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1995

Nebraska Summary: S198 Massey Ferguson 8140

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SUMMARY OF OECD TESTS 1593/4 & 1586/4—NEBRASKA SUMMARY 198
MASSEY FERGUSON 8140 DYNASHIFT DIESEL
32 SPEED

Location of Test: Groupement D'Antony, Parc de tourvoie, BP 121 92185 Antony, France

Dates of Test: May, 1994 to July, 1995
Sound tests: August, 1996

Manufacturer: MASSEY FERGUSON S.A., BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Cetane No.** NA **Specific gravity converted to 60°/60° F *(15°/15°C)*** 0.855 **Fuel weight** 7.13 lbs/gal *(0.853 kg/l)* **Oil SAE** 10W40 **Oil consumption for 10 hours** NA **Transmission and hydraulic lubricant** B.P. Terrac Manager SAE 10W30 API GL-4 **Front axle lubricant** B.P. Terrac Manager SAE 10W30 API GL-4.

ENGINE: Make Valmet Diesel **Type** six cylinder vertical with turbocharger **Serial No.** C4437 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.251" × 4.724" *(108 mm × 120 mm)* **Compression ratio** 16.5 to 1 **Displacement** 402 cu in *(6596 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements and aspirator **Oil filter** two full flow cartridges **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for transmission and hydraulic fluid **Fuel filter** two paper elements **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan.

CHASSIS: Type 2WD and FWA **Serial No.** S176128 **Tread width** rear 72.9" *(1851 mm)* to 82.9" *(2105 mm)* front 2WD - 60.7" *(1543 mm)* to 84.6" *(2150 mm)* FWA - 66.4" *(1687 mm)* to 85.5" *(2172 mm)* **Wheel base** 115.7" *(2940 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (4) range operator controlled powershift **Nominal travel speeds mph *(km/h)*** first 1.55 *(2.49)* second 1.81 *(2.92)* third 2.14 *(3.44)* fourth 2.35 *(3.78)* fifth 2.50 *(4.02)* sixth 2.75 *(4.42)* seventh 3.24 *(5.22)* eighth 3.35 *(5.39)* ninth 3.79 *(6.10)* tenth 3.92 *(6.31)* eleventh 4.56 *(7.34)* twelfth 4.64 *(7.46)* thirteenth 5.10 *(8.20)* fourteenth 5.34 *(8.59)* fifteenth 5.42 *(8.72)* sixteenth 5.96 *(9.59)* seventeenth 6.30 *(10.14)* eighteenth 7.03 *(11.32)* nineteenth 7.38 *(11.87)* twentieth 7.73 *(12.44)* twenty-first 8.23 *(13.25)* twenty-second 9.05 *(14.56)* twenty-third 10.68 *(17.18)* twenty-fourth 11.04 *(17.77)* twenty-fifth 12.50 *(20.11)* twenty-sixth 12.92 *(20.79)* twenty-seventh 15.03 *(24.18)* twenty-eighth 15.26 *(24.56)* twenty-ninth 17.59 *(28.30)* thirtieth 17.85 *(28.73)* thirty-first 20.76 *(33.41)* thirty- second 24.36 *(39.21)* reverse 1.52 *(2.44)*, 1.77 *(2.85)*, 2.09 *(3.37)*, 2.30 *(3.70)*, 2.45 *(3.94)*, 2.69 *(4.33)*, 3.18 *(5.11)*, 3.28 *(5.28)*, 3.72 *(5.98)*, 3.84 *(6.18)*, 4.47 *(7.19)*, 4.54 *(7.30)*, 4.99 *(8.03)*, 5.23 *(8.42)*, 5.31 *(8.54)*, 5.84 *(9.40)*, 6.17 *(9.93)*, 6.89 *(11.09)*, 7.23 *(11.63)*, 7.57 *(12.18)*, 7.96 *(12.81)*, 8.86 *(14.26)*, 10.46 *(16.83)*, 10.81 *(17.40)*, 12.24 *(19.70)*, 12.66 *(20.37)*, 14.72 *(23.69)*, 14.94 *(24.04)*, 17.22 *(27.72)*, 17.49 *(28.14)*, 20.33 *(32.72)*, 23.80 *(38.30)* **Clutch** wet multiple disc operated by

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed (PTO speed–1053 rpm)					
145.5 *(108.5)*	2201	8.17 *(30.91)*	0.399 *(0.243)*	17.82 *(3.51)*	
Standard Power Take-off Speed (PTO speed–1003 rpm)					
147.2 *(109.8)*	2097	8.01 *(30.31)*	0.388 *(0.236)*	18.35 *(3.62)*	
Maximum Power (2 hours)					
149.3 *(111.3)*	2006	7.94 *(30.04)*	0.378 *(0.230)*	18.83 *(3.71)*	
VARYING POWER AND FUEL CONSUMPTION					
145.5 *(108.5)*	2201	8.17 *(30.91)*	0.399 *(0.243)*	17.82 *(3.51)*	Air temperature
127.0 *(94.7)*	2290	7.74 *(29.28)*	0.434 *(0.264)*	16.40 *(3.23)*	75°F *(24°C)*
97.4 *(72.6)*	2338	6.56 *(24.83)*	0.479 *(0.292)*	14.85 *(2.93)*	Relative humidity
65.2 *(48.6)*	2365	5.26 *(19.90)*	0.574 *(0.349)*	12.40 *(2.44)*	28%
33.3 *(24.8)*	2390	3.92 *(14.86)*	0.838 *(0.510)*	8.49 *(1.67)*	Barometer
— —	2411	2.37 *(8.97)*	— —	— —	29.5"Hg *(99.9 kPa)*

Maximum Torque 469.5 lb.-ft. *(636.5 Nm)* at 1398 rpm
Maximum Torque Rise 35.3%
Torque rise at 1780 engine rpm 22%

DRAWBAR PERFORMANCE (UNBALLASTED—2WD)
FUEL CONSUMPTION CHARACTERISTICS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—18th (1LC) Gear									
134.4 *(100.2)*	7915 *(35.2)*	6.36 *(10.24)*	2064	6	0.431 *(0.258)*	16.80 *(3.31)*	185 *(85)*	68 *(20)*	30.1 *(102.0)*
75% of Pull at Maximum Power—18th (1LC) Gear									
104.3 *(77.8)*	5365 *(23.9)*	7.29 *(11.73)*	2314	3	0.487 *(0.296)*	14.62 *(2.88)*	180 *(82)*	68 *(20)*	30.1 *(102.0)*
50% of Pull at Maximum Power—18th (1LC) Gear									
70.5 *(52.6)*	3530 *(15.7)*	7.49 *(12.05)*	2354	2	0.566 *(0.344)*	12.59 *(2.48)*	180 *(82)*	68 *(20)*	30.1 *(102.0)*
75% of Pull at Reduced Engine Speed—19th (4TD) Gear									
105.0 *(78.3)*	5420 *(24.1)*	7.26 *(11.68)*	2204	3	0.480 *(0.292)*	14.82 *(2.92)*	180 *(82)*	68 *(20)*	30.1 *(102.0)*
50% of Pull at Reduced Engine Speed—19th (4TD) Gear									
71.5 *(53.3)*	3575 *(15.9)*	7.50 *(12.06)*	2247	2	0.557 *(0.339)*	12.77 *(2.51)*	181 *(83)*	68 *(20)*	30.1 *(102.0)*

DRAWBAR PERFORMANCE (UNBALLASTED—2WD) MAXIMUM POWER IN SELECTED GEARS

Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				6th (2TB) Gear					
77.0 *(57.4)*	11150 *(49.6)*	2.59 *(4.16)*	2349	14	0.574 *(0.349)*	12.41 *(2.44)*	180 *(82)*	68 *(20)*	30.1 *(102.0)*
				7th (2TC) Gear					
89.7 *(66.9)*	10970 *(48.8)*	3.07 *(4.94)*	2329	12	0.539 *(0.328)*	13.20 *(2.60)*	180 *(82)*	68 *(20)*	30.1 *(102.0)*
				8th (3TA) Gear					
93.9 *(70.0)*	11050 *(49.2)*	3.19 *(5.13)*	2327	12	0.526 *(0.320)*	13.53 *(2.67)*	183 *(84)*	68 *(20)*	30.1 *(102.0)*
				9th (2TD) Gear					
104.1 *(77.6)*	10835 *(48.2)*	3.60 *(5.80)*	2308	11	0.508 *(0.309)*	14.01 *(2.76)*	181 *(83)*	68 *(20)*	30.1 *(102.0)*
				10th (3TB) Gear					
109.4 *(81.6)*	10905 *(48.5)*	3.76 *(6.05)*	2296	10	0.495 *(0.301)*	14.39 *(2.83)*	181 *(83)*	68 *(20)*	30.1 *(102.0)*
				11th (4TA) Gear					
124.0 *(92.5)*	10705 *(47.6)*	4.34 *(6.99)*	2264	9	0.473 *(0.288)*	15.02 *(2.96)*	181 *(83)*	68 *(20)*	30.1 *(102.0)*
				12th (3TC) Gear					
122.2 *(91.1)*	10610 *(47.2)*	4.32 *(6.95)*	2229	9	0.476 *(0.290)*	14.95 *(2.95)*	185 *(85)*	68 *(20)*	30.1 *(102.0)*
				13th (1LA) Gear					
126.6 *(94.4)*	10835 *(48.2)*	4.38 *(7.05)*	2100	8	0.456 *(0.277)*	15.61 *(3.07)*	178 *(81)*	68 *(20)*	30.1 *(102.0)*
				14th (4TB) Gear					
130.1 *(97.0)*	10095 *(44.9)*	4.83 *(7.78)*	2123	8	0.446 *(0.271)*	15.99 *(3.15)*	187 *(86)*	68 *(20)*	30.1 *(102.0)*
				15th (3TD) Gear					
129.5 *(96.6)*	9980 *(44.4)*	4.87 *(7.83)*	2105	8	0.446 *(0.271)*	15.99 *(3.15)*	189 *(87)*	68 *(20)*	30.1 *(102.0)*
				16th (1LB) Gear					
134.0 *(99.9)*	9285 *(41.3)*	5.41 *(8.71)*	2102	7	0.431 *(0.262)*	16.52 *(3.25)*	190 *(88)*	68 *(20)*	30.1 *(102.0)*
				17th (4TC) Gear					
130.1 *(97.0)*	8500 *(37.8)*	5.74 *(9.24)*	2090	6	0.437 *(0.266)*	16.29 *(3.21)*	187 *(86)*	68 *(20)*	30.1 *(102.0)*
				18th (1LC) Gear					
134.4 *(100.2)*	7915 *(35.2)*	6.36 *(10.24)*	2064	6	0.424 *(0.258)*	16.80 *(3.31)*	185 *(85)*	68 *(20)*	30.1 *(102.0)*
				19th (4TD) Gear					
131.3 *(97.9)*	7510 *(33.4)*	6.56 *(10.55)*	2035	6	0.431 *(0.262)*	16.52 *(3.25)*	185 *(85)*	68 *(20)*	30.1 *(102.0)*
				20th (2LA) Gear					
133.8 *(99.8)*	7360 *(32.7)*	6.82 *(10.98)*	2027	5	0.419 *(0.255)*	16.98 *(3.34)*	183 *(84)*	68 *(20)*	30.1 *(102.0)*

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Disengaged dB(A)	Front Wheel Drive Engaged dB(A)
At 75% load in 13th (1LA) Gear	75.5	75.5
Bystander in 32nd (4LD) Gear	85.5	—

TIRES, BALLAST AND WEIGHT	Front Wheel Assist Without Ballast	2WD Without Ballast
Rear Tires—No., size, ply & psi *(kPa)*	Two 20.8R42; **;16 *(110)*	Two 20.8R42; **;16 *(110)*
Ballast—Liquid (total)	None	None
—Cast Iron (total)	None	None
Front Tires—No., size, ply & psi *(kPa)*	Two 16.9R30; **; 16 *(110)*	Two 11.00-16; 8;36 *(250)*
Ballast—Liquid (total)	None	None
—Cast Iron (total)	None	None
Height of Drawbar	22.4 in *(570 mm)*	31.9 in *(810 mm)*
Static Weight with Operator—Rear	8940 lb *(4055 kg)*	8860 lb *(4020 kg)*
—Front	5655 lb *(2565 kg)*	4785 lb *(2170 kg)*
—Total	14595 lb *(6620 kg)*	13645 lb *(6190 kg)*

foot pedal **Brakes** single wet disc hydraulically actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1993 engine rpm and 1000 rpm at 2091 engine rpm **Unladen tractor mass** 2WD - 13480 lb *(6115 kg)*, FWA - 14430 lb *(6545 kg)*.

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. The performance figures on this summary were taken from tests conducted under the OECD Code II Restricted Standard Test Code procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **1593/4** and **1586/4**, Nebraska Summary 198, August 21, 1996.

LOUIS I. LEVITICUS
Engineer-in-Charge

L.L. BASHFORD
R.D. GRISSO
M.F. KOCHER
Board of Tractor Test Engineers

The following performance figures apply to the tractor equipped with a Front Drive Axle.

DRAWBAR PERFORMANCE
(UNBALLASTED—FRONT DRIVE ENGAGED)
FUEL CONSUMPTION CHARACTERISTICS

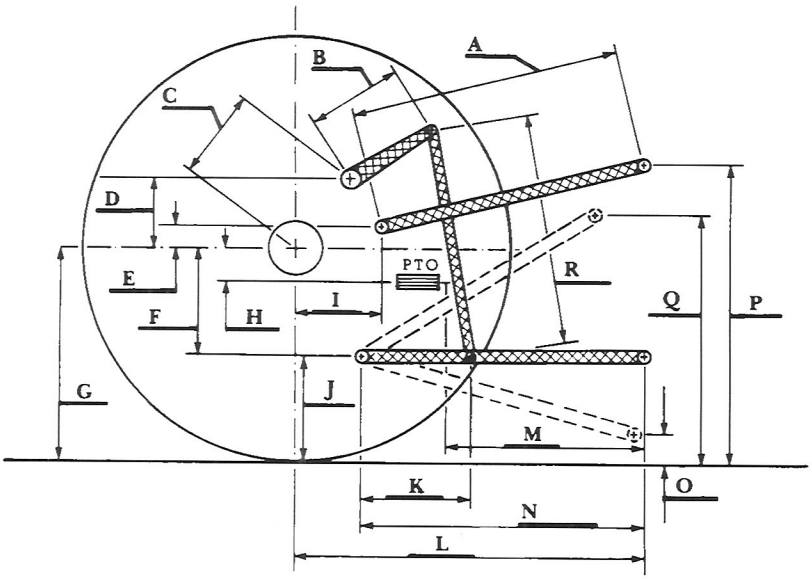
Power Hp *(kW)*	Drawbar pull lbs *(kN)*	Speed mph *(km/h)*	Crank-shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temp.°F (°C) cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—11th (4TA) Gear									
128.2 *(95.6)*	11085 *(49.3)*	4.34 *(6.98)*	2202	7	0.458 *(0.278)*	15.56 *(3.06)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
75% of Pull at Maximum Power—11th (4TA) Gear									
103.8 *(77.4)*	8265 *(36.8)*	4.71 *(7.58)*	2323	5	0.492 *(0.299)*	14.48 *(2.85)*	178 *(81)*	70 *(21)*	30.2 *(102.4)*
50% of Pull at Maximum Power—11th (4TA) Gear									
71.3 *(53.2)*	5500 *(24.5)*	4.86 *(7.83)*	2336	3	0.562 *(0.342)*	12.66 *(2.49)*	176 *(80)*	70 *(21)*	30.2 *(102.4)*
75% of Pull at Reduced Engine Speed—13th (1LA) Gear									
103.4 *(77.1)*	8250 *(36.7)*	4.70 *(7.56)*	2072	4	0.441 *(0.268)*	16.14 *(3.18)*	178 *(81)*	70 *(21)*	30.2 *(102.4)*
50% of Pull at Reduced Engine Speed—13th (1LA) Gear									
71.9 *(53.6)*	5540 *(24.6)*	4.87 *(7.84)*	2117	3	0.500 *(0.304)*	14.24 *(2.81)*	176 *(80)*	70 *(21)*	30.2 *(102.4)*
MAXIMUM POWER IN SELECTED GEARS									
8th (3TA) Gear									
107.0 *(79.8)*	13040 *(58.0)*	3.08 *(4.96)*	2287	15	0.509 *(0.310)*	13.96 *(2.75)*	185 *(85)*	70 *(21)*	30.2 *(102.4)*
9th (2TD) Gear									
122.3 *(91.2)*	12790 *(56.9)*	3.59 *(5.77)*	2258	10	0.478 *(0.291)*	14.87 *(2.93)*	185 *(85)*	70 *(21)*	30.2 *(102.4)*
10th (3TB) Gear									
125.4 *(93.5)*	12790 *(56.9)*	3.68 *(5.92)*	2220	10	0.467 *(0.284)*	15.25 *(3.00)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
11th (4TA) Gear									
130.2 *(97.1)*	11375 *(50.6)*	4.29 *(6.90)*	2183	8	0.452 *(0.275)*	15.74 *(3.10)*	183 *(84)*	70 *(21)*	30.2 *(102.4)*
12th (3TC) Gear									
130.6 *(97.4)*	11375 *(50.6)*	4.31 *(6.93)*	2157	7	0.447 *(0.272)*	15.91 *(3.13)*	181 *(83)*	70 *(21)*	30.2 *(102.4)*
13th (1LA) Gear									
132.5 *(98.8)*	10500 *(46.7)*	4.73 *(7.61)*	2134	7	0.439 *(0.267)*	16.22 *(3.20)*	183 *(84)*	70 *(21)*	30.2 *(102.4)*
14th (4TB) Gear									
132.6 *(98.9)*	10295 *(45.8)*	4.83 *(7.78)*	2060	6	0.440 *(0.268)*	16.16 *(3.18)*	181 *(83)*	70 *(21)*	30.2 *(102.4)*
15th (3TD) Gear									
136.8 *(102.0)*	10510 *(46.7)*	4.88 *(7.86)*	2050	6	0.426 *(0.259)*	16.72 *(3.29)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
16th (1LB) Gear									
138.4 *(103.2)*	9630 *(42.8)*	5.39 *(8.68)*	2046	5	0.420 *(0.256)*	16.93 *(3.34)*	183 *(84)*	70 *(21)*	30.2 *(102.4)*
17th (4TC) Gear									
137.6 *(102.6)*	9060 *(40.3)*	5.70 *(9.18)*	2038	5	0.421 *(0.256)*	16.90 *(3.33)*	181 *(83)*	70 *(21)*	30.2 *(102.4)*
18th (1LC) Gear									
138.5 *(103.3)*	8160 *(36.3)*	6.36 *(10.24)*	2030	5	0.416 *(0.253)*	17.11 *(3.37)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
19th (4TD) Gear									
138.0 *(102.9)*	7745 *(34.4)*	6.68 *(10.75)*	2027	4	0.419 *(0.255)*	16.98 *(3.35)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
20th (2LA) Gear									
139.5 *(104.0)*	7530 *(33.5)*	6.95 *(11.18)*	2013	4	0.411 *(0.250)*	17.31 *(3.41)*	180 *(82)*	70 *(21)*	30.2 *(102.4)*
21st (1LD) Gear									
136.8 *(102.0)*	6900 *(30.7)*	7.43 *(11.97)*	2013	4	0.419 *(0.255)*	16.98 *(3.34)*	181 *(83)*	70 *(21)*	30.2 *(102.4)*
22nd (2LB) Gear									
137.9 *(102.8)*	6340 *(28.2)*	8.16 *(13.13)*	2007	3	0.416 *(0.253)*	17.11 *(3.37)*	187 *(86)*	70 *(21)*	30.2 *(102.4)*

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II
Quick Attach: none

Maximum Force Exerted Through Whole Range:	12475 lbs	*(55.5 kN)*
i) Opening pressure of relief valve:	NA	
Sustained pressure with relief valve open:	2655 psi	*(183 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	33.2 GPM	*(125.5 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	25.3 GPM	*(95.9 l/min)*
Delivery pressure:	2205 psi	*(152 bar)*
Power:	32.5 HP	*(24.3 kW)*

HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	*mm*
A	31.1	*790*
B	14.3	*362*
C	18.5	*470*
D	17.0	*432*
E	7.0	*179*
F	11.8	*300*
G	35.6	*905*
H	5.4	*138*
I	16.9	*428*
J	23.8	*605*
K	23.6	*600*
L	47.4	*1205*
M	27.8	*706*
N	38.6	*981*
O	13.2	*335*
P	47.8	*1215*
Q	37.9	*963*
R	32.7	*830*

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