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January 1971

Test 1083: International Farmall 1066 Hydrostatic Turbo Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1083 – INTERNATIONAL FARMALL 1066

HYDROSTATIC TURBO 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—1159 rpm)								
113.58	2400	7.933	0.487	14.32	183	61	75	29.013
Standard Power Take-off Speed (1000 rpm)—One Hour								
109.32	2071	7.033	0.449	15.54	183	61	75	29.010
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
100.46	2498	7.554	0.524	13.30	180	62	76	.....
0.00	2624	3.265	.....	.....	163	61	74	.....
51.71	2571	5.364	0.723	9.64	170	62	75	.....
113.69	2401	7.958	0.488	14.29	184	63	77	.....
26.32	2601	4.405	1.167	5.98	166	62	76	.....
76.42	2537	6.457	0.589	11.84	174	61	75	.....
Av 61.43	2538	5.834	0.662	10.53	173	62	75	29.010

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption			Temp	Degrees F		Barometer inches of Mercury	
					Gal per hr	Lb per hp-hr	Hp-hr per gal	Cool- ing med	Air wet bulb	Air dry bulb		
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST												
Maximum Available Power—Two Hours—Speed Setting—5.4 MPH Hi Range												
84.88	5906	5.39	2395	6.95	7.976	0.655	10.64	180	55	62	29.050	
75% of Pull at Maximum Power—Ten Hours—5.4 MPH Hi Range												
73.73	4514	6.12	2522	4.72	7.320	0.692	10.07	170	54	59	29.081	
50% of Pull at Maximum Power—Two Hours—Speed Setting—5.4 MPH—Hi Range												
51.93	2969	6.56	2565	3.38	6.004	0.806	8.65	165	52	55	29.100	
50% of Pull at Maximum Power—Two Hours—Speed Setting—10.5 MPH Hi Range at 2400 engine RPM												
53.22	3011	6.63	1522	2.95	4.552	0.596	11.69	168	53	57	29.020	
MAXIMUM POWER WITH BALLAST												
79.46	9576	3.11	2414	14.95	The infinitely			Lo Range	169	57	62	29.060
81.75	6874	4.46	2398	8.31	variable drive			Lo Range	171	56	63	29.060
83.62	6374	4.92	2395	7.31	control was set			Lo Range	182	58	67	29.060
86.96	6006	5.43	2400	6.95	to give the			Hi Range	183	58	67	29.060
88.13	5107	6.47	2399	5.63	travel speeds			Hi Range	185	58	66	29.050
87.22	3862	8.47	2399	4.12	shown by mfg			Hi Range	185	58	68	29.050
MAXIMUM PULL WITHOUT BALLAST												
82.83	9411	3.30	2391	14.67				Lo Range	179	62	75	28.680

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST Speed 5.4 MPH—Hi Range

Pounds Pull	6006	6535	6979	The transmission warning TELLITE became illuminated due to the opening of the transmission relief valve at an engine speed of approximately 1700 RPM. The operators manual reads: "For heavy drawbar work always attempt to keep the engine up to rated load speed (2400 RPM). . . . * Avoid operating at an overload condition, except momentarily."
Horsepower	86.96	83.42	76.74	
Crankshaft Speed rpm	2400	2171	1906	
Miles Per Hour	5.43	4.79	4.12	
Slip of Drivers %	6.95	7.95	8.24	

TRACTOR SOUND LEVEL (with Deluxe Cab)

	dB(A)
Maximum Available Power 2 Hours	91.5
75% of Pull at Max. Power 10 Hours	89.5
50% of Pull at Max. Power	90.5
50% of Pull at Reduced Engine Speed 2 Hours	88.0
Bystander (17 MPH Hi Range)	90.0

TIRES, BALLAST and WEIGHT

	With Ballast	Without Ballast
rear tires	—No, size, ply & psi	Two 18.4-38; 8; 16
Ballast	—Liquid	410 lb each
	Cast iron	None
Front tires	—No, size, ply & psi	Two 11L-15; 6; 28
Ballast	—Liquid	None
	Cast iron	None
Height of drawbar	25 lb each	20 1/2 inches
Static weight with operator—rear	9690 lb	8870 lb
front	3500 lb	3450 lb
total	13190 lb	12320 lb

Department of Agricultural Engineering

Dates of Test: October 7, to October 25, 1971

Manufacturer: INTERNATIONAL HARV-
ESTER COMPANY, CHICAGO, ILLINOIS

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 06°/60° 0.8376 Weight per gallon 6.974 lb Oil SAE 30 API service classification MS, DG, DM, DS To motor 4.297 gal Drained from motor 3.517 gal Transmission and final drive lubricant Hy-Tran Fluid Total time engine was operated 51 1/2 hours.

ENGINE Make International Diesel Type 6 cylinder vertical with Turbo-charger Serial No 414TT2U004408* Crankshaft Mounted length-wise Rated rpm 2400 Bore and stroke 4.30" x 4.75" Compression ratio 16.1 to 1 Displacement 414 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner two stage dry type using replaceable pleated paper elements and automatic dust unloader Oil filter full flow using two replaceable screw on cartridges Oil Cooler engine coolant heat exchanger for engine oil and radiator for transmission and hydraulic oil Fuel filter one primary and one final using replaceable screw-on cartridges Muffler was used Cooling medium temperature control thermostat.

CHASSIS Type Standard Serial No 261015-6U009104 Tread width rear 60" to 94" front 62" to 86" Wheel base 104.8" 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 30.2" Vertical distance above roadway 41.3" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission infinitely variable hydrostatic using a variable displacement pump and motor. A range transmission provides Hi and Lo range Advertised speeds mph forward 0-17 Hi range; Lo range reverse 0-7 Hi range; 0-3 Lo range Clutch none—hydrostatic drive can be controlled by foot pedal Brakes dry disc hydraulically power actuated by two foot pedals which can be locked together with automatic equalizing Steering hydrostatic Turning radius (on concrete surface with brake applied) right 144" left 144" (on concrete surface without brake) right 165" left 165" Turning space diameter (on concrete surface with brake applied) right 295" left 295" (on concrete surface without brake) right 338" left 338" Power take-off 539 or 1014 rpm at 2100 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or Nebraska test procedure. The slower travel speeds were not run as it was necessary to limit the pull at 3.11 mph to avoid excessive wheel slippage. The other travel speeds were not run as test procedure requires only six travel speeds.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1083.

L. F. LARSEN

Engineer-in-charge

G. W. STEINBRUEGGE, Chairman
W. E. SPLINTER
D. E. LANE

Board of Tractor Test Engineers

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