Link-Belt Speeder

HT-300

30-Ton Hydraulic Truck Crane

WITH LINK-BELT SPEEDER . . . *Hydraulics are a tradition*

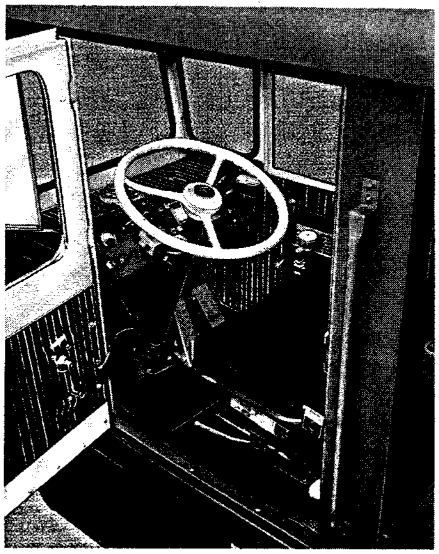
GENERAL INFORMATION ONLY

Carrier Specifically Designed For Hydraulic Crane Duty

Single Engine Powers All Machine Functions

The Model HT-300 is one of a line of carrier mounted hydraulic cranes available from Link-Belt Speeder. The HT-300 incorporates a proven hydraulic crane concept with a durable 4-axle carrier especially designed for hydraulic crane duty. The carrier is manufactured to Link-Belt Speeder's strict design specifications. The box-type, high-strength alloy steel frame (100,000 p.s.i. min. yield strength steel) gives a desirable weight-to-strength ratio — an important consideration in axle loadings for machine transportability.

Functional carrier styling is an important design consideration. The **carrier cab** is mounted forward of the front axles for easier operator entrance. This also reduces overall cab height. The cab interior provides a touch of luxury for the operator. All side panels are upholstered with pleated vinyl. Floor surface is carpeted to reduce road noise. Bucket seat with safety belt, tachometer, ash tray, lighter, outside handrail, right- and left-hand bus-type mirrors, windshield wiper, air horn, windshield washer, heater, defroster, back-up alarm and lights are all standard equipment.



Carrier Cab

The HT-300 carrier features an 8 x 4 drive with 11:00 x 20, 12-ply tires on the tandem rear axles and super single 15:00 x 22.5 16-ply tires on the tandem front axles for excellent load carrying capacity and machine flotation.

Power for travel is from the carrier diesel engine into a 13-speed main transmission for negotiating steep grades, maneuvering through traffic, or travelling at highway speeds up to 46 m.p.h. Mounted behind the main transmission, ahead of the rear axles, is a 2-speed range (direct and low) auxiliary transmission. The low-speed range is for on-the-job precision travel movements as low as .87 m.p.h.

The tandem rear axles are equipped with a double reduction in the bowl. Power steering and 8-wheel service brakes with Maxi brakes on both axles of rear tandem wheels are standard. Service brakes may be set with a brake lock when operating the crane on tires. Maxi brakes provide parking and emergency braking in addition to the service brake function.

The hydraulic crane upper is mounted to the carrier by a turntable bearing with integral swing gear.

Hydraulic outrigger boxes are pin-connected to the carrier for quick removal. Outriggers are controlled

from the crane upper cab. (See page 7.)

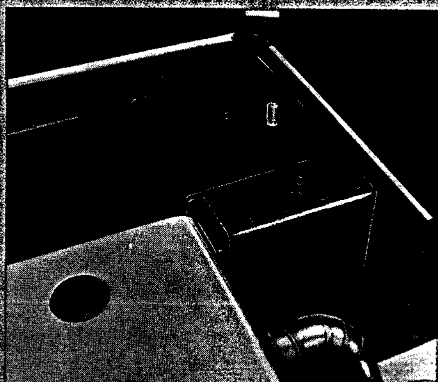
The Model HT-300 hydraulic crane is a simple but efficient design. The carrier engine powers the carrier and also supplies hydraulic power for all the crane functions — eliminates the need for a second engine in the crane upper.

The **hydraulic oil reservoir** with filters and strainer is located in the right front corner of the carrier. A large capacity oil cooler in the front of the engine radiator maintains proper oil operating temperature for increased hydraulic component life.

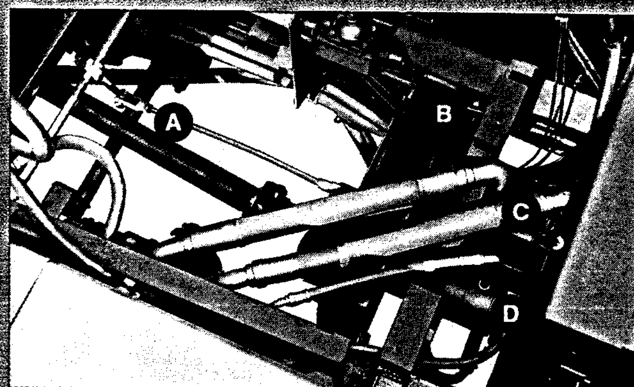
Hydraulic power is from the front of the engine through a universal drive tube **(A)** into the gear speed reducer **(B)** powering pumps **(C)** and **(D)**. One section of tandem gear-type pump **(C)** supplies power for hoist and boomhoist. One section supplies power for swing and boom extend-retract. The variable volume piston-type pump **(D)** supplies power for outrigger cylinders, counterweight lowering cylinder, and 2-shoe clutches located in the rope drum circuit.

For long distance or full speed over-the-road travel, a cab-controlled disconnect clutch is provided to avoid unnecessary wear and over-speed on the pump and drive assembly.

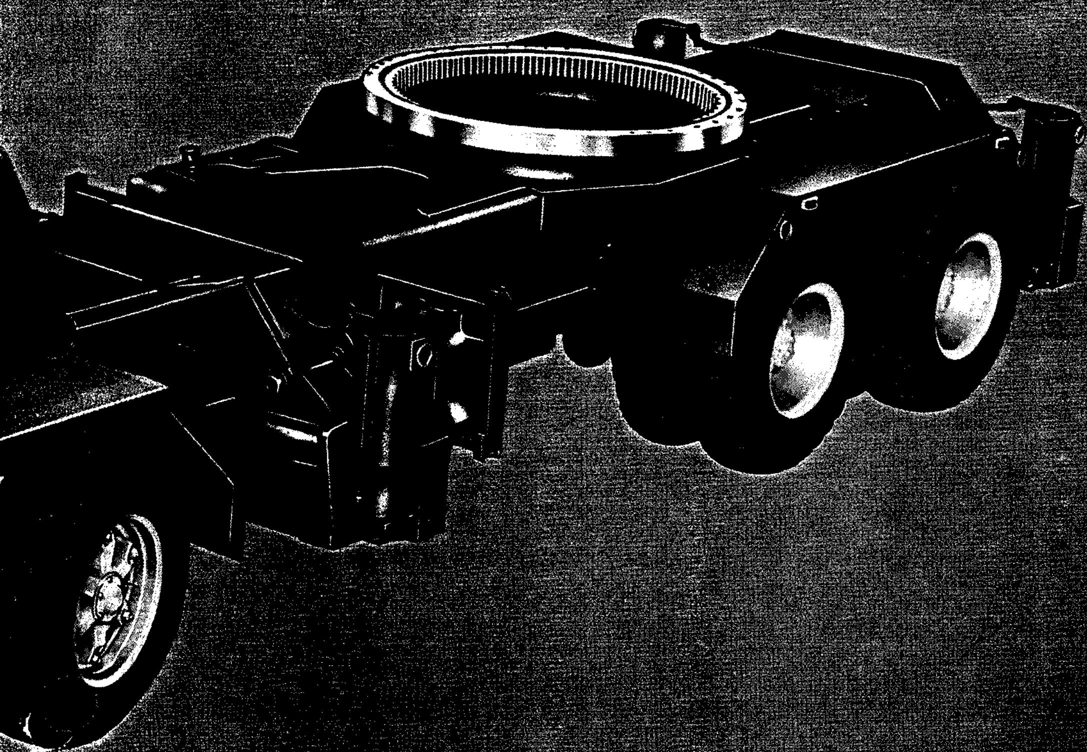
Oil from the pumps, driven by carrier engine, flows through a rotating joint mounted in the center of rotation which leads into the upper frame. From the rotating joint, oil is directed into the control valves.



Hydraulic Oil Reservoir



Hydraulic Power



Power Hydraulic Control System

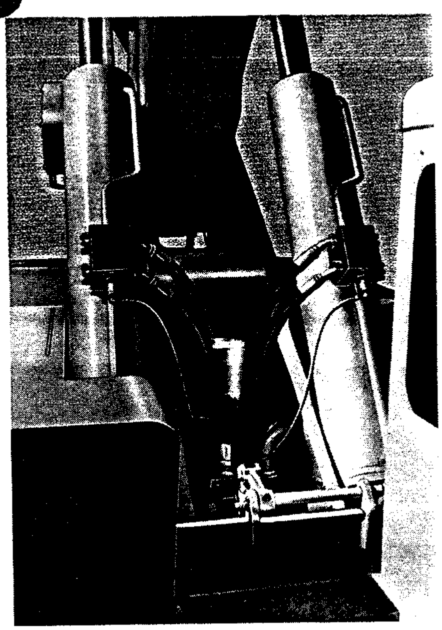
Link-Belt Speeder Designed Swing And Hoist Speed Reducer

GENERAL INFORMATION ONLY

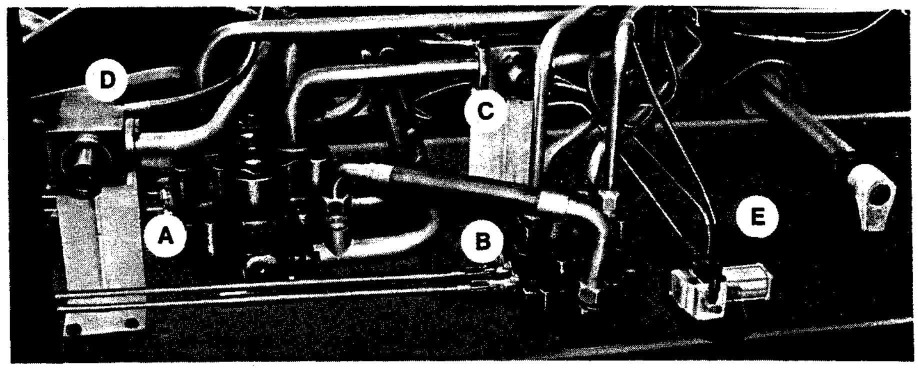
The main **control valves** are mounted on the deck of the upper revolving frame and are readily accessible. Two-spool, mechanically operated control valves **(A)** and **(B)** receive oil from the tandem gear-type pump (see page 3). Valve **(A)** controls oil flow to the boomhoist cylinders and the 2-directional hoist motor. Valve **(B)** controls oil flow to the 2-directional swing motor and the boom extend-retract cylinders.

Holding valve **(C)** located between the hydraulic hoist motor and control valve **(A)** permits controlled lowering of overhauling loads.

Power hydraulic **boom hoist and lowering** is through two double-acting cylinders. Both the cylinder and rod ends are mounted in self-aligning bushings for longer cylinder gland and seal life. Each cylinder is equipped with an integral check valve to hold boom in position when the operator control lever is in



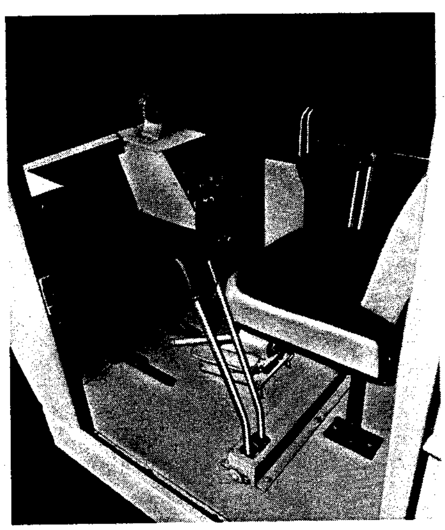
Boom Hoisting And Lowering



Control Valves

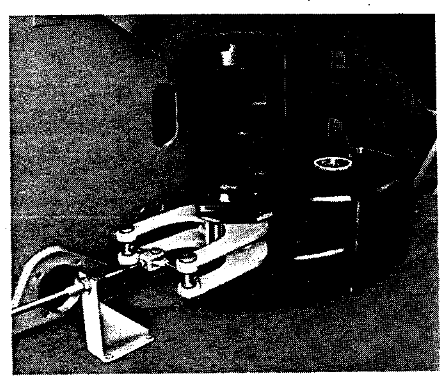
neutral or when the engine is shut off. For controlled lowering of the boom, the boom lowering circuit contains a holding valve **(D)** located between the boom hoist/lowering cylinders and control valve **(A).**

The **operator crane controls** and instrument panel are designed for ease of operation, comfort, and efficiency. Operator works from a contoured, bucket-type seat. Instrument panel is split with a center window for added visibility. The two control levers directly to the left of the operator's seat control swing and boom extend-retract. The two levers to the right of the operator's seat control hoist and boomhoist. The control levers mounted on right cab panel control the 2-shoe clutches.



Operator Crane Controls

A push button located on swing lever electrically activates solenoid **(E)** which internally redirects the oil in the hoist motor for high-speed load hoist and lowering. The floor-mounted foot pedal controls the engine r.p.m.



Swing

Swing power is from the 2-directional hydraulic motor into the Link-Belt Speeder designed and manufactured gear speed reducer and then into the swing shaft/pinion. Pinion meshes with the internal teeth of the turntable gear. The assembly is conveniently located on the deck of the upper revolving frame. A mechanically controlled swing brake is standard — holds upper at any swing position. The swing speed reducer is interchangeable with the hoist speed reducer.

Unique Load Hoist And Lowering Arrangement

Permits 2-Speed Rope Drums Plus "Free Fall" Capability

GENERAL INFORMATION ONLY

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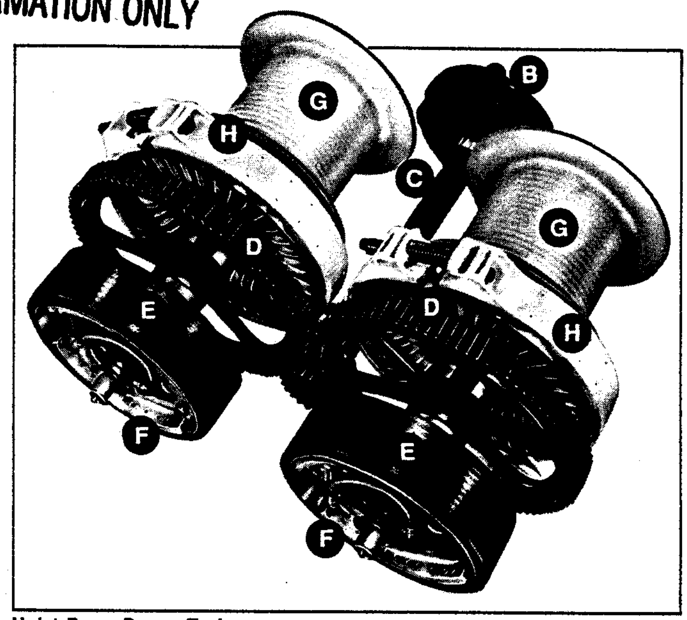
To meet the varied hydraulic truck crane user and job demands, the Link-Belt Speeder Model HT-300 offers a new concept in load hoisting/ lowering design. With the HT-300 this important function is not restricted to the conventional hydraulic crane method of raising and lowering a load only through or against hydraulic motor power.

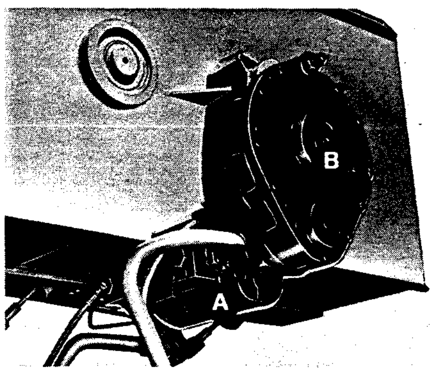
Incorporated in the **hoist drum power train** arrangement are individually controlled power hydraulic 2-shoe clutches and mechanically controlled wire rope drum brakes. With this design concept, it is possible to lower the hook or load by gravity pull and "free spool" the rope drum. Speed of load descent is controlled by drum brakes.

This design eliminates load lowering restrictions inherent in hydraulic powered rope drums. It broadens the job applications for hydraulic truck cranes.

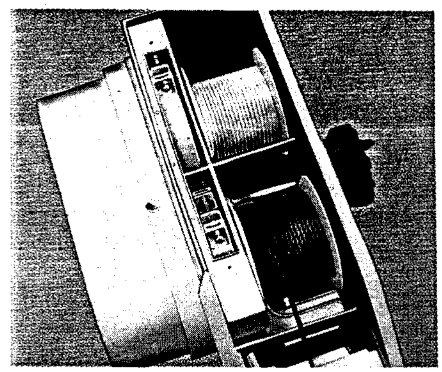
Power for the **tandem hoist drums** is from a single 2-directional **hydraulic motor (A)** into the Link-Belt Speeder **gear speed reducer (B)** and horizontal shaft **(C)** and gears **(D).** Fixed to, and revolving with, gears **(D)** are clutch drums **(E).** Clutches **(F)** and rope drums **(G)** are both splined to the rope drum shafts.



Hoist Drum Power Train



Hydraulic Motor — Speed Reducer



Tandem Hoist Drums

The 2-shoe clutches are self-compensating for normal lining wear. Partial engagement is possible for smooth acceleration of hoist. Power for the 2-shoe clutches is supplied by the variable volume piston-type pump (see page 3) and controlled by short throw levers on the inside cab wall. Levers actuate variable pressure control valves. Clutch assemblies are shielded from the weather with a removable metal cover.

Two Methods Of Load Hoisting And Three Lowering Methods Are Possible With The HT-300

1. Load hoisting and lowering with hydraulic motor control only (power hydraulic 2-shoe clutch fully engaged).

To hoist or lower the load . . . simultaneously release rope drum brakes **(H)** and engage hoist control lever (pull for hoist; push for lowering) directing oil into the 2-directional **hydraulic motor,** powering the rope drum and hoisting or lowering the load. When the load is at the desired height, return control lever to neutral, simultaneously applying the drum brake to hold drum and load. A holding valve located between the hydraulic motor and the control valve permits controlled lowering of overhauling loads.

NOTE: To double hoisting or lowering line speed, depress high-speed button on swing lever.

2. Load hoisting and lowering with hydraulic motor power but controlled with 2-shoe clutch (2-shoe clutch fully released).

To hoist or lower the load . . . engage the hoist control lever (pull for hoist; push to lower) directing oil into the 2-directional hydraulic motor powering the gear train only. (Shown in red.) Then, engage the 2-shoe clutch control lever simultaneously releasing the drum brake, powering the rope drum, and hoisting or lowering the load. Partial clutch engagement will allow controlled clutch slippage for smooth engagement and for precision lifts. When load is at the desired height, release the clutch and apply drum brake, holding the load.

NOTE: To double hoisting or lowering line speed, depress high-speed button on swing lever.

3. Load lowering with drum brakes only (power hydraulic 2-shoe clutches fully released).

To lower the load, release drum brakes with foot pedal. Drum is free to rotate. Speed of load descent depends on weight of load (gravity pull) and is controlled by the pressure on the drum brake pedal. It is not necessary for load to overhaul hydraulic motor and power train components. Extends life of these components.

Drum brakes are mechanically operated by foot pedals. Brake drums are splined to the shaft. The upper revolving frame is stress relieved and in-line bored for the shaft mountings. All gears are machine cut and are mounted on the outside of the revolving frame for service accessibility.

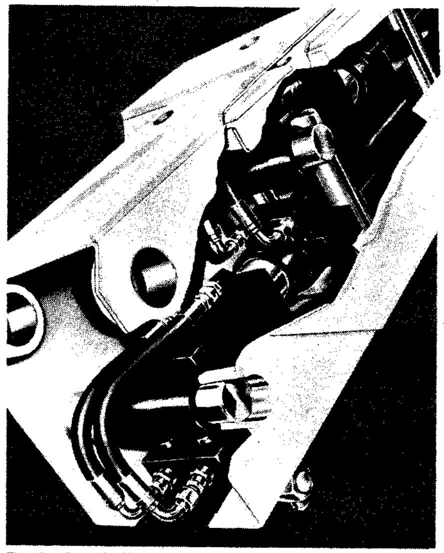
3-Section Power Boom Manual And Jib Extensions Available

Boom Extension System For Optimum Lifting Capacity

GENERAL INFORMATION ONLY

The Link-Belt Speeder Model HT-300 hydraulic crane is equipped with full-power 3-section telescoping boom. For additional reach, manual boom and jib extensions are available. The boom sections are constructed of alloy steel for greater strength. The method of welding the boom sections is a development of Link-Belt Speeder engineering/manufacturing technology. The boom is hydraulically extended and retracted with an **exclusive twin-cylinder arrangement.** The cylinders are double-acting with the cylinder rods remaining stationary and the cylinder case extending-retracting. The twin-cylinder arrangement eliminates the need for long hoses and hose reels.

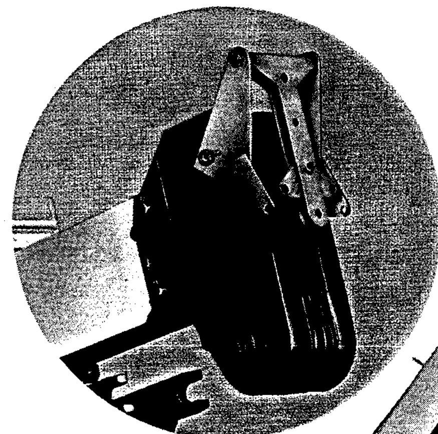
The Link-Belt Speeder boom extend-retract design allows the tip power section **(A)** to extend completely before the center power section **(B)** starts to extend. This is accomplished by means of an **exclusive latch-lock** arrangement. The latch **(C)** locks the center section **(B)** to the base section **(D).** At the end of the tip section stroke, block **(E)** fixed to the top of the tip section **(A)** will engage the base of latch **(C), unlocking the center section (B)** and allowing it to extend fully.



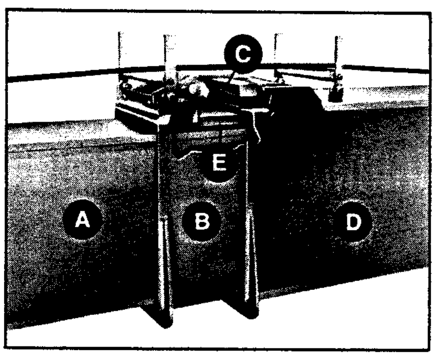
Exclusive Cylinder Design

When hydraulically retracting the boom, the sequence is reversed and the center power section **(B)** retracts completely before the tip power section **(A)** can be retracted. No need for multiple boom telescope control levers. Only one control lever is used to extend or retract the boom. This boom extend-retract design keeps the greatest portion of the boom weight closest to the machine for optimum lifting capacity. Boom extend-retract cylinders are equipped with check and holding valves. The check valves hold boom/cylinders in position when operator control lever is in neutral. Holding valves allow controlled retracting of boom.

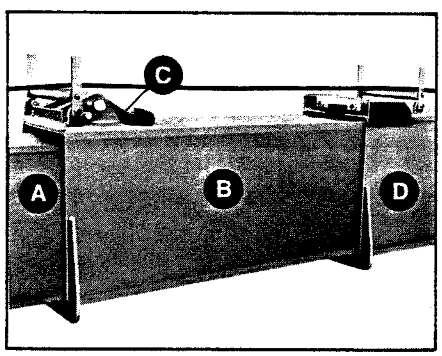
The **boom head** machinery consists of one top and three bottom sheaves. Sheaves are mounted on anti-friction bearings to eliminate the need for frequent lubrication. Boom head machinery is designed for fast pinning to either the tip power section or the manual boom extension. Hoist line guide rollers are mounted on top of the boom.



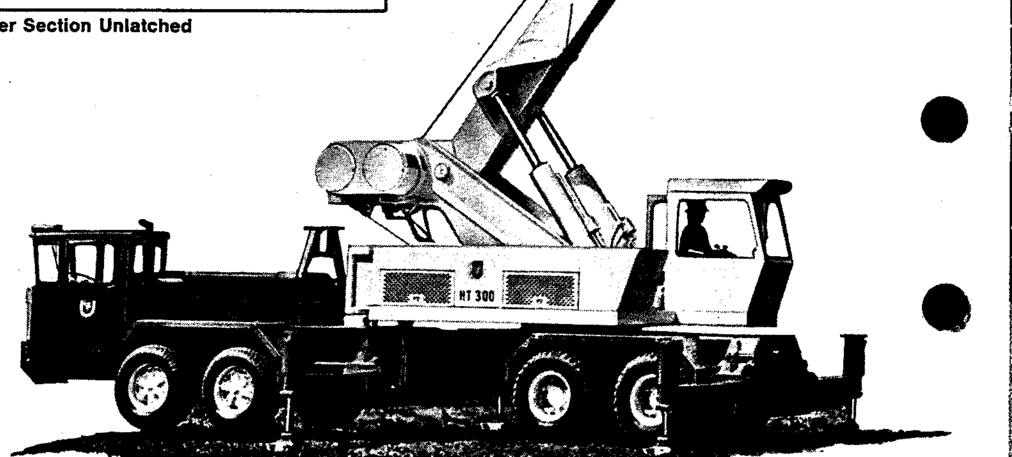
Boom Head With Jib Strut And Link Attached



Center Section Latch Locked



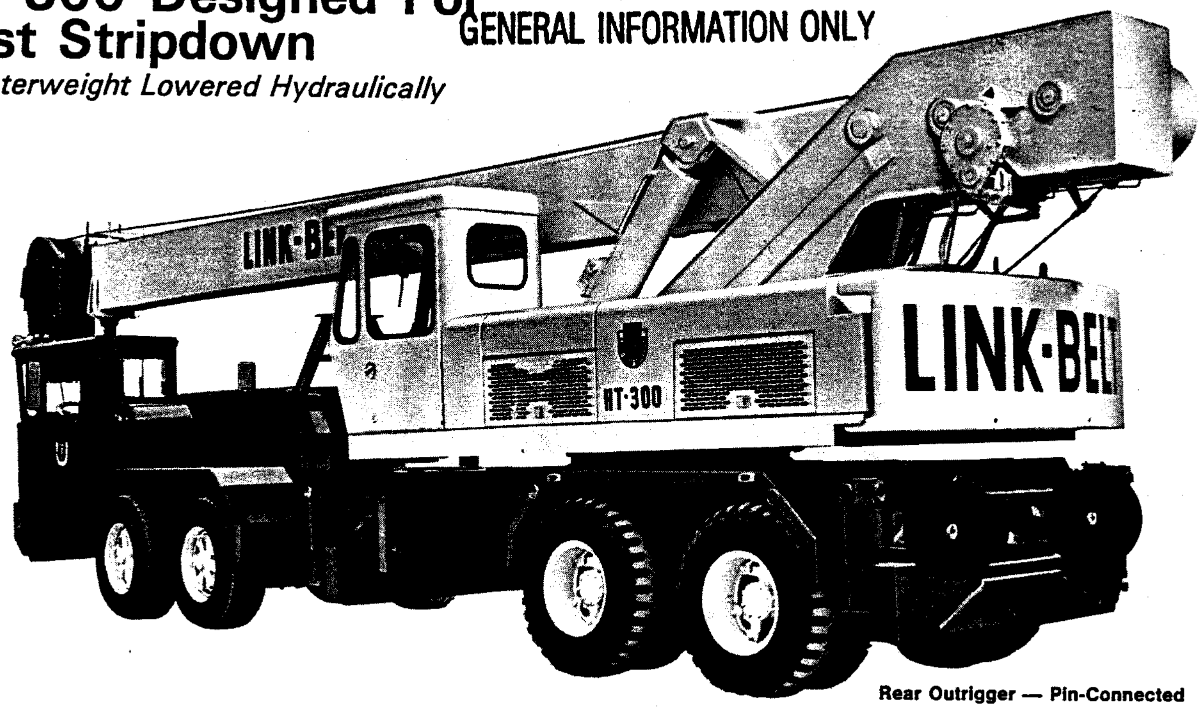
Center Section Unlatched



HT-300 Designed For Fast Stripdown

GENERAL INFORMATION ONLY

Counterweight Lowered Hydraulically

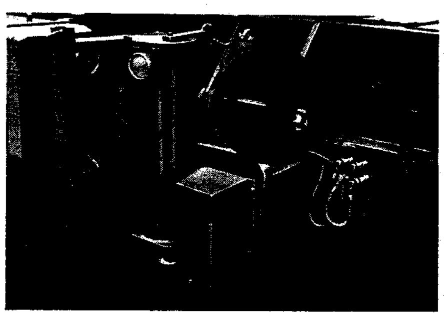


Rear Outrigger — Pin-Connected

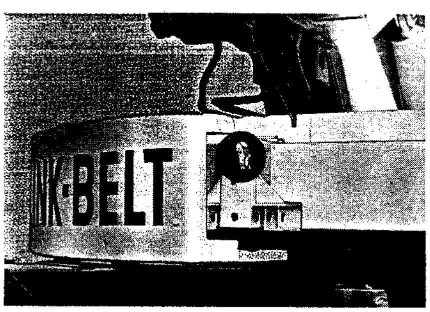
Hydraulic truck crane job-to-job transportability was not overlooked in the design of the HT-300.

Fast stripdown of counterweight and outriggers was a design consideration. Removal of two pins each frees the **front and rear outrigger** assembly from the carrier. Hydraulic lines are equipped with quick disconnects. The retracted boom may be used to handle the outriggers.

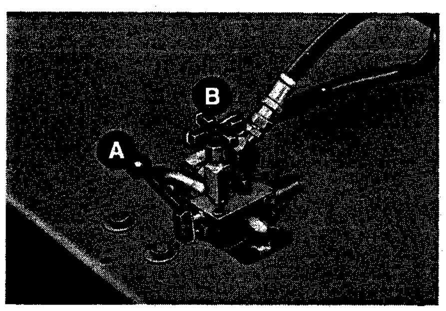
The **counterweight** is one piece and held in place by a hydraulically raised and lowered frustum. To lower the counterweight to the carrier deck, simply position the **direction valve** lever **(A)** and turn the **control lever (B)** directing oil to the lowering cylinder. The entire job is completed in 10 seconds. Hydraulic power for the raising/lowering cylinder is from the piston-type, engine-driven pump. The contoured counterweight allows the operator to swing away from the counterweight and remove it from the carrier deck with the retracted boom. Hydraulic counterweight lowering is a standard feature on the HT-300.



Front Outrigger — Pin-Connected



Counterweight — Hydraulically Lowered/Raised



Direction Valve And Control Lever

HT-300 Features In Brief

- **Holding valves on boomhoist and hoist:** For controlled boom and load lowering.
- **Boom extension system:** For optimum lifting capacity.
- **13-speed main transmission:** For negotiating steep grades and maneuvering in traffic.
- **Fast stripdown of counterweight and outriggers:** For job-to-job mobility.
- **Single engine:** Minimum maintenance.
- **Unique load hoist and lowering:** Permits 2-speed rope drums plus "free fall" capability.
- **Boom extend-retract cylinder arrangement:** Eliminates need for long hoses and hose reels.
- **Formed box-type carrier frame:** For strength and durability.
- **2-speed auxiliary transmission:** For on-the-job movements as low as .87 m.p.h.

We are constantly improving our products and therefore reserve the right to change designs and specifications.

fmc CORPORATION ® **Link-Belt Speeder**

DIVISION OF FMC CORPORATION

Cedar Rapids, Iowa • Woodstock, Ontario, Canada • Queretaro, Mexico • Milan, Italy

MEMBER PCSA POWER CRANE AND SHOVEL ASSOCIATION

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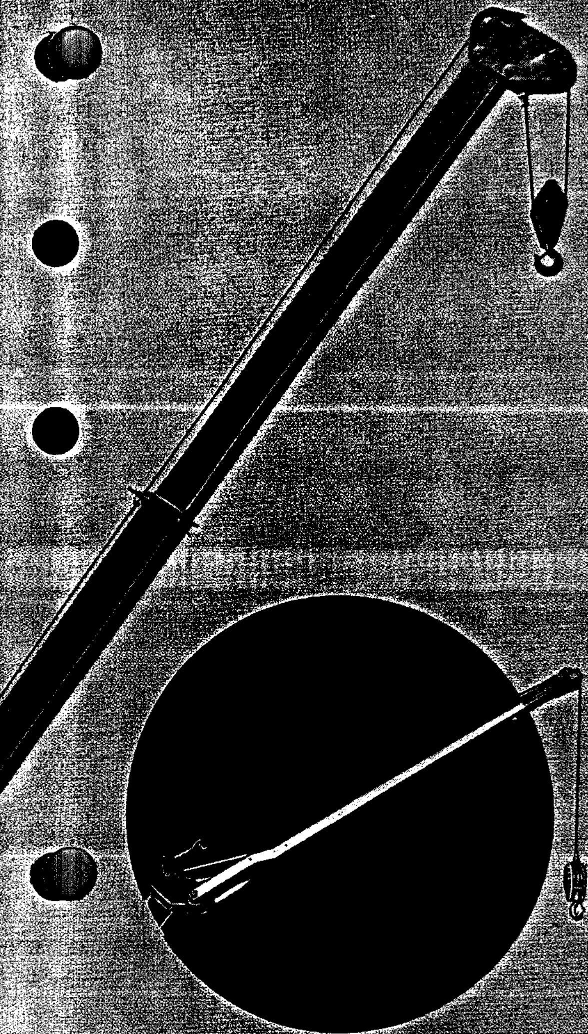
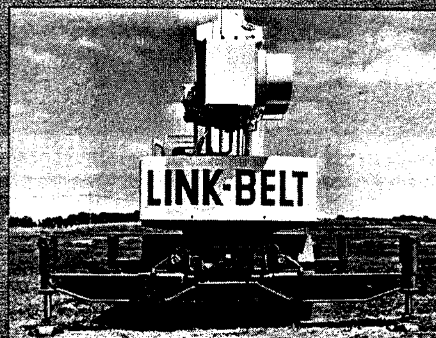
GENERAL INFORMATION ONLY



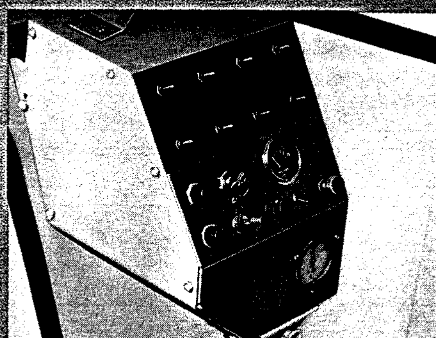
Jib

The **jib** is pinned to the boom head machinery and is stored under the boom base section when not in use.

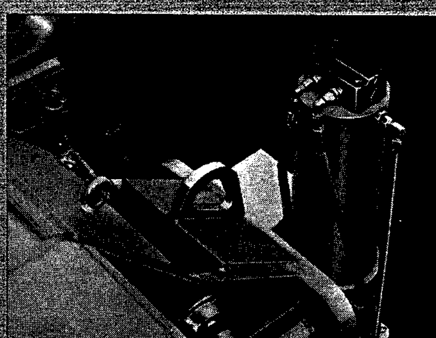
Jib mounts to extended lower boom head shaft hubs. For fast on-the-job hook-up, the front stay lines also serve to raise the jib to the stored position. **Jib strut and link** may be left in place on the boom head.



Hydraulic Outriggers



Outrigger Controls



Outrigger Check Valve (Cover Removed)

Refer to HT-300 flysheet for boom lengths and manual or jib extensions.

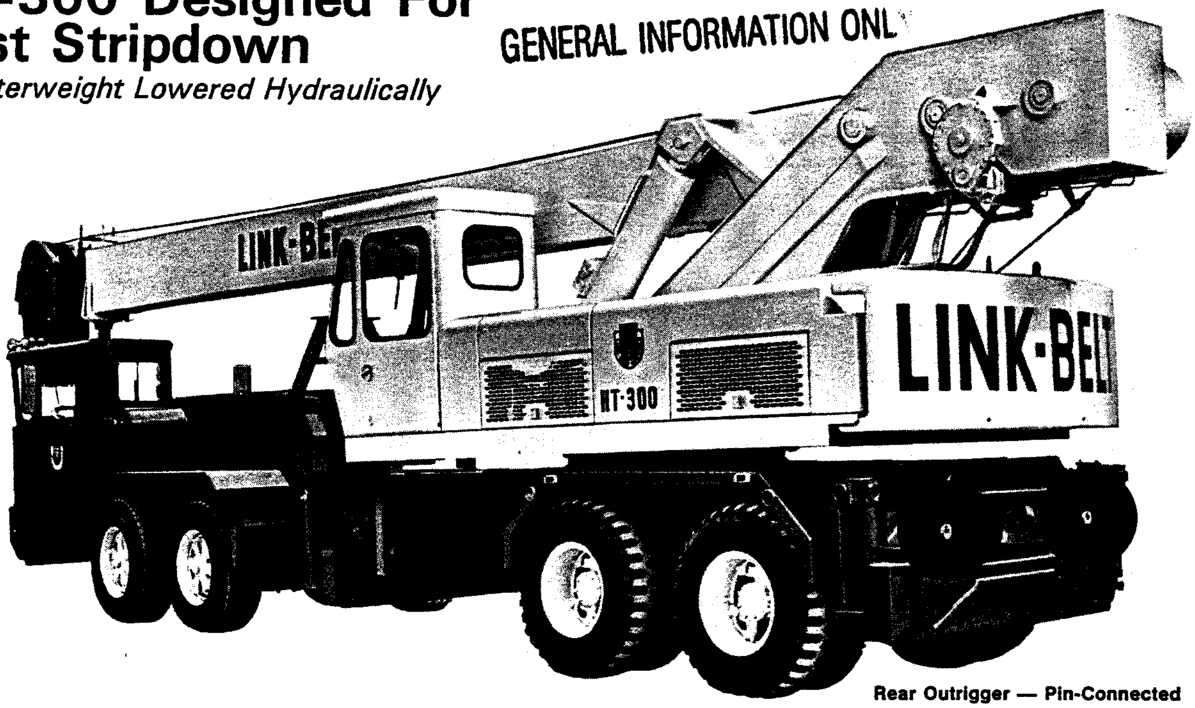
The boom mounts in an in-line bore in the upper revolving frame.

Hydraulic outriggers are standard on the HT-300. Beams are full width with individual control of beams and jacks. This permits leveling the machine on reasonably uneven terrain. **Outrigger controls** are conveniently grouped on the right-hand control panel of the crane upper cab. Once the outriggers are set, a **check valve** fixed to the jack cylinder "locks" oil in the cylinder and the outriggers in place. For assistance in leveling the HT-300 on outriggers, sight levels are located near the outrigger boxes fixed to the carrier frame.

HT-300 Designed For Fast Stripdown

Counterweight Lowered Hydraulically

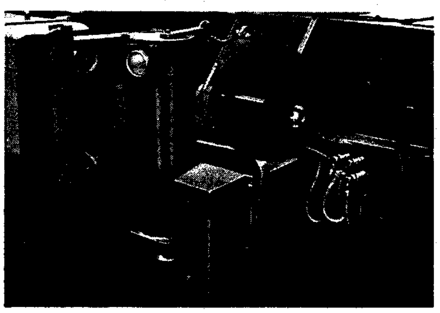
GENERAL INFORMATION ONL



Rear Outrigger — Pin-Connected

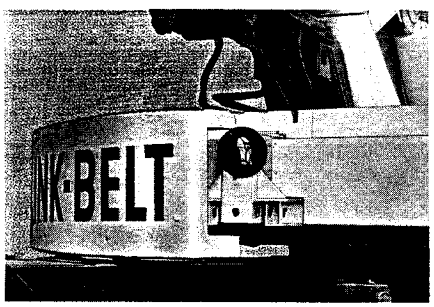
Hydraulic truck crane job-to-job transportability was not overlooked in the design of the HT-300.

Fast stripdown of counterweight and outriggers was a design consideration. Removal of two pins each frees the **front and rear outrigger** assembly from the carrier. Hydraulic lines are equipped with quick disconnects. The retracted boom may be used to handle the outriggers.

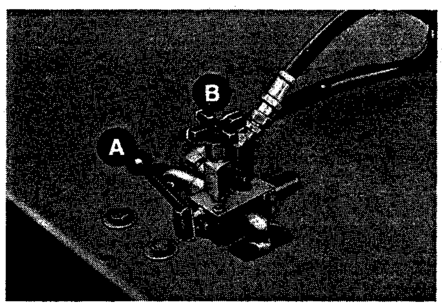


Front Outrigger — Pin-Connected

The **counterweight** is one piece and held in place by a hydraulically raised and lowered frustum. To lower the counterweight to the carrier deck, simply position the **direction valve** lever **(A)** and turn the **control lever (B)** directing oil to the lowering cylinder. The entire job is completed in 10 seconds. Hydraulic power for the raising/lowering cylinder is from the piston-type, engine-driven pump. The contoured counterweight allows the operator to swing away from the counterweight and remove it from the carrier deck with the retracted boom. Hydraulic counterweight lowering is a standard feature on the HT-300.



Counterweight — Hydraulically Lowered/Raised



Direction Valve And Control Lever

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- **Single engine:** Minimum maintenance.
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No. 130-9-71

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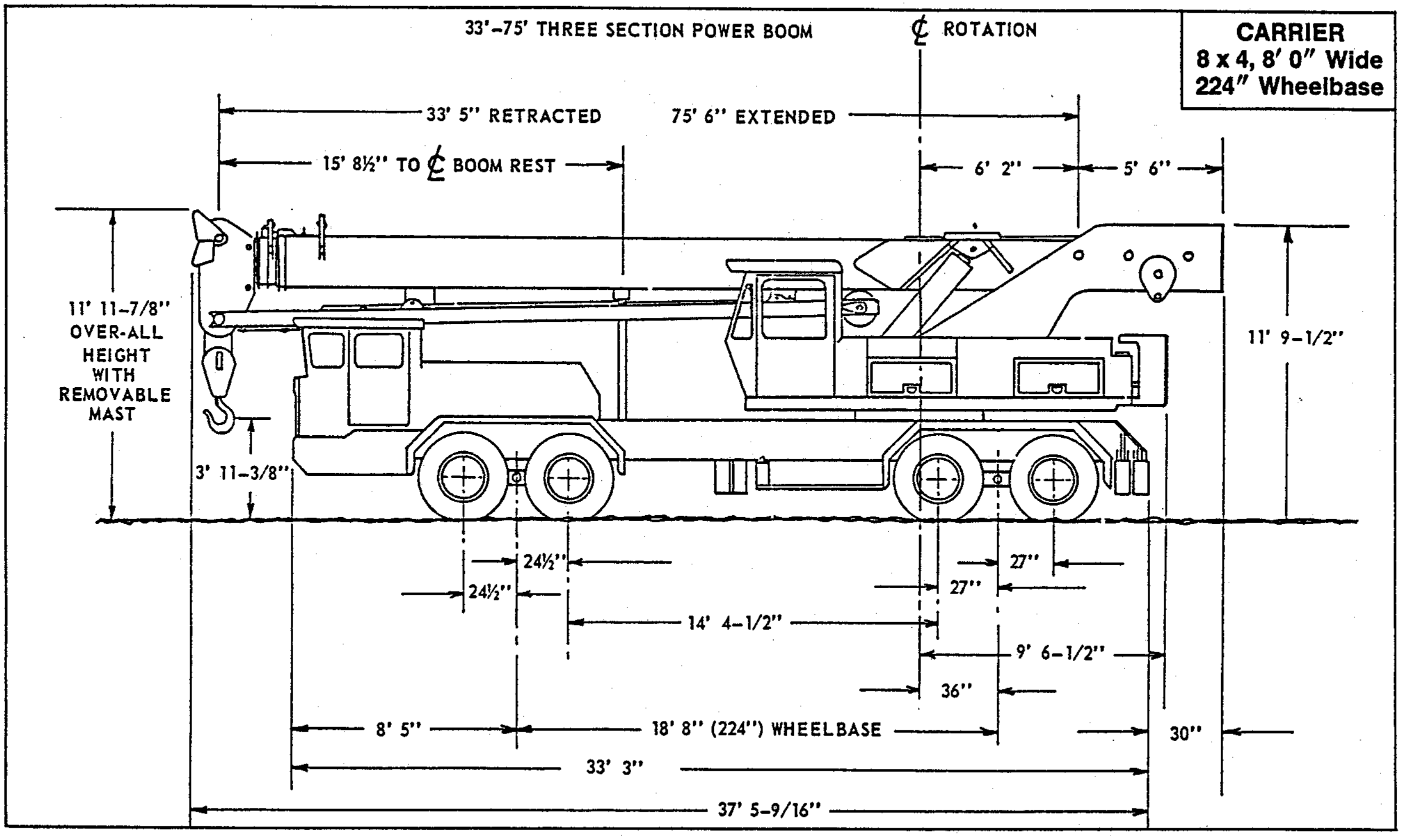
Link-Belt

HT-300

GENERAL INFORMATION ONLY

30-TON CARRIER MOUNTED HYDRAULIC CRANE



GENERAL DIMENSIONS

Over-all width, outriggers retracted	8' 0"
Over-all width, outriggers extended	16' 0"
Vehicle clearance circle — outside front bumper	119' 3"
Turning radius — C/L of outer front tire	59' 8"
Tailswing — across corners	11' 8½"
Minimum ground clearance	7½"

Three Section Power Boom Horizontal over Front End of Carrier①	Machine Over-all Length	Approx. Working Weight
Machine with std. 33'-75' power boom retracted	39' 11 5/16"	72,170#
.... with 33'-75' p. b. & opt. 21' section retracted	40' 8"	74,170#
.... with 33'-75' p. b. & opt. 21' section extended	103' 7"	74,170#
.... with 33'-75' p. b. & opt. 21' section retracted	—	—
and opt. 25' jib in stowed position	40' 8"	75,292#
.... with 33'-75' p. b. & opt. 21' section extended	—	—
and opt. 25' jib extended in operating position	128' 3½"	75,292#

(p. b. — power boom)
① Includes 30-ton hook block.

(Supersedes Flysheet #CRF 23003-9-71, Axle Loading Chart #CRF 8460-5-72, and Capacity Table A #CRF 23003A.)

GENERAL INFORMATION ONL

AXLE LOADS — (Approximate pounds)

224″ Wheelbase Carrier 3,850# Ctwt. on Upper	Total Weight	Upper Facing Front		Upper Facing Rear	
		Front	Rear	Front	Rear
Machine equipped as follows:					
33′-75′ power boom	71,670	26,630	45,040	21,780	49,890
33′-75′ p. b. w/21′ manual extension ①	73,670	28,470	45,200	20,610	53,060
33′-75′ p. b. w/25′ jib ②	72,792	27,917	44,875	21,234	51,558
33′-75′ p. b. w/21′ manual extension & 25′ jib ③	74,792	29,797	44,995	20,024	54,768
Ctwt. stowed midship of carrier:					
33′-75′ power boom	71,670	30,350	41,320	21,800	49,870
33′-75′ p. b. w/21′ manual extension ①	73,670	32,190	41,480	20,630	53,040
33′-75′ p. b. w/25′ jib ②	72,792	31,637	41,155	21,254	51,538
33′-75′ p. b. w/21′ manual extension & 25′ jib ③	74,792	33,517	41,275	20,044	54,748
Ctwt. removed from machine:					
33′-75′ power boom	67,820	27,860	39,960	19,310	48,510
33′-75′ p. b. w/21′ manual extension ①	69,820	29,700	40,120	18,140	51,680
33′-75′ p. b. w/25′ jib ②	68,942	29,147	39,795	18,764	50,178
33′-75′ p. b. w/21′ manual extension & 25′ jib ③	70,942	31,027	39,915	17,554	53,388
Adjust weights for these items:					
Front outrigger ass'y. removed	−3,100	−1,850	−1,250	−1,850	−1,250
Rear outrigger ass'y. removed	−3,100	+850	−3,950	+850	−3,950
30-ton hook block at boompoint ①	+450	+756	−306	−600	+1,050
30-ton hook block tied off at bumper ①	+450	+660	−210	−585	+1,035
Wire rope on auxiliary wire rope drum	+190	−70	+260	+140	+50
Optional equipment (heater, etc.)	+50	+20	+30	−5	+55

(p. b. — power boom)
① Based on 21′ manual extension retracted.
② Based on 25′ jib in stowed position.
③ Based on 21′ manual extension retracted and 25′ jib in stowed position.

GENERAL SPECIFICATIONS

CARRIER—

CARRIER — 8 x 4, 8′ 0″ wide, C.C.C.

FRAME — All welded construction; fabricated combination beam and box section construction, T-1 steel.

AXLES —

Front — Tandem "I" beam, 81.3″ track.

Rear — Rockwell SRD, 71.8″ track. 6.44 to 1.0 ratio.

BRAKES — 8-wheel air. Front — 15″ x 5″. Rear — 16½″ x 7″. Effective lining area — 1,496 sq. in.

SUSPENSION —

Front Axle — Spring-mounted bogie.

Rear Axles — Bronze bushed bogie (C.C.C.) with torque rods.

INTER-AXLE DIFFERENTIAL — Not available.

EMERGENCY AND PARKING BRAKES — Maxi #3675 on four rear wheels.

WHEELS — Webb cast spoke.

TIRES AND RIMS —

Front — 15:00 x 22.5-H (16-ply), highway tread.

Rear — 11:00 x 20-G (14-ply), duals. Military type non-directional.

STEERING — Ross #TE-71 power hydraulic with 21″ dia. wheel.

OUTRIGGERS — Power hydraulic beams and jacks. Beam and jack controls located at crane operator's position in upper cab — standard; ground controls for beams and jacks mounted on carrier — optional. Check valve in each jack cylinder. Hydraulic power supplied by carrier engine-driven pump.

Floats — 26″ square base aluminum.

ENGINE — Diesel.

	GM6-71N
Cylinders — Cycle	6 — 2
Bore — Stroke	4¼″ — 5″
Displacement	426 cu. in.
Max. brake h.p.	238 @ 2,100 r.p.m.
Peak torque	649 ft. lbs. @ 1,400 r.p.m.
Crankcase capacity	20 qts.
Air compressor	12 c.f.m.
Air cleaner	Dry type

CLUTCH — Spicer 14″ dia., 2-plate, dry disc.

UNIVERSALS — Mechanics needle bearing.

TRANSMISSIONS — Total 26 speeds forward, 4 reverse.

Main — Fuller #RT009513, 13 speeds forward, 2 reverse.

Auxiliary — Fuller #2A-92, 2-speed.

SPEEDS — (M.P.H.) Based on GM6-71N diesel engine; full load speed — 2,100 r.p.m.

GM 6-71N Diesel Engine		Fuller #RT009513 Main Transmission	Fuller #2A-92 Aux. Transmission 1.00:1.00	Fuller #2A-92 Aux. Transmission 2.298:1.00
HIGH	8th Overdrive	0.87	46.0	20.0
	8th Direct	1.00	40.0	17.4
	7th Overdrive	1.17	34.2	14.9
	7th Direct	1.35	29.6	12.9
	6th Overdrive	1.57	2.55	11.1
	6th Direct	1.81	22.1	9.6
	5th Overdrive	2.14	18.7	8.1
	5th Direct	2.47	16.2	7.0
	Reverse	3.87	6.88**	3.0**
LOW	4th	3.38	11.8	5.1
	3rd	4.56	8.8	3.8
	2nd	6.12	6.5	2.8
	1st	8.35	4.8	2.1
	Low	12.50	2.13**	0.94**
	Reverse	13.07	2.04**	0.88**

**Speed based on peak torque @ 1,400 r.p.m.

Creep Speeds — (Based on peak torque r.p.m.) Low, low — .94 m.p.h. Low, reverse — .88 m.p.h.

ELECTRICAL SYSTEM — One 12-volt battery and 12-volt alternator. Four sealed beam headlights, directional signals, stop and tail lights, horn, cab top and side clearance lights, 4-point emergency flasher lights, and back-up lights.

CAB — One-man, offset, fully enclosed. Instrument panel with speedometer, odometer, tachometer, ammeter, low air pressure warning buzzer, throttle control, and push button starting switch. Gauges for oil and air pressure, fuel, and engine temperature. Safety switch to prevent starting carrier engine if main transmission is not in neutral. Bostrom "T-bar" seat, seat belt, fire extinguisher, heater, fan-type defroster, air windshield wiper, windshield washer, cigar lighter, ashtray, electric horn, rolled and pleated upholstery, floor carpet, and foot accelerator pedal.

STANDARD AUXILIARY EQUIPMENT — Bubble-type levels on carrier, bus-type rear view mirrors, rear fenders, back-up alarm, step and hand grab rail, access ladder to carrier deck, and skid-resistant finish on carrier deck.

Fuel Tank — 60-gallon capacity.

Hydraulic Reservoir — 160-gallon capacity; for upper and carrier control systems.

UPPER

UPPER REVOLVING FRAME — All-welded, stress relieved and jig line bored. Boomfoot pinned in line bores.

Hydraulic System — Consists of 2-speed wire rope hoist hydraulic motor, hydraulic cylinders, 2 double spool main control valves, tandem gear swing motor, 2-speed planetary speed reducer, variable volume hydraulic piston pump, single tandem gear pump, oil cooler, electric solenoid and holding valve.

Oil Capacity — 275 gallons; for boomhoist, swing, and load handling circuits.

Pump — Single Tandem Gear. Powered by drive shaft from front of carrier engine, 146 g.p.m. @ 2,250 p.s.i. 98 g.p.m. segment for boomhoist and wire rope hoist, 48 g.p.m. segment for boom extend/retract and swing.

Pump — Variable Volume Piston. Driven by drive shaft from front of carrier engine, 9.5 g.p.m. @ 2,100 r.p.m. Furnishes power for outrigger beam and jack cylinder operation, hydraulic counterweight lowering, 2-shoe clutch control, and shifting wire rope hoist motor.

Oil Cooler — Mounted in front of carrier engine to maintain proper oil temperature in system.

Holding Valves — Provide automatic locking feature to hold boomhoist, load, and extended boom sections against gravity when desired. Also allows controlled lowering of boom and overhauling loads, and controlled retraction of extended boom sections.

Turntable Bearing With Integral Swing Gear — Ball bearing type; inner race with integral 135-tooth swing gear machined into it, mounts on carrier. Outer race bolted to upper revolving frame. Bearing has its own seal to retain lubricant and exclude dirt. Nominal pitch diameter of bearing, 59″.

Counterweight — 3,850 lbs. cast iron, mounted in position at rear of upper frame — removable. Counterweight storage mounting bracket provided on carrier deck forward of upper revolving frame in event such storage is needed to meet axle load requirements. Hydraulic counterweight lowering device standard equipment.

BOOM SUPPORT — All-welded, stress relieved and jig line bored.

SWING SYSTEM — 360° rotation, right or left. Single section, hydraulic, gear-type swing motor; flange-mounted to FMC speed reducer.

Speed Reducer — FMC, 3 shaft, spur gear, double reduction. Anti-friction bearings throughout.

Swing Pinion — Machine-cut teeth, heat treated.

Swing Brake — Two shoe external contracting, manually controlled.

Swing Lock — Pawl-type, manually controlled; locks into teeth of ring (swing) gear.

Swing Speed — 2.4 r.p.m.

ATTACHMENT

BOOM — Fabricated, box type; HRS alloy, quenched and tempered. Three-section power boom with two double-acting (extend/retract) telescoping cylinders, boom rest, and boom angle indicator. Boom sections identified as follows — base section; boom lower section — #2; and boom tip section — #1.

Optional Boom Section — 21′ long; section pins to, and is powered by, the #1 (tip) power boom section.

Boom Head Machinery — Gooseneck design to accommodate high boom angles without fouling wire rope load lines. Equipped with two deflector sheaves and three load sheaves — all 14⅝″ pitch dia., mounted on anti-friction bearings. Designed for use with one through five parts of line.

Boomhoist Cylinders — Two double-acting hydraulic cylinders with integral check valves; check valves prevent boom creeping down under load. Self-aligning steel bushings in each cylinder end. Cylinder bore — 10″ dia.; rod dia. — 5″; stroke — 60⅜″.

Boom Speeds — Boom hoist to 75°, 25.0 seconds. Boom extend, 38 f.p.m.; retract, 33 f.p.m.

Boom Angle Indicator — Electric. Boom angle pendulum sensor mounts on boom; read-out control panel mounted in crane cab. Sensor and control panel both mounted in waterproof cases. Control panel equipped with buzzer and hooded red warning light, hooded panel light (with on-off switch) for night or dark day operation, and red test button. When used in conjunction with machine's crane lifting charts, operator can set rated load and radius points (by calibrated knobs on control panel) for given load to be handled.

Hoist Rope Guide Rollers — Two furnished; one at top end of boom base section, one at top end of #2 boom section.

Hook Block — Optional.

BOOM TELESCOPE SYSTEM — FMC exclusive design. Three-section power hydraulic boom telescopes via two double-acting cylinders — mounted one above the other within the boom. The lower cylinder **rod end** is pinned to the boom base section and its **cylinder** is pinned to the top end of the #2 boom section. The upper cylinder **rod end** is pinned to the lower end of the #2 boom section and its **cylinder** is pinned to the lower end of the #1 (tip) boom section. The rods remain stationary, the cylinders extend and retract the power boom sections — eliminates need for long hoses and hose reels. System allows the #1 (tip) section to extend completely before the #2 section starts to extend; this is accomplished by means of a locking pawl which unlatches at the end of the boom tip section stroke. When pawl is unlatched, #2 section can then be extended completely. When retracting the boom, mechanically actuated check/sequencing valves hold each power boom section in such a manner that sections retract in reverse order. Design maintains the boom center of gravity cl' 'o the centerline of rotation for optimum stability.

..iterlock — To extend boom, operator must simultaneously actuate the load hoist mechanism, thus releasing the hoist drum brake and paying out the hoist rope, to prevent "two blocking" the hook block against boom head. Boom retract is independent of the interlock.

JIB — Fabricated, channel lattice construction, 25′ long; self-storing underneath boom. Equipped with single sheave, 11″ pitch dia., mounted on anti-friction bearings. Weighted ball optional.

LOAD HANDLING SYSTEM — Dual wire rope drums. Two-mode load hoisting/lowering design concept permits matching mode of operation with specific job requirements. A two-directional hydraulic motor furnishes power to the wire rope drums through a speed reducer, reduction shaft with drive pinion, and spur gears for each drum. Drums also equipped with 2-shoe internal expanding Speed-o-Matic power hydraulic clutches and mechanical, foot pedal operated, external contracting band brakes.

Using the hydraulic motor to power the wire rope drums directly, operator first engages the 2-shoe power hydraulic clutch for the respective drum (main load or jib load) being used. Load is then raised or lowered by engaging the hoist control lever while simultaneously releasing the foot controlled drum brake. A holding valve located in the hydraulic circuit between the hydraulic motor and the hoist control valve automatically permits controlled lowering of verhauling loads.

Where job requirement calls for more precise control, operator may choose to hoist or lower loads with the 2-shoe power hydraulic clutches. He first engages the hoist control lever to use the 2-directional hydraulic motor power to power the rope drum gear train. Then, by engaging the 2-shoe clutch to power the respective drum being used — while disengaging the drum brake — load is raised or lowered precisely.

Free-fall load lowering may be employed by releasing the 2-shoe clutch and controlling speed of load descent with foot-controlled drum brake.

In addition, to increase load hoisting or lowering line speeds, a "high-speed" solenoid button is provided on the swing control lever. Solenoid directs oil internally within the motor to the high-speed segment and provides 100% increase in hoist rope speeds and 50% decrease in hoist rope pulls.

Hoist Motor — Hydraulic gear type.

Speed Reducer — FMC spur gear reducer, anti-friction bearings throughout; splined on reduction shaft. Reduction shaft mounted on anti-friction bearings.

Drive Pinion — Machine-cut teeth, heat treated, splined on reduction shaft, enclosed and running in oil.

Drum Gears — Machine-cut teeth, heat treated, enclosed and running in oil; gears mounted on shaft on anti-friction bearings.

Clutch Drums — Splined on extended drum gear hub.

Drum Clutches — Two-shoe internal expanding, Speed-o-Matic power hydraulic; 17¼″ x 5″. Clutch spider splined on shaft.

Drum Brakes — Mechanical, external contracting band, 3¾″ x 28⅝″, foot pedal controlled. Brake drums splined on wire rope drum shafts.

Wire Rope Drums — Dual, 14″ pitch dia., 12¾″ wide, splined on shafts.

Front — Capacity 763′; ⅝″ dia. wire rope.

Rear — Capacity 763′; ⅝″ dia. wire rope.

Drum Rotation Indicators — Standard for front and rear drums. Dial indicators, mounted on right front control panel, are actuated by flexible shaft drives attached to end of each drum shaft.

Wire Rope — Type "N", 6 x 25 (6 x 19 class) filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, regular lay. (Standard with basic machine — main load hoist rope only.)

LINE SPEED AND PULL — Available line pull, not based on wire rope strength.

Front and Rear Drums			Operator Control — using hoist lever for Hyd. Motor Power only	Operator Control — using 2-shoe clutches and Hyd. Motor Power
Line Speed	1st layer wire rope	Low Speed High Speed	147 f.p.m. 294 f.p.m.	197 f.p.m. 294 f.p.m.
Line Pull	8th layer wire rope	Low Speed High Speed	9,480# 5,460#	12,790#* 4,740#

Note: Line pulls based on single drum operation.
*Maximum line pull — 11,700# with ⅝″ dia. Type "N" wire rope.

HT-300 MAXIMUM LIFTING CRANE CAPACITIES — Pounds PCSA Class 10-121

GENERAL INFORMATION ONLY

Refer to ALL notes on page 6.

Based on machine equipped with GM6-71N diesel engine, 15:00 x 22.5-H (16-ply) rating front tires — 11:00 x 20-G (14-ply) rating dual rear tires, and 3,850# counterweight.

BASIC 33′ - 75′ POWER BOOM

Load Radius	Boom Length (Feet)	Boom Angle (Degree)	On Outriggers Rear	On Outriggers Side	On Tires (Static Ⓐ) Rear	On Tires (Static Ⓐ) Side
10′	33.5	66.8	64,800*	64,800*	23,400*	21,000*
	40	72.1	62,600*	62,600*	23,800*	21,400*
	45	74.4	61,300*	61,300*	24,000*	21,600*
11′	33.5	64.9	61,600*	61,600*	21,300*	19,000*
	40	70.6	59,400*	59,400*	21,700*	19,400*
	45	73.1	58,300*	58,300*	21,900*	19,600*
12′	33.5	62.9	59,000*	59,000*	19,400*	17,200*
	40	68.9	56,800*	56,800*	19,800*	17,600*
	45	71.7	55,500*	55,500*	20,100*	17,900*
	50	73.8	54,500*	54,500*	20,200*	18,100*
13′	33.5	60.8	56,400*	56,400*	17,800*	15,700*
	40	67.3	54,300*	54,300*	18,200*	16,100*
	45	70.3	53,000*	53,000*	18,400*	16,400*
	50	72.6	51,900*	51,900*	18,600*	16,500*
	54.5	74.3	50,300*	50,300*	18,800*	16,700*
14′	33.5	58.8	54,000*	54,000*	16,400*	14,100
	40	65.7	52,000*	52,000*	16,800*	14,600
	45	68.9	50,700*	50,700*	17,000*	14,900
	50	71.4	49,700*	49,700*	17,200*	15,100
	54.5	73.2	48,200*	48,200*	17,300*	15,300
15′	33.5	56.6	51,500*	51,500*	15,100*	12,500
	40	64.0	49,900*	49,900*	15,500*	13,000
	45	67.4	48,600*	48,600*	15,800*	13,300
	50	70.1	47,600*	47,600*	15,900*	13,500
	54.5	72.0	46,300*	46,300*	16,100*	13,700
	60	74.9	44,200*	44,200*	15,800*	13,300
20′	33.5	44.5	40,000*	39,000	10,500*	7,400
	40	55.1	39,800*	39,700	10,900*	7,900
	45	59.9	39,600*	39,600*	11,100*	8,100
	50	63.6	39,300*	39,200*	11,300*	8,300
	54.5	66.2	38,000*	38,000*	11,400*	8,500
	60	69.7	34,500*	34,500*	11,200*	8,200
	65	71.6	33,500*	33,500*	10,900*	7,900
	70	73.3	32,800*	32,800*	10,800*	7,700
	75.5	74.8	32,100*	32,100*	10,600*	7,500
25′	33.5	27.5	32,100*	25,900	7,400*	4,500
	40	44.8	32,100*	26,500	7,900*	5,000
	45	51.7	31,900*	26,800	8,100*	5,200
	50	56.6	31,700*	27,100	8,300*	5,400
	54.5	60.0	31,400*	27,300	8,400*	5,600
	60	64.3	27,800*	26,900	8,100*	5,300
	65	66.7	26,900*	26,600	7,900*	5,100
	70	68.8	26,300*	26,300*	7,800*	4,900
	75.5	70.7	25,700*	25,700*	7,600*	4,700
30′	40	31.4	26,500*	19,300	5,800*	—
	45	42.1	26,400*	19,600	6,000*	—
	50	48.8	26,200*	19,800	6,200*	—
	54.5	53.3	26,000*	20,000	6,300*	—
	60	58.5	23,000*	19,700	6,100*	—
	65	61.6	22,200*	19,400	5,900*	—
	70	64.1	21,700*	19,200	5,700*	—
	75.5	66.4	21,100*	19,000	5,500*	—
35′	45	29.5	21,100	15,000	4,400*	—
	50	39.8	21,300	15,300	4,600*	—
	54.5	45.8	21,500	15,400	4,800*	—
	60	52.3	19,400*	15,100	4,500*	—
	65	56.1	18,700*	14,900	4,300*	—
	70	59.2	18,100*	14,700	4,100*	—
	75.5	62.0	17,600*	14,500	4,000*	—
40′	50	27.9	17,200	12,100	3,400*	—
	54.5	37.0	17,400	12,300	3,600*	—
	60	45.3	16,500*	12,000	3,300*	—
	65	50.2	15,900*	11,800	3,100*	—
	70	54.0	15,400*	11,600		—
	75.5	57.3	14,900*	11,400		—
45′	54.5	25.1	14,400	10,000		
	60	37.1	14,100	9,700		
	65	43.5	13,700*	9,500		
	70	48.3	13,200*	9,300		
	75.5	52.4	12,800*	9,100		
50′	60	26.3	11,800	8,000		
	65	35.7	11,600	7,800		
	70	41.9	11,400*	7,600		
	75.5	47.0	11,000*	7,400		

33′ - 75′ POWER BOOM WITH OPTIONAL 21′ SECTION RETRACTED

Load Radius	Boom Length (Feet)	Boom Angle (Degree)	On Outriggers Rear	On Outriggers Side	On Tires (Static Ⓐ) Rear	On Tires (Static Ⓐ) Side
10′	34.2	67.4	63,700*	63,700*	22,800*	20,500*
	40	72.1	61,700*	61,700*	23,100*	20,700*
	45	74.4	60,300*	60,300*	23,200*	20,900*
11′	34.2	65.5	60,600*	60,600*	20,700*	18,400*
	40	70.6	58,700*	58,700*	20,900*	18,700*
	45	73.1	57,400*	57,400*	21,100*	18,900*
12′	34.2	63.5	57,900*	57,900*	18,800*	16,700*
	40	69.0	55,900*	55,900*	19,100*	16,900*
	45	71.7	54,600*	54,600*	19,200*	17,100*
	50	73.9	53,500*	53,500*	19,400*	17,200*
13′	34.2	61.6	55,300*	55,300*	17,200*	15,100*
	40	67.3	53,400*	53,400*	17,500*	15,400*
	45	70.3	52,000*	52,000*	17,600*	15,600*
	50	72.7	50,900*	50,900*	17,700*	15,700*
	55.2	74.5	50,000*	50,000*	17,800*	15,800*
14′	34.2	59.5	53,000*	53,000*	15,800*	13,600
	40	65.7	51,100*	51,100*	16,000*	13,900
	45	68.9	49,700*	49,700*	16,200*	14,100
	50	71.4	48,600*	48,600*	16,300*	14,300*
	55.2	73.4	47,700*	47,700*	16,400*	14,400*
15′	34.2	57.4	50,700*	50,700*	14,500*	12,000
	40	64.0	49,000*	49,000*	14,800*	12,300
	45	67.4	47,700*	47,700*	14,900*	12,500
	50	70.1	46,800*	46,800*	15,000*	12,600
	55.2	72.2	45,800*	45,800*	15,200*	12,800
	60	74.9	44,000*	44,000*	14,900*	12,400
20′	34.2	45.7	39,300*	39,100	9,800*	6,600
	40	55.1	39,000*	39,000*	10,000*	6,900
	45	59.9	38,700*	38,700*	10,200*	7,100
	50	63.6	38,400*	38,400*	10,300*	7,200
	55.2	66.5	37,800*	37,800*	10,400*	7,400
	60	69.7	34,700*	34,700*	10,200*	7,000
	65	71.6	32,600*	32,600*	9,900*	6,800
	70	73.3	31,800*	31,800*	9,700*	6,500
	76.2	74.9	31,100*	31,100*	9,500*	6,300
25′	34.2	30.1	31,400*	25,700	6,700*	3,600
	40	44.8	31,200*	26,100	7,000*	3,900
	45	51.7	31,000*	26,400	7,200*	4,100
	50	56.6	30,700*	26,600	7,300*	4,200
	55.2	60.4	30,500*	26,700	7,400*	4,400
	60	64.3	27,300*	26,300	7,100*	4,100
	65	66.7	26,000*	26,000*	6,900*	3,800
	70	68.8	25,400*	25,400*	6,700*	3,600
	76.2	70.9	24,700*	24,700*	6,500*	3,300
30′	40	31.4	25,600*	18,800	4,900*	—
	45	42.1	25,500*	19,000	5,000*	—
	50	48.8	25,300*	19,200	5,200*	—
	55.2	53.9	25,100*	19,400	5,300*	—
	60	58.5	22,400*	19,000	5,000*	—
	65	61.6	21,300*	18,700	4,800*	—
	70	64.1	20,700*	18,500	4,600*	—
	76.2	66.7	20,100*	18,200	4,400*	—
35′	45	29.5	20,400	14,400	3,500*	—
	50	39.8	20,600	14,600	3,600*	—
	55.2	46.6	20,800	14,700	3,700*	—
	60	52.3	18,700*	14,400	3,500*	—
	65	56.1	17,700*	14,100	3,200*	—
	70	59.2	17,200*	13,900	3,000*	—
	76.2	62.3	16,600*	13,600		—
40′	50	27.9	16,500	11,400		
	55.2	38.1	16,600	11,500		
	60	45.3	15,800*	11,200		
	65	50.2	14,900*	11,000		
	70	54.0	14,400*	10,700		
	76.2	57.7	13,900*	10,500		
45′	55.2	26.9	13,600	9,200		
	60	37.1	13,300	8,900		
	65	43.5	12,700*	8,600		
	70	48.3	12,300*	8,400		
	76.2	47.5	11,800*	8,200		
50′	60	26.3	11,000	7,100		
	65	35.7	10,700	6,800		
	70	41.9	10,500*	6,600		
	76.2	47.5	10,000*	6,400		

(continued on page 6)

BASIC 33′ - 75′ POWER BOOM						
	Boom Length (Feet)	Boom Angle (Degree)	ON OUTRIGGERS		ON TIRES (Static Ⓐ)	
			Rear	Side	Rear	Side
55′	65	25.3	9,800	6,400	—	—
	70	34.4	9,600	6,200	—	—
	75.5	40.9	9,500	6,000	—	—
60′	70	24.4	8,200	5,100	—	—
	75.5	33.9	8,000	4,900	—	—
65′	75.5	24.6	6,800	4,000	—	—

33′ - 75′ POWER BOOM WITH OPTIONAL 21′ SECTION RETRACTED						
Load Radius	Boom Length (Feet)	Boom Angle (Degree)	ON OUTRIGGERS		ON TIRES (Static Ⓐ)	
			Rear	Side	Rear	Side
55′	65	25.3	8,900	5,400	—	—
	70	34.4	8,700	5,200	—	—
	76.2	41.6	8,500	4,900	—	—
60′	70	24.4	7,300	4,000	—	—
	76.2	34.7	7,100	3,800	—	—
65′	76.2	25.9	5,900	2,800	—	—

33′ - 75′ POWER BOOM WITH OPTIONAL 21′ SECTION EXTENDED

Load Radius	Boom Length (Feet)	Boom Angle (Degree)	ON OUTRIGGERS		ON TIRES (Static Ⓐ)	
			Rear	Side	Rear	Side
13′	55.2	74.5	43,100*	43,100*	19,100*	17,100*
14′	55.2	73.4	41,400*	41,400*	17,700*	15,700*
15′	55.2	72.2	39,800*	39,800*	16,400*	14,300
	60	74.9	42,200*	42,200*	16,400*	14,300
20′	55.2	66.5	32,700*	32,700*	11,700*	8,800
	60	69.7	34,800*	34,800*	11,700*	8,700
	65	71.6	31,400*	31,400*	11,700*	8,700
	70	73.3	29,300*	29,300*	11,600*	8,700
	76.2	74.9	27,100*	27,100*	11,600*	8,700
25′	55.2	60.4	27,600*	27,600*	8,700*	5,700
	60	64.3	29,400*	28,400	8,600*	5,700
	65	66.7	26,200*	26,200*	8,600*	5,600
	70	68.8	24,300*	24,300*	8,600*	5,600
	76.2	70.9	22,400*	22,400*	8,600*	5,600
	80	73.0	23,300*	23,300*	8,400*	5,400
	85	74.3	24,600*	24,600*	8,100*	5,100
30′	55.2	53.9	23,700*	21,000	6,500*	3,700
	60	58.5	25,400*	20,900	6,500*	3,700
	65	61.6	22,300*	20,900	6,500*	3,700
	70	64.1	20,600*	20,600*	6,500*	3,700
	76.2	66.7	18,900*	18,900*	6,500*	3,700
	80	69.0	19,700*	19,700*	6,300*	3,400
	85	70.0	20,700*	20,300	6,000*	3,200
	90	72.0	20,300*	20,000	5,800*	—
	97.2	73.7	19,100*	19,100*	5,500*	—
35′	55.2	46.6	20,800*	16,200	5,000*	—
	60	52.3	21,600*	16,200	5,000*	—
	65	56.1	19,300*	16,200	5,000*	—
	70	59.2	17,700*	16,200	4,900*	—
	76.2	62.3	16,200*	16,200*	4,900*	—
	80	65.0	16,900*	15,900	4,700*	—
	85	66.8	17,300*	15,600	4,400*	—
	90	68.5	16,900*	15,300	4,200*	—
	97.2	70.5	16,100*	15,000	3,900*	—
40′	55.2	38.1	18,100	13,000	3,800*	—
	60	45.3	18,000	13,000	3,800*	—
	65	50.2	17,000*	13,000	3,800*	—
	70	54.0	15,500*	12,900	3,700*	—
	76.2	57.7	14,100*	12,900	3,700*	—
	80	60.7	14,700*	12,700	3,500*	—
	85	62.9	14,700*	12,400	3,200*	—
	90	64.8	14,200*	12,100	3,000*	—
	97.2	68.2	13,700*	11,800	—	—

Load Radius	Boom Length (Feet)	Boom Angle (Degree)	ON OUTRIGGERS		ON TIRES (Static Ⓐ)	
			Rear	Side	Rear	Side
45′	55.2	26.9	15,000	10,600	—	—
	60	37.1	15,000	10,600	—	—
	65	43.5	15,000*	10,600	—	—
	70	48.3	13,600*	10,600	—	—
	76.2	52.8	12,300*	10,600	—	—
	80	56.2	12,900*	10,300	—	—
	85	58.8	12,600*	10,000	—	—
	90	61.1	12,200*	9,800	—	—
	97.2	63.8	11,700*	9,400	—	—
50′	60	26.3	12,600	8,700	—	—
	65	35.7	12,600	8,700	—	—
	70	41.9	12,200*	8,700	—	—
	76.2	47.5	10,900*	8,700	—	—
	80	51.3	11,400*	8,400	—	—
	85	54.5	10,800*	8,200	—	—
	90	57.1	10,500*	7,900	—	—
	97.2	60.3	10,000*	7,600	—	—
55′	65	25.3	10,800	7,200	—	—
	70	34.4	10,800	7,200	—	—
	76.2	41.6	9,700*	7,200	—	—
	80	46.1	10,200*	7,000	—	—
	85	49.8	9,400*	6,700	—	—
	90	52.9	9,100*	6,400	—	—
	97.2	56.6	8,600*	6,100	—	—
60′	70	24.4	9,300	6,000	—	—
	76.2	34.7	8,700*	6,000	—	—
	80	40.2	9,000	5,800	—	—
	85	44.7	8,200*	5,500	—	—
	90	48.4	7,900*	5,300	—	—
	97.2	52.7	7,500*	5,000	—	—
65′	76.2	25.9	7,900*	5,000	—	—
	80	33.2	7,800	4,800	—	—
	85	39.0	7,200*	4,500	—	—
	90	43.5	6,900*	4,300	—	—
	97.2	48.5	6,500*	4,000	—	—
70′	80	23.8	6,800	4,000	—	—
	85	32.2	6,400*	3,700	—	—
	90	37.9	6,100*	3,500	—	—
	97.2	44.0	5,700*	3,200	—	—
75′	85	23.2	5,600*	3,000	—	—
	90	31.3	5,300*	2,800	—	—
	97.2	38.9	5,000*	2,500	—	—
80′	90	22.6	4,700*	2,200	—	—
	97.2	33.1	4,400*	—	—	—
85′	97.2	25.8	3,800*	—	—	—
90′	97.2	13.9	3,300*	—	—	—

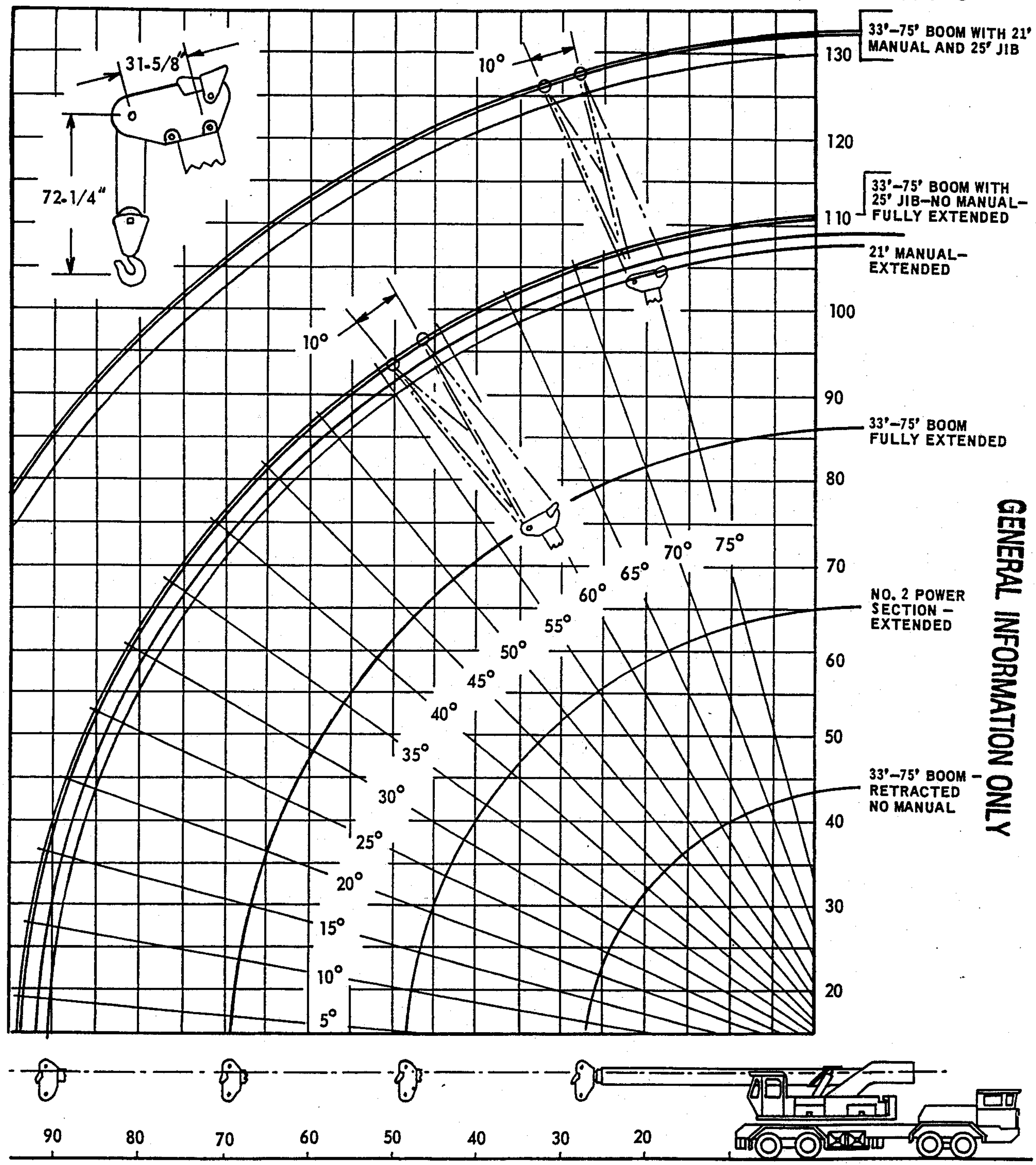
Ⓐ Static capacities are defined as loads handled without machine travel or with machine travel at creeping speeds only.

NOTES — Lifting Crane Capacities

1. Capacities shown are in pounds and, unless indicated by an asterisk (*), do not exceed 85% of minimum tipping loads — with machine standing level on firm supporting surface under ideal conditions. Deductions from the lifting crane capacities must be made for weight of hook block, hook, sling, spreader bar, or other suspended gear.
   a. Asterisk indicates capacities are based on factors other than those which would cause a tipping condition.
2. Capacities are based on freely suspended loads and make no allowances for such factors as the effect of wind, supporting surface conditions, inflation of tires, and operating speeds. Operator must reduce load ratings accordingly in order to take such conditions into account.
3. The least stable rated working area on outriggers and on tires is over the side. The least stable working area on outriggers is over the front but working in this area is not recommended unless capacities are published on this chart.
4. For lifting 60,000#, 6 parts of 5/8" Type "N" wire rope are required.
5. For capacities of intermediate boom lengths not shown, use the capacity for the next shorter or longer boom length — whichever is the lesser capacity.
6. Operating machine at radii, or with boom lengths at or beyond where capacity chart shows no capacity, is not recommended — machine can overturn without any load on hook.
7. The maximum load with which boom can be extended or retracted is not definable. When extending a boom with load on hook, care must be taken to avoid moving load to radii where it becomes an overload — machine may overturn if this occurs.
8. When handling load off main boom, deduct 1,500# from crane capacities if jib is mounted on boom in working position. Deduct 750# if jib is mounted in stowed position on boom.
9. Boom angles take into account boom deflection under rated loads at listed load radii.
10. Capacities apply only to machine as originally manufactured and normally equipped by FMC Corporation, Crane & Excavator Division.

HT-300 WORKING RANGES –

Boom and jib geometry shown for an UNLOADED condition with machine standing level on firm supporting surface. Boom deflection and subsequent radius and boom angle change must be accounted for when applying load to hook.



NOTE — Vertical heights are measured from ground line.

33' - 75' POWER BOOM WITH OPTIONAL 21' SECTION		
BOOM CONDITIONS	BOOM RETRACTED	BOOM EXTENDED
Horizontal boom range from centerline of rotation without optional 21' section	27'- 3"	69'- 4"
Horizontal boom range from centerline of rotation with optional 21' section	27'-11"	90'-10"

HT-300 MAXIMUM JIB CAPACITIES – 25′ JIB

Refer to ALL notes below.

GENERAL INFORMATION ONLY

MAXIMUM ALLOWABLE RADIUS IN FEET	MINIMUM PERMISSIBLE BOOM ANGLE	LOAD WITH NO OFFSET	LOAD WITH 10° OFFSET
20	75°	11,000	—
25	75°	8,100	7,000
30	72.5°	7,400	6,500
35	70°	6,000	5,700
40	67.5°	5,200	5,000
45	65°	4,900	4,700
50	62.5°	4,600	4,500
55	60°	3,800	3,500
60	55°	3,100	3,000
65	50°	2,500	2,400
70	45°	2,400	2,300
75	40°	2,100	2,000
80	35°	1,500	1,500
85	30°	1,100	1,100

NOTES — Jib Lifting Capacities

1. Capacities shown are in pounds — with machine standing level on firm supporting surface under ideal job conditions.
2. Jib stops must be in operating position when using jib.
3. Jib offset from boom must not exceed 10°.
4. To determine the permissible maximum operating radius for a given load on the jib, use the following procedure:
   a. Determining total load — load plus hook block, hook with weighted ball, sling, spreader bar, or any other load handling gear.
   b. Check above jib capacity chart to determine allowable operating radius and minimum permissible boom angle at which this total load can be handled.

   NOTE — The boom/jib combination may be positioned at a boom angle greater than that found in step "b" above, but it **must not** be positioned at a boom angle less than that found in step "b" above — when handling the total load determined by step "a" above.

   c. Total load handled on jib must also not exceed the maximum capacity of the total machine. To determine the total machine maximum capacity when handling load on jib, refer to the appropriate column of the machine's maximum allowable lifting crane capacity chart. At the load radius found in "b" above, select the capacity listed for the maximum boom length. Reduce this capacity by 1,500# to compensate for the jib weight. If this value is equal to or greater than the total load determined in "a" above, load is within machine's rated capacity. If the value found is less than total load determined in "a" above, load or radius must be reduced to avoid exceeding machine's rated capacity.
5. Boom angles take into account boom deflection under rated loads at listed load radii.
6. Capacities apply only to machine as originally manufactured and normally equipped by FMC Corporation, Crane & Excavator Division.

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