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Test 845: Ford 5000 (Diesel)

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NEBRASKA TRACTOR TEST 845 - FORD 5000 DIESEL

The University of Nebraska Agricultural Experiment Station

E. F. Frolik, Dean; H. H. Kramer, Director, Lincoln, Nebraska

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercurv
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	

MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—Two Hours								
47.53	1700	3.075	0.447	15.46	200	65	75	29.008

Standard Power Take-off Speed (540 rpm)—One Hour								
42.89	1473	2.759	0.444	15.55	201	65	75	29.010

VARYING POWER AND FUEL CONSUMPTION—TWO HOURS

42.06	1769	2.591	0.425	16.23	182	66	75	.....
0.00	1934	0.652	.....	.....	155	67	76	.....
21.93	1846	1.552	0.488	14.13	166	66	75	.....
47.30	1701	3.095	0.452	15.28	201	66	75	.....
11.21	1886	1.126	0.693	9.96	156	66	75	.....
32.12	1802	2.025	0.435	15.86	168	66	75	.....
Av 25.77	1823	1.840	0.493	14.01	171	66	75	29.007

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of Mercury
					Gal per hr	Lb per hp-hr		Cooling med	Air wet bulb	Air dry bulb	

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—3rd Gear											
40.21	4385	3.44	1700	6.63	2.997	0.514	13.42	195	70	77	28.920

75% of Pull at Maximum Power—Ten Hours—3rd Gear											
33.61	3432	3.67	1782	4.83	2.400	0.493	14.00	184	71	77	28.848

50% of Pull at Maximum Power—Two Hours—3rd Gear											
22.80	2239	3.82	1823	3.31	1.765	0.534	12.92	185	70	74	28.970

MAXIMUM POWER WITH BALLAST

35.98	8128	1.66	1750	13.89	1st Gear	.....	195	68	68	28.960
39.81	6992	2.14	1700	12.36	2nd Gear	.....	200	66	73	29.030
41.19	4495	3.44	1702	6.69	3rd Gear	.....	198	65	70	29.030
41.82	3478	4.51	1702	5.38	4th Gear	.....	200	69	74	29.030
40.29	1985	7.61	1700	2.91	5th Gear	.....	200	70	75	29.020

MAXIMUM POWER WITHOUT BALLAST

39.59	4488	3.31	1701	8.91	3rd Gear	200	69	71	28.970
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VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—3rd Gear

Pounds pull	4495	4641	4749	4796	4741	4648
Horsepower	41.19	38.06	34.51	30.45	25.73	21.03
Crankshaft speed rpm	1702	1529	1357	1187	1014	844
Miles per hour	3.44	3.08	2.73	2.38	2.04	1.70
Slip of drivers %	6.69	7.00	7.24	7.48	7.24	7.24

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 16.9-30; 6; 16	Two 16.9-30; 6; 16
Ballast	—Liquid	724 lb each	None
	Cast iron	1456 lb each	None
Front tires	—No, size, ply & psi	Two 7.50-16; 6; 32	Two 7.50-16; 6; 32
Ballast	—Liquid	115 lb each	None
	Cast iron	350 lb each	None
Height of drawbar		22½ inches	24 inches
Static weight	—Rear	7800 lb	3440 lb
	Front	2870 lb	1940 lb
Total weight with operator		10845 lb	5555 lb

Department of Agricultural Engineering

Dates of Test: September 3 to September 7, 1963

Manufacturer: FORD MOTOR COMPANY, LTD., DAGENHAM, ESSEX, ENGLAND

Manufacturer's Power Rating: Not rated

FUEL, OIL and Time Fuel No 2 Diesel Cetane No 56.7 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60°** 0.8289 **Weight per gallon** 6.902 **lb Oil SAE 30 API service classification** MS, DM **To motor** 1.574 gal **Drained from motor** 1.449 gal **Transmission and final-drive lubricant** Ford hydraulic oil M-4864-B **Total time engine was operated** 43½ hours.

ENGINE Make Ford Motor Company Ltd Diesel **Type** 4 cylinder vertical **Serial No** 08C957106 **Crankshaft mounted lengthwise** **Rated rpm** 1700 **Bore and stroke** 3.937" x 4.524" **Compression ratio** 16 to 1 **Displacement** 220 cu in **Cranking system** 12 volt electric (two 6 volt batteries) **Lubrication pressure** Air cleaner oil washed wire mesh **Oil filter** replaceable treated paper element **Fuel filter** one replaceable paper element and one edge type filter **Muffler** was used **Cooling medium temperature control** thermostat.

CHASSIS **Type** standard **Serial No** 08C957106 **Tread width** rear 58" or 62" front 54" to 78" **Wheel base** 80.0" **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from centerline of rear wheels 30.3" Vertical distance above roadway 34.4" Horizontal distance from center of rear wheel tread 0" to the right/left **Hydraulic control system** constant running except when PTO foot clutch is disengaged **Transmission** selective gear fixed ratio **Advertised speeds mph** first 1.87 second 2.41 third 3.65 fourth 4.72 fifth 7.77 sixth 15.23 reverse 2.52 and 4.92 **Clutch** double plate dry disc in combination with PTO clutch operated by single foot pedal **Brakes** double disc operated by two foot pedals **Steering** mechanical with power assist **Turning radius** (on concrete surface with brake applied) right 145" left 145" (on concrete surface without brake) right 168" left 168" **Turning space diameter** (on concrete surface with brake applied) right 302" left 302" (on concrete surface without brake) right 350" left 350" **Belt pulley** 946 or 1700 rpm at 1700 engine rpm diam 8.5" face 6.38" **Belt speed** 2105 or 3783 fpm **Power take-off** 540 rpm at 1473 engine rpm.

REPAIRS and ADJUSTMENTS Two fuel injection nozzles were replaced during preliminary PTO run.

REMARKS All test results were determined from observed data obtained in accordance with the SAE and ASAE test code.

Sixth gear was not run as it exceeded 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 845.

L. F. LARSEN

Engineer-in-Charge

L. W. HURLBUT, Chairman

G. W. STEINBRUEGGE

J. J. SULEK

Board of Tractor Test Engineers