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January 1920

Test 049: Wallis 15-25

Nebraska Tractor Test Lab

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UNIVERSITY OF NEBRASKA
AGRICULTURAL ENGINEERING DEPARTMENT
UNIVERSITY FARM, LINCOLN

Report of Official Tractor Test No. 49

Dates of test August 7. to August 16, 1920

Name, model and rating of tractor Wa 111s 15-25

Serial No. Engine 20695 Serial No. Chassis 21166

Manufacturer J. I. Case Plow Works Co., Racine, Wis.

Tractor equipment used Bennett Model H & J Carba Berling EQ 41 Mag.

Style and dimensions of wheel lugs Spade 3 $\frac{3}{4}$ " high x 4 $\frac{1}{2}$ " wide.

Brake Horse Power Tests

Horse Power Developed	Crank Shaft Speed R. P. M.	Length of Test Min.	Fuel Consumption			Water Consumption Gallons per Hour			Temperature *Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Humidity %	Barometric Pressure Inches Mercury
			Kind of Fuel	Amount Used per Hour Gallons	Horse Power Hours per Gallon	In Radiator	In Fuel Mixture	Total				
RATED LOAD TEST												
25.19	918	120	Kero	3.25	7.74	1.125	0.00	1.125	210	92	72	28.7
Belt Slippage				2.03%								
VARYING LOAD TEST												
25.28	919	10	Kero									
25.51	928	10	"									
1.23	1224	10	"									
7.56	1100	10	"									
14.75	1058	10	"									
21.32	1016	10	"									
17.00	1042	60	Kero	2.71	6.27	0.00	0.00	0.00	191	94	70	28.7
MAXIMUM LOAD TEST												
27.57	907	60	Kero	4.01	6.88	0.33	0.00	0.33	199	84	65	28.8
29.87	924	60	Gaso	3.16	9.44	3.50	0.00	3.50	212	100	56	28.85
HALF LOAD TEST												
14.98	1073	60	Kero	2.24	6.70	0.00	0.00	0.00	187	95	68	28.7
Belt Slippage				1.40%								

*Taken in discharge line from engine.

Remarks Kerosene used for fuel in this test weighed 6.74 lbs. per gallon;
gasoline used for fuel weighed 6.14 lbs. per gallon.

Report of Official Tractor Test No. 49

Drawbar Horse Power Tests

Horse Power Developed	Draw Bar Pull Pounds	Speed Miles per Hour	Crank Shaft Speed R. P. M.	** : Slippage of Drive Wheels %	Fuel Consumption			Water Used per Hour Gallons	*Temperature of Cooling Fluid Deg. F.	Temperature of Atmosphere Deg. F.	Average Humidity %	Barometric Pressure Inches Mercury
					Ind of Fuel Used	Amount Used per Hour Gallons	Horse Power Hours per Gallon					
RATED LOAD TEST. TEN HOURS (10 Hr. 2 Min.)												
16.06	2362	2.55	928	16.35	Kero	4.54	3.54	0.065	190	81	52	28.9
MAXIMUM LOAD TEST (1st 116.8 ft; 2nd 124.5 ft.)												
18.58	2782	2.50	983	19.6	Kero	-----Not	Recorded-----	180	88	52	28.85	
15.53	1606	3.63	925	14.3	"	"	"	180	87	52	28.85	

*Taken in discharge line from engine.

Remarks **For computing slippage, the circumference of the drive wheels was taken at points of lug

In the rated load test and first maximum test the tractor was run in low gear; in the second maximum test the tractor was run in high gear.

Oil Consumption:

During the complete test consisting of about 32 hours running the following oil was used:

For the engine, 41 gallons of Mobiloil "BB"

For the transmission, 6 gallons of 600 W

Report of Official Tractor Test No. 49

Repairs and Adjustments. Endurance:

Soldered gas tank.

Cleaned fuel line twice, full of scales.

Tightened clutch.

These repairs and adjustments are of only minor importance and should not disqualify the tractor.

Brief Specification Wallis 15-25 H.P. tractor.

Motor: Wallis, 4 cylinder, vertical, valve-in-head, removable sleeves. Bore $4\frac{1}{4}$ ", stroke $5\frac{3}{4}$ ", rates speed: 900 r.p.m.

Chassis: 4 wheel, Disc clutch, U-frame. Rated speeds: forward low 2.5 mi. per hr., high 3.5 mi. per hr.

Total weight, 3500#

General Remarks:

All during this test the motor while running on kerosene seemed to load up on fuel and slow down, miss fire once and then run smoothly again for awhile. On gasoline it worked smoothly.

In the advertising literature we find some claims and statements which cannot be directly compared with the results of this test. It is our opinion that these are not unreasonable or excessive except the following:

"Delivers 74% of its motor power to drawbar".

"Wallis is unexcelled for hauling".

"Among the few good tractors the Wallis stands out head and shoulders above all the rest as 'America's foremost Tractor'."

"It was and is years in advance of all others".

"Wallis develops wonderful power and burns any fuel".

We do not approve of the above statements because proof is lacking.

We, the undersigned, certify that above is a true and correct report of Official Tractor Test No. 49.

Fred R. Mohavoc
Engineer-in-Charge

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