Curves shown are for an engine complete with fuel system, water pump, lubricating pump, air cleaner, alternator, fan and muffler.

Data shows performance observed at standard conditions of 29.38 in. of mercury barometric pressure (500 ft.) and 85°F air temperature.

**ENGINE PERFORMANCE**

**FEATURES**

- 4-wheel drive
- Choice of 4 self-leveling loader buckets
- Twin-turbine torque converter w/ Power-Shift transmission
- 4 speeds forward, 2 reverse
- Power steering, articulated frame
- 4-wheel, disk-type brakes and parking brake
- Inboard planetary final drives
- Single-lever control w/automatic return-to-dig
- Brake-actuated transmission disconnect
- "No-Spin" front axle differential
- Vandal protection

May be equipped with:
- Backhoe
- Sideboom
SPECIFICATIONS—JD644-A LOADER

(Horsepower ratings are under SAE standard conditions of 500-ft altitude and 85°F. temperature and DIN 70 020 (non-corrected). Engine maintains rated horsepower up to 16,000 feet (5,000 m) altitude.)

**Horsepower (at 2,400 engine rpm):**
- Gross: 141
- Net: 131

Net engine flywheel horsepower is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. The gross engine horsepower is without fan. Gross and net flywheel horsepower ratings are under SAE standard conditions of 500-ft altitude and 85°F. temperature and DIN 70 020 (non-corrected). Engine maintains rated horsepower up to 16,000 feet (5,000 m) altitude.

**Engine:** John Deere Diesel, vertical 6-cylinder, valve-in-head, 4-stroke cycle—turbo-built with turbocharger

- Bore and stroke: 4.25 x 4.75 in. (108 x 121 mm)
- Piston displacement: 404 cu. in. (6,620 cm³)
- Compression ratio: 16.5:1
- Governing speed range: 800-2,600 rpm
- Maximum torque @ 1,600 rpm: 345 lb-ft (47.7 kg-m)
- N.A.C.C. or A.M.A. (U.S. Tax) horsepower: 43.3
- Maximum torque Multiplication Ratio: 4.8 to 1
- Torque Multiplication Ratio: 4.8 to 1

**Transmission:**
- Twin-turbine converter with Power-Shift transmission (4 speeds forward—2 reverse).

**Differentials:**
- Front: "No-Spin" type
- Rear: Standard

**Drive Axles:**
- 4-wheel drive with inboard-mounted planetary gears to each wheel. Front axle fixed. Rear axle oscillates 22-degree total. 15.3 in. (389 mm) vertical travel at center of tire.

**Travel Speeds:**
- Forward:
  - 1st and 2nd turbine: 0 - 3.3 mph, 0 - 5.3 km/h
  - 2nd turbine: 3.3 - 7 mph, 5.3 - 11.3 km/h
  - 2nd turbine: 12.6 - 23 mph, 20.2 - 37 km/h
- Reverse:
  - 1st and 2nd turbine: 0 - 4.5 mph, 0 - 7.2 km/h
  - 2nd turbine: 4.5 - 9.5 mph, 7.2 - 15.3 km/h
- Shifting of turbines, within ranges, is automatic.

**Brakes:**
- Service: Power actuated, 4-wheel, inboard-mounted wet disk.
- Foot-operated by either right or left pedal.
- Parking: 10 x 1.5-in. (254 x 38 mm) expanding shoe type on transmission output shaft. Adjustable, hand operated with warning light on dash.

**Steering:**
- Full power steering. Frame articulated 80 degrees by two hydraulic cylinders. Turning radius of 15 ft. 5 in. (4.70 m). Vehicle clearance circle is 35 ft. 8 in. (10.87 m).

**Hydraulic Systems:**
- Loader functions system ... Live, transmission-driven, vane-type pump delivers 60 gpm (227 lpm) at 2,400 engine rpm and 2,250 psi (158.2 kg/cm²) relief-valve pressure setting.
- Control: Single-lever, double hydraulic system
- Optional triple hydraulic system for fork or multi-purpose bucket.

**Tires:**
- 16-24, 12-ply-rating, rock grader tread
- 17.5-25, 12-ply-rating, loader rock tread
- 20.5-25, 12-ply-rating, loader rock tread

**Wheel Treads:**
- Front and rear (center-to-center): 80 in. (2,03 m)

**Capacities:**
- Fuel tank: 50 gal. (189.3 L)
- Crankcase and filter: 17 qt. (16,1 L)
- Transmission case and filters: 9.75 gal. (36.9 L)
- Front differential: 6 gal. (22.7 L)
- Rear differential: 6.5 gal. (24.6 L)
- Loader hydraulic sump: 17.5 gal. (66.2 L)

**Standard Equipment:**
- Adjustable cushioned seat
- Engine side shields
- Front fenders
- Gauges: Transmission oil temperature
- Transmission oil pressure
- Fuel
- Coolant temperature
- Engine oil pressure
- Ammeter
- Key-switch safety start
- Cigar lighter
- Parking brake warning light
- Head- and tail-lights
- Work lights (front and rear)
- Lights (flashing and turning)
- 55-amp. alternator
- Two 95-amp. batteries
- Transistorized voltage regulator
- Vandal protection
- Horn
- Fuel filter
- Automatic return-to-dig
- Side counterweights (1 set)
- Fixed drawbar
- Vertical exhaust w/rain cap
- Rear bottom guard
- Hand grips
- Electric hour meter
- Ether starting
- Cab (includes roll-over protective structure and seat belt)

**Special Equipment:**
- Rear axle disconnect
- Reverse warning system
- Triple hydraulic system
- Bucket teeth
- Heater
- Engine coolant heater
- Pre-cleaner
- Side counterweights (2nd set)
- Splash guards for fenders
- Backhoe
- Sideboom
- Log and Lumber fork
### Operating Information:

<table>
<thead>
<tr>
<th>OPERATING INFORMATION</th>
<th>General purpose</th>
<th>Loose materials</th>
<th>Light materials</th>
<th>Multi-purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity, heaped, SAE</td>
<td>2-1/2 cu. yd.</td>
<td>3 cu. yd.</td>
<td>4-1/2 cu. yd.</td>
<td>2-1/4 cu. yd.</td>
</tr>
<tr>
<td>(1.91 m³)</td>
<td>(2.29 m³)</td>
<td>(3.44 m³)</td>
<td></td>
<td>(1.72 m³)</td>
</tr>
<tr>
<td>Capacity, struck, SAE</td>
<td>2.05 cu. yd.</td>
<td>2.50 cu. yd.</td>
<td>3.73 cu. yd.</td>
<td>1.77 cu. yd.</td>
</tr>
<tr>
<td>(1.57 m³)</td>
<td>(1.80 m³)</td>
<td>(2.45 m³)</td>
<td></td>
<td>(1.35 m³)</td>
</tr>
<tr>
<td>Bucket width</td>
<td>104.61 in.</td>
<td>104.61 in.</td>
<td>110.64 in.</td>
<td>106 in.</td>
</tr>
<tr>
<td>(2.65 m)</td>
<td>(2.63 m)</td>
<td>(2.80 m)</td>
<td></td>
<td>(2.69 m)</td>
</tr>
<tr>
<td>Bucket weight</td>
<td>1,867 lb.</td>
<td>2,025 lb.</td>
<td>2,480 lb.</td>
<td>2,490 lb.</td>
</tr>
<tr>
<td>(847 kg)</td>
<td>(918 kg)</td>
<td>(1124 kg)</td>
<td></td>
<td>(1129 kg)</td>
</tr>
<tr>
<td>Breakout force, J732B</td>
<td>SAE Standard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pivot point to cutting edge</td>
<td>41,515 lb.</td>
<td>34,975 lb.</td>
<td>25,600 lb.</td>
<td>36,500 lb.</td>
</tr>
<tr>
<td>(18381 kg)</td>
<td>(15864 kg)</td>
<td>(11612 kg)</td>
<td></td>
<td>(16556 kg)</td>
</tr>
<tr>
<td>Breakout force, J732C</td>
<td>SAE Standard</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pivot point to cutting edge</td>
<td>23,945 lb.</td>
<td>20,960 lb.</td>
<td>16,125 lb.</td>
<td>22,665 lb.</td>
</tr>
<tr>
<td>(10861 kg)</td>
<td>(9507 kg)</td>
<td>(7314 kg)</td>
<td></td>
<td>(10371 kg)</td>
</tr>
<tr>
<td>Tipping load, straight</td>
<td>18,605 lb.</td>
<td>18,425 lb.</td>
<td>17,865 lb.</td>
<td>17,700 lb.</td>
</tr>
<tr>
<td>(8439 kg)</td>
<td>(8357 kg)</td>
<td>(8103 kg)</td>
<td></td>
<td>(8029 kg)</td>
</tr>
<tr>
<td>Tipping load, 35-deg. turn</td>
<td>16,710 lb.</td>
<td>16,550 lb.</td>
<td>16,040 lb.</td>
<td>15,895 lb.</td>
</tr>
<tr>
<td>(7580 kg)</td>
<td>(7507 kg)</td>
<td>(7275 kg)</td>
<td></td>
<td>(7210 kg)</td>
</tr>
<tr>
<td>Tipping load, 40-deg. full turn, SAE</td>
<td>16,155 lb.</td>
<td>16,000 lb.</td>
<td>15,510 lb.</td>
<td>15,370 lb.</td>
</tr>
<tr>
<td>(7329 kg)</td>
<td>(7257 kg)</td>
<td>(7036 kg)</td>
<td></td>
<td>(6972 kg)</td>
</tr>
</tbody>
</table>

* SAE Standard J732B has been superseded by J732C and is included for reference only.

### Adjustments to operating weights and tipping loads (approx.):

**Add (+) or deduct (−) lb. (kg) as indicated for loader equipped with:**

| Roll-over protective structure w/canopy | +700 lb. (318 kg) | +630 lb. (286 kg) | +595 lb. (270 kg) | +580 lb. (263 kg) |
| Cab (includes roll-over protective structure) | +1,200 lb. (544 kg) | +1,080 lb. (490 kg) | +1,015 lb. (460 kg) | +1,000 lb. (454 kg) |
| One additional set of side counter-weights (total of two sets) | +750 lb. (340 kg) | +1,530 lb. (694 kg) | +1,330 lb. (603 kg) | +1,280 lb. (581 kg) |
| 16-24, 12-ply-rating, rock grader tread tires w/1,304 lb. (592 kg) fluid in rear | −700 lb. (318 kg) | −630 lb. (286 kg) | −565 lb. (256 kg) | −545 lb. (247 kg) |
| 17.5-25, 12-ply-rating, loader tread tires w/1,160 lb. (526 kg) fluid in rear | −1,015 lb. (460 kg) | −945 lb. (429 kg) | −850 lb. (386 kg) | −820 lb. (372 kg) |

Adjustments to operating weights and tipping loads (approx.):
Dimensions: (approx.)

- CAB
- CANOPY

- 9 ft. 10 in. (3.00 m)
- 10 ft. 2 in. (3.10 m)
- 10 ft. 7 in. (3.23 m)
- 2 ft. 10.75 in. (889 mm)
- 3.75 in. (95 mm)
- 11 ft. 10 in. (3.61 m)
- 45°
- 40°