

January 1921

Test 77: Best30-18 30

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

UNIVERSITY FARM, LINCOLN

Copy of Report of Official Tractor Test No. 77

Dates of test: May 9 to 20, 1921

Name, model and rating of tractor: "Best 30" 18-30 H.P.

Serial No. Engine: S2846 Serial No. Chassis: 1140

Manufacturer: The C. L. Best Tractor Co., San Leandro, Calif.

Tractor equipment used: Berling (207650) EQ41 Magneto; Engisn G Carburetor

Style and dimensions of wheel lugs: Track Layer

BRAKE HORSE POWER TESTS

				:Water Consump. :		Temp. :					
		:Fuel Consump. :		:Gals. per Hour :		:Deg. F. :					
:Crank:Time:		:		:L :		:* :					
H. P.	:Shaft:of:	:Kind:	:Gals:	:H.P.:	:Cool-:In :	:Cool-:	:ing :	:Air:	Humidity	Height	Barometer
Dev.	:Speed:Test:	of :	@ :	:Hrs.:@:	ing :	:Fuel:Total:	:ing :				
	:R. P. M.:	Min.:	:Fuel:Hour:	Gal.:	:	:	:Fluid:	:			

RATED LOAD TEST

30.40	: 810:	120	:Gas@:	4.55:	6.68	: 3.00 :	X :	3.00	: 201 :	77	: 56 :	28.85
Belt slippage 1.62%												

**VARYING LOAD TEST

30.21	: 805:	10	:Gas@:	:	:	:	:	:	:	:	:	:
30.01	: 796:	10	: " :	:	:	:	:	:	:	:	:	:
1.47	: 1227:	10	: " :	:	:	:	:	:	:	:	:	:
10.70	: 1134:	10	: " :	:	:	Belt slippage	0.72%	:	:	:	:	:
21.00	: 1113:	10	: " :	:	:	:	:	:	:	:	:	:
30.11	: 1057:	10	: " :	:	:	:	:	:	:	:	:	:
22.75	: 1023:	60	:Gas@:	4.10:	5.55	: 0.50 :	X :	0.50	:	:	50	: 28.67

MAXIMUM LOAD TEST

30.43	: 806:	60	:Gas@:	4.31:	7.06	: 2.50 :	X :	2.50	: 203 :	86	: 50 :	28.67
Belt slippage 1.10%												

HALF LOAD TEST

21.00	: 1113:	60	:Gas@:	5.29:	6.38	: X :	X :	X	: 193 :	80	: 50 :	28.67
Belt slippage 0.72%												

*Taken in discharge line from engine

Remarks: The gasoline used in this test weighed 6.17 pounds per gallon.

** The last line is an average for the hour.

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(Corrected)

Drawbar Horse Power Tests

H. P. Dev.	Draw	Speed	Miles per Hour	Slip	Fuel Consumption	Water	Temp. Deg. F.	Height
	:Draw	:Speed	:Miles per Hour	:Slip	:Fuel Consumption	:Water	:Temp. Deg. F.	:Height
	:Bar	:Miles per Hour	:R.P.M. %	:Crank on	:Amt. H.P. Used	:Used	:Average	:of
	:Pull	:per	:Hour	:Shaft: Drive	:Per Hrs. Per	:Cooling: Air	:Humidity: Barometer	
	:Lbs.	:Hour	:R.P.M. %	:Wheels: Used	:Per Hour	:Fluid		
				:R.P.M. %	:Gals.: Gal.:	:Gals.:		

Rated Load Test, Ten Hours

19.75	: 2537	: 2.92	: 810	: 0.7	: Gaso.:	: 3.77	: 5.24:	: 2.55	: 202	: 82	: 39	: 28.70
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Maximum Load Test

20.28	: 2445	: 3.11	: 872	: 1.1	: Gaso.:	: --Not recorded--	: 200	: 82	: 50	: 28.67
24.53	: 4343	: 2.12	: 891	: 2.4	: " "	: " "	: 200	: 82	: 50	: 28.67

*Taken in discharge line from engine.

Remarks: The rated load and first maximum were run in high gear.
The second maximum was run in low gear.

** For computing slippage, the outside length of the track was used.

Oil Consumption: During the complete test consisting of about 47 hours running the following oil was used: For the engine, 14 gallons of Mobiloil A; For the transmission, 5 gallons of Mobiloil C. To fill case.

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Repairs and Adjustments:

Just prior to the official tests and before any data were taken the magneto timing was advanced 5°. Also at this time the inlet in carburetor was enlarged to standard.

Just after the belt tests and before drawbar tests all valves were ground; also steering clutches were adjusted. Just before rated drawbar test, steering arm broke due to defective casting. At the end of the test the tractor was in good working condition and there were no indications of undue wear in any part nor that any part might require early repair with the exception noted above.

Brief Specifications. "Best 30" 18 - 30 H.P.

Motor: Own, 4 cylinder, vertical, valve-in-head; bore $4\frac{3}{4}$ ", stroke $6\frac{1}{2}$ ", rated speed 800 r.p.m.

Chassis: Track Layer, disc clutch; rated speeds: low, 2 miles per hour; high $3\frac{1}{16}$ miles per hour.

Total weight: 7400 pounds.

General Remarks

In the advertising literature submitted with the applications for test of this tractor there are some statements and claims which cannot be directly compared with the results of this test. It is our opinion that none of these are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct copy of report of official tractor test No. 77.

Fred R. Nohavec
Engineer-in-Charge

Oscar W. Sjogren

E. E. Brackett

C. W. Smith
Board of Tractor Test Engineers.