UPPERSTRUCTURE ENGINE
GM 3-53N diesel, 4-valve head, 2 cycle, 85 hp at 2500 rpm, 159.2 cid (2.6 l), 3-7/8" bore x 4-1/2" stroke (98 mm x 114 mm), 17:1 compression ratio, 198 ft-lbs (27.4 mkg) max torque at 1600 rpm, N45 injectors.
Fuel tank capacity: 60 gal (227 l)
Electric starter, 55 amp alternator, dry-type air cleaner, oil filter.

HYDRAULIC SYSTEM
Three-section tandem pump, flange-mounted to engine, 84 gpm (318 l/min) at 2500 rpm; single-section pump mounted on accessory pad of engine, 10 gpm (38 l/min) at 2500 rpm.
Five double-acting cylinders:
- 2 boom hoist: 5" ID, 2-3/4" rod (127 mm x 70 mm)
- 1 telescoping: 4-1/2" ID, 2-3/4" rod (114 mm x 70 mm)
- 1 tool: 5" ID, 3" rod (127 mm x 76 mm)
- 1 tilt: 4-1/2" ID, 2" rod (114 mm x 51 mm)

One 23 hp hydraulic motor, swing.
Operating pressure: hoist, swing, tool, tilt 2000 psi (141 kg/cm²); boom 1350 psi (95 kg/cm²)
Oil capacity: reservoir 80 gal (303 l), system 115 gal (435 l). Visual oil level gauges on reservoir.
Filtration system, built into reservoir: 2 filter elements (15 micron) with visual indicators, strainer on by-pass; magnet cluster built into filter housing. Air filter on reservoir breather.
Fin and tube type oil cooler
Pump relief valves on all circuits. Hose relief valves on all circuits except travel.

UPPERSTRUCTURE CAB
All-weather cab with safety glass windows, skylight, accoustical treatment, heater and defroster. Front window removable, stored in cab.

UPPERSTRUCTURE CONTROLS
3 levels, 2 pairs of pedals for all boom and upperstructure movements. Dead-man type are self-centering: when controls are released, machine movements stop automatically.
2 levers, propel and steer, for control of carrier from upperstructure cab.
Engine controls: key operated ignition/starter switch with indicator light, throttle. Gauges for engine temperature, oil pressure, air pressure; voltmeter, hour meter.

CARRIER
6x4, W/S Model G-434-44
Wheelbase: 160" (4.1 m)
Frame width: 34" (86 cm)
Gross Vehicle Weight: 43,000 lbs (19,505 kg)

CARRIER ENGINE
Ford 330 gasoline, 156 hp at 3600 rpm (operating), 330 cid (5.4 l), 3.875" bore x 3.5" stroke (98 mm x 89 mm), 7.4:1 compression ratio, 260 ft-lbs (36 mkg) net torque at 2000 rpm.

Optional — Ford 391, 180 hp at 3600 rpm (operating), 391 cid (6.4 l), 4.05" bore x 3.875" stroke (103 mm x 98 mm), 7.2: 1 compression ratio, 320 ft-lbs (44 mkg) net torque at 2400 rpm.

TRANSMISSION
Spicer 5652-B main transmission, 5 speeds forward, 1 reverse, synchronized in 2nd through 5th speeds; Spicer 7231-D three-speed auxiliary transmission.
Lipe 14" (36 cm) single-plate clutch, Spicer needle bearing universal joints.

AXLES
Front: Rockwell FD-931, 9,000 lbs (4,082 kg). Chain snubbers.
Rear: Rockwell SLHK tandem, 34,000 lbs (15,422 kg), single reduction. Ratio 7.8:1. Total final reduction 118.2:1.

FRAME
Wide-flange beam, 10" (25 cm), 39 lb (17.7 kg), all welded. Channel bumper.

SUSPENSION
Front: 12-leaf main spring, 38-1/2" x 3" (98 cm x 7.6 cm); 4-leaf auxiliary spring, 31" x 3" (79 cm x 7.7 cm)
Rear: R-340 series Hendrickson solid mount, 8" (20 cm) oscillation.

BRAKES
Rockwell Stopmaster spring set wedge brake, 6-wheel air service brake.
Front drums: 15" x 4" (381 mm x 102 mm)
Rear drums: 15" x 7" (381 mm x 178 mm)
Spring brake system incorporates emergency brake and parking brake.
AC Wheel Lock Control anti-skid system
Automatic spitter valves on both air tanks.

WHEELS
Spoke
Optional: disc wheels, 10-stud, 11-1/4" (28 cm) bolt circle.

TIRES
Single front and dual rear. 8.25 x 20 10-ply, highway tread
Optional tires:
- 8.25 x 20 10-ply, mud and snow tread on rear
- 9.00 x 20 10-ply, highway tread
- 9.00 x 20 10-ply, mud and snow tread on rear

STEERING
Ross, integral hydraulic power steering.

ELECTRICAL SYSTEM
12 volt. 60 amp alternator, 95 amp battery. Transistorized regulator.

COOLING SYSTEM
Fin and tube type radiator, with fan shroud. 5-blade fan.

FUEL SYSTEM
50 gal (189 l) fuel tank, mechanical fuel pump, Holly 2-venturi carburetor with governor.

AIR FILTER
Dry type air cleaner

OIL FILTER
Full flow, replaceable element.

GOVERNOR
Mechanical

CARRIER CAB
One man. Cushioned seat, adjustable fore and aft. Roll-down windows in door and side, ventilator on side.

HYDRAULIC REMOTE CONTROL
Carrier powered by upperstructure engine through hydraulic motor and PTO attached to main transmission. Propel, steering, and air brake controls in upperstructure cab. Carrier engine off when hydraulic remote in use.

STANDARD EQUIPMENT
Dual sealed beam headlights, tail lights and stop lights, directional signals, four-way hazard lights, back-up lights, instrument lights. Gauges for oil pressure, water temperature, dual air tank pressures, fuel; voltmeter, tachometer, speedometer, odometer. Heater and defroster, air-operated windshield wiper, bus-type mirrors, wheel and axle wrenches.

WEIGHT
Approximate working weight, upperstructure and carrier, 30" (76 cm) excavating bucket, full fuel tanks: 36,605 lbs (16,604 kg).
Includes 3,375 lbs (1,531 kg) counterweight.

OPTIONAL EQUIPMENT
Bostrom T-bar seat in carrier cab, spark arrestors

ATTACHMENTS
30" (76 cm) Excavating bucket
24" (61 cm) Excavating bucket
60" (152 cm) Ditching bucket
30" (76 cm) Pavement removal bucket
8' (2.4 m) Grading blade
4' (1.2 m) Boom extension
Material unloading combination: gooseneck boom extension with 60" (152 cm) unloading bucket.

Travel speed — mph (km/hr)

Aux. Trans.	Main Transmission				
	1st	2nd	3rd	4th	5th
Low	3 (4.8)	5 (8)	9 (14.5)	16 (25.7)	23 (37)
Direct	7 (11.3)	11 (17.7)	20 (32.2)	34 (54.7)	45 (72.4)
Overdrive	9 (12.9)	13 (20.9)	23 (37)	40 (64.4)	52 (83.7)

Fluid capacities in U.S. gallons. Specifications subject to change without notice.

THE WARNER & SWASEY CO.
CONSTRUCTION EQUIPMENT
SOLON, OHIO 44139

Form No. 7622
(Replaces 7614)

3/76—15MC
Printed in U.S.A.

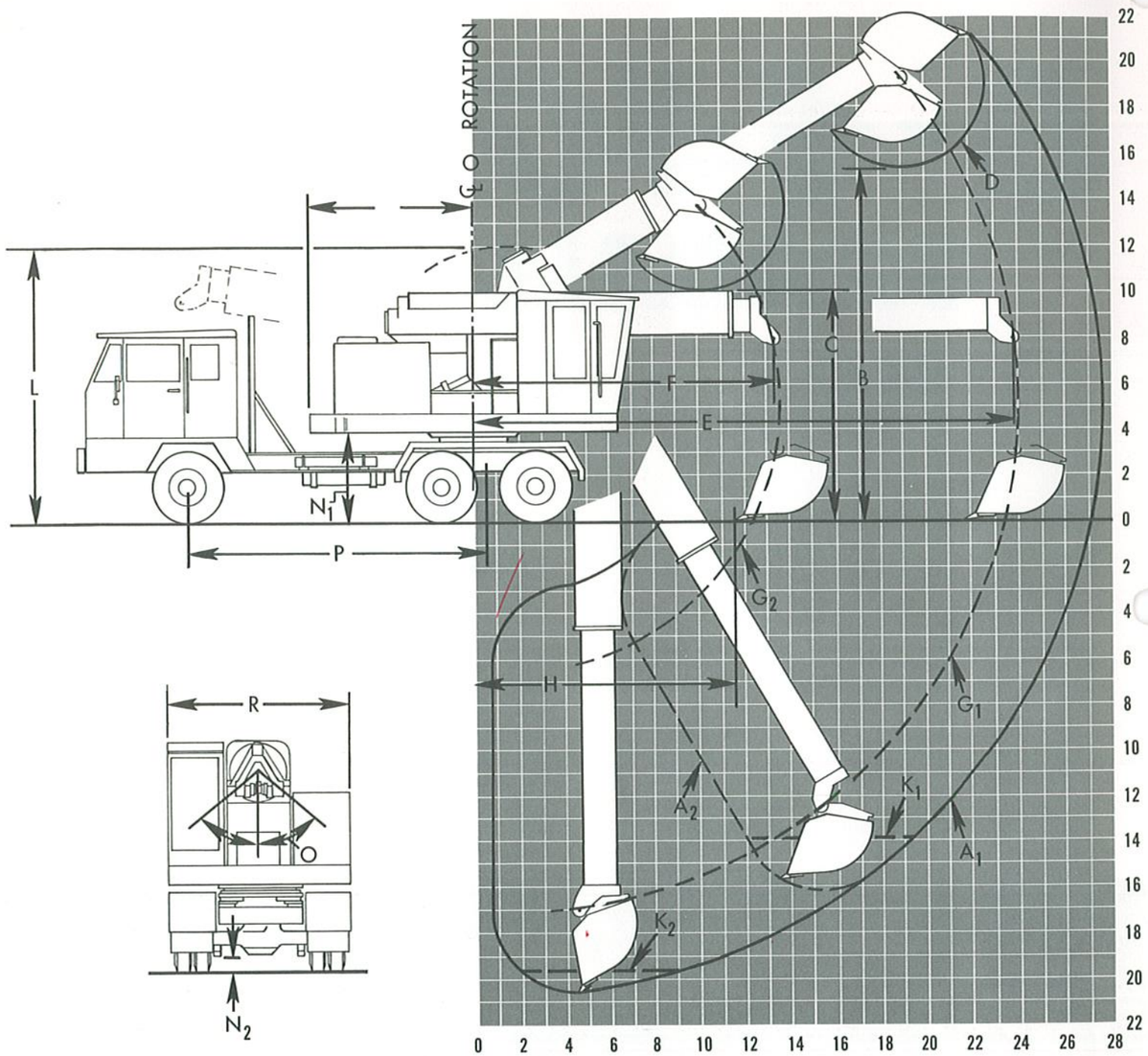
G-440 GRADALL

Hydraulic Excavator

CARRIER

Specifications, Operating Ranges

WARNER & SWASEY



Shown with 30" excavating bucket

A_1 – Maximum range
Surface reach: 27'1" (8.3 m)
Digging depth: 20'8" (6.3 m)
A_2 – Maximum range with boom down 60°
Digging depth: 16'2" (4.9 m)
B – Loading height, boom extended: 15'8" (4.8 m)
C – Loading height, boom retracted: 10'2" (3.1 m)
D – Bucket pivot: 170°
E – Boom length, extended: 23'8" (7.2 m)
F – Boom length, retracted: 13'2" (4 m)
G_1 – Attachment pivot point, full range, boom extended
G_2 – Attachment pivot point, full range, boom retracted
H – Minimum reach for surface clean-up: 11'2" (3.4 m)
K_1 – 8' (2.4 m) of level bottom, 13'7" (4.1 m) deep with boom down 60°
K_2 – 8' (2.4 m) of level bottom, 19'6" (5.9 m) deep with boom down 90°
L – Maximum working height: 12'7" (3.8 m)
M – Tail swing: 7'4" (2.2 m)
N_1 – Upperstructure ground clearance: 3'10" (1.2 m)
N_2 – Carrier ground clearance: 8" (20 cm)
O – Boom tilt: 50° each way, total 100°
P – Wheelbase: 160" (4.1 m)
R – Overall width: 8' (2.4 m)

Boom raise and lower
Above horizontal: 32°
Below horizontal: 90°
Total arc: 122°
Boom telescoping action: 10'6" (3.2 m)
Swing: continuous

Travel position, boom in rack
Overall length: 25' (7.6 m)
Overall width: 8' (2.4 m)
Overall height: 11'3" (3.4 m)

RATED LIFT CAPACITY OVER END OR SIDE – Pounds (kg)

Load Point Height		Load Radius						
		5' (1.5 m)	10' (3 m)	13'3" (4 m)	15' (4.6 m)	20' (6.1 m)	23' (7 m)	Maximum radius
Above Ground Level	15' (4.6 m)				3,200 (1,452)	2,070 (939)		
	10' (3 m)				4,525 (2,053)	2,635 (1,195)	1,985 (900)	1,833 @ 23'5" (831) (7.1 m)
	Boom level 8'3" (2.5 m)			Minimum reach 5,285 (2,400)	4,680 (2,123)	2,680 (1,216)	2,040 (925)	1,860 @ 23'9" (844) (7.2 m)
	5' (1.5 m)				4,770 (2,164)	2,725 (1,236)	2,070 (939)	1,840 @ 23'11" (835) (7.3 m)
At Ground Level					3,980 (1,805)	2,500 (1,134)	1,897 (860)	1,825 @ 23'3" (828) (7.1 m)
Below Ground Level	5' (1.5 m)		4,330 (1,964)		3,075 (1,395)	2,070 (939)		
	10' (3 m)	5,290 (2,400)	3,245 (1,472)		2,330 (1,057)			
	15' (4.6 m)	5,202 (2,360)	2,640 (1,198)					

The above loads are in compliance with SAE Standard J-1097. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

The rated lift capacity is based on the machine being equipped with a 30" (76 cm) excavating bucket weighing 620 lbs (281 kg). For other buckets, adjust the listed capacities as follows:
24" (61 cm) excavating – add 140 lbs (64 kg)
60" (152 cm) ditching – subtract 15 lbs (6.8 kg)
30" (76 cm) pavement removal – subtract 30 lbs (14 kg)

The load point is located on the bucket pivot point.

Do not attempt to lift or hold any load greater than these rated values at specified load radii and height.

The weights of slings and any auxiliary lifting devices must be deducted from the rated load to determine the net load that may be lifted.

All rated loads are based on the machine being level on a firm supporting surface. For safe working loads, the user is expected to make due allowance for his particular job conditions, such as soft or uneven ground, out of level conditions, side loads, hazardous conditions, experience of personnel, etc. The operator and other personnel should fully acquaint themselves with the Operator's Manual furnished by the manufacturer before operating this machine, and rules for safe operation of equipment should be adhered to at all times.

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