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January 1970

## Test 1049: Massey-Ferguson MF 1150 Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1049 – MASSEY-FERGUSON MF 1150 DIESEL

## POWER TAKE-OFF PERFORMANCE

Hp	Crank- shaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercury	
		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 (PTO Speed—1100 rpm)									
135.60	2200	9.046	0.461	14.99	195	63	76	28,890	
Standard Power Take-off Speed (1000 rpm)—One Hour									
128.78	2000	8.471	0.455	15.20	198	63	76	28.890	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
121.58	2321	7.936	0.451	15.32	187	62	74	.....	
0.00	2517	2.712	.....	.....	166	62	74	.....	
64.85	2477	5.511	0.588	11.77	179	62	75	.....	
136.19	2200	9.082	0.461	15.00	195	63	76	.....	
32.70	2496	4.061	0.859	8.05	172	62	75	.....	
94.99	2418	6.721	0.489	14.13	184	62	75	.....	
Av	75.05	2405	6.004	0.553	12.50	180	62	75	28.890

## 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

<b>Maximum Available Power—Two Hours—5th Gear (3rd LO-LO MP)</b>											
120.06	10123	4.45	2196	5.83	8.899	0.512	13.49	186	69	80	29.010
<b>75% of Pull at Maximum Power—Ten Hours—5th Gear (3rd LO-LO MP)</b>											
101.65	7921	4.81	2354	4.91	7.604	0.517	13.37	171	54	57	29.124
<b>50% of Pull at Maximum Power—Two Hours—5th Gear (3rd LO-LO MP)</b>											
71.18	5212	5.12	2458	3.07	6.296	0.612	11.31	167	57	61	29.065

### MAXIMUM POWER WITH BALLAST

112.71	17260	2.45	2280	14.90	2nd Gear (1st Lo-Hi MP)	179	54	61	29.000
120.46	14248	3.17	2199	8.78	3rd Gear (2nd Lo-Lo MP)	179	62	71	29.000
119.99	10966	4.10	2198	6.27	4th Gear (2nd Lo-Hi MP)	183	64	74	29.000
125.63	10614	4.44	2196	5.90	5th Gear (3rd Lo-Lo MP)	184	64	75	29.000
121.42	7982	5.70	2203	4.47	6th Gear (3rd Lo-Hi MP)	185	64	74	29.000
123.96	7666	6.06	2201	4.39	7th Gear (1st Hi-Lo MP)	182	63	70	29.000
120.80	5872	7.71	2200	3.39	8th Gear (1st Hi-Hi MP)	182	64	74	29.000
117.64	4534	9.73	2200	2.68	9th Gear (2nd Hi-Lo MP)	181	64	74	29.000

### MAXIMUM PULL WITHOUT BALLAST

113.53	10292	4.14	2207	14.98	5th Gear (3rd Lo-Lo MP)	179	60	69	28.920
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### VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—5th Gear (3rd LO-LO MP)

Pounds Pull	10,614	11,114	11,424	11,674	11,510	11,212
Horsepower	125.63	117.67	107.70	96.72	81.55	66.08
Crankshaft Speed rpm	2196	1971	1761	1551	1323	1100
Miles Per Hour	4.44	3.97	3.54	3.11	2.66	2.21
Slip of Drivers %	5.90	6.49	6.78	6.78	6.64	6.49

### TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No. size, ply & psi	Four 18.4-38; 8; 18	Four 18.4-38; 8; 16
	—Liquid	1113 lb each	None
	—Cast iron	1116 lb each	None
Front tires	—No. size, ply & psi	Two 11.00-16; 6; 28	Two 11.00-16; 6; 28
	—Liquid	None	None
	—Cast iron	60 lb each	None
Height of drawbar		21 inches	23 inches
Static weight with operator—Rear		18275 lb	9360 lb
	Front	4350 lb	4230 lb
	Total	22625 lb	13590 lb

## Department of Agricultural Engineering

**Dates of Test:** September 11 to September 19, 1970

**Manufacturer:** MASSEY-FERGUSON, INC., DETROIT, MICHIGAN

**FUEL, OIL and TIME** Fuel No 2 Diesel Cetane No 53.5 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8304 Weight per gallon 6.914 lb Oil SAE 20-20W API service classification MS, DG, DM To motor 5.966 gal Drained from motor 3.358 gal Transmission and final-drive lubricant Massey-Ferguson Oil M-1129 A Total time engine was operated 49 hours.

**ENGINE** Make Perkins Diesel Type 8 cylinder Vee Serial No 510 UA 5659 Crankshaft mounted lengthwise Rated rpm 2200 Bore and stroke 4 1/4" x 4 1/2" Compression ratio 17.5 to 1 Displacement 510.7 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner dry type with replaceable pleated paper element Oil filter full flow replaceable pleated paper element Oil cooler radiator for transmission and hydraulic oil Fuel filter primary and secondary filters with replaceable paper elements Muffler was used Cooling medium temperature control two thermostats.

**CHASSIS** Type standard with duals Serial No 09B 24840 Tread width rear 60" to 120" front 56" to 88" Wheel base 108" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 32" Vertical distance above roadway 36.8" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct drive Transmission Selective gear fixed ratio with partial range operator controlled power shifting Advertised speeds mph first 2.1 second 2.7 third 3.4 fourth 4.3 fifth 4.6 sixth 5.8 seventh 6.2 eighth 7.8 ninth 9.7 tenth 12.2 eleventh 13.3 twelfth 16.8 reverse 1.7, 5.1, 6.2 and 7.1 Clutch dual dry disc operated by foot pedal Brakes double disc hydraulically power actuated by two foot pedals Steering hydrostatic Turning radius (on concrete surface with brake applied) right 144" left 144" (on concrete surface without brake) right 168" left 168" Turning space diameter (on concrete surface with brake applied) right 299" left 299" (on concrete surface without brake) right 347" left 347" Power take-off 1000 or 540 rpm at 2000 engine rpm.

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

**REMARKS:** All test results were determined from observed data obtained in accordance with the SAE and ASAE test code. First gear was not run as it was necessary to limit the pull in second gear due to excessive slippage. Tenth, eleventh and twelfth gears were not run as test procedure requires only eight gears.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1049.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers

E. F. Frolik, Dean; H. W. Ottoson, Director; Lincoln, Nebraska  
The University of Nebraska Agricultural Experiment Station