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January 1926

Test 121: Twin City Model TY 17-28

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. 121

Dates of test: May 17th to May 21st, 1926

Name, model and rating of tractor: Twin City 17-28 Model TY

Serial No. Engine 19040

Serial No. Chassis: 19220

Manufacturer: Minneapolis Steel & Machinery Co., Minneapolis, Minnesota.

Tractor equipment used: Am. Bosch "ZR4 ED26" Mag. Holley "257" Carb.

Style and dimensions of wheel lugs: Spade 3-1/2" high, 3" wide, 2-1/2" thick,
6" extension rims.

BRAKE HORSE POWER TESTS

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

RATED LOAD TEST

28.40 : 1007 : 120 : Kero: 2.963 : 9.58 : 0.19 : 0.00: 0.19 : 194 : 67 : 82 : 28.70

**VARYING LOAD TEST

28.36	: 1005	: 10	: Kero:	:	:	:	:	:	:	:	:	:	:
29.53	: 993	: 10	: "	:	:	:	:	:	:	:	:	:	:
1.15	: 1105	: 10	: "	:	:	:	:	:	:	:	:	:	:
7.33	: 1035	: 10	: "	:	:	:	:	:	:	:	:	:	:
14.58	: 1028	: 10	: "	:	:	:	:	:	:	:	:	:	:
21.60	: 1018	: 10	: "	:	:	:	:	:	:	:	:	:	:
17.46	: 1031	: 60	: "	: 2.422	: 7.21	: 0.00	: 0.00: 0.00	: 171	: 66	: 82	: 28.71	:	:

MAXIMUM LOAD TEST

30.91 : 1005 : 60 : Kero: 3.158 : 9.79 : 1.396: 0.00: 1.396 : 210: 89 : 32 : 28.68

HALF LOAD TEST

14.61 : 1032 : 60 : Kero: 2.015 : 7.25 : 0.00 : 0.00: 0.00 : 182: 63 : 71 : 28.73

* Taken in discharge line from engine.

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

REMARKS: The kerosene used as fuel in these tests weighed 6.77 lbs. per gallon.

Report of Official Tractor Test No. 121

DRAWBAR HORSE POWER TESTS

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

RATED LOAD TEST. TEN HOURS

17.30 :	2927 :	2.22 :	998 :	9.40 :	Kero.:	2.7025:	6.40 :	0.03 :	190 :	71 :	52 :	28.52	
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MAXIMUM LOAD TEST

22.505:	3777.5 :	2.235 :	996.5 :	9.19 :	Kero.:	-- NOT RECORDED	--:	190 :	64.5:	48 :	28.85		
21.47 :	2542.5 :	3.17 :	1008 :	4.43 :	Kero.:	-- NOT RECORDED	--:	184 :	71.5:	48 :	28.85		

*Taken in discharge line from engine.

REMARKS: The rated load and first maximum load tests were run in low gear. The second maximum load test was run in high gear.
The average distance measured on the ground of several revolutions of the drivers without load was used as a basis for calculating the slippage of the drive wheels.

OIL CONSUMPTION:

During the complete test consisting of about 39 hours running the following oil was used:
For the engine, 4-1/4 gallons of Mobiloil "A", 3 gallons to fill crankcase, 1-1/4 gallons were added.
For the transmission, 1 gallon of 600 W, 1 gallon added to bring up to proper level.

Copy of Report of Official Tractor Test No. 121.

REPAIRS AND ADJUSTMENTS

During the drawbar tests it was necessary to place two small bolts in the gear shift lock in order to keep the gears in mesh. It was necessary to adjust the governor several times on the rated drawbar test to hold the proper engine speed.

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

BRIEF SPECIFICATIONS

Motor: Own, four cylinder, vertical, valve-in-head, removable head and cylinder sleeves. Mounted crankshaft lengthwise. Bore 4-1/4", stroke 6". Rated speed 1000 R.P.M.
Carburetor: Holley "257"
Magneto: American Bosch "ZR4 Ed26".
Governor: Own, flyball type.
Air cleaner: Bennett (dry centrifugal) type.

Chassis: Four wheels, two drivers; enclosed gear drive; disc clutch. Advertised speeds, low 2.2 miles per hour, high 2.9 miles per hour, reverse 1.75 miles per hour.

Total weight as tested (with operator) 5895 pounds.

REMARKS

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

We, the undersigned, certify that above is a true and correct report of official tractor test No. 121.

Lew Wallace
Engineer-in-Charge

Oscar W. Sjogren
E. E. Brackett
C. W. Smith
Board of Tractor Test Engineers