hydraulic controls for all functions (except outriggers) are in cage. All control levers shall be self-centering and hooded for protection against accidental operations. A hand pump permitting lowering of the boom is provided at the base in case of vehicle engine/electrical system failure. The stabilizer controls are provided only at base, at rear of vehicle.

12. TRAVELLING DIMENSIONS

Travelling dimensions of the hydraulic platform are chassis dependent and conform to RTA rules.

13. SAFETY DEVICES

The hydraulic platform model **LMHP11** is incorporated with special overcenter valves in the hydraulic circuit to ensure that all boom movements are accurate and precise. In addition, these valves safeguard the operator in the event of hydraulic hose failure or engine/electrical system failure or leakage, by preventing creeping or collapsing of boom.

Pilot operated lock valves are incorporated in the stabilizer hydraulics, to prevent sinking of stabilizers while in operation.

Other safety features provided are -

- ◆ Automatic stops to prevent platform from reaching unstable areas of operation
- ◆ Interlocks to ensure that stabilizers are not retractable as long as boom is in elevated position
- ◆ Another interlock to ensure that boom cannot be operated unless stabilizers are deployed
- ◆ Lock valves provided on all load bearing cylinders (overcenter valves on main lift and telescopic cylinder) to ensure that there is no mishap/boom/outrigger collapse in the event of hose failure
- ◆ Automatic overload protection
- ◆ Cage insulated to 600V – even though this platform is not a 'hotline' machine and is not recommended for use on live line
- ◆ Relief valve/ oil bye-pass system to bring down main boom, in event of hose failure during operation.
- ◆ Safety belt anchorage points at cage
- ◆ Optional single button outrigger auto-levelling mechanism to automatically command the outriggers to level the vehicle up to an accuracy of 0.5 degree (for 4-outrigger system)

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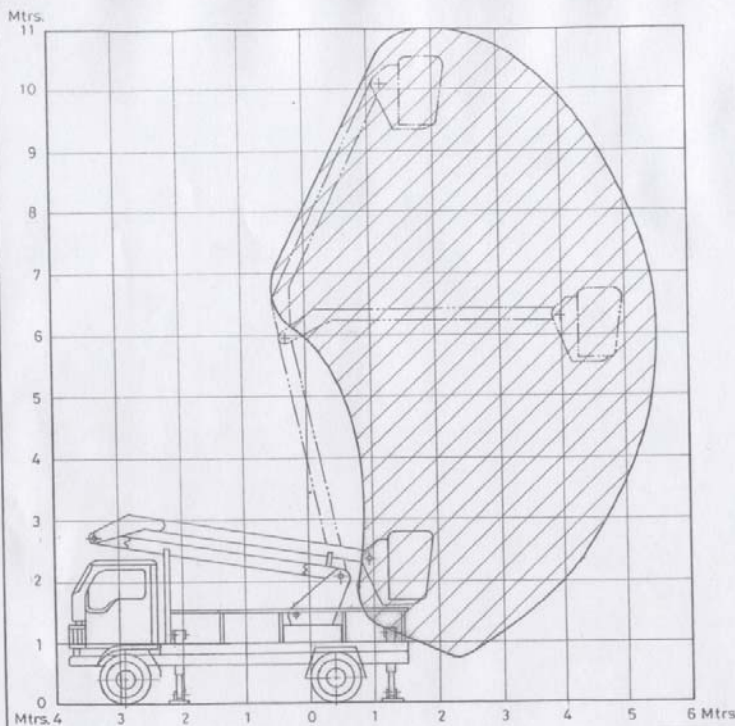
14. OPERATING DATA

Model LMTHP15

- Maximum height of cage floor from Ground level..... 11.0M
- Maximum working height (taken as cage base +1.50M).....9.5M
- Cage capacity (stability test will be seen at 50% overload).....200 kgs.
- Outriggers (Hydraulically operated)2 Nos.
- Levelling of cage..... Mechanical parallelogram link
- Lock valves provided on all cylindersYes
- Slew (continuous & unlimited in both directions) 360°+ endless
- Hydraulic pump drive through chassis PTO Yes
- Cage insulation600 volts

Other parameters :

- Boom to stabilizer and stabilizer to boom interlocks provided for safety
- Controls provided as follows –
Stabilizer controls on rear side of chassis,
Slew, boom elevation and boom telescoping controls at cage
- Emergency hand pump to stow platform in case of main system failure.



TECHNICAL SPECIFICATIONS:-

- MAX WORKING HEIGHT11.0M.
- MAX. HEIGHT TO CAGE FLOOR 9.5M.
- MAX. OUTREACH5.5M.
- MAX. SAFE WORKING LOAD 230 Kgs.
- * • STOWED LENGTH 6.0M.
- * • STOWED WIDTH 2.0M.
- * • STOWED HEIGHT 3.1M.
- SLEWING RANGEUNLIMITED,ENDLESS
IN BOTH DIRECTION
- CAGE SIZE 1.1 X 0.7 X 1.1 M.
- CAGE INSULATION 600 VOLTS
(TESTED AT 2200 VOLTS)
- OUTRIGGER 04 NOS.

NOTE:-

* DIMENSIONS DEPEND ON CHASSIS.

NOTE:-

ALL DIMENSIONS/SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MODIFICATION	S.NO.	DESCRIPTION	MATL.	QTY.	DRG. NO.
SCALE		LIFTMAK			
REPLACEMENT FOR		HYDRAULIC PLATFORM			DRN 14/01/06
SUPERSEDED FOR		MODEL - LMP-11			CHD 14/01/06
		MTD. ON EICHER-10.50CHASSIS			APPO
		WHEEL BASE=3350mm			USED ON
LIFTMAK UDYOG PRIVATE LIMITED			DRG. NO.		
GURGAON (HARYANA)			441 005 000 11/A		