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Nebraska Summary: S709 Massey Ferguson 5475

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SUMMARY OF OECD TEST 2539—NEBRASKA SUMMARY 709

MASSEY FERGUSON 5475 DIESEL

16 SPEED

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—1084 rpm)					
118.8 (88.6)	2200	7.62 (28.85)	0.457 (0.278)	15.59 (3.07)	
Standard Power Take-off Speed(1000 rpm)					
132.1 (98.5)	2030	7.84 (29.67)	0.422 (0.257)	16.85 (3.32)	
Maximum Power (1 hour)					
133.6 (99.6)	2000	7.84 (29.69)	0.418 (0.254)	17.03 (3.35)	

VARYING POWER AND FUEL CONSUMPTION

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
118.8 (88.6)	2200	7.62 (28.85)	0.457 (0.278)	15.59 (3.07)	Air temperature
101.1 (75.4)	2207	6.92 (26.20)	0.487 (0.296)	14.61 (2.88)	72°F (22°C)
76.0 (56.7)	2215	5.95 (22.54)	0.557 (0.339)	12.78 (2.52)	Relative humidity
50.8 (37.9)	2226	4.54 (17.18)	0.636 (0.387)	11.20 (2.21)	39%
25.6 (19.1)	2243	3.05 (11.56)	0.847 (0.515)	8.41 (1.66)	Barometer
--	2254	1.96 (7.41)	--	--	30.0" Hg (101.7 kPa)

Maximum torque - 441.1 lb.-ft. (598.0 Nm) at 1400 rpm

Maximum torque rise - 55.6%

Torque rise at 1750 engine rpm - 34%

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)	Temp. °F (°C) cool- ing med	Barom. inch Hg (kPa)
Maximum Power—9th(3A) Gear							
101.2 (75.5)	6225 (27.7)	6.10 (9.82)	2199	2.5	0.526 (0.320)	13.53 (2.67)	187 (86)
75% of Pull at Maximum Power—9th(3A) Gear							
76.4 (57.0)	4690 (20.9)	6.11 (9.83)	2210	2.1	0.628 (0.382)	11.33 (2.23)	187 (86)
50% of Pull at Maximum Power—9th(3A) Gear							
50.8 (37.9)	3085 (13.7)	6.18 (9.95)	2223	1.5	0.863 (0.525)	8.25 (1.63)	187 (86)
75% of Pull at Reduced Engine Speed—10th(3B) Gear							
76.6 (57.1)	4705 (20.9)	6.10 (9.82)	1789	2.3	0.494 (0.301)	14.41 (2.84)	187 (86)
50% of Pull at Reduced Engine Speed—10th(3B) Gear							
50.7 (37.8)	3080 (13.7)	6.17 (9.93)	1781	1.0	0.626 (0.381)	11.37 (2.24)	187 (86)

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, Cedex, France 92163

Dates of tests: September to October, 2009

Manufacturer: AGCOS.A. BP 307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.855 **Fuel weight** 7.12 lbs/gal (0.853 kg/l) **Oil SAE 15W40 API service classification** CH4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 fluid **Front axle lubricant** API GL5 - SAE 85W140

ENGINE: Make Perkins Diesel **Type** six cylinder vertical with turbocharger and air to air intercooler **Serial No.** U016318S **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.134" x 5.000" (105.0 mm x 127.0 mm) **Compression ratio** 16.2 to 1 **Displacement** 402 cu in (6600 ml) **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase oil, radiator for hydraulic and transmission oil **Fuel filter** one paper element **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** T284012 **Tread width** rear 64.6" (1640 mm) to 86.8" (2205 mm) front 69.6" (1769 mm) to 80.0" (2033 mm) **Wheelbase** 97.4" (2474 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 1.22 (1.97) second 1.51 (2.43) third 1.84 (2.96) fourth 2.26 (3.64) fifth 2.91 (4.68) sixth 3.58 (5.76) seventh 4.36 (7.02) eighth 5.37 (8.64) ninth 5.91 (9.51) tenth 7.26 (11.69) eleventh 8.86 (14.26) twelfth 10.90 (17.54) thirteenth 13.63 (21.93) fourteenth 16.76 (26.97) fifteenth 20.44 (32.89) sixteenth 25.14 (40.45) reverse 1.22 (1.97), 1.51 (2.43), 1.84 (2.96), 2.26 (3.64), 2.91 (4.68), 3.58 (5.76), 4.36 (7.02), 5.37 (8.64), 5.91 (9.51), 7.26 (11.69), 8.86 (14.26), 10.90 (17.54), 13.63 (21.93), 16.76 (26.97), 20.44 (32.89), 25.14 (40.45) **Clutch** multiple wet disc operated by foot pedal **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1976 engine rpm or 1000 rpm at 2030 engine rpm **Unladen tractor mass** 11995 lb (5440 kg)

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Engaged)
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)	Consumption Hp.hr/gal (kW.h/l)	Temp. °F(°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
64.1 (47.8)	11870 (52.8)	2.03 (3.26)	2208	14.0	0.709 (0.431)	10.05 (1.98)	180 (82)	43 (6)	30.4 (103.0)
4th(1D)Gear									
81.7 (60.9)	11580 (51.5)	2.65 (4.26)	2216	12.8	0.604 (0.367)	11.78 (2.32)	181 (83)	43 (6)	30.4 (103.0)
5th(2A)Gear									
95.2 (71.0)	10600 (47.2)	3.37 (5.42)	2120	6.8	0.544 (0.331)	13.10 (2.58)	183 (84)	43 (6)	30.4 (102.9)
6th(2B)Gear									
102.6 (76.5)	9440 (42.0)	4.08 (6.56)	2049	4.2	0.503 (0.306)	14.16 (2.79)	181 (83)	45 (7)	30.4 (102.9)
7th(2C)Gear									
103.9 (77.5)	7945 (35.3)	4.90 (7.89)	2000	3.7	0.496 (0.301)	14.37 (2.83)	183 (84)	46 (8)	30.4 (102.9)
8th(2D)Gear									
116.5 (86.9)	8025 (35.7)	5.44 (8.76)	2001	3.5	0.473 (0.288)	15.02 (2.96)	183 (84)	48 (9)	30.4 (102.9)
9th(3A)Gear									
117.3 (87.5)	6405 (28.5)	6.87 (11.05)	2006	2.3	0.471 (0.287)	15.11 (2.98)	185 (85)	50 (10)	30.4 (102.9)
10th(3B)Gear									
116.8 (87.1)	5165 (23.0)	8.48 (13.64)	2000	2.0	0.471 (0.287)	15.11 (2.98)	185 (85)	50 (10)	30.4 (102.8)
11th(3C)Gear									
111.7 (83.3)	4115 (18.3)	10.18 (16.38)	1999	2.0	0.497 (0.302)	14.31 (2.82)	187 (86)	52 (11)	30.4 (102.8)
*12th(3D)Gear									

*Front Drive Disengaged

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive	
	Disengaged dB(A)	Engaged dB(A)
At no load in 7th (2C) gear	75.0	75.0
Bystander	--	--

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

NOTE 1: The engine on this tractor is electronically controlled to give 2 power levels. A "boosted" level is available when the PTO is engaged, tractor stationary, and when the tractor is operated in ranges 3 and 4.

REMARKS: All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet the manufacturer's claim of 26 GPM (100 lpm) hydraulic flow at the remote outlets. The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2539**, Nebraska Summary 709, September 8, 2010.

Roger M. Hoy
Director

M.F. Kocher
D.R. Keshwani
J.A. Smith
Board of Tractor Test Engineers

TIRES AND WEIGHT

Rear tires - No., size, ply & psi (kPa)

Front tires - No., size, ply & psi (kPa)

Height of Drawbar

Static Weight with operator- Rear

- Front

- Total

Tested without ballast

Two 460/85R38; **; 15(100)

Two 380/85R28; **; 15(100)

18.9 in (480 mm)

7120 lb (3230 kg)

5040 lb (2285 kg)

12160 lb (5515 kg)

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Disengaged)
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)	Consumption Hp.hr/gal (kW.h/l)	Temp.°F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
5th(2A) Gear									
63.0 (47.0)	9085 (40.4)	2.60 (4.19)	2202	14.4	0.695 (0.423)	10.24 (2.02)	185 (85)	54 (12)	30.4 (102.8)
6th(2B) Gear									
78.7 (58.7)	8835 (39.3)	3.34 (5.38)	2199	11.0	0.631 (0.384)	11.27 (2.22)	187 (86)	54 (12)	30.4 (102.8)
7th(2C) Gear									
93.3 (69.6)	8590 (38.2)	4.07 (6.55)	2152	9.2	0.538 (0.327)	13.25 (2.61)	187 (86)	54 (12)	30.4 (102.8)
8th(2D) Gear									
102.2 (76.2)	8115 (36.1)	4.72 (7.60)	2006	7.5	0.499 (0.304)	14.26 (2.81)	187 (86)	54 (12)	30.4 (102.8)
9th(3A) Gear									
113.0 (84.3)	8025 (35.7)	5.28 (8.50)	2003	5.8	0.485 (0.295)	14.67 (2.89)	187 (86)	52 (11)	30.4 (102.8)
10th(3B) Gear									
113.9 (84.9)	6545 (29.1)	6.52 (10.50)	2001	5.8	0.488 (0.297)	14.57 (2.87)	185 (85)	54 (12)	30.4 (102.8)
11th(3C) Gear									
113.5 (84.6)	5305 (23.6)	8.02 (12.90)	2002	5.2	0.483 (0.294)	14.72 (2.90)	187 (86)	52 (11)	30.4 (102.8)
12th(3D) Gear									
109.4 (81.6)	4155 (18.5)	9.87 (15.89)	2007	5.0	0.525 (0.319)	13.55 (2.67)	187 (86)	50 (10)	30.4 (102.8)

TIRES AND WEIGHT

Rear tires - No., size, ply & psi(kPa)
Front tires - No., size, ply & psi(kPa)
Height of Drawbar
Static Weight with operator-Rear
- Front
- Total

Tested without ballast

Two 460/85R38; **,15(100)
Two 380/85R28; **,15(100)
33.5 in (850 mm)
7120 lb (3230 kg)
5040 lb (2285 kg)
12160 lb (5515 kg)

HYDRAULIC PERFORMANCE

CATEGORY: II

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 9189 lbs (40.9 kN) (75 mm lift cylinders)

	Open center system		Closed center system
	100 l/min pump	57 l/min pump	110 l/min pump
i) Sustained pressure of the open relief valve:	3136 psi (216 bar)	2755 psi (190 bar)	2875 psi (198 bar)
ii) Pump delivery rate at minimum pressure:	24.1 GPM (91.2 l/min)	15.9 GPM (60.3 l/min)	30.1 GPM (114.1 l/min)
iii) Pump delivery rate at maximum			
hydraulic power:	22.4 GPM (84.8 l/min)	14.8 GPM (56.2 l/min)	26.5 GPM (100.4 l/min)
Delivery pressure:	2338 psi (161 bar)	2580 psi (178 bar)	2290 psi (158 bar)
Power:	30.6 HP (22.8 kW)	22.3 Hp (16.7 kW)	35.4 hp (26.4 kW)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi. (bar)	2770 (191)
Location:	lift cylinder
Hydraulic oil temperature: °F (°C)	152 (67)
Location:	hydraulic valve
Category:	II
Quick attach:	none

75 mm cylinders

SAE Static Test—System pressure 2490 psi (172 Bar)

	10.2 (259)	15.0 (381)	22.0 (559)	29.0 (737)	36.0 (914)
Hitch point distance to ground level in. (mm)					
Lift force on frame lb	18747	15849	14310	12789	11421
" " " " " (kN)	(83.4)	(70.5)	(63.7)	(56.9)	(50.8)

HITCH DIMENSIONS AS TESTED—NO LOAD

	SAE test		OECD test	
	inch	mm	inch	mm
A	24.8	629	24.8	629
B	11.6	295	11.6	295
C	13.9	353	13.9	353
D	13.0	330	13.0	330
E	7.9	200	7.9	200
F	10.2	260	10.2	260
G	30.3	770	30.3	770
H	1.4	35	1.4	35
I	16.2	413	16.2	413
J	20.1	510	20.1	510
K	24.2	615	24.2	615
L	41.2	1046	41.2	1046
M	23.5	596	23.5	596
N	37.2	946	37.2	946
O	8.0	203	8.0	203
P	40.2	1020	44.1	1120
Q	33.5	850	33.5	850
R	29.0	737	29.0	737

