

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

---

January 1975

## Test 1200: Belarus T-25A Diesel

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

---

Nebraska Tractor Test Lab, "Test 1200: Belarus T-25A Diesel" (1975). *Nebraska Tractor Tests*. 1522.  
<https://digitalcommons.unl.edu/tractormuseumlit/1522>

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.

# NEBRASKA TRACTOR TEST 1200 – BELARUS T-25A DIESEL

## POWER TAKE-OFF PERFORMANCE

Hp	Crank- shaft speed rpm	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temperature Degrees F Cooling medium	Air wet bulb	Air dry bulb	Barometer inches of Mercury
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>								
<b>Rated Engine Speed—Two Hours (PTO Speed—557 rpm)</b>								
28.70	1800	2.045	0.492	14.03	air-cooled	67	75	29.470
<b>Standard Power Take-off Speed (540 rpm)—One Hour</b>								
28.15	1744	2.017	0.495	13.95	air-cooled	55	75	29.455
<b>VARYING POWER AND FUEL CONSUMPTION—Two Hours</b>								
25.65	1893	1.608	0.433	15.96	air-cooled	55	76	.....
0.00	1954	0.408	.....	.....	air-cooled	55	75	.....
13.02	1923	0.956	0.507	13.62	air-cooled	56	76	.....
28.53	1800	2.012	0.487	14.18	air-cooled	57	76	.....
6.56	1937	0.678	0.713	9.68	air-cooled	56	74	.....
19.40	1908	1.260	0.448	15.40	air-cooled	57	76	.....
Av 15.53	1903	1.154	0.513	13.46	air-cooled	56	75	29.417

## DRAWBAR PERFORMANCE

Hp	Draw- bar pull lbs	Speed miles per hr	Crank- shaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Lb per hp-hr	Hp-hr per gal	Temp Degrees F Cool- ing wet Air dry med bulb bulb	Barometer inches of Mercury
<b>VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST</b>									
<b>Maximum Available Power—Two Hours 2nd Gear</b>									
23.87	1982	4.52	1799	6.48	1.955	0.566	12.21	air-cool 50 58	28.570
<b>75% of Pull at Maximum Power—Ten Hours 2nd Gear</b>									
20.50	1593	4.83	1904	5.49	1.521	0.512	13.48	air-cool 37 39	28.856
<b>50% of Pull at Maximum Power—Two Hours 2nd Gear</b>									
13.18	998	4.96	1923	3.85	1.104	0.578	11.94	air-cool 37 39	28.635
<b>50% of Pull at Reduced Engine Speed—Two Hours 3rd Gear</b>									
13.27	1005	4.95	1647	3.69	1.068	0.556	12.43	air-cool 41 44	28.620
<b>MAXIMUM POWER WITH BALLAST</b>									
6.71	1574	1.60	1929	5.55	2nd Gear (Creeper)		air-cool 47	51	28.580
24.00	2570	3.50	1799	8.38	1st Gear		air-cool 50	55	28.570
24.46	2032	4.51	1799	6.48	2nd Gear		air-cool 50	56	28.570
24.25	1713	5.31	1800	5.50	3rd Gear		air-cool 49	54	28.570
23.94	1318	6.81	1806	4.39	4th Gear		air-cool 49	54	28.570
23.30	1020	8.57	1801	3.58	5th Gear		air-cool 48	53	28.570

## VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—2nd Gear

Pounds Pull	2032	2195	2252	2278	2254	2183
Horsepower	24.46	23.42	21.39	19.20	16.12	13.12
Crankshaft Speed rpm	1799	1603	1431	1270	1079	905
Miles Per Hour	4.51	4.00	3.56	3.16	2.68	2.25
Slip of Drivers %	6.48	6.98	7.19	7.49	7.29	7.08

## TRACTOR SOUND LEVEL WITH CAB

	dB(A)
Maximum Available Power 2 Hours	89.5
75% of Pull at Max. Power 10 Hours	88.0
50% of Pull at Max. Power 2 Hours	89.0
50% of Pull at Reduced Engine Speed 2 Hours	88.0
Bystander in 6th Gear	85.5

## TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
<b>Rear Tires</b>	Two 11.2/10-28; 6; 16	Two 11.2/10-28; 6; 16
<b>Ballast</b>	None	None
	294 lb each	None
<b>Front Tires</b>	Two 6.00-16; 6; 44	Two 6.00-16; 6; 44
<b>Ballast</b>	None	None
	352 lb total	None
<b>Height of drawbar</b>	23.5 inches	23.5 inches
<b>Static weight with operator—rear</b>	3430 lb	2973 lb
<b>front</b>	2060 lb	1578 lb
<b>total</b>	5490 lb	4551 lb

## Department of Agricultural Engineering

Dates of Test: December 4 to 17, 1975

Manufacturer: VLADIMIR TRACTOR PLANT, Vladimir, USSR

**FUEL, OIL AND TIME** Fuel Diesel No 2 Cetane No 51.7 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° 0.8293 Weight per gallon 6.905 lb Oil SAE 30 API service classification SB/SE-CA/CC To motor 1.935 gal Drained from motor 1.644 gal Transmission and final drive lubricant SAE 90 Total time engine was operated 44.5 hours.

**ENGINE** Make Vladimir Tractor Plant Type 2 cylinder air-cooled vertical Serial No. 298685 Crankshaft mounted lengthwise Rated rpm 1800 Bore and stroke 4.134" x 4.724" Compression ratio 17.5 to 1 Displacement 127 cu in Cranking system 12 volt Lubrication pressure Air cleaner oil washed capron, polyurethane foam and centrifugal precleaner with dust evacuator Oil filter full flow centrifugal Fuel filter one primary and two secondary filter elements Muffler vertical Cooling medium temperature control air fan with hydrodynamic drive.

**CHASSIS** Type standard Serial No XT3 A25.21.101K.2.2 Tread width rear 47.2" to 58.5" front 49.8" to 57.8" Wheel base 69.5" 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 27.4" Vertical distance above roadway 47.6" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive with throwout lever (engaged during the test) Transmission selective gear fixed ratio Advertised speeds mph first 3.9 second 5.0 third 5.8 fourth 7.4 fifth 9.3 sixth 13.6 Creeper gear speeds (limited to 1585 lbs pull) first 1.1 second 1.6 reverse 3.9; 5.0; 5.8; 7.4; 9.3; 13.6 Clutch single dry disc operated by foot pedal Brakes floating band and pulley type operated by two foot pedals which can be locked together Steering mechanical Turning radius (on concrete surface with brake applied) right 120.2" left 131.5" (on concrete surface without brake) right 126.5" left 148" Turning space diameter (on concrete surface with brake applied) right 269" left 292" (on concrete surface without brake) right 281" left 324" Belt pulley 1028 rpm at 1800 engine rpm diam. 11.81" face 4.72" Belt speed 3170 fpm Power take-off 540 rpm at 1744 engine rpm.

**REPAIRS AND ADJUSTMENTS:** Crankshaft pulley came loose after test. Three scratches were found on the cylinder walls during the final inspection.

**REMARKS:** All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Fuel temperature at injection pump return was 125°F. Six gears were chosen up to 15 mph (only one gear permitted over 8 mph), pull on creeper gears restricted by manufacturer.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1200.

LOUIS I. LEVITICUS

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers