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January 2004

## Nebraska Summary 470: Massey Ferguson 7465 DYNAV T Diesel Dyna Step Transmission

Nebraska Tractor Test Lab

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# SUMMARY OF OECD TEST 2193-NEBRASKA SUMMARY 470

## MASSEY FERGUSON 7465 DYNAV T DIESEL

### DYNA STEP 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1081 rpm)</b>					
96.7 (72.1)	2199	6.64 (25.14)	0.473 (0.288)	14.57 (2.87)	
<b>Standard Power Take-off Speed(1000 rpm)</b>					
102.5 (76.4)	2034	6.52 (24.69)	0.439 (0.267)	15.71 (3.09)	
<b>Maximum Power (2 hours)</b>					
106.5 (79.4)	1800	6.33 (23.97)	0.411 (0.250)	16.81 (3.31)	

#### VARYING POWER AND FUEL CONSUMPTION

96.7 (72.1)	2199	6.64 (25.14)	0.473 (0.288)	14.57 (2.87)	Air temperature
82.8 (61.8)	2217	5.98 (22.64)	0.498 (0.303)	13.86 (2.73)	66°F (19°C)
62.8 (46.8)	2239	4.95 (18.74)	0.544 (0.331)	12.69 (2.50)	Relative humidity
42.4 (31.6)	2260	4.12 (15.58)	0.671 (0.408)	10.29 (2.03)	28%
21.3 (15.9)	2278	3.02 (11.42)	0.976 (0.594)	7.07 (1.39)	Barometer
--	2297	2.19 (8.28)	--	--	28.9" Hg (98.0 kPa)

Maximum Torque - 340 lb.-ft. (461 Nm) at 1403 rpm  
 Maximum Torque Rise - 47.3%  
 Torque rise at 1800 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)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
<b>Maximum Power—Turtle 10</b>									
81.8 (61.0)	7945 (35.35)	3.86 (6.21)	2201	2.5	0.572 (0.348)	12.06 (2.38)	149 (65)	70 (21)	29.9 (101.3)
<b>75% of Pull at Maximum Power—Turtle 10</b>									
62.8 (46.8)	5950 (26.46)	3.96 (6.37)	2229	1.6	0.625 (0.380)	11.03 (2.17)	144 (62)	70 (21)	29.9 (101.3)
<b>50% of Pull at Maximum Power—Turtle 10</b>									
42.8 (31.9)	3965 (17.64)	4.05 (6.51)	2250	0.7	0.746 (0.454)	9.24 (1.82)	144 (62)	72 (22)	29.9 (101.3)
<b>75% of Pull at Reduced Engine Speed—Turtle 12</b>									
63.1 (47.0)	5950 (26.46)	3.98 (6.40)	1872	1.8	0.540 (0.328)	12.77 (2.51)	144 (62)	70 (21)	29.9 (101.3)
<b>50% of Pull at Reduced Engine Speed—Turtle 12</b>									
42.8 (31.9)	3960 (17.62)	4.06 (6.53)	1887	0.7	0.625 (0.380)	11.02 (2.17)	140 (60)	70 (21)	29.9 (101.3)

**Location of tests:** DLG testing Station for Agricultural Machinery, Max-Eyth-Weg 1 D-64823 Gros - Umstadt, Germany

**Dates of tests:** January - March, 2004  
 Sound tests: January 19, 2006

**Manufacturer:** AGCO S.A., 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) 0.829  
 Fuel weight 6.90 lbs/gal (0.8269 kg/l) Oil SAE 10W40 API service classification CH4  
 Transmission and hydraulic lubricant SAE10W/40 Front axle lubricant Gear oil SAE 85W/90

**ENGINE:** Make Perkins Diesel Type six cylinder vertical with turbocharger and air to air intercooler  
 Serial No. U092650K Crankshaft lengthwise Rated engine speed 2200 Bore and stroke 3.937" x 5.00" (100.0 mm x 127.0 mm) Compression ratio 17.5 to 1 Displacement 365 cu in (5985 ml) Starting system 12 volt Lubrication pressure Air cleaner two paper elements and aspirator Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil, radiator for hydraulic and final drive oil, radiator for transmission oil Fuel filter one paper element Muffler vertical Cooling medium temperature control thermostat and variable speed fan

**CHASSIS:** Type front wheel assist Serial No. M309065 Tread width rear 61.6" (1566 mm) to 74.6" (1896 mm) front 72.4" (1840 mm) to 78.1" (1984 mm) Wheelbase 109.4" (2780 mm) Hydraulic control system direct engine drive Transmission AGCO Stepshift. A combination of mechanical and hydrostatic sections are electronically controlled to give the travel speeds shown. The transmission has two mechanical ranges. **Nominal travel speeds mph (km/h)** Forward: Low range 1st - 1.1 (1.8), 2nd - 1.4 (2.2), 3rd - 1.6 (2.6), 4th - 1.9 (3.0), 5th - 2.1 (3.4), 6th - 2.4 (3.8), 7th - 2.6 (4.2), 8th - 3.0 (4.8), 9th - 3.4 (5.4), 10th - 3.7 (6.0), 11th - 4.2 (6.8), 12th - 4.8 (7.8), 13th - 5.6 (9.0), 14th - 6.5 (10.4), 15th - 7.3 (11.8), 16th - 8.3 (13.4), 17th - 9.6 (15.4), 18th - 11.1 (17.8), 19th - 12.8 (20.6), 20th - 14.8 (23.8), 21st - 17.0 (27.4) High range: 1st - 2.4, (3.8) 2nd - 2.6 (4.2), 3rd - 3.0 (4.8), 4th - 3.4 (5.4), 5th - 3.7 (6.0), 6th - 4.2 (6.8), 7th - 4.7 (7.6), 8th - 5.3 (8.6), 9th - 6.0 (9.6), 10th - 6.6 (10.6), 11th - 7.3 (11.8), 12th - 8.2 (13.2), 13th - 9.2 (14.8), 14th - 10.3 (16.6), 15th - 11.7 (18.8), 16th - 13.3 (21.4), 17th - 15.0 (24.2), 18th - 17.0 (27.4), 19th - 19.4 (31.2), 20th - 22.0 (35.4), 21st - 25.0 (40.2) Reverse Low range: 1.1 (1.8), 1.4 (2.2), 1.6 (2.6), 1.9 (3.0), 2.1 (3.4), 2.4 (3.8), 2.6 (4.2), 3.0 (4.8), 3.4 (5.4), 3.7 (6.0), 4.2 (6.8), 4.8 (7.8), 5.6 (9.0), 6.5 (10.4), 7.3 (11.8), 8.3 (13.4), 9.6 (13.4), 9.6 (15.4), 11.1 (17.8)

## 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 Consumption lb/hp.hr (kg/kW.h)	Temp. °F(°C) cool- ing med	Barom. inch Hg (kPa)				
Turtle 6					2114	15.3	0.610 (0.371)	11.29 (2.22)	147 (64)	66 (19)	30.0 (101.5)
Turtle 8					1801	9.1	0.518 (0.315)	13.30 (2.62)	145 (63)	64 (18)	29.9 (101.4)
Turtle 10					1801	4.5	0.494 (0.301)	13.95 (2.75)	145 (63)	64 (18)	29.9 (101.4)
Turtle 12					1800	2.7	0.493 (0.300)	13.97 (2.75)	138 (59)	59 (15)	30.0 (101.5)
Turtle 13					1801	2.5	0.497 (0.302)	13.86 (2.73)	138 (59)	61 (16)	30.0 (101.5)
Turtle 14					1800	1.8	0.501 (0.305)	13.76 (2.71)	143 (62)	63 (17)	29.9 (101.4)
Turtle 16					1801	0.9	0.505 (0.307)	13.65 (2.69)	145 (63)	63 (17)	29.9 (101.4)
Turtle 17					1803	0.6	0.514 (0.313)	13.40 (2.64)	147 (64)	63 (17)	29.9 (101.4)
Turtle 18					1802	0.6	0.522 (0.318)	13.20 (2.60)	147 (64)	61 (16)	29.9 (101.4)
Rabbit 8					1801	2.2	0.503 (0.306)	13.71 (2.70)	149 (65)	63 (17)	29.9 (101.4)
Rabbit 10					1801	1.6	0.499 (0.304)	13.81 (2.72)	147 (64)	64 (18)	29.9 (101.4)
Rabbit 12					1802	1.1	0.499 (0.304)	13.81 (2.72)	147 (64)	64 (18)	29.9 (101.4)
Rabbit 13					1805	0.8	0.501 (0.305)	13.73 (2.70)	147 (64)	64 (18)	29.9 (101.4)
Rabbit 14					1807	0.5	0.510 (0.310)	13.50 (2.66)	149 (65)	63 (17)	29.9 (101.4)

High range: 2.4(3.8), 2.6(4.2), 3.0(4.8), 3.4(5.4), 3.7(6.0), 4.2(6.8), 4.7(7.6), 5.3(8.6), 6.0(9.6), 6.6(10.6), 7.3(11.8), 8.2(13.2), 9.2(14.8), 10.3(16.6), 11.7(18.8) **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 2062 engine rpm or 1000 rpm at 2033 engine rpm **Unladen tractor mass** 14835 lb (6730 kg)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**NOTE 1:** The performance figures on this report are the result of replacing the electronic engine control module of the Massey Ferguson 7480 with the Massey Ferguson 7465 module.

**NOTE 2:** The engine of the Massey Ferguson 7465 has two different injection pump characteristics. Power boosted - for travel speeds above 9.3 mph (15.0 km/h) or above 5.0 mph (8.0 km/h) with PTO engaged. Standard for all other conditions.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. The category IIN hitch configuration was not tested for verification. The performance figures on this summary were taken from a test conducted under the OECD Code II test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2193**, Nebraska Summary 470, March 15, 2006.

Leonard L. Bashford  
Director

M.F. Kocher  
V.I. Adamchuk  
J.A. Smith  
Board of Tractor Test Engineers

### TRACTOR SOUND LEVEL WITH CAB

	dB(A)
At no load in T12	70.4
Bystander in R21	84.4

### 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 650/65R38; \*\*; 12(80)  
 Two 540/65R28; \*\*; 12(80)  
 22.0 in(560 mm)  
 9170 lb (4160 kg)  
 5830 lb (2645 kg)  
 15000 lb (6805 kg)

## THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum force exerted through whole range: 10915 lbs (48.55 kN)

i) Opening pressure of relief valve: NA

Sustained pressure of the open relief valve: 2915 psi (201 bar)

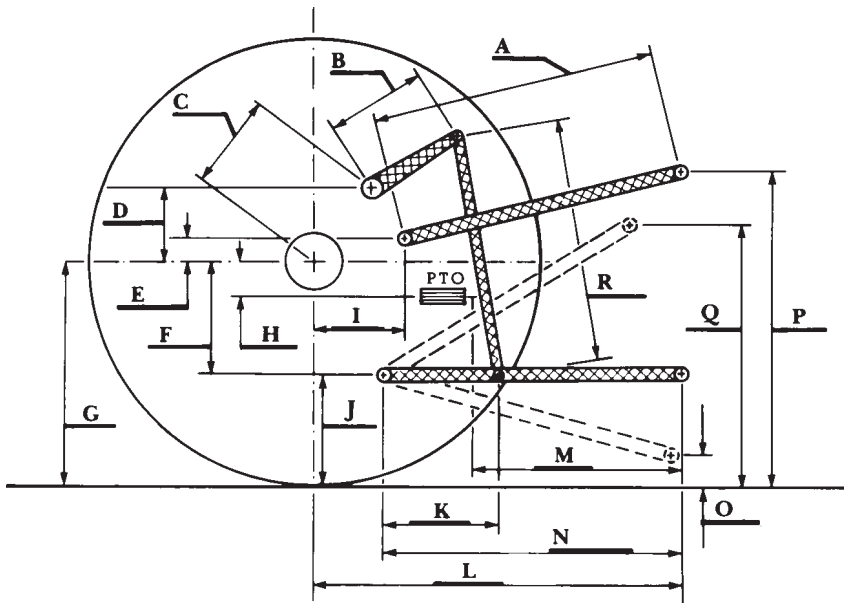
ii) Pump delivery rate at minimum pressure: 27.6 GPM (104.3 l/min) 31.7 GPM (119.9 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 26.9 GPM (101.8 l/min) 28.0 GPM (106.1 l/min)

Delivery pressure: 2310 psi (159 bar) 2685 psi (185 bar)

Power: 36.2 HP (27.0 kW) 43.8 HP (32.6 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	29.1	740
B	14.0	355
C	13.8	351
D	11.6	295
E	5.5	140
F	9.8	250
G	32.2	820
H	2.8	70
I	17.5	445
J	22.4	570
K	26.2	665
L	45.1	1145
M	26.0	660
N	40.6	1030
O	7.9	200
P	46.5	1180
Q	36.2	920
R	29.3	745