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January 1948

## Test 424: Silver King 3 Wheel Row Crop

Nebraska Tractor Test Lab

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**BELT HORSE POWER TESTS**

H. P.	Crank shaft speed R.P.M.	Fuel Consumption			Water used Gal. per hour	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hour	H.P. hr. per gal.	Lb. per H.P. hour		Cooling med.	Air	
<b>TEST B—100% MAXIMUM LOAD—TWO HOURS</b>								
33.14	1801	3.169	10.46	0.586	0.01	181	67	28.910
<b>TEST C—OPERATING MAXIMUM LOAD—ONE HOUR</b>								
31.17	1800	2.783	11.20	0.547	0.01	170	66	28.910
<b>*TEST D—ONE HOUR</b>								
29.36	1799	2.682	10.95	0.560	0.01	166	67	28.895
<b>TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)</b>								
29.45	1802	2.688	10.96	0.559	- - -	167	68	- - - -
1.33	1900	1.063	1.25	4.895	- - -	144	70	- - - -
15.21	1849	1.777	8.56	0.716	- - -	152	72	- - - -
29.67	1716	2.600	11.41	0.537	- - -	176	74	- - - -
7.71	1873	1.361	5.66	1.082	- - -	150	75	- - - -
22.47	1826	2.223	10.11	0.606	- - -	166	77	- - - -
17.64	1828	1.952	9.04	0.678	0.01	159	73	28.872

**DRAWBAR HORSE POWER TESTS**

H.P.	Draw bar pull Lbs.	Speed miles per hr.	Crank shaft speed R.P.M.	Slip of drive wheels %	Fuel Consumption			Water used Gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hour	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cooling med.	Air	
<b>TEST F—100% MAXIMUM LOAD— 2nd GEAR</b>											
28.03	2698	3.90	1803	9.04	Not Recorded			198	85	28.810	
<b>TEST G—OPERATING MAXIMUM LOAD</b>											
18.57	3004	2.32	1797	13.24	Not Recorded			177	91	28.805	
27.20	2590	3.94	1802	8.04	"			183	82	28.820	
27.68	1842	5.64	1798	5.14	"			194	84	28.815	
20.89	415	18.88	1806	1.71	"			165	66	28.835	
<b>*TEST H—TEN HOURS— 2nd GEAR</b>											
22.40	2107	3.99	1800	6.81	2.329	9.62	0.637	0.00	160	70	29.048
<b>TEST I—OPERATING MAXIMUM LOAD— 2nd GEAR</b>											
21.52	2226	3.63	1800	16.07	Not Recorded			170	76	28.935	

**TIRES, WHEELS and WEIGHT**

	Tests F, G & H	Test J
Rear Wheel: Type (each)	Cast Disc	Cast Disc
Liquid Ballast	405 lb	None
Added Cast Iron	260 lb	None
Rear Tires: No., Size and Ply	2 10-38 4 ply	2 10-38 4 ply
Type of Tread	Sure Grip	Sure Grip
Make	Goodyear	Goodyear
Air Pressure	14 lb	12 lb
Front Wheel: Type and Weight (each)	Cast Iron	Cast Iron
Liquid Ballast	114 lb	None
Added Cast Iron	124 lb	None
Front Tires: No., Size and Ply	1, 7.50-16 6 ply	1, 7.50-16 6 ply
Type of Tread	Rib	Rib
Make	Goodyear	Goodyear
Air Pressure	28 lb	28 lb
Height of Drawbar	18 inches	18 1/2 inches
Static Weight: Rear End	3868 lb	2538 lb
Front End	1314 lb	1076 lb
Total Weight as Tested (With operator)	5357 lb	3789 lb

\* Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Gasoline, octane 74 (octane rating taken from oil company's typical inspection data); weight per gallon 6.127 lb. Oil: SAE 10-10W; to motor 1.226 gal. drained from motor 1.174 gal. Total time motor was operated 37 hours.

SPECIFICATIONS Type tricycle; Serial No. 8309; Drive enclosed gear. Tread Width: Rear 56" to 84"; Front single wheel. Wheel Base 84 3/4". Hydraulic Lift Control not available. Advertised speeds, mph: First 2.67; Second 4.10; Third 5.93; Fourth 19.10; Reverse 1.97. Belt Pulley: Diam 6.6"; Face 8"; RPM 1800; Belt Speed 3110 fpm. Clutch: Make Borg & Beck; Type dry disc; Operated by foot pedal. Seat pressed steel with sponge rubber pad. Brakes: Make own; Type contracting band; Location final drive pinion shaft; Gear Reduction (brake drum to rear wheel) 3.313:1; Operated by individual foot pedals and master brake pedal; Locked by latches on frame; Equalization none, one master brake pedal is used with spring adjustment for each brake.

ENGINE Make Continental; Serial No. F 162 111196; Type 4 cylinder vertical; Head L; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 7/16" x 4 3/8"; Rated RPM 1800; Compression Ratio 6.23:1. Port Diameter Valves: Inlet 1 23/64"; Exhaust 1 1/16". Governor: Make Pierce; Type centrifugal, variable speed. Carburetor: Make Marvel-Schebler; Model TSX-112; Size 1". Starter Delco-Remy. Generator Delco-Remy. Distributor and Coil Delco-Remy. Battery Exide. Air Cleaner: Make Donaldson; Type oil washed wire screen. Oil Filter: Make Fram; Type replaceable filter element. Cooling medium temperature control: Thermostat.

REPAIRS AND ADJUSTMENTS A small amount of water surged out of radiator as tractor was stopped following completion of test F & G in second and third gears.

REMARKS All test results 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 and J were made with an operating setting of the carburetor (selected by the manufacturer) of 93.9% of maximum belt horsepower.

**HORSEPOWER SUMMARY**

	Drawbar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	29.80	34.53
2. Observed maximum horsepower (tests F & B)	28.03	33.14
3. Seventy-five per cent of calculated maximum drawbar horsepower and eighty-five per cent of calculated maximum belt horsepower (formerly ASAE and SAE ratings)	22.35	29.35

We, the undersigned, certify that this is a true and correct report of official tractor test No. 424.

L. F. Larsen  
Engineer in Charge

C. W. Smith  
F. D. Yung  
L. W. Hurlbut  
Board of Tractor  
Test Engineers