9-11-1985

Test 1573: Ford 2810 (8x2) Diesel 8-Speed

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1573—FORD 2810 (8×2) DIESEL
8 speed

POWER TAKE-OFF PERFORMANCE

Power Hp *(kW)*	Crank shaft speed rpm	Fuel Consumption gal/hr *(l/h)*	lb/hp.hr *(kg/kW.h)*	Hp.hr/gal *(kW.h/l)*	Temperature °F *(°C)* Cooling medium	Air wet bulb	Air dry bulb	Barometer inch Hg *(kPa)*
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed — Two hours (PTO Speed —600 rpm)								
32.83 *(24.48)*	2000	2.217 *(8.393)*	0.474 *(0.288)*	14.81 *(2.917)*	188 *(86.5)*	63 *(17.4)*	75 *(23.9)*	28.99 *(97.91)*
Standard Power Take-off Speed (540 rpm) — One Hour								
31.82 *(23.73)*	1800	2.093 *(7.924)*	0.461 *(0.281)*	15.20 *(2.994)*	188 *(86.9)*	63 *(17.2)*	75 *(23.6)*	29.00 *(97.93)*
VARYING POWER AND FUEL CONSUMPTION — Two Hours								
28.55 *(21.29)*	2047	1.993 *(7.546)*	0.490 *(0.298)*	14.32 *(2.821)*	185 *(84.7)*	63 *(17.2)*	75 *(23.9)*	....
0.00 *(0.00)*	2193	0.791 *(2.996)*	....	....	178 *(81.1)*	63 *(16.9)*	74 *(23.3)*	....
14.88 *(11.09)*	2132	1.377 *(5.214)*	0.649 *(0.395)*	10.80 *(2.127)*	182 *(83.3)*	63 *(16.9)*	74 *(23.3)*	....
32.91 *(24.54)*	2000	2.212 *(8.372)*	0.471 *(0.287)*	14.88 *(2.931)*	188 *(86.4)*	63 *(17.2)*	75 *(23.6)*	....
7.54 *(5.63)*	2161	1.069 *(4.048)*	0.994 *(0.605)*	7.05 *(1.390)*	182 *(83.3)*	63 *(17.2)*	75 *(23.6)*	....
21.94 *(16.36)*	2096	1.703 *(6.445)*	0.544 *(0.331)*	12.89 *(2.539)*	184 *(84.4)*	63 *(17.2)*	74 *(23.3)*	....
Av 17.64 ***Av (13.15)***	**2105**	**1.524** ***(5.770)***	**0.606** ***(0.369)***	**11.57** ***(2.279)***	**183** ***(83.9)***	**63** ***(17.1)***	**74** ***(23.5)***	**29.03** ***(98.04)***

DRAWBAR PERFORMANCE

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)*	Temp. °F *(°C)* Cool-ing med	Air wet bulb	Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Available Power — Two Hours 5th Gear											
28.19 *(21.02)*	1795 *(7.98)*	5.89 *(9.48)*	1999	5.24	2.189 *(8.285)*	0.544 *(0.331)*	12.88 *(2.537)*	189 *(87.2)*	64 *(17.5)*	72 *(21.9)*	28.97 *(97.83)*
75% of Pull at Maximum Power — Ten Hours 5th Gear											
23.07 *(17.20)*	1393 *(6.20)*	6.21 *(9.99)*	2085	4.20	1.924 *(7.282)*	0.585 *(0.356)*	11.99 *(2.362)*	187 *(86.3)*	62 *(16.8)*	65 *(18.1)*	29.07 *(98.16)*
50% of Pull at Maximum Power — Two Hours 5th Gear											
15.90 *(11.86)*	929 *(4.13)*	6.42 *(10.33)*	2126	2.94	1.597 *(6.045)*	0.704 *(0.428)*	9.96 *(1.961)*	188 *(86.7)*	64 *(17.8)*	67 *(19.2)*	29.16 *(98.45)*
50% of Pull at Reduced Engine Speed — Two Hours 6th Gear											
15.91 *(11.86)*	929 *(4.13)*	6.42 *(10.33)*	1702	2.77	1.383 *(5.236)*	0.610 *(0.371)*	11.50 *(2.265)*	186 *(85.6)*	65 *(18.3)*	70 *(21.1)*	29.17 *(98.50)*
MAXIMUM POWER IN SELECTED GEARS											
20.56 *(15.33)*	4036 *(17.95)*	1.91 *(3.07)*	2066	14.81	2nd Gear			188 *(86.7)*	63 *(17.2)*	65 *(18.3)*	29.14 *(98.40)*
27.50 *(20.51)*	2987 *(13.29)*	3.45 *(5.56)*	1999	9.35	3rd Gear			188 *(86.7)*	62 *(16.7)*	69 *(20.6)*	28.99 *(97.89)*
28.15 *(20.99)*	2174 *(9.67)*	4.86 *(7.81)*	1998	6.35	4th Gear			188 *(86.4)*	62 *(16.7)*	69 *(20.6)*	29.00 *(97.93)*
29.14 *(21.73)*	1857 *(8.26)*	5.88 *(9.47)*	1998	5.35	5th Gear			189 *(86.9)*	63 *(17.2)*	71 *(21.7)*	28.97 *(97.83)*
28.59 *(21.32)*	1443 *(6.42)*	7.43 *(11.96)*	1998	4.15	6th Gear			188 *(86.7)*	62 *(16.7)*	69 *(20.6)*	28.99 *(97.89)*

Department of Agricultural Engineering

Dates of Test: September 6 to 11, 1985

Manufacturer: FORD MOTOR COMPANY, Ford Tractor Operations, 2500 Maple Road, Troy, Michigan 48084

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** SF, CD **To motor** 1.383 gal *(5.234 l)* **Drained from motor** 1.232 gal *(4.663 l)* **Transmission and final drive lubricant** Ford M2C134B fluid **Total time engine was operated** 31.0 hours.

ENGINE: Make Ford Diesel **Type** three cylinder vertical **Serial No.** *B820799* **Crankshaft** lengthwise **Rated rpm** 2000 **Bore and stroke** 4.2″ × 3.8″ *(106.7 mm × 96.5 mm)* **Compression ratio** 17.3 to 1 **Displacement** 158 cu in *(2589 ml)* **Starting system** 12 volt **Lubrication** pressure **Air cleaner** two paper elements **Oil filter** one full flow paper cartridge **Fuel filter** one paper element **Muffler** vertical **Cooling medium temperature control** one thermostat.

CHASSIS: Type standard **Serial No.** *C738890* **Tread width** rear 60″ *(1524 mm)* to 80″ *(2032 mm)* front 52″ *(1320 mm)* to 80″ *(2032 mm)* **Wheel base** 77.5″ *(1969 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 28.5″ *(724 mm)* Vertical distance above roadway 28.1″ *(714 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 1.7 *(2.8)* second 2.2 *(3.5)* third 3.8 *(6.0)* fourth 5.2 *(8.3)* fifth 6.2 *(9.9)* sixth 7.7 *(12.4)* seventh 13.5 *(21.8)* eighth 18.5 *(29.8)* reverse 2.5 *(4.0)*, 8.9 *(14.3)* **Clutch** single plate dry disc operated by foot pedal **Brakes** wet multiple disc operated by two foot pedals which can be locked together **Steering** power assist **Turning radius** (on concrete surface with brake applied) right 114″ *(2.89 m)* left 114″ *(2.89 m)*(on concrete surface without brake) right 136″ *(3.45 m)* left 136″ *(3.45 m)* **Turning space diameter** (on concrete surface with brake applied) right 233″ *(5.92 m)* left 233″ *(5.92 m)*(on concrete surface without brake) right 275″ *(6.98 m)* left 275″ *(6.98 m)* **Power take-off** 540 rpm at 1800 engine rpm **Unladen tractor mass** 4465 lb *(2025 kg)*.

LUGGING ABILITY IN 5th GEAR

Crankshaft Speed rpm	1998	1792	1598	1407	1203	1010
Pull—lbs	1857	1980	2075	2162	2190	2184
(kN)	*(8.26)*	*(8.81)*	*(9.23)*	*(9.62)*	*(9.74)*	*(9.71)*
Increase in Pull %	0	7	12	16	18	18
Power—Hp	29.14	27.74	25.83	23.63	20.46	17.10
(kW)	*(21.73)*	*(20.69)*	*(19.26)*	*(17.62)*	*(15.26)*	*(12.75)*
Speed—Mph	5.88	5.25	4.67	4.10	3.50	2.94
(km/h)	*(9.47)*	*(8.46)*	*(7.51)*	*(6.60)*	*(5.64)*	*(4.73)*
Slip %	5.35	5.74	5.97	6.30	6.41	6.52

TRACTOR SOUND LEVEL WITHOUT CAB	dB(A)
Maximum Available Power—Two Hours	96.0
75% of Pull at Maximum Power—Ten Hours	95.0
50% of Pull at Maximum Power—Two Hours	94.0
50% of Pull at Reduced Engine Speed—Two Hours	91.5
Bystander in 7th gear	84.0

TIRES, BALLAST AND WEIGHT		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi *(kPa)*	Two 13.6-28; 4; 14 *(95)*	Two 13.6-28; 4; 14 *(95)*
Ballast	—Liquid (each)	450 lb *(204 kg)*	None
	—Cast Iron (each)	150 lb *(68 kg)*	None
Front Tires	—No., size, ply & psi *(kPa)*	Two 6.00-16; 4; 36 *(250)*	Two 6.00-16; 4; 36 *(250)*
Ballast	—Liquid (each)	None	None
	—Cast Iron (each)	47 lb *(21 kg)*	None
Height of Drawbar		17 in *(430 mm)*	17 in *(430 mm)*
Static Weight with Operator	—Rear	4135 lb *(1876 kg)*	2935 lb *(1331 kg)*
	—Front	1800 lb *(816 kg)*	1705 lb *(774 kg)*
	—Total	5935 lb *(2692 kg)*	4640 lb *(2105 kg)*

THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi *(kPa)*	2525 *(17410)*
Location	remote outlet
Hydraulic oil temperature °F *(°C)*	160 *(71)*
Location	final drive

	Maximum Lift Capacity	Lift Capacity for Transport
QUICK ATTACH	no	
CATEGORY	I	*not measured
LOAD lbs *(kg)*	2936 *(1332)*	
TIME sec	2.56	
HITCH POINT MOVEMENT in *(mm)*		
Lowest position	8.0 *(203)*	
Top of timed range	30.1 *(765)*	
Highest position	32.0 *(813)*	
LOAD CG MOVEMENT in *(mm)*		
Lowest position	7.4 *(188)*	
Top of timed range	33.6 *(853)*	
Highest position	36.1 *(917)*	

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

REPAIRS AND ADJUSTMENTS: No repairs or adjustments.

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 131°F *(55.1°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 No. **1573,** October 29,1985.

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
T. L. THOMPSON
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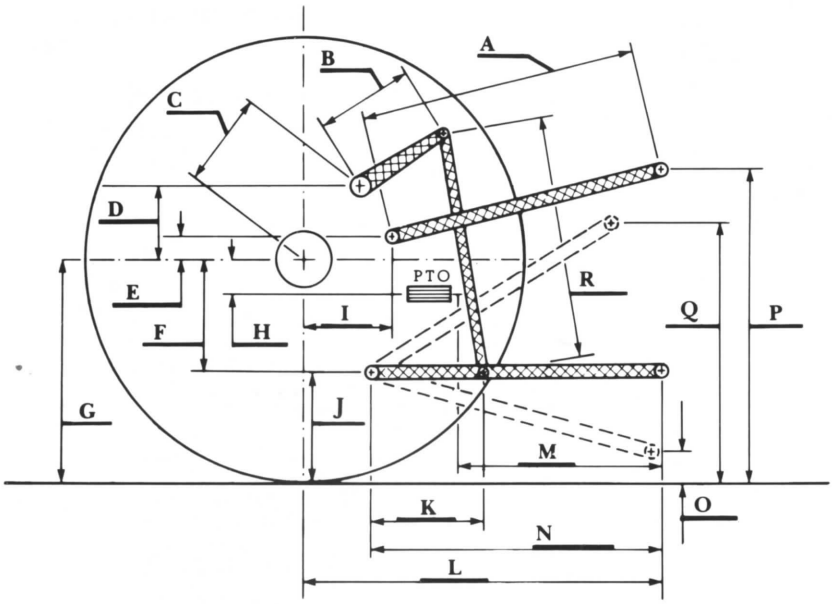
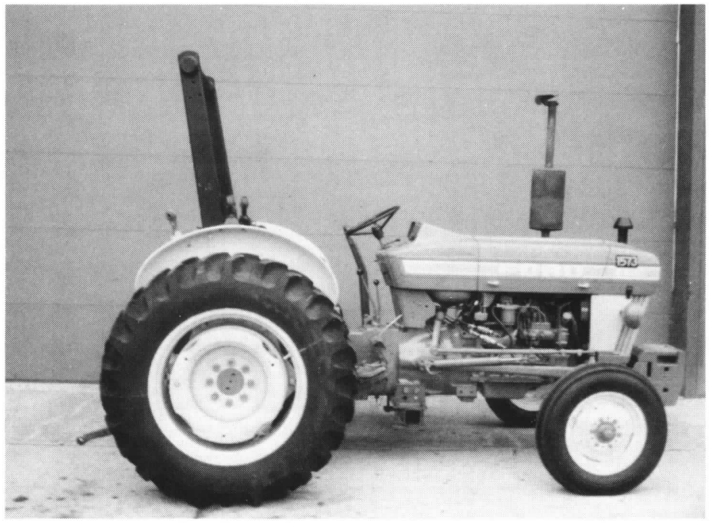
Board of Tractor Test Engineers



Hitch Dimensions as Tested — No Load

	inch	*mm*
A	25.9	*657*
B	10.0	*254*
C	12.9	*327*
D	10.1	*257*
E	7.5	*191*
F	8.0	*203*
G	23.6	*600*
H	4.7	*119*
I	8.7	*220*
J	15.6	*397*
K	17.2	*437*
L	34.2	*869*
M	18.3	*464*
N	31.5	*800*
O	8.0	*203*
P	33.6	*854*
Q	32.9	*835*
R	28.0	*711*



Ford 2810 Diesel

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