The Link-Belt Speeder Model HT-200 is one of a line of carrier-mounted hydraulic cranes available. The HT-200, incorporating a proven hydraulic crane design concept, is mounted on a carrier especially designed for hydraulic crane duty. The crane upper features a 3-section power boom with a unique twin-cylinder arrangement for hydraulically extending-retracting the boom. Manual boom and jib extensions are available. Boomhoist cylinders are equipped with check and holding valves. Holding valves permit controlled lowering of the boom. A holding valve in the power load lowering circuit permits controlled lowering of high line pull loads. Swing brake is standard.

The carrier is custom built to meet Link-Belt Speeder's design specifications. The alloy steel carrier frame is especially designed to meet the requirements of strength and rigidity for hydraulic crane service. The carrier features a 6x4 drive with 10:00 x 20, 12-ply tires on the tandem rear axles and super single 15:00 x 22.5, 16-ply tires on the front axle for excellent load carrying capacity and machine flotation.

The carrier cab provides a touch of luxury for the operator. All side panels are upholstered with pleated vinyl. The floor surface is carpeted to reduce road noise. Tachometer, bucket seat with safety belt, ash tray, lighter, door handrail, bus-type mirrors, air windshield wiper, windshield washers, cab heater, defroster, back-up lights, and back-up alarm are all standard equipment.

Hydraulic outriggers are controlled from the crane upper cab. Outrigger boxes are welded integral with the carrier main frame. Outrigger beams are full width to provide maximum spread for crane stability when working on outriggers. Separate out-and-
down movements of beams and jacks permit proper machine leveling on reasonably uneven terrains. Pontoons are lightweight and are stored in a rack when outriggers are retracted.

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

Power for travel is from the carrier diesel engine into a 10-speed roadranger main transmission for negotiating steep grades, maneuvering through traffic, or traveling at highway speeds up to 47 m.p.h. Mounted behind the main transmission is a 2-speed range (direct and low) auxiliary transmission. The low speed range is for on-the-job precision travel movements.

The tandem rear axle is equipped with an inter-axle differential. For on-highway travel, the inter-axle differential equalizes wheel torques and increases tire and axle component life. For off-highway travel, a cab-controlled inter-axle differential lock-out makes each of the tandem axles act independently to improve traction.

Power steering and 6-wheel service brakes, with Maxi brakes on tandem rear wheels, are standard. Service brakes may be "set" with a brake lock when operating machine on tires. Maxi brakes provide parking and emergency braking in addition to the service brake function.

The HT-200 carrier is designed for travel to and on the job site as well as for lifting crane service both "on tires" and "on outriggers."
The Model HT-200 hydraulic crane is a simple but efficient design. The carrier engine powers the carrier but also furnishes hydraulic power for all the crane functions — eliminates the need for a second engine in the crane upper.

Hydraulic power is from the front of the engine through a short universal drive tube (A) into the tandem gear-type pump (B). One pump section supplies power for swing and outriggers. One section powers the crane functions of hoist, boom extend-retract, and boomhoist. For long distance or full-speed over-the-road travel, a disconnect clutch (C) is provided to avoid unnecessary wear and over-speed on the pump. Disconnect clutch control is located on the carrier cab instrument panel.

The hydraulic reservoir (D), with filters and strainers, is located in the right front corner of the carrier. A large capacity oil cooler above the pump drive assembly in front of the engine radiator maintains proper oil operating temperature for increased hydraulic component life.

Oil from the pump, 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. The control valves are mounted on the deck of the upper revolving frame and are readily accessible. The 3-spool valve (E) controls oil flow to the 2-directional hoist motor, boom extend-retract cylinders, and boomhoist cylinders. The single-spool valve (F) controls oil flow to the outrigger cylinders and the 2-directional swing motor. Control valve (F) has an integral cross-over relief valve to reduce hydraulic surges and to cushion mechanical forces during swing acceleration and deceleration.

Control valves are mechanically operated with levers conveniently located to the right and left of the operator. Holding valve (G), located between the boomhoist/lowering cylinders and the control valve, permits controlled lowering of the boom.

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 boom hoist. The engine r.p.m. is controlled by the floor-mounted foot pedal.
The Model HT-200 swing and hoist mechanisms employ Link-Belt Speeder designed and manufactured gear speed reducers which are interchangeable. Gears are fully enclosed.

**Swing power** is from the 2-directional hydraulic motor into the speed reducer and then into the swing shaft, pinion. Swing pinion meshes with the internal teeth of the turntable gear. The swing assembly is conveniently located on the deck of the upper revolving frame. A mechanically controlled swing brake is standard — holds upper and boom at any swing position.

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**Swing**

The HT-200 features power hydraulic **load hoisting and lowering** through a 2-directional motor into the Link-Belt Speeder gear reducer, then into the rope drum. A hoist brake, mounted on the hydraulic motor output shaft, is power hydraulically released when the operator engages the hoist control lever. When the operator releases the control lever, the brake is spring applied, holding the rope drum and load. A holding valve located between the hydraulic motor and the control valve permits controlled lowering of overhauling loads.

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**Boomhoist And Lowering**

Power hydraulic **boom hoisting 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 neutral or when the engine is shut off. For controlled lowering of the boom, the boom lowering circuit contains a holding valve located near the main control valves.
Link-Belt Speeder Model HT-200 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.

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.

A boom telescope and load hoist interlock is standard. To extend the boom, the operator must pay out (lower) the hoist line simultaneously.
the Link-Belt Speeder Model HT-200 hydraulic crane, only minutes are required to change the jib from the stored to the working position. It's fast and easy with five basic steps. (Refer to the HT-200 instruction manual for exact procedure.)

(1) All four outriggers must be set. Place load block on ground and free from hoist line. Retract boom completely, engaging forked end of jib into extended lower boom head shaft hubs. Remove pins from upper and lower jib hangers and insert in forked end of jib, pinning jib to headshaft hubs.

(2) Raise boom and swing over either the side or rear of the machine. Then, extend boom until jib head rests on the ground and jib pendant lines become slack.

(3) Free pendants from eye bolt on boom (A). Raise boom until jib is vertical. Reeve hoist line over jib head and re-install load block.

(4) With hoist line, raise jib to operating position and install pendant lines. The HT-200 is ready to go to work.

Basically, reverse the procedure for changing the jib from the working to stored position. (Refer to the HT-200 instruction manual for the exact procedure.)

Meet your mobile 20-ton lift crane needs with the Link-Belt Speeder design/manufactured Model HT-200 hydraulic carrier-mounted crane. Remember... with Link-Belt Speeder... hydraulics are a tradition.

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

Link-Belt Speeder
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