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January 1974

Test 1162: Steiger Bearcat II

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1162 – STEIGER BEARCAT II

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption			Temp Degrees F			Barometer
					Gal per hr	Lb per hp-hr	Hp-hr per gal	Cool- ing med	Air wet bulb	Air dry bulb	inches of Mercury

VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—6th Gear (1-Hi)											
178.24	10179	6.57	2797	2.96	13.931	0.541	12.79	179	56	61	28.945
75% of Pull at Maximum Power—Ten Hours—6th Gear (1-Hi)											
149.01	7791	7.17	3031	2.23	12.051	0.560	12.37	177	63	72	28.948
50% of Pull at Maximum Power—Two Hours—6th Gear (1-Hi)											
101.70	5175	7.37	3091	1.47	9.402	0.640	10.82	177	64	76	28.960
50% of Pull at Reduced Engine Speed—Two Hours—9th Gear (4-Hi)											
100.96	5167	7.33	1510	1.43	6.731	0.462	15.00	183	65	84	28.940

MAXIMUM POWER WITH BALLAST

149.03	22622	2.47	3010	14.95	2nd Gear (2-Lo)			179	59	67	29.170
166.65	20117	3.11	2795	8.81	3rd Gear (3-Lo)			179	55	66	29.160
175.51	16113	4.08	2801	5.24	4th Gear (4-Lo)			180	62	70	28.960
179.12	13140	5.11	2800	4.04	5th Gear (5-Lo)			180	59	64	28.955
180.69	10315	6.57	2799	3.04	6th Gear (1-Hi)			180	58	65	28.950
175.66	7791	8.46	2801	2.26	7th Gear (2-Hi)			181	62	71	28.970

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST— 6th Gear (1-Hi)

Pounds Pull	10315	11151	11870	12575	12941	13126	13213	12619
Horsepower	180.69	175.63	164.70	152.30	134.95	114.49	91.00	67.75
Crankshaft Speed rpm	2799	2523	2228	1951	1682	1409	1113	869
Miles Per Hour	6.57	5.91	5.20	4.54	3.91	3.27	2.58	2.01
Slip of Drivers %	3.04	3.35	3.51	3.81	3.96	4.12	4.12	4.27

TRACTOR SOUND LEVEL (with cab) dB(A)

Maximum Available Power 2 Hours	86.5
75% of Pul at Max. Power 10 Hours	86.5
50% of Pull at Max. Power 2 Hours	85.0
50% of Pull at Reduced Engine Speed 2 Hours	81.5
Bystander (10th Gear 5-Hi)	93.5

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi	Four 23.1-30; 8; 12	Four 23.1-30; 8; 12
Ballast	—Liquid	None	None
	Cast Iron	None	None
Front Tires	—No., size, ply & psi	Four 23.1-30; 8; 12	Four 23.1-30; 8; 12
Ballast	—Liquid	396 lb each	None
	Cast Iron	None	None
Height of drawbar		17 inches	17 inches
Static weight with operator—rear		9070 lb	9070 lb
front		13950 lb	12365 lb
total		23020 lb	21435 lb

Department of Agricultural Engineering

Dates of Test: September 13 to September 20, 1974

Manufacturer: STEIGER TRACTOR, INC., FARGO, NORTH DAKOTA

FUEL, OIL AND TIME Fuel No 2 Diesel Cetane No 51.9 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8319 Weight per gallon 6.927 lb Oil SAE 30 API service classification CD, CC, CB, CA, SE, SD, SC and SB To motor 3.568 gal Drained from motor 1.693 gal Transmission and Power Divider Special 303 oil Front and rear axle SAE 90 Total time engine was operated 39 hours.

ENGINE Make Caterpillar 3208 Diesel Type eight cylinder Vee Serial No 90M 2610 Crankshaft Mounted lengthwise Rated rpm 2800 Bore and stroke 4.5" x 5.00" Compression ratio 16.5 to 1 Displacement 636 cu in Cranking system 12 volt electric Lubrication pressure Air cleaner precleaner and two replaceable dry type treated paper elements, one primary, one safety Oil filter full flow with two replaceable screw-on paper cartridges Oil cooler engine coolant heat exchanger Fuel filter one replaceable screw-on paper cartridge Mufflers two horizontal Cooling medium temperature control two thermostats.

CHASSIS Type four-wheel drive Serial No 55061 Tread width rear 64 1/4 to 84 1/2" front 64 1/4 to 84 1/2" Wheel base 118" Center of gravity (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from center-line of rear wheels 68.5" Vertical distance above roadway 44.5" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission selective gear fixed ratio Advertised speeds mph first 2.0 second 2.6 third 3.2 fourth 4.1 fifth 5.0 sixth 6.4 seventh 8.2 eighth 10.3 ninth 13.0 tenth 16.1 reverse 1.9 and 5.9. Clutch dry double disc operated by foot pedal Brakes caliper disc brake on drive line operated hydraulically by foot pedal Steering hydrostatic Turning radius (on concrete surface without brake) right 220" left 220" Turning space diameter (on concrete surface without brake) right 492" left 492".

REPAIRS AND ADJUSTMENTS: As the two hour 50% run was nearing completion a fuel spray was observed coming from the engine. After stopping, inspection revealed a cracked brass fitting on the return fuel line. The fitting was replaced and the 50% run was repeated.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure.

First gear was not run as it was necessary to limit the pull in second gear due to excessive slippage.

Eighth, ninth and tenth gears were not run as test procedure requires only six travel speeds.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1162.

L. L. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers

E. F. Frolik, Dean; H. W. Ottoson, Director; Lincoln, Nebraska
The University of Nebraska Agricultural Experiment Station