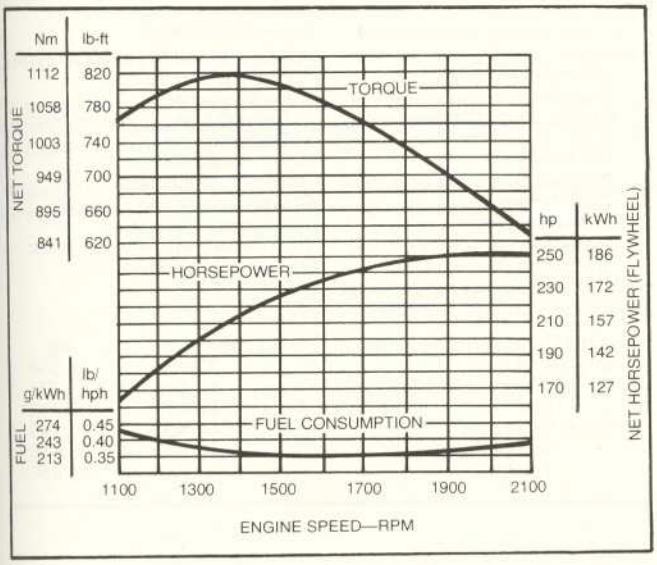
862 SCRAPER

ENGINE PERFORMANCE



FEATURES

250 SAE net hp (186 kW)

16 cu. yd. (12.23 m³) heaped capacity

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 w/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

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 lb. (79 kg) operator, and all standard equipment.)

Capacity (SAE heaped):
Volume ..... 16 cu. yd. (12.23 m^3)
Total weight of payload
2500 lb./yd.^{3} (1483 kg/m^3) ..... 40,000 lb. (18 144 kg)

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

Net engine flywheel power is for an engine equipped with fan, air cleaner, water pump, lubricating oil pump, fuel pump, alternator, and muffler. Gross engine power is without fan. Flywheel power ratings are under SAE standard conditions of 500-ft. altitude and 85°F. temperature and DIN 70 020 standard conditions of 760 mm Hg barometer (sea level) and 20°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)
Piston displacement ..... 619 cu. in. (10.145 L)
Compression ratio ..... 15.2 to 1
Maximum torque @ 1400 rpm ... 813 lb-ft (1102 Nm) (112.4 kg-m)
NACC or AMA (U.S. Tax) horsepower 62.9
Main bearings 7
Lubrication ..... Pressure system w/full-flow filter
Cooling ..... Pressurized w/thermostat and controlled bypass
Fan ..... Suction
Aspirated air cleaner w/safety element and restriction indicator ..... Dry
Electrical system ..... 24-volt w/alternator
Batteries (two 12 volt) ..... Reserve capacity: 310 minutes

Torque Converter:
Two-phase single stage with 2.84 to 1 multiplication ratio, free-wheeling stator lockup clutch and automatic control.

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

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

Drive Axle .... Differential drive; over-all ratio 22.22 to 1; planetary final drives with 4.4 gpm (0.28 L/s) 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 planetaries. 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/cm^2)
Operates steering, brakes, and all scraper functions except elevator drive.
Main pump ..... Variable displacement, constant pressure; delivers 63 gpm (3.97 L/s) @ 2100 engine rpm. Main charge pump delivers 20.3 gpm (1.28 L/s) @ 2100 engine rpm.
Elevator system ..... Engine-driven, 5.43 cu. in. (89 cm^3) variable displacement, reversible hydrostatic pump delivers 53.5 gpm (3.38 L/s) @ 2100 engine rpm.
System pressure ..... 5000 psi (34 475 kPa) (351 kg/cm^2)

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)	38.8 in. (986 mm)
Ejector gate (2)	3 in. (76 mm)	49.0 in. (1244 mm)
Steering (2)	4 in. (102 mm)	25.9 in. (658 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 mm)

Bowl ..... Heavy-gauge steel with reinforcing and box construction. Sliding floor rides on heat-treated rails. Cutting edge retracts. 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 ..... 1x13x77.9 in. (25x330x1979 mm)
End sections ..... 1x13x14 in. (25x330x356 mm)

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

Capacities	**U.S.**	**Imp.**	**Liters**
Cooling 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	19 gal.	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:

Cigaret lighter
Deluxe suspension seat
Ether starting aid
Fenders (tractor and scraper)
Gauges:
- Voltmeter
- Engine oil pressure
- Engine water temperature
- Fuel
- Hourmeter
- Hydrostatic charge pressure
- Speedometer
- Tachometer
- Transmission lube pressure
- Transmission oil pressure
- Transmission oil temperature
- Elevator charge pressure

Hitch, steering and rear frame central lube systems
Horn
Horizontal muffler
Indicator warning lights:
- Brake pressure
- Hydraulic filter
- Parking brake light and buzzer
- Transmission filter

Lights (head and work)
Reverse warning alarm
ROPS canopy and seat belt
Windshield w/wiper
Turn signals and 4-way flasher
Vandal protection

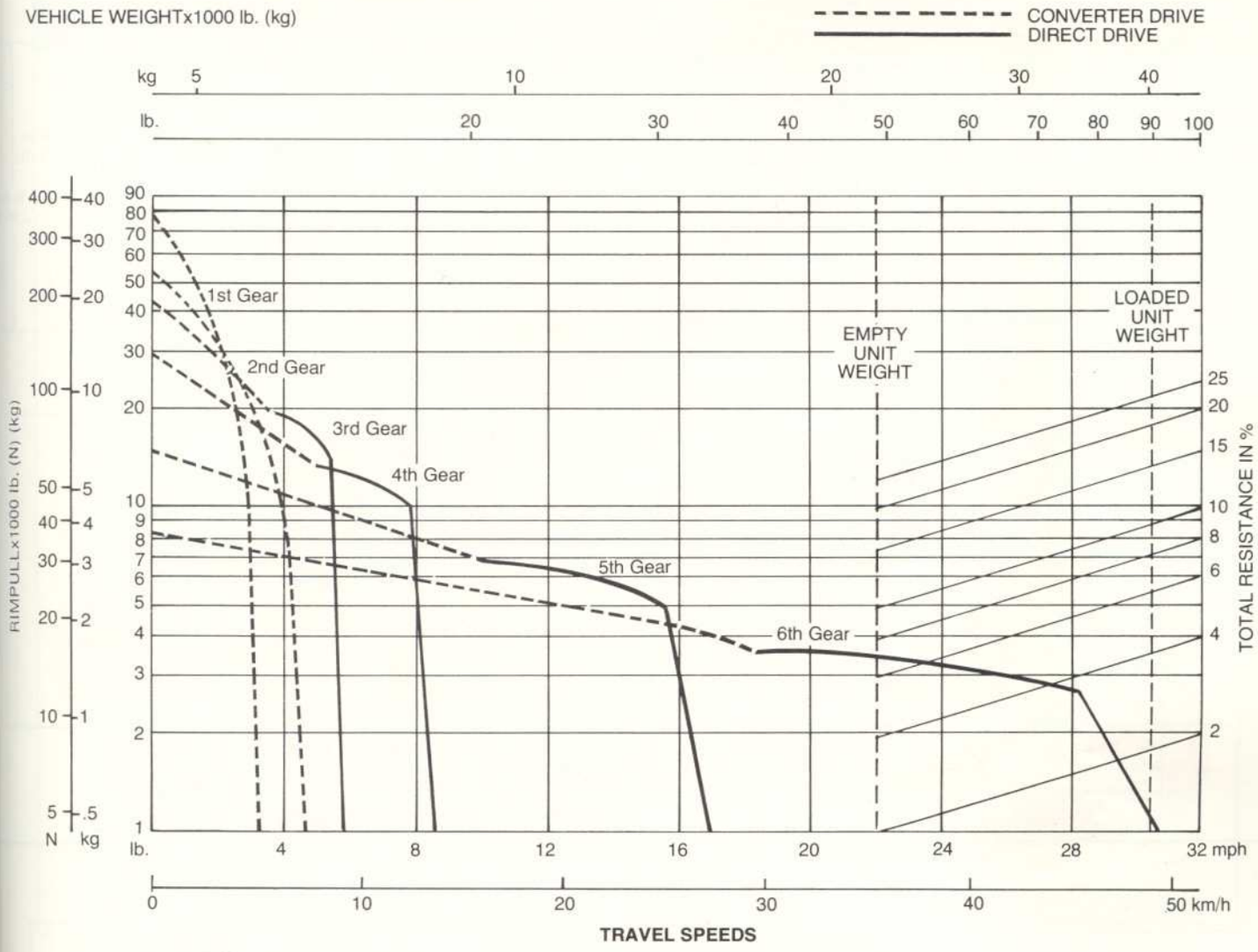
Weight Distribution:	**lb.**	**kg**
Empty: Drive axle	32,050	14 538
Scraper axle	17,139	7774
Total	49,189	22 312
Loaded: Drive axle	44,400	20 140
Scraper axle	44,789	20 316
Total	89,189	40 456

Special Equipment:

Air conditioner
Cab panels
Fender extensions and mud flaps for scraper wheels
Heater
Teeth for cutting edge

862 SCRAPER VEHICLE PERFORMANCE*

VEHICLE WEIGHTx1000 lb. (kg)

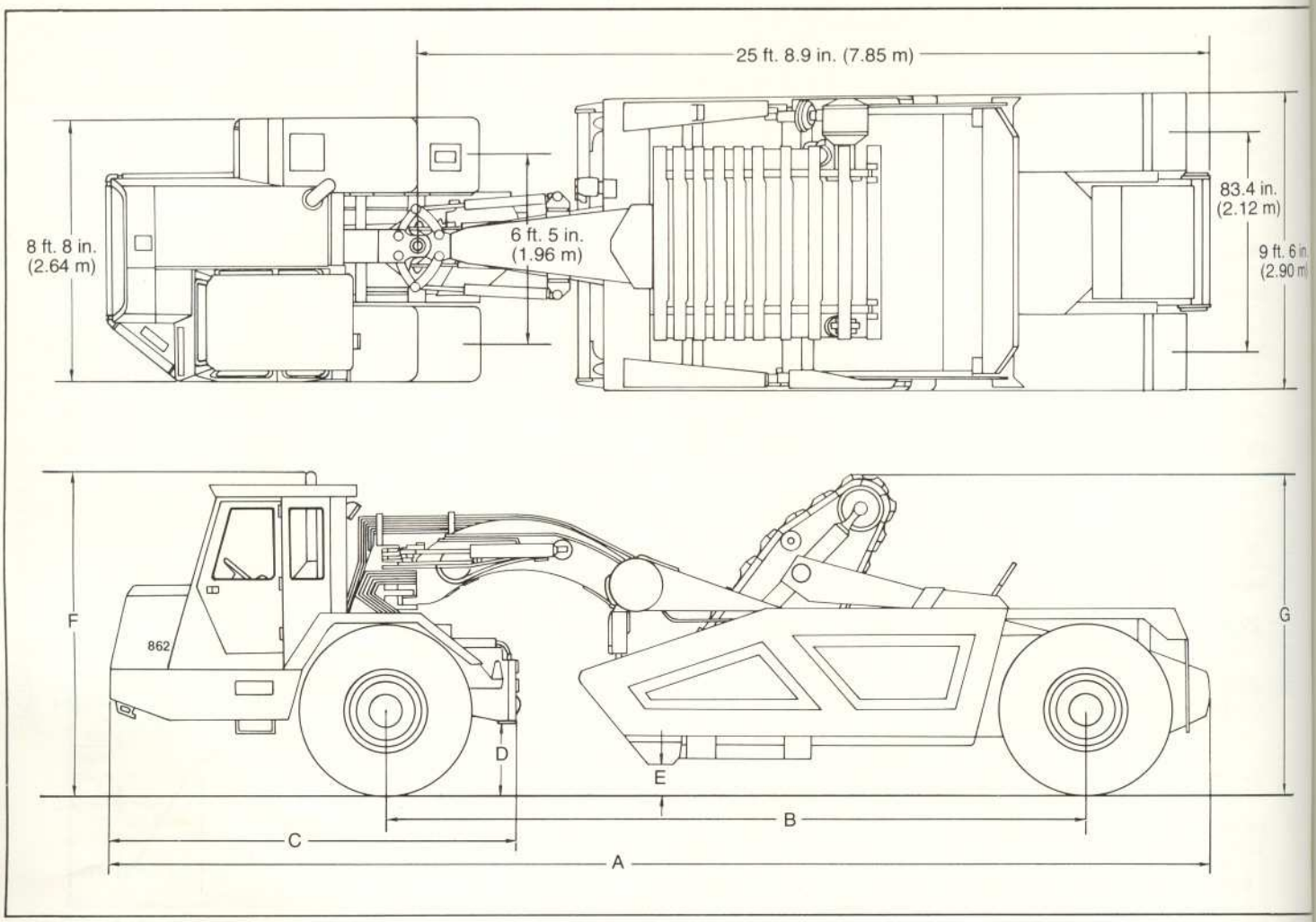


GRADABILITY — RIMPULL

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



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