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Tractor Test and Power Museum, The Lester F. Larsen

January 1930

Test 179: Monarch Model 50

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. 179

Dates of test: June 27th to July 3rd, 1930
Name and model of tractor: MONARCH "50"
Manufacturer: The Allis-Chalmers Mfg. Co., Springfield, Illinois.
Manufacturer's rating: 42-50
Highest rating permissible under the recommendations of the A.S.A.E. and
S.A.E. Tractor Rating Codes: Drawbar - 43 H.P. Belt - 55 H.P.
One carburetor setting (100% of maximum) was used thruout this test.

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

H. P.	: Crank :	Fuel Consumption	: Water consumption :	Temp. :	
	: shaft :		: per hour gallons :	Deg. F. :	Barometer
	: speed :	Gals. :H. P. :Lbs. @ :	Cool- : In :	Cool- : :	Inches of
	: R.P.M.:	per :hrs. @:H.P. :	ing : fuel :Total :	ing : Air :	Mercury
	: : hour :	gal. :hour :	: : : :med. :	:	:

OPERATING MAXIMUM LOAD TEST. ONE HOUR

62.18	: 1002	: 6.692	: 9.29	: 0.650	: 0.039	: 0.00	: 0.039	: 202	: 83	: 28.98
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RATED LOAD TEST. ONE HOUR

50.31	: 999	: 5.273	: 9.54	: 0.633	: 0.039	: 0.00	: 0.039	: 195	: 83	: 28.98
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*VARYING LOAD TEST. TWO HOURS

50.10	: 996	: 5.240	: 9.56	: 0.632	: --	: --	: --	: 192	: 82	: --
2.20	: 1098	: 2.305	: 0.95	: 6.327	: --	: --	: --	: 191	: 82	: --
26.42	: 1048	: 3.864	: 6.84	: 0.883	: --	: --	: --	: 195	: 81	: --
58.45	: 971	: 6.268	: 9.33	: 0.648	: --	: --	: --	: 192	: 82	: --
13.58	: 1075	: 2.985	: 4.55	: 1.328	: --	: --	: --	: 199	: 80	: --
38.96	: 1031	: 4.654	: 8.37	: 0.722	: --	: --	: --	: 197	: 80	: --
32.43	: 1033	: 4.220	: 7.68	: 0.786	: 0.068	: 0.00	: 0.068	: 194	: 81	: 28.99

*20 minute runs. Last line is average for two hours.

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

H. P.	: Draw :	Speed :	Crank :	Slip :	Fuel Consumption	: Water:	Temp. :	
	: Bar :	miles :	shaft :	on :	: H.P. : Lbs. :	used :	:	Barometer
	: pull :	per :	speed :	drive:	Gal. : hr. :	per :	Gal. :	Cool-:Air:
	: pounds:	hour :	R.P.M.:	wheels:	per : per :	H.P. :	per :	ing : Mercury
	: : :	: : % :	hour :	gal. :	hour :	hour :	med. :	:

RATED LOAD TEST. TEN HOURS. Intermediate Gear.

44.09	: 6000	: 2.76	: 1002	: 0.65	: 5.673	: 7.77	: 0.777	: 0.061	: 191	: 89	: 28.79
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MAXIMUM LOAD TEST

53.28	: 7213	: 2.77	: 1008	: 1.04	: -----	: Not Recorded	: -----	: 190	: 96	: 28.72
50.14	: 4613	: 4.08	: 1010	: 0.00	: "	: "	:	: 166	: 83	: 28.70
50.14	: 10573	: 1.78	: 999	: 3.03	: "	: "	:	: 194	: 89	: 28.71

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BRIEF SPECIFICATIONS

MOTOR: Make Own Serial No. M 104 Type Vertical
Head "I" Mounting Lengthwise
Bore and stroke: 5 1/4" x 6 1/2" in. Rated R.P.M. 1000
Port Dia. Valves: Inlet 2" Exhaust 2"
Belt pulley: Diam. 12 1/2" in. Face 8 1/2" in. R.P.M. 952
Magneto: Eisemann Model GV4
Carburetor: Zenith Model C-6 Size 1 1/2"
Governor: Own No. ----- Type Flyball
Air Cleaner: Own Type Centrifugal oily fibre
Lubrication: Pressure

CHASSIS: Type Crawler Serial No. 61999 Drive Enclosed gear & cha
Clutch Own Type Single disc operated by hand
Advertised speeds, miles per hour: Low 1.82
Intermediate 2.76 High 3.99 Reverse 2.06
Tracks: Length 20.93' Face 13"
Lugs: Integral with shoe No. per track 32
Extension rims: Width None
Seat: Upholstered
Total weight as tested (with operator) 15,100 pounds.

FUEL AND OIL:

Fuel: Gasoline Weight per gallon 6.04 pounds
Oil: S. A. E. Viscosity No. 30

Total oil to motor 3.726 gallons
Total drained from motor 2.938 gallons
Total time motor was operated 37 hours

The oil was drained
from the crankcase
once - at the end
of the test.

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REPAIRS AND ADJUSTMENTS

During the rated drawbar test, the water pump packing gland was tightened.

REMARKS

The tests herein reported were conducted with one carburetor setting which remained unchanged thruout the tests. This condition should be recognized when comparing this test with any Nebraska test conducted prior to 1928.

No advertising literature was submitted with the specifications and application for test of this tractor. Consequently, no comparison of results of the test with advertised claims or statements could be made.

We, the undersigned, certify that the above is a true and correct report of official tractor test No. 179.

Carlton L. Zink
Engineer-in-charge

E. E. Brackett

C. W. Smith

E. B. Lewis
Board of Tractor Test Engineers