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January 1949

## Test 422: Corbitt Model G-50

Nebraska Tractor Test Lab

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

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# Department of Agricultural Engineering

Dates of test: August 29 to September 3, 1949

Manufacturer: THE CORBITT COMPANY, Henderson, North Carolina

Manufacturer's rating: Not Rated

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

NEBRASKA TRACTOR TEST NO. 422

CORBITT G-50

## BELT HORSE POWER TESTS

H. P.	Crank shaft speed R. P. M.	Fuel Consumption			Water used Gal. per hour	Temp. Deg. F.		Barometer Inches of Mercury
		Gal. per hour	H. P. hr. per gal.	Lb. per H. P. hour		Cooling med.	Air	
TEST B—100% MAXIMUM LOAD—TWO HOURS								
34.63	1799	3.683	9.40	0.652	0.00	169	73	28.960
TEST C—OPERATING MAXIMUM LOAD—ONE HOUR								
33.83	1800	3.323	10.18	0.602	0.00	172	76	28.965
*TEST D—ONE HOUR								
31.00	1800	3.191	9.71	0.631	0.00	169	78	28.990
TEST E—VARYING LOAD—TWO HOURS (20 minute runs; last line average)								
31.03	1798	3.163	9.81	0.625	- - -	170	78	-- ---
1.85	1858	1.464	1.26	4.849	- - -	158	78	-- ---
15.58	1830	2.105	7.40	0.828	- - -	154	78	-- ---
33.43	1767	3.241	10.31	0.594	- - -	176	80	-- ---
7.88	1829	1.738	4.53	1.352	- - -	148	79	-- ---
23.13	1799	2.561	9.03	0.678	- - -	162	79	-- ---
18.82	1813	2.379	7.91	0.774	0.00	161	79	29.003

## DRAWBAR HORSE POWER TESTS

H. P.	Draw bar pull Lbs.	Speed miles per hr.	Crank shaft speed R. P. M.	Slip of drive wheels %	Fuel Consumption			Water used Gal. per hr.	Temp. Deg. F.		Barometer Inches of Mercury
					Gal. per hour	Hp.-hr. per Gal.	Lb. per Hp.-hr.		Cooling med.	Air	
TEST F—100% MAXIMUM LOAD— 2nd GEAR											
30.74	2766	4.17	1803	6.31	Not Recorded				165	76	28.960
TEST G—OPERATING MAXIMUM LOAD											
29.13	3556	2.65	1800	13.82	Not Recorded				160	76	28.960
30.04	2700	4.17	1803	6.23	" "				165	77	28.960
29.90	1898	5.91	1803	4.45	" "				163	76	28.960
26.59	839	11.89	1800	2.71	" "				160	76	28.955
*TEST H—TEN HOURS— 2nd GEAR											
24.58	2205	4.18	1798	5.80	2.826	8.70	0.704	0.00	159	73	28.933
TEST J—OPERATING MAXIMUM LOAD - 2nd GEAR											
20.49	1961	3.92	1800	13.11	Not Recorded				160	80	28.965
TEST K—OPERATING MAXIMUM LOAD - 2nd GEAR											
*Wheels of lightest weight and smallest tires suggested by the manufacturer.											
18.63	1879	3.72	1800	14.37	Not Recorded				159	78	28.965

## TIRES, WHEELS and WEIGHT

		Tests F, G & H		Test I	Test K
Rear Wheel: (each)	Type	Pressed Steel		Pressed Steel	Pressed Steel
	Liquid Ballast	317 lb		None	None
	Added Cast Iron	750 lb		None	None
Rear Tires:	No., Size and Ply	2 11-38 4 ply		2 11-38 4 ply	2 10-38 4 ply
	Type of Tread	Farm Tractor		Farm Tractor	Angle Action
	Make	U. S. Royal		U. S. Royal	General
	Air Pressure	12 lb		12 lb	12 lb
Front Wheel: (each)	Type and Weight	Pressed Steel		Pressed Steel	Pressed Steel
	Liquid Ballast	None		None	None
	Added Cast Iron	None		None	None
Front Tires:	No., Size and Ply	2 6.00-16 4 ply		2 6.00-16 4 ply	2 5.50-16 4 ply
	Type of Tread	Tri-Rib		Tri-Rib	Tri-Rib
	Make	U. S. Royal		U. S. Royal	U. S. Royal
	Air Pressure	28 lb		28 lb	28 lb
Height of Drawbar		17 inches		18 inches	17 inches
Static Weight: Rear End		4286 lb		2152 lb	2138 lb
Front End		1238 lb		1240 lb	1230 lb
Total Weight as Tested (With operator)		5699 lb		3567 lb	3543 lb

\*Formerly called RATED LOAD, see horsepower summary.

FUEL, OIL and TIME Fuel: Gasoline, octane 74 (octane rating taken from oil company's typical inspection data); weight per gallon 6.127 lb. Oil: SAE 30; to motor 1.998 gal; drained from motor 1.469 gal. Total time motor was operated 43 hrs.

SPECIFICATIONS Type tricycle; Serial No. 5047; Drive enclosed gear. Tread Width: Rear 56" to 84"; Front 8". Wheel Base 86". Hydraulic Lift Control not available. Advertised speeds, mph (calculated at 1500 rpm); First 2.5; Second 3.6; Third 5.0; Fourth 10.0; Reverse 3.2. Belt Pulley: Diam 8"; Face 6 1/2"; RPM 1450; Belt Speed 3037 fpm. Clutch: Make Borg & Beck; Type dry disc; Operated by foot pedal. Seat pressed steel. Brakes: Make Wisconsin Axle; Type external and internal shoe; Location differential shaft; Gear Reduction (brake drum to rear wheel) 5.100:1; Operated by foot pedals; Locked by latch on tractor frame; Equalization none (brakes may be locked together).

ENGINE Make LeRoi; Serial No. 25X4256; Type 4 cylinder vertical; Head I; Mounting crankshaft lengthwise; Lubrication pressure; Bore and Stroke 3 3/4" x 4"; Rated RPM 1800, Compression Ratio 5.44:1. Port Diameter Valves: Inlet 1 3/8"; Exhaust 1 3/8". Governor: Make LeRoi; Type centrifugal, variable speed. Carburetor: Make Zenith; Model 62AJ9; Size 1". Distributor and Coil Delco-Remy. Battery Exide 6 volt. Air Cleaner: Make United; Type oil washed wire screen with precleaner. Oil Filter: Make Purolator; Type replaceable cartridge. Cooling medium temperature control: Thermostat.

REPAIRS AND ADJUSTMENTS Transmission leaked oil at shift lever socket. A welded joint on muffler came loose during Test G.

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 98.0% of maximum belt horsepower.

## HORSEPOWER SUMMARY

	Draw-bar	Belt
1. Sea level (calculated) maximum horsepower (based on 60° F. and 29.92" Hg.)	32.24	36.22
2. Observed maximum horsepower (tests B & F)	30.74	34.63
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)	24.18	30.79

We, the undersigned, certify that this is a true and correct report of official tractor test No. 422.

I. F. Larsen  
Engineer in Charge

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