

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.
Larsen

January 1952

Test 479: Harris Power Horse 53

Follow this and additional works at: <http://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

"Test 479: Harris Power Horse 53" (1952). *Nebraska Tractor Tests*. 596.
<http://digitalcommons.unl.edu/tractormuseumlit/596>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

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.

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