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Test 1340: Leyland 482 and 282 Diesel 9-Speed

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NEBRASKA TRACTOR TEST 1340 — LEYLAND 482 DIESEL ALSO LEYLAND 282 DIESEL 9 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—655 rpm)								
74.28 * (55.39)	2200	4.748 (17.973)	0.451 (0.275)	15.64 (3.082)	222 (105.7)	59 (15.0)	75 (23.9)	29.153 (98.446)
Standard Power Take-off Speed (540 rpm)—One Hour								
70.86 (52.84)	1813	4.030 (15.255)	0.402 (0.244)	17.58 (3.464)	222 (105.5)	59 (15.0)	75 (24.0)	29.130 (98.368)
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
64.25 (47.91)	2240	4.252 (16.097)	0.467 (0.284)	15.11 (2.977)	212 (100.3)	59 (15.0)	75 (23.9)	..... .....
0.00 (0.00)	2361	1.402 (5.307)	..... .....	..... .....	184 (84.4)	59 (15.0)	75 (23.9)	..... .....
33.07 (24.66)	2304	2.829 (10.710)	0.604 (0.368)	11.69 (2.302)	190 (88.1)	59 (15.0)	75 (23.9)	..... .....
75.76 (56.50)	2200	4.771 (18.059)	0.445 (0.270)	15.88 (3.128)	218 (103.3)	59 (15.0)	75 (23.9)	..... .....
16.73 (12.47)	2331	2.107 (7.976)	0.890 (0.541)	7.94 (1.564)	186 (85.8)	59 (15.0)	75 (23.9)	..... .....
48.92 (36.48)	2272	3.539 (13.395)	0.511 (0.311)	13.83 (2.724)	194 (89.7)	59 (15.0)	75 (23.9)	..... .....
Av <i>Av</i>	39.79 (29.67)	2285 (11.924)	3.150 (0.559) (0.340)	12.63 (2.488)	198 (91.9)	59 (15.0)	75 (23.9)	29.093 (98.244)

DRAWBAR PERFORMANCE (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)			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 5th (M-2) Gear											
58.20 (43.40)	3722 (16.55)	5.86 (9.44)	2201	7.50	4.584 (17.354)	0.556 (0.338)	12.70 (2.501)	235 (112.8)	60 (15.3)	87 (30.3)	28.845 (97.405)
75% of Pull at Maximum Power—Ten Hours 5th (M-2) Gear											
47.50 (35.42)	2939 (13.07)	6.06 (9.76)	2226	5.43	3.926 (14.861)	0.584 (0.355)	12.10 (2.384)	211 (99.3)	61 (15.9)	83 (28.1)	28.797 (97.243)
50% of Pull at Maximum Power—Two Hours 5th (M-2) Gear											
33.58 (25.04)	1987 (8.84)	6.34 (10.20)	2289	3.77	3.328 (12.597)	0.700 (0.426)	10.09 (1.988)	190 (87.5)	58 (14.4)	72 (21.9)	28.925 (97.675)
50% of Pull at Reduced Engine Speed—Two Hours 7th (H-1) Gear											
33.48 (24.97)	1976 (8.79)	6.35 (10.23)	1248	3.63	2.283 (8.643)	0.482 (0.293)	14.66 (2.889)	223 (105.8)	62 (16.7)	89 (31.7)	28.795 (97.236)
MAXIMUM POWER IN SELECTED GEARS											
46.22 (34.47)	7032 (31.28)	2.46 (3.97)	2243	14.87	2nd (L-2) Gear			191 (88.1)	46 (7.8)	56 (13.3)	28.920 (97.659)
56.29 (41.97)	6440 (28.65)	3.28 (5.27)	2200	12.91	3rd (L-3) Gear			194 (89.7)	46 (7.8)	56 (13.3)	28.920 (97.659)
60.31 (44.97)	5176 (23.02)	4.37 (7.03)	2201	10.44	4th (M-1) Gear			232 (111.1)	60 (15.6)	81 (27.2)	28.870 (97.490)
61.19 (45.63)	3919 (17.43)	5.86 (9.42)	2201	7.57	5th (M-2) Gear			224 (106.4)	57 (13.9)	71 (21.7)	28.860 (97.456)
60.66 (45.24)	2869 (12.76)	7.93 (12.76)	2201	5.57	6th (M-3) Gear			230 (109.7)	60 (15.6)	82 (27.8)	28.870 (97.490)

Department of Agricultural Engineering

Dates of Test: April 15-25, 1980

Manufacturer: LEYLAND VEHICLES LIMITED MLVD, Blackburn Road, Bathgate, West Lothian, Scotland.

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 47.9 (rating taken from oil company's typical inspection data) Specific gravity converted to 60°/60° (15°/15°) 0.8482 Fuel weight 7.062 lbs/gal (0.846 kg/l) Oil SAE 20-20W API service classification SB/SE-CA/CD To motor 2.656 gal (10.051 l) Drained from motor 1.995 gal (7.551 l) Transmission and final drive lubricant SAE 20W30 Total time engine was operated 48.0 hours

ENGINE: Make Leyland Dsl Type four cylinder vertical with turbocharger Serial No. 498NT177659543 Crankshaft lengthwise Rated rpm 2200 Bore and stroke 3.858" × 4.921" (98 mm × 125 mm) Compression ratio 16.8 to 1 Displacement 230 cu in (3771 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element Oil filter one full flow element Fuel filter one paper cartridge and two gauze screens Muffler none Cooling medium temperature control one thermostat.

CHASSIS: Type Front wheel assist Serial No. 247589 Tread width rear 60" (1520 mm) to 80" (2032 mm) front 61" (1549 mm) to 73" (1854 mm) Wheel base 83.28" (2115 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 32.9" (835 mm) Vertical distance above roadway 33.8" (859 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 Advertised speeds mph (km/h) first 2.2 (3.6) second 2.9 (4.6) third 3.8 (6.2) fourth 5.0 (8.0) fifth 6.4 (10.4) sixth 8.5 (13.7) seventh 11.8 (19.0) eighth 15.3 (24.6) ninth 20.3 (32.7) reverse 3.3 (5.2), 7.3 (11.7), 17.3 (27.8) Clutch double dry disc hydraulically operated by foot pedal Brakes multiple dry disc hydraulically operated by two foot pedals which can be locked together and hand lever Steering hydrostatic Turning radius (on concrete surface with brake applied) right 176" (4.47 m) left 172" (4.37 m) (on concrete surface without brake) right 211" (5.36 m) left 208" (5.29 m) Turning space diameter (on concrete surface with brake applied) right 352" (8.94 m) left 344" (8.74 m) (on concrete surface without brake) right 422" (10.71 m) left 417" (10.59 m) Power take-off 540 rpm at 1813 engine rpm.

LUGGING ABILITY IN 5th (M-2) GEAR

Crankshaft Speed rpm	2201	1970	1761	1539	1315	1096
Pull—lbs (kN)	3919 (17.43)	4386 (19.51)	4673 (20.79)	4754 (21.15)	4656 (20.71)	4550 (20.24)
Increase in Pull %	0	12	19	21	19	16
Power—Hp (kW)	61.19 (45.63)	60.66 (45.24)	57.24 (42.68)	50.75 (37.84)	42.57 (31.74)	34.75 (25.91)
Speed—Mph (km/h)	5.86 (9.42)	5.19 (8.35)	4.59 (7.39)	4.00 (6.44)	3.43 (5.52)	2.86 (4.61)
Slip %	7.57	8.65	9.40	9.77	9.52	9.27

TRACTOR SOUND LEVEL WITH CAB	dB(A)	Front Wheel Drive Disengaged dB(A)
Maximum Available Power—Two Hours	83.5	85.0
75% of Pull at Maximum Power—Ten Hours	-	85.5
50% of Pull at Maximum Power—Two Hours	-	87.5
50% of Pull at Reduced Engine Speed—Two Hours	-	80.0
Bystander in 8th (H-2) gear	-	90.5

DRAWBAR PERFORMANCE (Front Wheel Drive Engaged)

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 5th (M-2) Gear											
56.04 (41.79)	3417 (15.20)	6.15 (9.90)	2198	4.91	4.478 (16.952)	0.564 (0.343)	12.51 (2.465)	204 (95.6)	48 (8.9)	60 (15.6)	28.915 (97.642)

MAXIMUM POWER IN SELECTED GEARS

48.99 (36.53)	9480 (42.17)	1.94 (3.12)	2240	14.92	1st (L-1) Gear		190 (87.8)	45 (7.2)	55 (12.8)	28.920 (97.659)
61.48 (45.85)	4964 (22.08)	4.64 (7.47)	2201	6.92	4th (M-1) Gear		232 (111.1)	59 (15.0)	77 (25.0)	28.870 (97.490)
61.38 (45.77)	3740 (16.64)	6.15 (9.90)	2203	5.01	5th (M-2) Gear		225 (107.2)	58 (14.4)	76 (24.4)	28.870 (97.490)

TIRES, BALLAST AND WEIGHT

Rear Tires		With Ballast	Without Ballast
—No., size, ply & psi (kPa)	—No., size, ply & psi (kPa)	Two 16.9-34; 8; 16 (110)	Two 16.9-34; 8; 16 (110)
Ballast	—Liquid (each)	900 lb (408 kg)	None
	—Cast Iron (each)	425 lb (193 kg)	None
Front Tires		Two 12.4/11-28; 6; 20 (140)	Two 12.4/11-28; 6; 20 (140)
Ballast	—Liquid (each)	400 lb (181 kg)	None
	—Cast Iron (each)	570 lb (259 kg)	None
Height of Drawbar		18.5 in (470 mm)	18.5 in (470 mm)
Static Weight with Operator—Rear		7140 lb (3239 kg)	4490 lb (2037 kg)
	—Front	4860 lb (2204 kg)	2920 lb (1324 kg)
	—Total	12000 lb (5443 kg)	7410 lb (3361 kg)

REPAIRS and ADJUSTMENTS: The bolts holding the rear wheel weights were retightened following the 50% drawbar fuel test.

REMARKS: All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure. Temperature at injection pump was 165°F (74.0°C). Five 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 1340.

LOUIS I. LEVITICUS

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

K. VON BARGEN

Board of Tractor Test Engineers



Leyland 482 Diesel

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