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Test 1062: Case 1170 and 1175 Diesel

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NEBRASKA TRACTOR TEST 1062 – CASE 1170 DIESEL

(ALSO CASE 1175 DIESEL)

POWER TAKE-OFF PERFORMANCE

Hp	Crank-shaft speed rpm	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Temperature Degrees F Air wet bulb	Temperature Degrees F Air dry bulb	Barometer inches of Mercury
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1123 rpm)								
121.93	2100	7.738	0.437	15.76	187	57	75	28.930
Standard Power Take-off Speed (1000 rpm)—One Hour								
118.13	1870	7.176	0.418	16.46	189	56	75	28.940
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
106.52	2157	6.952	0.449	15.32	185	57	76	.....
0.00	2292	2.291	.....	.....	175	57	74	.....
55.01	2228	4.513	0.565	12.19	180	57	76	.....
123.80	2100	7.823	0.435	15.83	186	56	74	.....
27.88	2257	3.380	0.835	8.25	176	56	74	.....
81.31	2195	5.715	0.484	14.23	183	56	75	.....
Av 65.75	**2204**	**5.113**	**0.536**	**12.86**	**181**	**56**	**75**	**28.933**

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank-shaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Fuel Consumption Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cool-ing med	Temp Degrees F Air wet bulb	Temp Degrees F Air dry bulb	Barometer inches of Mercury
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—4th Gear (4th Low)											
108.15	7765	5.22	2098	5.83	7.760	0.494	13.94	184	45	52	28.740
75% of Pull at Maximum Power—Ten Hours—4th Gear (4th Low)											
87.73	5989	5.49	2175	4.47	6.701	0.526	13.09	186	44	53	28.786
50% of Pull at Maximum Power—Two Hours—4th Gear (4th Low)											
61.37	4035	5.70	2220	2.71	5.428	0.609	11.31	186	35	38	28.790
MAXIMUM POWER WITH BALLAST											
103.14	13730	2.82	2127	14.97	2nd Gear (2nd Low)			185	46	55	28.780
110.93	9883	4.21	2100	8.42	3rd Gear (3rd Low)			188	45	54	28.780
110.46	7987	5.19	2098	6.45	4th Gear (4th Low)			186	45	54	28.780
108.39	6213	6.54	2101	4.96	5th Gear (1st High)			188	45	56	28.780
106.85	4270	9.38	2106	3.33	6th Gear (2nd High)			188	47	57	28.780
MAXIMUM PULL WITHOUT BALLAST											
82.95	10731	2.90	2191	14.91	2nd Gear (2nd Low)			188	40	43	28.660

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST
4th Gear (4th Low)

Pounds Pull	7987	8940	9323	9523	9387	8624
Horsepower	110.46	109.85	101.76	90.41	76.83	59.06
Crankshaft Speed rpm	2098	1882	1680	1467	1263	1047
Miles Per Hour	5.19	4.61	4.09	3.56	3.07	2.57
Slip of Drivers %	6.45	7.37	7.67	8.12	7.97	7.22

TIRES, BALLAST and WEIGHT		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Two 20.8-38; 10; 22	Two 20.8-38; 10; 16
Ballast	—Liquid	1495 lb each	None
	Cast iron	850 lb each	None
Front tires	—No, size, ply & psi	Two 9.50-20; 8; 40	Two 9.50-20; 8; 40
Ballast	—Liquid	None	None
	Cast iron	145 lb each	None
Height of drawbar		22½ inches	22½ inches
Static weight with operator—Rear		14590 lb	9900 lb
	Front	3930 lb	3640 lb
	Total	18520 lb	13540 lb

Department of Agricultural Engineering

Dates of Test: November 6 to November 19, 1970

Manufacturer: J. I. CASE COMPANY, RACINE, WISCONSIN

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°** 0.8271 **Weight per gallon** 6.887 lb **Oil** SAE 30 **API service classification** MS, DS **To motor** 3.145 gal **Drained from motor** 2.094 gal **Transmission and final-drive lubricant** Case TCH oil **Total time engine was operated** 51 hours.

ENGINE **Make** Case Diesel **Type** 6 cylinder vertical with turbo-charger **Serial** No 2319514 **Crankshaft mounted** lengthwsie **Rated rpm** 2100 **Bore and stroke** 4⅜" x 5" **Compression ratio** 16.5 to 1 **Displacement** 451 cu in **Cranking system** 12 volt electric **Lubrication** pressure **Air cleaner** dry type with replaceable pleated paper element **Oil filter** full flow replaceable cartridge **Oil cooler** radiator for transmission and hydraulic oil **Fuel filter** replaceable primary and secondary filter cartridges **Muffler** was used **Cooling medium temperature control** two thermostats.

CHASSIS **Type** standard **Serial No** 8669452 **Tread width** rear 64" to 108" front 60" 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 30.7" Vertical distance above roadway 42" Horizontal distance from center of rear wheel tread 0" to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph** first 1.9 second 2.8 third 3.9 fourth 4.8 fifth 6.0 sixth 8.5 seventh 12.0 eighth 15.0 reverse 2.4 and 7.6 **Clutch** single plate dry disc with cerametallic buttons and operated by foot pedal **Brakes** dry single disc caliper hydraulically power actuated by two foot pedals which can be locked together **Steering** hydrostatic power **Turning radius** (on concrete surface with brake applied) right 154" left 154" (on concrete surface without brake) right 181" left 181" **Turning space diameter** (on concrete surface with brake applied) right 320" left 320" (on concrete surface without brake) right 375" left 375" **Power take-off** 1016 rpm at 1900 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 because of excessive wheel slippage. Seventh and eighth gears were not run as test procedure requires only one gear over 8 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1062.

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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