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2016

Nebraska Summary: S1016 Massey Ferguson 7720

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SUMMARY OF OECD TEST 2947–NEBRASKA SUMMARY 1016
MASSEY FERGUSON 7720 DYNA 6 DIESEL
24 SPEED

POWER TAKE-OFF PERFORMANCE

Power HP *(kW)*	Crank shaft speed rpm	Diesel Consumption Gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	D.E.F. Consumption Hp.hr/gal *(kW.h/l)*	Gal/hr *(l/h)*	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION						
Rated Engine Speed—(PTO speed—1050 rpm)						
167.3 *(124.8)*	2100	9.48 *(35.88)*	0.396 *(0.240)*	17.65 *(3.48)*	0.66 *(2.51)*	
Standard Power Take-off Speed (999 rpm)						
181.6 *(135.4)*	1999	10.00 *(37.87)*	0.384 *(0.234)*	18.16 *(3.58)*	0.70 *(2.66)*	
Maximum Power (1 hour)						
191.0 *(142.4)*	1802	10.05 *(38.05)*	0.367 *(0.223)*	19.00 *(3.74)*	0.70 *(2.66)*	
VARYING POWER AND FUEL CONSUMPTION						
167.3 *(124.8)*	2100	9.48 *(35.88)*	0.396 *(0.240)*	17.65 *(3.48)*	0.66 *(2.51)*	Air temperature
143.5 *(107.0)*	2118	8.18 *(30.95)*	0.398 *(0.242)*	17.54 *(3.46)*	0.58 *(2.19)*	70°F *(21°C)*
108.0 *(80.5)*	2126	6.49 *(24.57)*	0.419 *(0.255)*	16.64 *(3.28)*	0.52 *(1.97)*	Relative humidity
72.3 *(53.9)*	2134	4.84 *(18.31)*	0.468 *(0.284)*	14.94 *(2.94)*	0.39 *(1.47)*	56%
36.3 *(27.1)*	2143	3.36 *(12.73)*	0.648 *(0.394)*	10.79 *(2.13)*	0.22 *(0.82)*	Barometer
-- --	2149	2.04 *(7.73)*	-- --	-- --	-- --	29.5" Hg *(100.0 kPa)*

Maximum torque - 635.6 lb.-ft. *(861.8 Nm)* at 1001 rpm
Maximum torque rise - 51.8%
Torque rise at 1700 engine rpm - 36%
Power increase at 1801 engine rpm - 14.1%

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)*
Power at Rated Engine Speed—11th(3A) Gear									
137.2 *(102.3)*	9915 *(44.1)*	5.19 *(8.35)*	2100	2.2	0.478 *(0.291)*	14.47 *(2.85)*	176 *(80)*	45 *(7)*	30.2 *(102.4)*
75% of Pull at Rated Engine Speed—11th(3A) Gear									
104.5 *(77.9)*	7440 *(33.1)*	5.26 *(8.47)*	2120	2.0	0.540 *(0.328)*	12.80 *(2.52)*	178 *(81)*	45 *(7)*	30.2 *(102.4)*
50% of Pull at Rated Engine Speed—11th(3A) Gear									
70.7 *(52.7)*	4990 *(22.2)*	5.31 *(8.55)*	2125	1.4	0.661 *(0.402)*	10.46 *(2.06)*	178 *(81)*	45 *(7)*	30.2 *(102.4)*
75% of Pull at Reduced Engine Speed—13th(3B) Gear									
103.9 *(77.5)*	7465 *(33.2)*	5.22 *(8.40)*	1760	1.8	0.467 *(0.284)*	14.78 *(2.91)*	176 *(80)*	46 *(8)*	30.2 *(102.4)*
50% of Pull at Reduced Engine Speed—13th(3B) Gear									
70.5 *(52.6)*	4945 *(22.0)*	5.34 *(8.60)*	1775	1.2	0.553 *(0.336)*	12.50 *(2.46)*	176 *(80)*	46 *(8)*	30.2 *(102.4)*

Location of tests: IRSTEA, Centre d'Antony, 1 rue Pierre-Gilles de Gennes CS 10030 Antony, 92163, Cedex, France

Dates of tests: February to March, 2016

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

CONSUMABLE FLUIDS: **Fuel** No. 2 Diesel **Specific gravity converted to 60°/60°F** *(15°/15°C)* 0.838 **Fuel weight** 6.98 lbs/gal *(0.836 kg/l)* **Diesel Exhaust Fluid (DEF)** 32% aqueous urea solution **DEF weight** 9.10 lbs/gal *(1.091 kg/l)* **Oil SAE** 15W40 **API service classification** CJ-4 **Transmission and hydraulic lubricant** BP Terrac Tractan 9 15W/40 **Front axle lubricant** BP Terrac Tractan 9 15W/40

ENGINE: Make AGCO Power Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and SCR (selective catalyst reduction) exhaust treatment **Serial No.** A73684 **Crankshaft** lengthwise **Rated engine speed** 2100 **Bore and stroke** 4.252" x 4.724" *(108.0 mm x 120.0 mm)* **Compression ratio** 17.4 to 1 **Displacement** 402 cu in *(6596 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** three paper cartridges **Muffler** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: Type front wheel assist **Serial No.** D 147901 **Tread width** rear 52.8" *(1340 mm)* to 87.8" *(2230 mm)* front 52.8" *(1340 mm)* to 87.8" *(2230 mm)* **Wheelbase** 117.0" *(2973 mm)* **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (6) range operator controlled powershift **Nominal travel speeds mph** *(km/h)* first 1.03 *(1.65)* second 1.23 *(1.98)* third 1.44 *(2.32)* fourth 1.74 *(2.80)* fifth 2.04 *(3.29)* sixth 2.46 *(3.96)* seventh 2.77 *(4.45)* eighth 3.32 *(5.35)* ninth 3.90 *(6.28)* tenth 4.70 *(7.56)* eleventh 5.29 *(8.52)* twelfth 5.52 *(8.89)* thirteenth 6.37 *(10.25)* fourteenth 6.65 *(10.70)* fifteenth 7.48 *(12.03)* sixteenth 8.99 *(14.47)* seventeenth 10.58 *(17.02)* eighteenth 12.73 *(20.48)* nineteenth 14.70 *(23.66)* twentieth 17.67 *(28.44)* twenty-first 20.74 *(33.38)* twenty-second 24.86 *(40.00)* twenty-third 24.86 *(40.00)* twenty-fourth 24.86 *(40.00)* electronically limited reverse 1.03 *(1.65)*, 1.23 *(1.98)*, 1.44 *(2.32)*, 1.74 *(2.80)*, 2.04 *(3.29)*, 2.46 *(3.96)*, 2.77 *(4.45)*, 3.32 *(5.35)*, 3.90 *(6.28)*, 4.70 *(7.56)*, 5.29 *(8.52)*, 5.52 *(8.89)*, 6.37 *(10.25)*, 6.65 *(10.70)*, 7.48 *(12.03)*, 8.99 *(14.47)* 10.58 *(17.02)*, 12.73 *(20.48)*, 14.70 *(23.66)*, 17.67 *(28.44)*, 20.74 *(33.38)*, 24.86 *(40.00)*, 24.86 *(40.00)*, 24.86 *(40.00)* electronically limited

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)*
				2nd(1B) Gear					
46.7 *(34.8)*	16300 *(72.5)*	1.08 *(1.73)*	2137	14.0	0.681 *(0.414)*	10.15 *(2.00)*	180 *(82)*	52 *(11)*	30.3 *(102.5)*
				3rd(1C) Gear					
55.4 *(41.3)*	16140 *(71.8)*	1.29 *(2.07)*	2134	13.2	0.641 *(0.390)*	10.77 *(2.12)*	180 *(82)*	52 *(11)*	30.3 *(102.5)*
				4th(1D) Gear					
65.6 *(48.9)*	15960 *(71.0)*	1.54 *(2.48)*	2126	12.8	0.608 *(0.370)*	11.37 *(2.24)*	181 *(83)*	52 *(11)*	30.2 *(102.4)*
				5th(1E) Gear					
75.4 *(56.2)*	15805 *(70.3)*	1.79 *(2.88)*	2124	12.6	0.582 *(0.354)*	11.88 *(2.34)*	181 *(83)*	52 *(11)*	30.2 *(102.4)*
				6th(1F) Gear					
90.5 *(67.5)*	15690 *(69.8)*	2.16 *(3.48)*	2120	11.8	0.563 *(0.343)*	12.26 *(2.42)*	183 *(84)*	54 *(12)*	30.2 *(102.4)*
				7th(2A) Gear					
105.0 *(78.3)*	15645 *(69.6)*	2.52 *(4.05)*	2110	10.5	0.524 *(0.319)*	13.19 *(2.60)*	185 *(85)*	54 *(12)*	30.2 *(102.4)*
				8th(2B) Gear					
121.2 *(90.4)*	15175 *(67.5)*	3.00 *(4.82)*	2020	7.2	0.485 *(0.295)*	14.23 *(2.80)*	187 *(86)*	54 *(12)*	30.2 *(102.4)*
				9th(2C) Gear					
132.4 *(98.7)*	14790 *(65.8)*	3.36 *(5.40)*	1892	5.6	0.457 *(0.278)*	15.13 *(2.98)*	187 *(86)*	54 *(12)*	30.2 *(102.4)*
				*10th(2D) Gear					
150.4 *(112.2)*	14275 *(63.5)*	3.95 *(6.35)*	1840	5.2	0.461 *(0.281)*	14.97 *(2.95)*	187 *(86)*	54 *(12)*	30.2 *(102.4)*
				*11th(3A) Gear					
157.3 *(117.3)*	13465 *(59.9)*	4.38 *(7.05)*	1831	5.0	0.448 *(0.272)*	15.43 *(3.04)*	180 *(82)*	45 *(7)*	30.2 *(102.4)*
				*12th(2E) Gear					
158.1 *(117.9)*	12860 *(57.2)*	4.61 *(7.42)*	1822	4.6	0.441 *(0.268)*	15.65 *(3.08)*	190 *(88)*	54 *(12)*	30.2 *(102.4)*
				*13th(3B) Gear					
160.4 *(119.6)*	11130 *(49.5)*	5.41 *(8.70)*	1838	4.1	0.441 *(0.268)*	15.68 *(3.09)*	189 *(81)*	46 *(8)*	30.2 *(102.4)*
				*14th(2F) Gear					
161.1 *(120.1)*	10860 *(48.3)*	5.56 *(8.95)*	1820	3.9	0.441 *(0.268)*	15.68 *(3.09)*	186 *(87)*	54 *(12)*	30.2 *(102.4)*
				*15th(3C) Gear					
162.9 *(121.5)*	9755 *(43.4)*	6.26 *(10.08)*	1813	3.5	0.432 *(0.263)*	15.99 *(3.15)*	189 *(81)*	49 *(9)*	30.2 *(102.4)*
				*16th(3D) Gear					
161.3 *(120.3)*	7960 *(35.4)*	7.60 *(12.23)*	1828	3.0	0.433 *(0.264)*	15.94 *(3.14)*	198 *(92)*	50 *(10)*	30.2 *(102.4)*
				*17th(3E) Gear					
156.5 *(116.7)*	6495 *(28.9)*	9.04 *(14.54)*	1826	2.5	0.449 *(0.273)*	15.38 *(3.03)*	199 *(93)*	50 *(10)*	30.2 *(102.4)*

* Powerboost mode

TRACTOR SOUND LEVEL WITH CAB	Front wheel drive Engaged dB(A)	Disengaged dB(A)
At no load in 10th (2D) gear	70.0	69.0
Bystander		--

TIRES, BALLAST AND WEIGHT

	Tested without ballast
Rear Tires - No., size, ply & psi*(kPa)*	Two 620/70R42;**;15*(100)*
Front Tires - No., size, ply & psi*(kPa)*	Two 480/70R30;**;15*(100)*
Height of Drawbar	21.7 in *(550 mm)*
Static Weight with operator - Rear	10815 lb *(4905 kg)*
- Front	7735 lb *(3510 kg)*
- Total	18550 lb *(8415 kg)*

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 1890 engine rpm or 1000 rpm at 2000 engine rpm **Unladen tractor mass** 18385 lb *(8340 kg)*

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

NOTE: This tractor has a power management system that provides an engine power increase when the PTO is engaged and for travel speeds from gear 2D and higher.

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 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. **2947,** Nebraska Summary 1016, June 16, 2016.

Roger M. Hoy
Director

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