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Nebraska Summary: S746 Massey Ferguson 8680 IEGR

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SUMMARY OF OECD TEST 2559-NEBRASKA SUMMARY 746

MASSEY FERGUSON 8680 IEGR DIESEL

DYNA VT TRANSMISSION

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—1081 rpm) | | | | | |
| 282.7 (210.8) | 2200 | 17.19 (65.07) | 0.425 (0.258) | 16.45 (3.24) | |
| Standard Power Take-off Speed(1000 rpm) | | | | | |
| 305.6 (227.9) | 2035 | 17.26 (65.34) | 0.395 (0.240) | 17.71 (3.49) | |
| Maximum Power (1 hour) | | | | | |
| 322.6 (240.6) | 1850 | 17.97 (68.04) | 0.389 (0.237) | 17.95 (3.54) | |

VARYING POWER AND FUEL CONSUMPTION

| | | | | | |
|------------------|------|------------------|------------------|-----------------|--------------------|
| 282.7 (210.8) | 2200 | 17.19 (65.07) | 0.425 (0.258) | 16.45 (3.24) | Air temperature |
| 242.6 (180.9) | 2221 | 15.11 (57.18) | 0.436 (0.265) | 16.06 (3.16) | 68°F (20°C) |
| 182.8 (136.3) | 2231 | 12.04 (45.58) | 0.460 (0.280) | 15.18 (2.99) | Relative humidity |
| 122.4 (91.3) | 2243 | 8.58 (32.49) | 0.490 (0.298) | 14.26 (2.81) | 51% |
| 61.4 (45.8) | 2252 | 5.23 (19.80) | 0.596 (0.362) | 11.73 (2.31) | Barometer |
| -- | 2258 | 2.55 (9.64) | -- | -- | 29.2" Hg(98.8 kPa) |

Maximum Torque - 1037 lb.-ft. (1406 Nm) at 1500 rpm

Maximum Torque Rise - 53.7%

Torque rise at 1800 engine rpm - 38%

Power increase at 1850 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) |
|--|--------------------------------|------------------------|---------------------------------|-----------|---|-----------------------|-------------------------------------|--------------------|-------------------------------|
| Maximum Power—Turtle 9 | | | | | | | | | |
| 236.3 (176.2) | 15900 (70.72) | 5.57 (8.97) | 2200 | 2.4 | 0.509 (0.310) | 13.73 (2.71) | 165 (74) | 61 (16) | 29.4 (99.4) |
| 75% of Pull at Maximum Power—Turtle 9 | | | | | | | | | |
| 181.7 (135.5) | 11925 (53.05) | 5.71 (9.19) | 2218 | 1.7 | 0.546 (0.332) | 12.84 (2.53) | 165 (74) | 63 (17) | 29.4 (99.4) |
| 50% of Pull at Maximum Power—Turtle 9 | | | | | | | | | |
| 123.1 (91.8) | 7920 (35.24) | 5.83 (9.38) | 2233 | 1.1 | 0.601 (0.366) | 11.62 (2.29) | 165 (74) | 61 (16) | 29.4 (99.4) |
| 75% of Pull at Reduced Engine Speed—Turtle 11 | | | | | | | | | |
| 182.2 (135.9) | 11930 (53.06) | 5.73 (9.22) | 1788 | 1.6 | 0.476 (0.290) | 14.67 (2.89) | 165 (74) | 63 (17) | 29.4 (99.4) |
| 50% of Pull at Reduced Engine Speed—Turtle 11 | | | | | | | | | |
| 123.0 (91.7) | 7930 (35.27) | 5.82 (9.36) | 1793 | 1.1 | 0.505 (0.307) | 13.82 (2.72) | 165 (74) | 63 (17) | 29.4 (99.4) |

Location of tests: DLG - Test Centre, Technology and Farm inputs, Max-Eyth-Weg 1, D-64823 Gross-Umstadt, Germany

Dates of tests: October 2009 - March 2010.

Manufacturer: AGCO S.A. ZA n2 BP 60307, Avenue Blaise Pascal, 60026 Beauvais, France

FUEL and OIL: Fuel No. 2 Diesel **Specific gravity converted to 60°/60°F (15°/15°C)** 0.839 **Fuel weight** 6.99 lbs/gal (0.8373 kg/l) **Oil SAE 10W40 API service classification** CI4 **Transmission and hydraulic lubricant** BP STOU 10W/40 **Front axle lubricant** SAE 85W90 API GL5

ENGINE: Make Sisu Diesel **Type** six cylinder vertical with turbocharger, air to air intercooler and IEGR technology **Serial No.** 21340 **Crankshaft** lengthwise **Rated engine speed** 2200 **Bore and stroke** 4.370" x 5.709" (111.0 mm x 145.0 mm) **Compression ratio** 16.7 to 1 **Displacement** 513 cu in (8419 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** vertical **Cooling medium temperature control** thermostat and variable speed fan

CHASSIS: **Type** front wheel assist with duals **Serial No.** T073991 **Tread width** rear 60.0" (1525 mm) to 101.8" (2585 mm) front 60.8" (1545 mm) to 89.2" (2265 mm) **Wheelbase** 122.2" (3105 mm) **Hydraulic control system** direct engine drive **Transmission** CVT. A combination of mechanical and hydrostatic sections allow an infinite speed adjustment within the ranges noted. The transmission has two mechanical ranges. **Nominal travel speeds mph (km/h)** forward: Low range 0-18 (0-30), high range 0-25 (0-40) reverse: Low range 0-12 (0-19), high range 0-12 (0-19) **Clutch** a foot pedal controls the hydrostatic oil flow **Brakes** multiple wet disc hydraulically operated by two foot pedals that can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 2038 engine rpm or 1000 rpm at 2033 engine rpm **Unladen tractor mass** 25840 lb (11720 kg)

DRAWBAR PERFORMANCE
(Unballasted - Front Drive Engaged)
MAXIMUM POWER AT SELECTED SPEEDS

| Power Hp (kW) | Drawbar pull lbs (kN) | Speed mph (km/h) | Crank- shaft speed rpm | Slip % | Fuel 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) |
|---------------------|--------------------------------|------------------------|---------------------------------|-----------|-------------------------------|--------------------------------------|-------------------------------------|--------------------|-------------------------------|
| Turtle 6 | | | | | | | | | |
| 224.5 (167.4) | 26725 (118.88) | 3.15 (5.07) | 2013 | 15.1 | 0.542 (0.330) | 12.89 (2.54) | 163 (73) | 59 (15) | 29.4 (99.5) |
| Turtle 7.5 | | | | | | | | | |
| 258.5 (192.8) | 25525 (113.54) | 3.80 (6.11) | 1855 | 7.2 | 0.488 (0.297) | 14.31 (2.82) | 162 (72) | 57 (14) | 29.4 (99.5) |
| Turtle 9 | | | | | | | | | |
| 265.1 (197.7) | 21440 (95.36) | 4.64 (7.46) | 1850 | 3.9 | 0.475 (0.289) | 14.72 (2.90) | 165 (74) | 57 (14) | 29.4 (99.5) |
| Turtle 11 | | | | | | | | | |
| 265.5 (198.0) | 17375 (77.29) | 5.73 (9.22) | 1851 | 2.6 | 0.475 (0.289) | 14.72 (2.90) | 162 (72) | 57 (14) | 29.4 (99.4) |
| Turtle 13 | | | | | | | | | |
| 263.2 (196.3) | 14685 (65.33) | 6.72 (10.81) | 1850 | 2.0 | 0.478 (0.291) | 14.57 (2.87) | 167 (75) | 57 (14) | 29.4 (99.5) |
| Turtle 15 | | | | | | | | | |
| 258.7 (192.9) | 12710 (56.54) | 7.63 (12.28) | 1851 | 1.7 | 0.488 (0.297) | 14.32 (2.82) | 169 (76) | 57 (14) | 29.4 (99.5) |
| Turtle 17 | | | | | | | | | |
| 257.6 (192.1) | 11030 (49.07) | 8.76 (14.09) | 1853 | 1.3 | 0.490 (0.298) | 14.26 (2.81) | 169 (76) | 55 (13) | 29.4 (99.5) |
| Rabbit 11 | | | | | | | | | |
| 257.5 (192.0) | 17375 (77.28) | 5.56 (8.94) | 1852 | 2.8 | 0.490 (0.298) | 14.26 (2.81) | 165 (74) | 59 (15) | 29.4 (99.5) |
| Rabbit 13 | | | | | | | | | |
| 261.2 (194.8) | 14835 (66.00) | 6.60 (10.63) | 1852 | 2.3 | 0.481 (0.293) | 14.52 (2.86) | 169 (76) | 57 (14) | 29.4 (99.5) |
| Rabbit 15 | | | | | | | | | |
| 264.0 (196.9) | 12880 (57.30) | 7.69 (12.37) | 1850 | 1.9 | 0.477 (0.290) | 14.63 (2.88) | 171 (77) | 57 (14) | 29.4 (99.5) |
| Rabbit 17 | | | | | | | | | |
| 263.5 (196.5) | 11420 (50.81) | 8.65 (13.92) | 1854 | 1.6 | 0.480 (0.292) | 14.57 (2.87) | 171 (77) | 57 (14) | 29.4 (99.5) |

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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 claims of 54% torque rise, 15% power bulge nor remote hydraulic flow claim of 26.4 GPM (100 l/min) from one outlet set. 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. **2559**, Nebraska summary 746, October 26, 2010.

Roger M. Hoy
Director

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

| TRACTOR SOUND LEVEL WITH CAB | dB(A) |
|--|-------|
| At no load in Turtle - 4.6mph (7.5 km/h) - no load | 71.0 |
| Bystander | --- |

| TIRES, BALLAST AND WEIGHT | With Ballast | Without Ballast |
|--|--------------------------|--------------------------|
| Rear Tires - No., size, ply & psi(kPa) | Six 480/80R46;***;9(60) | Four 480/80R46;***;9(60) |
| Ballast - Triples (total) | 2955 lb(1340 kg) | None |
| - Cast Iron (total) | 2255 lb(1023 kg) | None |
| Front Tires - No., size, ply & psi(kPa) | Four 420/90R30;***;9(60) | Two 420/90R30;***;9(60) |
| Ballast - Duals (total) | 1170 lb (530 kg) | None |
| - Cast Iron (total) | 2485 lb (1127 kg) | None |
| Height of Drawbar | 19.5 in (500 mm) | 19.5 in (500 mm) |
| Static Weight with operator - Rear | 20280 lb (9200 kg) | 15320 lb (6950 kg) |
| - Front | 14585 lb (6615 kg) | 10680 lb (4845 kg) |
| - Total | 34865 lb(15815 kg) | 26000 lb(11795 kg) |

DRAWBAR PERFORMANCE
(Ballasted - 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 | Air dry bulb | Barom. inch Hg (kPa) |
|---|--------------------------------|------------------------|---------------------------------|-----------|---|--------------------------------------|--------------------|-------------------------------|
| Maximum Power—Turtle 7.5 | | | | | | | | |
| 242.4 (180.8) | 19545 (86.93) | 4.65 (7.49) | 2201 | 1.8 | 0.499 (0.303) | 14.03 (2.76) | 158 (70) | 52 (11) 29.7 (100.6) |
| 75% of Pull at Maximum Power—Turtle 7.5 | | | | | | | | |
| 187.2 (139.6) | 14660 (65.20) | 4.79 (7.71) | 2216 | 1.1 | 0.522 (0.318) | 13.40 (2.64) | 158 (70) | 52 (11) 29.7 (100.6) |
| 50% of Pull at Maximum Power—Turtle 7.5 | | | | | | | | |
| 127.4 (95.0) | 9755 (43.40) | 4.90 (7.88) | 2234 | 0.6 | 0.570 (0.347) | 12.27 (2.42) | 158 (70) | 50 (10) 29.7 (100.6) |
| 75% of Pull at Reduced Engine Speed—Turtle 9 | | | | | | | | |
| 186.3 (138.9) | 14640 (65.12) | 4.77 (7.68) | 1810 | 1.1 | 0.461 (0.280) | 15.18 (2.99) | 156 (69) | 50 (10) 29.7 (100.6) |
| 50% of Pull at Reduced Engine Speed—Turtle 9 | | | | | | | | |
| 126.9 (94.6) | 9765 (43.44) | 4.87 (7.84) | 1823 | 0.7 | 0.490 (0.298) | 14.26 (2.81) | 156 (69) | 50 (10) 29.7 (100.6) |
| MAXIMUM POWER AT SELECTED SPEEDS | | | | | | | | |
| Turtle 5 | | | | | | | | |
| 226.0 (168.5) | 33685 (149.84) | 2.52 (4.05) | 2025 | 15.1 | 0.540 (0.328) | 12.94 (2.55) | 153 (67) | 50 (10) 29.7 (100.6) |
| Turtle 6 | | | | | | | | |
| 252.9 (188.6) | 32545 (144.77) | 2.91 (4.69) | 1851 | 9.7 | 0.499 (0.304) | 14.01 (2.76) | 147 (64) | 50 (10) 29.7 (100.5) |
| Turtle 7.5 | | | | | | | | |
| 272.0 (202.8) | 26695 (118.74) | 3.82 (6.15) | 1851 | 3.8 | 0.466 (0.283) | 15.02 (2.96) | 149 (65) | 52 (11) 29.7 (100.5) |
| Turtle 9 | | | | | | | | |
| 273.4 (203.9) | 22205 (98.77) | 4.62 (7.43) | 1851 | 2.3 | 0.462 (0.281) | 15.13 (2.98) | 149 (65) | 50 (10) 29.7 (100.5) |
| Turtle 11 | | | | | | | | |
| 270.9 (202.0) | 17720 (78.82) | 5.73 (9.23) | 1852 | 1.7 | 0.467 (0.284) | 14.97 (2.95) | 140 (60) | 41 (5) 29.5 (99.9) |
| Turtle 13 | | | | | | | | |
| 268.6 (200.3) | 15175 (67.50) | 6.64 (10.68) | 1854 | 1.5 | 0.470 (0.286) | 14.87 (2.93) | 145 (63) | 41 (5) 29.5 (99.9) |
| Turtle 15 | | | | | | | | |
| 261.4 (194.9) | 12700 (56.50) | 7.72 (12.42) | 1854 | 1.3 | 0.482 (0.293) | 14.52 (2.86) | 153 (68) | 41 (5) 29.5 (100.0) |
| Turtle 17 | | | | | | | | |
| 258.7 (192.9) | 11410 (50.76) | 8.50 (13.68) | 1854 | 1.0 | 0.489 (0.297) | 14.31 (2.82) | 149 (65) | 48 (9) 29.7 (100.5) |
| Rabbit 11 | | | | | | | | |
| 264.0 (196.9) | 17865 (79.46) | 5.54 (8.92) | 1852 | 1.7 | 0.480 (0.292) | 14.58 (2.87) | 156 (69) | 52 (11) 29.7 (100.6) |
| Rabbit 13 | | | | | | | | |
| 267.4 (199.4) | 15325 (68.16) | 6.54 (10.53) | 1852 | 1.4 | 0.472 (0.287) | 14.82 (2.92) | 158 (70) | 50 (10) 29.7 (100.6) |
| Rabbit 15 | | | | | | | | |
| 268.7 (200.4) | 13235 (58.87) | 7.62 (12.26) | 1852 | 1.2 | 0.469 (0.286) | 14.90 (2.94) | 160 (71) | 50 (10) 29.7 (100.6) |
| Rabbit 17 | | | | | | | | |
| 266.6 (198.8) | 11485 (51.08) | 8.71 (14.01) | 1854 | 1.0 | 0.472 (0.287) | 14.82 (2.92) | 160 (71) | 50 (10) 29.7 (100.6) |

HYDRAULIC PERFORMANCE

CATEGORY: IVN

Quick Attach: No

OECD Static test

Maximum force exerted through whole range: 24590 lbs (109.4 kN)

i) Sustained pressure at compensator cutoff: 3190 psi (220 bar)
three outlet sets combined

ii) Pump delivery rate at minimum pressure and rated engine speed: 49.5 GPM (187.4 l/min)

iii) Pump delivery rate at maximum hydraulic power: 44.6 GPM (169.0 l/min)
Delivery pressure: 2205 psi (152 bar)
Power: 57.4 HP (42.8 kW)
single outlet set

ii) Pump delivery rate at minimum pressure and rated engine speed: 25.3 GPM (95.6 l/min)

iii) Pump delivery rate at maximum hydraulic power: 23.8 GPM (90.1 l/min)
Delivery pressure: 2510 psi (173 bar)
Power: 34.9 HP (26.0 kW)

HITCH DIMENSIONS AS TESTED—NO LOAD

| | inch | mm |
|---|------|------|
| A | 35.8 | 910 |
| B | 14.6 | 370 |
| C | 19.1 | 484 |
| D | 15.9 | 405 |
| E | 15.6 | 395 |
| F | 13.0 | 330 |
| G | 36.4 | 925 |
| H | 2.0 | 50 |
| I | 16.5 | 420 |
| J | 23.4 | 595 |
| K | 28.7 | 730 |
| L | 52.4 | 1330 |
| M | 29.8 | 757 |
| N | 42.9 | 1090 |
| O | 9.1 | 230 |
| P | 50.4 | 1280 |
| Q | 38.7 | 983 |
| R | 37.0 | 940 |

