January 1941

Test 369: McCormick-Deering Model W-9 (Gasoline)

Tractor Museum
University of Nebraska-Lincoln, TractorMuseumArchives@unl.edu

UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT
AGRICULTURAL COLLEGE, LINCOLN

Report of Official Tractor Test No. 369

Dates of test: May 21 to June 17, 1941
Name and model of tractor: McCORMICK-DEERING W-9 (Gasoline)
Manufacturer: International Harvester Company, Chicago, Illinois
Manufacturer's rating: NOT RATED

B R A K E H O R S E P O W E R T E S T S

Hp.	Crankshaft Speed R.P.M.	Fuel Consumption: Gal. per Hr.	Fuel Consumption: Hp.-hr. per Gal.	Fuel Consumption: Lb. per Hp.-hr.	Water Used Gal. per Hr.	Temperature Deg. F.: Cooling Medium	Temperature Deg. F.: Air	Barometer Inches of Mercury
TEST B - 100% MAXIMUM LOAD - TWO HOURS								
49.40	1500	4.217	11.71	0.521	0.000	193	81	28.795
TEST C - OPERATING MAXIMUM LOAD - ONE HOUR								
48.50	1500	4.128	11.75	0.519	0.000	196	88	28.800
*** TEST D - ONE HOUR**								
44.66	1503	3.931	11.36	0.537	0.000	195	93	28.790
TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)								
44.60	1498	3.915	11.39	0.535	- ---	194	94	-- ---
1.32	1575	1.903	0.69	8.795	- ---	198	92	-- ---
22.81	1532	2.872	7.94	0.768	- ---	192	93	-- ---
47.66	1468	4.062	11.73	0.520	- ---	192	93	-- ---
11.63	1560	2.361	4.93	1.238	- ---	198	93	-- ---
33.72	1512	3.374	9.99	0.610	- ---	196	94	-- ---
26.96	1524	3.081	8.75	0.697	0.000	195	93	28.790

* Formerly called RATED LOAD; see REMARKS 4, page 5.

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D R A W B A R H O R S E P O W E R T E S T S

Hp.	Draw-bar Pull Lbs.	Speed Miles per Hr.	Crank-shaft Speed R.P.M.	Slip of Drive Wheels %	Fuel Consumption: Gal. per Hr.	Hp.-hr. per Gal	Lb. per Hp.-hr.	Water Used Gal. per Hr.	Temp. Deg. F. Cool-ing Med.	Air	Barometer Inches of Mercury

Rear wheels, tires and added weight used in Tests F, G and H: Cast iron wheels; 14.00-32--13.50-32, 6 ply tires; 1900 lbs. added weight per wheel.

TEST F - 100% MAXIMUM LOAD - Third GEAR

44.15	3994	4.15	1500	6.68	-------- Not Recorded --------			192	87	28.775

TEST G - OPERATING MAXIMUM LOAD

33.28	6414	1.95	1498	16.83	-------- Not Recorded --------			191	92	28.785
42.03	5572	2.83	1502	10.49	" "			192	93	28.775
42.86	3864	4.16	1497	6.23	" "			195	85	28.790
43.61	3178	5.15	1500	5.00	" "			193	90	28.785

* TEST H - TEN HOURS - Third GEAR

36.11	3244	4.17	1500	5.36	3.685	9.80	0.622	0.000	193	72	28.830

TEST J - OPERATING MAXIMUM LOAD

Same wheels and tires as used in Tests F, G and H. All added weight removed from tractor (liquid, cast iron or any other added forms). Third gear.

41.50	3927	3.96	1499	12.50	-------- Not Recorded --------			188	80	28.605

TEST K - OPERATING MAXIMUM LOAD

Rear wheels, tires and added weight used: Cast iron wheels, 13.00-32--12.75-32, 6 ply tires and no added weight per wheel (** Combination No. 1). Third gear.

38.78	3788	3.84	1494	12.57	-------- Not Recorded --------			183	67	28.850

* Formerly called RATED LOAD; SEE REMARKS 4, page 5.

** Combination No. 1: Includes wheels, tires and added weight recommended in the manufacturer's published specifications.

Combination No. 2: When the manufacturer does not make a specific recommendation, then the tires used are the smallest size and ply and the wheels are the lightest listed in published specifications or the application for test.

See page 3 for specifications on wheels, tires and weight.

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FUEL, OIL and TIME

Fuel Gasoline Octane 73 Weight per gallon 6.10 pounds

Oil: S.A.E. No. 20 To motor 3.157 gal. Drained from motor 2.373 gal.

Total time motor was operated 46 hours

TIRES, WHEELS and WEIGHT

		Tests F, G & H	Test J	Test K
Rear Wheel: (each)	Type and Weight	Cast Iron, 268 lbs	Cast Iron, 268 lbs	Cast Iron, 268 lbs
	Liquid Ballast	505 lbs	None	None
	Added Cast Iron	1395 lbs	None	None
Rear Tires:	No., Size and Ply	2, 14.00-32--13.50-32, 6 ply	2, 14.00-32--13.50-32, 6 ply	2, 13.00-32--12.75-32, 6 ply
	Type of Tread	All Weather	All Weather	All Weather
	Make	Goodyear	Goodyear	Goodyear
	Air Pressure	16 lbs	16 lbs	16 lbs
Front Wheel: (each)	Type and Weight	Cast Iron, 60 lbs	Cast Iron, 60 lbs	Cast Iron, 60 lbs
	Liquid Ballast	None	None	None
	Added Cast Iron	None	None	None
Front Tires:	No., Size and Ply	2, 7.50-18, 4 ply	2, 7.50-18, 4 ply	2, 7.50-18, 4 ply
	Type of Tread	Rib Tread	Rib Tread	Rib Tread
	Make	Goodyear	Goodyear	Goodyear
	Air Pressure	28 lbs	28 lbs	28 lbs
Height of Drawbar		18"	19 1/2"	18 1/2"
Static Weight:	Rear End	7680 lbs	3920 lbs	3880 lbs
	Front End	2230 lbs	2250 lbs	2240 lbs
Total Weight as Tested (With operator)		10, 090 lbs	6350 lbs	6300 lbs

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CHASSIS

Type Standard Serial No. WCB546 Drive Enclosed gear

Tread width: Rear 58" Front 52 1/4"

Advertised speeds, miles per hour: First 2 3/8 Second 3 1/8 Third 4 3/8

Fourth 5 3/8 Fifth 15 3/8 Reverse 2 7/8

Belt pulley: Diam. 14" Face 8 1/2" R.P.M. 707 Belt speed 2593 f.p.m.

Clutch: Make Own Type Dry disc Operated by Foot

Seat Pressed steel, with canvas covered felt pad

Brakes: Make Own Type External contracting bands

Location Ends of differential shafts

Gear reduction (brake drum to rear wheel) 5.667 to 1

Operated by Right foot on adjacent pedals, either independently or interlocked

Locked by Pawl and ratchet on right pedal

Equalization By springs when pedals are locked together

MOTOR

Make Own Serial No. WCBM517-W1 Type 4 cylinder, vertical

Head I Mounting Crankshaft lengthwise Lubrication Pressure

Bore and stroke 4.1/4" x 5.5" Rated R.P.M. 1500

Port diameter valves: Inlet 1.875" Exhaust 1.688"

Magneto: Make Own Model H-4

Carburetor: Make Own Model E-13 Size 1 3/8"

Governor: Make Own Type Variable speed, centrifugal

Air Cleaner: Make Donaldson Type Oil-washed, wire screen filter

Oil Filter: Make Motor Improvements, Inc. Type Partial flow with replaceable bakelite impregnated paper element.

Cooling medium temperature control Bishop and Babcock thermostat and Defiance radiator shutters.

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REPAIRS AND ADJUSTMENTS

No repairs or adjustments.

REMARKS

1. All results shown on pages 1 and 2 of this report were determined from observed data and without allowances, additions or deductions. Tests B and F were made with carburetor set for 100% maximum belt horsepower and data from these tests were used in determining the horsepower to be developed in tests D and H, respectively. Tests C, D, E, G, H, J and K were made with an operating setting of the carburetor (selected by the manufacturer) of 98.7% of maximum belt horsepower.

	DRAWBAR	BELT
2. Observed maximum horsepower (tests F & B)	44.15	49.40
3. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	47.06	52.36
4. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly A.S.A.E. and S.A.E. ratings)	35.30	44.51

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 369.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

L. W. Hurlbut
Board of Tractor Test Engineers