HT-400 Stripdown
A Matter Of Minutes
Hydraulic Counterweight Lowering

Hydraulic truck crane job-to-job transportability was not overlooked in the design of the HT-400.

Fast stripdown of counterweight and outriggers was a design consideration. Removal of two pins each from 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-400.

HT-400 Features In Brief

- Single engine: minimum maintenance.
- Formed box-type carrier frame: For strength and durability.
- 12-speed main transmission: For negotiating steep grades and maneuvering in traffic.
- Tapered auxiliary transaxle: For on-the-job movements as slow as .5 m.p.h.
- Holding valves on boom and hoist: For controlled boom and load lowering.
- Unique load hold and lowering: Permits 2-speed type drums plus "free fall" capability.
- Boom extended-retract cylinder arrangement: Eliminates need for long booms and hoist belts.
- Boom extension systems: For optimum lifting capacity.
- Fast stripdown of counterweight and outriggers: For 80-ton mobility.

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

Link-Belt Speeder
DIVISION OF PNC CORPORATION

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

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HT-400
40-Ton Hydraulic Truck Crane

WITH LINK-BELT SPEEDER...Hydraulic all the way.
Full Power 4-Section Boom Manual Extension And Jib Available

Boom Extension System For Optimum Lifting Capacity

The Link-Belt Speeder Model HT-400 hydraulic crane is equipped with full-power 4-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 extending the boom sections is a development of Link-Belt Speeder engineering/ manufacturing technology. The boom is hydraulically extended and retracted with an exclusive 3-cylinder arrangement. The cylinders are double-acting with the cylinder rods remaining stationary and the cylinder case extending/retracting. The 3-cylinder arrangement eliminates the need for long hoses and hose reels.

Exclusive 3-Cylinder Arrangement

The Link-Belt Speeder boom extend-retract design allows the power boom to extend in sequence: From tip (red) fully extended to second section (blue) fully extended to third section (yellow) fully extended. This is accomplished by means of an exclusive latch-lock arrangement. The latch (C) locks the upper sections (B) and (D) in the fully retracted position. At the end of the tip section stroke, block (C) fixed to the top of the tip section (A) will engage the base of latch (C), unlocking the section (B) and allowing it to extend fully. At the end of this section stroke, again the latch is unlocked, allowing the third section to extend.

When hydraulically retracting the boom, the sequence is reversed and the center power sections retract 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.

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.

Refer to HT-400 literature 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-400. 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, check lines are fixed to the jack cylinder "locks" oil in the cylinder and the outriggers in place. For assistance in leveling the HT-400 or outriggers, sight levels are located near the outrigger boxes fixed to the carrier frame.
Carrier Designed For Mobility And On-The-Job Durability  
Carrier Engine Furnishes Hydraulic Power For Crane

The Model HT-400 is one of a line of carrier mounted hydraulic cranes available from Link-Belt Speeders. The HT-400 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.

The HT-400 carrier features an 8 x 4 drive with 11.50 x 20, 18-ply tires on the tandem rear axles and super single 15.00 x 25.5, 16-ply tires on the tandem front axles for excellent load carrying capacity and machine flotation.

Power for travel is from the carrier gasoline engine into a 13-speed main transmission for negotiating steep grades, maneuvering through traffic, or traveling at highway speeds up to 40 m.p.h. Mounted behind the main transmission, ahead of the rear axles, is a 4-speed range (direct and low) auxiliary transmission. The low speed range is for on-the-job precision travel movements as low as 3-7 m.p.h.

The tandem rear axles are equipped with a double reduction in the bowels. 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 pre-connected to the carrier for quick removal. Outriggers are controlled from the crane upper cab. (See page 7.)

The Model HT-400 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 front of the engine radiator keeps 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 reduc-ter (B) powering pumps (C) and (D). One section of tandem pump-type pump (C) supplies power for hoist and boom hoist. One section supplies power for swing and boom extend-refract. 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.