STANDARD BOOM EQUIPMENT

BOOM
30-72 ft. (9.23-22.19 m), three section full power boom. Telescoping is mechanically synchronized with single lever control. The synchronization system consists of a single telescope cylinder and high strength leaf chains to extend and retract the tip section. Boom is high strength four plate design, welded inside and out, with anti-friction slide pads. Boom side plates are made with stamped impressions to reduce weight and increase strength. A single boom hoist cylinder provides for boom elevation of -4 to 76 degrees. All cylinders are equipped with integral hold valves. Maximum tip height is 79 ft. (24.23 m).

BOOM HEAD
Welded to third section of boom. Four or five metallic load sheaves and two idler sheaves mounted on heavy duty, anti-friction bearings. Quick reeving boom head. Provisions made for side-stow jib mounting.

OPTIONAL BOOM EQUIPMENT

MAIN BOOM
30-94 ft. (9.23-28.78 m), four section full power boom. Telescoping is mechanically synchronized with single lever control. The synchronization system consists of a single telescope cylinder and high strength leaf chains to extend and retract the third section and tip section. Boom is high strength four plate design, welded inside and out, with anti-friction slide pads. Boom side plates are made with stamped impressions to reduce weight and increase strength. A single boom hoist cylinder provides for boom elevation of -4 to 76 degrees. All cylinders are equipped with integral hold valves. Maximum tip height is 99 ft. (30.17 m).

JIBS
26 ft. (7.92 m) side stow swing-on one-piece lattice type jib. Single metallic sheave mounted on anti-friction bearing. Jib is offsettable at 0°, 15°, or 30°. Maximum tip height is 124 ft. (37.77 m).

26-43 ft. (7.92-13.11 m) side-stow swing-on lattice type jib. Single sheave mounted on anti-friction bearing. Jib is extendible to 43 ft. (13.11 m) by means of a 17 ft. (5.18 m) manual pull-out tip section, roller supported for ease of extension. Jib is offsettable at 0°, 15°, or 30°. Maximum tip height is 141 ft. (42.99 m).

AUXILIARY BOOM HEAD
Removable auxiliary boom head has single metallic sheave mounted on anti-friction bearing. Removable pin-type rope guard for quick reeving. Installs on main boom peak only. Removal is not required for jib use.

HOOK BLOCK
Two, three, or four metallic sheaves on anti-friction bearings with hook and hook latch. Quick reeving design does not require removal of wedge and socket from rope.

HOOK & BALL
6.25 ton (5.7 mt) top swivel ball with hook and hook latch.
STANDARD UPPERSTRUCTURE EQUIPMENT

UPPERSTRUCTURE FRAME
All welded one-piece structure fabricated with high tensile strength alloy steel. Counterweight is bolted to frame.

TURNTABLE CONNECTION
Swing bearing is a single row, ball type, with external teeth. The swing bearing is bolted to the revolving upperstructure and welded to the carrier frame.

SWING
A hydraulic motor drives a double planetary reduction gear for precise and smooth swing function. Maximum swing speed (no load) is 3.0 rpm.

SWING BRAKE
Heavy duty multiple disc swing brake is mechanically actuated from operator’s cab by foot pedal. Brake may be locked on or used as a momentary brake. A separate 2-position mechanical house lock is also provided.

RATED LOAD INDICATOR
Built in Rated Load Indicator with visual and audible warning system and automatic function disconnects. On-screen display includes: boom radius, boom angle, allowable load, actual load, and percentage of allowable load registered numerically and by bar graph. Boom length and tip height available at the touch of a button. Anti-two block system with audio/visual warning and automatic function disconnects.

OPERATOR’S CAB
Environmental cab with all steel construction, optimum visibility, tinted safety glass throughout, and rubber floor matting is mounted on vibration absorbing pads. The cab has a sliding door on the left side, sliding window on the right side, hinged tinted Lexan® skylight and removable front windshield. Acoustical foam padding insulates against sound and weather. The deluxe six-way adjustable operator’s seat includes head and arm rests.

CONTROLS
All control levers and pedals are positioned for efficient operation. Hand operated control levers include swing, telescope, boom hoist, winch(s), shift, and vernier adjustable hand throttle. Foot control pedals include swing brake, boom raise, boom lower, service brakes and accelerator.

INSTRUMENTATION AND ACCESSORIES
In-cab gauges include air pressure, bubble level, engine oil pressure, fuel, engine temperature, voltmeter, transmission temperature, and transmission oil pressure. Switches include ignition, steering mode, parking brake, and outrigger controls. Indicators include low air, high water temperature/low oil pressure/high transmission temperature audio/visual warning, low coolant audio/visual warning, and Rated Load Indicator. Accessories include fire extinguisher, light package including headlights, tail lights, brake lights, directional signals, four-way hazard flashers, and back-up lights with audio pulsating back-up alarm; windshield washer/wiper; R.H. and L.H. rear view mirrors; dash lights; and seat belt.

HYDRAULIC CONTROL VALVES
Valves are mounted on the upperstructure and are easily accessible. Valves are mechanically operated and include one four spool valve for boom elevation, telescope, main winch boost, and main winch; and one single spool valve for swing. Quick disconnects are provided for ease of installation of pressure check gauges.

OPTIONAL EQUIPMENT
Auxiliary Winch • Winch Cable Rollers • Drum Rotation Indicators • 360° House Lock • Heater/Defroster • Air Conditioner • Torsion Bar Suspension for Seat • Roof Window Electric Wiper • Tachometer • Work Lights • Revolving Amber Light

STANDARD CARRIER EQUIPMENT

CARRIER CHASSIS
Chassis is Lorain designed and built with four-wheel drive and four-wheel steer (4 x 4 x 4). Has box 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 left and right side and front and rear corners.

AXLES AND SUSPENSION
Rear axle is a planetary drive/steer type with total 10 in. (0.25 m) of oscillation. Automatic oscillation lockouts engage when the superstructure is swung 10° in either direction. Front axle is a planetary drive/steer type, rigid mounted to the frame for increased stability.

WHEELS & TIRES
Disc type wheels with full tapered bead seat rim. 134 in. (3.40 m) wheelbase.

TIRES
Standard: 16.00 x 25, 28 P.R.
Optional: 20.5 x 25, 24 P.R.

SERVICE BRAKES
Air over hydraulic drum type brakes on all four wheels: 17" x 4" (43.18 x 10.2 cm) drum brakes.

PARKING BRAKE
Transmission mounted spring-set, air released external caliper disk type emergency/parking brake.

STEERING
Hydraulic four-wheel power steering for two-wheel, four-wheel, or crab steer is easily controlled by steering wheel.
STANDARD CARRIER EQUIPMENT (continued)

Turning radius to center of outside tire.
   (standard tires)          (optional tires)
   Two-wheel: 34'8.81" (10.50 m)  34'10.38" (10.63 m)
   Four-wheel: 19'3.44" (5.88)   19'5" (5.92 m)

TRANSMISSION
   Range-shift type power-shift transmission with integral
torque converter has neutral safety start, 6 speeds forward,
and 6 speeds reverse. Automatic pulsating back-up
alarm.

OUTRIGGERS
   POWRSPAN® - out and down fully independent hydraulic
outriggers extending 19 ft. (5.79 m) centerline to centerline.
   Easily removable steel floats, each with an area of 254 in²
(1639 cm²), stow on the carrier frame. Complete controls and
   sight leveling bubble are located in the operator’s cab.

HYDRAULIC SYSTEM

HYDRAULIC PUMPS
   Three gear type pumps, one single and two in tandem, driven
off the transmission. Combined system capability is 113 gpm
(427.7 lpm). Includes manual pump disconnect.

Main and Auxiliary Winch Pump
   53 gpm (200.7 lpm) @ 3,500 psi (246.1 kg/cm²)

MAIN WINCH SPECIFICATIONS

   Lorain built hydraulic winch with geroller motor and planetary reduction provides 2-speed
   operation with equal speeds for power up and down. Winch is equipped with an integral
   automatic brake and a grooved drum with tapered flanges for improved rope spooling.

   PERFORMANCE
   LO-RANGE          HI-RANGE
   Max. line speed (no load)
   First layer        190 fpm (57.9 m/min)    328 fpm (100 m/min)
   Fifth layer        275 fpm (83.8 m/min)    474 fpm (144.5 m/min)

   Max. line pull-first layer    11,825 lbs (5,363 kg)
   Max. line pull-fifth layer    8,185 lbs (3,712 kg)
   Permissible line pull        9,000 lbs (4082 kg)

   DRUM DIMENSIONS          DRUM CAPACITY
   10.62 in (270 mm) drum diameter
   16.00 in (406 mm) length
   17.98 in (454 mm) flange dia.
   Cable: 5/8 in. x 450 ft (16 mm x 137.2 m)
   Cable type: 5/8 in. (16 mm) 6x19 IWRC IPS
   *Based on minimum flange height
   right regular lay, preferred.
   Min. breaking strength 17.9 tons (16.2 mt).

   OPTIONAL HOIST LINE - 5/8 in. (16 mm) rotation resistant compacted strand 18 x 19 or 19 x 19.
   Min. breaking strength 22.6 tons (20.6 mt).

Boom Hoist, Telescope Pump
   39 gpm (147.6 lpm) @ 3,500 psi (246.1 kg/cm²)

Power Steering, Outrigger and Swing Pump
   21 gpm (79.5 lpm) @ 2,500 psi (175 kg/cm²). Always
   live even when pump disconnect is actuated.

FILTRATION
   Full flow oil filtration system with bypass protection in-
cludes a removable 60 mesh (250 micron) suction screen-
type filter and 5 micron replaceable return line filter.

HYDRAULIC RESERVOIR
   All steel, welded construction with internal baffles and
diffuser. Provides easy access to filters and is equipped
with an external sight level gauge. The hydraulic tank is
pressurized to aid in keeping out contaminants and in
reducing potential pump cavitation. Capacity is 94 gal
(355 liters). Swing-away hydraulic oil cooler is standard.

OPTIONAL EQUIPMENT
   Cold Weather Starting Aid • Immersion Heater
   • Rear Axle Centering Light • Pintle Hook • Clearance Lights

OPTIONAL AUXILIARY WINCH

   Lorain hydraulic winch with geroller motor, power
   up and down, equal speed, planetary reduction
   with integral automatic brake.

   PERFORMANCE
   Max. line speed (no load)
   Fifth layer        275 fpm (83.8 m/min)
   Max. line pull        11,825 lbs (5,363 kg)

   DRUM DIMENSIONS
   10.62 in (270 mm) drum diameter
   16.00 in (406 mm) length
   17.98 in (454 mm) flange dia.
   Cable: 5/8 in. x 450 ft (16 mm x 137.2 m)
   Cable type: 5/8 in. (16 mm) 6x19 IWRC IPS
   *Based on minimum flange height
   right regular lay, preferred. Min. breaking
   strength 17.9 tons (16.2 mt).

   DRUM CAPACITY
   Max. storage: 540 ft (164.6 m)
   Max. Useable: 430 ft (131.1 m)*

   OPTIONAL HOIST LINE - 5/8 in. (16 mm) rotation resistant compacted strand 18 x 19 or 19 x 19.
   Min. breaking strength 22.6 tons (20.6 mt).

PERFORMANCE (Standard Engine)

<table>
<thead>
<tr>
<th>Transmission Range</th>
<th>Gear</th>
<th>Forward Drive</th>
<th>Maximum Speed</th>
<th>Maximum Traction Effort</th>
<th>Gradeability @ Stall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>1</td>
<td>4-wheel</td>
<td>2.3 mph</td>
<td>37,856 lbs</td>
<td>112.34%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3.7 km/h</td>
<td>17,171 kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>4-wheel</td>
<td>4.4 mph</td>
<td>19,254 lbs</td>
<td>39.64%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>7.1 km/h</td>
<td>87,34 kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>4-wheel</td>
<td>12.4 mph</td>
<td>6,631 lbs</td>
<td>11.10%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>20.0 km/h</td>
<td>2917 kg</td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>1</td>
<td>2-wheel</td>
<td>5.0 mph</td>
<td>16,993 lbs</td>
<td>34.04%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>8.0 km/h</td>
<td>7663 kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2-wheel</td>
<td>9.5 mph</td>
<td>8,589 lbs</td>
<td>15.59%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>15.3 km/h</td>
<td>3969 kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2-wheel</td>
<td>24.5 mph</td>
<td>2,849 lbs</td>
<td>3.77%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>39.4 km/h</td>
<td>1292 kg</td>
<td></td>
</tr>
</tbody>
</table>

All performance data is based on a gross vehicle weight of 52,000 lbs. (23.583 kg). 16.00 x 25
tires, 4 x 4 drive. Performance may vary due to engine performance. Gradeability data is
theoretical and is limited by tire slip, stability, or engine oil pan design.

ENGINE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Make and Model</th>
<th>Standard Cummins 6BT5.9</th>
<th>Optional Caterpillar 3116 DIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>6 cylinder</td>
<td>6 cylinder</td>
</tr>
<tr>
<td>Bore and Stroke</td>
<td>4.02 x 4.72 in. (102 x 120 mm)</td>
<td>4.12 x 5.0 in. (105 x 127 mm)</td>
</tr>
<tr>
<td>Displacement</td>
<td>350 cu in. (5.9 L)</td>
<td>402 cu in. (6.6 L)</td>
</tr>
<tr>
<td>Max. Gross Horsepower</td>
<td>130 hp (97 kw) @ 2500 rpm</td>
<td>140 hp (105 kw) @ 2410 rpm</td>
</tr>
<tr>
<td>Max. Gross Torque</td>
<td>368 lb-ft (519 Nm) @ 1200 rpm</td>
<td>426 lb-ft (578 Nm) @ 1400 rpm</td>
</tr>
<tr>
<td>Aspiration</td>
<td>turbocharged</td>
<td>turbocharged</td>
</tr>
<tr>
<td>Air Filter</td>
<td>dry type</td>
<td>dry type</td>
</tr>
<tr>
<td>Electrical System</td>
<td>12 volt</td>
<td>12 volt</td>
</tr>
<tr>
<td>Alternator</td>
<td>102 amp</td>
<td>115 amp</td>
</tr>
<tr>
<td>Battery</td>
<td>(2) 12V-1250 C C A</td>
<td>(2) 12V-1600 C C A</td>
</tr>
<tr>
<td>Fuel Capacity</td>
<td>50 gal (189 l)</td>
<td>50 gal (189 l)</td>
</tr>
</tbody>
</table>
# GENERAL DIMENSIONS

NOTES:
1. Dimensions given assume the boom is fully retracted in travel position and 16.00 x 25 tires.
2. Minimum ground clearance under transmission - 20.62" (0.52 m)
   | axle bowls | 19.12" (0.49 m)
   | tie rods   | 20.38" (0.52 m)
3. Track width: 6' 7.50" (2.02 m) 16.00 x 25 tires
   | 6' 10.5" (2.10 m) 20.5 x 25 tires
4. Width of carrier:
   | 8' 0" (2.44 m) 16.00 x 25 tires
   | 8' 8" (2.64 m) 20.5 x 25 tires

<table>
<thead>
<tr>
<th>Tire to frame angle</th>
<th>16.00 tires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach angle:</td>
<td>25.1°</td>
</tr>
<tr>
<td>Departure angle:</td>
<td>23.1°</td>
</tr>
</tbody>
</table>

---

## WEIGHTS & AXLE LOADS

<table>
<thead>
<tr>
<th>Add Options:</th>
<th>Gross Weight LBS.</th>
<th>Upper Facing Front</th>
<th>Gross Weight KG.</th>
<th>Upper Facing Front</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Front</td>
<td>Rear</td>
<td>Front</td>
<td>Rear</td>
</tr>
<tr>
<td>Basic Crane with 8,000 lb (3628 kg) Counterweight</td>
<td>50,220</td>
<td>25,005</td>
<td>22,210</td>
<td>11,342</td>
</tr>
<tr>
<td>Add Options:</td>
<td>1,100</td>
<td>2,000</td>
<td>900</td>
<td>499</td>
</tr>
<tr>
<td>26 (7.92 m) Swing-on Jib (Slowed)</td>
<td>1,500</td>
<td>2,600</td>
<td>1,100</td>
<td>680</td>
</tr>
<tr>
<td>Auxiliary Boom Head</td>
<td>100</td>
<td>300</td>
<td>200</td>
<td>45</td>
</tr>
<tr>
<td>Auxiliary Winch Controls and Plumbing Only</td>
<td>75</td>
<td>0</td>
<td>75</td>
<td>34</td>
</tr>
<tr>
<td>Auxiliary Winch with Wire Rope, Controls, Etc.</td>
<td>115</td>
<td>25</td>
<td>140</td>
<td>52</td>
</tr>
<tr>
<td>30 ton (27.2 mt) 4 Sheave Hook Block</td>
<td>660</td>
<td>1,080</td>
<td>420</td>
<td>299</td>
</tr>
<tr>
<td>30 ton (27.2 mt) 3 Sheave Hook Block</td>
<td>640</td>
<td>1,050</td>
<td>410</td>
<td>290</td>
</tr>
<tr>
<td>22 ton (20 mt) 2 Sheave Hook Block</td>
<td>580</td>
<td>950</td>
<td>370</td>
<td>263</td>
</tr>
<tr>
<td>6.25 ton (5.7 mt) Hook and Ball (In tool box)</td>
<td>240</td>
<td>290</td>
<td>50</td>
<td>109</td>
</tr>
<tr>
<td>Pintle Hook : Front</td>
<td>45</td>
<td>60</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Pintle Hook : Rear</td>
<td>45</td>
<td>25</td>
<td>70</td>
<td>20</td>
</tr>
<tr>
<td>Substitute:</td>
<td>94&quot; (2.87 m) Full Power 4-section Boom</td>
<td>+ 3,190</td>
<td>+ 4,335</td>
<td>+ 1,145</td>
</tr>
<tr>
<td>20.5 x 25 Tires</td>
<td>360</td>
<td>180</td>
<td>180</td>
<td>164</td>
</tr>
</tbody>
</table>

**NOTE:** Weights are for Lorain supplied equipment and subject to 2% variation due to manufacturing tolerances.

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WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY APPLICABLE TO THE PARTICULAR PRODUCT AND SALE. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED.
LORAIN
LRT 230E
rough terrain crane
30 ton capacity
range diagrams & lifting capacities

Range Diagram (30' - 72' boom)

Range Diagram (30' - 94' boom)

DIMENSIONS ARE FOR LARGEST KOEHRING FURNISHED HOOK BLOCK AND HEADACHE BALL, WITH ANTI-BLOCK ACTIVATED.

CRANE WORKING CONDITIONS

REDUCTION IN MAIN BOOM CAPACITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Jibs in Stowed Position</td>
<td>0 Lbs.</td>
</tr>
<tr>
<td>Aux. Boom Head Sheave</td>
<td>100 Lbs.</td>
</tr>
</tbody>
</table>

HOOK BLOCK WEIGHTS

<table>
<thead>
<tr>
<th>Block Type</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hook &amp; Ball</td>
<td>239 Lbs.</td>
</tr>
<tr>
<td>Hook Block (2 Sheave)</td>
<td>580 Lbs.</td>
</tr>
<tr>
<td>Hook Block (3 Sheave)</td>
<td>640 Lbs.</td>
</tr>
<tr>
<td>Hook Block (4 Sheave)</td>
<td>660 Lbs.</td>
</tr>
</tbody>
</table>
Lifting Capacities — Pounds
(30' - 72' boom)

CAUTION: Do not use this specification sheet as a load rating chart. The format of data is not consistent with the making chart and may be subject to change.

**MAXIMUM CAPACITY AT 0 DEGREE BOOM ANGLE**

<table>
<thead>
<tr>
<th>LOAD RAD (FT)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
<th>OVER FRONT (LB)</th>
<th>360° (LB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>63.0</td>
<td>60.000*</td>
<td>60.000*</td>
<td>89.4</td>
<td>45.600*</td>
<td>45.600*</td>
<td>72.4</td>
<td>40.400*</td>
<td>40.400*</td>
<td>73.5</td>
<td>33.500*</td>
<td>33.500*</td>
</tr>
<tr>
<td>12</td>
<td>59.5</td>
<td>45.800*</td>
<td>45.800*</td>
<td>66.5</td>
<td>42.800*</td>
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<td>35.100*</td>
<td>73.5</td>
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<tr>
<td>15</td>
<td>52.4</td>
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<td>38.700*</td>
<td>62.0</td>
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<td>37.400*</td>
<td>68.9</td>
<td>35.100*</td>
<td>35.100*</td>
<td>73.5</td>
<td>33.500*</td>
<td>33.500*</td>
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<td>20</td>
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<td>27.600*</td>
<td>27.600*</td>
<td>53.6</td>
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<td>68.7</td>
<td>27.500*</td>
<td>27.500*</td>
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<tr>
<td>30</td>
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<td></td>
<td></td>
<td>28.7</td>
<td>16.900*</td>
<td>16.900*</td>
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<td>47.9</td>
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<td>36.0</td>
<td>14.200*</td>
<td>14.100*</td>
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<td>51.9</td>
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<td>11.000*</td>
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<td>12.000*</td>
<td>11.400*</td>
<td>47.7</td>
<td>10.600*</td>
<td>9.900*</td>
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<td>9.900*</td>
<td>8.800*</td>
<td>34.4</td>
<td>10.000*</td>
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<td>4.500*</td>
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</table>

**NOTES FOR ON TIRES CAPACITIES**

A. For Pick and Carry operations, boom must be centered over the front of the crane with swing brake and lock engaged. Use minimum boom point height and keep load close to ground surface.

B. The load should be stramplined from swing to hoist. ON TIRE OPERATION WITH JIB ERECTED.

C. Without outriggers, never maneuver the boom beyond listed load radii for applicable tires to ensure stability.

D. Creep speed is crane movement at less than 200 ft./min (61 m) in a 30 minute period and not exceeding 1.0 mph (1.6 km/h).

E. Refer to General Notes for additional information.

MAX. PERMISSIBLE HOIST LINE LOAD

<table>
<thead>
<tr>
<th>LINE PARTS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<tbody>
<tr>
<td>MAX. LOAD</td>
<td>9,080</td>
<td>18,160</td>
<td>27,240</td>
<td>36,320</td>
<td>45,400</td>
<td>54,480</td>
<td>65,560</td>
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<td>BOOM HEAD</td>
<td>2</td>
<td>2-D</td>
<td>2-3</td>
<td>1-2-D-1-2-3-0</td>
<td>2-3-4</td>
<td></td>
<td></td>
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<tr>
<td>HOOK BLOCK</td>
<td>2</td>
<td>2-D</td>
<td>1-2</td>
<td>1-2-D-1-2-3-0</td>
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<td></td>
</tr>
</tbody>
</table>

WIRE ROPE: 5/8" Rotation Resistant Compact Strand, 18X19 OR 19X19 Minimum Breaking Strength — 22.7 Tons

5/8" 6X19 OR 6X19 WRC IPS PERFORMED RIGHT REGULAR LAY MINIMUM BREAKING STRENGTH — 17.9 TONS
GENERAL

1. Review Operator's Manual prior to operating this crane.

2. Crane load ratings as determined by boom length, radius, and boom angle apply to this crane only as originally manufactured and equipped. THEY ARE MAXIMUM LOAD RATINGS.


4. Improperly operated or maintained equipment can be dangerous. The operator and other personnel should read and fully understand the Operator's Manual furnished by the manufacturer before operating or maintaining this crane. Rules for safe operation of equipment should be adhered to at all times. If either Manuals or a lift chart are missing, these should be ordered by crane serial number through the distributor.

5. Operators and supervisors must fully understand Safety Standards for Mobile Hydraulic Cranes ANSI B30.5 or latest, and be familiar with Federal, State, and local safety regulations.

SET-UP

6. Crane load ratings are based on the crane being leveled and standing on a firm, uniform supporting surface.

7. Crane load ratings on outriggers are based on all outrigger booms fully extended and the tires raised free of the supporting surface.

8. Crane load ratings on tires depend on appropriate inflation pressure and tire conditions. Caution must be exercised when increasing air pressures in tires. Consult Operator's Manual for precautions.

9. Use of jibs, lattice-type boom extension, or fourth section pullout extended is not permitted for pick and carry operations.

10. Consult appropriate section of the Operator's and Service Manual for more exact description of hoist line reeving.

11. The use of more parts of line than required by the load may result in having insufficient rope to allow the hook block to reach the ground.


13. When spin-resistant wire rope is used, the allowable rope loading shall be the breaking strength divided by five (5) unless otherwise specified by the wire rope manufacturer.

OPERATION

14. Crane load ratings must not be exceeded. DO NOT ATTEMPT TO TIP THE CRANE TO DETERMINE ALLOWABLE LOADS.

15. Crane load ratings are for lift crane service. Applications for other than lift crane (clamshell and magnet) are permitted. Due to significant variation in materials and applications, consult factory for optimum capability.

16. Weight of hooks, hook blocks, slings and all other load handling devices must be considered part of the load to be handled and must be subtracted from the load ratings to obtain the allowable load to be lifted.

17. Crane load ratings are based on freely suspended loads. SIDE LOAD ON BOOM OR JIB IS EXTREMELY DANGEROUS.

18. Practical working loads depend on the supporting surface, wind velocity, pendulum action, jerking or sudden stopping of loads, hazardous surroundings, experience of personnel and proper operation, tire inflation, tire condition, traveling with loads, multiple crane lifts, proximity of electrical wires, etc. Appropriate reduction of load ratings must be made for these and any other conditions which may affect practical working loads.

19. Crane load ratings with an asterisk (*) beside them are based on the crane's structure strength. All other ratings are based on stability and do not exceed the specified percentage of tipping load as determined by SAE Crane Stability Test Code J-765a.

20. When either radius or boom length, or both, are between listed values, the smaller of the two load ratings shall be used.

21. Do not operate at longer radii than those listed on the applicable load rating chart as-lipping can occur without a load on the hook.

22. Power telescoping boom sections must be extended equally.

23. Load ratings are dependent upon the crane being maintained according to manufacturer's specifications.

24. The maximum load which may be telescoped is limited by boom angle, hydraulic pressure, boom lubrication, etc. It is safe to attempt to extend and retract within the limits to the capacity chart.

25. It is recommended that load handling devices, including hooks, and hook blocks, be kept away from boom head at all times.

26. The boom angles shown on the capacity chart give an approximation of the operating radius for a specified boom length. The boom angle, before loading, should be greater to account for boom deflection. It may be necessary to retract the boom if maximum boom angle is insufficient to maintain rated radius.

27. For MCH carrier-mounted cranes only: 360° capacities apply only to machine equipped with front outrigger jack with all five (5) outrigger jacks properly set. For 360° lift capacities, use Over Side capacity chart.

DEFINITIONS

28. Operating Radius: The horizontal distance from the axis of rotation before loading to the center of the vertical hoist line or tackle with a load applied.

29. Freely Suspended Load: Load hanging free with no direct external force applied except by the hoist rope.

30. Side Load: Horizontal force applied to the lifted load either on the ground or in the air.

31. Working Area: Areas measured in a circular arc around the centerline of rotation as shown on the working area diagram.

WE RESERVE THE RIGHT TO AMEND THESE SPECIFICATIONS AT ANY TIME WITHOUT NOTICE. THE ONLY WARRANTY APPLICABLE IS OUR STANDARD WRITTEN WARRANTY APPLICABLE TO THE PARTICULAR PRODUCT AND SALE. WE MAKE NO OTHER WARRANTY, EXPRESSED OR IMPLIED.