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January 1941

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

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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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.	Crank- shaft Speed R.P.M.	Fuel Consumption				Water Used Gal. per Hr.	Temperature		Barometer Inches of Mercury
		Gal.	Hp.-hr.	Lb. per Hp.-hr.			Deg. F.	Air	
		per Hr.	per Gal.				Medium		

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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Report of Official Tractor Test No. 369D R A W B A R H O R S E P O W E R T E S T S

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

14.15 : 3994 : 4.15 : 1500 : 6.68 : ----- Not Recorded ----- : 192 : 87 : 28.775

## TEST G - OPERATING MAXIMUM LOAD

33.28 : 6111 : 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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Report of Official Tractor Test No. 369CHASSIS

Type Standard Serial No. WCB546 Drive Enclosed gear  
 Tread width: Rear 53" 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 4.4" x 5.5" Rated R.P.M. 1500  
 Port diameter valves: Inlet 1.875" Exhaust 1.638"  
 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.

	<u>DRAWBAR</u>	<u>BELT</u>
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