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January 1971

Test 1079: Steiger Bearcat Diesel 10-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1079 — STEIGER BEARCAT DIESEL 10 SPEED

DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption		Hp-hr per gal	Temp Cool- ing med	Degrees F		Barometer inches of Mercury
					Gal per hr	Lb per hp-hr			Air wet bulb	Air dry bulb	
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—4th Gear											
158.91	12961	4.60	2797	5.40	12.314	0.540	12.91	189	53	64	29.040
75% of Pull at Maximum Power—Ten Hours—4th Gear											
129.91	9827	4.96	2968	3.93	10.428	0.560	12.46	192	70	81	28.665
50% of Pull at Maximum Power—Two Hours—4th Gear											
91.44	6708	5.11	3019	2.61	8.281	0.632	11.04	191	68	85	28.625
50% of Pull at Reduced Engine Speed—Two Hours—6th Gear											
93.02	6807	5.12	1923	2.65	6.094	0.457	15.26	191	68	83	28.620

MAXIMUM POWER WITH BALLAST

147.40	21287	2.60	2797	14.80	2nd Gear	194	60	80	28.740
156.78	16437	3.58	2799	7.31	3rd Gear	192	66	73	28.730
162.74	13249	4.61	2798	5.26	4th Gear	189	55	72	29.040
165.64	10790	5.76	2799	4.35	5th Gear	191	55	70	29.040
164.39	8311	7.42	2802	3.05	6th Gear	191	69	77	28.710
161.62	6373	9.51	2793	2.24	7th Gear	192	68	76	28.700

MAXIMUM PULL WITHOUT BALLAST

136.52	18873	2.71	2939	14.81	2nd Gear	186	60	82	29.040
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VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST 4th Gear

Pounds Pull	13249	13874	14563	15144	15699	16075	15777
Horsepower	162.74	153.32	141.80	127.90	113.76	96.38	74.94
Crankshaft Speed rpm	2798	2523	2243	1948	1676	1392	1102
Miles Per Hour	4.61	4.14	3.65	3.17	2.72	2.25	1.78
Slip of Drivers %	5.26	5.40	6.23	6.37	6.78	7.04	6.91

TRACTOR SOUND LEVEL WITH CAB

	dB(A)
Maximum Available Power 2 Hours	89.5
75% of Pull at Max. Power 10 Hours	90.5
50% of Pull at Max. Power 2 Hours	91.5
50% of Pull at Reduced Engine Speed 2 Hours	86.0
Bystander (10th gear)	92.5

TIRES, BALLAST and WEIGHT

		With Ballast	Without Ballast
Rear tires	—No, size, ply & psi	Four 23.1-26; 8; 12*	Four 23.1-26; 8; 12*
Ballast	—Liquid	424 lb each inner	None
	—Cast iron	None	None
Front tires	—No, size, ply & psi	Four 23.1-26; 8; 12*	Four 23.1-26; 8; 12*
Ballast	—Liquid	1120 lb each inner	None
	—Cast iron	None	None
Height of drawbar		17½ inches	17½ inches
Static weight with operator—rear		8810 lb	7964 lb
	—front	13840 lb	11600 lb
	—total	22650 lb	19564 lb

* Manufacturers recommended tire pressure when using duals

Department of Agricultural Engineering

Dates of Test: September 27 to October 5, 1971
Manufacturer: STEIGER TRACTOR INC.,
 Fargo, North Dakota

FUEL, OIL and TIME: Fuel No 2 Diesel
 Cetane No. 53.5 (rating taken from oil company's
 typical inspection data) **Specific gravity con-**
verted to 60°/60° 0.8376 **Weight per gallon** 6.974
 lb **Oil SAE 10W-40 API service classification**
 SD (formerly MS) **To motor** 3.587 gal **Drained**
from motor 2.274 gal **Transmission lubricant**
 SAE 50 **Final drive lubricant** SAE 90 **Total time**
engine was operated 44 hours

ENGINE: Make Caterpillar Diesel **Type** eight
 cylinder Vee **Serial No** 98M1772 **Crankshaft**
mounted lengthwise **Rated rpm** 2800 **Bore and**
stroke 4.5" × 5.0" **Compression ratio** 16.5 to 1
Displacement 636 cu in **Cranking system** 12 volt
 electric **Lubrication pressure** **Air cleaner** two
 paper elements with centrifugal precleaner **Oil**
filter full flow with two replaceable paper car-
 tridges **Oil cooler** engine coolant heat exchanger
 for crankcase oil, radiator for transmission oil
Fuel filter one replaceable paper cartridge **Muf-**
flers two underhood **Exhausts** vertical **Cooling**
medium temperature control two thermostats

CHASSIS: **Type** four-wheel drive with duals
Serial No. 2159 **Tread width** rear 78" to 118"
 front 78" to 118" **Wheel base** 118" **Center of**
gravity (without operator or ballast, with mini-
 mum tread, with fuel tank filled and tractor serv-
 iced for operation) Horizontal distance forward
 from centerline of rear wheels 70.0" Vertical dis-
 tance above roadway 66" Horizontal distance from
 center of rear wheel tread 0" to the right/left **Hy-**
draulic control system direct engine drive **Trans-**
mission selective gear fixed ratio **Advertised**
speeds mph first 2.4 second 3.1 third 3.8 fourth
 4.8 fifth 6.0 sixth 7.8 seventh 9.8 eighth 12.6 ninth
 15.7 tenth 19.3 reverse 2.2 and 7.2 **Clutch** dry
 double disc operated by foot pedal **Brakes** caliper
 disc brake on drive line operated hydraulically by
 foot pedal **Steering** hydrostatic and articulated
Turning radius (on concrete surface without
 brake) right 180° left 180° **Turning space dia-**
meter (on concrete surface without brake) right
 416" left 416" **Power take-off** none.

REPAIRS AND ADJUSTMENTS: The valve
 stem on the inside right rear inner tube failed and
 a new tube was installed.

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 neces-
 sary to limit the pull in second gear to avoid exces-
 sive wheel slippage. Eighth, ninth and tenth gears
 were not run as test procedure requires only six
 gears.

We, the undersigned, certify that this is a true
 and correct report of official Tractor Test 1079.

L. F. LARSEN

Engineer-In-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers