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Test 1602: Zetor 7745, 7711, 6320 and 6340 Diesel 10-Speeds

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1602—ZETOR 7745 DIESEL ALSO ZETOR 7711 DIESEL ALSO ZETOR 6320 DIESEL AND 6340 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)								
65.74 (49.02)	2200	3.988 (15.095)	0.423 (0.257)	16.48 (3.247)	177 (80.6)	70 (21.2)	77 (24.8)	28.88 (97.51)	
	Standard Power Take-off Speed (540 rpm) — One Hour								
62.17 (46.36)	1995	3.655 (13.836)	0.410 (0.249)	17.01 (3.351)	179 (81.8)	72 (22.0)	80 (26.6)	28.88 (97.52)	
VARYING POWER AND FUEL CONSUMPTION — Two Hours									
57.89 (43.17)	2280	3.540 (13.401)	0.426 (0.259)	16.35 (3.221)	176 (79.7)	72 (22.2)	81 (27.2)	..... .....
0.00 (0.00)	2419	1.106 (4.185)	..... .....	..... .....	172 (77.8)	74 (23.3)	81 (27.2)	..... .....
30.03 (22.40)	2365	2.172 (8.223)	0.504 (0.307)	13.83 (2.724)	173 (78.3)	74 (23.3)	81 (27.2)	..... .....
66.07 (49.27)	2200	3.979 (15.062)	0.420 (0.255)	16.60 (3.271)	180 (81.9)	74 (23.3)	82 (27.8)	..... .....
15.31 (11.42)	2406	1.682 (6.367)	0.766 (0.466)	9.10 (1.794)	172 (77.8)	73 (22.8)	83 (28.3)	..... .....
44.31 (33.04)	2326	2.843 (10.764)	0.448 (0.272)	15.58 (3.070)	174 (78.9)	74 (23.3)	83 (28.1)	..... .....
Av Av	35.60 (26.55)	2333	2.554 (9.667)	0.500 (0.304)	13.94 (2.746)	174 (79.1)	74 (23.1)	82 (27.6)	28.84 (97.39)

DRAWBAR PERFORMANCE (HSFD) (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. in. 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(2H) Gear											
55.87 (41.66)	3163 (14.07)	6.62 (10.66)	2201	4.38	3.907 (14.791)	0.488 (0.297)	14.30 (2.817)	176 (79.7)	57 (13.9)	71 (21.4)	28.58 (96.49)
75% of Pull at Maximum Power — Ten Hours 7th(2H) Gear											
45.97 (34.28)	2460 (10.94)	7.01 (11.28)	2301	3.27	3.350 (12.680)	0.508 (0.309)	13.72 (2.704)	175 (79.2)	65 (18.1)	68 (20.2)	28.76 (97.11)
50% of Pull at Maximum Power — Two Hours 7th(2H) Gear											
31.52 (23.51)	1640 (7.29)	7.21 (11.60)	2348	2.53	2.617 (9.906)	0.579 (0.352)	12.05 (2.373)	174 (78.9)	65 (18.3)	66 (18.9)	28.83 (97.35)
50% of Pull at Reduced Engine Speed — Two Hours 8th(3H) Gear											
31.46 (23.46)	1639 (7.29)	7.20 (11.58)	1681	2.38	2.208 (8.359)	0.490 (0.298)	14.25 (2.807)	173 (78.3)	71 (21.7)	73 (22.5)	28.54 (96.36)
MAXIMUM POWER IN SELECTED GEARS											
40.33 (30.07)	7484 (33.29)	2.02 (3.25)	2293	14.95	3rd(3L) Gear			174 (78.9)	54 (12.2)	62 (16.7)	28.52 (96.31)
52.37 (39.05)	6952 (30.92)	2.82 (4.55)	2202	13.04	4th(4L) Gear			178 (80.8)	74 (23.3)	78 (25.6)	28.45 (96.07)
56.35 (42.02)	5129 (22.81)	4.12 (6.63)	2200	7.52	5th(5L) Gear			179 (81.7)	74 (23.3)	79 (26.1)	28.45 (96.07)
57.38 (42.79)	4299 (19.12)	5.01 (8.06)	2198	5.96	6th(1H) Gear			180 (81.9)	75 (23.9)	79 (26.1)	28.44 (96.04)
57.56 (42.92)	3255 (14.48)	6.63 (10.67)	2198	4.13	7th(2H) Gear			179 (81.7)	74 (23.3)	78 (25.6)	28.50 (96.24)
55.57 (41.44)	2226 (9.90)	9.36 (15.07)	2200	2.97	8th(3H) Gear			178 (80.8)	73 (22.8)	75 (23.9)	28.47 (96.14)

Department of Agricultural Engineering

Dates of Test: September 11 to 30, 1986

Manufacturer: AGROZET ZETOR Brno 63200, Czechoslovakia

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 49.5 (rating taken from oil company's inspection data) Specific gravity converted to 60/60°F (15/15°C) 0.8376 Fuel weight 6.974 lbs/gal (0.836 kg/l) Oil SAE 15W-40 API service classification CD-CC-SF-SE To motor 2.860 gal (10.828 l) Drained from motor 2.545 gal (9.633 l) Transmission and final drive lubricant SAE 80W gear lubricant Total time engine was operated 51.0 hours.

ENGINE: Make Zetor Diesel Type four cylinder vertical Serial No. *7701-001061* Crankshaft lengthwise Rated rpm 2200 Bore and stroke 4.02" × 4.72" (102 mm × 120 mm) Compression ratio 17 to 1 Displacement 239 cu in (3922 ml) Starting system 12 volt Lubrication pressure Air cleaner oil bath with centrifugal precleaner Air compressor direct engine drive Oil filter full flow centrifugal Fuel filter two paper elements and sediment bowl Muffler vertical Cooling medium temperature control one thermostat.

CHASSIS: Type front wheel assist Serial No. 7745-001046 Tread width rear 56.1" (1425 mm) to 70.9" (1800 mm) front 59.4" (1510 mm) to 70.3" (1785 mm) Wheel base 87.5" (2222 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 35.4" (900 mm) Vertical distance above roadway 38.2" (969 mm) Horizontal distance from center of rear wheel tread 0" (0 mm) to the right/left Hydraulic control system direct engine drive with throwout lever Transmission selective gear fixed ratio Advertised speeds mph (km/h) first 1.3 (2.1) second 1.7 (2.7) third 2.4 (3.8) fourth 3.3 (5.4) fifth 4.6 (7.4) sixth 5.5 (8.8) seventh 7.1 (11.5) eighth 9.9 (16.0) ninth 14.1 (22.7) tenth 19.4 (31.2) reverse 1.7 (2.8), 7.3 (11.7) Clutch single dry disc operated by foot pedal Brakes dry disc hydraulically operated by two foot pedals which can be locked together Steering power assist Turning radius (on concrete surface with brake applied) right 165" (4.2 m) left 165" (4.2 m) (on concrete surface without brake) right 185" (4.7 m) left 185" (4.7 m) Turning space diameter (on concrete surface with brake applied) right 343" (8.7 m) left 343" (8.7 m) (on concrete surface without brake) right 390" (9.9 m) left 390" (9.9 m) Power take-off 540 rpm at 1995 engine rpm and 1000 rpm at 2050 engine rpm Unladen tractor mass 7730 lb (3506 kg).

LUGGING ABILITY IN 7th(2H) GEAR

Crankshaft Speed rpm	2198	1982	1761	1542	1322	1099
Pull—lbs (kN)	3255 (14.48)	3401 (15.13)	3640 (16.19)	3767 (16.76)	3681 (16.37)	3576 (15.91)
Increase in Pull %	0	4	12	16	13	10
Power—Hp (kW)	57.56 (42.92)	54.12 (40.36)	51.27 (38.23)	46.30 (34.53)	38.69 (28.85)	31.33 (23.36)
Speed—Mph (km/h)	6.63 (10.67)	5.97 (9.60)	5.28 (8.50)	4.61 (7.42)	3.94 (6.34)	3.29 (5.29)
Slip %	4.13	4.35	4.63	4.92	5.34	5.06

Front Wheel Drive

Engaged Disengaged Engaged dB(A) dB(A) dB(A)

TRACTOR SOUND LEVEL WITH CAB

Maximum Available Power—Two Hours	82.0	83.0	83.5
75% of Pull at Maximum Power—Ten Hours			83.5
50% of Pull at Maximum Power—Two Hours			83.5
50% of Pull at Reduced Engine Speed—Two Hours			80.0
Bystander in 9th (4H) gear		89.0	

DRAWBAR PERFORMANCE (HSFD) (Front Wheel Drive Disengaged)

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption			Temp. °F (°C)			
					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	Barom. inch Hg (kPa)
Maximum Available Power — Two Hours 7th(2H) Gear											
55.10 (41.09)	3195 (14.21)	6.47 (10.41)	2201	6.80	3.907 (14.791)	0.495 (0.301)	14.10 (2.778)	178 (81.1)	60 (15.3)	77 (24.7)	28.61 (96.59)

MAXIMUM POWER IN SELECTED GEARS

43.00 (32.07)	5630 (25.04)	2.86 (4.61)	2279	14.86	4th(4L) Gear			174 (78.9)	55 (12.8)	66 (18.9)	28.56 (96.44)
55.87 (41.66)	3233 (14.38)	6.48 (10.43)	2199	6.60	7th(2H) Gear			179 (81.7)	75 (23.9)	80 (26.7)	28.43 (96.00)

DRAWBAR PERFORMANCE (LSFD) (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)			
					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	Barom. inch Hg (kPa)
Maximum Available Power — Two Hours 7th(2H) Gear											
55.84 (41.64)	3535 (15.72)	5.92 (9.53)	2201	4.63	3.879 (14.682)	0.484 (0.295)	14.40 (2.836)	175 (79.4)	57 (13.9)	67 (19.2)	28.84 (97.39)

MAXIMUM POWER IN SELECTED GEARS

50.39 (37.58)	7445 (33.12)	2.54 (4.08)	2248	14.58	4th(4L) Gear			175 (79.4)	56 (13.3)	62 (16.7)	28.86 (97.46)
55.06 (41.06)	5645 (25.11)	3.66 (5.89)	2201	8.39	5th(5L) Gear			174 (78.9)	56 (13.3)	62 (16.7)	28.86 (97.46)
56.43 (42.08)	4748 (21.12)	4.46 (7.17)	2200	6.67	6th(1H) Gear			174 (78.9)	56 (13.3)	63 (17.2)	28.85 (97.42)
56.76 (42.33)	3597 (16.00)	5.92 (9.52)	2200	4.67	7th(2H) Gear			174 (78.9)	56 (13.3)	64 (17.8)	28.84 (97.39)
55.41 (41.32)	2482 (11.04)	8.37 (13.47)	2200	3.24	8th(3H) Gear			174 (78.9)	56 (13.3)	63 (17.2)	28.85 (97.42)

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (kPa)	Two 16.9/14-34; 8; 24 (170)	Two 16.9/14-34; 8; 24(170)
Ballast	—Liquid (each)	658 lb (298 kg)	None
	—Cast Iron (each)	320 lb (145 kg)	None
Front Tires	—No., size, ply & psi (kPa)	Two 12.4/11-24; 6; 22 (150)	Two 12.4/11-24; 6; 22 (150)
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	250 lb (113 kg)	None
Height of Drawbar		25 in (635 mm)	25 in (635 mm)
Static Weight with Operator—Rear		6705 lb (3041 kg)	4750 lb (2155 kg)
	—Front	3655 lb (1658 kg)	3155 lb (1431 kg)
	—Total	10360 lb (4699 kg)	7905 lb (3586 kg)

REPAIRS AND ADJUSTMENTS: Following the 10 hour test, one injector nozzle was replaced.

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 was maintained at 155°F (68.3°C). Six gears were chosen between 15% slip and 10 mph (16.1 km/h). This tractor model is available with two final drive ratios. The primary drawbar tests were done with the high speed final drive (HSFD) and supplemental tests were made with the low speed final drive (LSFD).

NOTE: Report reissued. Supplemental permit for Zetor 6320 Diesel and 6340 Diesel, October 13, 1995.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1602**, October 31, 1986.

LOUIS I. LEVITICUS
Engineer-in-Charge

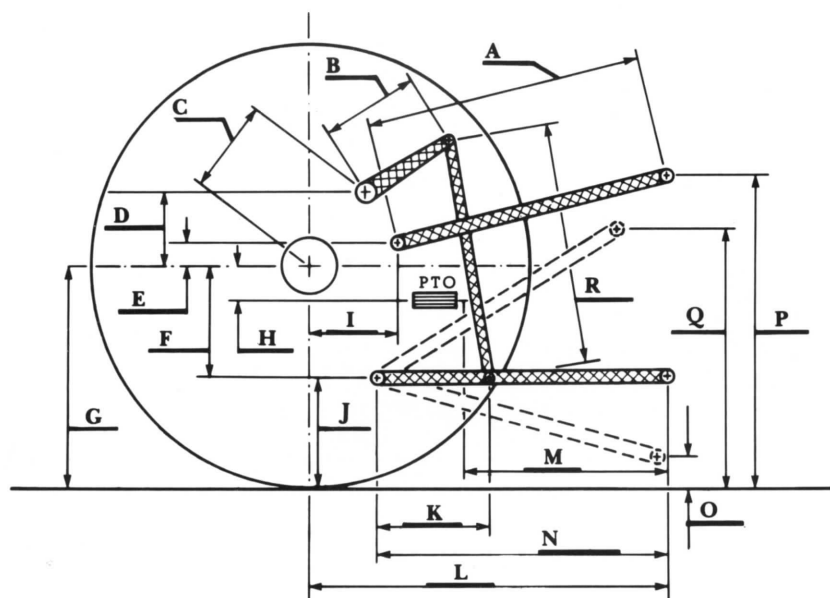
L. L. BASHFORD
R.D. GRISIO, JR.
M.F. KOCHER

Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi (kPa)	2500 (17240)	
Location	remote outlet	
Hydraulic oil temperature °F (°C)	180 (82)	
Location	pump inlet	
	Maximum Lift Capacity	Lift Capacity for Transport
QUICK ATTACH	no	
CATEGORY	II	*not measured
LOAD lbs (kg)	4904 (2224)	
TIME sec	4.67	
HITCH POINT MOVEMENT in (mm)		
Lowest position	11.9 (302)	
Top of timed range	35.9 (912)	
Highest position	36.0 (914)	
LOAD CG MOVEMENT in (mm)		
Lowest position	12.0 (305)	
Top of timed range	36.8 (935)	
Highest position	37.0 (940)	

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



Hitch Dimensions as Tested — No Load

	inch	mm
A	26.0	660
B	12.6	320
C	14.3	364
D	14.3	363
E	12.7	323
F	5.4	138
G	30.2	767
H	0.3	7
I	11.3	288
J	24.8	629
K	15.8	401
L	37.0	940
M	26.7	677
N	33.8	857
O	8.0	203
P	43.8	1111
Q	35.3	895
R	22.1	562



Zetor 7745 Diesel

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