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January 1941

Test 374: Caterpillar Model D-6 (Diesel)

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 374

Dates of test: September 6 to 13, 1941

Name and model of tractor: CATERPILLAR DIESEL D-6

Manufacturer: Caterpillar Tractor Company, Peoria, Illinois

Manufacturer's rating: NOT RATED

B E L T H O R S E P O W E R T E S T S

Hp.	Crank- shaft Speed R.P.M.	Fuel Consumption			Water Used Gal. per Hr.	Temperature Deg. F.		Barometer Inches of Mercury
		Gal. per Hr.	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cool- ing Medium	Air	

TESTS B and C - 100% MAXIMUM LOAD - TWO HOURS

78.03	1400	5.688	13.72	0.511	0.000	179	59	28.930
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* TEST D - ONE HOUR

68.66	1401	4.712	14.57	0.481	0.000	174	63	28.955
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

68.60	1401	4.708	14.57	0.481	- - -	174	64	- - -
2.04	1500	1.382	1.48	4.750	- - -	166	64	- - -
35.93	1460	2.820	12.74	0.550	- - -	170	64	- - -
74.75	1392	5.260	14.21	0.493	- - -	178	67	- - -
18.40	1490	2.058	8.94	0.784	- - -	177	66	- - -
52.83	1437	3.646	14.49	0.484	- - -	171	67	- - -
42.09	1447	3.312	12.71	0.552	0.000	172	65	28.940

D R A W B A R H O R S E P O W E R T E S T S

Hp.	Draw- bar Pull Lbs.	Speed Miles per Hr.	Crank- shaft Speed R.P.M.	Slip of Drive Wheels %	Fuel Consumption			Water Used Gal. per Hr.	Temperature Deg. F.		Barometer Inches of Mercury
					Gal. per Hr.	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cool- ing Medium	Air	

TESTS F and G - 100% MAXIMUM LOAD

60.28	16674	1.36	1398	6.49	-----	Not Recorded	-----	184	76	28.830
63.34	10747	2.21	1402	2.74	"	"		197	81	29.050
62.87	7608	3.10	1400	1.90	"	"		197	81	29.050
59.45	5148	4.33	1400	1.28	"	"		199	82	29.050
58.67	3843	5.73	1400	0.66	"	"		191	75	29.085

* TEST H - TEN HOURS - Second GEAR

50.00	8510	2.20	1400	2.91	3.988	12.54	0.559	0.000	178	77	29.095
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* Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL AND TIME

Fuel Commercial diesel fuel Weight per gallon 7.01 pounds
 Oil: S.A.E. No. 20 To motor 4.875 gal. Drained from motor 3.917 gal.
 Total time motor was operated 64 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 1.4 Second 2.3
 Third 3.2 Fourth 4.4 Fifth 5.8 Reverse 1.8 - 2.8 - 3.9 - 5.4
 Belt pulley: Diam 13 3/8" Face 13" R.P.M. 913 Belt speed 3200 f.p.m.
 Clutch: Make Own Type Dry disc Operated by Hand
 Seat Upholstered
 Total weight as tested (with operator) 17,750 pounds

MOTOR:

Make Own Serial No. 4R196 Type 6 cylinder, vertical, diesel
 Head I Mounting Crankshaft lengthwise Lubrication Pressure
 Bore and stroke 4 1/4" x 5 1/2" Rated R.P.M. 1400
 Port diameter valves: Inlet 1.500" Exhaust 1.500"
 Fuel injection system: Make Own Serial No. 18P1433
 Governor: Make Own Type Variable speed, centrifugal
 Air cleaner: Make Donaldson Type Oil-washed wire screen filter with
collector pre-cleaner
 Oil filter: Combination Purolator full-flow metal element and Purolator
by-pass renewable cotton waste type element
 Cooling medium temperature control: Fulton thermostat

CHASSIS:

Type Tracklayer Serial No. 4R196 Drive Enclosed gear
 Tread width: 74" Measured length of track 21.9566'
 Cleats: Type Integral with shoes No. per track 39
 Size 2 1/8" high x 18" long (clipped corners)

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments

REMARKS

1. All results shown on page 1 of this report were determined from observed data and without allowances, additions or deductions. Tests B and F were made with a fuel pump setting selected by the manufacturer and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G and H were made with the same setting.

	<u>DRAWBAR</u>	<u>BELT</u>
2. Observed maximum horsepower (tests F & B)	63.34	78.03
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	66.57	80.60
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)	49.93	68.51

We, the undersigned, certify that the above is a true and correct report of official tractor test no. 374.

Carlton L. Zink
 Engineer-in-Charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
 Board of Tractor Test Engineers