1-1-1980

Test 1363: Massy-Ferguson MF205 Diesel 6-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1363 — MASSEY-FERGUSON MF205 DIESEL 6 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temperature °F (°C) Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg (kPa)
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—548 rpm)								
16.56 (12.35)	2400	1.288 (4.876)	0.543 (0.330)	12.86 (2.533)	176 (80.2)	58 (14.3)	75 (24.0)	28.917 (97.647)
Standard Power Take-off Speed (540 rpm)—One Hour								
16.34 (12.18)	2367	1.260 (4.770)	0.538 (0.327)	12.97 (2.553)	176 (79.8)	58 (14.2)	75 (23.9)	28.905 (97.608)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
14.55 (10.85)	2482	1.213 (4.592)	0.581 (0.354)	12.00 (2.363)	171 (76.9)	58 (14.4)	75 (23.9)	....
0.00 (0.00)	2578	0.507 (1.919)	....	....	138 (58.6)	58 (14.4)	75 (23.6)	....
7.39 (5.51)	2518	0.839 (3.176)	0.792 (0.482)	8.81 (1.735)	150 (65.6)	58 (14.4)	74 (23.3)	....
16.43 (12.25)	2400	1.307 (4.948)	0.555 (0.338)	12.56 (2.476)	175 (79.4)	58 (14.4)	74 (23.3)	....
3.74 (2.79)	2548	0.679 (2.570)	1.269 (0.772)	5.50 (1.086)	145 (62.5)	59 (15.0)	75 (23.9)	....
10.97 (8.18)	2496	0.972 (3.679)	0.618 (0.376)	11.29 (2.223)	159 (70.6)	59 (15.0)	75 (23.9)	....
Av 8.85	**2504**	**0.920**	**0.725**	**9.62**	**156**	**58**	**75**	**28.920**
Av (6.60)		***(3.483)***	***(0.441)***	***(1.895)***	***(68.9)***	***(14.6)***	***(23.7)***	***(97.659)***

DRAWBAR PERFORMANCE

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank-shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power—Two Hours 5th (H2) Gear											
12.87 (9.60)	1101 (4.90)	4.38 (7.06)	2398	7.55	1.290 (4.884)	0.699 (0.425)	9.98 (1.965)	167 (75.0)	60 (15.3)	70 (20.8)	29.085 (98.216)
75% of Pull at Maximum Power—Ten Hours 5th (H2) Gear											
10.69 (7.97)	866 (3.85)	4.63 (7.45)	2479	5.51	1.107 (4.192)	0.723 (0.440)	9.65 (1.902)	155 (68.5)	60 (15.4)	64 (17.7)	28.857 (97.446)
50% of Pull at Maximum Power—Two Hours 5th (H2) Gear											
7.34 (5.48)	579 (2.58)	4.75 (7.65)	2508	4.15	0.914 (3.459)	0.868 (0.528)	8.03 (1.583)	145 (62.5)	55 (12.5)	63 (16.9)	28.930 (97.692)
50% of Pull at Reduced Engine Speed—Two Hours 6th (H3) Gear											
7.36 (5.49)	581 (2.59)	4.75 (7.64)	1597	3.80	0.645 (2.442)	0.611 (0.372)	11.41 (2.248)	159 (70.6)	62 (16.4)	78 (25.3)	28.910 (97.625)
MAXIMUM POWER IN SELECTED GEARS											
7.78 (5.80)	1995 (8.87)	1.46 (2.35)	2502	14.81		3rd (L3) Gear		138 (58.6)	48 (8.9)	50 (10.0)	28.930 (97.692)
12.92 (9.63)	1915 (8.52)	2.53 (4.07)	2400	13.97		4th (H1) Gear		154 (67.8)	51 (10.6)	55 (12.8)	28.930 (97.692)
13.45 (10.03)	1150 (5.11)	4.39 (7.06)	2399	7.51		5th (H2) Gear		161 (71.4)	53 (11.7)	61 (16.1)	29.090 (98.233)
12.93 (9.64)	684 (3.04)	7.09 (11.40)	2399	4.41		6th (H3) Gear		164 (73.1)	56 (13.3)	65 (18.3)	29.090 (98.233)

LUGGING ABILITY IN 5th (H2) GEAR

Crankshaft Speed rpm	2399	2165	1919	1688	1440	1196
Pull—lbs (kN)	1150 (5.11)	1177 (5.23)	1352 (6.01)	1353 (6.02)	1337 (5.95)	1325 (5.89)
Increase in Pull %	0	2	18	18	16	15
Power—Hp (kW)	13.45 (10.03)	12.40 (9.24)	12.42 (9.26)	10.91 (8.13)	9.22 (6.87)	7.59 (5.66)
Speed—Mph (km/h)	4.39 (7.06)	3.95 (6.36)	3.45 (5.55)	3.02 (4.87)	2.59 (4.16)	2.15 (3.46)
Slip %	7.51	7.63	9.16	9.48	9.16	9.09

Department of Agricultural Engineering

Dates of Test: September 18 to October 3, 1980

Manufacturer: TOYOSHA COMPANY LTD, 55 Joshoji-16, Kadoma City, Osaka, Japan

FUEL, OIL AND TIME: Fuel No. 2 Diesel **Cetane No.** 47.9 (rating taken from oil company's inspection data) **Specific gravity converted to 60°/60° *(15°/15°)*** 0.8378 **Fuel weight** 6.976 lbs/gal *(0.836 kg/l)* **Oil SAE** 20-20W **API service classification** SB/SE-CA/CC **To motor** 0.845 gal *(3.199 l)* **Drained from motor** 0.746 gal *(2.825 l)* **Transmission and final drive lubricant** Massey Ferguson Permatran fluid **Total time engine was operated** 35.0 hours

ENGINE: Make Toyosha Diesel **Type** two cylinder vertical **Serial No.** S107-01859 **Crankshaft** lengthwise **Rated rpm** 2400 **Bore and stroke** 3.46″ × 3.46″ *(88 mm × 88 mm)* **Compression ratio** 23 to 1 **Displacement** 65.2 cu in *(1069 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** one paper element **Oil filter** one paper cartridge **Fuel filter** one paper cartridge **Muffler** vertical **Cooling medium temperature control** none

CHASSIS: Type standard **Serial No.** 01267 **Tread width** rear 35.4″ *(900 mm)* or 40.2″ *(1020 mm)* front 35.8″ *(910 mm)* **Wheel base** 55.3″ *(1405 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 21.4″ *(544 mm)* Vertical distance above roadway 24.5″ *(622 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 **Advertised speeds mph *(km/h)*** first 0.7 *(1.1)* second 1.1 *(1.8)* third 1.7 *(2.7)* fourth 3.0 *(4.8)* fifth 4.9 *(7.9)* sixth 7.7 *(12.4)* reverse 1.6 *(2.6)*, 7.0 *(11.3)* **Clutch** dry disc operated by foot pedal **Brakes** drum and shoe operated by two foot pedals which can be locked together **Steering** mechanical **Turning radius** (on concrete surface with brake applied) right 74.4″ *(1.89 m)* left 75.6″ *(1.92 m)* (on concrete surface without brake) right 84.9″ *(2.16 m)* left 86.3″ *(2.19 m)* **Turning space diameter** (on concrete surface with brake applied) right 159.5″ *(4.05 m)* left 162.0″ *(4.11 m)* (on concrete surface without brake) right 179.5″ *(4.56 m)* left 182.2″ *(4.63 m)* **Power take-off** 540 rpm at 2367 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 was 131°F *(55.2°C)*. Four gears were chosen between 15% slip and 10 mph *(16.1 km/h)*. During final

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	93.5
75% of Pull at Maximum Power—Ten Hours	95.0
50% of Pull at Maximum Power—Two Hours	94.0
50% of Pull at Reduced Engine Speed—Two Hours	89.5
Bystander in 6th (H3) gear	77.5

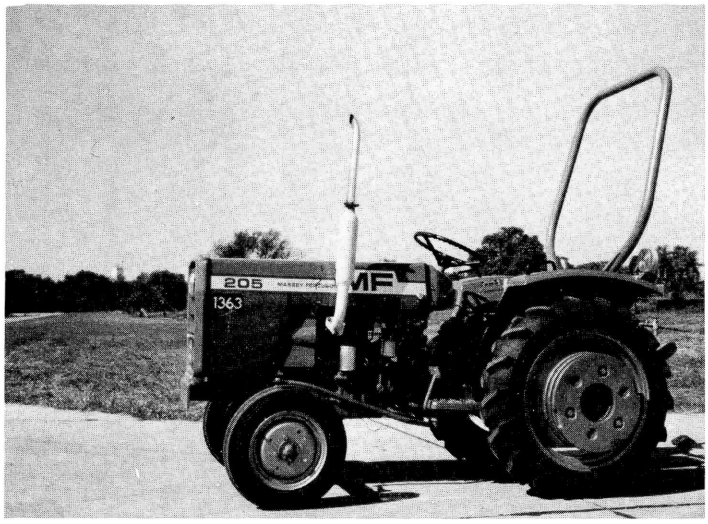
TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi *(kPa)*	Two 8.3/8-24; 4; 14 *(95)*	Two 8.3/8-24; 4; 14 *(95)*
Ballast	—Liquid (each)	145 lb *(66 kg)*	None
	—Cast Iron (each)	270 lb *(122 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 4.00-12; 4; 44 *(305)*	Two 4.00-12; 4; 44 *(305)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	52 lb *(24 kg)*	None
Height of Drawbar		11.5 in *(290 mm)*	11.5 in *(290 mm)*
Static Weight with Operator	—Rear	2035 lb *(923 kg)*	1205 lb *(547 kg)*
	—Front	805 lb *(365 kg)*	700 lb *(317 kg)*
	—Total	2840 lb *(1288 kg)*	1905 lb *(864 kg)*

inspection both cylinder walls were found to be slightly scratched.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1363.**

LOUIS I. LEVITICUS
Engineer-in-Charge

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



Massey-Ferguson MF205 Diesel

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