AP 415 MK II

MAXIMUM CAPACITY - 12.50 Tonnes (85% Rating), 360° Slew on Outriggers and Tyres
BOOM - 3 SECTION - 5.5 Meters TO 12.5 Meters
CARRIER - 4 x 2 Wheel Drive
MAXIMUM HOOK HEIGHT - 12.50 Meters
MAXIMUM ROAD SPEED - 35 km/h
ENGINE - BSIII (CEV)

INDUSTRIAL DIESEL HYDRAULIC MOBILE CRANE

TL Tractors India

Superstructure Specification

AP 415 MKII

BOOM

Three section 5.5m -12.5m, fully powered, fully synchronized boom by means of single double acting hydraulic cylinder housed within the boom fitted with lock valve to sustain the cylinder in case of hydraulic failure.

Maximum Tip Height: 14.50m

BOOM ELEVATION

Single double acting type derrick ram fitted with lock valve to prevent ram collapse in the event of hydraulic failure and provide positively controlled derricking out.

Boom angle: Maximum 65°, Minimum 0°

Derricking speed: 28 seconds (maximum to minimum radius)

SUPERSTRUCTURE FRAME

Welded steel turret revolving through 360°.
Mechanical superstructure lock.

SLEW SYSTEM

Gear type hydraulic motor driving a pinion through a double reduction gear unit. The pinion meshes with a externally cut slew ring 360° smooth and precise continuous rotation. Spring applied hydraulically released multi plate brake.

Slew speed: Maximum 2.0 RPM (Unladen)

HOIST SYSTEM

Gear type hydraulic motor driving grooved hoist barrel via reduction gear unit fitted with counterbalance valve for controlled lowering of the load. Spring applied hydraulically released multi disc brake.

Hoist Rope: Non spin type 13 mm dia. & length 79m

Line Speed: 34m/min top layer (un-laden)

Permissible Line Pull: 3500 Kg

HOOK BLOCK

12.5 tonnes; 2 Sheaves

COUNTERWEIGHT

Weight-3000kg. Integral with superstructure.

SAFE LOAD INDICATOR

Displays boom radius and hook load indication giving visual indication of approach to overload and audible warning of overload condition.

Motion cut equipment operated by safe load indicator. Cuts derricking out, telescoping out or hoisting motion when overload condition is reached.

Pendant over hoist limit switch provided at boom head.

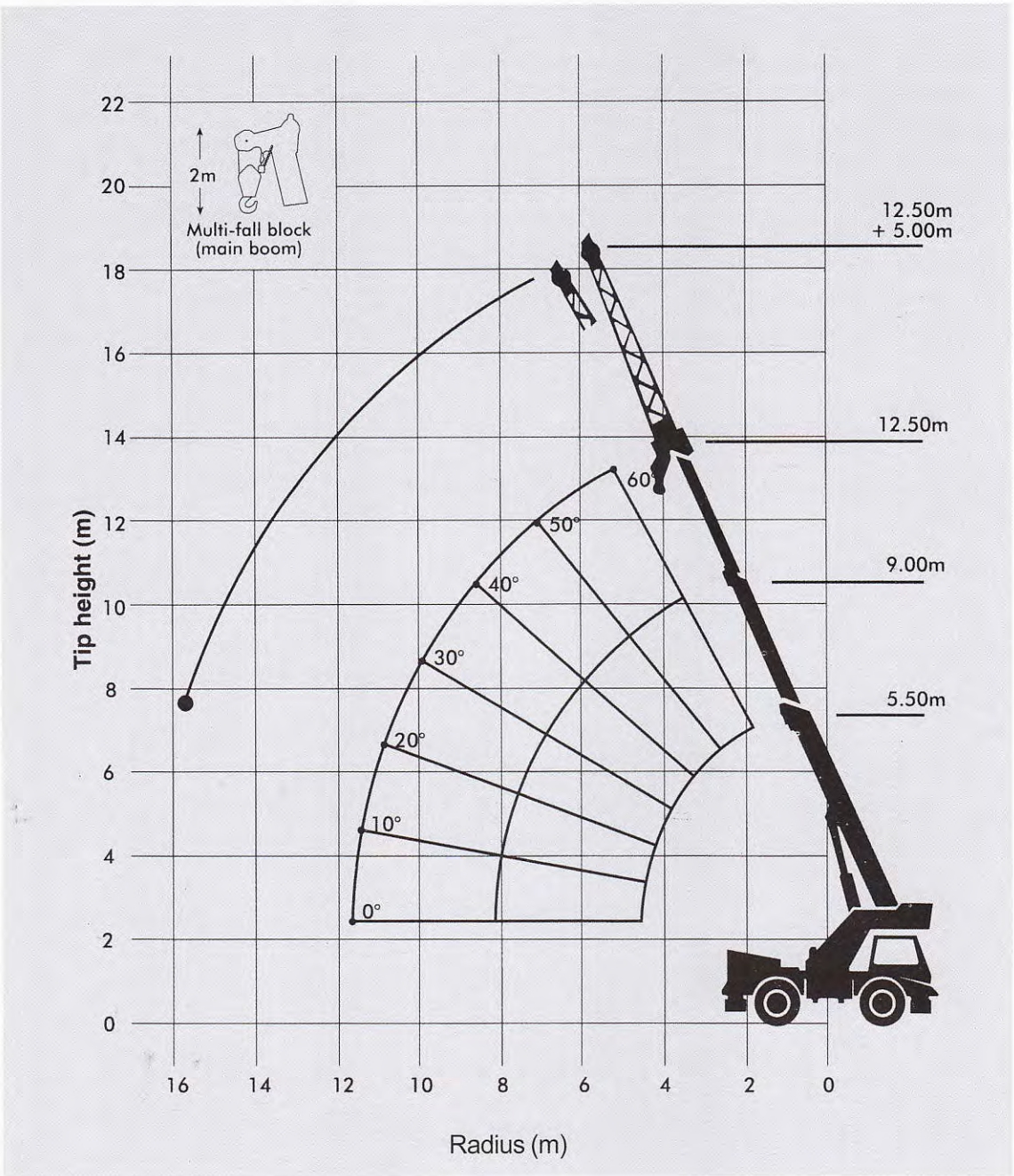
3rd wrap indicator on hoist barrel provides warning of over lowering.

OPTIONAL EQUIPMENT

Lattice boom extension

5.0m lattice extension mounted in line with main boom.

3 Section Boom 5.5 m to 12.5 m + 5 m Extension



Hookblock capacities and weights – Tonnes

No. of Falls	5	4	3	2	1
Permissible Load	12.5	10.00	7.65	5.15	2.60
Wt. of Hookblock	0.20	0.20	0.20	0.20	0.20

Note: Heights of lift are for multi-fall hook blocks. Add 0.46m if single fall hook block is used in place of multi-fall.

LIFTING CAPACITIES: 3 SEC BOOM ON OUTRIGGER-360° SLEW 85% RATING

Boom Length in (m)			
Radius in Meters (m)	5.5m	5.5m to 9.0m	9.0m to 12.50m
2.50	12.50	11.50	
3.00	12.50	10.70	6.50
3.50	10.50	10.00	6.00
4.00		9.00	5.50
4.50		8.00	5.00
5.00		7.00	4.50
6.00		5.50	4.00
7.00		4.00	3.50
8.00			3.00
9.00			2.75
10.00			2.00
10.50			1.75

Extended Boom + 5m Extension		
Maximum Radius in Meters (m)	0 deg offset	
	Angle	Capacity 360° slew
7.00	65°	2.00
8.00	61°	1.90
9.00	57°	1.80
10.00	53°	1.70
12.00	43°	1.40
14.00	31°	1.20

Note : When the lattice extension is fitted in the operating position, main boom capacities must be reduced by 0.62 tonne.

LIFTING CAPACITIES - ON TYRES (14.00 X 20 - 22PR) (85% RATING)

Radius in Meters (m)	Full 360° Slew		Radius in Meters (m)	5° over front at 5km/h	
	Boom Length in (m)			Boom Length in (m)	
	5.5m to 9.0m	9.0m to 12.5m		5.5m to 9.0m	9.0m to 12.5m
3.00	6.50	6.00a	3.00	7.40	6.50a
3.50	5.75	5.75b	3.50	7.00	6.00b
4.00	4.75	4.75c	4.00	6.00	5.50c
4.50	4.00	4.00	4.50	5.50	5.00
5.00	3.25	3.25	5.00	4.50	4.25
6.00	2.50	2.50	6.00	3.25	3.00
7.00	1.80	1.80	7.00	2.50	2.25
8.00		1.75	8.00		2.00
9.00		1.30	9.00		1.75
10.00		1.00	10.00		1.25
10.50		0.75	10.50		1.00

Maximum allowable boom length a = 9.25m, b = 10.25m, c = 11.25m

Notes for Lifting Capacities

WARNING: THIS CHART IS ONLY A GUIDE. The notes below are illustration only and should not be relied upon to operate the crane. The individual crane's load chart, operating instructions and other instruction plates must be read and understood prior to operating the crane.

1. All rated loads have been tested to meet minimum requirements of IS4573-1982: Specification for Power Driven Mobile Crane and do not exceed 85% of the tipping load on outriggers as determined by SAE J765 OCT80 Crane Stability Test Code.
2. Capacities above the thick line are based on factors other than stability. Hence crane tipping must not be relied upon as a guide to the capacity limitation.
3. The rated load includes weights of hook block, slings and all similarly used load handling devices.
4. Capacities quoted are based on freely suspended loads with the four telescoping outriggers fully extended and down so that tyres are raised clear of the ground with the machine accurately leveled on firm and uniformly supported surfaces. It may be necessary to have structural supports under the outrigger floats to spread the load, to a larger bearing surface.
5. Practical safe working loads are dependent on the supporting surface, wind and other factors affecting stability, hazardous surroundings, experience of personnel and proper handling of the load all of which must be taken into account by the operator.
6. When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
7. Angle based capacities are determined by laden boom angles and **not by radius.** Radii quoted refer to fully extended booms.

FREE ON WHEELS

1. Capacities quoted are based on freely suspended loads with the machine standing on a firm, level and uniformly supporting surface and tyres inflated to their correct pressures. It may be necessary to have structural supports under the tyres to spread the load, to a larger bearing surface.
2. For pick and carry operation boom must be centered in front of the machine with mechanical slew lock engaged and all lockouts must be functioning before lifting on rubber.
3. Over front capacities must only be lifted within a maximum slewing angle of 2.1/2° either side of crane centre line and are valid only up to a maximum travel speed of 5km/h.
4. On rubber, lifting with boom extension is not permitted.

Carrier Specification

AP 415 MKII

FRAME
4 x 2 wheel drive high strength steel weld heavy duty structure with integral outrigger housings.

OUTRIGGER SYSTEM
Four hydraulically operated telescoping beams with vertical hydraulic jacks fitted with lock valves. Vertical jacks fitted with removable, stowable outrigger feet. Independent control of all outriggers with individual beam and jack operations are controlled from operator's cab.

OPERATOR'S CAB
Forward mounted totally enclosed full vision cab of steel construction with lockable doors, interior light and horn. Ergonomically designed cab and control layout with adjustable suspension type seat.

Crane Controls
Individual levers for independent or simultaneous operation of crane motions and electric rocker switch for control of hydraulic outriggers.

Travel controls
Normal automotive controls including steering wheel, brake, clutch and accelerator pedals, mechanical gear shift lever and hand brake control.

Instrumentation
Gauges for engine oil pressure, engine coolant temperature, engine hour-meter and ammeter. Warning lights for alternator, parking brake and direction indicator.

ENGINE
Suitable water cooled diesel engine of adequate horsepower.

FUEL TANK
Capacity 164 liters.

TRANSMISSION
5 forward and 1 reverse speed synchromesh gearbox having cable controller for change speed operation.

STEERING
Fully independent power steering:
Rear axle steered through hydraulic power controlled by steering unit operated by automotive type steering wheel.

HYDRAULIC SYSTEM
Pump - Two section hydraulic vane pump is driven through gearbox PTO. Single section gear pump for steering, driven through engine.

Control valve - Detained type spool control valve operates tele, derrick, hoist and slew motion from operator's cab.

Filter - Return line type filter with replaceable cartridge having full flow with by-pass protection and clogging indicator.

Reservoir - 200 liters capacity.

AXLES
Front: Drive axle solidly mounted to the chassis frame.

Rear : Steered non drive axle mounted on leaf spring and axle lock provided for free on wheel duties.

BRAKES
Service brake - Dual line air split system operating on all wheels.

Parking brake -Spring applied, air released on front drive axle.

WHEELS and TYRES
14.00 X 20 - 22 PR single pneumatic tyre on pressed steel discs fitted to both the axles.

ELECTRICAL SYSTEM
24 Volt starting and lighting equipment including two dipping headlights, sidelights, rear lights , stop lights and flashing direction indicators.

TURNING CIRCLE
12.5m Dia

GRADEABILITY
25% un-laden

AXLE LOAD DISTRIBUTION

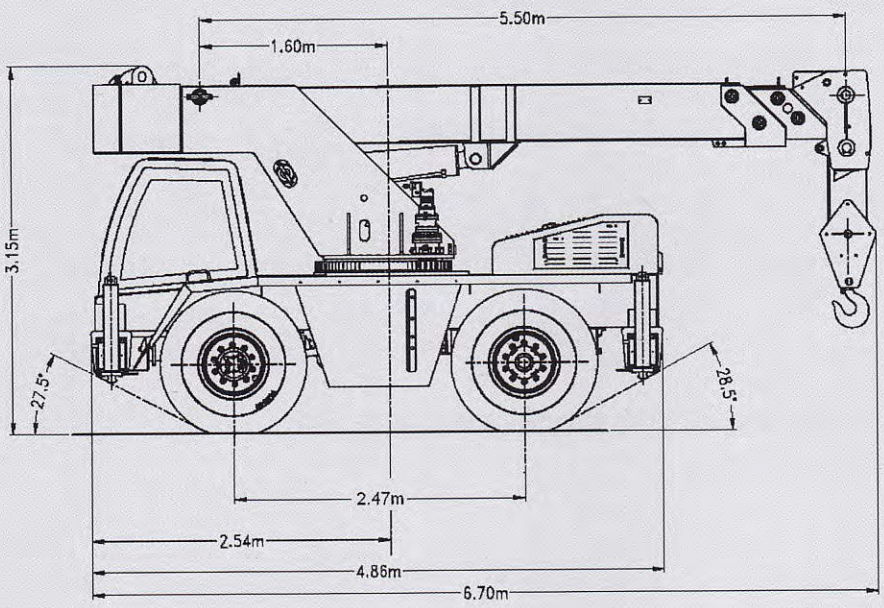
Front	:	9245 kg
Rear	:	6310 kg
GVW	:	15555kg

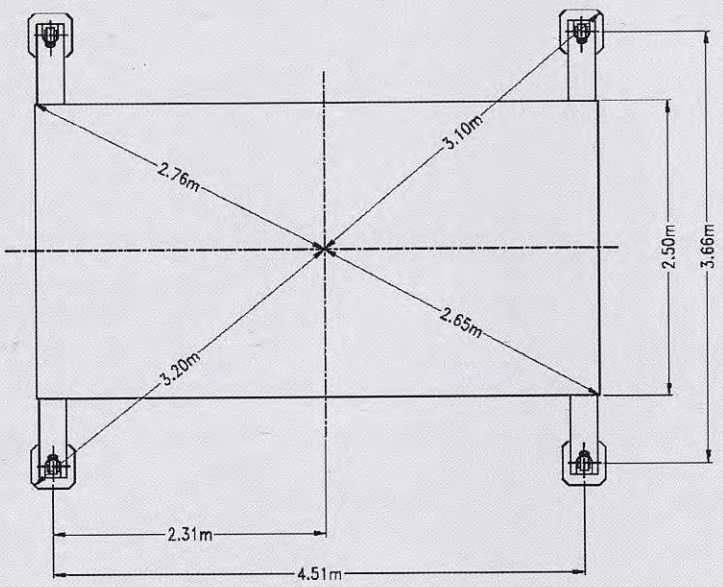
MAXIMUM SPEED
35 kmph.

OPTIONAL EQUIPMENT
- Fire extinguisher
- Tow hook

GA DRAWING

AP 415 MK II





OUTREACH DIAGRAM

OUR NETWORK

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment and price changes without notice. Illustration shown may include optional equipment, accessories and may not include all standard equipment.

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