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Nebraska Summary S706: Massey Ferguson 5460 (S/N S275031 and higher)

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SUMMARY OF OECD TEST 2527–NEBRASKA SUMMARY 706
MASSEY FERGUSON 5460 DIESEL
16 SPEED
Tractor chassis S/N S275031 and higher

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—1099 rpm)					
102.5 (76.4)	2199	6.51 (24.63)	0.452 (0.275)	15.74 (3.10)	
Standard Power Take-off Speed(1000 rpm)					
113.0 (84.3)	2000	6.78 (25.67)	0.427 (0.260)	16.67 (3.28)	
Maximum Power (1 hour)					
113.0 (84.3)	2000	6.78 (25.67)	0.427 (0.260)	16.67 (3.28)	
VARYING POWER AND FUEL CONSUMPTION					
102.5 (76.4)	2199	6.51 (24.63)	0.452 (0.275)	15.74 (3.10)	Air temperature
87.2 (65.0)	2202	5.75 (21.78)	0.470 (0.286)	15.15 (2.98)	73°F (23°C)
65.7 (49.0)	2210	4.88 (18.48)	0.529 (0.322)	13.45 (2.65)	Relative humidity
44.0 (32.8)	2221	4.07 (15.41)	0.659 (0.401)	10.80 (2.13)	42%
22.1 (16.5)	2237	2.71 (10.25)	0.869 (0.529)	8.17 (1.61)	Barometer
-- --	2248	1.54 (5.82)	-- --	-- --	30.0" Hg (100.7 kPa)

Maximum torque - 370.3 lb.-ft. (502.1 Nm) at 1250 rpm
Maximum torque rise - 51.4%
Torque rise at 1750 engine rpm - 36%

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—9th(3A) Gear									
80.3 (59.9)	5035 (22.4)	5.98 (9.62)	2193	3.4	0.545 (0.332)	13.03 (2.57)	180 (82)	68 (20)	29.6 (100.4)
75% of Pull at Maximum Power—9th(3A) Gear									
61.3 (45.7)	3785 (16.8)	6.07 (9.77)	2197	2.0	0.600 (0.365)	11.83 (2.33)	180 (82)	68 (20)	29.6 (100.3)
50% of Pull at Maximum Power—9th(3A) Gear									
40.9 (30.5)	2500 (11.1)	6.14 (9.88)	2208	1.5	0.756 (0.460)	9.39 (1.85)	176 (80)	68 (20)	29.6 (100.3)
75% of Pull at Reduced Engine Speed—10th(3B) Gear									
61.3 (45.7)	3800 (16.9)	6.05 (9.73)	1781	2.3	0.526 (0.320)	13.50 (2.66)	176 (80)	66 (19)	29.6 (100.3)
50% of Pull at Reduced Engine Speed—10th(3B) Gear									
40.6 (30.3)	2495 (11.1)	6.11 (9.83)	1794	1.9	0.627 (0.381)	11.33 (2.23)	174 (79)	66 (19)	29.6 (100.3)

Location of tests: Groupement d'Antony, Parc de Touvoie, BP 44 Antony, Cedex, France 92163
Dates of tests: March to May, 2009

Manufacturer: AGCO S.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** four cylinder vertical with turbocharger and air to air intercooler **Serial No.** U020241S **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** 268 cu in *(4400 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.** T245056 **Tread width** rear 53.4" *(1357 mm)* to 73.7" *(1871 mm)* front 52.4" *(1332 mm)* to 73.6" *(1870 mm)* **Wheelbase** 97.0" *(2464 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 *(1.96)* second 1.50 *(2.42)* third 1.83 *(2.95)* fourth 2.25 *(3.62)* fifth 2.90 *(4.66)* sixth 3.56 *(5.73)* seventh 4.34 *(6.99)* eighth 5.34 *(8.60)* ninth 5.88 *(9.46)* tenth 7.23 *(11.64)* eleventh 8.82 *(14.19)* twelfth 10.85 *(17.46)* thirteenth 13.27 *(21.36)* fourteenth 16.32 *(26.27)* fifteenth 19.91 *(32.04)* sixteenth 24.49 *(39.41)* reverse 1.22 *(1.96)*, 1.50 *(2.42)*, 1.83 *(2.95)*, 2.25 *(3.62)*, 2.90 *(4.66)*, 3.56 *(5.73)*, 4.34 *(6.99)*, 5.34 *(8.60)*, 5.88 *(9.46)*, 7.23 *(11.64)*, 8.82 *(14.19)*, 10.85 *(17.46)*, 13.27 *(21.36)*, 16.32 *(26.27)*, 19.91 *(32.04)*, 24.49 *(39.41)* **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 1980 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 10140 lb *(4600 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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F*(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				4th(1D)Gear					
55.1 *(41.1)*	10205 *(45.4)*	2.03 *(3.26)*	2193	14.5	0.683 *(0.416)*	10.40 *(2.05)*	180 *(82)*	61 *(16)*	29.7 *(100.6)*
				5th(2A)Gear					
71.1 *(53.0)*	9980 *(44.4)*	2.67 *(4.30)*	2180	12.0	0.595 *(0.362)*	11.93 *(2.35)*	180 *(82)*	61 *(16)*	29.7 *(100.5)*
				6th (2B) Gear					
80.9 *(60.3)*	9690 *(43.1)*	3.13 *(5.04)*	2026	9.4	0.540 *(0.329)*	13.15 *(2.59)*	181 *(83)*	61 *(16)*	29.7 *(100.5)*
				7th(2C)Gear					
85.2 *(63.5)*	8080 *(35.9)*	3.95 *(6.36)*	2008	5.4	0.514 *(0.312)*	13.82 *(2.72)*	181 *(83)*	63 *(17)*	29.7 *(100.5)*
				8th(2D)Gear					
85.3 *(63.6)*	6525 *(29.0)*	4.90 *(7.89)*	2004	4.3	0.512 *(0.311)*	13.87 *(2.73)*	181 *(83)*	63 *(17)*	29.7 *(100.5)*
				9th(3A)Gear					
94.5 *(70.5)*	6540 *(29.1)*	5.42 *(8.73)*	2001	4.1	0.489 *(0.297)*	14.52 *(2.86)*	183 *(84)*	68 *(20)*	29.6 *(100.3)*
				10th (3B) Gear					
94.0 *(70.1)*	5260 *(23.4)*	6.70 *(10.78)*	2000	3.5	0.497 *(0.302)*	14.28 *(2.81)*	183 *(84)*	68 *(20)*	29.6 *(100.3)*
				11th (3C) Gear					
92.7 *(69.1)*	4205 *(18.7)*	8.26 *(13.30)*	2006	3.2	0.507 *(0.309)*	14.00 *(2.76)*	185 *(85)*	68 *(20)*	29.6 *(100.3)*
				*12th (3D) Gear					
92.8 *(69.2)*	3465 *(15.4)*	10.04 *(16.15)*	2004	3.7	0.511 *(0.311)*	13.91 *(2.74)*	185 *(85)*	68 *(20)*	29.6 *(100.3)*

*Front Drive Disengaged

TRACTOR SOUND LEVEL WITH CAB	Front Wheel Drive Disengaged dB(A)	Front Wheel Drive Engaged dB(A)
At no load in 7th (2C) gear	72.0	73.0
Bystander	--	--

TRACTOR SOUND LEVEL WITHOUT CAB	Front Wheel Drive Disengaged dB(A)	Front Wheel Drive Engaged dB(A)
At no load in 8th (2D) gear	85.0	85.0
Bystander	--	--

TIRES AND WEIGHT

	Tested without ballast
Rear tires - No.,size, ply & psi*(kPa)*	Two 480/80R38; **;15*(100)*
Front tires - No.,size, ply & psi*(kPa)*	Two 380/85R28; **;16*(110)*
Height of Drawbar	19.7 in *(500 mm)*
Static Weight with operator- Rear	6295 lb *(2855 kg)*
- Front	4010 lb *(1820 kg)*
- Total	10305 lb *(4675 kg)*

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.

NOTE 2: The performance figures on this report apply to tractors with chassis S/N S275031 and higher.

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. **2527**, Nebraska Summary 706, September 8, 2010.

Roger M. Hoy
Director

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

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)*	Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Air dry bulb	Barom. inch Hg *(kPa)*
				5th(2A) Gear					
60.1	8510	2.65	2195	13.7	0.610	11.63	178	55	29.7
(44.8)	*(37.9)*	*(4.26)*			*(0.371)*	*(2.29)*	*(81)*	*(13)*	*(100.6)*
				6th (2B) Gear					
72.8	8205	3.33	2164	10.5	0.595	11.92	180	55	29.7
(54.3)	*(36.5)*	*(5.36)*			*(0.362)*	*(2.35)*	*(82)*	*(13)*	*(100.6)*
				7th(2C) Gear					
83.7	8310	3.78	2004	10.0	0.532	13.35	181	57	29.7
(62.4)	*(37.0)*	*(6.08)*			*(0.324)*	*(2.63)*	*(83)*	*(14)*	*(100.6)*
				8th(2D) Gear					
83.5	6475	4.84	2000	5.9	0.534	13.30	180	57	29.7
(62.3)	*(28.8)*	*(7.79)*			*(0.325)*	*(2.62)*	*(82)*	*(14)*	*(100.6)*
				9th(3A) Gear					
95.1	6700	5.32	2004	6.4	0.507	14.01	176	57	29.7
(70.9)	*(29.8)*	*(8.56)*			*(0.308)*	*(2.76)*	*(80)*	*(14)*	*(100.6)*
				10th (3B) Gear					
94.8	5395	6.59	2002	6.0	0.503	14.11	183	57	29.7
(70.7)	*(24.0)*	*(10.60)*			*(0.306)*	*(2.78)*	*(84)*	*(14)*	*(100.6)*
				11th (3C) Gear					
93.9	4340	8.11	1999	5.5	0.511	13.91	185	59	29.7
(70.0)	*(19.3)*	*(13.05)*			*(0.311)*	*(2.74)*	*(85)*	*(15)*	*(100.6)*
				12th (3D) Gear					
90.0	3380	9.99	2003	5.0	0.540	13.16	183	59	29.7
(67.1)	*(15.0)*	*(16.07)*			*(0.328)*	*(2.59)*	*(84)*	*(15)*	*(100.6)*

TIRES AND WEIGHT

	Tested without ballast
Rear tires - No.,size, ply & psi(*kPa*)	Two 480/80R38; **;15(*100*)
Front tires - No.,size, ply & psi(*kPa*)	Two 380/85R28; **;16(*110*)
Height of Drawbar	33.5 in *(850 mm)*
Static Weight with operator - Rear	6295 lb *(2855 kg)*
- Front	4010 lb *(1820 kg)*
- Total	10305 lb *(4675 kg)*

HYDRAULIC PERFORMANCE

CATEGORY: II
Quick Attach: None
OECD Static test
Maximum force exerted through whole range: 7817 lbs *(34.8 kN)* (66 mm lift cylinders)
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)*	2848 psi *(196 bar)*
ii) Pump delivery rate at minimum pressure:	24.1 GPM *(91.2 l/min)*	15.9 GPM *(60.3 l/min)*	29.8 GPM *(112.7 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	22.4 GPM *(84.8 l/min)*	14.8 GPM *(56.2 l/min)*	24.2 GPM *(91.6 l/min)*
Delivery pressure:	2338 psi *(161 bar)*	2580 psi *(178 bar)*	2708 psi *(187 bar)*
Power:	30.6 HP *(22.8 kW)*	22.3 Hp *(16.7 kW)*	38.2 hp *(28.5 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

66 mm cylinders

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

Hitch point distance to ground level in. *(mm)*	9.9 *(251)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
Lift force on frame lb	15561	12897	11745	10314	9126
" " " " " " *(kN)*	*(69.2)*	*(57.4)*	*(51.0)*	*(45.9)*	*(40.6)*

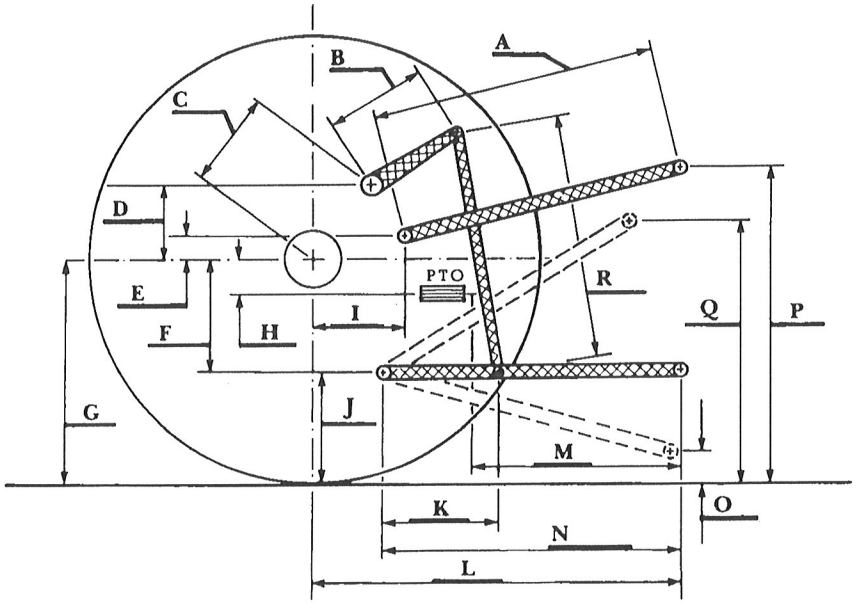
75 mm cylinders

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

Hitch point distance to ground level in. *(mm)*	10.2 *(259)*	15.0 *(381)*	22.0 *(559)*	29.0 *(737)*	36.0 *(914)*
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*



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