**644E-H LOADER**

Model shown may include options

### ENGINE PERFORMANCE

<table>
<thead>
<tr>
<th>Nm</th>
<th>lb-ft</th>
<th>hp</th>
<th>kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>746</td>
<td>550</td>
<td>180</td>
<td>138</td>
</tr>
<tr>
<td>776</td>
<td>500</td>
<td>170</td>
<td>127</td>
</tr>
<tr>
<td>710</td>
<td>450</td>
<td>160</td>
<td>119</td>
</tr>
<tr>
<td>644</td>
<td>400</td>
<td>150</td>
<td>110</td>
</tr>
</tbody>
</table>

**TORQUE**

<table>
<thead>
<tr>
<th>ENGINE SPEED—RPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
</tr>
</tbody>
</table>

**FUEL CONSUMPTION**

<table>
<thead>
<tr>
<th>L/h</th>
<th>gal/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>4.75</td>
</tr>
<tr>
<td>9</td>
<td>4.17</td>
</tr>
<tr>
<td>8</td>
<td>3.61</td>
</tr>
<tr>
<td>6</td>
<td>2.91</td>
</tr>
</tbody>
</table>

*Depending on operating variables

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**FEATURES**

- 185 SAE net hp (138 kW) John Deere turbocharged diesel engine
- Four-wheel drive
- 3.75 or 4.0 cu. yd. (2.8 or 3.1 m³) general purpose buckets or 3.5 cu. yd. (2.7 m³) multipurpose bucket
- Single-phase, single-stage torque converter with countershaft, Power Shift transmission, 4 speeds forward, 3 reverse
- Power steering, Articulated frame, Four-wheel wet-disk power brakes and parking brake
- Inboard planetary final drives
- Single-lever or optional two-lever control with optional automatic return-to-dig and optional boom height control
- Optional front axle hydraulic differential lock or NoSPIN front differential
- Optional vandal protection
- Rollover protective structure (ROPS) with canopy, Meets criteria of SAE J394a, SAE J1040 APR88, OSHA 1926.1001, and ISO 3471. Also meets FOPS (falling object protective structure) criteria SAE J231 JAN 81 and ISO 3449.

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**ADD VERSATILITY WITH:**

- Auxiliary bucket spill guard
- Auxiliary bucket skid shoes
- Bolt-on cutting edge
- Bucket teeth
- Coupler system
- Forks
- Side-dump bucket
- Snow plows
- Special buckets
644E-H LOADER SPECIFICATIONS

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, 23.5-25, 12 PR, L2 tires, two batteries, ROPS cab, full fuel tank, and 175 lb. (80 kg) operator.

Rated Power @ 2200 rpm: 185 hp (138 kW)

Engine: John Deere 6076A
Type: 4-stroke cycle, turbocharged aftercooled diesel
Bore and stroke: 4.56 x 4.75 in. (116 x 121 mm)
Net engine power is with standard equipment including air cleaner, exhaust system, alternator and cooling fan, at standard conditions per SAE J349 and DIN 70 020, using No. 2-D fuel @ 35 API gravity. No derating is required up to 10,000 feet (3050 m) altitude. Gross power is without cooling fan.

Transmission
Type: Countershaft, Power Shift
Torque multiplication: 3.06 to 1

Torque Converter:
Type: Single phase-single stage
Torque multiplication: 3.06 to 1

Forward Speeds: mph km/h
1. 4.8 7.7
2. 7.6 12.2
3. 16.4 26.4
4. 25.5 41.0

Reverse Speeds: mph km/h
1. 4.8 7.7
2. 7.6 12.2
3. 16.4 26.4

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

Drive Axles: Inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 26-degrees total (36.1 in. [916 mm] vertical travel at center of tire).

Steering: Full power steering. Frame articulated 80 degrees by two hydraulic cylinders.

Brakes: Service Power-actuated, 4-wheel inboard-mounted, wet disk. Foot-operated by either pedal.

Parking: 9.84 x 3.26 in. (250 x 80 mm) expanding shoe on transmission, output shaft, foot-operated. Includes transmission disconnect with 2-level monitor warning.

Hydraulic Systems:
Steering and loader functions: An engine-driven gear-type pump delivers 65.5 gpm (248 Umin) at 600 psi (4137 kPa) (42.2 kg/cm²) and 2200 engine rpm. Loader function relief valve pressure setting is 2950 psi (20.4 kPa). The maximum steering pressure is 2600 psi (17 927 kPa) (182.7 kg/cm²).

Control... Single-lever or optional dual-lever, dual hydraulic valve. Optional single hydraulic valve for fork or multifunction bucket.

Brake-driven, axial piston pump delivers 6.1 gpm (31 L/min) at 2200 engine rpm and 600 psi (4137 kPa) (42.2 kg/cm²). Maximum system pressure is 2300 psi (15 859 kPa) (161.7 kg/cm²).

Loader hydraulic system: Two spool valve w/single-lever control. Three spool valve w/telescopic boom control.

Tires - choice of:
20.5-25, 12 PR, loader tread, L2
20.5-25, 16 PR, loader tread, L2
20.5-25, 16 PR, rock tread, L3
20.5 R25, One Star, L2 equivalent
23.5-25, 12 PR, loader tread, L2
23.5-25, 20 PR, rock tread, L3

Capacities: U.S. Liters
Fuel tank 75 gal. 284
Cooling system 30 qt. 26.5
Crankcase 23 qt. 22
Transmission case and filters 14 qt. 13
Front differential 24 qt. 21
Rear differential 24 qt. 21
Loader hydraulic sump 120 qt. 115

Additional Standard Equipment:
Differential, conventional, front and rear

Lighting:
Headlights 4
Parking lights 2
Parking brake lights 1
Indicator lights 3

Optional or Special Equipment:
Buckets:
Auxiliary spill guard
Boom cutting edges
Bucket teeth

Differentials:
Front axle disconnect
Front hydraulic differential lock
Front NoSPIN differential lock

Engine:
Alternator-130 amp
Cold weather (ether)
Starting aid
Engine coolant heater
Rainwater sand shield
Water separator, fuel

Frames:
Auxiliary bottom guards, transmission and front frame
Fenders, front or rear
License plate bracket
Rear counterweights
Steps, frame mounted w/access platform

Hydraulics:
Two spool valve w/single-lever control
Three spool valve, single-lever control w/auxiliary control lever for third function

Brakes:
Service Power-actuated, 4-wheel inboard-mounted, wet disk. Foot-operated by either pedal.

Parking: 9.84 x 3.26 in. (250 x 80 mm) expanding shoe on transmission, output shaft, foot-operated. Includes transmission disconnect with 2-level monitor warning.

HYDRAULIC CYLINDERS:
Bore Stroke
Boom, two 6.30 in. (160 mm) 26.77 in. (680 mm)
Bucket, one 7.09 in. (180 mm) 24.45 in. (621 mm)

Cylinder rods 4.56 x 4.75 in. (116 x 121 mm)
Ground, heat-treated, chrome-plated, polished

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20.5-25, 12 PR, loader tread, L2
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### OPERATING INFORMATION

<table>
<thead>
<tr>
<th>Bucket Type</th>
<th>General Purpose</th>
<th>General Purpose*</th>
<th>Multipurpose*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Capacity, heaped, SAE</strong></td>
<td>3.75 cu. yd. (2.8 m³)</td>
<td>4.0 cu. yd. (3.1 m³)</td>
<td>3.5 cu. yd. (2.68 m³)</td>
</tr>
<tr>
<td><strong>Capacity, struck, SAE</strong></td>
<td>3.16 cu. yd. (2.42 m³)</td>
<td>3.63 cu. yd. (2.79 m³)</td>
<td>2.94 cu. yd. (2.25 m³)</td>
</tr>
<tr>
<td><strong>Bucket width</strong></td>
<td>114 in. (2.90 m)</td>
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</tr>
<tr>
<td><strong>Breakout force, SAE J732C</strong></td>
<td>34,257 lb. (152.4 kN)</td>
<td>35,048 lb. (155.9 kN)</td>
<td>31,926 lb. (142.0 kN)</td>
</tr>
<tr>
<td><strong>Tipping load, straight</strong></td>
<td>29,435 lb. (13,352 kg)</td>
<td>29,002 lb. (13,155 kg)</td>
<td>25,435 lb. (11,537 kg)</td>
</tr>
<tr>
<td><strong>Tipping load, 40-deg. full turn, SAE</strong></td>
<td>24,848 lb. (11,269 kg)</td>
<td>24,414 lb. (11,072 kg)</td>
<td>21,194 lb. (9,612 kg)</td>
</tr>
<tr>
<td><strong>Reach at 45-deg. dump, 7 ft. (2.13 m) clearance</strong></td>
<td>61.81 in. (1,570 mm)</td>
<td>60.70 in. (1,542 mm)</td>
<td>61.77 in. (1,569 mm)</td>
</tr>
<tr>
<td><strong>Reach at 45-deg. dump, full height</strong></td>
<td>39.50 in. (1,003 mm)</td>
<td>37.74 in. (959 mm)</td>
<td>40.43 in. (1,027 mm)</td>
</tr>
<tr>
<td><strong>Dump clearance at 45-deg. dump, full height</strong></td>
<td>114.6 in. (2,911 mm)</td>
<td>115.9 in. (2,944 mm)</td>
<td>112.7 in. (2,863 mm)</td>
</tr>
<tr>
<td><strong>Overall length</strong></td>
<td>25 ft. 9.1 in. (7.85 m)</td>
<td>25 ft. 7.1 in. (7.80 m)</td>
<td>26 ft. 1.7 in. (7.97 m)</td>
</tr>
<tr>
<td><strong>Loader clearance circle, bucket in carry position</strong></td>
<td>41 ft. 7.3 in. (12.68 m)</td>
<td>42 ft. 2.8 in. (12.87 m)</td>
<td>42 ft. 8 in. (13.00 m)</td>
</tr>
<tr>
<td><strong>Operating weight</strong></td>
<td>35,306 lb. (16,015 kg)</td>
<td>35,820 lb. (16,248 kg)</td>
<td>37,432 lb. (16,979 kg)</td>
</tr>
</tbody>
</table>

Add (+) or deduct (-) lb. (kg) as indicated for loaders with:

- **20.5-25, 12 PR, L2 without CaCl₂**
  - Add: -1587 lb. (720 kg)
  - Deduct: -1142 lb. (518 kg)
  - Add: -1014 lb. (460 kg)
  - Deduct: -985 lb. (447 kg)

- **20.5-25, 12 PR, L2 with CaCl₂**
  - Add: +234 lb. (106 kg)
  - Deduct: +1477 lb. (670 kg)
  - Add: +1316 lb. (597 kg)
  - Deduct: +1276 lb. (579 kg)

- **20.5-25, 16 PR, L2 without CaCl₂**
  - Add: -1499 lb. (680 kg)
  - Deduct: -1078 lb. (489 kg)
  - Add: -959 lb. (435 kg)
  - Deduct: -930 lb. (422 kg)

- **20.5-25, 16 PR, L2 with CaCl₂**
  - Add: +322 lb. (146 kg)
  - Deduct: +1541 lb. (699 kg)
  - Add: +1373 lb. (623 kg)
  - Deduct: +1332 lb. (604 kg)

- **20.5-25, 16 PR, L3 without CaCl₂**
  - Add: -1235 lb. (560 kg)
  - Deduct: -886 lb. (402 kg)
  - Add: -789 lb. (358 kg)
  - Deduct: -767 lb. (348 kg)

- **20.5-25, 16 PR, L3 with CaCl₂**
  - Add: +586 lb. (266 kg)
  - Deduct: +1731 lb. (785 kg)
  - Add: +1543 lb. (700 kg)
  - Deduct: +1497 lb. (679 kg)

- **20.5R25, One Star, L2 equivalent without CaCl₂**
  - Add: -1120 lb. (508 kg)
  - Deduct: -805 lb. (365 kg)
  - Add: -717 lb. (325 kg)
  - Deduct: -694 lb. (315 kg)

- **20.5 R25, One Star, L2 equivalent with CaCl₂**
  - Add: +701 lb. (318 kg)
  - Deduct: +1812 lb. (822 kg)
  - Add: +1616 lb. (733 kg)
  - Deduct: +1567 lb. (711 kg)

- **23.5-25, 12 PR, L2 with CaCl₂**
  - Add: +2396 lb. (1087 kg)
  - Deduct: +3446 lb. (1563 kg)
  - Add: +3069 lb. (1392 kg)
  - Deduct: +2978 lb. (1351 kg)

- **23.5-25, 20 PR, L3 without CaCl₂**
  - Add: +494 lb. (224 kg)
  - Deduct: +355 lb. (161 kg)
  - Add: +317 lb. (144 kg)
  - Deduct: +309 lb. (140 kg)

- **23.5-25, 20 PR, L3 with CaCl₂**
  - Add: +2890 lb. (1311 kg)
  - Deduct: +3801 lb. (1724 kg)
  - Add: +3386 lb. (1536 kg)
  - Deduct: +3285 lb. (1490 kg)

- **ROPS canopy in lieu of ROPS cab**
  - Add: -320 lb. (145 kg)
  - Deduct: -302 lb. (137 kg)
  - Add: -282 lb. (128 kg)
  - Deduct: -278 lb. (126 kg)

- **Bucket teeth**
  - Add: +262 lb. (119 kg)
  - Deduct: -331 lb. (150 kg)
  - Add: -326 lb. (148 kg)
  - Deduct: -324 lb. (147 kg)

- **Without second counterweight**
  - Add: -1136 lb. (516 kg)
  - Deduct: -2626 lb. (1191 kg)
  - Add: -2248 lb. (1019 kg)
  - Deduct: -2156 lb. (978 kg)

*Allied equipment ordered through John Deere dealer*

- Loader operating information is based on machine with all standard equipment, 23.5-25, 12 PR, L2 tires, two batteries, 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:

**CaCl₂ not to be used with two standard counterweights. If CaCl₂ is used, remove second counterweight.**
This guide, representing buckets not necessarily manufactured by John Deere, will help you in selecting proper bucket size for material density and loader configurations. However, specific bucket size should only be determined after adding or subtracting all the tipping load changes due to specifications.

**644E-H LOADER**

- **Tires**
  - Tread width: 82.05 in. (2084 mm)
  - Width over tires: 107.44 in. (2729 mm)