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Test 483: Economy Special

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Department of Agricultural Engineering
Dates of test: September 20 to September 27, 1952
Manufacturer: ENGINEERING PRODUCTS COMPANY, WAUKESHA, WISCONSIN
Manufacturer's rating: Not rated.

ECONOMY SPECIAL

BELT HORSEPOWER TESTS

Hp	Crank shaft speed rpm	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
		Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TESTS B and C—100% MAXIMUM LOAD—TWO HOURS								
6.23	3201	0.837	7.44	0.819	Air Cooled	76	29.030	
TEST D—RATED LOAD—ONE HOUR								
5.55	3201	0.815	6.81	0.895	Air Cooled	56	28.960	
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
5.54	3199	0.817	6.78	0.899	Air Cooled	56	.....
0.23	3330	0.423	0.50	11.217	Air Cooled	57	.....
2.91	3277	0.645	4.51	1.351	Air Cooled	60	.....
6.19	3047	0.797	7.77	0.785	Air Cooled	62	.....
1.51	3323	0.536	2.82	2.166	Air Cooled	63	.....
4.24	3231	0.748	5.67	1.075	Air Cooled	64	.....
3.44	3234	0.661	5.20	1.172	Air Cooled	60	28.960	

TORQUE (at dynamometer)

Eng RPM	3200	3024	2899	2739	2596	2444	2301	2136	1987	1845
Lb-ft	9.61	10.26	10.66	11.05	11.32	11.58	11.71	11.91	11.58	11.19

DRAWBAR HORSEPOWER TESTS

Hp	Draw bar pull lb	Speed miles per hr	Crank shaft speed rpm	Slip of drive wheels %	Fuel Consumption			Water used gal per hour	Temp Deg F		Barometer inches of mercury
					Gal per hour	Hp-hr per gal	Lb per hp-hr		Cooling med	Air	
TESTS F and G—100% MAXIMUM LOAD											
5.44	955	2.14	3207	10.84	.....	Not Recorded	.....	66	29.035	
5.70	491	4.35	3200	4.82	.....	Not Recorded	.....	64	29.035	
5.28	258	7.68	3204	2.51	.....	Not Recorded	.....	64	29.035	
TEST H—RATED LOAD—TEN HOURS—2nd Gear											
4.42	378	4.39	3198	3.92	0.716	6.17	0.988	Air Cooled	68	29.045	
TSST J—OPERATING MAXIMUM LOAD—2nd Gear											
5.15	454	4.26	3201	8.25	.....	Not Recorded	.....	87	28.995	
TEST K—OPERATING MAXIMUM LOAD—2nd Gear											
4.99	475	3.94	3198	11.89	.....	Not Recorded	.....	84	28.995	

FUEL, OIL and TIME Gasoline octane No ASTM 76 Research 82 (rating taken from oil company's typical inspection data); weight per gallon 6.096 lb Oil SAE 20 to motor 0.609 gal; drained from motor 0.498 gal Total time motor was operated 38 hours.

CHASSIS Type Standard Tread width rear 31" to 47" front 35" to 40" Wheel Base 55" Hydraulic control system none used Advertised speeds mph first 2 1/4 second 4 1/2 third 8 reverse 2 1/4 Belt pulley diam 2 9/16" 3 groove pulley for vee belts rpm 3200 Clutch single disc operated by foot pedal Seat pressed steel Brakes contracting band for each rear wheel operated by two independent hand levers Equalized none Power take-off none.

ENGINE Make Briggs and Stratton Type single cylinder vertical Serial No 138957 Crankshaft mounted lengthwise Head L Lubrication splash Bore and Stroke 3" x 3 1/4" Rated rpm 3200 Compression ratio 5.40 to 1 Displacement 22.97 cu in Port Diameter Valves inlet 1 1/8" exhaust 1 1/8" Governor variable speed centrifugal Carburetor Size 23/32" Ignition System magneto Starting System rope Air Cleaner oil washed moss Muffler was used Oil Filter none Cooling medium temperature control air cooled engine.

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 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, J and K were made with an operating setting of the carburetor (selected by the manufacturer) of 100% of maximum belt horsepower.

TIRES, WHEELS and WEIGHT

	Tests F, G, & H	Test J	Test K
Rear wheels			
Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	107 lb each	None	None
Added cast iron	144 lb each	None	None
Rear tires			
No. and size	Two 7-24	Two 7-24	Two 6-24
Ply	2	2	2
Air pressure	12 lb	12 lb	12 lb
Front wheels			
Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	11 lb each	None	None
Added cast iron	25 lb each	None	None
Front tires			
No. and size	Two 3.00-12	Two 3.00-12	Two 4.00-8
Ply	2	2	2
Air pressure	12 lb	12 lb	12 lb
Height of drawbar	15 inches	16 inches	15 1/2 inches
Static weight			
Rear end	1068 lb	566 lb	528 lb
Front end	370 lb	298 lb	270 lb
Total weight as tested with operator	1613 lb	1039 lb	973 lb

HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F and 29.92" Hg)	5.90	6.52
2. Observed maximum horsepower (tests F & B)	5.70	6.23
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)	4.43	5.54

We, the undersigned, certify that this is a true and correct report of official tractor test No. 483.

L. F. LARSEN
Engineer in Charge

C. W. SMITH
F. D. YUNG
L. W. HURLBUT
Board of Tractor
Test Engineers