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Larsen

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January 1949

## Test 428: Massey-Harris Model 55K STD

Tractor Museum

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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>								
52.17	1350	5.320	9.81	0.682	0.00	180	64	28.755
<b>TEST C—OPERATING MAXIMUM LOAD—ONE HOUR</b>								
49.09	1350	4.285	11.46	0.584	0.00	177	61	28.765
<b>*TEST D—ONE HOUR</b>								
46.44	1351	4.197	11.07	0.604	0.00	175	60	28.810
<b>TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)</b>								
46.56	1355	4.208	11.06	0.604	- - -	175	61	- - - -
1.57	1512	1.391	1.13	5.924	- - -	189	63	- - - -
24.88	1439	2.611	9.53	0.702	- - -	174	61	- - - -
48.30	1318	4.190	11.53	0.580	- - -	177	62	- - - -
12.77	1475	1.965	6.50	1.029	- - -	186	60	- - - -
36.42	1405	3.310	11.00	0.608	- - -	170	60	- - - -
28.42	1417	2.946	9.65	0.693	0.00	179	61	28.840

**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— 3rd GEAR</b>											
47.64	3588	4.98	1352	5.91	Not Recorded			180	61	28.830	
<b>TEST G—OPERATING MAXIMUM LOAD</b>											
38.10	5546	2.58	1352	14.34	Not Recorded			176	61	28.820	
44.69	4222	3.97	1351	7.27	"			177	60	28.820	
4.79	3362	5.00	1350	5.45	"			178	61	28.820	
39.97	1256	11.94	1349	2.26	"			178	61	28.820	
<b>*TEST H—TEN HOURS— 3rd GEAR</b>											
37.25	2782	5.02	1350	5.01	3.667	10.16	0.658	0.00	173	61	28.941
<b>TEST I—OPERATING MAXIMUM LOAD— 3rd GEAR</b>											
43.40	3325	4.89	1350	7.56	Not Recorded			166	70	28.920	

**TIRES, WHEELS and WEIGHT**

	Tests F, G & H	Test I
Rear Wheel: Type (each)	Cast Iron	Cast Iron
Liquid Ballast	699 lb	None
Added Cast Iron	420 lb	None
Rear Tires: No., Size and Ply	2 14-34 6 ply	2 14-34 6 ply
Type of Tread	Champion Ground Grip	Champion Ground Grip
Make	Firestone	Firestone
Air Pressure	14 lb	12 lb
Front Wheel: Type and Weight (each)	Cast Iron	Cast Iron
Liquid Ballast	None	None
Added Cast Iron	None	None
Front Tires: No., Size and Ply	2 7.50-18 4 ply	2 7.50-18 4 ply
Type of Tread	Triple rib	Triple rib
Make	Goodyear	Goodyear
Air Pressure	28 lb	28 lb
Height of Drawbar	16 1/2 inches	17 inches
Static Weight: Rear End	7078 lb	4840 lb
Front End	2251 lb	2250 lb
Total Weight as Tested (With operator)	9504 lb	7265 lb

\* Formerly called RATED LOAD, see horsepower summary.

**FUEL, OIL and TIME Fuel:** Tractor fuel, octane 41.5 (octane rating taken from oil company's typical inspection data); weight per gallon 6.688 lb. Oil: SAE 10-10W; to motor 1.974 gal; drained from motor 2.016 gal. Total time motor was operated 40 hours.

**SPECIFICATIONS** Type standard; Serial No. 55-KS2451; Drive enclosed gear. Tread Width: Rear 57"; Front 52". Wheel Base 89". Hydraulic Lift Control not available. Advertised speeds, mph: First 2.96; Second 4.22; Third 5.22; Fourth 12.07; Reverse 2.54. Belt Pulley: Diam 16"; Face 8"; RPM 730; Belt Speed 3059 fpm. Clutch: Make Borg & Beck; Type dry disc; Operated by foot pedal. Seat Monroe. Brakes: Make own; Type internal expanding band; Location differential brake shaft driven by master gear; Gear Reduction (brake drum to rear wheel) 6.545:1; Operated by foot pedals; Locked by latches; Equalization none.

**ENGINE** Make own; Serial No. MJA382K8711; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 4 1/2" x 6"; Rated RPM 1350; Compression Ratio 4.5:1. Port Diameter Valves: Inlet 1.609; Exhaust 1.489. Governor: Make own; Type centrifugal, variable speed. Carburetor: Make Zenith; Model 62 AJ 10; Size 1 1/4". Starter Auto-Lite. Generator Auto-Lite. Distributor and Coil Auto-Lite. Battery Exide. Air Cleaner: Make Donaldson; Type oil washed wire screen. Oil Filter: Make Purolator; Type replaceable paper element. Cooling medium temperature control: Thermostat and radiator shutter.

**REPAIRS AND ADJUSTMENTS** Two spark plugs were replaced during test "D" because engine began to miss fire.

**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 93.8% of maximum belt horsepower.

**HORSEPOWER SUMMARY**

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	49.49	54.49
2. Observed maximum horsepower (tests F & B)	47.64	52.17
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)	37.12	46.32

We, the undersigned, certify that this is a true and correct report of official tractor test No. 428.

L. F. Larsen  
Engineer in Charge

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