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January 1927

Test 140: Hart-Parr 28-50

Nebraska Tractor Test Lab

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AGRICULTURAL COLLEGE, LINCOLN

Dates of test: August 17th to 31st, 1927

Serial No. Engine: 70618 Serial No. Chassis: 70618

Tractor equipment used: Robt. Bosch "ZU4" Mag., Schebler "D" Carburetor

Style and dimensions of wheel lugs: Spades 48 per wheel, 4-1/4" high x 3-1/2" x 2-1/4". 7" extension rims

H. P.	Crank : Time :	Fuel Consumption	Water consumption :	Temp. :	Average Humidity %	Height of Barometer In Inches
Dev.	Shaft : of :	Gals. per hr.	Deg. F. *			
	Speed : Test :	Kind :	Gals. : H. P. :	Cool- : In :	Cool- : Air :	
	R.P.M. Min. :	of :	per hrs. :	ing : fuel :	Total : ing :	
	:	fuel :	Hour :	:	:	

50.35 :853 : 60 :Dist.:4.694:10.73: 1.53:1.60 : 3.38: 210 : 77 : 52 : 29.05

50.39	:854	:	10	:	Dist.:	:	:	:	:	:	:	:	:					
49.97	:836	:	10	:	"	:	:	:	:	:	:	:	:					
1.33	:951	:	10	:	"	:	:	:	:	:	:	:	:					
13.93	:937.5	:	10	:	"	:	:	:	:	:	:	:	:					
27.39	:924	:	10	:	"	:	:	:	:	:	:	:	:					
40.35	:909.5	:	10	:	"	:	:	:	:	:	:	:	:					
31.49	:902	:	60	:	"	:3.426;	9.19;	0.88;	0.67	:	1.55;	188	:	76	:	52	:	29.04

64.56 :851 :120 :Dist.:7.940: 8.13:0.445:5.30 :5.745: 201 : 89 : 60 : 29.03

27.09 :913 : 60 :Dist.:3.035; 8.93:0.00 :0.00 :0.00 : 178 : 78 : 62 : 28.98

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

REMARKS: The distillate used as fuel weighed 6.86 pounds per gallon.
Compression in the engine was 70 lbs. per sq. in. at 850 R.P.M.

Copy of Report of Official Tractor Test No. 140.

DRAWBAR HORSE POWER TESTS

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

RATED LOAD TEST. TEN HOURS

28.52	:	2967	:	3.60	:	855	:	2.96	:	Dist. :	4.790	:	5.95	:	1.92	:	194	:	89.5	:	55	:	28.79
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MAXIMUM LOAD TEST

46.03	:	4940	:	3.49	:	844	:	4.49	:	Dist. :	--	NOT RECORDED	--	:	166	:	93	:	63	:	28.80
43.58	:	7347	:	2.22	:	864	:	16.89	:	Dist. :	--	NOT RECORDED	--	:	170	:	98.5	:	63	:	28.80

* Taken in discharge line from engine.

REMARKS: The rated load and first maximum tests were made in high gear, the second maximum test was made in low gear. The distance advanced by the tractor without load on level ground for several complete revolutions of the drive wheels was taken as a basis for calculating the slippage.

OIL CONSUMPTION:

During the complete test consisting of about 38 hours running the following oil was used:
 For the engine, 15.75 gallons of Mob. "B". 3/4 gallons to fill crankcase, 15 gallons added during test.
 For the transmission, 600 W. None added during test.

Copy of Report of Official Tractor Test No. 140.

REPAIRS AND ADJUSTMENTS

After all tests were completed and during the final inspection number 4 cylinder was found to have little or no compression. The piston was removed and the top ring was found to be stuck in its groove also a small hole through the wall of the piston in the top groove at the lap of the ring. The ring was released and the hole plugged up.

No other repairs or adjustments were necessary during this test. At the end of the test the tractor was in good running order except as noted above and there were no indications of undue wear nor of any weakness which might require early repair.

BRIEF SPECIFICATIONS

Motor: Own, 4 cylinder, horizontal, valve-in-head, mounted crankshaft crosswise. Bore 5-3/4", Stroke 6-1/2". Pistons 7-1/4" long. Rated speed 850 R.P.M.

Magneto: Robert Bosch "ZU4".

Carburetor: Schebler "D".

Air Cleaner: Donaldson dry centrifugal type.

Lubricator: Madison-Kipp.

Chassis: Four wheels, two drivers, enclosed gear drive, clutch own make dry plate. Advertised speeds: Low, 2-1/4 miles per hour; High, 3-1/4 miles per hour; Reverse, 2-3/4 miles per hour.

Total weight as tested (with operator) 10,394 pounds.

REMARKS

The water passage between cylinder head and engine block on this tractor had been enlarged to permit freer circulation. It is understood that this change is to be made standard on all tractors of this model.

In the advertising literature submitted with the specifications and application for test of this tractor, we find some claims and statements which cannot be directly compared with results of this test as reported above. It is our opinion that none of those are excessive or unreasonable.

We, the undersigned, certify that above is a true and correct report of official tractor test No. 140.

Lew Wallace
Engineer-in-Charge

Oscar W. Sjogren

E. E. Brackett

C. W. Smith

Board of Tractor Test Engineers