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Test 480: Case LA

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The Experiment Station
University of Nebraska College of Agriculture
W. V. Lambert, Director, Lincoln, Nebraska

NEBRASKA TRACTOR TEST NO. 480

Department of Agricultural Engineering
Dates of test: August 15 to August 28, 1952
Manufacturer: J. I. CASE COMPANY, RACINE,
WISCONSIN
Manufacturer's rating: Not rated.

CASE LA

BELT HORSEPOWER TESTS

Hp	Crank shaft speed rpm	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
		Gal per hour	Hp-hr per gal	Lb per hp-hour		Cooling med	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
58.53	1150	5.776	10.13	0.602	0.00	185	83	28.970
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
55.60	1151	4.726	11.76	0.518	0.00	189	88	28.960
TEST D—RATED LOAD—ONE HOUR								
52.58	1150	4.490	11.71	0.521	0.00	186	88	28.950
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
52.57	1151	4.488	11.71	0.520	...	186	88	.....
1.23	1268	1.639	0.75	8.122	...	175	88	.....
27.71	1208	3.051	9.08	0.671	...	180	88	.....
54.18	1112	4.552	11.90	0.512	...	190	90	.....
14.20	1234	2.323	6.11	0.997	...	177	88	.....
40.45	1177	3.720	10.87	0.561	...	182	88	.....
31.72	1191	3.296	9.62	0.633	0.00	182	88	28.945

TORQUE (at dynamometer)

Eng RPM	1149	1101	1047	999	951	899	853	801	748	699
Lb-ft	399.0	402.2	407.4	412.7	418.4	423.3	427.5	433.1	428.8	424.0

DRAWBAR HORSEPOWER TESTS

Hp	Draw bar pull lb	Speed miles per hr	Crank shaft speed rpm	Slip of drive wheels %	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
					Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TEST F—100% MAXIMUM LOAD—3rd Gear											
51.68	4187	4.63	1151	5.93	.....	Not Recorded	.....	181	87	28.800
TEST G—OPERATING MAXIMUM LOAD											
40.20	6659	2.26	1148	15.76	.....	Not Recorded	.....	181	89	28.830
49.44	5484	3.38	1151	8.58	.....	Not Recorded	.....	185	88	28.825
48.87	3945	4.65	1150	5.46	.....	Not Recorded	.....	183	86	28.800
46.73	1769	9.91	1152	2.90	.....	Not Recorded	.....	182	89	28.850
TEST H—RATED LOAD—TEN HOURS—3rd Gear											
41.63	3347	4.66	1149	5.05	4.067	10.24	0.596	0.03	176	81	28.821
TEST J—OPERATING MAXIMUM LOAD—3rd Gear											
47.75	3949	4.53	1151	8.35	.....	Not Recorded	.....	178	74	29.020
TEST K—OPERATING MAXIMUM LOAD—3rd Gear											
44.74	4188	4.01	1151	15.28	.....	Not Recorded	.....	179	78	29.020

TIRES, WHEELS and WEIGHT

	Tests F, G, & H	Test J	Test K
Rear wheels			
Type	Cast iron	Cast iron	Cast iron
Liquid ballast	886 lb each	None	None
Added cast iron	690 lb each	None	None
Rear tires			
No. and size	Two 15-30	Two 15-30	Two 14-30
Ply	8	8	6
Air pressure	14 lb	12 lb	12 lb
Front wheels			
Type	Cast iron	Cast iron	Cast iron
Liquid ballast	None	None	None
Added cast iron	None	None	None
Front tires			
No. and size	Two 7.50-18	Two 7.50-18	Two 7.50-18
Ply	4	4	4
Air pressure	28 lb	28 lb	28 lb
Height of drawbar	16½ inches	17 inches	15½ inches
Static weight			
Rear end	8360 lb	5208 lb	5114 lb
Front end	2240 lb	2238 lb	2226 lb
Total weight as tested with operator	10775 lb	7621 lb	7515 lb

HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F and 29.92" Hg)	55.07	61.77
2. Observed maximum horsepower (tests F & B)	51.68	58.53
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	41.30	52.50

We, the undersigned, certify that this is a true and correct report of official tractor test No. 480.

L. F. LARSEN
Engineer in Charge

C. W. SMITH
F. D. YUNG
L. W. HURLBUT
Board of Tractor
Test Engineers