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January 1971

Test 1082: International Farmall 966 Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1082 – INTERNATIONAL FARMALL 966 DIESEL

Department of Agricultural Engineering

Dates of Test: October 5 to October 19, 1971

Manufacturer: International Harvester Company, Chicago, Illinois

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)								
96.01	2400	6.464	0.470	14.85	180	61	75	28.953
Standard Power Take-off Speed (1000 rpm)—One Hour								
93.50	2072	5.942	0.443	15.74	183	63	75	28.960
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
85.06	2499	5.975	0.490	14.24	174	64	74	.....
0.00	2620	2.448	.....	.....	162	63	73	.....
43.78	2573	4.181	0.666	10.47	169	64	73	.....
96.58	2400	6.474	0.467	14.92	178	66	75	.....
22.11	2599	3.364	1.061	6.57	164	65	72	.....
64.70	2535	4.999	0.539	12.94	171	67	74	.....
Av 52.04	2538	4.573	0.613	11.38	170	65	73	28.943

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption			Temp	Degrees F		Barometer
					Gal per hr	Lb per hp-hr	Hp-hr per gal	Cool- ing med	Air wet bulb	Air dry bulb	inches of Mercury
VARYING POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—8th Gear (1 Hi TA)											
80.40	6804	4.43	2403	8.87	6.398	0.555	12.57	180	59	78	28.750
75% of Pull at Maximum Power—Ten Hours—8th Gear (1 Hi TA)											
67.26	5273	4.78	2512	5.83	5.602	0.580	12.00	175	66	74	28.857
50% of Pull at Maximum Power—Two Hours—8th Gear (1 Hi TA)											
47.33	3582	4.95	2560	4.31	4.606	0.678	10.28	173	57	75	28.755
50% of Pull at Reduced Engine Speed—Two Hours—12th Gear (2 Hi DD)											
47.49	3585	4.97	1503	4.13	3.441	0.505	13.80	172	54	68	28.840
MAXIMUM POWER WITH BALLAST											
74.98	10041	2.80	2465	14.92	5th Gear (3Lo TA)			170	51	65	28.730
80.01	7810	3.84	2397	10.12	7th Gear (4Lo TA)			175	55	70	28.730
82.75	7029	4.41	2398	9.00	8th Gear (1Hi TA)			175	56	72	28.730
82.02	6076	5.06	2395	7.51	9th Gear (4Lo DD)			176	58	75	28.730
84.02	5210	6.05	2400	6.26	11th Gear (2Hi TA)			176	58	77	28.740
83.56	3976	7.88	2401	4.82	12th Gear (2Hi DD)			176	58	77	28.730
MAXIMUM PULL WITHOUT BALLAST											
67.14	8934	2.82	2502	14.81	5th Gear (3Lo TA)			169	53	65	29.020
VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST 8th Gear (1 Hi TA)											
Pounds Pull				7029	7685	8179	8787	9272	9223	8890	
Horsepower				82.75	80.47	74.79	69.59	62.27	51.77	39.99	
Crankshaft Speed rpm				2398	2154	1900	1668	1435	1199	953	
Miles Per Hour				4.41	3.93	3.43	2.97	2.52	2.11	1.69	
Slip of Drivers %				9.00	9.80	10.70	11.84	13.20	13.20	12.46	

TRACTOR SOUND LEVEL (with Deluxe Cab)

	dB(A)
Maximum Available Power 2 Hours	85.5
75% of Pull at Max. Power 10 Hours	87.0
50% of Pull at Max. Power 2 Hours	88.0
50% of Pull at Reduced Engine Speed 2 Hours	83.5
Bystander	16th gear (4Hi DD) 88.5

TIRES, BALLAST and WEIGHT			With Ballast	Without Ballast
Rear tires	—No, size, ply & psi		Two 16.9-38; 8; 24	Two 16.9-38; 8; 16
Ballast	—Liquid		900 lb each	None
	Cast iron		None	None
Front tires	—No, size, ply & psi		Two 9.5L-15; 6; 32	Two 9.5L-15; 6; 32
Ballast	—Liquid		None	None
	Cast iron		38 lb each	None
Height of drawbar			19½ inches	19 inches
Static weight with operator—rear			10150 lb	8350 lb
front			3350 lb	3275 lb
total			13500 lb	11625 lb

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° 0.8376 Weight per gallon 6.974 lb Oil SAE 30 API service classification MS, DG, DM, DS To motor 3.066 gal Drained from motor 2.445 gal Transmission and final drive lubricant 1H Hy-Tran fluid Total time engine was operated 47½ hours.

ENGINE Make International Diesel Type 6 cylinder vertical Serial No 414DT2U001575* Crankshaft Mounted lengthwise Rated rpm 2400 Bore and stroke 4.30" x 4.75" Compression ratio 16 to 1 Displacement 414 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner dry type two stage with replaceable pleated paper elements with 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 2510161 U008751* 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 30.5" Vertical distance above roadway 40.5" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio with partial range operator controlled power shifting Advertised speeds mph first 1¼ second 1¼ third 1⅞ fourth 2¼ fifth 3 sixth 3⅞ seventh 4 eighth 4½ ninth 5¼ tenth 6 eleventh 6¼ twelfth 8 thirteenth 10¼ fourteenth 13¼ fifteenth 14¼ sixteenth 18¼ reverse 2¼, 2⅞, 3, 4, 5¼, 6¼, 7, and 9 Clutch single plate dry disc operated by foot pedal Brakes dry disc hydraulically power actuated by two foot pedals which can be locked together with automatic equalization Steering hydrostatic Turning radius (on concrete surface with brake applied) right 142" left 142" (on concrete surface without brake) right 165.5" left 165.5" Turning space diameter (on concrete surface with brake applied) right 296.5" left 296.5" (on concrete surface without brake) right 343.5" left 343.5" 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 official Nebraska test procedure. First, second, third, and fourth gears were not run as it was necessary to limit the pull in fifth gear to avoid excessive wheel slippage. Sixth, tenth, thirteenth, fourteenth, fifteenth and sixteenth gears were not run as test procedure requires only six gears.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1082.

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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