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January 1949

## Test 408: Gibson Model I

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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UNIVERSITY OF NEBRASKA - AGRICULTURAL ENGINEERING DEPARTMENT  
 AGRICULTURAL COLLEGE, LINCOLN

Copy of Report of Official Tractor Test No. 408

Dates of test: May 8, 1949 to May 12, 1949  
 Name and model of tractor: GIBSON MODEL "I"  
 Manufacturer: THE GIBSON MANUFACTURING CORP., LONGMONT, COLORADO  
 Manufacturer's rating: 40 HP.

HORSEPOWER SUMMARY

	DRAWBAR	BELT
1. Sea level (calculated maximum horsepower based on 60°F. and 29.92" Hg.)	38.12	43.05
2. Observed maximum horsepower (tests F and B)	36.73	41.03
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)	28.59	36.59

REMARKS

No repairs or adjustments.

FUEL, OIL, AND TIME

Fuel Gasoline      Octane 74 \*      Weight per gallon 6.116  
Oil SAE 30      To motor 1.500 gal.      Drained from motor 1.134 gal.  
Total time motor was operated 44 hours

\* Octane rating taken from oil company's typical inspection data.

We, the undersigned, certify that this is a true and correct report of official tractor test No. 408.

L. F. Larson  
 Engineer in Charge

C. W. Smith

L. W. Hurlbut

F. D. Yung

BOARD OF TRACTOR TEST ENGINEERS

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All results shown on pages 2 and 3 of this report 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 and J were made with an operating setting of the carburetor (selected by the manufacturer) of 96.1% of maximum belt horsepower.

B E L T   H O R S E P O W E R   T E S T S

Horse- power	Crank shaft speed  rpm	Fuel Consumption			Water used  gal per hr	Temperature		Barometer  Inches of Mercury
		gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med F	Air ° F	

TEST B - 100% MAXIMUM LOAD - TWO HOURS

41.03	1798	4.209	9.75	0.627	0.00	178	76	28.950
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TEST C - OPERATING MAXIMUM LOAD - ONE HOUR

39.50	1802	3.918	10.08	0.607	0.00	173	75	28.980
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\*TEST D - ONE HOUR

36.82	1800	3.638	10.12	0.604	0.00	171	73	28.980
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TEST E - VARYING LOAD - TWO HOURS (20 minute runs; last line average)

36.74	1798	3.610	10.18	0.601	- - -	170	72	- - - -
1.91	1936	1.702	1.12	5.450	- - -	158	71	- - - -
19.39	1891	2.629	7.37	0.829	- - -	163	71	- - - -
36.77	1607	3.557	10.34	0.592	- - -	171	71	- - - -
9.77	1903	2.153	4.54	1.348	- - -	160	70	- - - -
28.36	1848	3.134	9.05	0.676	- - -	165	70	- - - -
22.16	1830	2.798	7.92	0.772	0.00	164	71	28.990

\* Formerly called RATED LOAD, see HORSEPOWER SUMMARY 3, page 1.

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D R A W B A R   H O R S E P O W E R   T E S T S

Horse- power	Draw bar pull lb	Speed  mph	Crank shaft speed rpm	Slip on drive wheels %	Fuel Consumption			Water used  gal per hr	Temperature		Barometer  Inches of Mercury
					gal per hr	hp-hr per gal	lb per hp-hr		Cool- ing med °F.	Air °F.	

TEST F - 100% MAXIMUM LOAD - 3rd GEAR

36.73	3458	3.98	1804	7.02	-----Not Recorded-----				170	70	29.100
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TEST G - OPERATING MAXIMUM LOAD

19.88	4572	1.63	1793	15.27	-----Not Recorded-----				162	80	29.020
31.88	4676	2.56	1809	16.22	-----Not Recorded-----				170	74	29.020
35.52	3317	4.02	1803	6.24	-----Not Recorded-----				170	70	28.970
33.62	1043	12.09	1802	2.26	-----Not Recorded-----				167	78	28.970

\*TEST H - TEN HOURS - 3rd GEAR

29.12	2682	4.07	1798	4.63	3.244	8.98	0.681	0.00	161	69	29.050
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TEST J - OPERATING MAXIMUM LOAD - 3rd GEAR

23.38	2403	3.65	1799	15.30	-----Not Recorded-----				162	78	29.020
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\* Formerly called RATED LOAD; see POWER SUMMARY 3, page 1.

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TIRES, WHEELS, and WEIGHT

	Tests F, G, & H	Test
Rear Wheel: Type	Steel Disc	Steel Disc
(each)		
Liquid Ballast	441 lb.	None
Added Cast Iron	1050 lb.	None
Rear Tires: No. Size & Ply	2 12-38 6 ply	2 12-38 6 ply
Type of Tread	Sure Grip	Sure Grip
Make	Goodyear	Goodyear
Air Pressure	16 lb.	12 lb.
Front Wheel: Type	Steel Disc	Steel Disc
(each)		
Liquid Ballast	None	None
Added Cast Iron	None	None
Front Tires: No. Size & Ply	2 5.50-16 4 ply	2 5.50-16 4 ply
Type of Tread	Triple Rib	Triple Rib
Make	Goodyear	Goodyear
Air Pressure	28 lb.	28 lb.
Height of Drawbar	17 inches	17 1/2 inches
Static Weight: Rear End	5762 lb.	2780 lb.
Front End	1558 lb.	1557 lb.
Total Weight as Tested (with operator)	7495 lb.	4512 lb.

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## SPECIFICATIONS

Type Tricycle Serial No. 776167 Drive Enclosed Gear

Tread width: Rear 49 in. to 90 in. Front 9 in. Wheel Base 94 in.

Advertised speeds, miles per hour: First 2 Second 3.5 Third 5.1  
Fourth 14.7 Reverse 2.3

Belt pulley: Diam. 9 3/16 in. Face 7 1/2 in. RPM 1487 Belt speed 3539 fpm

Clutch: Make Rockford Type Single Disc Operated by Foot pedal

Seat Pressed Stool Hydraulic Control: Yes

Brakes: Make Own Type Contracting Band  
Location Bull Pinion Shaft  
Gear reduction (brake drum to rear wheel) 3.71 to 1  
Operated by Foot Pedals  
Locked by Latches  
Equalization None. Brakes can be locked together.

Engine: Make Hercules Serial No. 776167 Type 6 cylinder vortical  
Head L Mounting Crankshaft lengthwise Lubrication Pressure  
Bore & stroke 3 7/16 in. x 4 1/8 in. Rated rpm 1800 Compression ratio 6.71:1  
Port Diameter Valves: Inlet 1 1/2 in. Exhaust 1 1/4 in.  
Distributor & Coil: Make Delco-Remy Battery National 6-Volt  
Starter: Make Delco-Remy  
Carburetor: Make Marvel-Schobler Model TSX389 Size 1 1/4 in.  
Governor: Make Novi Type Flyweight, variable speed  
Air Cleaner: Make Vortex Type Wire mesh  
Oil Filter: Make Fram Type Waste packed  
Cooling medium temperature control: Thermostat