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January 1926

Test 122: Twin City Model AT 27-44

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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UNIVERSITY OF NEBRASKA AGRICULTURAL ENGINEERING DEPARTMENT

AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 122.

Dates of test: May 20th to 27th, 1926

Name, model and rating of tractor: Twin City 27-44 Model A T

Serial No. Engine 200006

Serial No. Chassis 250025

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

Tractor equipment used: Am. Bosch "ZRL4 Ed26" Mag., Wheeler-Schebler "A" Carb.

Style and dimensions of wheel lugs: Spade 4-1/2" x 4-3/4" x 3"; 7" extension rims.

BRAKE HORSE POWER TESTS

H. P. Dev.	Crank Shaft Speed R.P.M.	Time of Test Min.	Fuel Consumption		Water consumption Gals. Per hour			Temp Deg. F.		Average Humidity %	Height of Barometer In Inches
			Kind of fuel	Gals. per hour	H. P. Hrs. Gal.	Cooling	In fuel	Total	*Cooling		

RATED LOAD TEST

44.04	900	120	Kero	4.694	9.38	2.90	0.00	2.90	210	95	30	28.59
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**VARYING LOAD TEST

43.98	899	10	Kero									
43.95	895	10	"									
0.65	953.5	10	"									
11.73	953	10	"									
22.90	932.5	10	"									
33.90	922	10	"									
26.65	926	60	"	3.566	7.47	1.89	0.00	1.89	203	94	30	28.53

MAXIMUM LOAD TEST

49.05	899	60	Kero	5.527	8.89	0.89	0.00	0.89	209	85	40	28.43
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HALF LOAD TEST

23.00	936	60	Kero	3.288	7.00	0.71	0.00	0.71	193	84	44	28.61
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*Taken in discharge line from engine.

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

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

Report of Official Tractor Test No. 122.

DRAWBAR HORSE POWER TESTS

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

27.17	4367.5	2.33	904	7.66	Kero.	4.368	6.22	0.59	194	82	61.5	28.695
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MAXIMUM LOAD TEST

34.65	5640	2.305	906	9.49	Kero.	-- NOT RECORDED --			201		88.5	53	28.6
32.63	3992	3.065	896	6.44	Kero.	-- NOT RECORDED --			191		89.5	53	28.6

* Taken in discharge line from engine.

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

OIL CONSUMPTION:

During the complete test consisting of about 38 hours running the following oil was used:
For the engine, 4 gallons of Mibiloil "A", 4 gallons to fill crankcase, none added during test.
For the transmission, 4 gallons of 600 W., 4 gallons added to bring oil up to proper level.

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REPAIRS AND ADJUSTMENTS

During the rated load brake test and the rated load drawbar test the fan belt was tightened.

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 nor of any weakness which might require early repair.

BRIEF SPECIFICATIONS

Motor: Own, 4 cylinder, valve-in-head, removable head and cylinder sleeves. Mounted with crankshaft lengthwise.
Bore 5-1/2"; stroke 6-3/4"; Rated speed 900 R.P.M.
Magneto: American Bosch "ZRL4 Ed26".
Carburetor: Wheeler-Schebler "A".

Governor: Own, flyball type.
Air Cleaner: Donaldson Duplex, Oiled fiber type.

Chassis: Four wheels, two drivers; enclosed gear drive, twin disc clutch. Advertised speeds: Low, 2.2 miles per hour, high 2.9 miles per hour, reverse 1.87 miles per hour.

Total weight as tested (with operator) 10,657 pounds.

REMARKS

In the advertising literature submitted, the specifications and application for 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. 122.

Lew Wallace
Engineer-in-Charge

Oscar W. Sjogren

E. E. Brackett

C. W. Smith
Board of Tractor Test Engineers