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Test 426: Massey-Harris Model 44 (Diesel) 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	
TEST B and TEST C—100% MAXIMUM LOAD—TWO HOURS								
41.82	1350	2.634	15.88	0.441	0.00	171	56	28.960
*TEST D—ONE HOUR								
36.67	1350	2.281	16.08	0.435	0.00	170	57	28.975
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
36.69	1351	2.276	16.12	0.434	- - -	170	56	- - - -
1.40	1464	0.669	2.09	3.343	- - -	151	56	- - - -
19.30	1416	1.466	13.17	0.532	- - -	164	56	- - - -
43.44	1289	2.757	15.76	0.444	- - -	170	58	- - - -
9.81	1438	1.059	9.26	0.755	- - -	162	60	- - - -
28.38	1391	1.899	14.94	0.468	- - -	168	61	- - - -
23.17	1391	1.688	13.73	0.510	0.00	164	58	28.975

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	
TEST F and TEST G—100% MAXIMUM LOAD—											
22.26	4351	1.92	1352	14.97	Not Recorded			172	78	28.950	
34.12	4313	2.97	1352	12.79	" "			175	72	28.960	
37.91	3380	4.21	1349	6.79	" "			176	69	28.975	
37.35	2509	5.58	1347	4.79	" "			175	70	28.975	
35.03	1068	12.30	1353	2.27	" "			172	65	28.810	
*TEST H—TEN HOURS— 3rd GEAR											
29.64	2608	4.26	1349	5.50	2.098	14.13	0.495	0.00	174	70	28.904
TEST J—100% MAXIMUM LOAD— 3rd GEAR											
29.38	2881	3.82	1348	15.76	Not Recorded			174	75	28.815	

TIRES, WHEELS and WEIGHT

	Tests F, G & H	Test J
Rear Wheel: Type (each)	Cast Iron	Cast Iron
Liquid Ballast	556 lb	None
Added Cast Iron	560 lb	None
Rear Tires: No., Size and Ply	2 13-30 6 ply	2 13-30 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)	Pressed Steel	Pressed Steel
Liquid Ballast	None	None
Added Cast Iron	None	None
Front Tires: No., Size and Ply	2 6.00-16 4 ply	2 6.00-16 4 ply
Type of Tread	Rib	Rib
Make	Goodrich Silvertown	Goodrich Silvertown
Air Pressure	28 lb	28 lb
Height of Drawbar	19 1/2 inches	20 1/2 inches
Static Weight: Rear End	5462 lb	3230 lb
Front End	1676 lb	1680 lb
Total Weight as Tested (With operator)	7133 lb	5083 lb

* Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Diesel fuel; cetane 47 (cetane rating taken from oil company's typical inspection data); weight per gallon 6.998 lb. Oil: SAE 10-10W; to motor 2.731 gal; drained from motor 1.555 gal. Total time motor was operated 35 hours.

SPECIFICATIONS Type standard; Serial No. 44DS1116; Drive enclosed gear. Tread Width: Rear 54"; Front 49". Wheel Base 80". Hydraulic Lift Control not available. Advertised speeds, mph: First 2.21; Second 3.33; Third 4.43; Fourth 5.75; Fifth 12.28; Reverse 2.89. Belt Pulley: Diam 13 1/2"; Face 6 1/2"; RPM 863; Belt Speed 3050 fpm. Clutch: Make Borg & Beck; Type dry disc; Operated by foot pedal. Seat Monroe. Brakes: Make own; Type internal expanding band; Location differential shaft; Gear Reduction (brake drum to rear wheel) 5.077:1; Operated by two foot pedals; Locked by latch; Equalization none, can be locked together.

ENGINE Make own; Serial No. HD2601535; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 7/8" x 5 1/2"; Rated RPM 1350; Compression Ratio 15:1. Port Diameter Valves: Inlet 1 5/16"; Exhaust 1 5/16". Governor: Make Bosch; Type centrifugal, variable speed. Fuel Injection System Bosch. Starting System 12 volt, Auto-Lite. Generator Auto-Lite. Battery 2 6 volt batteries. Air Cleaner: Make Donaldson; Type oil washed wire screen. Oil Filter: Make Purolator; Type replaceable paper element. Fuel Filter: Make Zenith and Bosch (1 each); Type permanent brass discs and replaceable filter, respectively. Cooling medium temperature control: Thermostat.

REPAIRS AND ADJUSTMENTS No repairs or adjustments.

REMARKS All test results were determined from observed data and without allowances, additions, or deductions. Tests B and F were made with fuel pumps set by the manufacturer to develop approximately 43 corrected 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 the same setting.

HORSEPOWER SUMMARY

	Drawbar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	39.48	43.04
2. Observed maximum horsepower (tests F & B)	37.91	41.82
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)	29.61	36.58

We, the undersigned, certify that this is a true and correct report of official tractor test No. 426.

L. F. Larsen
Engineer in Charge

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