

# ESCORTS RT 20



## 22 Ton Rough Terrain Hydraulic Mobile Crane



### Key Features

- ✓ Rated Capacity: 22Ton @3m working Radius
- ✓ Maximum Boom length:21.2m(69.5 ft)
- ✓ 4X4 wheel drive with 4 wheel steer
- ✓ Easy access for routine servicing of the engine ,transmission, batteries etc

## **ESCORTS RT- 20**

### **TECHNICAL SPECIFICATION**

#### **CRANE UPPER**

<b>Superstructure frame</b>	All welded one piece fabricated structure. Counter weight is bolted to the frame.
<b>Boom</b>	3 part Boom fully powered & synchronized. Overall length Retracted – 8.45 m; Extended- 21.2 m
<b>Boom Lifting</b>	Single double acting cylinder with lowering brake valve. Angle of elevation $-1^{\circ}$ to $75^{\circ}$
<b>Hoisting</b>	Hydraulic Winch with Bent Axis Motor & planetary reduction Gear Box. Winch is equipped with an integral automatic fail -safe spring applied hydraulic release multiple disc brake, together with counter balance valve to control lowering speed. A grooved Drum, a spring loaded Cable roller for improved rope spooling. Winch over lowering cut off is also available.  Over hoist limit switch is provided with hydraulic cut-off in the hoisting of snatch block.
<b>Slewing</b>	360 degree non stop rotation controlled by hydraulic Motor equipped with planetary gearbox on slewing ring having single ball ring and outer toothing. Automatic negative brake & dynamic brake. Slewing speed un-laden 0 - 2.5 rpm.
<b>Safety Device</b>	Stop valves on to Extension/lifting boom jacks and outriggers. Max. pressure valves for each hydraulic circuit. Balancing braking valve for the slewing unit. Balancing braking valve for the winch. Limit switch on to boom head for hoisting block lift. Limit switch for having three winding turns around the winch. <b>Load limiting device with indicator for:-</b> Boom inclination Boom length Load weight Max. load which can be lift Load Radius No.of falls Hook height

#### **CRANE LOWER**

<b>Chassis</b>	High strength chassis with four wheel drive and four wheel steer (4X4X4). Has box beam type construction with reinforcing cross members, a precision machined turntable mounting plate and integrally welded outrigger boxes. Decking has skid-resistant surfaces, including tool storage compartment, and access steps and handles on left and right side and front corners.
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<b>Outriggers</b>	4 nos. out and down type outriggers operated through horizontal and vertical hydraulic cylinders respectively. Vertical cylinders are fitted with dual pilot lock valves for total safety. Control via solenoid operated valves ( different for front & rear outriggers), individually or simultaneously.
<b>Engine</b>	Suitable water cooled, turbo-charged diesel engine of adequate HP. Fuel tank – 310 ltrs
<b>Transmission</b>	Power shift Transmission with build in torque converter with Six forward and Six reverse speeds. Driven by engine directly and controlled through speed controller from the cabin.
<b>Brakes</b>	<p><b>Service:</b> Foot operated, hydraulic brake acting on all wheels applied by Axle Brake valve thru foot operated pedal.</p> <p><b>Parking:</b> Hand operated switch, electrically assisted and hydraulically applied fail safe type on front &amp; rear axle.</p>
<b>Steering</b>	<p>Fully independent power steering.</p> <p>Front: Full controlled by steering wheel.</p> <p>Rear: Separate steering of rear axle by rear steer switch in operator's cabin operated via solenoid valve block.</p> <p>Four steering modes:- 2-wheel (front), 2-wheel (rear), 4-wheel &amp; Crab. Auto-reversal mechanism to the position of the superstructure in relation to the chassis. Rear wheel steer indicator in Cabin.</p>
<b>Axle</b>	<p>Rear Axle: Drive &amp; steer, Rigid frame mounted.</p> <p>Front Axle : Drive &amp; steer, centrally pivoted, lateral oscillating with hydraulic locking device.</p>
<b>Drive</b>	<p>4x4 for off-road movement, All wheel drive.</p> <p>4x2 for road travel, Rear wheel drive.</p>
<b>Wheels &amp; Tyres</b>	Wheel Rim 10X25, Tyres- 14X25-24 PR.
<b>Electrical</b>	<p>24 volts system.</p> <p>2 main head lamps, 2-brake and flashing trafficator lamps at rear, 2 flashing trafficator lamps at front, 1 work lamp.</p>
<b>Hydraulic Pumps</b>	One Single main Hydraulic Pump & One triple Pump connected to the Transmission PTO.
<b>Hydraulic System</b>	<p>Joystick operated control valve for slew, telescoping, hoisting and derricking with independent or simultaneous crane Operations &amp; progressive speed control.</p> <p>Hydraulic cylinders specially designed for sustaining all operating and shock loads.</p> <p>Safety valves in all hydraulic cylinders for protection against pipe and hose ruptures.</p> <p>Electro-hydraulic solenoid valves control hydraulic outriggers.</p> <p>Hydraulic tank capacity 490 litres.</p>

<b>Driver's cabin</b>	One-man Revolving cab, sheet-metal structure, large-sized safety glass windows, adjustable driver's seat, rear emergency exit door, sliding door, wipers, ventilating fan, cab light, instrument panel with rpm/ hour meter, fuel gauge, water temperature gauge, Gear selector, crane controls via joystick, Transmission Temp. gauge, safe load system with audio-visual indication of safe/ overload, starter switch with key, combination switch for head light and horn, crane levelling gauge, parking brake Switch, foot brake and throttle, rear steer, parking brake and directional indicators. All controls for crane travelling operations within easy reach.
<b>Hook Block</b>	3 sheaves reeved for 6 part line
<b>Tool Kit</b>	Standard maintenance tool kit.
<b>Optional Extra</b>	<ul style="list-style-type: none"> <li>Spark arrestor</li> <li>Fog light</li> <li>Spare Wheel &amp; tyre</li> <li>Digital data recorder</li> <li>Fire Extinguisher</li> <li>Marker light</li> <li>Cold climate kit</li> <li>Air conditioner</li> </ul>

## LOAD CHART

Main Boom Duties on Outriggers- Through full 360° slew						
Radius in Metres	8.45 M Fully Retracted	8.45 M to 11.50 M	11.50 M to 14.50 M	14.50 M to 17.50 M	17.50 M to 20.00 M	20.0 M to 21.2 M
3.00	22.00	15.00	14.00			
3.50	20.00	15.00	13.75	9.20		
4.00	16.50	14.50	13.50	8.85	7.00	
4.50	14.50	14.00	13.00	8.65	6.80	
5.00	13.00	13.00	12.50	8.35	6.50	5.50
6.00	11.00	10.50	10.25	7.75	6.25	5.20
7.00		10.00	10.00	7.25	5.80	4.95
8.00		7.50	7.20	6.65	5.50	4.75
10.00			5.00	4.95	5.00	4.20
12.00			3.50	3.50	3.60	3.60
14.00				2.80	2.80	2.80
16.00				2.20	2.20	2.20
18.00						1.75

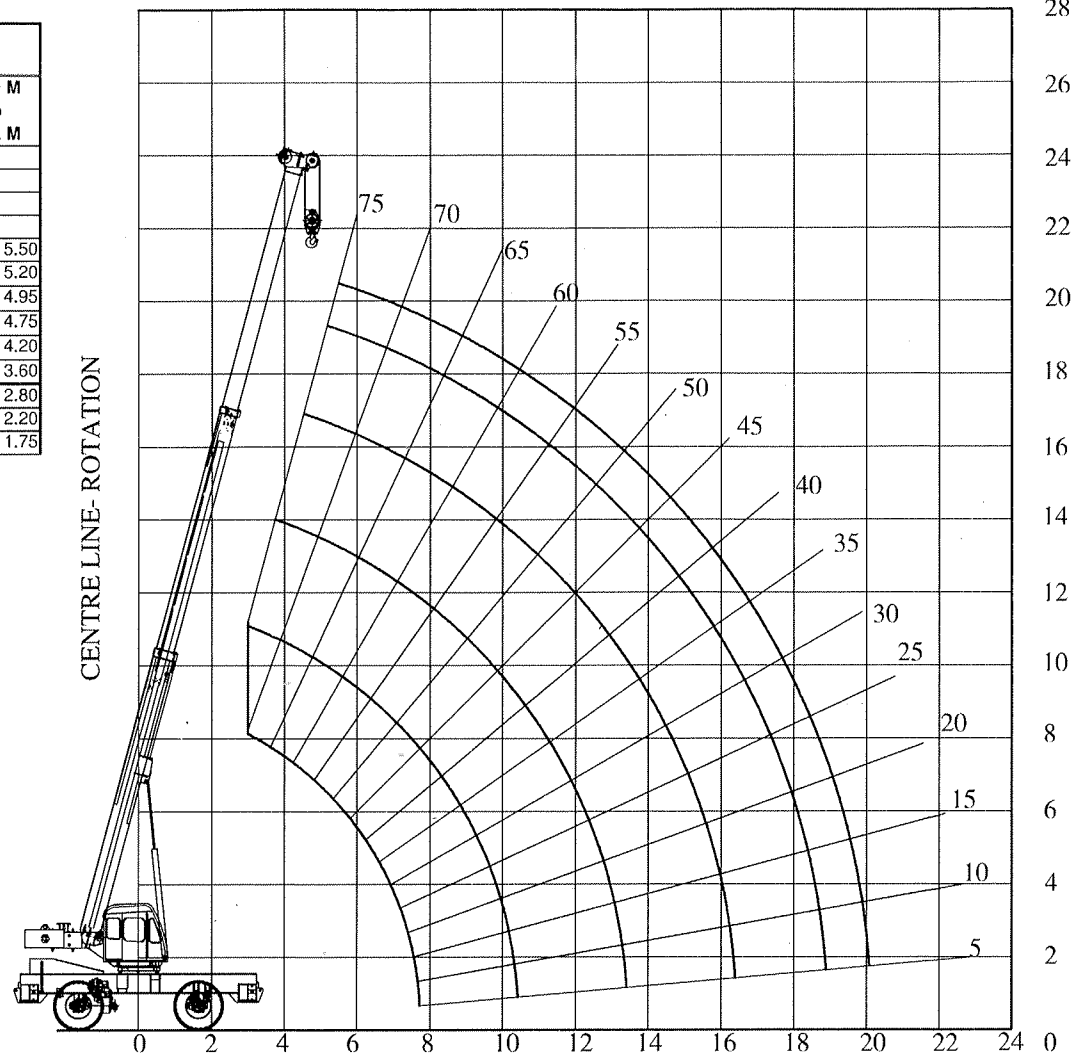
Free on Wheels Duties			
Radius in Metres	14.00x25x24 PR Tyres		
	Static		Up to 5 Km/h Over Front
	Over Front	360° Slew	
2.75	16.80a	11.80a	13.30a
3.00	15.50a	10.30a	12.50a
3.50	13.25a	8.00a	11.10a
4.00	10.85a	6.15a	10.00a
4.50	8.75a	5.00a	8.50a
5.00	6.70a	4.10a	7.00a
6.00	5.05b	2.85b	5.05b
7.00	4.00b	2.70b	4.05b
8.00	3.15c	1.75c	3.15c
10.00	2.15c	1.10c	2.15c
12.00	1.40d	0.55c	1.40d
14.00	1.00d		1.00d

Maximum permissible boom lengths; a=8.45m, b=11.00m, c=14.00m, d=17.00m

### NOTES TO LOAD CHARTS

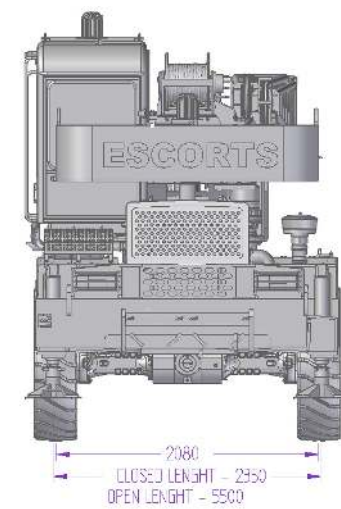
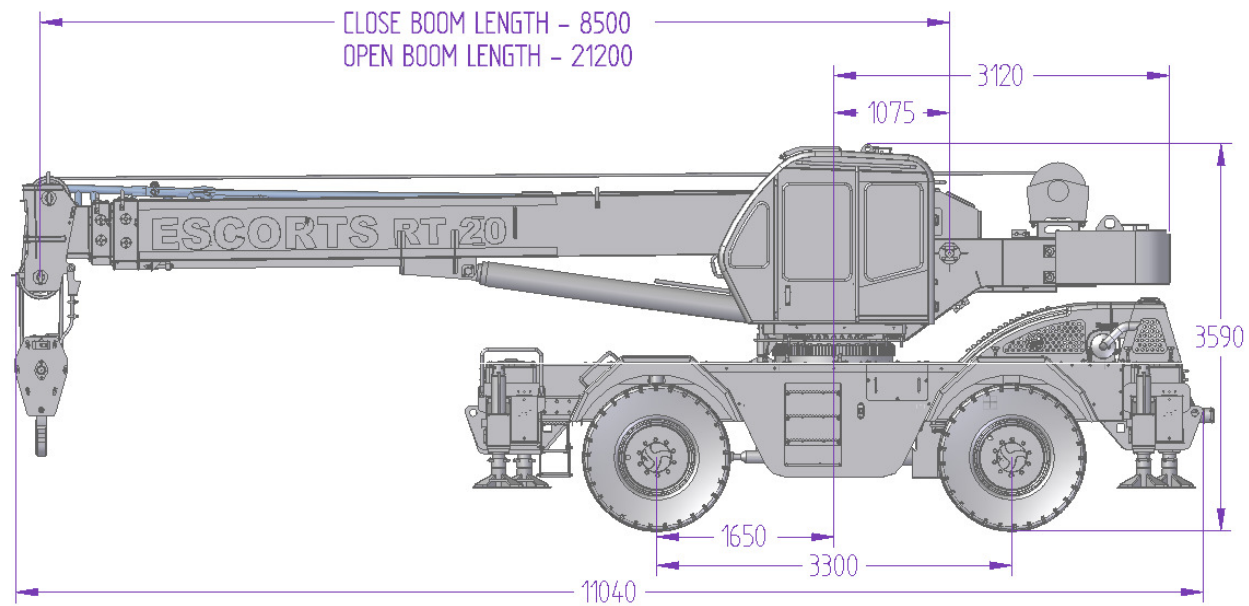
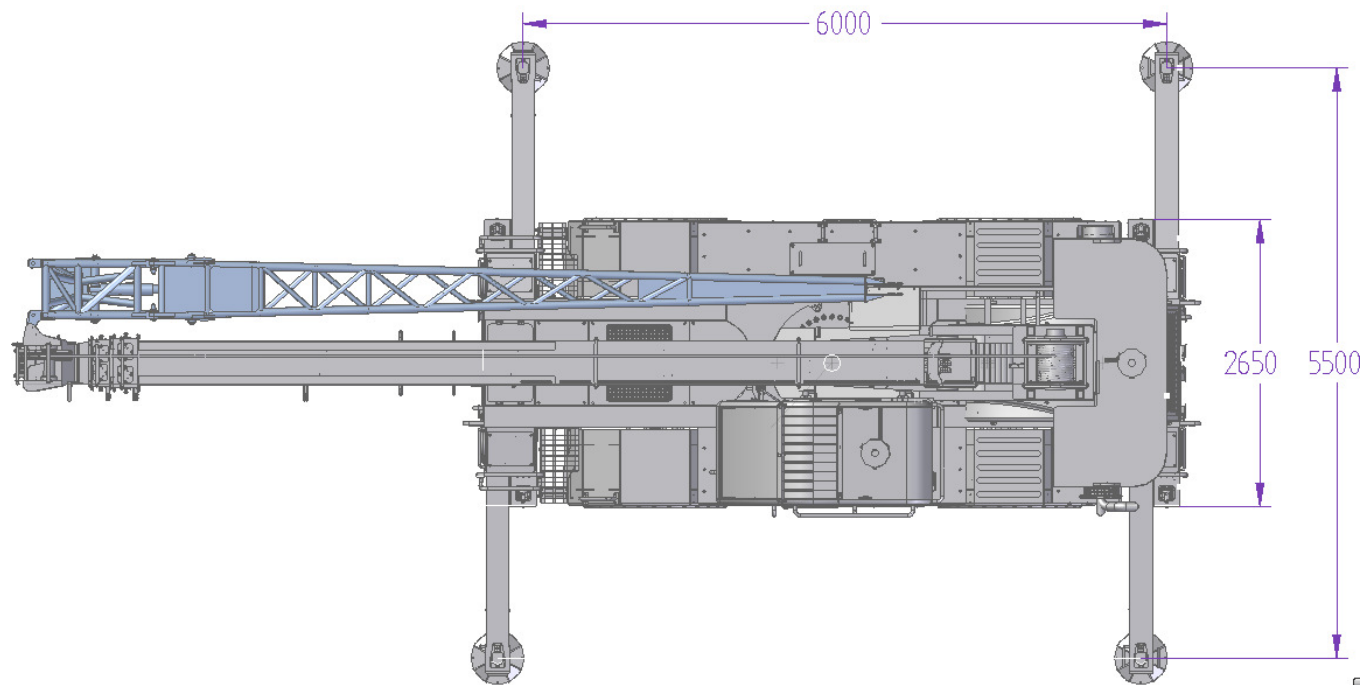
- Working radii are measured from the slewing centreline
- For boom lengths and/or radii not listed use the smallest load given for the next longer boom length and/or radius.
- The capacities on outriggers are valid only if all outriggers beams are fully extended and the crane accurately levelled on a firm supporting surface.
- The capacities on tyres are valid only if the tyres are inflated to the recommended pressure and the crane works on flat, solid and horizontal surface.
- For 360° static capacities the front axle oscillation must be locked.
- For over front travelling capacities the swing lock pin must be fully engaged and travel with suspended load should be carried out with the load little raised from ground, close to the crane and avoiding load oscillation.

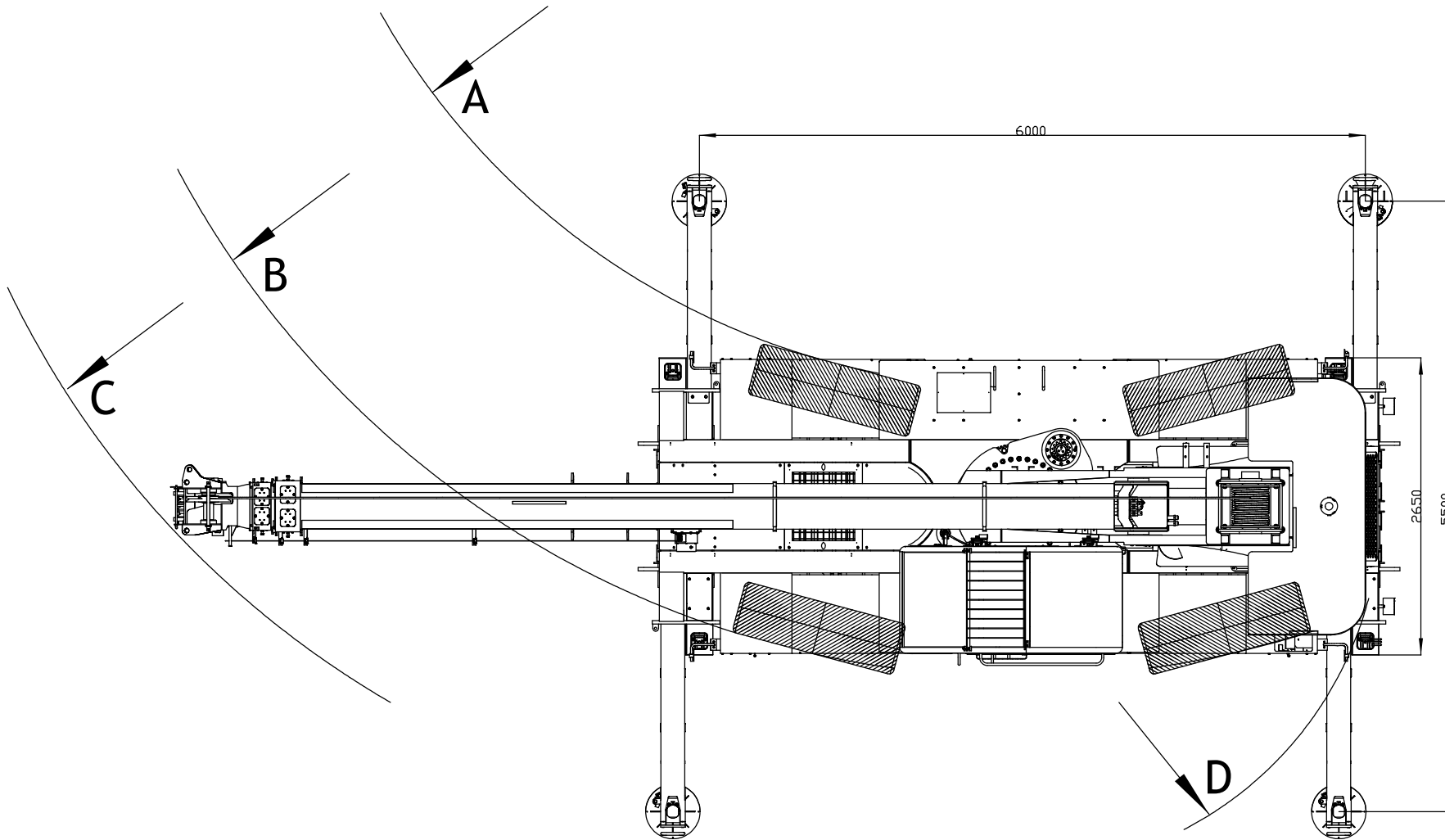
## HEIGHT REACH DIAGARM



### RADIUS IN METRES FROM CENTRE LINE ROTATION

- Lifting Capacities for supported operation only on firm level ground. Weight of hook block Assembly=300kg.
- Lifting capacity=actual load+ hook load+ lifting equipment. As part of the load rating shown above.
- These lifting capacities do not exceeds 85% of the tipping load.





Turning radius	Kerb to Kerb Inner 'A'		Kerb to Kerb Outer 'B'		wall to wall 'C'		Tail Radius 'D'	Ground Clearance	Approach & Departure
	2-wheel steer	4-wheel steer	2-wheel steer	4-wheel steer	2-wheel steer	4-wheel steer			
	7	3	9.2	5.2	11.2	7.4	3.2	0.42	28°

ESCORTS CONSTRUCTION EQUIPMENT  
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