

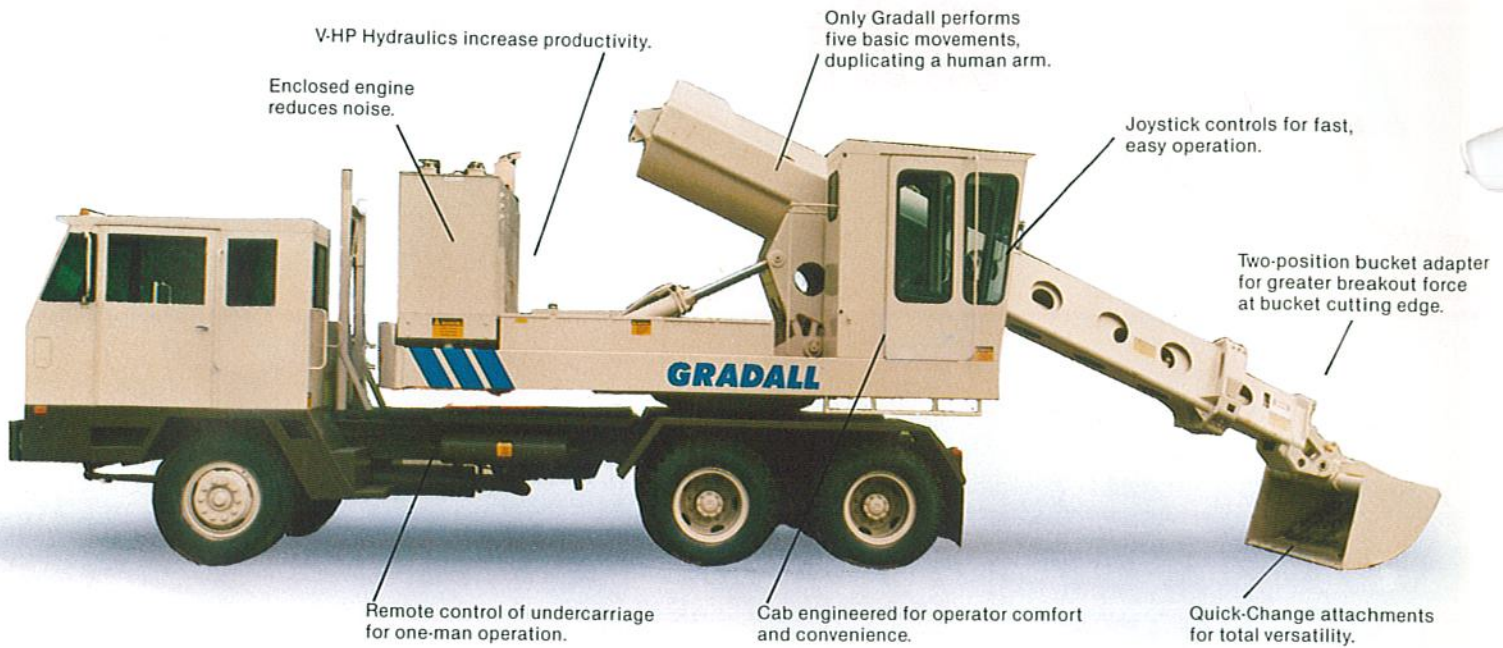


G880C

WHEEL UNDERCARRIAGE
SPECIFICATIONS
OPERATING RANGES

GRADALL[®]
HYDRAULIC EXCAVATORS





Gradall G880C Excavators

The Gradall G880C Excavator, featuring V-HP hydraulics, sets new standards for versatility and efficiency. Productivity ratings and cycle time have been vastly improved with new, higher-volume V-HP pumps, relief and control valves.



This big production machine features the unique Gradall ability to perform the five basic movements of the human arm: telescopic boom reaches in and out . . . boom raises and lowers with ability to dig straight down . . . continuous swing . . . boom tilt . . . and bucket wrist action.

Undercarriage designed for strength and stability

Traveling at highway speeds, it gets to where the work is . . . then, it has what it takes to handle off-road work. The equalizer walking beam suspension keeps all wheels on the ground for sure-footed travel on uneven terrain. No-spin differential on forward-rear axle provides traction in the rough or through the mud.

Equipped with a powerful diesel engine, the G880C features a five-speed constant mesh transmission matched to a four-speed auxiliary for efficient use of horsepower. It features hydraulic power steering, six-wheel air brakes and split-air system.

The all-welded frame is thoroughly tested and reinforced at critical points. It soaks up the shocks and strains of tough jobs, day in and day out.

On the job site, the undercarriage is remote controlled from the upper cab with one joystick and automatic braking. The undercarriage engine is off when the hydraulic remote is in use, saving fuel and prolonging engine life.

Upperstructure designed for rugged durability and operating efficiency

The upper cab is engineered for operator convenience and comfort. New joystick controls provide for faster, easier operation. All controls and instruments are positioned for convenience and efficiency.

The upper engine is fully enclosed. Cowling provides engine protection and reduces noise. Controlled air flow dissipates excess heat for efficient engine and pump operation. Cool air is drawn through the oil cooler and radiator, around the engine, reservoir, and pumps to pick up heat . . . then forced out the bottom of the engine compartment.

An improved valve system handles high oil volume for fast operating cycle. The system is designed for easy access and serviceability. Built-in test ports make pressure tests on all circuits quick and easy. A complete hydraulic filter system, including a by-pass indicator visible from the cab, protects against dirt and foreign particles in the oil. Sight gauges show reservoir oil level at a glance.

Telescoping and tool cylinders of the all-hydraulic telescoping boom are well protected, yet easily accessible for routine maintenance.

The bucket adapter, incorporating four-bar linkage, is permanently mounted on the boom. T-bolts facilitate quick-changing of attachments. And, the selection of attachments provides the versatility to keep the G880C on the job . . .



excavating, trenching, ditching, sloping, loading, unloading, dredging, ripping, breaking, demolishing, material handling, grading, finishing, and cleaning up.

Some illustrations may show options.

Gradall is a registered trademark for hydraulic excavators, hydraulic material handlers, and attachments built by The Gradall Company.

RATED LIFT CAPACITY — Lb (kg)

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

Loads with an asterisk (*) indicate the load is limited by tipping. All other loads are limited by hydraulic capacity.

The rated lift capacity is based on machine being equipped with 4000 lb (1814 kg) counterweight and 8644-6001 46" (117 cm) excavating bucket weighing 880 lbs (399 kg). For other buckets, adjust the listed capacities as follows:

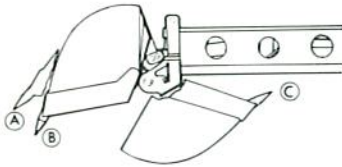
- 8644-6045 42" (107 cm) excavating — subtract 180 lbs (82 kg)
- 8644-6004 28" (71 cm) excavating — add 250 lbs (113 kg)
- 8644-6006 36" (91 cm) excavating — add 140 lbs (64 kg)
- 8644-6034 60" (152 cm) excavating — subtract 270 lbs (122 kg)
- 8644-6014 15" (38 cm) trenching — add 210 lbs (95 kg)
- 8644-6002 72" (183 cm) ditching — add 50 lbs (23 kg)
- 8644-6047 72" (183 cm) ditching — subtract 145 lbs (66 kg)
- 8644-6007 48" (122 cm) pavement removal — subtract 100 lbs (45 kg)

The load point is located on the bucket pivot point, including loads listed for maximum radius. Do not attempt to gain additional radius by wrapping the load line around the back of the bucket.

Do not attempt to lift or hold any load greater than these rated values at specified load radii and heights. The weight of slings and any auxiliary lifting devices must be deducted from the rated load to determine the net load that may be lifted.

LOAD POINT		LOAD RADIUS										Maximum Radius		Over End		Over Side	
		10' (3.0 m)		15' (4.6 m)		15'9" (4.8 m)		20' (6.1 m)		25' (7.6 m)							
		Over End	Over Side	Over End	Over Side	Over End	Over Side	Over End	Over Side	Over End	Over Side						
Above Ground Level	20' (6.1 m)									2909 (1320)	2909 (1320)	25'5" (7.7 m)	2848 (1292)	2848 (1292)			
	15' (4.6 m)			8113 (3680)	8113 (3680)			5784 (2624)	5784 (2624)	4137 (1877)	4137 (1877)	27'10" (8.5 m)	3429 (1555)	*3428 (1555)			
	10' (3.0 m)							7298 (3310)	*7185 (3259)	4989 (2263)	*4816 (2185)	29'1" (8.9 m)	3720 (1687)	*3563 (1616)			
	Boom Level 9' (2.7 m)					11,187 (5074)	*10,586 (4802)	7647 (3469)	*7111 (3226)	5166 (2343)	*4772 (2165)	29'3" (8.9 m)	3768 (1709)	*3494 (1585)			
	5' (1.5 m)							7766 (3523)	*6880 (3121)	5317 (2412)	*4589 (2082)	29'5" (9.0 m)	3880 (1760)	*3319 (1505)			
At Ground Level				10,606 (4811)	*10,129 (4594)			7321 (3321)	*6422 (2913)	5173 (2346)	*4400 (1996)	28'10" (8.8 m)	3991 (1810)	*3290 (1492)			
Below Ground Level	5' (1.5 m)			8843 (4011)	8843 (4011)			6471 (2935)	*6109 (2771)	4745 (2152)	*4147 (1881)	27'4" (8.3 m)	4112 (1865)	*3504 (1589)			
	10' (3.0 m)	10,194 (4624)	10,194 (4624)	7439 (3374)	7439 (3374)			5598 (2539)	5598 (2539)								
	15' (4.6 m)	9079 (4118)	9079 (4118)	6421 (2913)	6421 (2913)			4849 (2199)	4849 (2199)								
	20' (6.1 m)	8352 (3788)	8352 (3788)														

CAUTION: 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.



TWO-POSITION BUCKET

- A — Bucket open, lower pin position, for vertical walls or deep excavating. Bucket pivot 165°.
- B — Bucket open, upper pin position, for most applications. Bucket pivot 140°.
- C — Bucket closed, either pin position.

OPERATING RANGES WITH BOOM EXTENSIONS

	6' (1.8 m) Extension & 28" (71 cm) Bucket	8' (2.4 m) Extension & 28" (71 cm) Bucket	12' (3.7 m) Extension & Grading Blade
Surface Reach	38'3" (11.7 m)	40'3" (12.3 m)	43'9" (13.3 m)
Digging Depth	30'11" (9.4 m)	32'11" (10.0 m)	
Depth of 8' (2.4 m) Level Cut	29'10" (9.1 m)	31'10" (9.7 m)	
Loading Height, Boom Extended	21'11" (6.7 m)	22'11" (7.0 m)	

UPPERSTRUCTURE ENGINE

GM 4-71N diesel, with blower, liquid cooled, 2 cycle, 4 cylinder, 284 cid (4.7 L), 4 1/4" bore x 5" stroke (108 mm x 127 mm), 18.7:1 compression ratio, 65mm injectors. 160 hp (119 kW) gross at 2300 rpm, 145 hp (108 kW) net at 2300 rpm. 400 ft-lb (542 Nm) gross torque at 1600 rpm.

Altitude limit 1500' (457 m). De-rate approximately 1.8%/1000' (305 m) above 1500' (457 m).

Maximum slope: 60%

12V electric starter, 12V 55 amp alternator, dry type air cleaner with service indicator, oil filter.

Fuel tank capacity: 75 gal (284 L)

Oil capacity: 20 qt (18.9 L)

Cooling system capacity: 7.5 gal (28.4 L)

Optional: CAT 3208, Cummins 6BTA5.9

V-HP HYDRAULIC SYSTEM

Two gear-type pumps (one 3-section, one 2-section) on gear box, mounted on engine, with clutch for cold-weather starting. Engine-pump speed ratio, 1:1. Pressure-sensing unloader valve built into each pump to produce variable-flow output: minimum 121 gpm (458 L/min), maximum 167 gpm (632 L/min) total at 2300 rpm, 120°F (48.9°C). Auxiliary pump, 13 gpm (49 L/min), mounted on engine. **Optional:** Fixed flow hydraulic system.

Four double-acting cylinders —

2 boom hoist: 6" I.D., 3/4" rod (152 mm x 83 mm), 55 1/2" (1410 mm) stroke

1 tool: 6" I.D., 3/4" rod (152 mm x 83 mm), 18 3/4" (476 mm) stroke

1 boom telescoping: 5" I.D., 3/4" rod (127 mm x 83 mm), 13'6" (4.1 m) stroke

Two hydraulic motors: swing, 43 hp (32 kW); tilt, 52 hp (39 kW).

Operating pressures — Hoist: 2200 psi (15,169 kPa)

Telescoping: 1750 psi (12,066 kPa)

Swing: 2000 psi (13,790 kPa)

Tilt, tool: 2400 psi (16,548 kPa)

Remote: 2200 psi (15,169 kPa)

Joysticks: 500 psi (3,447 kPa)

Oil capacity: reservoir 147 gal (556 L), system 170 gal (643 L). Visual oil level gauges on reservoir.

Filtration system, built into reservoir: six filter elements (20 micron) with visual indicators, strainer on by-pass; magnet clusters built into filter housings; pressurized breather.

Fin and tube type oil cooler, with relief valve.

Pump relief valves on all circuits. Hose relief valves on hoist, telescope, swing and tool circuits.

ATTACHMENTS

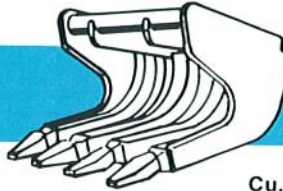
Buckets fabricated of steel plate, with high strength, low alloy cutting edges and wear strips. Standard attachments available for wide range of applications.



	Cu. yd.	m ³
8644-6004 28" (71 cm) Excavating bucket	1/2	.38
8644-6006 36" (91 cm) Excavating bucket	3/8	.48
8644-6045 42" (107 cm) Excavating bucket	1 1/8	.86
8644-6001 46" (117 cm) Excavating bucket	3/4	.57
8644-6034 60" (152 cm) Excavating bucket	1	.76



	Cu. yd.	m ³
8644-6014 15" (38 cm) Trenching bucket	1/4	.19



	Cu. yd.	m ³
8644-6007 48" (122 cm) Pavement removal bucket	1/2	.38

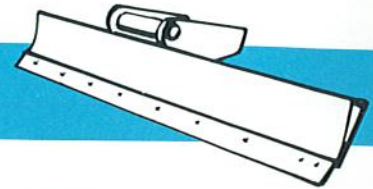


	Cu. yd.	m ³
8644-6002 72" (183 cm) Ditching bucket	7/8	.67
8644-6047 72" (183 cm) Ditching bucket	1 1/4	.96

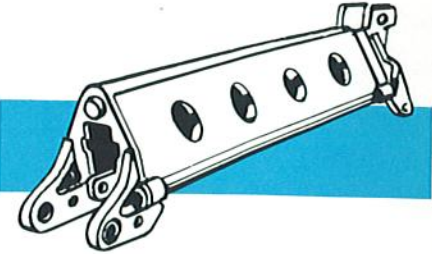


8644-6008 Single-tooth ripper

8644-6015 Steel mill ripper



8644-6005 8' (2.4 m)
Grading blade



8644-5014 6' (1.8 m)
Boom Extension

8644-5015 8' (2.4 m)
Boom Extension

8644-5016 12' (3.7 m)
Boom Extension

Special Superboom Package provides 47'-6" surface reach—Contact Factory for details.

GRADALL[®]

New Philadelphia, OH 44663



UPPERSTRUCTURE CAB

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

CONTROLS

Two joysticks (hoist & bucket, telescope & swing), one rocker pedal (tilt) control upperstructure. Joysticks mounted on movable console, adjustable for individual operator convenience.

One joystick on fixed console for hydraulic remote control of undercarriage travel, steering, and digging brakes.

Joysticks and rocker pedal are self-centering: when controls are released, power for movement disengages.

Pump selector valve. Emergency/parking brake control.

Engine controls: key-operated ignition/starter switch with key-on warning light, throttle and emergency shutdown. Oil pressure and water temperature gauges, voltmeter, hour meter.

SWING

Swing speed: 7.5 rpm. 0 to 90° in 3 seconds.

Swing brake: automatic swing parking brake, spring set, hydraulic release. Dynamic braking provided by hydraulic system.

UNDERCARRIAGE

6 × 4 and 6 × 6

Gross Vehicle Weight: 6 × 4 66,000 lb. (29,938 kg), axle rating
6 × 6 62,000 lb. (28,123 kg), axle rating

Wheel base: 176" (4.5 m)

Frame width: 42" (107 cm)

UNDERCARRIAGE ENGINE

GM V8-8.2L Turbocharged diesel, 4 cycle, 500 cid (8.2 L), 4.25" bore × 4.41" stroke (108 mm × 112 mm), 230 hp (172 kW) gross at 2800 rpm, 215 hp (160 kW) net at 2800 rpm, 510 ft-lbs (691 Nm) gross torque at 1700 rpm.

Optional: Cummins LTA-10 (6 × 4 only), Cummins 6CTA8.3

ELECTRICAL SYSTEM

12 volt, 61 amp alternator with integral voltage regulator, heavy-duty starter.

Batteries: (3) SAE #27F CIM-525.

COOLING SYSTEM

Fin and tube type radiator, with fan shroud, 6-blade 24" (61 cm) fan.

Capacity 7.5 gal (28.4 L)

FUEL SYSTEM

50 gal (189 L) tank, primary and secondary fuel filters.

AIR FILTER

Dry type.

OIL FILTER

Full flow, replaceable element.

GOVERNOR

Mechanical.

TRANSMISSION—6 × 4

Spicer CM6052-B constant mesh main with Spicer 7041 4-speed auxiliary. Approximate travel speed—mph (km/hr)

Aux. Trans.	Main Transmission 6 × 4				
	1st	2nd	3rd	4th	5th
Low	3 (4.8)	5 (8.0)	8 (12.9)	13 (20.9)	20 (32.0)
2nd	5 (8.0)	9 (14.5)	14 (22.4)	24 (38.4)	39 (62.4)
Direct	7 (11.3)	11 (17.7)	17 (27.2)	29 (46.4)	47 (75.2)
Overdrive	8 (12.9)	13 (20.9)	21 (33.8)	35 (56.3)	56 (89.6)

TRANSMISSION—6 × 6

Spicer CM6052-B constant mesh main 5 speeds forward, 1 reverse.

Rockwell T-226 transfer case.

Approximate travel speed—mph (km/hr)

Transfer Case	Main Transmission 6 × 6				
	1st	2nd	3rd	4th	5th
Low	3 (4.8)	5 (8.0)	8 (12.9)	13 (20.9)	21 (33.8)
High	7 (11.3)	12 (19.2)	19 (30.6)	32 (51.2)	51 (81.6)

Optional: Fuller RTO11609, RTO11613 or RTO6613

CLUTCH

14" (36 cm) single-plate. Spicer needle bearing universal joints.

AXLES 6 × 4

Front: Rockwell FL-941, 20,000 lb (9072 kg). Chain snubbers.

Rear: Rockwell SSHD tandem, 46,000 lb (20,866 kg), single reduction, straight line drive, 7.33:1 ratio, total final reduction 123:1.

Interaxle differential with cab controlled lockout.

No-spin differential on forward rear axle.

AXLES 6 × 6

Front: Rockwell FDS-1600, 16,000 lb (7258 kg), Ratio 6.80:1

Rear: Rockwell SSHD tandem, 46,000 lb (20,866 kg), single reduction, straight line drive, 6.83:1 ratio, total final reduction 123:1. Interaxle differential with cab controlled lockout.

No-spin differential on forward rear axle.

Note: With this unit we must supply 15:00 × 22.5 tires on the front axle.

FRAME

Wide-flange beam, 12" (30.5 cm), 45 lb/ft (67 kg/m). All welded.

SUSPENSION

Front: 13-leaf main spring, 41³/₈" × 3" (105 cm × 7.6 cm).

Rear: Hendrickson equalizer beam, 8" (20 cm) oscillation.

BRAKES

Rockwell Cam-Master, spring set cam brakes on rear. 6 × 4, Cam brakes on front. 6 × 6, Wedge brakes on front.

Front drums: 6 × 4, 16¹/₂" × 6" (419 mm × 152 mm). 6 × 6, 17¹/₄" × 5" (445 mm × 127 mm).

Rear drums: 16¹/₂" × 7" (419 mm × 178 mm)

Spring brake system incorporates emergency and parking brakes on both rear axles.

Automatic spitter valves with thermostat-controlled heaters on both air tanks.

12 cfm (5.7 L/sec) compressor.

WHEELS Disc, 10-stud, 11¹/₄" (29 cm) bolt circle.

STEERING Ross, hydraulic power steering.

TIRES

Single front: 6 × 4, 11:00 × 20 12 ply rated, highway tread.

6 × 6, 15:00 × 22.5 16 ply rated, traction tread.

Dual rear: 6 × 4 and 6 × 6, 11:00 × 20 12 ply rated, traction tread.

UNDERCARRIAGE CAB

One-man. Bostrom Wayfarer seat, adjustable fore and aft.

Adjustable side windows, ventilator in cowl. Tinted safety glass windows.

HYDRAULIC REMOTE CONTROL

Undercarriage powered by upperstructure engine through hydraulic motor and PTO attached to transmission. Propel and steering joystick in upperstructure cab. Brakes set automatically with joystick in neutral; emergency/parking brake controlled by push button. (Undercarriage engine off when hydraulic remote in use). Electrically-operated travel alarm mounted on undercarriage signals remote control movement in either direction, or reverse movement when powered by undercarriage engine. Meets SAE J-994b Type B classification.

STANDARD EQUIPMENT (Undercarriage)—

Sealed beam headlights, tail lights and stop lights, directional signals, identification light cluster on front and rear, 4-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.

OPTIONAL EQUIPMENT

Work lights: 2 floodlights on top of boom cradle, 1 floodlight and 1 spotlight on top of upperstructure cab.

Windshield wiper and washer upperstructure cab.

Heat resistant glass or lexan upperstructure cab.

Fuel gauge, upperstructure engine, in upperstructure cab.

Engine alarms: lights and buzzer in upperstructure cab, to warn of low oil pressure or high water temperature in upperstructure engine.

Pre-cleaner, upperstructure engine.

Vandalism protection kit: Lexan upperstructure cab windows,

metal window covers for undercarriage cab, locking bars for engine covers, locking cover on hydraulic reservoir, locking fuel cap, battery cover lock.

Spark arrestors.

Other options include: Engine start aid, air dryer-carrier, 90 amp alternator-upper, tool box-upper, tachometer-upper, revolving light on cab.

WEIGHT

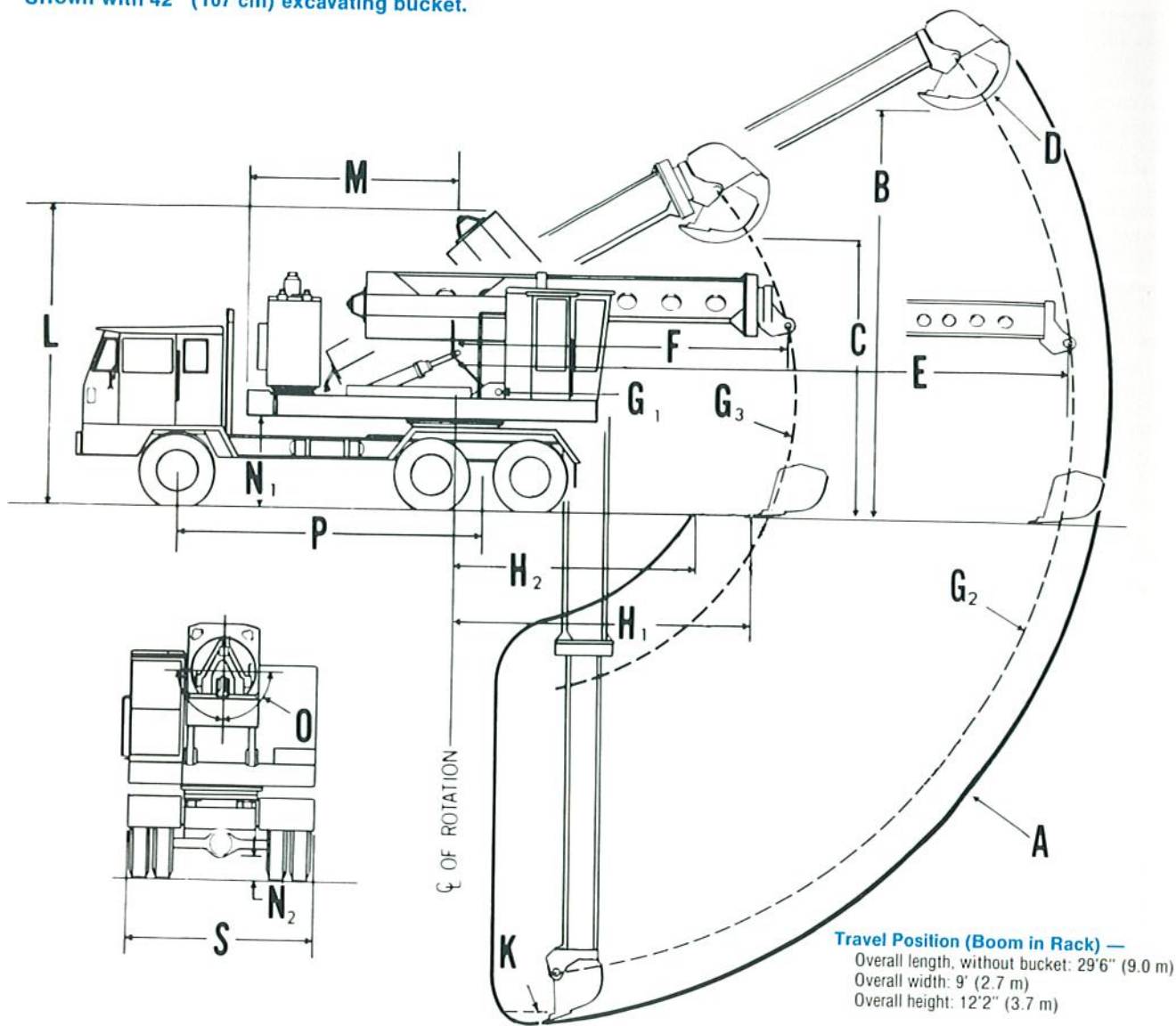
Approximate working weight, including 42" (107 cm) bucket, fuel tanks half full: 6 × 4 53,400 lb. (24,222 kg)

6 × 6 54,000 lb. (24,494 kg)

Includes 4000 lb (1814 kg) counterweight.

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

Shown with 42" (107 cm) excavating bucket.



Travel Position (Boom in Rack) —
 Overall length, without bucket: 29'6" (9.0 m)
 Overall width: 9' (2.7 m)
 Overall height: 12'2" (3.7 m)

- A — Maximum range
 Reach: 33'7" (10.2 m) at 5'8" (1.7 m) above ground level
 Surface reach: 33' (10.1 m)
 Digging depth: 25'4" (7.7 m)
- B — Loading height, boom extended: 18'6" (5.6 m)
- C — Loading height, boom retracted: 11'10" (3.6 m)
- D — Bucket pivot: 165°
- E — Boom length, extended: 29'3" (8.9 m)
- F — Boom length, retracted: 15'9" (4.8 m)
- G₁ — Boom pivot point: 6'2" (1.9 m) above ground level, 2'0" (.6 m) forward from centerline of rotation.
- G₂ — Attachment pivot, full range, boom extended
- G₃ — Attachment pivot, full range, boom retracted
- H₁ — Minimum reach for surface clean-up, bucket level at ground line, boom retracted: 14'1" (4.3 m)
- H₂ — Minimum surface reach, digging: 9'10" (3.0 m)
- K — Maximum depth for 8' (2.4 m) level cut: 24'3" (7.4 m)
- L — Maximum working height with bucket below ground level: 14'2" (4.3 m)
- M — Tail swing: 10'2" (3.1 m)
- N₁ — Upperstructure ground clearance: 4'8" (1.4 m)
- N₂ — Undercarriage ground clearance: 11" (28 cm)
- O — Boom tilt: 90° each way, total 180°
- P — Wheelbase: 176" (4.5 m)
- S — Overall width: 9' (2.7 m)

- Boom telescoping action: 13'6" (4.1 m)
- Swing: continuous
- Digging range: 270°
- Dumping range: 360°
- Boom raise and lower:
 - Above ground level 30°
 - Below ground level 90°
 - Total arc 120°
- Rated bucket tangential force, with 46" (117 cm) bucket: 17,290 lb (76.9 kN)
- Rated telescoping boom crowd force: 19,840 lb. (88.2 kN)

ABOVE-GROUND REACH

From ground level to attachment pivot, with boom full up and extended

	Standard Boom Cradle	w/High Boom Cradle Adapter
Without Extension	22'9" (6.9 m)	33'3" (10.1 m)
w/6' (1.8 m) Extension	25'9" (7.8 m)	37'9" (11.5 m)
w/8' (2.4 m) Extension	26'8" (8.1 m)	39'1" (11.9 m)