Specifications

Hydraulic Rough Terrain Crane

HSP-8018C 18-ton (16.34 metric ton)

General dimensions

<table>
<thead>
<tr>
<th>Turning radius (4-wheel steer - centerline of tires)</th>
<th>feet</th>
<th>meters</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>17' 9&quot;</td>
<td>5.41</td>
</tr>
</tbody>
</table>

| Tailswing of counterweight                          | 11' 1" | 3.36   |

Dimensions affected by tires

<table>
<thead>
<tr>
<th>Tires</th>
<th>16.0 X 24 (16-PR)</th>
<th>17.5 X 25 (20-PR)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>feet</td>
<td>meters</td>
</tr>
<tr>
<td>A</td>
<td>2' 3-3/8&quot;</td>
<td>.70</td>
</tr>
<tr>
<td>B</td>
<td>5' 1/4&quot;</td>
<td>1.53</td>
</tr>
<tr>
<td>C</td>
<td>15&quot;</td>
<td>.25</td>
</tr>
<tr>
<td>D</td>
<td>25&quot;</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>6' 5-1/4&quot;</td>
<td>1.96</td>
</tr>
<tr>
<td>F</td>
<td>8' 5-3/4&quot;</td>
<td>2.58</td>
</tr>
<tr>
<td>G</td>
<td>10' 4-1/4&quot;</td>
<td>3.16</td>
</tr>
<tr>
<td>H</td>
<td>6' 11-1/16&quot;</td>
<td>2.11</td>
</tr>
<tr>
<td>I</td>
<td>10' 8-3/16&quot;</td>
<td>3.26</td>
</tr>
<tr>
<td>J</td>
<td>7-1/8&quot;</td>
<td>.18</td>
</tr>
<tr>
<td>K</td>
<td>1' 3-3/4&quot;</td>
<td>.35</td>
</tr>
<tr>
<td>L</td>
<td>1' 9-1/2&quot;</td>
<td>.55</td>
</tr>
<tr>
<td>M</td>
<td>6' 5-7/8&quot;</td>
<td>1.98</td>
</tr>
</tbody>
</table>

Not to Scale

Litho in U.S.A. 8/90
Upperstructure

■ Boom
Patented Design. Base and center section side plates have diamond shaped impressions for superior strength to weight ratio and 100,000 p.s.i. (689.5 MPa) steel angle chords for lateral stiffness. The tip section is a formed fabricated box section. Boom telescope sections are supported by wear shoes both vertically and horizontally to prevent metal to metal contact.

Load Moment Indicator -- Standard; Audio-visual warning system with anti-two block and function kickouts. Constant display of boom length, boom angle, radius of load, machine configuration, allowed load, actual load and % of allowed load. Presettable alarms for maximum and minimum boom angles, maximum tip height and maximum boom length.

Standard boom -- 27.12' - 70.12' (8.27 m - 21.37 m) three-section full power, fully synchronized boom.

Boom head -- Standard -- Three 10-5/8" (0.27 m) root diameter head sheaves handle up to 6 parts of wire rope. Two easily removable wire rope guards and rope dead end lugs provided on each side of boom head.

Auxiliary lifting sheave -- Optional; Single 10-5/8" (0.27 m) root diameter sheave with removable wire rope guard, mounted to boom. For use with one or two parts of line off the optional auxiliary winch. Does not affect erection of fly, or use of main head sheaves for multiple reeving.

Boom elevation -- One Link-Belt designed hydraulic cylinder with holding valve and bronze bushings in each end. Hand control for controlling boom elevation from -3° to +78°.

■ Fly
Optional -- 25' (7.62 m) fixed stowable one-piece lattice type.
Optional -- 25' (7.62 m) offsettable stowable one-piece lattice type.
Optional -- 25' - 43' (7.62 m - 13.10 m) offsettable stowable type lattice with telescoping box section.

■ Cab and Controls
Environmental cab; isolated from sound with acoustical foam insulation, all tinted and tempered safety glass windows. Sliding rear and right side window and swing up roof window for maximum visibility and ventilation. Slide-by-door opens to 2' 4" (0.71 m) width. 6-way adjustable operator's seat. Joystick control levers for swing, winches and boom hoist. Outrigger controls, sight level bubble. Foot controls for boom telescope, swing brake, travel brake and engine throttle.

Cab instrumentation -- Cab instrumentation -- Dash mounted gauges for hydraulic oil temperature, converter temperature, fuel, water temperature, voltmeter and oil pressure.

■ Swing
Bi-directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 2.0 r.p.m.

Swing parking brake -- Foot operated manually applied/released, disc brake mounted on the speed reducer.

Swing brake -- Foot operated, spring released disc brake mounted on the speed reducer.

Swing lock -- Standard; two position travel lock operated from the operator's cab. Optional 360° swing lock.

Counterweight -- Bolted to upperstructure frame.

■ Hydraulic System
Main pump -- Double gear type pump. Combined pump capacity 57 gpm (215.7 lpm). Driven off rear of transmission. An optional pump disconnect with engine jogging is available. Pump operates at 3,500 p.s.i. (245 kg/cm²) maximum system pressure.

Swing / steering pump -- Single gear-type pump, 19 gpm (71.92 lpm) maximum. Powered by carrier engine through a straight mechanical drive. Pump operates at 3,000 p.s.i. (211 kg/cm²).

The three pump hydraulic circuit allows simultaneous operation of the three main crane functions (winch, boom hoist, swing) without any function interface.

Reservoir -- 63 gallon (238.46 L) capacity. Single diffuser for deaeration.

Filtration -- One 10-micron filter located outside hydraulic reservoir. Accessible for easy replacement.

Control valves -- Five separate control valves allow simultaneous operation of all crane functions.

■ Load Hoist System
Standard -- 1M main winch with single speed motor and automatic brake; power up/down mode of operation with hoist drum cable follower. Bi-directional piston-type hydraulic motor, driven through a double planetary reduction unit for positive operator control under all load conditions.

Optional -- Model 1M auxiliary winch with one-speed motor and automatic brake, power up/power down mode of operation with hoist drum cable follower.

Line pulls and speeds -- Maximum line pull 9,000 lbs. (4,082 kg) and maximum line speed of 282 f.p.m. (84.60 m/min) on standard 10-5/8" (0.27 m) root diameter smooth drum.

■ Additional Equipment - Standard
Sound suppressed cab, fire extinguisher, seat belt, warning horn, mirrors, windshield wiper and backup alarm, lifting lugs, and audible swing alarm.

■ Additional Upperstructure Equipment - Optional
360° swing lock, propane, diesel or hydraulic heater, electronic drum rotation indicators. 25-ton (22.68 metric ton) hook block, 5-ton (4.54 metric ton) hook ball and swivel, rear steer indicator, engine monitoring system, tachometer, top hatch window wiper, amber rotating beacon, windshield washer, 360° cabin spotlight, cab-mounted working lights, and boom flood light.
Carrier

**Type**
8' 0" (2.44 m) wide, 122" (3.10 m) wheelbase.
4 x 4 x 4 -- (4-wheel steer, 4-wheel drive) **Standard** -- For rough terrain with limited turning area.
4 x 4 x 4 -- (4-wheel steer, 4-wheel drive) **Optional** -- Rear axle with no-spin differential; for rough terrain with limited turning area.

**Frame** -- 100,000 p.s.i. (689.5 MPa) steel, double walled construction with integral 100,000 p.s.i. (689.5 MPa) steel outrigger boxes.

**Axles**
- **Front**: Standard; heavy duty planetary drive/steer type.
- **Rear**: Standard; heavy duty planetary drive/steer type.
- **Optional**: Rear axle optional; heavy duty no-spin differential, planetary drive/steer type.

**Suspension**
- **Front axle**: Rigid mounted to frame.
- **Rear axle**: Pin-mounted on welded steel box cradle. Automatic hydraulic rear axle oscillation lock-out engages when upper structure rotates past 2-1/2° of centerline.

**Tires**
- **Front and Rear Standard**: 16.00 x 24 (16-PR)
- **Optional**: 17.5 x 25 (20-PR)

**Brakes**
- **Service**: Hydraulic, drum-type brakes at each wheel end. Drum diameter 17" (0.43 m). Shoe width 4" (10 m).
- **Parking**: Spring applied, hydraulic released; cab controlled, mounted on front axle.

**Steering**
Hydraulic two wheel, four wheel and "crab" steering: controlled from steering wheel.

**Transmission**
Clark three-speed two range power shift transmission. Six speeds available forward and six speeds reverse. Engine mounted torque converter.

**Outriggers**
Four hydraulic, telescoping beam and jack outriggers. Vertical jack cylinders equipped with integral holding valve. Beams extend to 18.5' (5.64 m) centerline-to-centerline and retract to within 8' 6" (2.44 m) overall width. Equipped with stowable, lightweight 16" (0.41 m) diameter steel floats. Controls and sight level bubble located in upper structure cab.

**Additional Equipment - Standard**
Cab steps, 2 front and rear carrier steps, air cleaner service indicator, skid resistant finish on carrier deck, key locking storage, battery box and engine compartment, automatic front axle disconnect, and fenders, carrier mounted travel lights, throttle lock, hour meter, and towing lugs.

**Additional Equipment - Optional**
No-spin differential on rear axle, front and rear towing shackles, 110 volt engine block heater, ether injection package, dual battery system, spare tires and rims, rear mounted pintle hook, manual pump disconnect w/engine jogging switch, auxiliary steering system, and recessed carrier mounted winch.

### Travel speeds and gradeability

<table>
<thead>
<tr>
<th>Engine</th>
<th>Tires</th>
<th>Maximum Speed</th>
<th>Gradeability at stall</th>
<th>Maximum tractive effort at 1.0 mph (1.61 km/h)</th>
<th>Gradeability at 1.0 mph (1.61 km/h)</th>
<th>Maximum tractive effort at 1.0 mph (1.61 km/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cummins</td>
<td>16.0 X 24</td>
<td>24.3</td>
<td>39.10</td>
<td>141%</td>
<td>33,462</td>
<td>15,178</td>
</tr>
<tr>
<td>4BT 3.9</td>
<td>17.5 X 25</td>
<td>22.5</td>
<td>36.20</td>
<td>211%</td>
<td>36,954</td>
<td>16,762</td>
</tr>
</tbody>
</table>

*Transmission lubrication must not exceed 47% grade.

**Engine**

<table>
<thead>
<tr>
<th>Engine</th>
<th>Cummins 4BT 3.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinders - cycle</td>
<td>4 - 4</td>
</tr>
<tr>
<td>Bore</td>
<td>4.02&quot; (102.1 mm)</td>
</tr>
<tr>
<td>Stroke</td>
<td>4.72&quot; (119.9 mm)</td>
</tr>
<tr>
<td>Displacement</td>
<td>239.2 cu. in. (3,920 cm³)</td>
</tr>
<tr>
<td>Maximum brake hp</td>
<td>105 @ 2600 rpm</td>
</tr>
<tr>
<td>Peak torque</td>
<td>267 ft. lbs. (362 J)</td>
</tr>
<tr>
<td>Electric system</td>
<td>12 volt negative ground</td>
</tr>
<tr>
<td>Fuel capacity</td>
<td>40 gallons (151.4 L)</td>
</tr>
<tr>
<td>Alternator</td>
<td>80 amps</td>
</tr>
<tr>
<td>Crankcase capacity</td>
<td>11.8 qts. (10.98 L)</td>
</tr>
</tbody>
</table>
Warning and Operating instructions

AND UNDERSTAND THESE OPERATING INSTRUCTIONS AND THE CHART VALUES BEFORE OPERATING CRANE. OPERATION WHICH DOES NOT FOLLOW THESE INSTRUCTIONS MAY RESULT IN AN ACCIDENT.

GENERAL:
1. Rated lifting capacities in pounds as shown on lift chart pertain to this machine as originally manufactured and normally equipped. Modifications to the machine or use of optional equipment other than that specified can result in a reduction of capacity.
2. Construction equipment can be dangerous if improperly operated or maintained. Operation and maintenance of this machine must be in compliance with the information in the operator's, parts and safety manuals supplied with this machine. If these manuals are missing, order replacements through the distributor.
3. The operator and all personnel associated with this machine shall fully acquaint themselves with the latest applicable American National Standards Institute (ANSI) safety standards for cranes.
4. The maximum allowable lifting capacities are based on machine standing load on firm supporting surface.

SET UP:
1. The machine shall be leveled on a firm supporting surface. Depending on the nature of the supporting surface, it may be necessary to have structural supports under the outrigger feet or tires to spread the load to a larger bearing surface.
2. When making lifts on outrigger, outrigger beams must be fully extended with tires free of supporting surface.
3. When making lifts on rubber tires, tires must be inflated to the recommended pressure. (See note 16.)
4. Do not exceed 64° boom angle while on tires since load stability diminishes rapidly beyond this point.
5. For required parts of line, see wire rope strength plate.

OPERATION:
1. Rated lifting capacities at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads. For concrete bucket operation, weight of bucket and load shall not exceed 80% of rated lifting capacities. For clamshell bucket operation, weight of bucket and bucket content is restricted to a maximum of 6000 pounds (2722 kg) or 80% of rated lifting capacity, whichever is less. For magnet operation, weight of magnet and load is restricted to a maximum of 3000 pounds (1361 kg) or 80% of rated lifting capacity, whichever is less. For crane capacities shown on outrigger chart, see crane capacities shown on outrigger chart.
2. The crane capacities shown on outrigger chart are those that are 80% of the tipping LOADS. The crane capacities shown on lines do not exceed 75% of crane capacities shown on lines. (See note 17.)
3. The crane capacities above the load lines are based on structural strength or hydraulic pressure.
4. Rated lifting capacities include the weight of hook block, slings, bucket, magnet and auxiliary lifting devices. Their weights must be deducted from the rated load to obtain the net load to be lifted. See also deduction for auxiliary load handling equipment.
5. Rated lifting capacities are based on fully extended loads. No attempt shall be made to move a load horizontally on the ground in any direction.
6. Rated lifting capacities are for lift crane only.
7. Do not operate if boom or boom length where capacities are not listed. At those positions, the machine can overtip without any load on the hook.
8. The maximum loads which can be handled are the table loads of the lift crane plus any crane capacities for auxiliary lifting equipment. (See note 18.)
9. Do not extend or extend to a larger radius or boom length than is shown on the load rating chart.
10. If the maximum load capacity is exceeded, do not use adverse jib configurations, such as tip of jib 

HSP-8018C Working Areas

Link-Belt Construction Equipment Company
Lexington, Kentucky

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