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Test 479: Harris Power Horse 53

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The Experiment Station
University of Nebraska College of Agriculture
W. V. Lambert, Director, Lincoln, Nebraska

Department of Agricultural Engineering
Dates of test: July 27 to August 9, 1952
Manufacturer: HARRIS MANUFACTURING COMPANY, STOCKTON, CALIFORNIA
Manufacturer's rating: 45 maximum drawbar hp.

NEBRASKA TRACTOR TEST NO. 479

HARRIS POWER HORSE 53

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											
33.00	6160	2.01	1998	16.32	..... Not Recorded				171	76	29.070
49.01	5512	3.33	1997	11.74	..... Not Recorded				175	70	29.070
50.11	3816	4.92	2003	7.63	..... Not Recorded				165	70	29.070
39.04	974	15.03	2005	2.43	..... Not Recorded				168	71	29.080
TEST H—RATED LOAD—TEN HOURS—3rd Gear											
39.41	2930	5.04	1998	5.13	5.668	6.95	0.873	0.00	180	86	29.038
TEST J—OPERATING MAXIMUM LOAD—3rd Gear											
44.51	3670	4.55	1993	14.43	..... Not Recorded				198	95	28.910
TEST K—OPERATING MAXIMUM LOAD—3rd Gear											
37.93	3525	4.04	2002	15.74	..... Not Recorded				174	82	28.900

FUEL, OIL and TIME Gasoline octane No ASTM 76 Research 82 (rating taken from oil company's typical inspection data); weight per gallon 6.071 lb **Oil** SAE 20 to motor 1.246 gal; drained from motor 1.049 gal **Total time motor was operated** 30½ hours.

CHASSIS Type 4 wheel drive **Serial No** PH43461 **Tread width rear** 48" to 76" front 48" to 76" **Wheel Base** 54" **Hydraulic control system** not available **Advertised speeds mph** first 2.4 second 3.79 third 5.33 fourth 15.4 reverse 1.97 **Belt pulley** not available **Seat** upholstered **Brakes** external contracting band operated by one foot pedal **Power take-off** not available.

ENGINE Make Chrysler Ind. 8A **Type** 6 cylinder vertical **Serial No** 60625 **Crankshaft mounted** lengthwise **Head** L **Lubrication** pressure **Bore and Stroke** 3 7/16" x 4 1/2" **Rated rpm** 2000 **Compression ratio** 6.6 to 1 **Displacement** 250.6 cu in **Port Diameter Valves** inlet 1 3/8" exhaust 1 5/16" **Governor** variable speed centrifugal **Carburetor Size** 1½" **Ignition System** battery **Starting System** 6 volt battery **Air Cleaner** oil washed wire gauze **Muffler** none used **Oil Filter** with replaceable element **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. Test F was made with carburetor set for 100% maximum drawbar horsepower and data from this test were used in determining the horsepower to be developed in test H. Tests G, H, J and K were made with the same setting of the carburetor.

No belt tests were made on this tractor as belt pulley was not available.

TIRES, WHEELS and WEIGHT

	Tests F, G, & H	Test J	Test K
Rear wheels Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	319 lb each	None	None
Added cast iron	520 lb each	None	None
Rear tires No. and size	Two 13-24	Two 13-24	Two 11-24
Ply	4	4	4
Air pressure	12 lb	12 lb	12 lb
Front wheels Type	Pressed steel	Pressed steel	Pressed steel
Liquid ballast	346 lb each	None	None
Added cast iron	920 lb each	None	None
Front tires No. and size	Two 13-24	Two 13-24	Two 11-24
Ply	4	4	4
Air pressure	12 lb	12 lb	12 lb
Height of drawbar	12 inches	13 inches	11 inches
Static weight Rear end	4148 lb	2470 lb	2394 lb
Front end	5262 lb	2730 lb	2626 lb
Total weight as tested with operator	9585 lb	5375 lb	5195 lb

HORSEPOWER SUMMARY

	Drawbar
1. Sea level (calculated) maximum horsepower (based on 60° F and 29.92" Hg)	52.07
2. Observed maximum horsepower (test F)	50.11
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)	39.05

We, the undersigned, certify that this is a true and correct report of official tractor test No. 479.

L. F. LARSEN
Engineer in Charge

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