

# SUMMARY OF OECD TEST 2992-NEBRASKA SUMMARY 1061A

## MASSEY FERGUSON 7716 DYNA 6 DIESEL

### ALSO MASSEY FERGUSON 7716S DYNA 6 DIESEL

### 24 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Diesel Consumption		D.E.F. Consumption		Mean Atmospheric Conditions
		Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Gal/hr (l/h)	

#### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—(PTO speed—1034 rpm)						
141.1 (105.2)	2099	8.11 (30.69)	0.401 (0.244)	17.40 (3.43)	0.53 (2.01)	
Standard Power Take-off Speed (999 rpm)						
149.4 (111.4)	2028	8.36 (31.66)	0.391 (0.238)	17.87 (3.52)	0.57 (2.17)	
Maximum Power (1 hour)						
150.2 (112.0)	1900	8.15 (30.87)	0.379 (0.231)	18.43 (3.63)	0.58 (2.19)	

#### VARYING POWER AND FUEL CONSUMPTION

141.1 (105.2)	2099	8.11 (30.69)	0.401 (0.244)	17.40 (3.43)	0.53 (2.01)	Air temperature
121.1 (90.3)	2115	7.14 (27.02)	0.412 (0.250)	16.96 (3.34)	0.50 (1.89)	72°F (22°C)
91.2 (68.0)	2124	5.75 (21.75)	0.441 (0.268)	15.86 (3.12)	0.39 (1.49)	Relative humidity
61.0 (45.5)	2134	4.40 (16.64)	0.504 (0.306)	13.87 (2.73)	0.29 (1.10)	47%
30.7 (22.9)	2145	3.05 (11.53)	0.694 (0.422)	10.07 (1.98)	0.20 (0.76)	Barometer
--	2151	2.09 (7.90)	--	--	0.05 (0.19)	30.2" Hg (102.1 kPa)

Maximum torque - 479 lb.-ft. (650 Nm) at 1402 rpm  
 Maximum torque rise - 35.8%  
 Torque rise at 1700 engine rpm - 26%  
 Power increase at 1900 engine rpm - 6.4%

#### 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		Temp. °F (°C)		Barom. inch Hg (kPa)
					lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	cool- ing med	Air dry bulb	
Power at Rated Engine Speed—12th(3A) Gear									
112.8 (84.1)	8315 (37.0)	5.08 (8.18)	2095	4.8	0.500 (0.304)	13.87 (2.73)	194 (90)	73 (23)	29.9 (101.4)
75% of Pull at Rated Engine Speed—12th(3A) Gear									
86.9 (64.8)	6250 (27.8)	5.21 (8.39)	2124	3.7	0.524 (0.319)	13.25 (2.61)	194 (90)	73 (23)	29.9 (101.4)
50% of Pull at Rated Engine Speed—12th(3A) Gear									
59.3 (44.2)	4180 (18.6)	5.32 (8.55)	2130	2.4	0.613 (0.373)	11.32 (2.23)	194 (90)	73 (23)	29.9 (101.4)
75% of Pull at Reduced Engine Speed—14th(3B) Gear									
86.1 (64.2)	6205 (27.6)	5.20 (8.37)	1770	3.8	0.505 (0.307)	13.76 (2.71)	199 (93)	73 (23)	29.9 (101.4)
50% of Pull at Reduced Engine Speed—14th(3B) Gear									
59.3 (44.2)	4180 (18.6)	5.32 (8.55)	1777	2.4	0.554 (0.337)	12.54 (2.47)	198 (92)	73 (23)	29.9 (101.4)

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

**Dates of tests:** May to August, 2016

**Manufacturer:** AGCO S.A.S 41, Avenue Blaise Pascal, 60000 Beauvais, France

**CONSUMABLE FLUIDS:** Fuel No. 2 Diesel Specific gravity converted to 60°/60°F (15°/15°C) 0.839 Fuel weight 6.98 lbs/gal (0.837 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 BPTerrac Tractan 9 15W/40 Front axle lubricant BPTerrac 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. Z00099 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. B 007901 Tread width rear 52.8" (1340 mm) to 87.8" (2230 mm) front 52.8" (1340 mm) to 87.8" (2230 mm) Wheelbase 113.2" (2875 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 0.96 (1.55) second 1.16 (1.86) third 1.35 (2.18) fourth 1.63 (2.63) fifth 1.92 (3.09) sixth 2.31 (3.72) seventh 2.60 (4.19) eighth 3.13 (5.03) ninth 3.67 (5.91) tenth 4.42 (7.11) eleventh 5.19 (8.36) twelfth 5.28 (8.50) thirteenth 6.25 (10.06) fourteenth 6.35 (10.22) fifteenth 7.46 (12.00) sixteenth 8.97 (14.44) seventeenth 10.55 (16.98) eighteenth 12.69 (20.43) nineteenth 14.00 (22.53) twentieth 16.83 (27.09) twenty-first 19.75 (31.79) twenty-second 23.77 (38.26) twenty-third 24.86 (40.00) twenty-fourth 24.86 (40.00) electronically limited reverse 0.96 (1.55), 1.16 (1.86), 1.35 (2.18), 1.63 (2.63), 1.92 (3.09), 2.31 (3.72), 2.60 (4.19), 3.13 (5.03), 3.67 (5.91), 4.42 (7.11), 5.19 (8.36), 5.28 (8.50), 6.25 (10.06), 6.35 (10.22), 7.46 (12.00), 8.97 (14.44) 10.55 (16.98), 12.69 (20.43), 14.00 (22.53), 16.83 (27.09), 19.75 (31.79), 23.77 (38.26), 24.86 (40.00), 24.86 (40.00) electronically limited

## DRAWBAR PERFORMANCE AT 1900 ENGINE RPM

### (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)
6th(1F) Gear									
75.0 (55.9)	13625 (60.6)	2.06 (3.32)	2120	12.8	0.631 (0.384)	11.00 (2.17)	196 (91)	66 (19)	29.9 (101.4)
7th(2A) Gear									
83.8 (62.5)	13600 (60.5)	2.31 (3.72)	2110	12.5	0.572 (0.348)	12.13 (2.39)	196 (91)	66 (19)	29.9 (101.4)
8th(2B) Gear									
99.5 (74.2)	13535 (60.2)	2.76 (4.44)	2090	12.4	0.533 (0.324)	13.02 (2.56)	196 (91)	66 (19)	29.9 (101.4)
9th(2C) Gear									
105.3 (78.5)	12815 (57.0)	3.08 (4.96)	1928	9.9	0.526 (0.320)	13.20 (2.60)	196 (91)	66 (19)	29.9 (101.4)
*10th(2D) Gear									
112.4 (83.8)	11085 (49.3)	3.80 (6.12)	1909	7.2	0.501 (0.305)	13.86 (2.73)	196 (91)	66 (19)	29.9 (101.4)
*11th(2E) Gear									
123.0 (91.7)	10340 (46.0)	4.46 (7.18)	1905	6.5	0.460 (0.280)	15.08 (2.97)	183 (84)	70 (21)	30.0 (101.5)
*12th(3A) Gear									
125.0 (93.2)	10275 (45.7)	4.56 (7.34)	1910	6.3	0.456 (0.277)	15.23 (3.00)	194 (90)	73 (23)	29.9 (101.4)
*13th(2F) Gear									
123.0 (91.7)	8455 (37.6)	5.46 (8.78)	1910	5.1	0.460 (0.280)	15.08 (2.97)	192 (89)	72 (22)	30.0 (101.5)
*14th(3B) Gear									
125.1 (93.3)	8295 (36.9)	5.66 (9.10)	1910	3.9	0.448 (0.272)	15.50 (3.05)	196 (91)	73 (23)	29.9 (101.4)
*15th(3C) Gear									
124.2 (92.6)	7060 (31.4)	6.60 (10.62)	1898	2.7	0.467 (0.284)	14.87 (2.93)	196 (91)	73 (23)	29.9 (101.4)
*16th(3D) Gear									
120.0 (89.5)	5640 (25.1)	7.98 (12.84)	1904	2.2	0.472 (0.287)	14.72 (2.90)	190 (88)	70 (21)	30.0 (101.5)
*17th(3E) Gear									
115.5 (86.1)	4540 (20.2)	9.54 (15.35)	1910	1.7	0.487 (0.297)	14.24 (2.81)	196 (91)	70 (21)	30.0 (101.5)

\*Powerboost mode

**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 1982 engine rpm or 1000 rpm at 2030 engine rpm  
**Unladen tractor mass** 15200 lb (6895 kg)

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

**NOTE 1:** 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.

**NOTE 2:** The performance figures on this report are the result of replacing the electronic engine control module of the Massey Ferguson 7718 Dyna 6 with the Massey Ferguson 7716 Dyna 6 module.

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor fell 13.1% short of meeting the manufacturer's remote hydraulic flow claim of 29 GPM (110 l/min) (multiple outlets), 4.2% short of the 26.4 GPM (100 l/min) (single outlet), and 3.0% short of the 3 point lift claim of 8900 lbs (4035 kg). The performance figures on this summary were taken from a test conducted under the OECD Code 2 test procedure.

**REPORT REISSUED:** Supplemental sales permit for Massey Ferguson 7716S Dyna 6 Diesel, November, 2018.

We, the undersigned, certify that this is a true summary of data from OECD Report No. **2992**, Nebraska Summary 1061A, November 29, 2018.

Roger M. Hoy  
Director

M.F. Kocher  
J.D. Luck  
P.J. Jasa  
Board of Tractor Test Engineers

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

Horizontal distance of drawbar hitch point behind rear wheel axis - 28.5 in (725 mm), 34.4 in (875 mm)

#### TIRES, BALLAST 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 520/85R38; \*\*; 13(90)  
Two 480/70R28; \*\*; 15(100)  
21.7 in (550 mm)  
8245 lb (3740 kg)  
7120 lb (3230 kg)  
15365 lb (6970 kg)

## HYDRAULIC PERFORMANCE

CATEGORY: III

Quick Attach: None

OECD Static test

Maximum force exerted through whole range: 8630 lbs (38.4 kN)

i) Sustained pressure of the open relief valve: 2875 psi (198 bar)  
two outlet sets combined

ii) Pump delivery rate at minimum pressure: 25.2 GPM (95.5 l/min)

iii) Pump delivery rate at maximum

hydraulic power: 23.8 GPM (90.0 l/min)

Delivery pressure: 2380 psi (164 bar)

Power: 33.0 HP (24.6 kW)

single outlet set

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

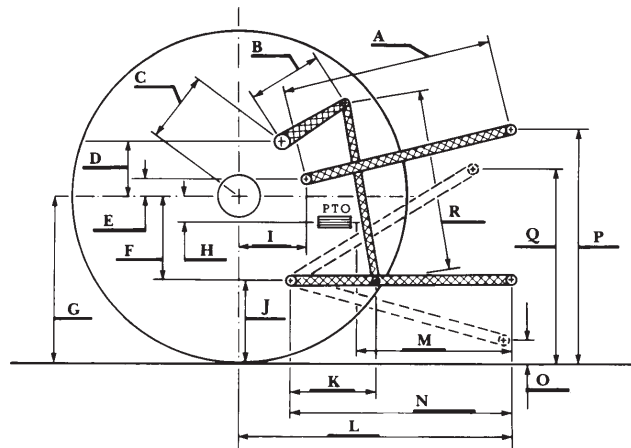
iii) Pump delivery rate at maximum

hydraulic power: 23.9 GPM (90.5 l/min)

Delivery pressure: 2160 psi (149 bar)

Power: 30.1 HP (22.5 kW)

### HITCH DIMENSIONS AS TESTED—NO LOAD



	inch	mm
A	28.7	730
B	11.6	295
C	13.9	354
D	13.0	330
E	9.9	251
F	11.0	280
G	34.4	875
H	1.7	43
I	15.5	394
J	23.4	595
K	21.4	543
L	43.3	1101
M	24.6	625
N	37.0	940
O	8.9	226
P	50.4	1280
Q	36.9	938
R	30.3	770

### RECOMMENDED CITATION FORMAT:

NTTL.(2018). OECD tractor test 2992 for Massey Ferguson 7716S Dyna 6 Diesel.  
Lincoln, NE:Nebraska Tractor Test Laboratory. Retrieved from <http://tractortestlab.unl.edu>