Gradall G3WD Excavators

The Gradall G3WD Hydraulic Excavator is a 2-axle, 4x2 or 4x4 machine with a single engine powering both the upper structure and carrier. Its improved design incorporates a lower center of gravity and front axle lock-outs for greater stability on fewer axles. And, the short tail-swing is ideal for working on modern rebuilding projects without interrupting traffic flow. It also features the Gradall 5-way boom, lifting, digging, tilting, swinging and telescoping with simultaneous movement of the boom improving cycle time. For outstanding versatility, most of the attachments used with the previous Gradall G440 and G3W can be utilized... ditching buckets, grading blade, pavement-removal bucket, trenching buckets, and single-tooth ripper.

Innovations save time and labor

Getting to the job site is easier with an electronic powershift transmission. 5 speeds forward, 3 reverse, and the driver never has to clutch. Once on the job site, a number of Gradall innovations assure easier, faster, more productive operation. Joystick controls are easier and faster to operate and the upper cab remote 3-speed (forward or reverse) shift-on-the-go driving capability gets you around the jobsite faster.

For power and speed, a flow divider and intensifier has been incorporated allowing all circuits to simultaneously operate at a steady engine RPM. The bucket can be telescoped, tilted, opened and closed while the boom lifts and swings into position. A hydraulic cylinder tilts the entire boom, rather than just the tool, to keep the boom strength aligned with the attachment. A unique Slide-A-Boom is included in the G3WD package without extra cost added to the purchase price. This unique feature adds 3' to the boom length without the weight penalty or time-consuming installation of a boom extension.

Single engine, 2-axle efficiency minimizes maintenance

A single fuel-saving diesel engine provides the power to travel at highway speeds and then work with greater productivity at the job site. Equipment maintenance is simplified with only one engine to service... one radiator... one fuel tank to fill... one charging system... one battery... and one transmission. And, with the G3WD’s 2-axle design, there are only 4 brakes and 4 or 6 tires to service. Finally, key service points are fully accessible, even while standing on the ground. To further simplify service, the boom construction is simplified so that the hydraulic cylinder can be serviced in the boom. The rod seal on the hoist cylinder can even be serviced without taking the entire hoist cylinder assembly apart.

To make sure minor problems don’t become major, a new electronic monitoring system monitors the torque converter pressure and temperature, air pressure, engine temperature and engine oil pressure. An alarm sounds in the upper cab and the operator can then check lights and gauges on the lower cab dash to pinpoint the problem.

A 4x4 workhorse that travels at highway speeds

The 4x4 version of the Gradall G3WD has the maneuverability of a wheeled excavator and the rough-terrain abilities of all-wheel drive. It works virtually anywhere... and it gets to the job site under its own power. There’s no need to waste time loading and unloading it onto a lowboy trailer. No need to haul it around with an expensive tractor. Optional rough terrain sized tires provide better traction in off-road conditions. And, the heavy-duty front axles are designed to handle the rigors of rough terrain.

The G3WD, it’s a rugged, powerful machine in a sensible, money-saving package.

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SHOWN WITH 30" (76cm) BUCKET

TWO POSITION BUCKET
A - BUCKET OPEN. LOWER PIN POSITION, FOR VERTICAL WALLS OR DEEP EXCAVATING BUCKET PIVOT 185°
B - BUCKET OPEN. UPPER PIN POSITION, FOR MOST APPLICATIONS BUCKET PIVOT 144°
C - BUCKET CLOSED. EITHER POSITION
The loads shown here are in compliance with SAE Standard J-1097. They do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity.

All loads with an asterisk (*) indicate the load is limited by tipping rather than hydraulic capacity.

The rated lift is based on the machine being equipped with 5100 lb (2313 kg) counterweight and 8345-6002 30" (760mm) excavator bucket weighing 620 lb (281 kg). For other buckets, adjust the listed capacities as follows:

8345-6003 24" (61cm) Excavating-
Add 212 lb (63 kg)
8345-6006 36" (91cm) Excavating-
Add 45 lb (20 kg)
8345-6005 30" (76cm) Pavement
Removal-Subtract 20 lb (9 kg)
8345-6026 60" (152cm) Ditching-
Add 20 lb (9 kg)
8345-6019 66" (168cm) Ditching-
Cleaning-Subtract 5 lb (3 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 devices must be deducted from the rated load to determine the net load that may be lifted.

Caution: all rated loads are based on the machine being stationary and level on a firm supporting surface. For safe working loads, the user is expected to make 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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**TABLE 1: G3WD 4x4 LIFT CAPACITY OVER SIDE OR REAR-LB. (KG.) 7733-3008**

<table>
<thead>
<tr>
<th>LOAD POINT HEIGHT</th>
<th>LOAD CAPACITY (SIDE-A-BOOM IN)</th>
<th>LOAD RADIUS</th>
<th>MAX. RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Above Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
</tr>
<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Below Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
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<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
</tbody>
</table>

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**TABLE 2: G3WD 4x2 LIFT CAPACITY OVER SIDE OR REAR-LB. (KG.) 7733-3002**

<table>
<thead>
<tr>
<th>LOAD POINT HEIGHT</th>
<th>LOAD CAPACITY (SIDE-A-BOOM IN)</th>
<th>LOAD RADIUS</th>
<th>MAX. RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Above Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
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<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Below Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
</tr>
<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
</tbody>
</table>

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**TABLE 3: LOAD RADIUS (SIDE-A-BOOM OUT)**

<table>
<thead>
<tr>
<th>LOAD POINT HEIGHT</th>
<th>LOAD RADIUS (SIDE-A-BOOM OUT)</th>
<th>LOAD RADIUS</th>
<th>MAX. RADIUS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Above Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
</tr>
<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
<tr>
<td></td>
<td>10' (3M)</td>
<td>15' (4.5M)</td>
<td>20' (6M)</td>
</tr>
<tr>
<td>Below Ground Level</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
<td>Side (REAR)</td>
</tr>
<tr>
<td></td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
<td>Rear (SIDE)</td>
</tr>
</tbody>
</table>
## NOMENCLATURE AND DIMENSIONS FOR HYDRAULIC EXCAVATORS — SAE J1193 MAR 81

<table>
<thead>
<tr>
<th>DIM</th>
<th>G3WD (4x4)</th>
<th>G3WD (4x2)</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>24°9' (7.54m)</td>
<td>27°9' (8.46m)</td>
<td>OVERALL LENGTH (BOOM IN RACK) WITH BUCKET</td>
</tr>
<tr>
<td>B</td>
<td>12°3' (3.73m)</td>
<td>12° 5' (3.78m)</td>
<td>OVERALL HEIGHT (BOOM IN RACK) WITH BUCKET</td>
</tr>
<tr>
<td>C1</td>
<td>8° (2.44m)</td>
<td>8° (2.44m)</td>
<td>WIDTH OF UPPERSTRUCTURE</td>
</tr>
<tr>
<td>C2</td>
<td>8° (2.44m)</td>
<td>8° (2.44m)</td>
<td>WIDTH OF CARRIER (STANDARD TIRES)</td>
</tr>
<tr>
<td>C3</td>
<td>8° (2.44m)</td>
<td>8° (2.44m)</td>
<td>WIDTH OF CARRIER (OPTIONAL TIRES)</td>
</tr>
<tr>
<td>E</td>
<td>7°6' (2.29m)</td>
<td>7°6' (2.29m)</td>
<td>SWING CLEARANCE, REAR OF UPPERSTRUCTURE</td>
</tr>
<tr>
<td>F</td>
<td>10°8' (3.25m)</td>
<td>10°8' (3.25m)</td>
<td>TOP OF CAB TO GROUNDLINE</td>
</tr>
<tr>
<td>G</td>
<td>11°3' (3.43m)</td>
<td>11°3' (3.43m)</td>
<td>CLEARANCE, UPPERSTRUCTURE TO GROUNDLINE</td>
</tr>
<tr>
<td>L</td>
<td>20°8' (6.30m)</td>
<td>20°8' (6.30m)</td>
<td>OVERALL LENGTH OF UNDERCARRIAGE</td>
</tr>
<tr>
<td>N</td>
<td>12° (3.04m)</td>
<td>12° (3.04m)</td>
<td>GROUND CLEARANCE (PER SAE J1234)</td>
</tr>
<tr>
<td>P</td>
<td>2°10' (6.44m)</td>
<td>2°10' (6.44m)</td>
<td>CENTER OF REAR AXLE TO AXIS OF ROTATION</td>
</tr>
<tr>
<td>R</td>
<td>13°3' (3.96m)</td>
<td>13°3' (3.96m)</td>
<td>WHEELBASE</td>
</tr>
<tr>
<td>AA</td>
<td>27°3' (8.31m)</td>
<td>30°4' (9.25m)</td>
<td>MAXIMUM RADIUS AT GROUNDLINE (165° PIVOT)</td>
</tr>
<tr>
<td>AB</td>
<td>18°10' (5.74m)</td>
<td>21°8' (6.60m)</td>
<td>MAXIMUM DIGGING DEPTH (165° PIVOT)</td>
</tr>
<tr>
<td>AC</td>
<td>16°4' (4.98m)</td>
<td>19°5' (5.92m)</td>
<td>MAXIMUM DEPTH FOR 8° (2.5 m) LEVEL CUT</td>
</tr>
<tr>
<td>AD</td>
<td>7°4' (2.24m)</td>
<td>8°2' (2.49m)</td>
<td>MINIMUM RADIUS OF 8° (2.5 m) LEVEL CUT AT DEPTH &quot;AC&quot;</td>
</tr>
<tr>
<td>AF</td>
<td>4°10' (1.47m)</td>
<td>6°4' (1.93m)</td>
<td>MAXIMUM DEPTH OF VERTICAL WALL WHICH CAN BE EXCAVATED</td>
</tr>
<tr>
<td>AG</td>
<td>11°1' (3.38m)</td>
<td>14°2' (4.32m)</td>
<td>MINIMUM LEVEL CUT RADIUS WITH BUCKET FLAT ON GROUNDLINE</td>
</tr>
<tr>
<td>AH</td>
<td>7°7' (2.31m)</td>
<td>11°5' (3.48m)</td>
<td>MINIMUM Radius AT GROUNDLINE</td>
</tr>
<tr>
<td>AK</td>
<td>6°3' (1.91m)</td>
<td>6°3' (1.91m)</td>
<td>BOOM PIVOT TO GROUNDLINE</td>
</tr>
<tr>
<td>AL</td>
<td>7°6' (2.31m)</td>
<td>11°5' (3.48m)</td>
<td>BOOM PIVOT TO AXIS OF ROTATION</td>
</tr>
<tr>
<td>AP</td>
<td>3°9' (1.14m)</td>
<td>3°9' (1.14m)</td>
<td>BUCKET TOOTH RADIUS</td>
</tr>
<tr>
<td>AS</td>
<td>144° &amp; 165°</td>
<td>144° &amp; 165°</td>
<td>BUCKET PIVOT ANGLE</td>
</tr>
<tr>
<td>AU</td>
<td>22° 8' (6.91m)</td>
<td>25° 8' (7.82m)</td>
<td>MAXIMUM TELESCOPING BOOM LENGTH (BOOM PIVOT TO BUCKET PIVOT)</td>
</tr>
<tr>
<td>AV</td>
<td>12° 2' (3.71m)</td>
<td>15° 2' (4.62m)</td>
<td>MINIMUM TELESCOPING BOOM LENGTH (BOOM PIVOT TO BUCKET PIVOT)</td>
</tr>
<tr>
<td>AX</td>
<td>95° 95° 95° 95°</td>
<td>95° 95° 95° 95°</td>
<td>BOOM TILT ANGLE</td>
</tr>
<tr>
<td>BA</td>
<td>28° (8.53m)</td>
<td>31° (9.45m)</td>
<td>MAXIMUM RADIUS OF WORKING EQUIPMENT (165° PIVOT)</td>
</tr>
<tr>
<td>BB</td>
<td>23° 4' (7.11m)</td>
<td>24°11' (7.59m)</td>
<td>MAXIMUM HEIGHT OF WORKING EQUIPMENT</td>
</tr>
<tr>
<td>BD</td>
<td>16° 9' (5.11m)</td>
<td>18° 4' (5.59m)</td>
<td>MINIMUM CLEARANCE OF BUCKET TEETH WITH BUCKET PIVOT AT MAXIMUM HEIGHT</td>
</tr>
<tr>
<td>BE</td>
<td>12° 2' (3.71m)</td>
<td>13° 9' (4.19m)</td>
<td>MINIMUM CLEARANCE OF BUCKET TEETH AT MAXIMUM BOOM HEIGHT</td>
</tr>
<tr>
<td>BF</td>
<td>11° 4' (3.45m)</td>
<td>12° 11' (3.39m)</td>
<td>MIN. CLEARANCE OF FULLY CURLED BUCKET AT MAX. BOOM HEIGHT</td>
</tr>
<tr>
<td>BG</td>
<td>13° 8' (4.17m)</td>
<td>11° 4' (3.45m)</td>
<td>MAXIMUM HEIGHT OF WORKING EQUIPMENT WITH BUCKET BELOW GROUNDLINE</td>
</tr>
</tbody>
</table>

### Boom Raise & Lower:
- Above ground level: 32°
- Below ground level: 75°
- Total arc: 107°

### TRAVEL POSITION (4x4)
- Boom in rack, without bucket —
  - Overall Length: 21'7" (6.60 m)
  - Overall Height: 11'10" (3.61 m) (standard tires)
  - Overall Height: 11'11" (3.63 m) (optional tires)
  - Overall Width: 8' 0" (2.4 m) (standard tires)

### TRAVEL POSITION (4x2)
- Boom in rack, without bucket —
  - Overall Length: 21'8" (6.60 m)
  - Overall Height: 11'11" (3.64 m) (standard tires)
  - Overall Width: 8' 0" (2.4 m) (optional tires)
G3WD SPECIFICATIONS (4x4) and (4x2)

CARRIER
156" (396 cm) wheel base. Frame width: 42" (107 cm), wide-flange beam, 12" (30.5 cm) St/ft (82.0 kg/m). Gross Vehicle Weight: 4x2: 36,200 lb (16,400 kg) axle rating, 4x4: 39,000 lb (17,600 kg) axle rating.

CARRIER CAB
Full instrumentation with electronic warning monitoring system. Tinted safety glass windows. Sliding windows left, right, and rear. Fresh air heater and defroster. Alarm for reverse travel. Fire extinguisher, come light and suspension seat with seat belt.

ENGINE
Cummins engine: 6BT5.9 turbo charged diesel, liquid cooled, 4 cycle, inline 6 cylinder, 359 cid (5.9 L), 4.02" bore x 4.72" stroke (102 mm x 120 mm), 175.1 comp. ratio, 160 hp (119 kW) gross @ 2500 rpm, 143 hp (107 kw) net @ 2500 rpm, 394 ft lb (534 N.M.) gross torque @ 1700 rpm, Mechanical Governor. Donaldson Air Cleaner. Full flow oil filter with spin-on element.

ELECTRICAL SYSTEM
12 volt, 60 amp alternator with integral voltage regulator. Battery: SAE #8D CME-900.

COOLING SYSTEM
Fin and tube type radiator with fan shroud. 6-blades 24" (61 cm) fan.

TRANSMISSION
Funk 2000 six speed full powershift. Six speed forward, three reverse and neutral. Ratios: forward 2.2; 4.64; 3.53; 2.00; 1.41; 0.80, reverse 8.2; 3.53; 1.41; remote 4.64, 2.0, 0.8.

TORQUE CONVERTER
Funk P20 12.75" three element single stage. 2.1:1 stall torque ratio.

FUEL SYSTEM
65 gal (245 L) fuel tank, primary and secondary fuel filters.

TRAVEL SPEED
4x2: Approx 50 mph (80.5 km/hr).
4x4: Approx 45 mph (74.8 km/hr).

WEIGHT
Approximate working weight, including 60" (152 cm) ditching bucket.
4x2: 33,000 lb (1498 kg).
4x4: 33,500 lb (15196 kg).

DRIVE TRAIN
Spicer needle bearing universal joints.

AXLES
4x2: Front: Eaton EFA-12, 13,200 lb (5987 kg).
4x4: Front: Spicer S1602016, 16,000 lb (7257 kg).
Rear: Rockwell: R-255, 23,000 lb (10433 kg) double reduction. Ratio 7.8:1.
No spin differential on rear axle.

SUSPENSION
Front: 14-leaf spring. 41¾" x 3" (105 cm x 7.1 cm), automatic lockout.
Rear: Solid mount.

BRAKES
4x2: Rockwell Cam-Master, spring set cam brakes on rear. Cam brakes on front.
Front drums: 16½" x 6" (419 mm x 127 mm)
Rear drums: 16½" x 7" (419 mm x 178 mm)
Spring brake system incorporates emergency and parking brakes on rear axle.
4x4: Rockwell Cam-Master, spring set cam brakes on rear. Wedge brakes on front.
Front drums: 17¾" x 4" (458 mm x 102 mm)
Rear drums: 16½" x 7" (419 mm x 178 mm)
Spring brake system incorporates emergency and parking brakes on rear axle.

WHEELS
4x2: Cast spoke, with demountable rim. Optional: Disc. 10-stud, 11¾" (29 cm) bolt circle.
4x4: Disc. 10-stud, 11¾" (29 cm) bolt circle.

TIRES
4x2: Single Front: 11.00 x 20.0 14 ply rated highway tread.
Dual Rear: 11.00 x 20.0 14 ply rated traction tread.
4x4: Single Front: 15.00 x 22.5 16 ply rated tubeless traction tread.
Dual Rear: 11.00 x 20.0 14 ply rated traction tread.
Optional:
4x4: Single Front: 15.00 x 22.5 14 ply rated tubeless highway tread.
4x4: Single Front & Rear: 18.00 x 22.5 16 ply rated tubeless traction tread.

STEERING
Ross integral hydraulic power steering win dependent hydraulic system including hydraulic pump, flange mounted to torque converter PTO, and two quart reservoir with filter.

HYDRAULIC SYSTEM
Two section pump, flange mounted to torque converter PTO with spline disconnect, 97.1 gpm (366 L/Min) @ 2300 rpm full load, 120° F (48.9°C). Four section flow divider.

SWING
Swing motor: 36.5 hp. 8.1 rpm swing.
Swing Parking Brake: Automatic wet swing parking brake, spring set, hydraulic release. Dynamic braking provided by hydraulic system.

PROPEL MOTOR
49.5 hp

OPERATING PRESSURE — 2800 psi max.
Six double acting cylinders.

1 Boom Hoist:
6" (152 mm) bore x 3" (76 mm) rod
1 Tool
5" (127 mm) bore x 3" (76 mm) rod
1 Telescoping
4" (102 mm) bore x 11½" (294 mm) rod x 10" (0.6) stroke
1 Tilt
5" (127 mm) bore x 3" (76 mm) rod
2 Front Axle Lock-out Cylinders

HYDRAULIC OIL CAPACITY

UPPERSTRUCTURE CAB
All weather cab with tinted safety glass windows, skylight, acoustical treatment, and defroster. 3-way adjustable seat. Signal horn.

UPPER CAB CONTROLS
Two joysticks (hoist & bucket, telescope & swing), one rocker switch (tilt), control upperstructure. Joysticks mounted on movable console, adjustable for individual operator convenience and comfort. Two rocker pedals control hydraulic remote control of carrier travel and steering. Rocker switch controls selection of three forward and reverse speeds. Emergency brake push button.
Joysticks and foot rocker pedals are self-centering: when controls are released, power for movement disengages, and swing and travel brakes set automatically.

ENGINE CONTROLS
While in remote, the carrier is powered by engine through a hydraulic motor attached to transmission.
Electric operated travel alarm signals remote travel in either direction, and reverse in carrier operation. Meets SAE J-944b Type B classification.

STANDARD EQUIPMENT CARRIER
Sealed beam headlights, tail lights, back-up lights, stop lights, identification light cluster on front and rear, directional lights, 4-way hazard lights, instrument lights. Gauges for oil pressure, water temperature, dual air tank pressures, fuel, voltmeter, speedometer, tachometer, odometer, converter oil temp. & pressure gauges, hour meter, windshield washer, windshield washer, wheel and axle wrenches, mirror system with plane mirrors. Front tow hooks. Tool box. Air dryer.

OPTIONAL EQUIPMENT
Vandalism protection kit: Lexan upperstructure cab windows, metal window covers for undercarriage cab, locking bar for engine cover, locking fuel cap, battery cover lock. Spark arrestor.

ATTACHMENTS
8345-6002 30" (76 cm) Excavating bucket
8345-6003 24" (61 cm) Excavating bucket
8345-6005 36" (91 cm) Excavating bucket
8345-6005 30" (76 cm) Pavement removal bucket
8345-6026 60" (152 cm) Ditching bucket
8345-6019 66" (168 cm) Ditch cleaning bucket
8345-6015 Single-tooth ripper
8345-6004 8" (2.4 m) Grading blade
8345-5003 Material handling extension
8345-5002 4" (1.2m) Boom extension
8345-6032 Guardrail cleatout attachment

Specifications subject to change without notice.
Fluid Capacities in U.S. Gallons

*Some illustrations may show options.