

Training Module for Induction Training of 140T crane Drivers at Parel

I) Hydraulics System and Hose:

1. Symbol of Hydraulic & Pneumatic component used in 140T Crane.
2. Details of Hydraulic system accessories Such as Hydraulic tank, Oil cooler, Filters , PTO etc.
3. Knowledge of hydraulic components used in superstructure.
4. Knowledge of hydraulic components used in under carriage.
5. Basic concept of Pump motor, Actuators & Valves (Types, location and purpose).
6. Concept of NRV, DC valve ,valve block etc.
7. Study of under carriage hydraulic circuit.
8. Study of Actuator and valves of Hydraulic & Pneumatic circuit fitted in 140T Crane.
9. Study of superstructure hydraulic circuit and drawing.
10. Study of under carriage hydraulic circuit and drawing.
11. Knowledge of connecting devices (type and specification of steel tubes and hoses).
12. Demonstration on trouble shooting in hydraulic system.
13. Types and location of Gear boxes, Pumps and Solenoid valves used in 140T Crane.
14. Study of Axle blocking circuit.

II) Pneumatic System:

1. Knowledge of pneumatic components used in superstructure and under carriage.
2. Study of under carriage hydraulic drawing and superstructure pneumatic drawing.
3. Knowledge of braking system of crane.
4. Study of Trouble shooting in pneumatic system.

III) Electrical and SLI:

1. Knowledge of Joy sticks , Gauges, Safety indications in Driver's cabin.
2. Symbol and function of electrical components.
3. Study of Main Engine Starting Circuit.
4. Study of lighting circuit.
5. Study of load chart and duty selection.
6. Study of SLI and its sensors and Load Pins.
7. Study of Engine safety device, sensors and gauge fitted in Driver's cabin and Operator Console.
8. Study of electrical safety and limit switches.
9. Trouble shooting of electrical circuit.
10. Safety aspect during crane operation as site specially propping of crane and folding of crane.

IV) Mechanical and Main Engine:

1. Basic concept of match truck and its accessories.
2. Basic concept of Power pack (specification, function and maintenance), parameter checking before and after starting of Main engine.
3. Clear concept regarding specification of Fuel oil, Hydraulic oil, Lubricants and Grease used in 140T Crane.
4. Procedure of taking counter weight & its locking device.
5. Knowledge of filter location and its replacement.

6. Knowledge of wire ropes, attention during crane operation, rejection criteria & test schedule.
7. Knowledge of lifting tackle maintenance, rejection criteria & test schedule.
8. Demonstration of Main & Auxillary Engine (Fuel filling & Priming, Filter replacement). Lube oil filling etc.
9. Knowledge of Super structure operation.
10. Knowledge regarding fitment of different wire ropes used in 140T Crane.
11. Knowledge regarding safe condition of different wire rope & fitment of drum.
12. Knowledge of crane bogies & its components.
13. Knowledge of Match truck & trestle.
14. Demonstration on greasing of slewing ring & other components.
15. Demonstration on under carriage bogies, Match truck bogies & its components.
16. Demonstration on brake rigging arrangement of Match truck.
17. Study of Wheel used in under carriage & Match Truck (New and condemning) diameter & its profile.

V) General:

1. Historical details about 140T Crane Cowan Sheldon design.
2. Detailed information about all parameters like length or superstructure, Match truck, loading capacity & difference between old design & new design 140T Cowans Design.
3. Technical data of 140T BD Crane/ Cowans design
4. Different motion of crane & safety point related to crane operations.
5. Basic difference between Old design & New design crane.
6. Basic definitions and terminology related to 140T crane.
7. Duties of crane driver & co-driver.
8. RSDO Maintenance schedule of 140T crane.
9. General safety instructions of crane driver, crane in-charge and another field during crane operations
10. General safety equipment (Like Boom stopper, Rail clamp, Trestle lock T-lock. Buffer and Draw hook).
11. Do's & Don'ts during Crane Operation.

VI) To be organized at Parent Depot

1. Familiarization with Divisions, sections, major yards over entire beat of Crane.
2. Practice with Co-driver for different operations of Crane with Load.
