

January 1936

Test 252: Oliver Hart-Parr Row Crop 70 HC

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Corrected copy of Report of Official Tractor Test No. 252

Dates of test: April 13 to 24, 1936.

Name and model of tractor: OLIVER HART PARR ROW-CROP "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 : | Fuel Consumption | : | Water Consumption | : | Temp. | : | Barometer |
|----------|----------------------|------------------|------------|-------------------|--------|---------|------------|-----------|
| :speed : | Gals. : | H. P. : | Lbs. per : | Cool- : | In : | :Cool-: | :Inches of | |
| :R.P.M.: | per : | hrs. per: | H. P. : | ing : | fuel : | Total : | ing : | Air : |
| : | hour : | gal. : | hour : | : | : | med. : | : | Mercury |

TEST B 100% MAXIMUM LOAD. TWO HOURS

28.40 : 1501 : 2.672 : 10.62 : 0.577 : 0.000 : 0.000 : 0.000 : 181 : 77 : 29.205

TEST C OPERATING MAXIMUM LOAD. ONE HOUR

26.57 : 1500 : 2.400 : 11.07 : 0.554 : 0.000 : 0.000 : 0.000 : 172 : 78 : 29.180

TEST D RATED LOAD. ONE HOUR

25.33 : 1500 : 2.331 : 10.87 : 0.564 : 0.000 : 0.000 : 0.000 : 171 : 78 : 29.165

TEST E *VARYING LOAD. TWO HOURS

25.21 : 1495 : 2.320 : 10.87 : 0.564 : -- : -- : -- : 171 : 78 : --

0.75 : 1593 : 1.047 : 0.72 : 8.560 : -- : -- : -- : 175 : 75 : --

13.23 : 1555 : 1.639 : 8.07 : 0.760 : -- : -- : -- : 170 : 79 : --

25.47 : 1421 : 2.285 : 11.15 : 0.550 : -- : -- : -- : 183 : 82 : --

6.59 : 1566 : 1.316 : 5.01 : 1.225 : -- : -- : -- : 168 : 81 : --

18.89 : 1542 : 1.977 : 9.55 : 0.642 : -- : -- : -- : 170 : 81 : --

15.02 : 1529 : 1.764 : 8.51 : 0.720 : 0.000 : 0.000 : 0.000 : 173 : 79 : 29.145

*20 minute runs. Last line is average for two hours.

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 : | Speed : | Crank : | Slip : | Fuel Consumption | : | Water: | Temp. : | Barometer |
|----------|----------|---------|---------|--------|------------------|--------|--------|---------|-------------|
| : bar : | miles : | shaft : | on : | : | H. P. : | Lbs. : | used : | : | Inches of |
| : pull : | per : | speed : | drive: | Gal.: | hour : | per : | Gal.: | Cool-: | :Inches of |
| :pounds: | hour : | R.F.M.: | wheels: | per : | per : | H.P.: | per : | ing : | Air:Mercury |
| : | : | : | % : | hour: | gal. : | hour : | hour : | med. : | : |

TEST F 100% MAXIMUM LOAD. Third GEAR.

21.93 ; 1878 : 4.38 : 1508 : 7.56 :-----Not Recorded-----: 180 : 60: 29.060

TEST G OPERATING MAXIMUM LOAD.

18.03 : 3120 : 2.17 : 1510 : 19.11 :-----Not Recorded-----: 170 : 61: 29.020

19.58 : 2201 : 3.34 : 1503 : 8.36 :-----" "-----: 171 : 54: 29.140

19.49 : 1675 : 4.36 : 1504 : 7.65 :-----" "-----: 173 : 59: 29.105

19.43 : 1207 : 6.04 : 1500 : 6.19 :-----" "-----: 165 : 60: 29.035

TEST H RATED LOAD. TEN HOURS. Third GEAR.

16.94 : 1440 : 4.41 : 1499 : 6.31 : 2.235 : 7.58 : 0.809 : 0.048 : 183 : 65 : 28.840

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. 1157 Type 6 cylinder, vertical
 Head I Mounting Crankshaft lengthwise
 Bore and stroke: 3 1/8" x 4 3/8" Rated R. P. M. 1500
 Port Diam. Valves: Inlet 1 3/8" Exhaust 1 1/16"
 Belt pulley: Diam. 12 3/4" Face 6 1/2" R. P. M. 774
 Magneto: American Bosch Model MJB6A - 302
 Carburetor Zenith Model 124 1/2 EX Size 1 1/4"
 Governor: Handy No. 157112 Type Centrifugal
 Air Cleaner: Donaldson Type Ejector and oil-washed wire screen
filter
 Lubrication: Pressure

CHASSIS: Type 4 wheels, 2 drivers Serial No. 202845 Drive Enclosed gear
 Clutch: Borg & Beck Type Single plate dry Operated by Foot
 Advertised speeds, miles per hour: First 2.44 Second 3.32
 Third 4.33 Fourth 5.88 Reverse 2.44
 Drive wheels: Diameter 55" Face 1/2"
 Lugs: Type Spade No. per wheel 24 Size 3" x 4 1/2"
 Seat Canvas Hammock
 Total weight as tested (with operator) 3500 pounds.

FUEL AND OIL:

Fuel: Gasoline (68-70 Octane) Weight per gallon 6.13 pounds.

Oil: S.A.E. #20

Total oil to motor 2.120 gallons

Total drained from motor 1.121 gallons

Total time motor was operated 44 hours

The oil was drained
 once - at the end
 of the test.

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REPAIRS AND ADJUSTMENTS

During the rated load drawbar test the pin in the starting crank dropped out and lodged in the tractor frame. This was replaced. On this same test a welded connection on the seat frame was broken.

REMARKS

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. These figures were used in determining the ratings recommended by the A.S.A.E. and S.A.E. tractor rating codes. Tests C, D, E, G and H were made with an operating setting of the carburetor (selected by the manufacturer) of 93.6% of maximum horsepower.

Observed maximum horsepower (tests B & F) Drawbar 21.93 Belt 28.40

Sea level (calculated) maximum horsepower Drawbar 22.58 Belt 29.56
 (Based on 60° F. and 29.92" Hg.)

Highest permissible horsepower ratings Drawbar 16.94 Belt 25.13
 (As recommended by A.S.A.E. and S.A.E. codes)

The 100% maximum belt and drawbar tests were not included in reports issued from 1928 to 1934 inclusive, except in those cases where the 100% maximum setting was used throughout the complete test.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 252.

Carlton L. Zink
 Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
 Board of Tractor Test Engineers