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## Test 1484: Hesston 466, 466 DT, 466 DT/L and 466/L Fiat models (12-Speed)

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1484—HESSTON 466 DT FIAT DIESEL ALSO HESSTON 466, 466 DT/L AND 466/L FIAT MODELS 12 SPEED

## POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption		Temperature °F (°C)				Barometer inch Hg (kPa)	
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb		
MAXIMUM POWER AND FUEL CONSUMPTION									
Rated Engine Speed—Two Hours (PTO Speed—638 rpm)									
45.13 (33.65)	2600	2.948 (11.159)	0.458 (0.278)	15.31 (3.016)	187 (86.1)	60 (15.7)	75 (24.0)	28.870 (97.490)	
Standard Power Take-off Speed (540 rpm)—One Hour									
42.68 (31.83)	2199	2.550 (9.653)	0.419 (0.255)	16.74 (3.297)	184 (84.6)	61 (16.1)	75 (24.1)	28.880 (97.523)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
39.67 (29.58)	2688	2.607 (9.869)	0.461 (0.280)	15.22 (2.997)	182 (83.1)	64 (17.5)	75 (23.9)	..... .....	
0.00 (0.00)	2963	1.045 (3.956)	..... .....	..... .....	166 (74.7)	64 (18.1)	76 (24.2)	..... .....	
20.84 (15.54)	2825	1.734 (6.564)	0.583 (0.355)	12.02 (2.367)	171 (77.2)	63 (17.2)	75 (23.9)	..... .....	
45.37 (33.83)	2600	2.950 (11.167)	0.456 (0.277)	15.38 (3.029)	188 (86.9)	62 (16.7)	75 (23.9)	..... .....	
10.75 (8.02)	2910	1.370 (5.186)	0.893 (0.543)	7.85 (1.546)	167 (75.0)	65 (18.3)	75 (23.9)	..... .....	
30.42 (22.68)	2747	2.141 (8.105)	0.493 (0.300)	14.21 (2.798)	176 (79.7)	64 (17.8)	75 (23.9)	..... .....	
Av Av	24.51 (18.28)	2789	1.974 (7.472)	0.565 (0.343)	12.41 (2.446)	175 (79.4)	64 (17.6)	75 (23.9)	28.887 (97.546)

## DRAWBAR PERFORMANCE (Front Wheel Drive Disengaged)

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)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 8th (III-1) Gear											
39.48 (29.44)	2561 (11.39)	5.78 (9.30)	2601	5.10	2.890 (10.940)	0.513 (0.312)	13.66 (2.691)	189 (87.2)	65 (18.1)	73 (22.5)	28.960 (97.794)
75% of Pull at Maximum Power—Ten Hours 8th (III-1) Gear											
31.36 (23.39)	1946 (8.66)	6.04 (9.73)	2691	4.08	2.437 (9.224)	0.544 (0.331)	12.87 (2.535)	184 (84.5)	66 (19.0)	73 (22.7)	28.899 (97.588)
50% of Pull at Maximum Power—Two Hours 8th (III-1) Gear											
21.87 (16.31)	1297 (5.77)	6.32 (10.18)	2781	2.83	1.998 (7.563)	0.640 (0.389)	10.95 (2.157)	177 (80.6)	66 (18.9)	71 (21.4)	28.950 (97.760)
50% of Pull at Reduced Engine Speed—Two Hours 10th (III-2) Gear											
21.88 (16.32)	1297 (5.77)	6.33 (10.18)	1804	2.79	1.552 (5.875)	0.497 (0.302)	14.10 (2.777)	176 (79.7)	65 (18.3)	72 (21.9)	28.935 (97.709)
MAXIMUM POWER IN SELECTED GEARS											
30.68 (22.88)	4969 (22.10)	2.32 (3.73)	2716	14.96	4th (II-1) Gear			182 (83.1)	71 (21.7)	75 (23.9)	28.730 (97.017)
36.67 (27.35)	4751 (21.13)	2.89 (4.66)	2599	12.46	5th (I-4) Gear			186 (85.6)	72 (22.2)	77 (25.0)	28.730 (97.017)
38.94 (29.04)	3970 (17.66)	3.68 (5.92)	2599	8.27	6th (II-2) Gear			188 (86.4)	64 (17.8)	68 (20.0)	28.950 (97.760)
39.07 (29.14)	3180 (14.14)	4.61 (7.42)	2600	6.32	7th (II-3) Gear			189 (86.9)	63 (17.2)	68 (20.0)	28.950 (97.760)
40.03 (29.85)	2594 (11.54)	5.79 (9.31)	2600	4.92	8th (III-1) Gear			187 (86.1)	62 (16.7)	67 (19.4)	28.970 (97.827)
38.74 (28.89)	1993 (8.87)	7.29 (11.73)	2599	3.91	9th (II-4) Gear			188 (86.7)	62 (16.7)	67 (19.4)	28.960 (97.794)
38.64 (28.82)	1594 (7.09)	9.09 (14.63)	2602	3.15	10th (III-2) Gear			187 (86.1)	63 (17.2)	68 (20.0)	28.960 (97.794)

Department of Agricultural Engineering

Dates of Test: June 9-22, 1983

Manufacturer: FIAT TRATTORI S.p.A., Via  
Pico della Mirandola, 72-41100 Modena, Italy

**FUEL, OIL AND TIME:** Fuel No. 2 Diesel  
Cetane No. 47.0 (rating taken from oil company's  
inspection data) **Specific gravity converted to 60°/**  
**60° (15°/15°)** 0.8416 **Fuel weight** 7.007 lbs/gal  
(0.840 kg/l) **Oil** SAE 15W-40 **API service classi-**  
**fication** SE-SF, CC-CD **To motor** 1.723 gal  
(6.524 l) **Drained from motor** 1.458 gal (5.518 l)  
**Transmission and final drive lubricant** API 303  
hydraulic fluid **Total time engine was operated**  
38.5 hours.

**ENGINE:** Make Fiat Diesel **Type** three cylin-  
der vertical **Serial No.** 8035.02\*376-100744\*  
**Crankshaft** lengthwise **Rated rpm** 2600 **Bore**  
**and stroke** 3.94" × 4.33" (100 mm × 110 mm)  
**Compression ratio** 17 to 1 **Displacement** 158 cu  
in (2592 ml) **Starting system** 12 volt **Lubrication**  
pressure **Air cleaner** two paper elements **Oil fil-**  
**ter** one full flow paper cartridge **Fuel filter** two  
paper elements **Muffler** vertical **Cooling**  
medium **temperature control** one thermostat.

**CHASSIS:** **Type** front wheel assist **Serial No.**  
\*466DT/12\*370008\* **Tread width** rear 56.1"  
(1425 mm) to 75.8" (1925 mm) front 56.9" (1445  
mm) to 73.8" (1875 mm) **Wheel base** 83.4" (2119  
mm) **Center of gravity** (without operator or bal-  
last, with minimum tread, with fuel tank filled and  
tractor serviced for operation) Horizontal distance  
forward from center-line of rear wheels 32.0" (813  
mm) Vertical distance above roadway 32.5" (825  
mm) Horizontal distance from center of rear wheel  
tread 0" (0 mm) to the right/left **Hydraulic control**  
**system** direct engine drive **Transmission** selec-  
tive gear fixed ratio **Advertised speeds mph (km/**  
**h)** first 1.1 (1.7) second 1.7 (2.7) third 2.1 (3.3)  
fourth 2.5 (4.1) fifth 3.2 (5.1) sixth 3.9 (6.3)  
seventh 4.8 (7.7) eighth 5.9 (9.5) ninth 7.4 (11.8)  
tenth 9.1 (14.6) eleventh 11.1 (17.9) twelfth 17.2  
(27.6) reverse 2.8 (4.5), 4.3 (6.9), 5.3 (8.5), 8.2  
(13.2) **Clutch** dry disc operated by foot pedal  
**Brakes** wet disc operated by two foot pedals which  
can be locked together and hand lever **Steering**  
hydrostatic **Turning radius** (on concrete surface  
with brake applied) right 128.5" (3.26 m) left  
128.5" (3.26 m) (on concrete surface without  
brake) right 203" (5.16 m) left 203" (5.16 m) **Turn-**  
**ing space diameter** (on concrete surface with  
brake applied) right 267" (6.78 m) left 267" (6.78  
m) (on concrete surface without brake) right 416"  
(10.57 m) left 416" (10.57 m) **Power take-off** 540  
rpm at 2199 engine rpm.

### LUGGING ABILITY IN 8th (III-1) GEAR

Crankshaft Speed rpm	2600	2349	2077	1819	1565	1301	1034
Pull—lbs (kN)	2594 (11.54)	2804 (12.47)	3000 (13.34)	3124 (13.90)	3312 (14.73)	3421 (15.22)	3151 (14.02)
Increase in Pull %	0	8	16	20	28	32	21
Power—Hp (kW)	40.03 (29.85)	38.87 (28.99)	36.65 (27.33)	33.34 (24.86)	30.25 (22.56)	25.90 (19.31)	19.05 (14.21)
Speed—Mph (km/h)	5.79 (9.31)	5.20 (8.37)	4.58 (7.37)	4.00 (6.44)	3.43 (5.51)	2.84 (4.57)	2.27 (3.65)
Slip %	4.92	5.47	5.84	6.08	6.56	6.80	6.32

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)	Front Wheel Drive Disengaged dB (A)
Maximum Available Power—Two Hours	96.5	96.0
75% of Pull at Maximum Power—Ten Hours		95.5
50% of Pull at Maximum Power—Two Hours		94.5
50% of Pull at Reduced Engine Speed—Two Hours		90.5
Bystander in 12th (III-4) gear		86.5

### DRAWBAR PERFORMANCE (Front Wheel Drive Engaged)

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)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb		
<b>Maximum Available Power—Two Hours 8th (III-1) Gear</b>												
38.44 (28.67)	2454 (10.92)	5.87 (9.45)	2600	4.47	2.890 (10.940)	0.527 (0.320)	13.30 (2.620)	191 (88.1)	74 (23.1)	81 (27.2)		28.745 (97.068)

### MAXIMUM POWER IN SELECTED GEARS

35.47 (26.45)	5833 (25.95)	2.28 (3.67)	2647	14.89	4th (II-1) Gear			187 (85.8)	70 (21.1)	74 (23.3)		28.730 (97.017)
39.69 (29.60)	2531 (11.26)	5.88 (9.46)	2598	4.34	8th (III-1) Gear			189 (87.2)	62 (16.7)	67 (19.4)		28.970 (97.827)

### TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
<b>Rear Tires</b>	—No., size, ply & psi (kPa)	Two 16.9-28; 6; 16 (110)	Two 16.9-28; 6; 16 (110)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	445 lb (202 kg)	None
<b>Front Tires</b>	—No., size, ply & psi (kPa)	Two 9.5-24; 6; 20 (140)	Two 9.5-24; 6; 20 (140)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	30 lb (13 kg)	None
<b>Height of Drawbar</b>		18.5 in (470 mm)	18.5 in (470 mm)
<b>Static Weight with Operator—Rear</b>		4485 lb (2034 kg)	3595 lb (1631 kg)
—Front		2185 lb (991 kg)	2125 lb (964 kg)
—Total		6670 lb (3025 kg)	5720 lb (2595 kg)

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

**REMARKS:** All test results were determined from observed data obtained in accordance with SAE and ASAE test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 157°F (69.5°C). Seven gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. 1484.

LOUIS I. LEVITICUS  
Engineer-in-Charge

K. VON BARGEN  
W. E. SPLINTER  
L. L. BASHFORD  
Board of Tractor Test Engineers



**Hesston 466 DT Fiat Diesel**

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