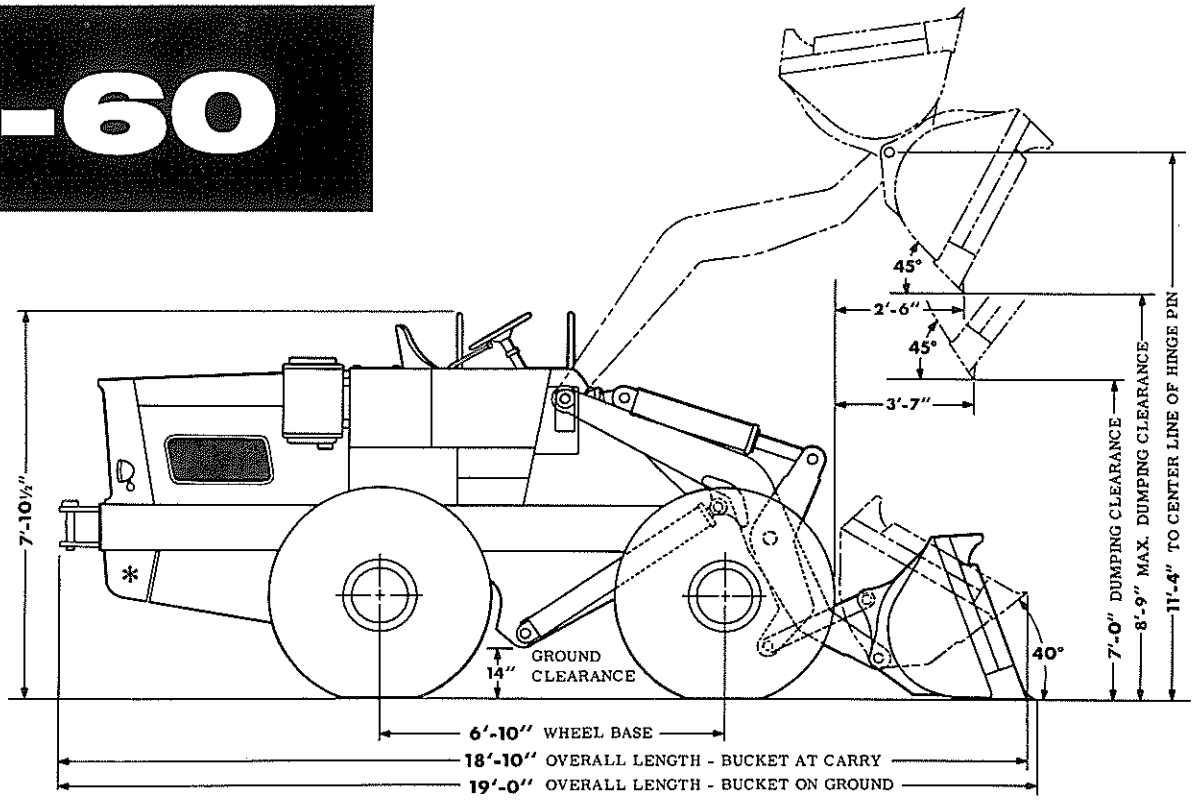
ARTICULATED TRACTOR SHOVEL

PAY LOADER

Z 60

SERIES B

H-60



CONVERSION TABLE	
1 Inch = 2.54 Centimeters	1 Sq. Ft. = 929 Sq. Centimeters
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1 Mile = 1.609 Kilometers	1 U. S. Gallon = 3.785 Liters
1 Sq. In. = 6.452 Sq. Centimeters	1 U. S. Gallon = 0.833 Imp. Gals.

DIMENSIONS SHOWN ARE WITH BUCKET 208721H1 AND 14:00 x 24 - 12 P R TIRES

specifications

capacity

Operating Capacity*.....5500 lbs.
Standard Bucket .....1¾ cu. yd.
Optional Bucket Capacities ....1⅛ to 3½ cu. yd. (S.A.E. rated)

*PAYLOADER operating capacity is rated at less than fifty (50) percent of the tipping load S.A.E. rated (as measured from the center of gravity of the standard bucket at maximum forward reach with standard equipment and no additional counterweighting).

Maximum Lift .....14,700 lbs.

overall measurements

Width (Front & Rear Tires)..... 7'-5"
Steering Axle Oscillation .....20°
Maximum Dump Angle at Max. Dump Height 50°
Maximum Dump Angle at 7'-0" Dump Height 60°

turning radius

Outside Corner Bucket (Carry).....20'-3"
Outside Rear Corner (Grille).....20'-9"
Outside Rear Hub or Wheel.....20'-7"

wheels & tires

Front and Rear.....14:00 x 24 - 12 P R
Tread, Front & Rear..... 6'-2½"
Optional Tires Available.

hydraulic system

Closed with pressure-control (25-30 lbs. per sq. in.) and vacuum relief.

Boom Rams: Two, double-acting, 4½ in. dia.; chrome-plated piston rods. Raise boom in 8.8 sec., lower boom in 5.8 sec.

Bucket Ram: One, double-acting, 5 in. dia.; chrome-plated piston rod.

Pump: Driven from accessory drive.

Valve: Two-spool with relief valve.

engine

	Gasoline	Diesel	
Make	IHC	Cummins	GM
Model	G-372	JF-6CI	3-71
†Max. Horsepower	165	110	118
††Flywheel H.P.	104	98	100
at gov. speed, r.p.m.	2200	2200	2200
Max. Torque: ft.-lbs.	288	300	293
r.p.m.	1200	1500	1400
Bore and Stroke	4⅜x4⅛	4⅛x5	4¼x5
Number of Cylinders	6	6	3
Displacement, cu. in.	372	401	213
Fuel Tank, U.S. Gals.	55	55	55
Electric System	12 volts	12 volts	12 volts

weight (Operating Weight, Lbs.*)

Total	17,375	17,725	17,675

*Above weight includes standard 1,375 lb. counterweight.

torque converter

Single stage, single phase; 2.72 to 1 stall ratio.

brakes (Air)

	Service	Parking
Type	Air-over-hydraulic	Mechanical
Location	4 Wheels	Fwd. Trans. Output Shaft

†Maximum horsepower of basic engine under standard conditions, 60°F. with 29.92" barometric pressure and maximum R.P.M.

††Horsepower of engine under standard conditions and with fan, water pump, air cleaner, generator as applied in this PAYLOADER.

transmission

Type .....Hough-built Full Power Shift

	1st	2nd	3rd
Speeds, Fwd., mph	0-3.6	0-7.7	0-21.3
Speeds, Rev., mph	0-4.26	0-9.8	0-25.7

standard equipment

Drawbar, generator, starter, batteries, air horn, voltage regulator, two-stage dry-type air cleaner, working and traveling lights, cartridge-type filters for engine oil, transmission-torque-converter oil and hydraulic oil, cold weather starting aid for diesel engine, engine compartment side panels, quick-access service panels, access ladder, dual hydraulic steering cylinders, transmission disconnect with left service brake controller; rear-axle disconnect, oil-to-air transmission-torque-converter oil cooler, mechanical parking brake, 4-wheel, sealed, air-over-hydraulic brakes, muffler.

Gages — ammeter, engine oil pressure, engine coolant temperature, hourmeter, hydraulic system pressure, clutch pack engagement oil pressure, fuel, air pressure, torque converter oil temperature.

accessories

Optional Buckets, Bucket Teeth, Fire Preventative Equipment, 3-Spool Valve, Optional Tires (High-Float, Hard Rock, Sand).

allied equipment

Operator's Cab, Universal Bucket, Rotary Snowplow, Blade Snowplow, Backhoe.

The Frank G. Hough Co. reserves the right to make improvements in design and changes in specifications at any time without notice and without incurring obligation as to units already sold.

HOUGH®
THE FRANK G. HOUGH CO.
LIBERTYVILLE, ILLINOIS
SUBSIDIARY - INTERNATIONAL HARVESTER COMPANY
IN CANADA - HOUGHCO PRODUCTS LTD., CANDIAC, QUE.

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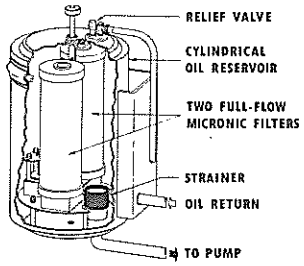
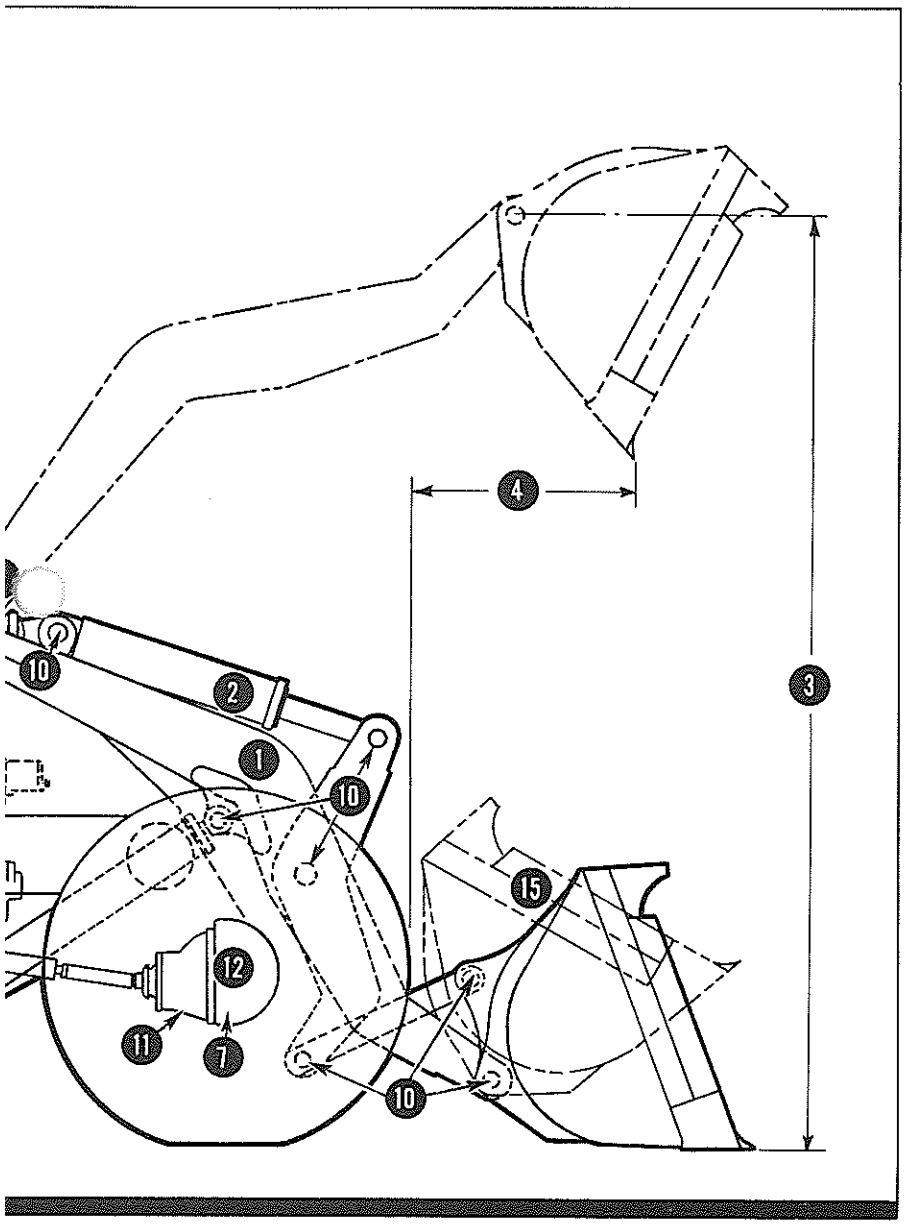
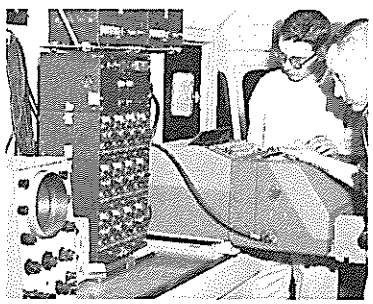


closed hydraulic system

The hydraulic system is closed and pressure-controlled to exclude air-borne dust and moisture. There is a complete full-flow micronic filtering system. A new cylindrical, vessel-type oil reservoir permits removal of the entire top for thorough maintenance and easy service.





testing and inspection

In the design, production and assembly of all HOUGH machines, components and completed units are rigidly tested. Electronic stress and strain gages, engine, transmission and chassis dynamometers, and hydraulic testing equipment are all used to maintain top quality.

9. separate oil cooling radiator

Special attention is given to the cooling of the transmission and torque-converter oil through the use of a separate oil-to-air radiator for continuous circulation of all oil. This is a HOUGH exclusive found only on PAYLOADER units as far as four-wheel-drive, rubber-tired tractor-shovels are concerned.

10. sealed pivot-point protection

All pivot points on the steering, boom and bucket mechanisms are fitted with "O" rings and other seals that keep grease in and dirt out for longer life and less maintenance.

11. power-transfer differentials

These differentials, on both axles, permit maximum tractive effort. When one wheel is capable of more effort that the other on the same axle, it can automatically receive up to 38% more torque.

12. planetary final drives

Heavy-duty planetary drives provide maximum gear reduction at point of final power application—in the wheel hubs. An exclusive feature of these Hough planetaries is that they do not have to be disassembled when servicing the brakes.

13. dry-type air cleaner

For maximum efficiency in dust removal under the most adverse conditions, a two-stage, dry-type air cleaner protects and prolongs engine life.

14. rear axle drive-disconnect

A lever by the seat enables the operator to disconnect the rear (steering axle) drive for over-the-road travel or whenever 4-wheel-drive is not called for.

15. balance and stability

Longer wheelbase and additional weight combined with HOUGH bucket tip-back breakout action plus a low and close load-carry position are basic reasons for these qualities.

16. better power distribution

The engine and torque-converter are matched to the requirements of the entire power train. Power for hydraulic needs is always available regardless of the load on the drive train. Exceptional power-to-weight ratios of these units make improved performance possible.

1. simple, rugged boom mechanism

Full box-section boom arms have extra strength. Long lever arms for the lift rams give maximum effort for digging and breakout. Simplified boom mechanism has from 4 to 10 fewer pivot and and grease points than competitive loaders. This means fewer parts to service and maintain.

2. single bucket control cylinder

Positioned away from areas of possible spillage to protect piston rod. Use of single cylinder with dual bucket linkage means less wear, maintenance and fewer parts requiring service.

3. maximum lift heights

Maximum dumping and working clearances and lift heights are greater than the average of competitive loaders of a similar size and capacity range.

4. maximum forward reach

The forward reach, from the front tire to the bucket edge when dumped, is more than the average of other loaders of a similar size and capacity range.

5. maximum operator safety

All boom arm pivot points are located ahead of the operator compartment for ideal protection. Comfortable bucket-type seat is adjustable; controls are conveniently located. Safety ladder and hand rails for easy access.

6. maximum operator visibility

Steeply-sloped cowl, single cylinder bucket control and no boom arms or obstructions to the right or left give excellent visibility for all work.

7. sealed, four-wheel, hydraulic brakes

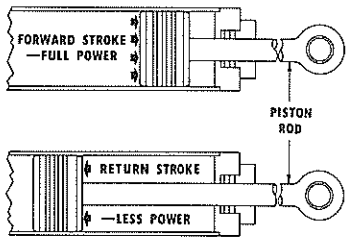
This new unit has four-wheel, air-controlled, power brakes with dual foot-brake pedals. All four brakes are sealed against dust and dirt.

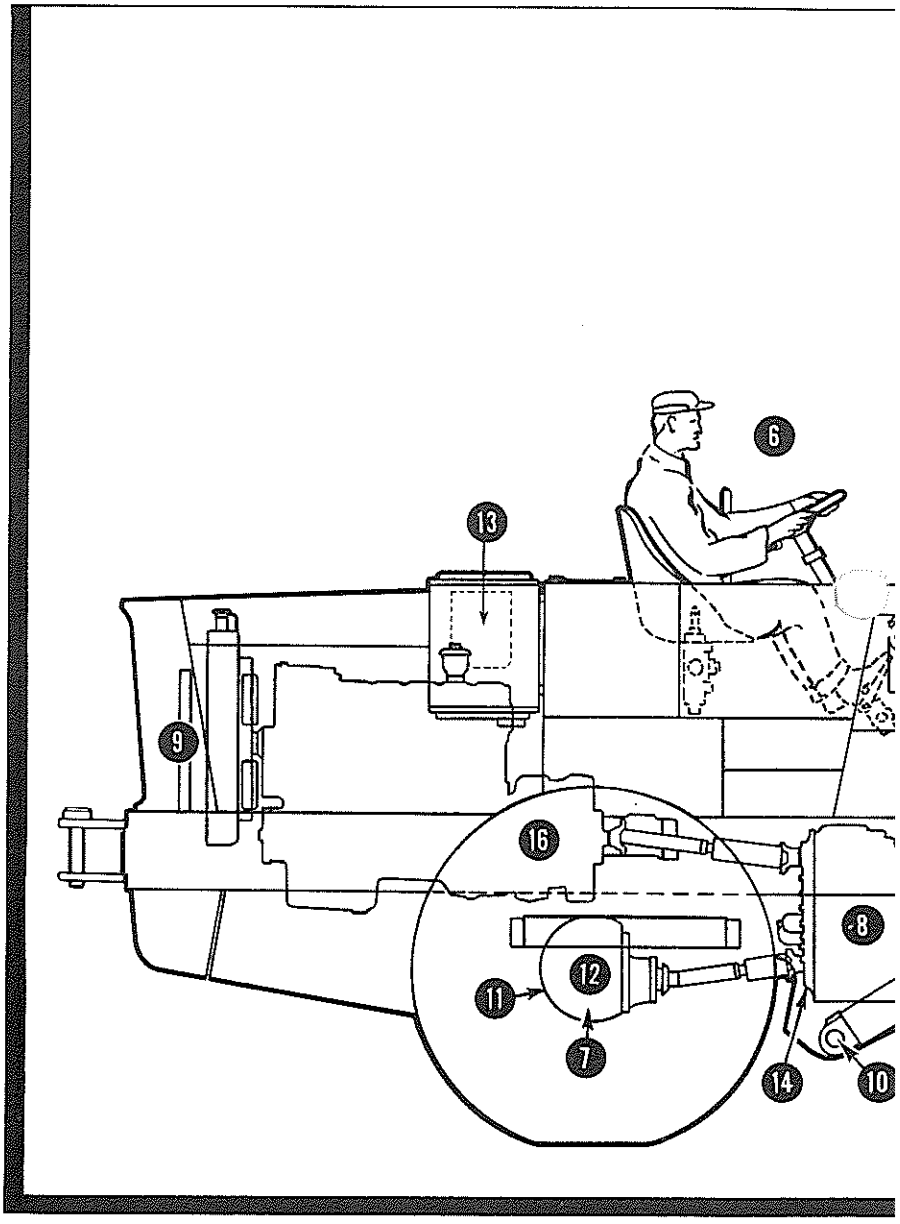
8. full power-shift transmission

HOUGH designed and built, specifically for loader operation. A three-speed, full-reversing, constant-mesh, counter-shaft type with balanced, rotating, hydraulic clutches which are continuously pressure-filled, cooled and lubricated. Requires no stopping for "range-shifts".

"common-sense" hydraulics

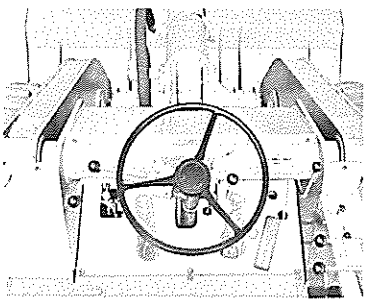
Since a larger piston area is exposed to greater volume and effort, the forward stroke is used for digging, lifting and breakout operations. The less-powerful return stroke handles the lowering and bucket-dumping actions which are faster and which require less effort.





"operator's choice" brakes

Dual foot brake pedals give an operator the choice of braking with or without transmission engaged. This is another feature pioneered by HOUGH. The left pedal disengages transmission while braking whereas the right pedal applies brakes with transmission engaged.



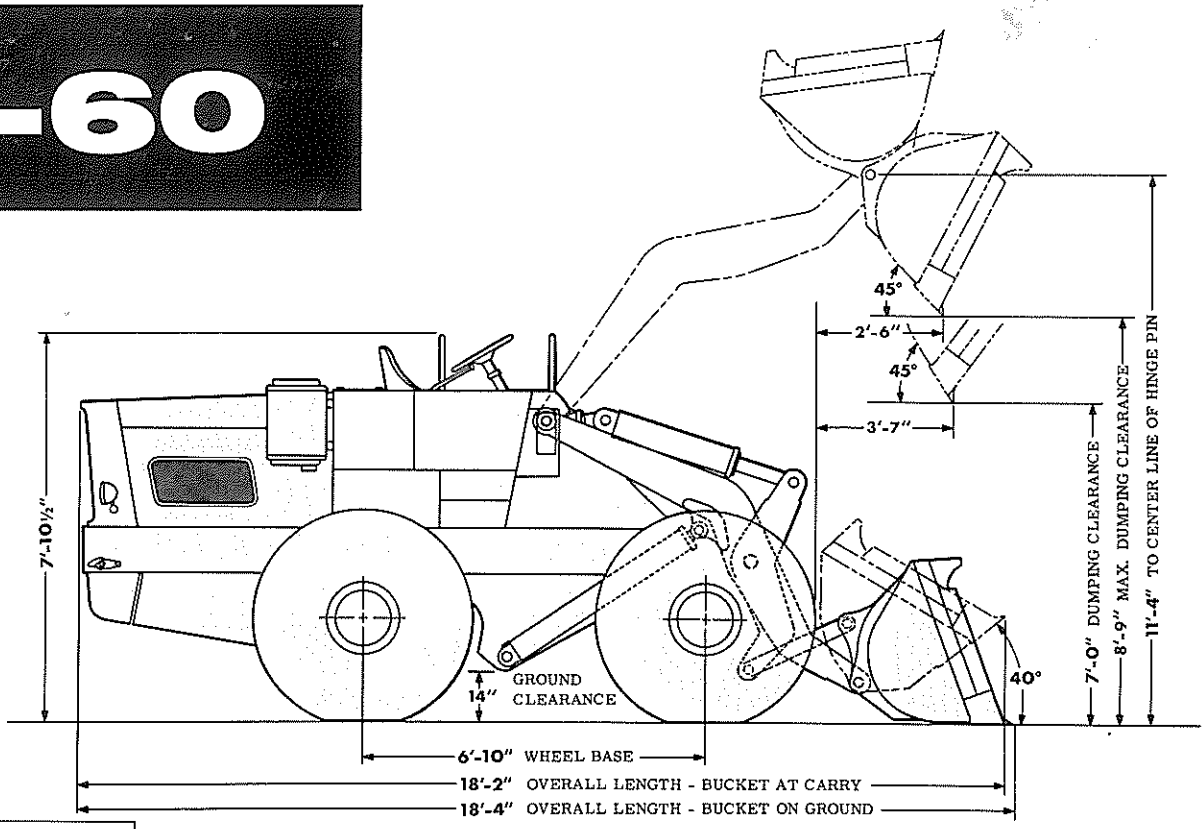
RIGID-FRAME TRACTOR SHOVEL

60

PAYLOADER®

SOLD AND SERVICED OVERSEAS BY INTERNATIONAL HARVESTER EXPORT CO.

H-60



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1 Mile = 1.609 Kilometers	1 U. S. Gallon = 3.785 Liters
1 Sq. In. = 6.452 Sq. Centimeters	1 U. S. Gallon = 0.833 Imp. Gals.

DIMENSIONS SHOWN ARE WITH BUCKET 180283 AND 14:00 x 24 - 12 P R TIRES

specifications

capacity

Operating Capacity*.....5500 lbs.
Standard Bucket.....1¾ cu. yd.
Optional Bucket Capacities....1⅛ to 3½ cu. yd. (S.A.E. rated)

*PAYLOADER operating capacity is rated at less than fifty (50) percent of the tipping load S.A.E. rated (as measured from the center of gravity of the standard bucket at maximum forward reach with standard equipment and no additional counterweighting).

overall measurements

Width (Front & Rear Tires).....7'8"
Steering Axle Oscillation.....20°
Maximum Dump Angle at Max. Dump Height 50°
Maximum Dump Angle at 7'-0" Dump Height 63°

turning radius

Outside Corner Bucket (Carry).....20'-3"
Outside Rear Corner (Grille).....20'-9"
Outside Rear Hub or Wheel.....20'-7"

wheels & tires

Front and Rear.....14:00 x 24 - 12 P R
Tread, Front & Rear.....6'-3"
Optional Tires Available.

hydraulic system

Closed with pressure-control (25-30 lbs. per sq. in.) and vacuum relief.

Boom Rams: Two, double-acting, 4½ in. dia.; chrome-plated piston rods. Raise boom in 8.8 sec., lower boom in 5.8 sec.

Bucket Ram: One, double-acting, 5 in. dia.; chrome-plated piston rod.

Pump: Driven from accessory drive.

Valve: Two-spool with relief valve.

engine

	Gasoline	Diesel	
Make	IHC	Cummins	GM
Model	G-372	JF-6CI	3-71
Max. h.p. at gov. speed	110	110	107
Governed R.P.M.	2200	2200	2200
Max. Torque: Ft. Lbs.	288	300	293
R.P.M.	1200	1500	1400
Bore and Stroke	4⅜x4⅛	4⅛x5	4¼x5
Number of Cylinders	6	6	3
Displacement, cu. in.	372	401	213
Fuel Tank, U.S. Gals.	55	55	55
Electric System	12 volts	12 volts	12 volts

torque converter

Single stage, single phase; 2.72 to 1 stall ratio.

brakes (Air)

	Service	Parking
Type	Air-over-hydraulic	Mechanical
Location	4-wheel	Fwd. Trans. Output Shaft

transmission

Type.....Hough-built Full Power Shift

	1st	2nd	3rd
Speeds, Fwd., mph	0-3.6	0-7.7	0-21.3
Speeds, Rev., mph	0-4.26	0-9.8	0-25.7

weight (Operating Weight, Lbs.*)

	Gas	Diesel
Front	6,020	6,000
Rear	11,130	11,350
Total	17,150	17,350

*Above weight includes standard 1,375 lb. counterweight.

standard equipment

Generator, starter, batteries, air horn, voltage regulator, two stage dry-type air cleaner, working and traveling lights, cartridge-type filters for engine oil, transmission-torque-converter oil and hydraulic oil, cold weather starting aid for diesel engine, engine compartment side panels, quick-access service panels, access ladder, dual hydraulic steering cylinders, transmission disconnect with left service brake controller; rear-axle disconnect, oil-to-air transmission-torque-converter oil cooler, mechanical parking brake, 4-wheel, sealed, air-over-hydraulic brakes, muffler.

Gages—ammeter, engine oil pressure, engine coolant temperature, hourmeter, hydraulic system pressure, clutch pack engagement oil pressure, fuel, air pressure, torque converter oil temperature.

accessories

Optional Buckets, Bucket Teeth, Fire Preventative Equipment, 3-Spool Valve, Optional Tires (High-Float, Hard Rock, Sand), Drawbar.

allied equipment

Operator's Cab, Drott "4-in-1" Bucket, Rotary Snow Plow, Blade Snow Plow, Backhoe.

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