

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F.  
Larsen

---

January 1997

## Tests 1684 & 1730: Zetor 7341 Super/Zetor 7321 Super Diesel

Follow this and additional works at: <http://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Applied Mechanics Commons](#)

---

"Tests 1684 & 1730: Zetor 7341 Super/Zetor 7321 Super Diesel" (1997). *Nebraska Tractor Tests*. 371.  
<http://digitalcommons.unl.edu/tractormuseumlit/371>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

# SUMMARY OF OECD TESTS 1684 and 1730—NEBRASKA SUMMARY 306

## ZETOR 7341 SUPER DIESEL

## ZETOR 7321 SUPER DIESEL

### 10 SPEED

#### POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed (PTO speed 1073 rpm)</b>					
72.8 (54.3)	2200	4.40 (16.67)	0.426 (0.259)	16.55 (3.26)	
<b>Standard Power Take-off speed (1000 rpm)</b>					
72.4 (54.0)	2050	4.17 (15.77)	0.404 (0.246)	17.36 (3.42)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
72.8 (54.3)	2200	4.40 (16.67)	0.426 (0.259)	16.55 (3.26)	Air temperature
68.2 (47.1)	2243	3.93 (14.88)	0.437 (0.266)	16.09 (3.17)	73°F (23°C)
48.3 (36.0)	2290	3.27 (12.36)	0.475 (0.289)	14.77 (2.91)	Relative humidity
33.0 (24.6)	2345	2.69 (10.18)	0.572 (0.348)	12.28 (2.42)	31%
16.8 (12.5)	2388	2.03 (7.68)	0.852 (0.518)	8.27 (1.63)	Barometer
--	2425	1.43 (5.40)	--	--	29.1" Hg (98.6 kPa)

Maximum Torque -221.1 lb.-ft. (299.8 Nm) at 1599 rpm  
 Maximum Torque Rise -27.1%  
 Torque rise at 1800 engine rpm -18%

#### DRAWBAR PERFORMANCE

##### BALLASTED - FRONT DRIVE ENGAGED FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Barom. inch Hg (kPa)
<b>75% of Pull at Maximum Power Five Hours 4th (4T) Gear</b>							
42.6 (31.8)	5220 (23.2)	3.06 (4.93)	2235	4.1	0.547 (0.333)	12.84 (2.53)	176 (80)
<b>MAXIMUM POWER IN SELECTED GEARS</b>							
<b>3rd (3T) Gear</b>							
44.1 (32.9)	9890 (44.0)	1.67 (2.69)	2217	15.1	0.587 (0.337)	11.98 (2.36)	178 (81)
<b>4th (4T) Gear</b>							
54.6 (40.7)	6905 (30.7)	2.96 (4.77)	2196	5.5	0.518 (0.315)	13.60 (2.68)	178 (81)
<b>5th (1R) Gear</b>							
55.0 (41.0)	5125 (22.8)	4.02 (6.47)	2199	4.0	0.515 (0.313)	13.71 (2.70)	178 (81)
<b>6th (5T) Gear</b>							
52.7 (39.3)	4090 (18.2)	4.83 (7.78)	2201	3.0	0.539 (0.328)	13.04 (2.57)	174 (79)
<b>7th (2R) Gear</b>							
54.6 (40.7)	3595 (16.0)	5.69 (9.15)	2192	2.9	0.524 (0.319)	13.40 (2.64)	174 (79)
<b>8th (3R) Gear</b>							
51.2 (38.2)	2565 (11.4)	7.49 (12.05)	2196	1.9	0.554 (0.337)	12.69 (2.50)	172 (78)

**Location of Test:** SZZPLS, Tranovskeho 173, Praha 6-Repy, CZ

**Dates of Test:** March - November, 1997

**Manufacturer:** Zetor a.s., 632 00 Brno, Czech Republic

**FUEL and OIL :** Fuel No. 2 Diesel **Specific gravity converted to 60°/60° F (15°/15°C)** 0.844 **Fuel weight** 7.03 lbs/gal (0.842 kg/l) **Oil** SAE 15W40 **API service classification** CF-4/SG **Oil consumption for 10 hours** 0.06 lb (28 gm) **Transmission and hydraulic lubricant** SAE 80W90 GL-4 **Front axle lubricant** SAE 80W90 GL-4

**ENGINE: Make** Zetor **Diesel Type** four cylinder vertical with turbocharger **Serial No.** \*004533\* **Crankshaft** lengthwise **Rated Engine speed** 2200 **Bore and stroke** 4.016" x 4.724" (102 mm x 120 mm) **Compression ratio** 17 to 1 **Displacement** 239 cu in (3922 ml) **Starting system** 12 volt **Lubrication pressure** **Air cleaner** two paper elements **Oil filter** one full flow cartridge **Oil cooler** engine coolant heat exchanger for crankcase **oil Fuel filter** one paper element **Muffler** vertical **Cooling medium temperature control** thermostat

**CHASSIS: Type** 2WD and front wheel assist **Serial No.** 001 003 **Tread width** rear 58.9" (1495 mm) to 70.7" (1795 mm) front: 2WD - 55.9" (1420 mm) to 70.7" (1795 mm), FWA - 62.2" (1580 mm) to 71.3" (1810 mm) **Wheel base** 2WD - 88.9" (2257 mm) FWA 86.5" (2198 mm) **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Nominal travel speeds mph (km/h)** (18.4R34 tires) first 1.06 (1.70) second 1.48 (2.38) third 1.92 (3.09) fourth 3.09 (4.97) fifth 4.12 (6.63) sixth 4.90 (7.88) seventh 5.78 (9.30) eighth 7.51 (12.09) ninth 12.06 (19.42) tenth 19.15 (30.82) reverse 1.16 (1.86), 1.62 (2.61), 2.11 (3.39), 3.39 (5.45), 4.52 (7.28), 5.38 (8.65), 6.34 (10.20), 8.24 (13.27), 13.24 (21.32), 21.02 (33.82) **Clutch** single dry disc operated by foot pedal **Brakes** wet multiple disc hydraulically operated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 540 rpm at 1944 engine rpm or 1000 rpm at 2050 engine rpm **Unladen tractor mass** 7321 - 7265 lb (3295 kg), 7341 - 7980 lb (3620 kg)

	7321	7341
TRACTOR SOUND LEVEL WITH CAB	dB(A)	dB(A)
Maximum sound level	83.5	83.5
Bystander in 10th (5R) gear	84.0	88.5

#### CENTER OF GRAVITY - 7321

Horizontal distance forward from centerline of rear wheels	29.4" (747 mm)
Vertical distance above roadway	39.3" (997 mm)
Horizontal distance from center of rear wheel tread	0.5" (13 mm) to the right

#### CENTER OF GRAVITY - 7341

Horizontal distance forward from centerline of rear wheels	33.9" (860 mm)
Vertical distance above roadway	38.0" (966 mm)
Horizontal distance from center of rear wheel tread	0.6" (16 mm) to the right

#### TURNING ON A CONCRETE SURFACE (7321)

Turning radius with brake applied right	132" (3.35 m) left 134" (3.40 m)
without brake right	153" (3.89 m) left 154" (3.90 m)
Turning space radius with brake applied right	144" (3.66 m) left 145" (3.69 m)
without brake right	165" (4.20 m) left 165" (4.20 m)

#### TURNING ON A CONCRETE SURFACE 7341 - Front Drive Disengaged

Turning radius -with brake applied right	157" (3.99 m) left 162" (4.11 m)
-without brake right	194" (4.93 m) left 190" (4.82 m)
Turning space radius -with brake applied right	166" (4.22 m) left 172" (4.36 m)
-without brake right	203" (5.16 m) left 200" (5.07 m)

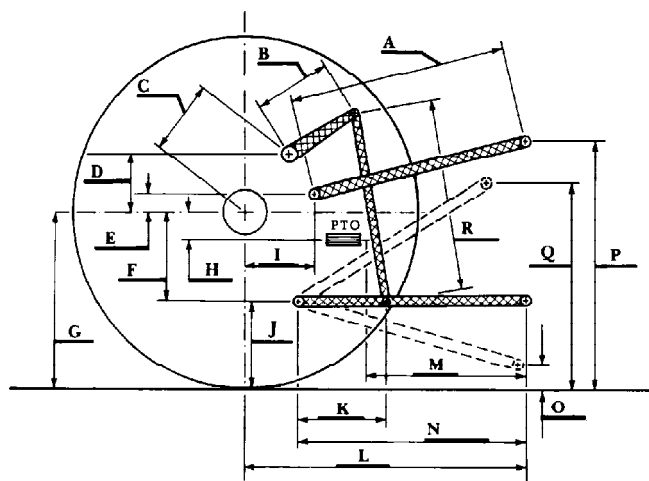
### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: II

Quick Attach: None

Maximum Force Exerted Through Whole Range: 3955 lbs (17.6 kN) (at the frame)  
6185 lbs (27.5 kN) (at lower link ends)

- i) Opening pressure of relief valve: NA
- Sustained pressure with relief valve open: 2610 psi (180 bar)
- ii) Pump delivery rate at minimum pressure: 11.4 GPM (43.2 l/min)
- iii) Pump delivery rate at maximum hydraulic power: 10.3 GPM (39.0 l/min)
- Delivery pressure: 2350 psi (162 bar)
- Power: 14.1 HP (10.5 kW)



	inch	mm
A	26.9	682
B	12.6	320
C	14.3	364
D	14.3	363
E	9.0	229
F	5.4	138
G	29.3	745
H	0.3	7
I	11.3	288
J	23.9	607
K	15.8	402
L	37.2	944
M	26.8	681
N	33.9	861
O	7.9	200
P	47.9	1217
Q	35.7	906
R	22.1	561

HITCH DIMENSIONS AS TESTED NO LOAD

**DRAWBAR PERFORMANCE**  
**BALLASTED - 2WD**  
**FUEL CONSUMPTION CHARACTERISTICS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)	
<b>75% of Pull at Maximum Power Five Hours 6th (5T) Gear</b>									
42.4 (31.6)	3555 (15.8)	4.47 (7.19)	2261	8.4	0.561 (0.341)	12.48 (2.46)	183 (84)	48 (9)	28.7 (97.3)
<b>MAXIMUM POWER IN SELECTED GEARS</b>									
5th (1R) Gear									
50.6 (37.7)	5490 (24.4)	3.45 (5.56)	2240	15.1	0.541 (0.329)	12.94 (2.55)	183 (84)	66 (19)	29.1 (98.6)
6th (5T) Gear									
52.3 (39.0)	4720 (21.0)	4.16 (6.69)	2199	12.4	0.539 (0.328)	12.99 (2.56)	185 (85)	68 (20)	29.1 (98.6)
7th (2R) Gear									
55.7 (41.5)	4140 (18.4)	5.04 (8.11)	2201	10.1	0.506 (0.308)	13.81 (2.72)	185 (85)	68 (19)	29.1 (98.6)
8th (3R) Gear									
56.1 (41.8)	3100 (13.8)	6.78 (10.91)	2198	6.9	0.501 (0.305)	13.96 (2.75)	183 (84)	68 (20)	29.1 (98.6)
9th (4R) Gear									
52.4 (39.1)	1755 (7.8)	11.20 (18.03)	2201	4.3	0.536 (0.326)	13.05 (2.57)	185 (85)	68 (20)	29.1 (98.6)

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments

**REMARKS:** All test results were determined from observed data obtained in accordance with official OECD test procedures. This tractor did not meet manufacturer's claims of 14.0 GPM hydraulic flow nor lift force of 6830 lbs. The performance results on this summary were taken from OECD tests conducted under the Code I Test procedure.

We, the undersigned, certify that this is a true summary of data from OECD Reports No. **1684** and **1730**, Nebraska Summary 306, May 24, 2000.

Brent T. Sampson  
Test Engineer

L.L. Bashford  
M.F. Kocher  
R.D. Grisso Jr.  
Board of Tractor Test Engineers

### Zetor 7321

<b>TIRES, BALLAST AND WEIGHT</b>		<b>With Ballast</b>	<b>Without Ballast</b>
<b>Rear Tires</b>	--No., size, ply & psi (kPa)	Two 16.9-34;8;16 (110)	Two 16.9-34;8;19 (130)
<b>Ballast</b>	--Liquid (total)	1180 lb (535 kg)	None
	--Cast Iron (total)	595 lb (270 kg)	None
<b>Front Tires</b>	--No., size, ply & psi (kPa)	Two 7.50-20;6;26 (180)	Two 7.50-20;6;23 (160)
<b>Ballast</b>	--Liquid (total)	None	None
	--Cast Iron (total)	805 lb (365 kg)	None
<b>Height of Drawbar</b>		19.2 in (487 mm)	19.2 in (487 mm)
<b>Static Weight with Operator</b>	-Rear	6560 lb (2975 kg)	4970 lb (2255 kg)
	-Front	3450 lb (1565 kg)	2460 lb (1115 kg)
	-Total	10010 lb (4540 kg)	7430 lb (3370 kg)

### Zetor 7341

<b>TIRES, BALLAST AND WEIGHT</b>		<b>With Ballast</b>	<b>Without Ballast</b>
<b>Rear Tires</b>	--No., size, ply & psi (kPa)	Two 18.4R34; **,16 (110)	Two 18.4R34; **,16 (110)
<b>Ballast</b>	--Liquid (total)	1125 lb (510 kg)	None
	--Cast Iron (total)	595 lb (270 kg)	None
<b>Front Tires</b>	--No., size, ply & psi (kPa)	Two 13.6R24; **,19 (130)	Two 13.6R24; **,16 (110)
<b>Ballast</b>	--Liquid (total)	530 lb (240 kg)	None
	--Cast Iron (total)	730 lb (330 kg)	None
<b>Height of Drawbar</b>		18.6 in (472 mm)	18.6 in (472 mm)
<b>Static Weight with Operator</b>	-Rear	6505 lb (2950 kg)	4960 lb (2250 kg)
	-Front	4620 lb (2095 kg)	3185 lb (1445 kg)
	-Total	11125 lb (5045 kg)	8145 lb (3695 kg)