862 SCRAPER

ENGINE PERFORMANCE

- **Torque**
  - 250 SAE net hp (186 kW)

- **Heaped Capacity**
  - 16 cu. yd. (12.23 m³)

- **Features**
  - Self-loading
  - Positive hydraulic full-load ejection
  - Hydrostatic variable-speed, reversible elevator
  - Closed-center hydraulic system with variable-displacement piston pump
  - Hydraulic differential lock
  - Fully automatic 6-speed Power Shift transmission with automatic torque converter lockup
  - Position-responsive power steering
  - Power brakes
  - Roll-over protective structure (ROPS) w/cab or canopy and seat belt
  - Vandal protection
  - Designed for quietness

- **Horsepower**
  - 274 hp kWh

- **Fuel Consumption**
  - 1100 1900 1700

- **Engine Speed-RPM**
  - 1100 1300 1500 1700 1900 2100

- **Graphs**
  - Torque vs. RPM
  - Horsepower vs. RPM
  - Fuel Consumption vs. Horsepower

- **Dimensions**
  - 8 ft. 2 in. (2.44 m)
  - 8 ft. (2.44 m)
862 SCRAPER SPECIFICATIONS

(Specifications and design subject to change without notice. Wherever applicable, specifications are in accordance with ICED and SAE Standards. Except where otherwise noted, these specifications are based on a unit equipped with 26.5-25, 24-ply-rating tires, ROPS canopy, full fuel tank, 175 ft. (79 kg) operator, and all standard equipment.)

**Capacity (SAE heaped):**
- **Volume:** 16 cu. yd. (12.23 m³)
- **Total weight of payload:** 2500 lb./yd.³ (1463 kg/m³)
- **40,000 lb. (18 144 kg)**

**Power (@ 2100 engine rpm):**
- **SAE Gross:** 270 hp (201 kW)
- **Net:** 250 hp (186 kW)
- **253.5 PS**

**Flywheel power ratings** are under SAE standard conditions of 500-ft altitude and 85°F temperature and DIN 70020 standard conditions of 760 mm Hg barometer (sea level) and 22°C temperature. Engine maintains rated horsepower up to 7500 feet (2286 m) altitude.

**Engine:** John Deere turbocharged and intercooled diesel, 6-cylinder, 4-stroke cycle
- **Bore and stroke:** 5.12x5 in. (130x127 mm)
- **Compression ratio:** 15.2 to 1
- **Maximum torque:** @ 1400 rpm
- **813 lb-ft (1102 Nm) (112.4 kg-m)
- **NACE or AMA (U.S. Tax):** horsepower 62.9

**Transmission:** Planetary Power Shift, 6 forward, 1 reverse speeds. Microprocessor controlled, fully automatic shift with modulator.
- **Gear pump:** 32 gpm (2.0 Us) @ 2100 rpm for transmission lubrication, torque converter charge and transmission shift actuation.

**Differential Lock**
- **Foot-operated, hydraulically actuated**

**Drive Axle**
- **Direct drive; over-all ratio 22.22 to 1; planetary final drives with 4.4 gpm (0.28 Ls) pump for axle lubrication and differential lock actuation**

**Brakes:** Hydraulic, power actuated. An accumulator provides several brake applications after engine is stopped.
- **Tractor:** Wet-disk between differential and planetarys.
- **No adjustment needed.**
- **Scraper:** Expanding shoe, self-adjusting, in wheels.
- **Parking:** Manually controlled, mechanical, on axle input shaft.

**Power Steering:** Position-responsive
- **Articulated frame hydraulically actuated by dual cylinders.**
- **Turning circle (180 deg. turn):** 32 ft. 9.9 in. (10.0 m)
- **Articulation:** 180 deg.

**Tractor Oscillation (total):**
- **40 deg.**

**Hydraulic Systems:**
- **Main tractor system:** Closed-center
- **System pressure:** 2350 psi (16 203 kPa) (165.2 kg/cm²)
- **Operates steering, brakes, and all scraper functions except elevator drive.**
- **Main pump:** Variable displacement, constant pressure; delivers 63 gpm (3.97 Ls) @ 2100 engine rpm. Main charge pump delivers 20.3 gpm (1.28 Ls) @ 2100 engine rpm
- **Elevator system:** Engine-driven, 5.43 cu. in. (89 cm³) variable displacement, reversible hydrostatic pump delivers 33.5 gpm (3.38 Ls) @ 2100 engine rpm
- **System pressure:** .500 psi (34 475 kPa) (351 kg/cm²)

**Filtration**
- **All systems are protected by replaceable filters.**
- **Main hydraulic system:** 10-micron filters
- **Elevator system:** 10-micron filters
- **Transmission:** 10-micron filters
- **Engine:** 25-micron filters
- **Differential:** 10-micron filters

**Hydraulic Cylinders:**
- **Bore Stroke**
  - **Lift (2):** 5 in. (127 mm) 20 in. (508 mm)
  - **Sliding floor (1):** 5.25 in. (133 mm) 38.6 in. (966 mm)
  - **Ejector gate (2):** 3 in. (76 mm) 49.0 in. (1244 mm)
  - **Steering (2):** 4 in. (102 mm) 25.9 in. (668 mm)

**Piston Rods:** Ground, heat-treated, chrome-plated, polished
- **Lift and steering cylinders:** 2 in. (51 mm) dia.
- **Sliding floor cylinder:** 2.5 in. (64 mm) dia.
- **Ejector gate cylinders:** 1.75 in. (44 mm) dia.

**Elevator**
- **Reversible, hydrostatic drive with heavy-duty planetary reduction.**
  - **Number of flights:** 23
  - **Spacing of flights:** 12.52 in. (318 mm)
  - **Width of flights:** 6 ft. 6 in. (1.98 m)
  - **Speed (@ 2100 engine rpm):** 0.240 fpm (73 m/min)
  - **Length (top to bottom):** 12 ft. (3.66 m)

**Bowl**
- **Heavy-gauge steel with reinforcing and box construction. Sliding floor rides on heat-treated rails. Cutting edge refracts. Independent rear axles are vertically adjustable**

**Cutting Edge**
- **8 ft. 9.9 in. (2.69 m) wide; 3 sections, reversible and replaceable, high-carbon steel. Each section is adjustable vertically 2 in. (51 mm).**
  - **Center section:** 1x1x77.9 in. (25x330x1979 mm)
  - **End sections:** 1x1x14 in. (25x330x356 mm)

**Tires:**
- **26.5-25, steel-cord radials**
- **24-ply-rating, E2**
- **26.5-29, 26-ply-rating, E3**

**Capacities**
- **U.S. Imp. Liters**
  - **Catching system:** 15 gal. 12.5 gal. 56.8
  - **Fuel tank:** 110 gal. 91.7 gal. 416.4
  - **Engine lubrication, including filter:** 31 qt. 25.8 qt. 29.3
  - **Transmission case and filter:** 9 qt. 15.8 gal. 71.9
  - **Differential case:** 7.5 gal. 6.2 gal. 28.4
  - **Hydraulic reservoir:** 24 gal. 20.0 gal. 90.8
  - **Elevator gear case:** 8 qt. 6.7 qt. 7.6

**Additional Standard Equipment:**
- **Cigarette lighter**
- **Deluxe suspension seat**
- **Other starting aid**
- **Fenders (tractor and scraper)**
- **Gauges:**
  - **Voltmeter**
  - **Fuel gauge**
  - **Engine oil pressure**
  - **Engine water temperature**
  - **Fuel gauge**
  - **Hydrostatic charge pressure**
  - **Speedometer**
  - **Tachometer**
  - **Transmission lube pressure**
  - **Transmission oil pressure**
  - **Transmission oil temperature**
  - **Elevator charge pressure**

**Weight Distribution:**
- **lb. kg**
  - **Empty:** Drive axle 32,050 14 538
  - **Scrapers:** 17,139 7774
  - **Total:** 49,189 22,312
  - **Loaded:** Drive axle 44,789 20,140
  - **Scrapers:** 44,789 20,140
  - **Total:** 89,189 40,486

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**Special Equipment:**
- Air conditioner
- Cab panels
- Fender extensions and mud flaps
- Hunting spar wheels
- Heater
- Teeth for cutting edge
862 SCRAPER VEHICLE PERFORMANCE

VEHICLE WEIGHT x 1000 lb. (kg)

<table>
<thead>
<tr>
<th>kg</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>30</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>lb</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
<td>60</td>
<td>70</td>
</tr>
</tbody>
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**CONVERTER DRIVE**

**DIRECT DRIVE**

**GRADABILITY — RIMPULL**

To calculate gradability performance: Read down from vehicle weight to the percent of total resistance. (Total resistance equals actual percent of grade plus one percent of each 20 lb./ton of rolling resistance.) From this weight-resistance point, read straight across to the curve with the highest obtainable speed range, then down to maximum speed. Usable rimpull is affected by traction available and weight on drive wheels.

Ambient temperature, length of haul and weight of material moved could affect the tire ton-mph capacity. To prevent premature tire failure under adverse working conditions, consult the tire manufacturer.
862 SCRAPER DIMENSIONS

<table>
<thead>
<tr>
<th></th>
<th>BOWL AT GROUND LEVEL</th>
<th>BOWL UP</th>
<th>BOWL LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>36 ft. 4 in. (11.07 m)</td>
<td>35 ft. 9 in. (10.90 m)</td>
<td>36 ft. 2 in. (11.02 m)</td>
</tr>
<tr>
<td>B</td>
<td>22 ft. 11 in. (6.99 m)</td>
<td>22 ft. 3 in. (6.78 m)</td>
<td>22 ft. 9 in. (6.93 m)</td>
</tr>
<tr>
<td>C</td>
<td>14 ft. 3 in. (4.34 m)</td>
<td>14 ft. 3 in. (4.34 m)</td>
<td>14 ft. 3 in. (4.34 m)</td>
</tr>
<tr>
<td>D</td>
<td>19.5 in. (495 mm)</td>
<td>19.5 in. (495 mm)</td>
<td>19.5 in. (495 mm)</td>
</tr>
<tr>
<td></td>
<td>(axle clearance)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>19 in. (483 mm) w/o teeth</td>
<td>16 in. (406 mm) w/teeth</td>
<td>7 in. (178 mm) w/o teeth</td>
</tr>
<tr>
<td></td>
<td>(495 mm)</td>
<td></td>
<td>4 in. (102 mm) w/teeth</td>
</tr>
<tr>
<td>F</td>
<td>10 ft. 1 in. (3.07 m)</td>
<td>9 ft. 11 in. (3.02 m)</td>
<td>9 ft. 11.5 in. (3.03 m)</td>
</tr>
<tr>
<td>G</td>
<td>10 ft. 3 in. (3.12 m)</td>
<td>10 ft. 11.4 in. (3.34 m)</td>
<td>10 ft. 5 in. (3.18 m)</td>
</tr>
</tbody>
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