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Test 1258: Massey-Ferguson 2805 Diesel 24-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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NEBRASKA TRACTOR TEST 1258 — MASSEY-FERGUSON 2805 DIESEL 24 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb	
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1196 rpm)								
194.62 (145.13)	2500	13.295 (50.326)	0.473 (0.288)	14.64 (2.884)	193 (89.4)	59 (15.1)	75 (23.8)	28.620 (96.645)
Standard Power Take-off Speed (1000 rpm)—One Hour								
181.77 (135.54)	2091	11.158 (42.237)	0.425 (0.259)	16.29 (3.209)	190 (87.9)	59 (15.0)	75 (23.8)	28.585 (96.527)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
169.87 (126.68)	2568	12.211 (46.222)	0.498 (0.303)	13.91 (2.741)	188 (86.9)	59 (15.0)	76 (24.2)	..... .....
0.00 (0.00)	2692	4.708 (17.823)	..... .....	..... .....	178 (81.1)	59 (15.0)	74 (23.3)	..... .....
87.20 (65.02)	2631	8.334 (31.547)	0.662 (0.403)	10.46 (2.061)	184 (84.2)	59 (15.0)	75 (23.9)	..... .....
195.35 (145.67)	2500	13.302 (50.354)	0.472 (0.287)	14.68 (2.893)	193 (89.4)	60 (15.3)	74 (23.6)	..... .....
43.88 (32.72)	2657	6.406 (24.250)	1.011 (0.615)	6.85 (1.349)	180 (81.9)	59 (15.0)	74 (23.6)	..... .....
128.98 (96.18)	2598	10.227 (38.712)	0.549 (0.334)	12.61 (2.485)	186 (85.3)	60 (15.6)	75 (23.9)	..... .....
Av Av	104.21 (77.71)	2608 9.198 (34.818)	0.611 0.372 (0.372)	11.33 11.33 (2.232)	185 185 (84.8)	59 59 (15.1)	75 75 (23.8)	28.580 28.580 (96.510)

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 14th (5I) Gear											
157.98 (117.81)	10881 (48.40)	5.44 (8.76)	2500	6.79	12.940 (48.985)	0.567 (0.345)	12.21 (2.405)	184 (84.2)	47 (8.3)	62 (16.7)	29.095 (98.249)
75% of Pull at Maximum Power—Ten Hours 14th (5I) Gear											
128.98 (96.18)	8380 (37.28)	5.77 (9.29)	2596	4.86	11.572 (43.806)	0.621 (0.378)	11.14 (2.196)	179 (81.4)	40 (4.5)	47 (8.2)	29.115 (98.317)
50% of Pull at Maximum Power—Two Hours 14th (5I) Gear											
87.66 (65.37)	5550 (24.69)	5.92 (9.53)	2622	3.36	9.457 (35.799)	0.747 (0.454)	9.27 (1.826)	176 (79.7)	40 (4.2)	42 (5.6)	28.805 (97.270)
50% of Pull at Reduced Engine Speed—Two Hours 18th (7L) Gear											
87.45 (65.21)	5568 (24.77)	5.89 (9.48)	1786	3.28	6.840 (25.893)	0.542 (0.330)	12.78 (2.518)	174 (78.9)	38 (3.1)	42 (5.6)	28.890 (97.557)
MAXIMUM POWER IN SELECTED GEARS											
141.68 (105.65)	17369 (77.26)	3.06 (4.92)	2522	14.89			8th (3I) Gear	178 (80.8)	33 (0.6)	38 (3.3)	29.190 (98.570)
157.65 (117.56)	12723 (56.60)	4.65 (7.48)	2500	8.20			12th (4I) Gear	182 (83.3)	45 (7.2)	57 (13.9)	29.150 (98.435)
159.57 (118.99)	10999 (48.92)	5.44 (8.76)	2499	6.79			14th (5I) Gear	182 (83.3)	43 (6.1)	53 (11.7)	29.160 (98.469)
160.72 (119.85)	8489 (37.76)	7.10 (11.43)	2500	4.95			16th (5H) Gear	183 (83.6)	46 (7.8)	59 (15.0)	29.100 (98.266)
159.80 (119.16)	7767 (34.55)	7.72 (12.42)	2500	4.72			17th (6I) Gear	183 (83.6)	46 (7.8)	58 (14.4)	29.130 (98.368)
160.52 (119.70)	7391 (32.88)	8.14 (13.11)	2500	4.32			18th (7L) Gear	182 (83.3)	46 (7.8)	58 (14.4)	29.120 (98.334)

Department of Agricultural Engineering

Dates of Test: October 7 to 13, 1977

Manufacturer: MASSEY-FERGUSON, INC.,
1901 Bell Avenue, Des Moines, Iowa 50315

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 50.8 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60° (15°/15°)** 0.8318 **Fuel weight** 6.926 lbs/gal (0.832 kg/l) **Oil SAE** 20-20W **API service classification** SB/SE-CA/CD **To motor** 5.382 gal (20.373 l) **Drained from motor** 5.033 gal (19.052 l) **Transmission and final drive lubricant** Massey-Ferguson Permatran Oil **Total time engine was operated** 47 hours

ENGINE Make Perkins Diesel **Type** V-8 with turbocharger **Serial No.** 640UA750T **Crankshaft** lengthwise **Rated rpm** 2500 **Bore and stroke** 4.63" × 4.75" (117.6 mm × 120.6 mm) **Compression ratio** 15 to 1 **Displacement** 640 cu in (10484 ml) **Cranking system** 12 volt **Lubrication pressure** **Air cleaner** primary and secondary paper elements with aspirator **Oil filter** two full flow spin-on cartridges **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic oil **Fuel filter** two parallel paper elements **Muffler** vertical **Cooling medium temperature control** 4 thermostats.

CHASSIS: **Type** standard with duals **Serial No.** 9R000468 **Tread width** rear 71" (1803 mm) to 161" (4089 mm) front 60" (1524 mm) to 80" (2032 mm) **Wheel base** 110" (2794 mm) **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 39.9" (1014 mm) Vertical distance above roadway 41.4" (1051 mm) Horizontal distance from center of rear wheel tread 0" (0 mm) to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (3) range operator controlled power shift **Advertised speeds mph (km/h)** first 1.2 (2.0) second 1.7 (2.8) third 1.7 (2.8) fourth 2.2 (3.6) fifth 2.4 (3.8) sixth 2.5 (4.0) seventh 3.1 (4.9) eighth 3.5 (5.6) ninth 3.6 (5.7) tenth 4.0 (6.6) eleventh 4.5 (7.2) twelfth 5.0 (8.0) thirteenth 5.7 (9.2) fourteenth 5.7 (9.2) fifteenth 6.4 (10.2) sixteenth 7.4 (11.9) seventeenth 8.0 (12.8) eighteenth 8.4 (13.5) nineteenth 10.2 (16.4) twentieth 11.6 (18.7) twenty-first 11.9 (19.2) twenty-second 14.9 (24.0) twenty-third 16.6 (26.7) twenty-fourth 21.2 (34.2) reverse 2.2 (3.6), 3.1 (4.9), 4.5 (7.2), 6.4 (10.2) **Clutch** dual dry disc operated by foot pedal **Brakes** single wet disc power actuated and operated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 152" (3.86 m) left 152" (3.86 m) (on concrete sur-

LUGGING ABILITY IN RATED GEAR 14th (5I)

Crankshaft Speed rpm	2499	2249	1991	1745	1497	1242
Pull—lbs (kN)	10999 (48.92)	11978 (53.28)	13025 (57.94)	13806 (61.41)	13518 (60.13)	12277 (54.61)
Increase in Pull %	0	9	18	26	23	12
Power—Hp (kW)	159.57 (118.99)	155.34 (115.84)	148.03 (110.39)	136.49 (101.78)	114.78 (85.59)	87.50 (65.25)
Speed—Mph (km/h)	5.44 (8.76)	4.86 (7.83)	4.26 (6.86)	3.71 (5.97)	3.18 (5.12)	2.67 (4.30)
Slip %	6.79	7.39	8.42	8.99	9.14	7.98

TRACTOR SOUND LEVEL WITH CAB dB(A)

Maximum Available Power—Two Hours	81.0
75% of Pull at Maximum Power—Ten Hours	81.0
50% of Pull at Maximum Power—Two Hours	81.0
50% of Pull at Reduced Engine Speed—Two Hours	78.5
Bystander in 23rd (8I) gear	94.5

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Four 20.8-38; 10; 14 (100)	Four 20.8-38; 10; 14 (100)
	—Liquid (each)	1385 lb (628 kg)	None
	—Cast Iron (each)	None	None
Front Tires	—No., size, ply & psi (kPa)	Two 11.00-16; 8; 40 (280)	Two 11.00-16; 8; 40 (280)
	—Liquid (each)	None	None
	—Cast Iron (each)	None	None
Height of drawbar		21 in (530 mm)	21 in (530 mm)
Static weight with operator—rear		16160 lb (7330 kg)	10620 lb (4817 kg)
	front	5010 lb (2272 kg)	5010 lb (2272 kg)
	total	21170 lb (9602 kg)	15630 lb (7089 kg)

face without brake) right 202" (5.13 m) left 202" (5.13 m) **Turning space diameter** (on concrete surface with brake applied) right 330" (8.38 m) left 330" (8.38 m) (on concrete surface without brake) right 428" (10.87 m) left 428" (10.87 m) **Power take-off** 1000 rpm at 2091 engine rpm.

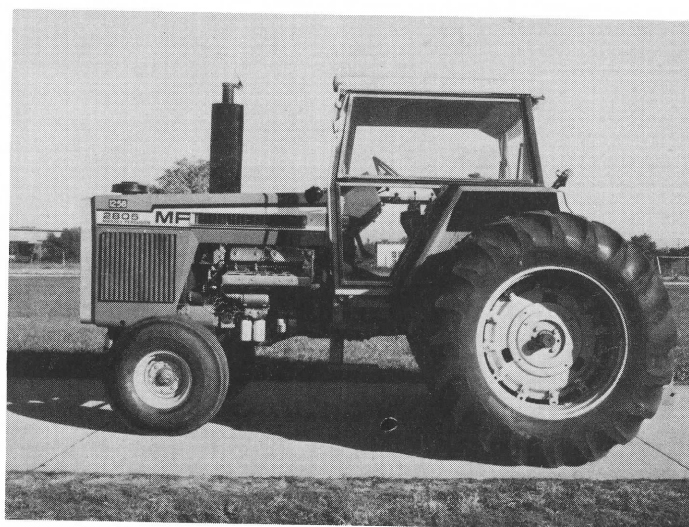
REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump return was 181°F (82.9°C). Six gears were chosen between 15% slip and 15 mph (24.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1258**.

LOUIS I. LEVITICUS
Engineer-in Charge

G. W. STEINBRUEGGE, Chairman
W. E. SPLINTER
K. VON BARGEN
Board of Tractor Test Engineers



Massey-Ferguson 2805 Diesel 24 Speed