

Link-Belt®

HSP-22

22-Ton Hydraulic Self-Propelled Crane

(20 metric ton)



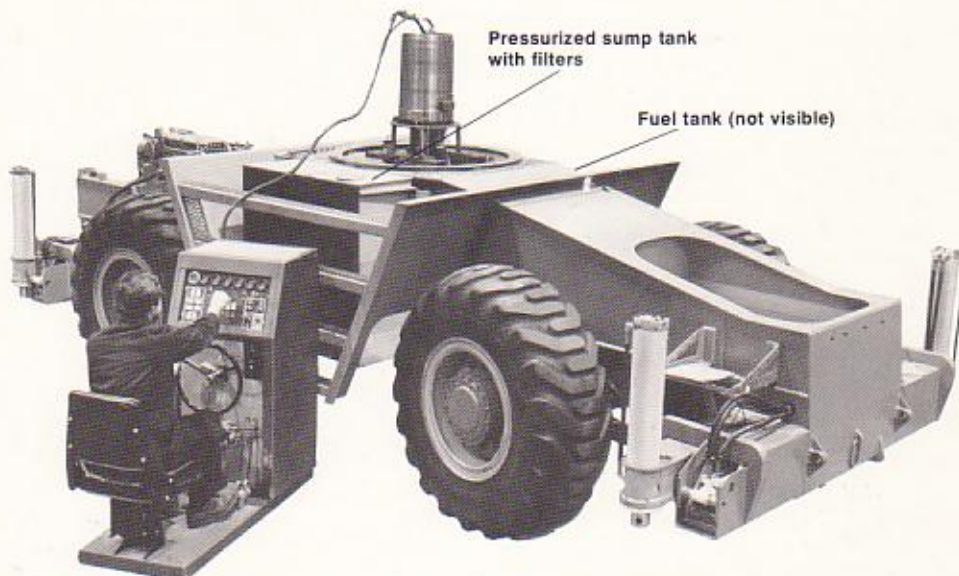
FMC's new hydraulic self-propelled crane with the practical design

Results in greater lifting capacity, particularly "on tires"

FMC now offers the new revolutionary 22-ton (20 metric ton) Link-Belt® HSP-22 hydraulic self-propelled crane. The new carrier design concept features a flat deck with low diesel engine mounting. The result is a lower crane center of gravity for greater travel and swing stability and increased on-tire lifting capacity in the operating ranges. The **flat deck carrier** also permits swing clearance of the crane upper. It's the practical design.

For quality control, and to help assure the user of a more reliable product, FMC developed unique manufacturing and testing techniques.

The hydraulic system oil cooler (A) is standard. Air cylinder (B) controls the diesel engine throttle. It's ideal for initial



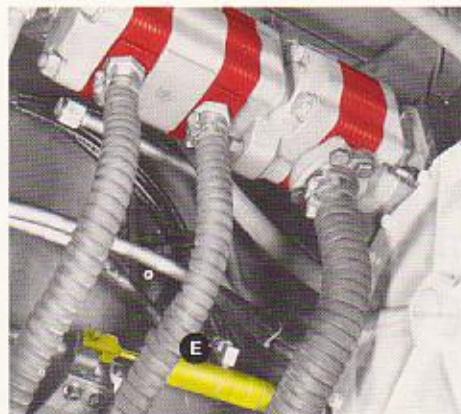
Flat deck carrier

continually rotating pump drive. Cab controlled, air actuated pump disconnect is standard.

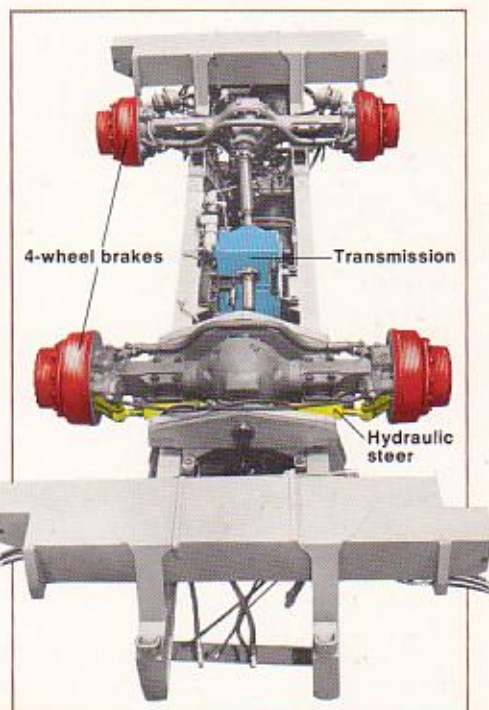
The HSP-22 is designed for maneuverability as well as for lifting. The carrier is equipped with a 4-speed (two range) automatic shift **transmission** controlled by a single operator control lever. Air cylinder (E) shifts the transmission into reverse, neutral, low, and high speeds.

For maneuverability, **2-wheel, 4-wheel, and crab-style steering** are all coordinated with the steering wheel. Steering mode selection switch, plus visual rear wheel position indicator, are located in the control console.

Air applied **4-wheel service brakes** with front wheel spring applied, air released emergency and parking brakes are standard.



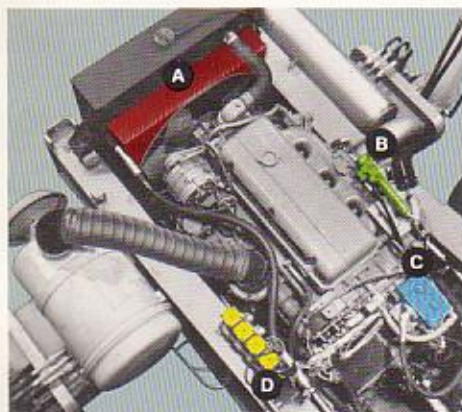
Hydraulic pumps



Planetary drive axles

The front and rear **planetary drive axles** are equipped with a high traction differential. They allow one wheel to assume up to 60% of the available axle torque for traction on uneven ground.

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



Engine and components

engine start-up when air pressure is low, providing a high idle engine speed. Air pressure for brakes, air throttle, transmission shift, rear axle, and main pump disconnect is from air compressor (C). Solenoids (D) control outriggers. **Engine**, radiator, and transmission are rubber mounted to the frame.

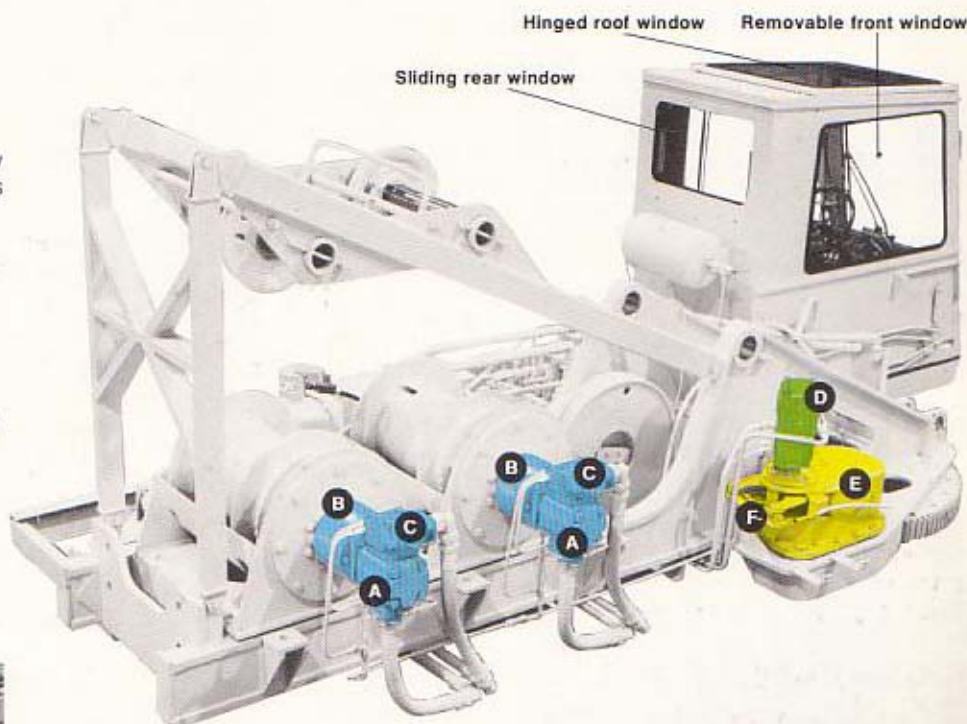
The gear-type **hydraulic pumps** are powered by an extended engine/transmission drive shaft for providing a

Extended, low profile revolving superstructure with accessible rope drums

Modular, humanized, and stylized operator cab

The HSP-22 revolving superstructure design introduces a new but practical design concept to the hydraulic self-propelled crane user. The extended, low profile frame with mounted components lowers the crane's center of gravity for greater stability and lifting capacity. It also provides increased accessibility to the rope drums.

Power for the rope drums is from the 2-directional motors (A) into the planetary reduction unit (not visible) which is mounted inside and connected to the rope drum. An automatic spring applied, hydraulically released load holding brake (B) is standard. Holding valve (C) prevents uncontrolled load lowering. The holding valve is direct connected to the motor. High-speed load hoist is available on the rear drum.

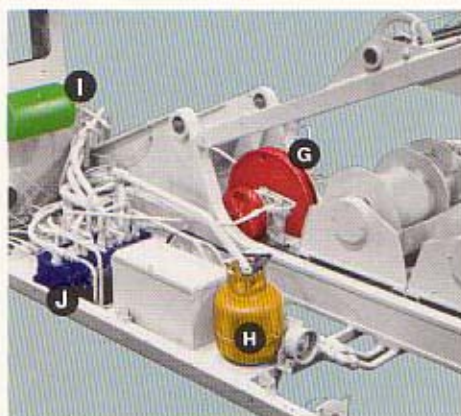


Revolving superstructure — right view

Boom telescope cylinder hose reel (G), propane gas tank (H), air reservoir tank (I) and operator control valves (J) are all conveniently located.

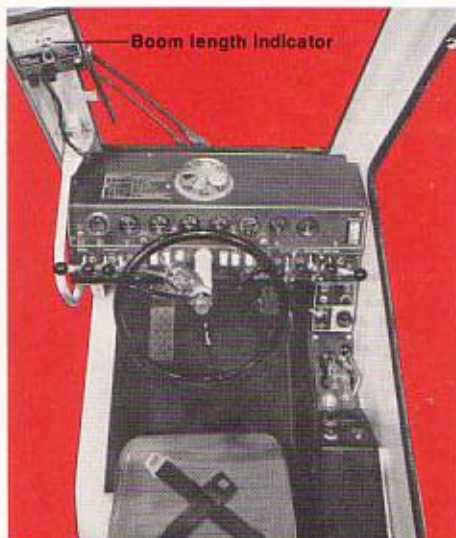
The modular and humanized operator cab is the result of FMC's styling and design engineer group. Directly in front

of the operator is the luxurious yet functional combination of operator control console and full complement of instruments. Conveniently located control levers for the crane functions are to the right and left of the steering wheel. Control console includes boom angle indicator, hydraulic pump disconnect, and rear axle drive disconnect. Transmission shift lever and swing brake lever are located to the right of the operator.



Revolving superstructure — left view

The 360° swing power is from the 2-directional tandem gear-type motor (D) into the FMC reduction unit (E), and then into the swing shaft/pinion. "Free swing" or "metering swing speed" is possible. Results in smooth swing acceleration and deceleration. Also helps prevent boom side load when lifting off-center loads from the ground. Manually controlled swing brake (F) plus a pin-type swing lock is standard.



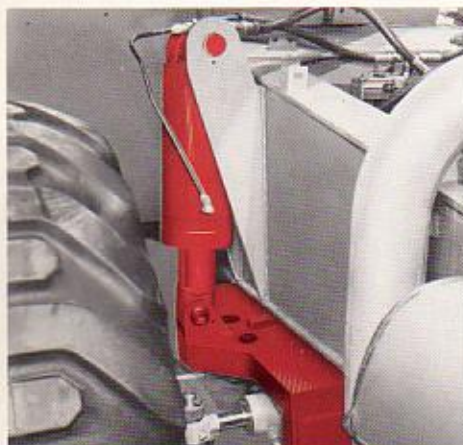
Operator cab

For operating visibility and comfort, the cab is equipped with a **sliding rear window**, **hinged roof window**, and a **removable front window**. The cab is rubber-mounted to the frame. Interior cab insulation is standard.

Unique boom design embossed with diamond-shaped depressions

HSP-22 boom/jib tip height 121 ft. (36.88 m) – best in industry

The HSP-22 rear axle oscillates when travelling over uneven ground. For a rigid lifting base, when swinging beyond 15° either side of center, the rear axle is automatically locked in position by two large hydraulic cylinders. An operator controlled lock-out override allows for oscillation adjustment if necessary.



Rear axle oscillation

Hydraulic outriggers are standard. Beams are full width with individual control of beams and jacks. Controls are located in the operator's cab. Once the outriggers are set, a check valve attached to the jack cylinder "locks" oil in the cylinder and the outrigger jacks in place. Two-position floats are pinned to the jacks.

The HSP-22 is equipped with a 3-section, 28' 6"–70' (8.69–21.34 m) power boom. Also available is a 25' (7.62 m) jib with 20' (6.10 m) extension for 45' (13.72 m) total jib.

FMC's exclusive boom design (pat.) is an engineering achievement. The design utilizes minimum gauge steel plate. Side plates are embossed with diamond-shaped depressions. This allows the use of lighter weight plate while increasing boom strength and stiffness.

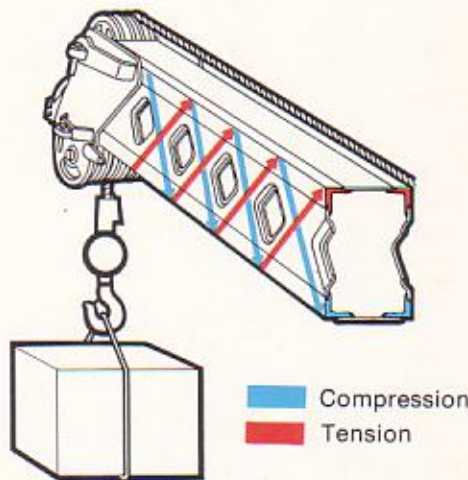
The diamond shape allows the natural flow of boom stresses (both compression and tension) and thus avoids high stress risers when a load is lifted. To eliminate undesirable boom corner welds, the steel plates are welded to specially machined corner angles for greater strength and reliability.



Outrigger controls



Two-position floats



FMC's exclusive boom design (patented)

HSP-22 sell features

- | | |
|---|--|
| FMC's 4x4 carrier | - reliability |
| Exclusive boom design | - dependability |
| Flat deck carrier and low profile crane upper | - low center of gravity for increased swing and travel stability and lift capacity |
| 4-speed power shift transmission | - good range of on-the-job speeds |
| 115' (35.05 m) boom + jib | - 121 ft. (36.88 m) tip height |
| Operator cab | - humanized and stylized |
| Operator controls | - fast, efficient operation |



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

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Plants in: Cedar Rapids Iowa (2) • Lexington & Bowling Green Kentucky • Ontario Canada • Milan Italy • Queretaro Mexico & Nagoya Japan (under license)

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