General Specifications

Link-Belt®

Hydraulic Crane

HTC-50W  50-ton (45.35 metric ton)

General dimensions

<table>
<thead>
<tr>
<th>Description</th>
<th>Feet</th>
<th>Meters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turning radius - C/L of outer front tire</td>
<td>49' 0&quot;</td>
<td>14.94</td>
</tr>
<tr>
<td>Tailswing - across corners</td>
<td>12' 5/8&quot;</td>
<td>3.68</td>
</tr>
<tr>
<td>Tailswing - counterweight extended</td>
<td>14' 0&quot;</td>
<td>4.27</td>
</tr>
<tr>
<td>Minimum ground clearance</td>
<td>9-1/2&quot;</td>
<td>0.24</td>
</tr>
</tbody>
</table>

GENERAL INFORMATION ONLY

LO614807.5
(Supersedes No. LO422807.5 & 2209767.5)
Upperstructure

**Boom**

FMC 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 wear shoes both vertically and horizontally.

**Standard boom** — 35’ 0” - 90’ 0” (10.67 m - 27.43 m) 3 - section power boom.

**Boom head** — Four or five 14-1/4” (0.36 m) root diameter head sheaves handle up to 10 parts of wire rope. Three removable wire rope guards, and rope dead end lugs provided on each side of boom head.

**Auxiliary lifting sheave** — Optional; single 14-1/4” (0.36 m) root diameter sheave mounted to boom head with removable wire rope guards. For use with one or two parts of line off the optional auxiliary winch. Does not affect erection of jib, or use of main head sheaves for multiple reeving.

**Boom elevation** — Two FMC designed double-acting 9-3/4” (0.25 m) diameter hydraulic cylinders with integral holding valves. Hand or foot controls for controlling boom elevation from -5° to 80°.

**Fly**

Standard; 34’ 6” (10.52 m) stowable one-piece lattice type. (4-section boom only.)

**Jib**

Optional; 30’ 0” (9.14 m) stowable A-frame. Attaches to 34’ 6” (10.52 m) fly only. Jib can be offset 5°, 17.5° or 30°.

**Cab and Controls**

Standard environmental cab; isolated from vibration by rubber mounts. Accoustical insulation and Neoprene weather seals. All safety glass windows with tinted roof glass. Removable front window and swing up roof window for maximum visibility and ventilation. Slide-by door opens to 3’ 0” (0.91 m) width. 4-way adjustable operator’s seat. Control levers for boom telescope, winches; dual controls for boom hoist and swing functions. Outrigger controls, sight leveling bubble, boom angle indicator, boom length and drum rotation indicators, windshield wiper, heater and defroster fan, instrumentation light and fire extinguisher.

**Optional boom** — 37’ 6” - 120’ 0” (11.98 m - 36.58 m) 4-section boom consisting of two power sections plus a manual.

**Auxiliary lifting sheave** — Optional; single 14-1/4” (0.36 m) root diameter sheave mounted to boom head with removable wire rope guards. For use with one or two parts of line off the optional auxiliary winch. Does not affect erection of jib, or use of main head sheaves for multiple reeving.

**Boom elevation** — Two FMC designed double-acting 9-3/4” (0.25 m) diameter, hydraulic cylinders with integral holding valves. Hand or foot controls for controlling boom elevation from -5° to 80°.

**Swing**

Bi-directional hydraulic swing motor mounted to FMC speed reducer for 360° continuous smooth swing at 2.7 r.p.m.

**Swing brake** — Two shoe, external contracting brake mounted to speed reducer. Foot or hand controlled.

**Swing lock** — Two position pin-type house lock operated from operator cab.

**Counterweight** — Extend/retract and removable. Standard machine with 3-section boom and one winch - 7,700 lbs. (3493 kg). Standard machine with 3-section boom and optional auxiliary winch - 6,700 lbs. (3039 kg). Standard machine with optional 4-section boom and one winch - 8,100 lbs. (3674 kg). Standard machine with optional 4-section boom and auxiliary winch - 7,100 lbs. (3221 kg).

**Hydraulic System**

**Main pump** — Tandem, triple gear-type pump. Powered by carrier engine with pump disconnect. Pump disconnect is a FMC jaw-type clutch engaged/disengaged from carrier cab. Maximum system pressure 2,800 p.s.i. (193.1 Bars).

**Reservoir** — FMC, 140 g.p.m. (530.0 L/min.) capacity. Internal baffles for tank strength, deaeration and oil cooling. Total system capacity 267 gallons (1010.6 L).

**Filter** — 10 micron filter, located at return port of hydraulic reservoir. Replaceable cartridge.

**Speed-o-Matic power hydraulic control system** — Provides hydraulic power for 2-shoe clutch control of main and optional auxiliary winches. Maximum system pressure 1,050 p.s.i. (72.41 Bars).

GENERAL INFORMATION ONLY
Load hoist system

FMC's exclusive Dual Mode load hoisting/lowering system allows two modes of operation for variable speed and precise control.

For normal hydraulic operation, one mode allows the load to be hydraulically powered up/powered down in two speed ranges. This mode incorporates an automatic multiple disc brake to hold the load.

The second mode uses FMC's exclusive 2-shoe drum clutch for variable speed in hoisting and a drum brake for operator's controlled load lowering on the foot operated brake.

This exclusive design allows the operator to precisely feather the load while hoisting or lowering and allows the operator to achieve optimum speed, in addition to true gravity free fall, if desired.

Hoist motor — Two-speed hydraulic gear type; powers gear train through spur gear reduction.

Drum clutches — Two-shoe internal expanding. Engaged/disengaged from operators cab through Speed-o-Matic® power hydraulic system; 18” x 4-1/2” (0.46 m x 0.11 m). Clutch/brake drums cast integral with wire rope drum.

Drum brakes — Two-piece external contracting band; manually applied and released by foot pedals in operator's cab. Brake drum diameter, 23” (0.58 m) brake band 4-1/2” (0.11 m) wide.

Line pulls and speeds — Maximum permissible line pull 16,800 lbs. (7620 kg) and maximum permissible line speed 479 f.p.m. (148.00 m/min.)

Optional equipment — Load moment indication with kickout, anti-two block with audio/visual warning and kickout, auxiliary front drum, counterweight removal mechanism, boom and cab mounted working light packages, 50-ton (45.35 metric ton) hook block, 8-1/2-ton (7.71 metric ton) hook ball & swivel, and lifting lug package.

Chassis

Type

FMC 8 x 4 drive, 9' 10" (3.00 m) wide, 230" (5.84 m) wheelbase.

Frame — All-welded high strength alloy steel plate construction with box-type design and integral 100,000 p.s.i. (6895 MPa) steel outrigger boxes.

Outriggers

Standard; power hydraulic, double box, single beam outriggers, front and rear. Vertical jack cylinders equipped with integral holding valve. Beams extend 21' 0" (6.40 m) centerline to centerline and retract to within 9' 10" (3.00 m) overall width. Equipped with stowable, lightweight 30-1/2" (0.77 m) diameter foils. Controls and sight level bubble located in upper structure cab.

Bumper outrigger — Optional; a front center vertical jack mounted under bumper with 30-1/2" (0.77 m) diameter lightweight float.

Axles

Front — Tandem; 99" (2.51 m) track. Rear — Tandem; planetary 85" (2.16 m) track, 9.14 to 1.0 ratio.

Suspension

Front — Reyco spring suspension with torque rods.

Rear — Hendrickson solid mount 54" (1.37 m) bogie beam.

Wheels

Front — Gunite cast 5 spoke.

Rear — Gunite cast 6 spoke.

Tires

Front — 16:50 x 22.5 (16-ply) transport type tubeless.

Rear — 12:00 x 20 (16-ply) transport type with tube.

Optional — 12:00 x 20 (16-ply) road lug type on rear only.

Brakes

Service — Cam type front and rear with maxi-spring actuators on rear. Total effective lining area 1,416 sq. in. (9136 cm²). Front - 17-1/4" x 4" (0.44 m x 0.10 m). Rear - 16-1/2" x 7" (0.42 m x 0.18 m).

Parking and emergency — One spring set, air released chamber per rear axle end. Parking brakes applied with air control valve mounted on carrier dash. Emergency brakes apply automatically when air pressure drops below 70 p.s.i. (4.83 Bars) in both systems.

Steering — Ross steering unit with hydraulic power assist.

Clutch — Lipe-Rolway 14’ (0.36 m) diameter, spring loaded, double plate dry disc.

Universals — Mechanics needle; FMC midpoint bearing.

Transmission — Fuller Roadranger RTO-613, 13 speeds forward 3 reverse.

Electrical system

Standard; one 12-volt battery for GM and two 12-volt batteries for Cummins, 340 total amp, 65 amp alternator. Two single sealed beam headlights, front and rear directional signals, stop and tail lights, 4-way emergency flashers, back-up lights, front, rear and side clearance lights with integral reflectors and license plate lights.

Carrier cab

Standard FMC one man low-profile, humanized cab. Accoustical insulation with vinyl covering, and mounted on rubber isolation pads. Equipped with electric windshield wiper, windshield washer, horn, mechanical spring suspended seat, dome and dash light, cigar lighter, ashtray, heater, defroster, door and window locks, fire extinguisher and two rear view mirrors.
### Speed and gradeability

<table>
<thead>
<tr>
<th>Engine</th>
<th>GM 6-71N</th>
<th>Cummins NTCC-230*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed range</td>
<td>2.35 to 45.88 m.p.h.</td>
<td>2.11 to 41.19 m.p.h.</td>
</tr>
<tr>
<td>(6.78 to 73.82 km/h)</td>
<td>(63.39 to 66.27 km/h)</td>
<td></td>
</tr>
<tr>
<td>Percent of gradeability</td>
<td>40.89 to .50</td>
<td>42.53 to .55</td>
</tr>
</tbody>
</table>

1 Travel speed based on full load r.p.m. Gradeability based on peak torque of the engine.

### Miscellaneous standard equipment
Front and rear fenders, back-up warning alarm, cab step, access ladder to carrier deck with hand grab, two front tow loops, and skid-resistant finish on carrier deck.

### Miscellaneous optional equipment
- Engine block heater
- Ether injection starting package
- Alcohol evaporator for air system, spare tire and rim assemblies.

### Axle loads

#### Base machine includes 35'-90' (10.67 - 27.43 m) 3-section boom, 32'-95' (9.75 m) two-piece fly, one winch with two-speed hoisting and power load lowering, 550' (168.71 m) 3/4" (19 mm) hoist line, FMC 6x4 carrier with GM 6-71 N diesel, Roadranger transmission and without counterweight.

<table>
<thead>
<tr>
<th>G.V.W.</th>
<th>Upper facing front</th>
<th>Upper facing rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>66,661</td>
<td>30,247</td>
<td>32,677</td>
</tr>
<tr>
<td>6,875</td>
<td>3,990</td>
<td>58,106</td>
</tr>
</tbody>
</table>

#### Counterweight for one winch
- +7,000 +3,439
- +6,700 +3,039
- +610 +730
- +1,104 +501
- +800 +363
- +215 +88
- +150 +68

#### Base machine as above, but with 37'-6"-120' (11.43 - 36.58 m) 4-section boom and without counterweight.

<table>
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<tr>
<th>G.V.W.</th>
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<th>Upper facing rear</th>
</tr>
</thead>
<tbody>
<tr>
<td>69,070</td>
<td>31,330</td>
<td>36,954</td>
</tr>
<tr>
<td>6,641</td>
<td>3,012</td>
<td>62,429</td>
</tr>
</tbody>
</table>

#### Counterweight for one winch
- +7,100 +3,774
- +7,000 +3,261
- +1,610 +730
- +1,522 +3,207
- +1,160 +526
- +800 +363
- +215 +88
- +150 +68
- +290 +132

#### Adjust gross vehicle weight and axle loading according to components weight.