Specifications
Hydraulic Truck Terrain Crane

HTT–8660 60–ton (54.43 metric tons)

General Dimensions

<table>
<thead>
<tr>
<th></th>
<th>feet</th>
<th>meters</th>
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</thead>
<tbody>
<tr>
<td>Front Steer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turning radius (wall to wall)</td>
<td>49' 9.56&quot;</td>
<td>15.17</td>
</tr>
<tr>
<td>Turning radius (curb to curb)</td>
<td>41' 10.5&quot;</td>
<td>12.78</td>
</tr>
<tr>
<td>All–Wheel Steer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turning radius (wall to wall)</td>
<td>36' 7.37&quot;</td>
<td>11.16</td>
</tr>
<tr>
<td>Turning radius (curb to curb)</td>
<td>28' 7.25&quot;</td>
<td>8.72</td>
</tr>
<tr>
<td>Ground clearance</td>
<td>13.25&quot;</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Not To Scale
Upper Structure

Boom

Patented Design
- Boom 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.
- Boom telescope sections are supported by top, bottom and adjustable side wear shoes to prevent metal to metal contact.

Boom
- 35.5’ – 110’ (10.82 – 33.53 m) four-section full-power boom
- Two mode boom extension
- The basic mode is the full power, synchronized mode of telescoping all sections proportionally to 110’ (33.53 m).
- The exclusive ‘A-max’ mode (or mode ‘A’) extends only the inner mid section to 60.3’ (18.38 m) offering increased capacities for in-close, maximum capacity picks.
- Mechanical Boom Angle Indicator

Boom Head
- Five 16.5” (0.42 m) root diameter nylon sheaves to handle up to ten parts of wire rope.
- Easily removable wire rope guards
- Rope dead end lugs provided on each side of boom head.
- Boom head designed for quick reeve of hook block.
- Fly pinning alignment tool

Boom Elevation
- Two Link-Belt designed hydraulic cylinders with holding valves and bushings in each end.
- Hand control for controlling boom elevation from –3° to +78°

Optional Auxiliary Lifting Sheave
- Single 16.5” (0.42 m) root diameter nylon sheave with removable wire rope guard, mounted to boom.
- Use with one or two parts of line off the optional front winch.
- Does not affect erection of fly or use of main head sheaves for multiple reeving.

Optional
- 40-ton (36.3 mt) quick-reeve hook block
- 60-ton (54.43 mt) quick-reeve hook block
- 70-ton (63.30 mt) quick-reeve hook block
- 8.5-ton (7.71 mt) hook ball
- Boom floodlight.

Fly

Optional
- 34’ (10.36 m) one-piece lattice fly, stowable, offsettable to 2°, 20° and 40°
- 34’ – 56’ (10.36 – 17.07 m) two-piece (bi-fold) lattice fly, stowable, offsettable to 2°,

Cab and Controls

Environmental Ultra–Cab
- Laminated fibrous composite material; isolated from sound with acoustical fabric insulation.

- Windows are tinted and tempered safety glass.
- Sliding rear and right side windows and swing–up roof window for maximum visibility and ventilation.
- Slide–by–door opens to 3’ (0.91 m) width
- Six–way adjustable seat, with seat belt, for maximum operator comfort.
- Hand held outrigger controls and sight level bubble located in cab
- Diesel cab heater
- Tail hatch window wiper
- Audible swing alarm
- Fire extinguisher
- Sun screen
- Electric windshield wiper
- Windshield washer
- Cab work lights
- Pull–out Cabwalk

Optional
- Amber strobe light
- Third wrap indicator
- Amber rotating beacon
- Hydraulic heater

Controls
- Hydraulic controls (joystick type) for:
  - Swing
  - Optional auxiliary winch
  - Boom telescope
  - Engine throttle

Optional
- Auxiliary winch
- Single axis controls

Rated Capacity Limiter
- Microguard 434 Graphic audio–visual warning system built into dash with anti–two block and function limiters.

Operating data available includes:
  - Machine configuration
  - Boom length
  - Head height
  - Allowed load
  - % of allowed load

Presetable alarms include:
  - Maximum and minimum boom angles
  - Maximum tip height
  - Maximum boom length
  - Swing left/right positions

Operator defined area alarm is standard
  - Anti–two block weight designed for quick reeve of hookblock

Optional
- Internal RCL light bar: Visually informs operator when crane is approaching maximum load capacity with a series of three lights: green, yellow and red.

- External RCL light bar: Visually informs ground crew when crane is approaching maximum load capacity kickouts and presettable alarms with a series of three lights: green, yellow and red.

Swing
- Bi–directional hydraulic swing motor mounted to a planetary reducer for 360° continuous smooth swing at 2.1 r.p.m.

- Swing park brake – 360°, electric over hydraulic (spring applied, hydraulic released) multi–disc brake mounted on the speed reducer. Operated by toggle switch in overhead control console.

- Swing brake – 360°, foot operated, hydraulic applied disc brake mounted on the speed reducer.

- Swing lock – Standard; two position travel lock (pin device) operated from the operator’s cab.

Counterweight
- Standard – Pinned to upper structure frame. 12,000 lbs. (5443 kg) three–piece design. Consist of one 6,000 lbs. (2722 kg) piece bolted to upper structure and two 3,000 lbs. (1361 kg) pieces pinned to standard counterweight.

- Two counterweight sections can be hydraulically lowered on, and pinned to carrier deck to balance axle loadings for travel.

Optional
- 360° swing lock. Meets New York City requirements.

Hydraulic System

Main Pump
- One gear pump with a total of four sections.

- Combined pump capacity of 176 gpm (666 lpm)

- Powered by carrier engine with pump disconnect.

- Rocker switch controlled, air applied pump disconnect engaged / disengaged from carrier cab.

- Maximum system operating pressure is 3,000 psi (20 685 kPa).

- O–ring face seals technology used throughout with hydraulic oil cooler standard.

Pilot Pressure / Counterweight Removal Pump
- Pressure compensated piston pump powered by carrier engine. Maximum pump operating pressure is 1,500 psi (10 342 Kpa).

Steering / Fifth Outrigger Pump
- Single gear type pump, 8 gpm (30 lpm).

- Powered by carrier engine through front gear housing.

- Maximum pump operating pressure is 2,000 psi (13 790 KPa)

Reservoir
- 169 gallon (639.7 L) capacity. One diffuser for deaeration.
PARKING/Emergency

Standard

• Two-speed motor and automatic brake
• Power up/down mode of operation
• Bi-directional gear–type hydraulic motor driven through planetary reduction unit for positive control under all load conditions.
• Asynchronous parallel double crossover grooved drums minimize rope harmonic motion.
• Pressure compensated winch circuit provides balanced oil flow to both winches for smooth, simultaneous operation.
• Rotation resistant wire rope
• Drum rotation indicators

Load Hoist System

Standard

• 2M main winch with grooved lagging

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Carrier

Type

• 8’ 6” (2.59 m) wide, 231” (5.87 m) wheelbase. 8 x 4 drive – standard.

Frame

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

Optional

• Carrier mounted storage boxes
• Pintle hook
• Electric and air connections for trailers and boom dollies

Axles

Front

• Tandem, 84.38” (2.14 m) track

Rear

• Tandem, 81.29” (2.08 m) track.
  7.29 to 1.0 ratio with interaxle differential and cross–axle lock capability.

Suspension

Front axle

• Leaf spring suspension

Rear axle

• Air–ride, bogie beam type, suspension.

Wheels

Standard

• Hub piloted aluminum disc
• Spare tire and wheel assemblies

Tires

Standard Front and Rear

• 445/65R22.5 (Load range “L”) single tubeless radials.

Brakes

Service

• Full air brakes on all wheel ends with automatic adjusters. Dual circuit with modulated emergency brakes.
• Front – 16.5 x 6 S–Cam brakes
• Rear – 16.1 x 7 Wedge brake

Parking/Emergency

• One spring set, air released chamber per rear axle end.
• Parking brake applied with valve mounted on carrier dash.
• Emergency brakes apply automatically when air drops below 40 psi (275.8 kPa) in both systems.

Steering

Four steer capabilities; front, rear, all–wheel, and “crab” steer.

Front

• Sheppard rack and pinion design

Rear

• Hydraulic power cylinders

Transmission

Standard

• Eaton RTO–14909ALL; 11 speeds forward, 3 reverse with Series 60 engine

Electrical

• Two 12–volt batteries provide 12–volt starting. 130–amp alternator
• 2,800 cold cranking amps available
• 12–volt operating system

Lights

• Four dual beam sealed headlights
• Front, side, and rear directional signals
• Stop, tail and license plate lights
• Rear and side clearance lights
• Hazard warning lights

Outriggers

Three position operation capability

• Four hydraulic, telescoping beam and jack outriggers.
• Vertical jack cylinders equipped with integral holding valve.
• Beams extend to 20’ 6” (6.25 m) centerline–to–centerline and retract to within 8’ 6” (2.59 m) overall width.
• Equipped with stowable, lightweight 24” (0.61 m) diameter aluminum floats.
• Standard fifth outrigger, 14 3/4” (0.37 m) self storing steel pad is operable from ground or operator’s cab.
• Hand–held controls and sight level bubble located in operators cab and on carrier deck.

Confined Area Lifting Capabilities (CALC™) System

The crane is operational in one of the three outriggers positions and operational in confined areas in two positions (intermediate and full retraction).

Line Pulls and Speeds

• Maximum available line pull 16,438 lbs. (7 454 kg) and maximum line speed of 463 f.p.m. (141 m/min) on 16” (0.41 m) root diameter grooved drum.

Optional

• 2M auxiliary winch with two–speed motor, automatic brake, and winch function lock-out. Power up/down modes.
• Third wrap indicators

The three outrigger positions are:

• Full extension – 20’ 6” (6.25 m)
• Intermediate position – 14’ 1.75” (4.31 m)
• Full retraction – 7’ 9” (2.36 m)

Capacities are available with the outrigger beams in the intermediate and full retraction positions.

When the outrigger position levers (located on the outrigger beams) are engaged, the operator can set the crane in the intermediate or full retraction outrigger position without having to leave the cab.

Carrier Cab

• One–man cab of laminated fibrous composite material acoustical insulation with cloth covering. Equipped with:
• Air–ride, six–way adjustable operator’s seat.
• Four–way adjustable tilting and lockable steering wheel.
• Door and windows locks
• Left–hand and right–hand rear view mirrors
• Sliding right–hand and rear tinted windows
• Roll up/down left–hand tinted window
• Desiccant–type air dryer
• Steps to upper, lower cab and rear carrier
• 110–volt electric engine block heater
• Back–up warning alarm
• Tow hooks and shackles
• Aluminum fenders with ground control outriggers.
• Electric windshield wiper and washer.
• Turn signal indicator
• Travel lights
• Fire extinguisher
• 36,000 BTU heater
• Dome light
• Mud flaps

Optional

• Air conditioning
• Amber strobe light
• Rotating beacon

Cab instrumentation

• Illuminated instrument panel speedometer.
• Tachometer
• Fuel gauge
• Oil pressure gauge
• Turn signal indicator
• Water temperature gauge
• Hourmeter
• Voltmeter
• Fuses
• Odometer
• Cruise control

—3—
# Carrier Speeds
(Manual Transmission – Standard tires)

<table>
<thead>
<tr>
<th>Gear</th>
<th>High</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Ratio</td>
<td>0.73</td>
<td>1.00</td>
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<tr>
<td>Hi rev.</td>
<td>11.85</td>
<td>26.08</td>
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<td>Deep reduction @ 700 rpm</td>
<td>3.39</td>
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## Engine

**Detroit Diesel, Series 60 12.7 L**

- **Cylinders – cycle**: 6 / 4
- **Bore**: 5.12” (0.13 m)
- **Stroke**: 6.30” (0.16 m)
- **Displacement**: 778 cu. in. (12,751 cm³)
- **Maximum brake hp.**: 365 @ 1,800 rpm; 350 @ 2,100 rpm
- **Peak torque**: 1,350 ft. lbs. (1,831 J) @ 1,200 rpm
- **Electric system**: 12–volt neg. ground / 12 volt starting
- **Fuel capacity**: 85 gallons (321.8 L)
- **Alternator**: 12 volt, 130 amps
- **Crankcase capacity**: 32 qts. (30 L)

- Engine brake – standard
- Ether injection starting package – optional

## Axle Loads

Base machine with standard 35.5’ – 110’ (10.82 – 33.53 m) four–section boom, 2M main winch with 2–speed hoisting and power up/down, 600’ (182.88 m), 3/4” (19 mm) wire rope, 8 x 4, 8.5’ (2.59 m) carrier with Detroit Diesel Series 60 12.7 L engine, 85 gal. (321.8 L) fuel, aluminum fenders and 12,000 lb. (5,443 kg.) counterweight.

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### G.V.W. (lbs. / kg.)

<table>
<thead>
<tr>
<th></th>
<th>Front Axle</th>
<th>Rear Axle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lbs.</td>
<td>82,781</td>
<td>28,707</td>
</tr>
<tr>
<td>Kg.</td>
<td>37,549</td>
<td>13,021</td>
</tr>
<tr>
<td>Lbs.</td>
<td>54,074</td>
<td>28,707</td>
</tr>
<tr>
<td>Kg.</td>
<td>24,528</td>
<td>13,021</td>
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</table>

### Upper Facing Front

<table>
<thead>
<tr>
<th>lbs.</th>
<th>kg.</th>
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<tbody>
<tr>
<td>28,707</td>
<td>13,021</td>
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<tr>
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<td>13,021</td>
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</table>

### Axle

- **Max. Load @ 65 mph. (105 km/h)**
  - **Front**: 46,400 lbs. (21,047 kg) – Aluminum disc wheels with 445/65R22.5 tires
  - **Rear**: 49,200 lbs. (22,317 kg) – Aluminum disc wheels with 445/65R22.5 tires

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