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Test 1463: Steiger Panther KP-1400 Diesel 12-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1463 — STEIGER PANTHER KP-1400 DIESEL
12 SPEED

DRAWBAR PERFORMANCE AT 2100 RPM

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 7th Gear											
327.93 (244.54)	18114 (80.57)	6.79 (10.93)	2100	2.58	20.666 (78.229)	0.440 (0.267)	15.87 (3.126)	175 (79.4)	47 (8.1)	54 (11.9)	28.860 (97.456)
75% of Pull at Maximum Power—Ten Hours 7th Gear											
258.98 (193.12)	13718 (61.02)	7.08 (11.39)	2177	2.04	17.816 (67.442)	0.480 (0.292)	14.54 (2.864)	171 (77.2)	31 (−0.3)	32 (0.1)	28.998 (97.922)
50% of Pull at Maximum Power—Two Hours 7th Gear											
176.77 (131.82)	9146 (40.68)	7.25 (11.66)	2217	1.54	14.608 (55.297)	0.576 (0.351)	12.10 (2.384)	170 (76.4)	20 (−6.9)	21 (−6.4)	29.260 (98.807)
50% of Pull at Reduced Engine Speed—Two Hours 9th Gear											
176.75 (131.80)	9146 (40.68)	7.25 (11.66)	1559	1.45	11.722 (44.373)	0.463 (0.281)	15.08 (2.970)	171 (76.9)	24 (−4.4)	25 (−3.9)	29.280 (98.874)

MAXIMUM POWER IN SELECTED GEARS

278.39 (207.60)	40803 (181.50)	2.56 (4.12)	2139	14.40	2nd Gear			175 (79.2)	59 (15.0)	63 (17.2)	28.400 (95.903)
322.44 (240.44)	37909 (168.63)	3.19 (5.13)	2099	8.11	3rd Gear			174 (78.9)	58 (14.4)	61 (16.1)	28.390 (95.869)
329.80 (245.93)	31356 (139.48)	3.94 (6.35)	2100	5.54	4th Gear			175 (79.4)	58 (14.4)	62 (16.7)	28.400 (95.903)
333.18 (248.45)	25935 (115.36)	4.82 (7.75)	2101	3.88	5th Gear			176 (80.0)	59 (15.0)	63 (17.2)	28.430 (96.004)
330.32 (246.32)	21671 (96.40)	5.72 (9.20)	2099	3.72	6th Gear			175 (79.4)	58 (14.4)	62 (16.7)	28.400 (95.903)
331.28 (247.03)	18291 (81.36)	6.79 (10.93)	2100	2.58	7th Gear			175 (79.4)	46 (7.8)	52 (11.1)	28.870 (97.490)
330.90 (246.75)	15184 (67.54)	8.17 (13.15)	2098	2.17	8th Gear			175 (79.2)	51 (10.6)	56 (13.3)	28.500 (96.240)

LUGGING ABILITY IN 7th GEAR

Crankshaft Speed rpm	2100	1890	1684	1470	1249	1053
Pull—lbs (kN)	18291 (81.36)	21264 (94.59)	22755 (101.22)	23999 (106.75)	23247 (103.41)	21084 (93.79)
Increase in Pull %	0	16	24	31	27	15
Power—Hp (kW)	331.28 (247.03)	344.48 (256.88)	327.52 (244.23)	300.69 (224.22)	247.64 (184.67)	190.06 (141.73)
Speed—Mph (km/h)	6.79 (10.93)	6.07 (9.78)	5.40 (8.69)	4.70 (7.56)	3.99 (6.43)	3.38 (5.44)
Slip %	2.58	3.24	3.40	3.88	3.72	3.24

	1700 RPM	1900 RPM	2100 RPM
TRACTOR SOUND LEVEL WITH CAB	dB(A)	dB(A)	dB(A)
Maximum Available Power—Two Hours	74.5	75.0	76.0
75% of Pull at Maximum Power—Ten Hours			77.0
50% of Pull at Maximum Power—Two Hours			75.5
50% of Pull at Reduced Engine Speed—Two Hours			74.0
Bystander in 12th gear			94.0

SUPPLEMENTARY TESTS
DRAWBAR PERFORMANCE AT 1900 RPM

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 7th Gear											
346.40 (258.31)	21275 (94.64)	6.11 (9.83)	1900	3.20	20.792 (78.704)	0.419 (0.255)	16.66 (3.282)	175 (79.4)	47 (8.1)	54 (12.2)	28.810 (97.287)
MAXIMUM POWER IN SELECTED GEARS											
315.03 (234.92)	41516 (184.67)	2.85 (4.58)	2006	14.21	3rd Gear			175 (79.4)	59 (15.0)	63 (17.2)	28.390 (95.869)
337.20 (251.45)	36062 (160.41)	3.51 (5.64)	1899	7.14	4th Gear			176 (80.0)	58 (14.4)	62 (16.7)	28.400 (95.903)
345.62 (257.73)	30050 (133.67)	4.31 (6.94)	1898	4.60	5th Gear			176 (80.0)	59 (15.0)	63 (17.2)	28.410 (95.936)
345.63 (257.74)	25189 (112.05)	5.15 (8.28)	1900	4.20	6th Gear			176 (80.0)	58 (14.4)	62 (16.7)	28.400 (95.903)
348.78 (260.08)	21406 (95.22)	6.11 (9.83)	1901	3.15	7th Gear			175 (79.4)	47 (8.3)	55 (12.8)	28.830 (97.355)
345.90 (257.93)	17585 (78.22)	7.38 (11.87)	1901	2.58	8th Gear			176 (79.7)	51 (10.6)	56 (13.3)	28.500 (96.240)
344.11 (256.60)	14707 (65.42)	8.77 (14.12)	1899	2.00	9th Gear			175 (79.4)	52 (11.1)	57 (13.9)	28.490 (96.206)

Department of Agricultural Engineering

Dates of Test: November 17 to December 7, 1982

Manufacturer: STEIGER TRACTOR INC., 406
Main Avenue, Fargo, North Dakota 58126

FUEL, OIL AND TIME: Fuel No. 2 Diesel
Cetane No. 46.6 (rating taken from oil company's
inspection data) Specific gravity converted to 60°/
60° (15°/15°) 0.8376 Fuel weight 6.974 lbs/gal
(0.836 kg/l) Oil SAE 15W-40 API service classi-
fication CA-CD/SB-SE To motor 8.396 gal
(31.784 l) Drained from motor 7.631 gal
(28.887 l) Transmission and hydraulic lubricant
SAE 10 hydraulic-transmission fluid Final drive
lubricant SAE 85W90 Total time engine was
operated 58.5 hours.

ENGINE: Make Cummins Diesel Type six
cylinder vertical with turbocharger and intercool-
er Serial No. 11059660 Crankshaft lengthwise
Rated rpm 1700 to 2100 Bore and stroke 5.5" ×
6.0" (139.7 mm × 152.4 mm) Compression ratio
14.1 to 1 Displacement 855 cu in (14011 ml)
Starting system 12 volt Lubrication pressure Air
cleaner two paper elements with aspirator Oil fil-
ter one full flow cartridge and one bypass car-
tridge Oil cooler engine coolant heat exchanger
for crankcase oil, radiator for hydraulic and trans-
mission oil Fuel filter two paper cartridges Muf-
fler vertical Cooling medium temperature con-
trol one thermostat.

CHASSIS: Type four wheel drive with duals
Serial No. P40000504- Tread width rear 85.5"
(2172 mm) to 160.9" (4087 mm) front 85.5" (2172
mm) to 160.9" (4087 mm) Wheel base 141.5" (3594
mm) Center of gravity (without operator or bal-
last, with minimum tread, with fuel tank filled and
tractor serviced for operation) Horizontal distance
forward from center-line of rear wheels 81.6"
(2073 mm) Vertical distance above roadway 44.1"
(1120 mm) Horizontal distance from center of rear
wheel tread 0" (0 mm) to the right/left Hydraulic
control system direct engine drive Transmission
selective gear fixed ratio with full range operator
controlled powershift Advertised speeds mph
(km/h) first 2.4 (3.9) second 2.9 (4.7) third 3.4 (5.5)
fourth 4.1 (6.6) fifth 4.9 (7.9) sixth 5.8 (9.3)
seventh 6.8 (10.9) eighth 8.2 (13.2) ninth 9.6
(15.4) tenth 11.6 (18.7) eleventh 14.0 (22.5)
twelfth 16.5 (26.5) reverse 3.0 (4.8), 5.1 (8.2)
Clutch multiple wet disc hydraulically power actu-
ated and operated by foot pedal Brakes dual
caliper disc hydraulically operated by foot pedal
and mechanically by hand lever Steering hy-
drostatic and articulated Turning radius (on con-
crete surface without brake) right 285" (7.24 m)
left 285" (7.24 m) Turning space diameter (on
concrete surface without brake) right 602" (15.29
m) left 602" (15.29 m) Power take-off none.

REPAIRS and ADJUSTMENTS: No repairs or
adjustments.

DRAWBAR PERFORMANCE AT 1700 RPM

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			Barom. inch Hg (kPa)
					gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Air wet bulb	Air dry bulb	
Maximum Available Power—Two Hours 7th Gear											
331.83 (247.45)	22855 (101.66)	5.44 (8.76)	1700	3.48	19.447 (73.616)	0.409 (0.249)	17.06 (3.361)	175 (79.2)	49 (9.2)	52 (11.1)	28.515 (96.291)
MAXIMUM POWER IN SELECTED GEARS											
315.35 (235.16)	41834 (186.08)	2.83 (4.55)	1991	14.02			3rd Gear	175 (79.4)	58 (14.4)	61 (16.1)	28.390 (95.869)
320.52 (239.01)	38831 (172.73)	3.10 (4.98)	1703	8.55			4th Gear	176 (79.7)	58 (14.4)	62 (16.7)	28.400 (95.903)
330.41 (246.39)	32321 (143.77)	3.83 (6.17)	1700	5.46			5th Gear	177 (80.6)	60 (15.6)	64 (17.8)	28.400 (95.903)
332.62 (248.04)	27206 (121.02)	4.58 (7.38)	1700	4.52			6th Gear	177 (80.3)	58 (14.4)	62 (16.7)	28.400 (95.903)
333.99 (249.06)	23006 (102.33)	5.44 (8.76)	1700	3.56			7th Gear	175 (79.4)	50 (10.0)	55 (12.8)	28.510 (96.274)
333.94 (249.02)	19015 (84.58)	6.59 (10.60)	1700	2.66			8th Gear	176 (80.0)	52 (11.1)	57 (13.9)	28.490 (96.206)
332.59 (248.01)	15915 (70.79)	7.84 (12.61)	1700	2.25			9th Gear	176 (80.0)	51 (10.6)	56 (13.3)	28.490 (96.206)
326.97 (243.82)	12949 (57.60)	9.47 (15.24)	1700	1.91			10th Gear	173 (78.1)	50 (10.0)	54 (12.2)	28.490 (96.206)
TIRES, BALLAST AND WEIGHT					With Ballast			Without Ballast			
Rear Tires					—No., size, ply & psi (kPa)			Four 30.5L-32; 10; inner			
Ballast					—Liquid (each inner)			14 (95) outer 12 (85)			
Front Tires					—Cast Iron (each)			None			
Ballast					—No., size, ply & psi (kPa)			Four 30.5L-32; 10; inner			
Height of Drawbar					—Liquid (each)			14 (95) outer 12 (85)			
Static Weight with Operator—Rear					—Cast Iron (each inner)			None			
Front					20.5 in (520 mm)			20.5 in (520 mm)			
Total					19000 lb (8618 kg)			15470 lb (7017 kg)			
					24175 lb (10966 kg)			21065 lb (9555 kg)			
					43175 lb (19584 kg)			36535 lb (16572 kg)			

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump inlet was maintained at 102°F (38.9°C). Seven gears were chosen between 15% slip and 10 mph (16.1 km/h).

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1463.**

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
W. E. SPLINTER
L. L. BASHFORD
Board of Tractor Test Engineers



Steiger Panther KP-1400 Diesel

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