Lightweight Wireline Mast

TIS Manufacturing

Mast Base Frame:-
The TIS Manufacturing Lightweight Wireline Mast base frame is fabricated from a robust mild steel hollow section and plate construction certified to BS 7072. It includes a 4-point lift complete with a 5- legged lifting sling and also has fork-lift pockets. Mounting points for TIS jack-up castors are a standard design feature allowing the Mast to be easily manoeuvred into its required position. The Mast base has front and rear outriggers which stabilize the Mast during its lifting operations. Locking the front outriggers in position are secure spreader bars pinned in position. The outriggers have stainless steel jacking screws used to level the Mast before being erected. An aluminium tool box is located at the rear of the base frame: this houses all the guy ropes, spreader bars etc. Below the winch and hydraulic control console is an integral drip tray positioned to contain any spillages. A bulkhead, containing all clearly identified hydraulic hook-up connections, is located at the opposite side from the control console.

4 Section Telescopic Boom:-
In its transportation position the Mast Boom Assembly lies horizontal and is erected to the vertical position by means of a double-acting hydraulic cylinder. This cylinder pivots the Mast on two heavy duty flange type bearings to its extended position. The 4 section telescopic boom assembly extends the Mast crown to a height of 40 feet above ground level by means of a 3-stage integral telescopic hydraulic cylinder. An automatic latching mechanism is used to lock the sections in place making the erecting and lowering of the Mast possible by one trained operator. The hydraulic winch is located on the underside of the bottom boom section giving it maximum protection during transportation. A composite pulley is used to pass the winch wire through the Mast crown and down through a mechanical stop which eliminates the risk of the winch hook being pulled through the pulley. The hairpin hook located at the front of the Mast crown has a Safe Working Load of 5,000 lbs (2,275 Kgs).

Control Console:-
The Mast Control Console is located at the right-hand side of the Mast giving the operator maximum visibility of the working area whilst keeping him at a safe distance from the lifting area. Central to the control console is a hydraulic spring loaded safety lever which must be held in position before any of the Mast functions can be operated. A stainless steel door protects the hydraulic controls during transportation. This, when folded down, reveals the erecting and lowering procedure clearly engraved on the inside of the door. The control console itself is again manufactured from stainless steel with all functions clearly engraved and colour-coded to eliminate operator error.

Hydraulic Supply:-
A clean hydraulic supply of 2000psi and a flow of 160 litres per minute are required to operate the TIS Mast. This is connected to the Mast hydraulic system through the clearly engraved bulkhead. The supply is then divided at a ratio of 4:1 and the split supply provides the mast and also an outlet for a wireline unit.

Other variations available on request

Specifications

Main Frame construction to - BS 7072

Transportation Dimensions:-

Length -	4,300mm (14'1")
Width -	1,130mm (3' 9")
Height -	1,700mm (5'7")
Weight -	1420 Kgs (3125lbs)

Operational Dimensions:-

Length -	6,050mm (19'11")
Width -	4,470mm (14'8")
Height -	12,600mm (41'6")

Hydraulic Specification:-
Required hydraulic pressure - 2000psi (138 bar)
Required hydraulic flow - 160 litre/min (42 gallon/min)

Mast Specification:-
Safe Working Load on winch hook –
2,000 Kgs (4,400 lbs**)**
Safe Working Load on Mast hair pin hook -
2,275 Kgs (5,000lbs)

Note:
When working with pulley suspended from hairpin hook, Maximum Line pull will be 2,500 lbs.

ASSEMBLY NO TM-A-1002