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Test 452: Massey-Harris 55 Diesel

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Department of Agricultural Engineering

Dates of test: October 17 to October 26, 1950.

Manufacturer: THE MASSEY-HARRIS CO., RACINE, WISCONSIN.

Manufacturer's rating: Not rated.

#### BELT HORSEPOWER TESTS

-4	Crank	Fu	el Consumpt	ion	Water	Temp Deg F		Barometer	
Нр	shaft speed rpm	Gal per hour			used gal per hour	Cooling med	Air	in Hg	
	TEST	S B and C	-100% 1	MAXIMUM	LOAD-	TWO H	OURS		
59.04	1351	3.936	15.00	0.466	0.00	181	50	29.030	
		TEST	D-RATE	ED LOAD-	ONE H	OUR	2011		
51.35	1351	3.320	15.47	0.452	0.00	187	58	29.040	
TEST	E-VAR	YING LOA	D—TWO	HOURS (	20 minut	e runs; la	st line a	verage)	
51.21	1350	3.316	15.44	0.453		187	61		
1.87	1482	1.042	1.79	3.898		190	63		
27.29	1431	2.149	12.70	0.551		180	66		
58.26	1302	3.865	15.07	0.464		180	67		
13.97	1462	1.548	9.02	0.775		183	68		
39.86	1396	2.732	14.59	0.479		185	68		
32.08	1403	2.442	13.14	0.532	0.00	184	66	29.030	

#### DRAWBAR HORSEPOWER TESTS

Draw		Speed	Crank	Slip	Fuel Consumption		Water	Temp Deg F		Barometer	
Нр	bar pull lb	miles per hr	shaft speed rpm	drive wheels	Gal per hour	Hp-hr per gal	Lb per hp-hr	gal per hour	Cool- ing med	Air	in Hg
		T	ESTS I	and G	—100%	MAX	IMUM	LOAD			
40.97	5865	2.62	1350	16.56		Not Re	corded		178	67	28.960
52.27	4754	4.12	1351	7.77		,,	"		180	66	28.960
52.49	3777	5.21	1351	5.78		**	,,		180	65	28.960
49.09	1492	12.34	1353	3.54		"	,,		180	65	28.960

# 41.32 | 2967 | 5.22 | 1350 | 5.44 | 2.963 | 13.95 | 0.501 | 0.00 | 185 | 54 | 28.946

51.07	3792	5.05	1351	9.06	Not Recorded	185	60	28.660
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45.64 | 3821 | 4.48 | 1352 | 16.10 | Not Recorded | 185 | 69 | 28.660

# TIRES, WHEELS and WEIGHT

	Tests F, G, & H	Test J	Test K
Rear wheels Type	Cast iron	Cast iron	Cast iron
Liquid ballast	752 lb each	None	None
Added cast iron	429 lb each	None	None
Rear tires No. and size	Two 15-34	Two 15-34	Two 14-34
Ply	8	8	16
Air pressure	12 lb	12 lb	12 lb
Front Wheels Type	Cast iron	Cast iron	Cast iron
Liquid ballast	None	None	None
Added cast iron	None	None	None
Front tires No. and size	Two 7:50-18	Two 7.50-18	Two 7.50-18
Ply	4	4	4
Air pressure	28 lb	28 lb	28 lb
Height of drawbar	18 inches	18½ inches	17 inches
Static weight Rear end	7485 lb	5124 lb	4900 lb
Front end	2485 lb	2484 lb	2486 lb
Total weight as tested with operator	10,155 lb	7793 lb	7571 lb

### NEBRASKA TRACTOR TEST NO. 452

#### MASSEY-HARRIS 55 DIESEL

FUEL, OIL and TIME Diesel fuel cetane No 41.5 (rating taken from oil company's typical inspection data); weight per gallon 6.994 lb Oil SAE 20; to motor 2.454 gal; drained from motor 1.827 gal Total time motor was operated 50 hours.

CHASSIS Type standard Serial No 55DS1827 Tread width rear 57" front 52 3/16" Wheel Base 88½" Hydraulic control system none 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 dry disc clutch operated by foot pedal Seat pressed steel seat on coil spring with shock absorber Brakes internal expanding shoe operated by two pedals on right hand side of tractor Equalized can be locked together Power take-off standard type.

ENGINE Make Massey-Harris Diesel Type 4 cylinder vertical Serial No JD3821160 Crankshaft mounted lengthwise Head I Lubrication pressure Bore and Stroke 4½ "x6" Rated rpm 1350 Compression ratio 15 to 1 Displacement 382 cu in Port Diameter Valves inlet 1 9/16" exhaust 1½ " Governor variable speed centrifugal Starting System 12 volt electric Air Cleaner oil washed wire mesh Muffler was used Oil Filter replaceable paper element Fuel Filter one with permanent brass discs and one with replaceable element Cooling medium temperature control thermostat and shutters.

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 manufacturer to develop approximately 60 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, J and K were made with the same setting. Oil leaked from tapped hole in top of transmission case during last part of 10 hour test.

## HORSEPOWER SUMMARY

aw-	Belt
.49	60.27
.77	00.27
.49	59.04
.87	51.23
	.49

We, the undersigned, certify that this is a true and correct report of official tractor test No. 452.

L. F. Larsen Engineer in Charge

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