G880C
CRAWLER
SPECIFICATIONS
OPERATING RANGES

GRADALL®
HYDRAULIC EXCAVATORS

GRADALL 880C
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 improved with new, higher volume V-HP pump, relief and control valves.

Powerful tractor-type crawler undercarriage

Rugged and powerful, the two-speed tractor-type crawler undercarriage is built to take the punishment of tough conditions...rock, mud, sand. Individual track control, with counter-rotating track, provides full maneuverability in tight quarters. The automatic digging brake, spring set and hydraulically released, saves time on the job.

Two track adjustment cylinders provide quick adjustment for track tension. Four-spring recolts on each idler protects the track rail from breakage caused by rocks jamming in the track.

Other undercarriage features include sealed rollers with lifetime lubrication. Wide flange design forged rims and special heat treating combine to provide strong support for the weight of the machine and help withstand shock loads.

Upperstructure designed for rugged durability and operating efficiency

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

An improved valve system handles high oil volume for fast 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.

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. 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.

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Rated Lift Capacity Over End or Side — Lb (kg)

All loads shown are limited by hydraulic lift capacity rather than stability.

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 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 160 lb (82 kg)
- 8644-6004 28" (71 cm) excavating — subtract 250 lbs (113 kg)
- 8644-6008 36" (91 cm) excavating — subtract 210 lbs (95 kg)
- 8644-6014 15" (38 cm) trenching — add 140 lbs (64 kg)
- 8644-6034 60" (152 cm) excavating — subtract 270 lbs (122 kg)
- 8644-6002 72" (183 cm) ditching — add 50 lbs (23 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.

<table>
<thead>
<tr>
<th>LOAD POINT HEIGHT</th>
<th>LOAD RADIUS</th>
<th>Maximum Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>20' (6.1 m)</td>
<td>20' (6.1 m)</td>
<td>2762 † @ 25° 2' (1253) (7.7 m)</td>
</tr>
<tr>
<td>15' (4.6 m)</td>
<td>15' (4.6 m)</td>
<td>3397 † @ 27° 8' (1541) (8.4 m)</td>
</tr>
<tr>
<td>10' (3 m)</td>
<td>10' (3 m)</td>
<td>3713 † @ 29° 1' (1684) (9.9 m)</td>
</tr>
<tr>
<td>8'8&quot; (2.6 m)</td>
<td>Minimum Reach 11,187 (5204)</td>
<td>3768 † @ 29° 3' (1700) (9.9 m)</td>
</tr>
<tr>
<td>5' (1.5 m)</td>
<td>5' (1.5 m)</td>
<td>5385 (2443)</td>
</tr>
<tr>
<td>At Ground Level</td>
<td>At Ground Level</td>
<td>3888 @ 29° 5' (1264) (9 m)</td>
</tr>
<tr>
<td>10' (3 m)</td>
<td>10' (3 m)</td>
<td>4003 @ 26° 6' (1816) (8.7 m)</td>
</tr>
<tr>
<td>15' (4.6 m)</td>
<td>15' (4.6 m)</td>
<td>4665 (2252)</td>
</tr>
<tr>
<td>20' (6.1 m)</td>
<td>20' (6.1 m)</td>
<td>4122 @ 27° 5' (1874) (8.4 m)</td>
</tr>
</tbody>
</table>

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.

OPERATING RANGES
WITH BOOM EXTENSIONS

<table>
<thead>
<tr>
<th>6' (1.8 m) Extension &amp; 28° (71 cm) Bucket</th>
<th>6' (2.4 m) Extension &amp; 28° (71 cm) Bucket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface Reach 38°3' (11.7 m)</td>
<td>Surface Reach 40°3' (12.3 m)</td>
</tr>
<tr>
<td>Digging Depth 31°2' (9.5 m)</td>
<td>Digging Depth 33°2' (10.1 m)</td>
</tr>
<tr>
<td>Depth of 8' (2.4 m) Level Cut 30°1' (9.2 m)</td>
<td>Depth of 8' (2.4 m) Level Cut 32°1' (9.8 m)</td>
</tr>
<tr>
<td>Loading Height, Boom Extended 21°8' (6.6 m)</td>
<td>Loading Height, Boom Extended 22°8' (6.9 m)</td>
</tr>
</tbody>
</table>

12' (3.7 m) Extension & Grading Blade —
Surface Reach: 43°10' (13.4 m)

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 130°.

C — Bucket closed, either pin position.
ATTACHMENTS

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

<table>
<thead>
<tr>
<th>Cu. yd.</th>
<th>m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>8644-6004 28” (71 cm) Excavating bucket</td>
<td>½</td>
</tr>
<tr>
<td>8644-6005 36” (91 cm) Excavating bucket</td>
<td>¾</td>
</tr>
<tr>
<td>8644-6007 48” (122 cm) Pavement removal bucket</td>
<td>½</td>
</tr>
<tr>
<td>8644-6008 42” (107 cm) Excavating bucket</td>
<td>1¼</td>
</tr>
<tr>
<td>8644-6009 46” (117 cm) Excavating bucket</td>
<td>¾</td>
</tr>
<tr>
<td>8644-6015 48” (122 cm) Excavating bucket</td>
<td>¾</td>
</tr>
<tr>
<td>8644-6021 60” (152 cm) Excavating bucket</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cu. yd.</th>
<th>m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>8644-6002 72” (183 cm) Ditching bucket</td>
<td>¾</td>
</tr>
</tbody>
</table>

- 8644-6004 48” (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

8644-6014 15” (38 cm) Trenching bucket

8644-6008 Single-tooth ripper
8644-6015 Steel mill ripper

GRADALL
New Philadelphia, OH 44663
UPPERSTRUCTURE ENGINE
GM 4-71N diesel, with blower, liquid cooled, 2 cycle, 4 cylinder, 284 cid (4.7 L), 4¼" bore x 5" stroke (108 mm x 127 mm), 15.7:1 compression ratio. 160 hp (119 kW) gross at 2300 rpm, 145 hp (108 kW) net at 2300 rpm. 500 lb-ft (642 Nm) maximum 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 (19 L)
Cooling system capacity: 7.5 gal (28.4 L)
Optional: Deutz F6L413F6 diesel, natural aspirated, 4 cycle, air cooled, 6 cylinder, 580 cid (9.5 L), 4¾" bore x 5¾" stroke (122 mm x 139 mm), 18:1 compression ratio. 158 hp (118 kW) gross at 2300 rpm, 143 hp (107 kW) net at 2300 rpm. 450 lb-ft (610 Nm) maximum torque at 1600 rpm.
Altitude limit: 3000' (914 m). De-rate approximately 3.5%/1000' (305 m) above 3000' (914 m).
Maximum slope: 41%
12V electric starter, 12V 33 amp alternator, dry type air cleaner with service indicator, oil filter.
Fuel tank capacity: 75 gal (284 L)
Oil capacity: 20 qt (19 L)

V-HP HYDRAULIC SYSTEM
Two gear-type pumps (one 3-section, one 2-section) on gear box, mounted on engine, with clutching and/or feathering. 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, 5 gpm (19 L/min), mounted on engine.
Four double-acting cylinders —
2 boom hoist: 6" I.D., 3¾" rod (152 mm x 83 mm), 55½" (1410 mm) stroke
1 tool: 6¼" I.D., 3¾" rod (152 mm x 83 mm), 18½" (476 mm) stroke
1 boom telescoping: 5¼" I.D., 3½" rod (127 mm x 83 mm), 136" (411 mm) stroke
Two hydraulic motors: swing, 43 hp (32 kW); tilt, 52 hp (39 kW).
Operating pressures —
Hoist: 2200 psi (1516 bar)
Telescoping: 1750 psi (1205 bar)
Swing: 2000 psi (1379 bar)
Tilt: tool: 2400 psi (1655 bar)
Crawler: 2400 psi (1655 bar)
Joysticks: 500 psi (34.4 bar)
Oil capacity: reservoir 147 gal (555 L), system 170 gal (644 L).
Visual oil level gauges on reservoir.
Filtration system, built into reservoir: six filter elements (10 micron) with visual indicators, strainer on by-pass, magnet clusters built into filter housings; air filter on reservoir breather.
Fin and tube type oil cooler, with relief valve.
Pump relief valves on all circuits. Hose relief valves on hoist, telescope, swing, travel, and tool circuits.

CAB
All-weather cab with 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 understructure. Joysticks mounted on movable console, adjustable for individual operator convenience. One joystick on fixed console for crawler operation.
Pump selector valve, foot selector for travel speed. Joysticks and rocker pedal are self-centering; when controls are released, power for movement disengages.
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.

CRAWLER
Track length: 12' (3.7 m)
Pad width: 24" (61 cm) or 30" (76 cm)
Overall width: 92" (2.3 m)
Ground clearance: 14" (37 cm)

DRIVE
Two-section hydraulic motor, 91 hp (69 kW), powers each track; all-gear drive.
Travel speed, on flat, level surface — mph (km/hr):

<table>
<thead>
<tr>
<th>Speed Selector</th>
<th>Pump Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>2.00 (3.2)</td>
</tr>
<tr>
<td>Low</td>
<td>0.86 (1.4)</td>
</tr>
</tbody>
</table>

Gradeability: Low speed, 60%, limited by engine lubrication requirements; high speed, 42%, limited by drawbar pull.
Drawbar pull: 40,235 lb (179 kN) maximum.

STEERING
Individual track control with single joystick. Tracks counter-rotate to pivot machine around on centerline.

TRAVEL ALARM
Electrically operated travel alarm mounted in counterweight area signals crawler movement in either direction. Meets SAE J-964 Type B classification.

WEIGHT
Approximate working weight, including 42" (107 cm) bucket, fuel tanks half full —

<table>
<thead>
<tr>
<th>24&quot; (61 cm) Pads</th>
<th>30&quot; (76 cm) Pads</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>445,010 lb (204,045 kg)</td>
</tr>
<tr>
<td>Bearing Pressure</td>
<td>9.1 psi (63 kPa)</td>
</tr>
</tbody>
</table>

Includes 4000 lb. (1814 kg) counterweight.

OPTIONAL EQUIPMENT
Work lights: 2 floodlights on top of boom cradle, 1 floodlight and 1 spotlight on top of cab.
Windshield wiper.
Heat resistant glass.
Fuel gauge in cab.
Engine alarms: Lights and buzzer in cab, to warn of low oil pressure or high water temperature in engine.
Engine pre-cleaner.
Single-point lifting yoke.
High boom cradle adapter: Raises boom pivot 4' (1.2 m) higher than standard, for increased above-ground reach as may be needed for certain industrial and mine scaling applications. Boom raise and lower with high cradle, 50° above level, 70° below level.
Vandalism protection kit: Lexan in cab windows, locking bars for engine covers, locking cover on hydraulic reservoir, locking fuel cap, battery cover lock.
Spark arrester.

Fluid capacities in U.S. gallons.
Specifications subject to change without notice.
Shown with 42" (107 cm) excavating bucket.

**A** — Maximum range:
  - Reach: 33'10" (10.3 m) at 5'4" (1.6 m) above ground
  - Surface reach: 33'4" (10.1 m)
  - Ditching depth: 26'3" (8 m)
  - Ditching depth: 20'8" (6.3 m)

**B** — Loading height, boom extended: 17'7" (5.4 m)

**C** — Loading height, boom retracted: 11'2" (3.4 m)

**D** — Bucket wrist action: 165°

**E** — Boom length, extended: 29'3" (8.9 m)

**F** — Boom length, retracted: 15'9" (4.8 m)

**G** _1_ — Attachment pivot, full range, boom extended

**G** _2_ — Attachment pivot, full range, boom retracted

**H** _1_ — Minimum reach for surface clean-up, bucket level at ground line, boom retracted: 14'4" (4.4 m)

**H** _2_ — Minimum surface reach, digging: 10'5" (3.2 m)

**J** _1_ — 8' (2.4 m) of level bottom, 16'8" (5.1 m) deep with boom down 52°

**J** _2_ — 8' (2.4 m) of level bottom, 25'3" (7.7 m) deep with boom down 90°

**K** — Maximum working height: 13'10" (4.2 m) with boom down 50°, 12'7" (3.8 m) with boom down 90°

**L** — Tail swing: 10'2" (3.1 m)

**M** _1_ — Upperstructure ground clearance: 4' (1.2 m)

**M** _2_ — Crawler ground clearance: 14'1/2" (37 cm)

**N** — Track length: 12' (3.7 m)

**O** — Pad width: 24" (61 cm) or 30" (76 cm)

**P** — Overall length: 9'2" (2.8 m)

**R** — Boom tilt: 90° each way, total 180°

**Travel position, (Boom Retracted)**

<table>
<thead>
<tr>
<th>Overall length with bucket:</th>
<th>Overall width: 9'2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>26'3&quot; (8 m)</td>
<td>(2.8 m)</td>
</tr>
</tbody>
</table>

**Swing: continuous**

<table>
<thead>
<tr>
<th>Digging range: 360° (except vertical)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Booming range: 360°</td>
</tr>
</tbody>
</table>

| Rated bucket tangential force,        |
| with 48" (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

<table>
<thead>
<tr>
<th>Without Extension</th>
<th>Standard Boom Cradle</th>
<th>w/High Boom Cradle Adapter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>21'11&quot; (6.7 m)</td>
<td>32'5&quot; (9.9 m)</td>
</tr>
<tr>
<td>w/8' (18 m) Extension</td>
<td>24'10&quot; (7.6 m)</td>
<td>36'11&quot; (11.3 m)</td>
</tr>
<tr>
<td>w/8' (2.4 m) Extension</td>
<td>26&quot; (7.9 m)</td>
<td>38'5&quot; (11.7 m)</td>
</tr>
</tbody>
</table>