



WMC5

SUPERSTRUCTURE SPECIFICATION

Superstructure

Superstructure frame is a welded high tensile steel structure on which the telescopic jib, winch, derricking cylinders and counter weights are mounted. The superstructure is capable of continuous slewing in either direction and rotates on slew bearing that is sealed against the ingress of dust and water.

Boom

Construction - 3 section boom made from high tensile steel.

Telescoping - Fully powered, fully synchronized boom extending from 5.65 m to 13.13 m using cylinder and chain arrangement. Hydraulic overcentre valve provided for controlled retraction and automatic load holding.

Derricking - Through twin double acting hydraulic cylinders to give maximum control and fitted with integral pilot operated counter balance safety check valves.

Boom Angle - max 65°, min 0°

Derricking Speed - 30 sec

Slew System

Hydraulic motor driving a pinion through a reduction gear unit. The pinion meshes with an external teeth slew ring, 360° slewing in either direction.

Brake - Spring applied, hydraulically operated disc type brake.

Slew Speed - Approx 2.0 rpm.

Slew Ring - External teeth slew ring grease packed and sealed for long life run.

Hoist System

It is driven by a hydraulic motor through a planetary gear reduction unit for hoisting. Counter balance valve provided for controlled lowering. It has fail safe multi disk brakes released hydraulically. Hoist drum with grooves, 13 mm wire rope. Overlowering switch provided with hydraulic cut-off.

Hoist Brake - Spring applied, hydraulically released multi plate brake.

Line speed - 50 m/min

Operator's Cabin

Large automotive type cab with easy access through side doors. Fully enclosed steel structure with maximum all round vision through safety glass windows.

Crane Controls

Lever operating controls for slew, telescoping, hoisting, and derricking with independent or simultaneous operation of crane motion. Engine speed governed by pedal control.

Control Valves

Control Valves are used for controlling hoist, derrick, slew, and telescoping motions and are located in the operator's cabin.

Safety System

Load Moment Indicator - Microcontroller based LMI is fitted on the crane along with angle & length sensors. Display / CPU is mounted inside the operator's cab. Indicator for load, safe working load, radius, boom angle, boom length and % SWL margin are available on the display unit. Audio visual warnings for approach, overload, overhoist, rope break are provided. In case of overload hydraulic cut-off is activated by the LMI.

Other Safety Features - Load holding lock valves on cylinders for protection against hose burst or power failure. Motion control overcentre valves for smooth movement of loads.

Electricals - 24 Volts negative earth.

CARRIER SPECIFICATION

General Description

WMC5 crane is mounted on BRH/BRNA or equivalent wagon suitable for 1676 mm gauge of the Indian railway. The crane shall be mounted at one end of the wagon with axle load not exceeding 20.3 ton when fully erected, without use of outriggers.

Hydraulic Pump

The engine flywheel through a propeller shaft drives the hydraulic pump.

Hydraulic Tank

Fabricated tank with an oil capacity of 245 litres.

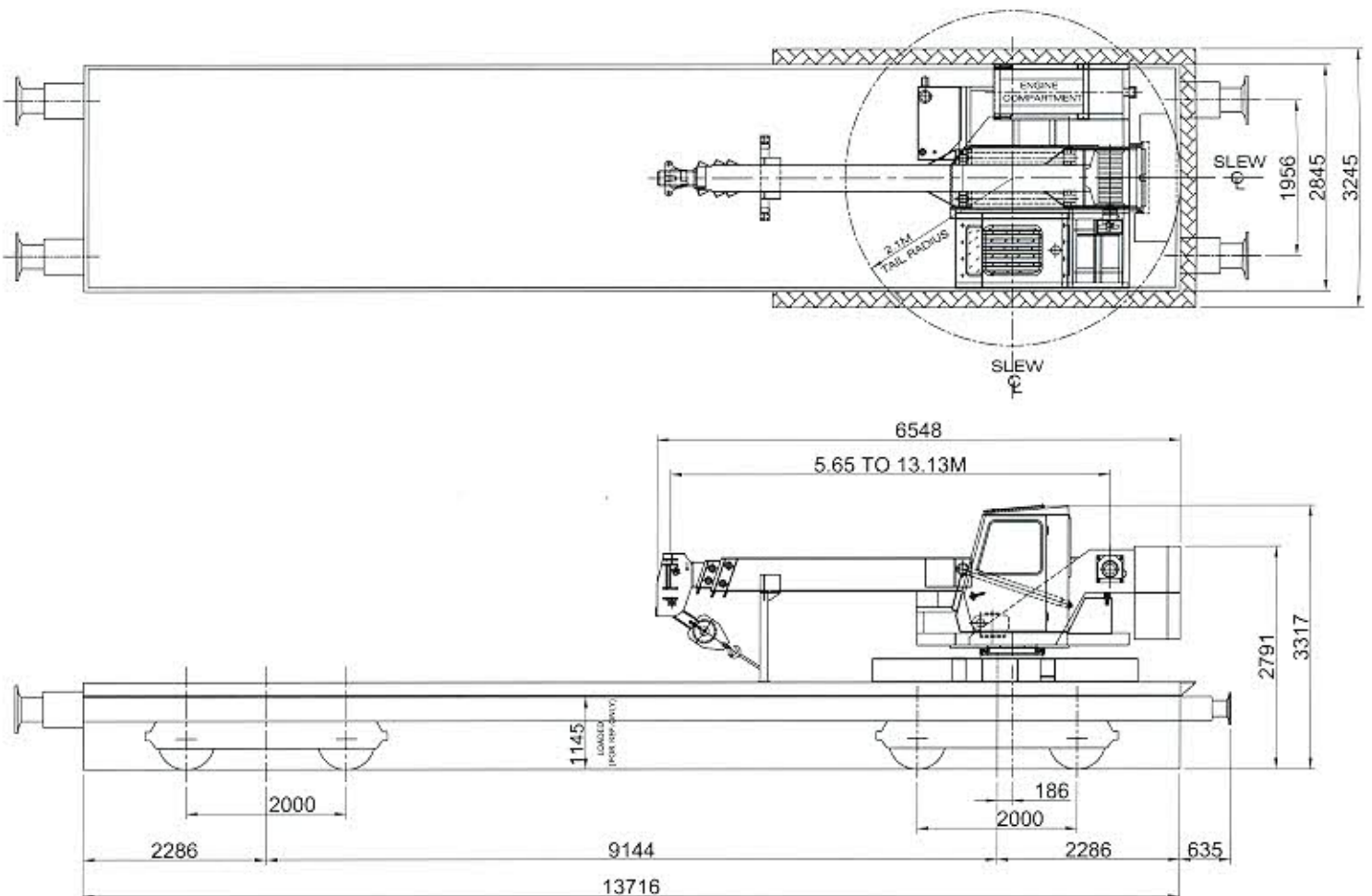
Fuel Tank

Fabricated tank with an oil capacity of 140 litres.

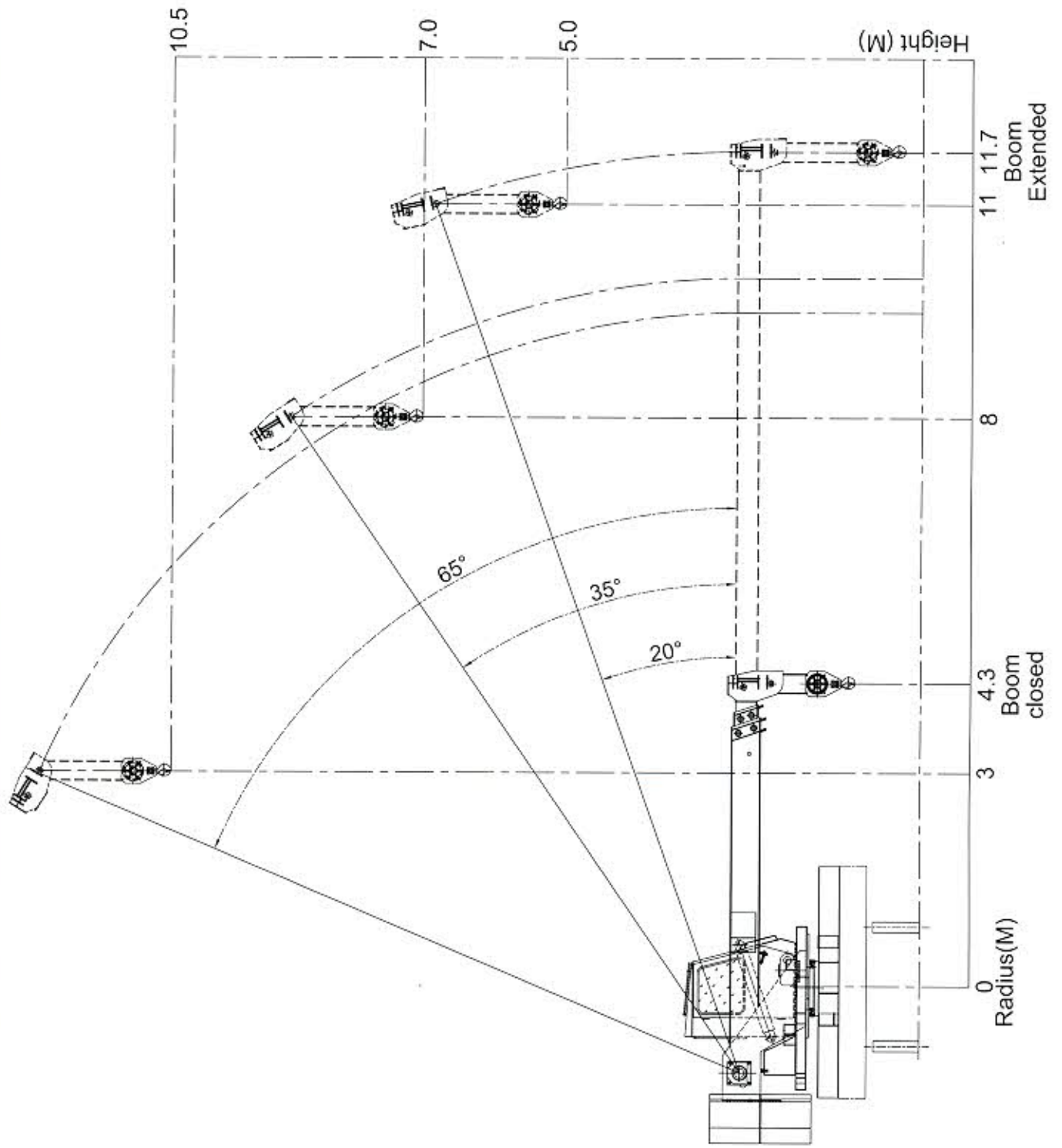
Hydraulic System

Hydraulic overload valves protect pumps and crane structure from excessive hydraulic oil pressure. Oil cooler maintains safe operating temperature of hydraulic system.

GENERAL DIMENSIONS



HEIGHT & REACH

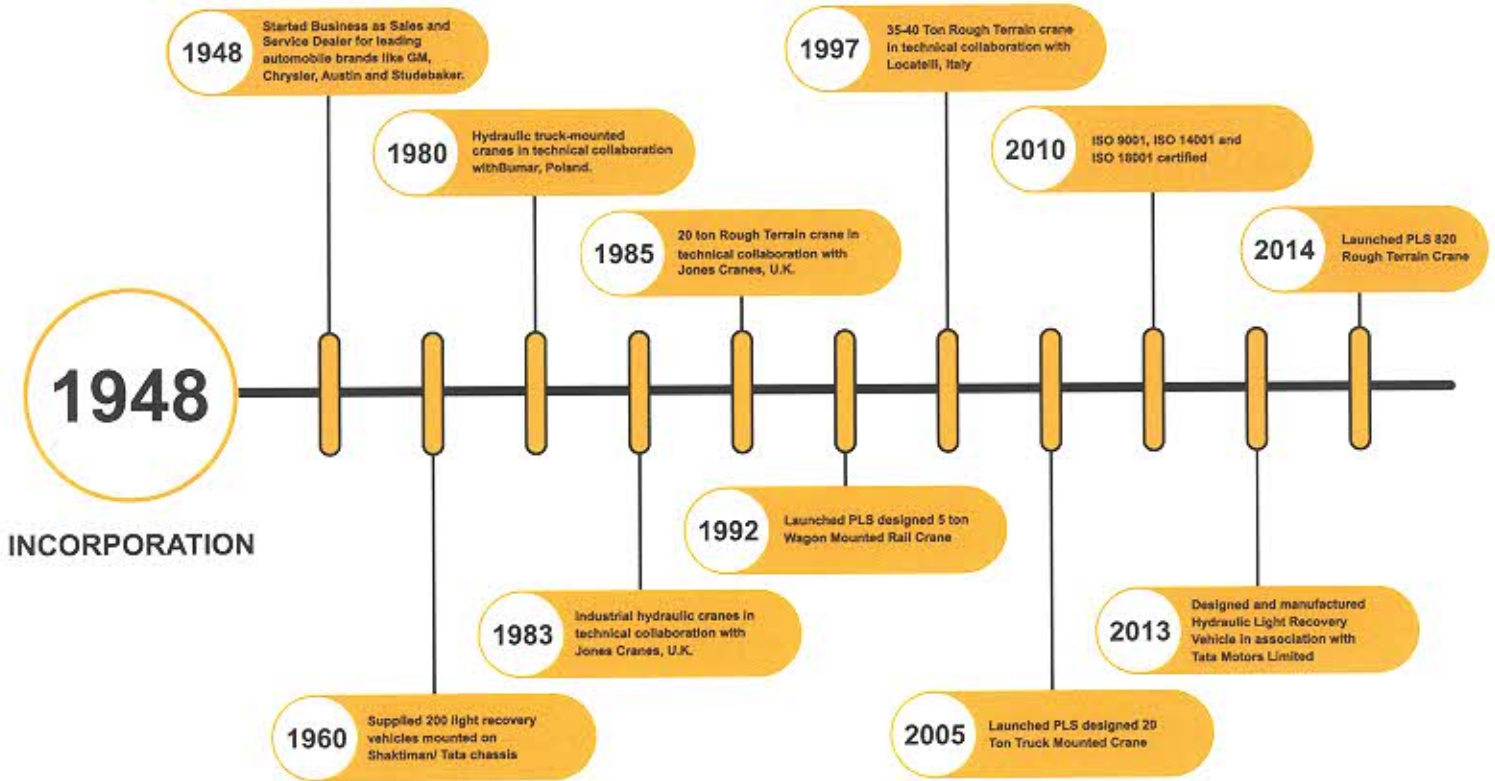


LOAD CHART

Radius (m)	Capacity (Tons)	Height of Lift (m)
3.0	5.5	10.5
8.0	1.5	7.0
11.0	1.1	5.0

Notes:

- Lifting capacities are based on 75% duty as per IS 4573.
- Lifting capacities at max radius is based on boom angle not less than 15°.
- Weight of slings, hook block or any lifting device must be added to the load being lifted.
- Crane should not be operated during high wind conditions which affect stability.
- The jib can be telescoped in/ out with the load suspended, provided it is within the capacity as per the load chart.
- With fly jib in erected condition, the main boom capacities shall be reduced by 700 kgs.
- If the hook block is fitted to the main boom, the fly jib capacities must be reduced by the weight of the hook block of the boom.
- Proper duty must be selected in the safe load system before lifting the loads.
- All dimensions are within $\pm 5\%$.



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