January 1937

Test 283: Oliver Hart-Parr Standard 70 HC

Nebraska Tractor Test Lab
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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 283

Dates of test: June 14 to 22, 1937.
Name and model of tractor: OLIVER HART PARR STANDARD 70 HC.
Manufacturer: Oliver Farm Equipment Company, Charles City, Iowa.
Manufacturer's rating: NOT RATED.

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

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water Consumption per hour gallons			Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hr.	H. P. hr. per gal.	Lb. per H.P. hr.	Cooling	In fuel	Total	Cooling med.	Air	
TEST B - 100% MAXIMUM LOAD - TWO HOURS										
27.79	1499	2.829	9.82	0.624	0.000	0.000	0.000	169	79	28.840
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR										
26.58	1500	2.439	10.90	0.562	0.000	0.000	0.000	172	73	28.820
*TEST D - ONE HOUR										
25.14	1500	2.385	10.54	0.582	0.000	0.000	0.000	177	72	28.820
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last average)										
25.10	1495	2.374	10.57	0.580	--	--	--	174	72	--
0.49	1548	1.047	0.47	13.102	--	--	--	180	71	--
12.76	1539	1.693	7.54	0.813	--	--	--	182	71	--
25.31	1419	2.374	10.66	0.575	--	--	--	176	72	--
6.47	1538	1.341	4.82	1.270	--	--	--	173	70	--
18.87	1537	2.011	9.38	0.653	--	--	--	174	73	--
14.83	1513	1.807	8.21	0.747	0.000	0.000	0.000	176	71	28.820

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

H. P.	Draw bar pull pounds	Speed miles per hr.	Crank shaft speed R.P.M.	Slip on drive wheels %	Fuel Consumption			Water used Gal. per hr.	Temp.		Barometer Inches of Mercury
					Gal. per hr.	H. P. hr. per gal.	Lb. per H.P. hr.		Cooling med.	Air	
TEST F - 100% MAXIMUM LOAD - Third GEAR											
19.84	1529	4.87	1497	4.83	------ Not Recorded -----				181	92	28.865
TEST G - OPERATING MAXIMUM LOAD											
16.17	2493	2.43	1499	15.81	------ Not Recorded -----				166	95	28.860
17.92	1833	3.67	1505	7.46	------ " " -----				176	94	28.870
17.96	1385	4.86	1497	4.92	------ " " -----				173	88	28.850
16.41	922	6.67	1499	4.51	------ " " -----				186	93	28.875
*TEST H - TEN HOURS - Third GEAR											
15.92	1233	4.84	1500	5.45	2.299	6.92	0.386	0.000	171	89	28.855

* Formerly called RATED LOAD; see REMARKS 4, page 3.

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FUEL, OIL, AND TIME

Fuel Gasoline (68 - 70 octane) Weight per gallon 6.13 pounds

Oil: S.A.E. No. 30 To motor 2.272 gal. Drained from motor 0.710 gal.

Total time motor was operated, 61 hours

BRIEF SPECIFICATIONS

Advertised speeds, miles per hour: First 2.44 Second 3.32

Third 4.33 Fourth 5.88 Reverse 2.44

Belt pulley: Diameter 12 3/4" Face 7 1/4" R.P.M. 774

Clutch Borg & Beck Type Single-plate, dry Operated by Foot pedal

Seat Canvas Hammock

Total weight as tested (with operator) 3500 pounds

MOTOR: Make own Serial No. 13477 Type 6 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 3 1/8" x 4 3/8" Rated R.P.M. 1500

Port diameter valves: Inlet 1.375" Exhaust 1.0625"

Magneto: Make American Bosch Model MJB6A - 302

Carburetor: Make Zenith Model 124-1/2 EX Size 1 1/4"

Governor: Make Handy Type Variable-speed, centrifugal

Air cleaner: Make Donaldson Type Oil-washed, wire-screen filter

CHASSIS: Type Standard Serial No. 300940 Drive Enclosed gear

Tread width: Rear 48" Front 45"

Drive wheels: Type Standard No. 2 Diameter 42" Face 10"

Lugs: Type Spade No. per wheel 20 Size 5" high x 3" face

Front wheels: Type Standard No. 2 Diameter 27" Face 4 1/2"

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REPAIRS AND ADJUSTMENTS

During the maximum drawbar tests a lug bolt was lost and the lug was broken. The lug was replaced with a new one. The remaining lug bolts were checked and most of them were tightened slightly.

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 carburetor set for 100% maximum horsepower 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 an operating setting of the carburetor (selected by the manufacturer) of 95.6% of maximum horsepower.

2. Observed maximum horsepower (tests F & B) — Drawbar 19.84 Belt 27.79

3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.) — Drawbar 21.19 Belt 29.35

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). — Drawbar 15.89 Belt 24.95

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 283.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers