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Test 1048: International Farmall 1456 Diesel (Also International 1456 Diesel)

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NEBRASKA TRACTOR TEST 1048—INTERNATIONAL FARMALL 1456 DIESEL (ALSO INTERNATIONAL 1456 DIESEL)

POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Air wet bulb	Air dry bulb	Barometer inches of Mercury
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1159 rpm)								
131.80	2400	8.334	0.439	15.81	182	67	75	28.987
Standard Power Take-off Speed (1000 rpm)—One Hour								
127.27	2071	7.633	0.416	16.67	184	66	75	28.955
VARYING POWER AND FUEL CONSUMPTION—TWO HOURS								
117.98	2528	8.103	0.477	14.56	180	65	75	.....
0.00	2655	2.785	.....	.....	168	65	74	.....
60.54	2593	5.440	0.623	11.13	173	66	76	.....
132.76	2399	8.415	0.440	15.78	183	65	75	.....
30.78	2626	4.125	0.930	7.46	170	65	75	.....
89.65	2556	6.780	0.525	13.22	175	65	75	.....
Av 71.95	**2559**	**5.941**	**0.573**	**12.11**	**175**	**65**	**75**	**28.980**

DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cooling med	Air wet bulb	Air dry bulb	Barometer inches of Mercury
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—8th Gear (1st Hi TA)											
114.69	8633	4.98	2391	5.81	8.520	0.515	13.46	180	64	74	28.940
75% of Pull at Maximum Power—Ten Hours—8th Gear (1st Hi TA)											
95.41	6648	5.38	2539	4.23	7.616	0.554	12.53	173	63	70	28.814
50% of Pull at Maximum Power—Two Hours—8th Gear (1st Hi TA)											
65.29	4423	5.54	2575	2.91	6.157	0.654	10.60	171	64	74	29.120
MAXIMUM POWER WITH BALLAST											
110.78	12558	3.31	2488	9.14	5th Gear (3rd Lo TA)			169	60	65	28.980
114.80	10297	4.18	2400	7.07	6th Gear (3rd Lo DD)			171	59	67	28.990
115.31	9863	4.38	2402	6.41	7th Gear (4th Lo TA)			179	65	76	28.910
118.35	8880	5.00	2400	5.96	8th Gear (1st Hi TA)			172	63	73	28.975
116.48	7657	5.70	2401	5.05	9th Gear (4th Lo DD)			173	63	71	28.970
116.18	6710	6.49	2394	4.51	10th Gear (1st Hi DD)			173	63	72	28.970
116.32	6445	6.77	2401	4.21	11th Gear (2nd Hi TA)			174	63	73	28.960
110.26	3453	11.97	2402	2.23	13th Gear (3rd Hi TA)			174	64	75	28.940
MAXIMUM PULL WITHOUT BALLAST											
98.50	11714	3.15	2517	14.85	5th Gear (3rd Lo TA)			174	68	78	28.800

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST
8th Gear (1st Hi TA)

Pounds Pull	8880	9579	10323	10679	10713	10297
Horsepower	118.35	114.28	108.17	97.76	83.53	67.27
Crankshaft Speed rpm	2400	2161	1909	1675	1428	1193
Miles Per Hour	5.00	4.47	3.93	3.43	2.92	2.45
Slip of Drivers %	5.96	6.48	6.92	7.50	7.65	7.36

TIRES, BALLAST and WEIGHT		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Four 18.4-38; 8; 16	Four 18.4-38; 8; 16
Ballast	—Liquid	1128 lb each	None
	Cast iron	None	None
Front tires	—No, size, ply & psi	Two 11L-15; 6; 28	Two 11L-15; 6; 28
Ballast	—Liquid	None	None
	Cast iron	20 lb each	None
Height of drawbar		21 inches	21½ inches
Static weight with operator—Rear		14200 lb	9690 lb
	Front	3150 lb	3110 lb
	Total	17350 lb	12800 lb

Department of Agricultural Engineering

Dates of Test: June 8 to June 27, 1970

Manufacturer: INTERNATIONAL HARVESTER COMPANY, CHICAGO, ILLINOIS

FUEL, OIL and TIME **Fuel** No 2 Diesel **Cetane** No 50.8 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60°** 0.8332 **Weight per gallon** 6.938 lb **Oil** SAE 30 **API service classification** MS DG DM DS **To motor** 3.025 gal **Drained from motor** 2.146 gal **Transmission and final-drive lubricant** IH Hy-Tran fluid **Total time engine was operated** 48 hours.

ENGINE **Make** International Diesel **Type** 6 cylinder vertical with turbo-charger **Serial No** 407TT2U033886 **Crankshaft mounted** lengthwise **Rated rpm** 2400 **Bore and stroke** 4.321" x 4.625" **Compression ratio** 16 to 1 **Displacement** 407 cu in **Cranking system** 12 volt electric **Lubrication** pressure **Air cleaner** two stage dry type with automatic dust unloader and replaceable pleated paper elements **Oil filter** full flow with two replaceable treated paper elements **Oil cooler** engine coolant heat exchanger for engine oil and radiator for transmission and hydraulic oil **Fuel filter** one primary, one final using replaceable screw-on cartridges **Muffler** was used **Cooling medium temperature control** thermostat.

CHASSIS **Type** Standard **Serial No** 2650005-U011190 **Tread width** rear inner 60" to 66" outer 108" to 114" front 54" to 78" and 60" to 84" (2 different axles) **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 26.2" Vertical distance above roadway 38.6" 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 1½ second 1⅞ third 2 fourth 2½ fifth 3½ sixth 4¼ seventh 4½ eighth 5¼ ninth 5¾ tenth 6½ eleventh 6¾ twelfth 8¾ thirteenth 11¾ fourteenth 15¼ fifteenth 15¾ sixteenth 20¼ reverse 2½, 3¼, 3⅜, 4¼, 5¾, 7¼, 7¾, 10 **Brakes** dry disc hydraulically power actuated by two foot pedals which can be locked together with automatic equalizing **Steering** hydrostatic power **Turning radius** (on concrete surface with brake applied) right 140" left 140" (on concrete surface without brake) right 175" left 175" **Turning space diameter** (on concrete surface with brake applied) right 293" left 293" (on concrete surface without brake) right 364" left 364" **Power take-off** 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 the SAE and ASAE test code. First, second, third, and fourth gears were not run as it was necessary to limit the pull in fifth gear because of the stability formula. Fourteenth, fifteenth and sixteenth 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 1048.

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Engineer-in-Charge

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