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Test 1571: Zetor 5245, 5211, 3320 and 3340 Diesel 10-Speeds

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1571—ZETOR 5245 DIESEL ALSO ZETOR 5211 DIESEL ALSO ZETOR 3320 DIESEL AND 3340 DIESEL 10 SPEED

POWER TAKE-OFF PERFORMANCE

Power Hp (kW)	Crank shaft speed rpm	Fuel Consumption			Temperature °F (°C)			Barometer inch Hg (kPa)	
		gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cooling medium	Air wet bulb	Air dry bulb		
MAXIMUM POWER AND FUEL CONSUMPTION									
Rated Engine Speed — Two hours (PTO Speed —596 rpm)									
42.51 (31.70)	2200	2.650 (10.032)	0.437 (0.266)	16.04 (3.160)	181 (83.0)	66 (18.7)	75 (23.8)	29.13 (98.36)	
Standard Power Take-off Speed (540 rpm) — One Hour									
40.10 (29.90)	1994	2.421 (9.165)	0.423 (0.258)	16.56 (3.262)	181 (82.8)	66 (18.7)	75 (23.6)	29.13 (98.37)	
VARYING POWER AND FUEL CONSUMPTION — Two Hours									
37.44 (27.92)	2281	2.374 (8.987)	0.445 (0.270)	15.77 (3.107)	177 (80.3)	66 (18.6)	75 (23.6)	.....
0.00 (0.00)	2418	0.851 (3.222)	.....	.....	173 (78.3)	65 (18.3)	74 (23.3)	.....
19.32 (14.40)	2351	1.527 (5.781)	0.554 (0.337)	12.65 (2.492)	175 (79.4)	65 (18.3)	74 (23.1)	.....
42.77 (31.89)	2200	2.644 (10.007)	0.433 (0.264)	16.18 (3.187)	180 (82.2)	65 (18.3)	75 (23.9)	.....
9.80 (7.31)	2386	1.189 (4.502)	0.851 (0.518)	8.24 (1.624)	174 (78.6)	65 (18.3)	76 (24.2)	.....
28.67 (21.38)	2328	1.951 (7.384)	0.477 (0.290)	14.70 (2.895)	176 (79.7)	65 (18.3)	75 (23.9)	.....
Av Av	23.12 (17.24)	2327	1.756 (6.647)	0.533 (0.324)	13.17 (2.594)	176 (79.8)	65 (18.4)	75 (23.7)	29.14 (98.41)

DRAWBAR PERFORMANCE (Front Wheel Drive Engaged)

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 8th (3H) Gear											
37.96 (28.30)	2460 (10.94)	5.79 (9.31)	2202	3.91	2.602 (9.851)	0.481 (0.292)	14.59 (2.873)	185 (85.0)	75 (23.6)	82 (27.5)	28.76 (97.12)
75% of Pull at Maximum Power — Ten Hours 8th (3H) Gear											
30.20 (22.52)	1860 (8.27)	6.09 (9.80)	2289	2.72	2.183 (8.264)	0.507 (0.308)	13.83 (2.725)	181 (82.7)	72 (22.3)	82 (27.9)	29.03 (98.04)
50% of Pull at Maximum Power — Two Hours 8th (3H) Gear											
20.79 (15.50)	1240 (5.52)	6.29 (10.12)	2343	1.88	1.718 (6.504)	0.580 (0.353)	12.10 (2.383)	178 (81.1)	69 (20.6)	82 (27.5)	29.14 (98.40)
50% of Pull at Reduced Engine Speed — Two Hours 9th (4H) Gear											
20.77 (15.49)	1240 (5.52)	6.28 (10.11)	1524	1.78	1.426 (5.398)	0.481 (0.293)	14.57 (2.870)	179 (81.7)	70 (21.1)	83 (28.3)	29.13 (98.35)
MAXIMUM POWER IN SELECTED GEARS											
30.56 (22.79)	5955 (26.49)	1.92 (3.10)	2279	14.80	4th (4L) Gear			179 (81.7)	68 (20.0)	72 (22.2)	28.93 (97.69)
36.33 (27.09)	5270 (23.44)	2.59 (4.16)	2200	10.82	5th (1H) Gear			183 (83.9)	69 (20.6)	74 (23.3)	28.92 (97.66)
37.21 (27.75)	4136 (18.40)	3.37 (5.43)	2198	7.26	6th (5L) Gear			183 (83.9)	70 (21.1)	75 (23.9)	28.92 (97.66)
38.13 (28.43)	3519 (15.65)	4.06 (6.54)	2200	5.77	7th (2H) Gear			184 (84.4)	70 (21.1)	77 (25.0)	28.91 (97.62)
38.44 (28.66)	2491 (11.08)	5.79 (9.31)	2201	3.91	8th (3H) Gear			187 (86.1)	75 (23.9)	83 (28.3)	28.76 (97.12)
36.96 (27.56)	1539 (6.84)	9.01 (14.50)	2201	2.45	9th (4H) Gear			183 (83.6)	72 (22.2)	79 (26.1)	28.90 (97.59)

Department of Agricultural Engineering

Dates of Test: August 22 to September 5, 1985

Manufacturer: AGROZET ZETOR, Brno 63200, Czechoslovakia

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 46.9 (rating taken from oil company's inspection data) Specific gravity converted to 60°/60°F (15°/15°C) 0.8423 Fuel weight 7.013 lbs/gal (0.840 kg/l) Oil SAE 15W-40 API service classification SE, SF, CC, CD To motor 2.280 gal (8.629 l) Drained from motor 2.017 gal (7.636 l) Transmission and final drive lubricant SAE 80W gear lubricant Total time engine was operated 53.5 hours.

ENGINE: Make Zetor Diesel Type three cylinder vertical Serial No. 5201 005290 K Crankshaft lengthwise Rated rpm 2200 Bore and stroke 4.02" × 4.33" (102 mm × 110 mm) Compression ratio 17 to 1 Displacement 164.6 cu in (2696 ml) Starting system 12 volt Lubrication pressure Air cleaner oil bath with centrifugal precleaner Air compressor direct engine drive Oil filter two metal sieve elements Fuel filter two paper elements and sediment bowl Muffler vertical Cooling medium temperature control one thermostat.

CHASSIS: Type front wheel assist Serial No. 5245 005787 Tread width rear 56.1" (1425 mm) to 70.9 (1800 mm) front 59.4" (1510 mm) Wheel base 84.3" (2140 mm) 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 34.2" (869 mm) Vertical distance above roadway 34.6" (879 mm) Horizontal distance from center of rear wheel tread 0" (0 mm) to the right/left Hydraulic control system direct engine drive with throw out lever Transmission selective gear fixed ratio Advertised speeds mph (km/h) first 0.7 (1.1) second 1.0 (1.7) third 1.4 (2.3) fourth 2.2 (3.6) fifth 2.9 (4.7) sixth 3.7 (6.0) seventh 4.4 (7.1) eighth 6.1 (9.8) ninth 9.4 (15.1) tenth 15.7 (25.3) reverse 0.9 (1.5), 3.8 (6.2) Clutch single dry disc operated by foot pedal Brakes drum and shoe hydraulically operated by two foot pedals which can be locked together Steering power assist Turning radius (on concrete surface with brake applied) right 161" (4.1 m) left 161" (4.1 m) (on concrete surface without brake) right 181" (4.6 m) left 181" (4.6 m) Turning space diameter (on concrete surface with brake applied) right 335" (8.5 m) left 335" (8.5 m) (on concrete surface without brake) right 378" (9.6 m) left 378" (9.6 m) Power take-off 540 rpm at 1994 engine rpm and 1000 rpm at 2050 engine rpm Unladen tractor mass 6735 lb (3055 kg).

LUGGING ABILITY IN 8th (3H) GEAR

Crankshaft Speed rpm	2201	1975	1759	1544	1318	1103
Pull—lbs (kN)	2491 (11.08)	2579 (11.47)	2650 (11.79)	2697 (12.00)	2670 (11.88)	2526 (11.24)
Increase in Pull %	0	4	6	8	7	1
Power—Hp (kW)	38.44 (28.66)	35.61 (26.56)	32.55 (24.27)	29.04 (21.66)	24.55 (18.31)	19.49 (14.53)
Speed—Mph (km/h)	5.79 (9.31)	5.18 (8.33)	4.61 (7.41)	4.04 (6.50)	3.45 (5.55)	2.89 (4.66)
Slip %	3.91	4.11	4.11	4.24	4.24	3.98

TRACTOR SOUND LEVEL WITH CAB

	Front Wheel Drive Disengaged dB(A)	Engaged dB(A)
Maximum Available Power—Two Hours	83.5	83.0
75% of Pull at Maximum Power—Ten Hours		83.0
50% of Pull at Maximum Power—Two Hours		83.0
50% of Pull at Reduced Engine Speed—Two Hours		80.5
Bystander in 10th (5H) gear	86.0	

DRAWBAR PERFORMANCE (Front Wheel Drive Disengaged)

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Cool- ing med	Temp. °F (°C) Air wet bulb	Air dry bulb	Barom. inch Hg (kPa)
Maximum Available Power — Two Hours 8th (3H) Gear											
37.43 (27.91)	2459 (10.94)	5.71 (9.19)	2202	5.74	2.595 (9.824)	0.486 (0.296)	14.42 (2.841)	187 (86.1)	75 (23.9)	85 (29.2)	28.74 (97.03)

MAXIMUM POWER IN SELECTED GEARS

31.31 (23.34)	4558 (20.27)	2.58 (4.15)	2279	14.89	5th (1H) Gear		179 (81.4)	68 (20.0)	73 (22.8)	28.92 (97.66)
37.27 (27.79)	3550 (15.79)	3.94 (6.34)	2200	9.39	7th (2H) Gear		184 (84.2)	71 (21.7)	78 (25.6)	28.91 (97.62)
37.83 (28.21)	2488 (11.07)	5.70 (9.18)	2202	5.93	8th (3H) Gear		183 (83.9)	71 (21.7)	79 (26.1)	28.91 (97.62)

TIRES, BALLAST AND WEIGHT

Rear Tires	—No., size, ply & psi (kPa)	With Ballast	Without Ballast
Ballast	—Liquid (each)	Two 16.9/14-28; 8; 24 (165)	Two 16.9/14-28; 8; 24 (165)
	—Test equip. (each)	None	None
		100 lb (45 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 9.5/9-24; 8; 28 (195)	Two 9.5/9-24; 8; 28 (195)
Ballast	—Liquid (each)	None	None
	—Test equip. (each)	92 lb (42 kg)	None
Height of Drawbar		23.5 in (595 mm)	23.5 in (595 mm)
Static Weight with Operator—Rear		4355 lb (1975 kg)	4155 lb (1885 kg)
—Front		2940 lb (1334 kg)	2755 lb (1250 kg)
—Total		7295 lb (3309 kg)	6910 lb (3135 kg)

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (kPa)	2425 (16720)	
Location	remote outlet	
Hydraulic oil temperature °F (°C)	173 (78)	
Location	pump inlet	
	Maximum Lift Capacity	Lift Capacity for Transport
QUICK ATTACH	no	
CATEGORY	II	*not measured
LOAD lbs (kg)	3300 (1497)	
TIME sec	2.35	
HITCH POINT MOVEMENT in (mm)		
Lowest position	12.1 (307)	
Top of timed range	36.1 (917)	
Highest position	36.1 (917)	
LOAD CG MOVEMENT in (mm)		
Lowest position	11.8 (300)	
Top of timed range	38.3 (973)	
Highest position	38.3 (973)	

*Implement load capacity for transport purposes not specified by manufacturer.

REPAIRS AND ADJUSTMENTS: During preliminary PTO tests, it was necessary to replace the washer in the crankcase oil filter base.

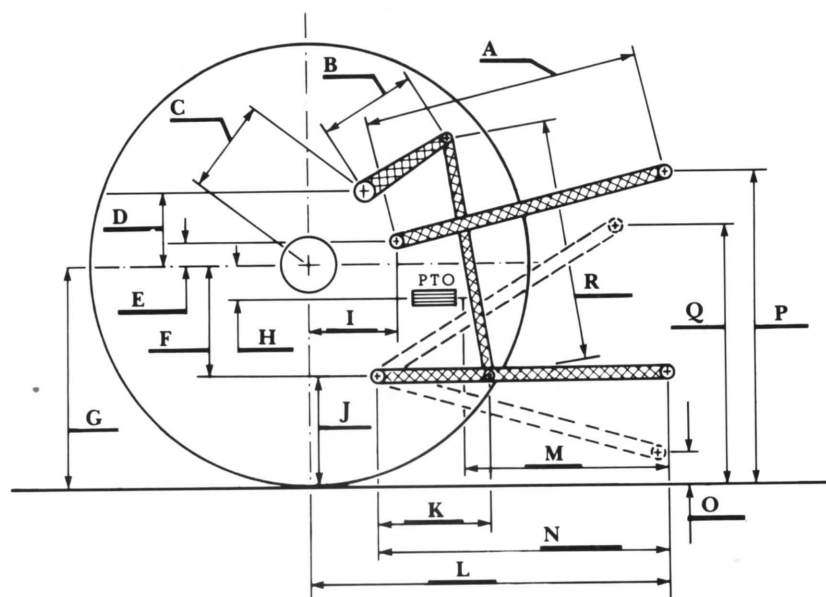
REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test codes and the technically equivalent ISO test codes or official Nebraska test procedure. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 136°F (57.9°C). Six gears were chosen between 15% slip and 10 mph (16.1 km/h).

NOTE: Report reissued. Supplemental permit for Zetor 3320 Diesel and 3340 Diesel, October 13, 1995.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1571**, October 25, 1985.

LOUIS I. LEVITICUS
Engineer-in-Charge

L.L. BASHFORD
R.D. GRISSO
M.F. KOCHER
Board of Tractor Test Engineers



Hitch Dimensions as Tested — No Load

	inch	mm
A	25.5	648
B	12.6	320
C	14.3	364
D	14.3	363
E	12.7	323
F	5.4	138
G	26.7	678
H	0.3	7
I	11.3	288
J	21.3	540
K	15.8	401
L	37.0	940
M	26.7	677
N	33.8	857
O	8.0	203
P	40.3	1024
Q	35.4	899
R	20.5	521



Zetor 5245 Diesel

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