Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with SAE Standards. Except where otherwise noted, specifications are based on a machine with all standard equipment. 20.5-25, 12 PR, L3 tires with 1820 lb. (826 kg) CaCl₂ solution in rear tires. ROPS cab, full fuel tank, and 175 bhp (89 kW) operator.

**Rated Power @ 2200 rpm:**
- **SAE:** 155 hp (116 kW)
- **DIN 70 020:** 166 kW

**Engine:** John Deere 6-466T
- **Type:** 4-stroke cycle, turbocharged diesel
- **Bore and stroke:** 4.56 x 4.75 in. (116 x 121 mm)
- **No. of cylinders:** 6
- **Dispacement:** 466 cu. in. (7636 L)
- **Maximum net torque @ 1400 rpm:** 430 ft-lb (581 Nm) (56.4 kg m)
- **Cooling fan:** Blower
- **Air cleaner w/restriction indicator:** Dry
- **Electrical system:** 12 volt w/42-amp alternator
- **Batteries:** (two 12 volt) 25 amps at 80°F (27°C) Reserve capacity: 160 min. each BCI group 31 cold starting capacity at 0°F (-18°C) 625 amp

**Torque Converter:**
- **Type:** Twin turbine
- **Torque multiplication:** 4.92 to 1

**Transmission:** Power Shift planetary

**Forward Speeds:**
- 1st: 0-3.3 mph (5.3 km/h)
- 2nd: 3.3-7.1 mph (5.3-11.4 km/h)
- 3rd: 0-12.8 mph (20.6 km/h)
- 4th: 12.8-27.3 mph (20.6-43.9 km/h)

**Reverse Speeds:**
- 1st: 0-3.8 mph (6.1 km/h)
- 2nd: 3.8-8.2 mph (6.1-13.2 km/h)

**Differentials - choice of:**
- Front and rear conventional
- Front hydraulic differential lock and rear conventional
- Front NoSpin and rear conventional

**Drive Axles:** Inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 22-degrees total (15.6 in. [396 mm] vertical travel at center of tire).

**Steering:**
- Full power steering. Frame articulated 80 degrees by two hydraulic cylinders.
- Turning radius (measured to centerline of outside tire): 16 ft. 6 in. (5.00 m)
- Cylinder size: Stroke 17.24 in. (438 mm)
- Bore 3.54 in. (90 mm)
- Rod diameter 1.77 in. (45 mm)

**Brakes:**
- Service: Power-actuated, 4-wheel inboard-mounted, wet disk. Foot-operated by either pedal.
- Parking: 10 x 1.5 in. (254 x 38 mm) expanding shoe on transmission, output shaft, foot-operated.
- Includes transmission disconnect with warning light and buzzer.

**Hydraulic Systems:**
- Steering and loader functions:
  - An engine-driven gear-type pump delivers 63.0 gpm (3.07 L/s) at 500 psi (3450 kPa) (42.2 kg/cm²) and 2200 engine rpm. Loader function relief valve pressure setting is 2625 psi (18 099 kPa) (164.6 kg/cm²). The maximum steering pressure is 2400 psi (16 548 kPa) (116.8 kg/cm²).
  - Control: Single-lever, dual hydraulic valve.
  - Optional triple hydraulic valve for fork or multipurpose bucket.
- Brakes:
  - An engine-driven, gear-type pump delivers 3.6 gpm (3 L/s) at 2200 engine rpm and 600 psi (4137 kPa) (28 kg/cm²). Maximum system pressure is 2550 psi (16 303 kPa) (116.2 kg/cm²).
  - Loader hydraulic operating cycle times at full throttle:
    - Raise: 6.1 sec.
    - Dump: 2.0 sec.
    - Lowering: float 4.3 sec.
    - Power: 4.8 sec.
- Maximum lift capacity with general purpose bucket:
  - Maximum height: 14,680 lb. (6660 kg)
  - Ground level: 31,325 lb. (14 210 kg)

**Hydraulic Cylinders:**
- **Bore:** 6.25 in. (160 mm)
- **Stroke:** 26.42 in. (671 mm)
- **Bucket, one piece:** 6.25 in. (160 mm)
- **Cylinder rods:** Ground, heat-treated, chrome-plated, polished
- **Boom cylinder rods:** 2.75 in. (70 mm) dia.
- **Bucket cylinder rods:** 3.00 in. (76 mm) dia.

**Tires — choice of:**
- 16.00-24, 12 PR, grader tread, G2
- 20.5-25, 12 PR, rock tread, L3
- 20.5-25, 12 PR, loader tread, L2 w/o w/o valve stem protector
- 20.5-25, 16 PR, rock tread, L3 w/valve stem protector
- 20.5-25 XRAT

**Capacities:**
- **Cooling system:** 29 qt. 28 liters
- **Fuel tank:** 67 gal. 254 liters
- **Crankcase:** 18 qt. 17 liters
- **Crankcase, including filter:** 20 qt. 19 liters
- **Transmission case and filter:** 39 qt. 37 liters
- **Front differential:** 24 qt. 23 liters
- **Rear differential:** 24 qt. 23 liters
- **Loader hydraulic sump:** 100 qt. 95 liters

**Additional Standard Equipment:**
- Hydraulic oil cooler
- Instrument panel warning lights:
  - Hydraulic oil pressure
  - Low oil pressure
  - Parking brake
  - Key switch
  - Lights, driving w/o guard
  - Lights, flashing and turn signal
  - Lights, stop and tail
- Muffler
- Pre cleaner
- Push button start
- Rear bottom guard
- Reverse warning alarm
- ROPS canopy w/seat belt
- Service step, left-hand rear
- Toolbox
- Transistorized voltage regulator
- Transmission clutch disconnect

**Optional or Special Equipment:**
- Additional battery
- Adjustable deluxe seat
- Adjustable suspension seat
- Automatic boom height control
- Bucket teeth
- Counterweight, side
- Drawbar, bolt-on
- Engine coolant heater
- Ether starting aid
- Floor mat
- ROPS cab with wiper/defroster, pressurizer, dome light, front wiper and 90-amp alternator
- ROPS cab with air conditioner, heater/defroster, pressurizer, dome light, front wiper and 90-amp alternator
- SMV emblem
- Secondary steering
- 3-in. (76 mm) seat belt
- Trip hydraulic valve for loader
- Water separator, fuel
- Windshield washer

**Specifications:**
- **U.S.:** 29 qt. 28 liters
- **Liters:** 67 gal. 254 liters
- **Crankcase:** 18 qt. 17 liters
- **Crankcase, including filter:** 20 qt. 19 liters
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- **Front differential:** 24 qt. 23 liters
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- **Hydraulic oil cooler:**
- **Instrument panel warning lights:**
  - Hydraulic oil pressure
  - Low oil pressure
  - Parking brake
  - Key switch
  - Lights, driving w/o guard
  - Lights, flashing and turn signal
  - Lights, stop and tail
- **Muffler:**
- **Pre cleaner:**
- **Push button start:**
- **Rear bottom guard:**
- **Reverse warning alarm:**
- **ROPS canopy w/seat belt:**
- **Service step, left-hand rear:**
- **Toolbox:**
- **Transistorized voltage regulator:**
- **Transmission clutch disconnect:**
- **Front fenders:**
- **Hydraulic front differential lock:**
- **Hydraulic tube shield:**
- **License plate bracket:**
- **Lights, front and rear work:**
- **Lights, driving w/guard:**
- **Lockable engine sidesheds w/foot hood:**
- **Lockable instrument panel covers:**
- **NoSpin canopy w/seat belt:**
- **Rear axle disconnect:**
- **For ROPS cab:**
  - Mirrors
  - Radio—AM
  - Rear wiper and cover
  - Windshield washer
# 644D Loader Operating Information

## Operating Information

<table>
<thead>
<tr>
<th>Operating Information</th>
<th>General Purpose</th>
<th>*General Purpose</th>
<th>Light Material</th>
<th>Multipurpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity, heaped, SAE</td>
<td>3 cu. yd. (2.29 m³)</td>
<td>3.5 cu. yd. (2.68 m³)</td>
<td>4.5 cu. yd. (3.44 m³)</td>
<td>2.5 cu. yd. (1.91 m³)</td>
</tr>
<tr>
<td>Capacity, struck, SAE</td>
<td>2.52 cu. yd. (1.93 m³)</td>
<td>2.72 cu. yd. (2.06 m³)</td>
<td>3.87 cu. yd. (2.96 m³)</td>
<td>1.99 cu. yd. (1.52 m³)</td>
</tr>
<tr>
<td>Bucket width</td>
<td>104.75 in. (2.66 m)</td>
<td>110.75 in. (2.81 m)</td>
<td>110.75 in. (2.81 m)</td>
<td>104.75 in. (2.66 m)</td>
</tr>
<tr>
<td>Breakout force, SAE J752C</td>
<td>24,430 lb. (109 kN) (11,085 kg)</td>
<td>21,080 lb. (94 kN) (9,565 kg)</td>
<td>19,560 lb. (87 kN) (8,875 kg)</td>
<td>23,320 lb. (103 kN) (10,535 kg)</td>
</tr>
<tr>
<td>Tipping load, straight</td>
<td>25,210 lb. (11,435 kg)</td>
<td>23,560 lb. (10,685 kg)</td>
<td>24,440 lb. (11,090 kg)</td>
<td>21,700 lb. (9,845 kg)</td>
</tr>
<tr>
<td>Tipping load, 46-deg. full turn, SAE</td>
<td>21,860 lb. (9,915 kg)</td>
<td>20,310 lb. (9,190 kg)</td>
<td>21,120 lb. (9,580 kg)</td>
<td>18,890 lb. (8,575 kg)</td>
</tr>
<tr>
<td>Tipping load, 35-deg. turn</td>
<td>22,620 lb. (10,260 kg)</td>
<td>21,060 lb. (9,550 kg)</td>
<td>21,870 lb. (9,920 kg)</td>
<td>19,370 lb. (8,785 kg)</td>
</tr>
<tr>
<td>Reach at 45-deg. dump, 7 ft. (2.13 m) clearance</td>
<td>60.14 in. (1529 mm)</td>
<td>52.04 in. (1317 mm)</td>
<td>63.28 in. (1607 mm)</td>
<td>86.84 in. (2206 mm)</td>
</tr>
<tr>
<td>Reach at 45-deg. dump, full height</td>
<td>36.75 in. (933 mm)</td>
<td>40.34 in. (1025 mm)</td>
<td>42.66 in. (1089 mm)</td>
<td>35.22 in. (905 mm)</td>
</tr>
<tr>
<td>Dump clearance at 45-deg. dump, full height</td>
<td>117.0 in. (2970 mm)</td>
<td>113.20 in. (2875 mm)</td>
<td>110.93 in. (2818 mm)</td>
<td>112.3 in. (2852 mm)</td>
</tr>
<tr>
<td>Overall length</td>
<td>23 ft. 0.7 in. (7.03 m)</td>
<td>23 ft. 6.1 in. (7.17 m)</td>
<td>23 ft. 9.3 in. (7.25 m)</td>
<td>23 ft. 7.1 in. (7.19 m)</td>
</tr>
<tr>
<td>Loader clearance circle, bucket in carry position</td>
<td>38 ft. 5.1 in. (11.61 m)</td>
<td>38 ft. 10.5 in. (11.82 m)</td>
<td>38 ft. 11.2 in. (11.87 m)</td>
<td>38 ft. 5.6 in. (11.72 m)</td>
</tr>
<tr>
<td>Operating weight</td>
<td>29,320 lb. (13,300 kg)</td>
<td>30,110 lb. (13,660 kg)</td>
<td>29,910 lb. (13,570 kg)</td>
<td>30,270 lb. (13,730 kg)</td>
</tr>
</tbody>
</table>

*See your dealer for buckets meeting this operating information.

Loader operating information is based on machine with all standard equipment, 20.5-25, 12 PR, L2 tires with 1820 lb. (826 kg) of CaCl₂ solution in rear tires, ROPS cab, full fuel tank and 175 lb. (80 kg) operator. Operating information is affected by tire size, ballast and attachments. For selected items, add or subtract the following:

### Adjustments to operating weights and tipping loads for general purpose bucket

<table>
<thead>
<tr>
<th>Add (+) or deduct (-) lb. (kg) as indicated for loaders with:</th>
<th>Loader Operating Weight</th>
<th>Tipping Load Straight</th>
<th>Tipping Load 35° Turn</th>
<th>Tipping Load 40° Full Turn, SAE</th>
</tr>
</thead>
<tbody>
<tr>
<td>16.00-24, 12 PR, G2 with CaCl₂</td>
<td>-750 lb. (340 kg)</td>
<td>-905 lb. (410 kg)</td>
<td>-825 lb. (375 kg)</td>
<td>-790 lb. (360 kg)</td>
</tr>
<tr>
<td>16.00-24, 12 PR, G2 without CaCl₂</td>
<td>-2100 lb. (950 kg)</td>
<td>-2915 lb. (1325 kg)</td>
<td>-2645 lb. (1200 kg)</td>
<td>-2570 lb. (1165 kg)</td>
</tr>
<tr>
<td>20.5-25, 12 PR, L2 without CaCl₂</td>
<td>-1820 lb. (825 kg)</td>
<td>-2705 lb. (1225 kg)</td>
<td>-2460 lb. (1115 kg)</td>
<td>-2385 lb. (1060 kg)</td>
</tr>
<tr>
<td>20.5-25, 12 PR, L3 with CaCl₂</td>
<td>+345 lb. (155 kg)</td>
<td>+260 lb. (120 kg)</td>
<td>+235 lb. (105 kg)</td>
<td>+230 lb. (105 kg)</td>
</tr>
<tr>
<td>20.5-25, 12 PR, L3 without CaCl₂</td>
<td>-1470 lb. (665 kg)</td>
<td>-2450 lb. (1110 kg)</td>
<td>-2225 lb. (1010 kg)</td>
<td>-2155 lb. (980 kg)</td>
</tr>
<tr>
<td>20.5-25, 16 PR, L3 with CaCl₂</td>
<td>+435 lb. (200 kg)</td>
<td>+325 lb. (145 kg)</td>
<td>+295 lb. (135 kg)</td>
<td>+285 lb. (130 kg)</td>
</tr>
<tr>
<td>20.5-25, 16 PR, L3 without CaCl₂</td>
<td>-1385 lb. (630 kg)</td>
<td>-2385 lb. (1080 kg)</td>
<td>-2165 lb. (980 kg)</td>
<td>-2100 lb. (950 kg)</td>
</tr>
<tr>
<td>23.5-25, 20 PR, L3 with CaCl₂</td>
<td>+2900 lb. (1315 kg)</td>
<td>+2585 lb. (1170 kg)</td>
<td>+2345 lb. (1065 kg)</td>
<td>+2260 lb. (1035 kg)</td>
</tr>
<tr>
<td>23.5-25, 20 PR, L3 without CaCl₂</td>
<td>+555 lb. (250 kg)</td>
<td>-980 lb. (444 kg)</td>
<td>-890 lb. (405 kg)</td>
<td>-860 lb. (390 kg)</td>
</tr>
<tr>
<td>Less ROPS cab</td>
<td>-790 lb. (360 kg)</td>
<td>-750 lb. (340 kg)</td>
<td>-720 lb. (325 kg)</td>
<td>-710 lb. (320 kg)</td>
</tr>
<tr>
<td>ROPS canopy in lieu of ROPS cab</td>
<td>-350 lb. (160 kg)</td>
<td>-315 lb. (145 kg)</td>
<td>-305 lb. (140 kg)</td>
<td>-300 lb. (135 kg)</td>
</tr>
</tbody>
</table>

**Note to be used with 23.5-25 tires with CaCl₂.

**In lieu of ballast one weight can be used with ballast in 16.0-24 or 20.5-25 tires.