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January 1970

## Test 1062: Case 1170 and 1175 Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1062 - CASE 1170 DIESEL

( ALSO CASE 1175 DIESEL )

## POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Air wet bulb	Air dry bulb	Barometer inches of Mercury
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>								
<b>Rated Engine Speed—Two Hours (PTO Speed—1123 rpm)</b>								
121.93	2100	7.738	0.437	15.76	187	57	75	28.930
<b>Standard Power Take-off Speed (1000 rpm)—One Hour</b>								
118.13	1870	7.176	0.418	16.46	189	56	75	28.940
<b>VARYING POWER AND FUEL CONSUMPTION—Two Hours</b>								
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	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cooling med	Air wet bulb	Air dry bulb	Barometer inches of Mercury
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### VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

<b>Maximum Available Power—Two Hours—4th Gear (4th Low)</b>											
108.15	7765	5.22	2098	5.83	7.760	0.494	13.94	184	45	52	28.740
<b>75% of Pull at Maximum Power—Ten Hours—4th Gear (4th Low)</b>											
87.73	5989	5.49	2175	4.47	6.701	0.526	13.09	186	44	53	28.786
<b>50% of Pull at Maximum Power—Two Hours—4th Gear (4th Low)</b>											
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	
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### 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 lubricated 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 lengthwise** **Rated rpm 2100** **Bore and stroke 4¾" 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 centerline 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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