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January 1973

## Test 1131: Deutz D 4506 and 4507 Diesel (Also Deutz-Fahr D-4507 Diesel) 8-Speed

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1131 – DEUTZ D 4506 DIESEL ALSO DEUTZ D4507 DIESEL ALSO DEUTZ-FAHR D4507 DIESEL 8 SPEED

## POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature Degrees F			Barometer inches of Mercury
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>								
<b>Rated Engine Speed—Two Hours (PTO Speed—600 rpm)</b>								
43.15	2300	2.465	0.400	17.51	air-cooled	58	75	29.037
<b>Standard Power Take-off Speed (540 rpm)—One Hour</b>								
42.17	2070	2.341	0.388	18.01	air-cooled	57	75	29.030
<b>VARYING POWER AND FUEL CONSUMPTION—Two Hours</b>								
38.09	2388	2.234	0.410	17.05	air-cooled	58	76	.....
0.00	2477	0.759	.....	.....	air-cooled	57	75	.....
19.38	2431	1.226	0.443	15.81	air-cooled	58	75	.....
42.94	2300	2.419	0.394	17.75	air-cooled	58	76	.....
9.80	2455	1.085	0.774	9.03	air-cooled	58	76	.....
28.85	2411	2.131	0.517	13.54	air-cooled	57	76	.....
Av 23.18	2410	1.642	0.496	14.12	air-cooled	58	76	29.020

## DRAWBAR PERFORMANCE

Hp	Drawbar pull lbs	Speed miles per hr	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temp Degrees F			Barometer inches of Mercury
				Slip of drivers %	Gal per hr		Lb per hp-hr	Cooling med	Air wet bulb	

### VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

<b>Maximum Available Power—Two Hours—5th Gear (L-4)</b>											
35.47	2839	4.69	2300	7.39	2.448	0.483	14.49	air-cld.	59	69	28.690
<b>75% of Pull at Maximum Power—Ten Hours—5th Gear (L-4)</b>											
29.78	2235	4.99	2395	5.23	2.119	0.498	14.05	air-cld.	56	63	28.573
<b>50% of Pull at Maximum Power—Two Hours—5th Gear (L-4)</b>											
20.91	1539	5.10	2408	3.82	1.680	0.562	12.45	air-cld.	62	79	28.670
<b>50% of Pull at Reduced Speed—Two Hours—6th Gear (S-2)</b>											
21.54	1585	5.10	1989	3.79	1.483	0.482	14.52	air-cld.	64	82	28.625

### MAXIMUM POWER WITH BALLAST

26.88	5472	1.84	2403	14.28	2nd Gear (L-2)	air-cooled	50	53	28.610
33.90	4913	2.59	2298	13.75	3rd Gear (L-3)	air-cooled	59	74	28.780
36.23	3939	3.45	2302	10.53	4th Gear (S-1)	air-cooled	59	74	28.780
37.07	2969	4.68	2301	7.61	5th Gear (L-4)	air-cooled	59	74	28.780
37.04	2414	5.75	2299	5.97	6th Gear (S-2)	air-cooled	59	74	28.780
36.85	1607	8.60	2298	3.79	7th Gear (S-3)	air-cooled	59	74	28.780

### VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST 5th Gear (L-4)

Pounds Pull	2969	3229	3457	3505	3468	3258
Horsepower	37.07	35.82	33.75	30.14	25.42	20.21
Crankshaft Speed rpm	2301	2061	1831	1614	1376	1156
Miles Per Hour	4.68	4.16	3.66	3.22	2.75	2.33
Slip of Drivers %	7.61	8.33	9.20	9.20	9.30	8.76

### TRACTOR SOUND LEVEL WITHOUT CAB

	dB(A)
Maximum Available Power 2 Hours	93.0
75% of Pull at Max. Power 10 Hours	93.5
50% of Pull at Max. Power 2 Hours	92.0
50% of Pull at Reduced Engine Speeds 2 Hours	91.5
Bystander 8th Gear (S-4)	85.5

### TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
<b>Rear Tires</b>		
Ballast	Two 14.9-28;6;16	Two 14.9-28;6;16
	—No., Size, ply & psi	
	—Liquid	None
	Cast Iron	None
	1090 lb each	
<b>Front Tires</b>		
Ballast	Two 6.00-16;4;28	Two 6.00-16;4;28
	—No., Size, ply & psi	
	—Liquid	None
	Cast Iron	None
	25 lb each	
<b>Height of drawbar</b>	18 inches	18½ inches
<b>Static weight with operator</b> —rear	5690 lb	2860 lb
front	1700 lb	1650 lb
Total	7390 lb	4510 lb

### Department of Agricultural Engineering

**Dates of Test:** May 14 to May 25, 1973

**Manufacturer:** KLOCKNER - HUMBOLDT - DEUTZ A.G., Cologne, West Germany

**FUEL, OIL AND TIME** Fuel No. 2 Diesel Cetane No. 50.1 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60°** 0.8402 **Weight per gallon** 6.996 lb **Oil SAE 30 API service classification** SB/SE-CA/CD (formerly MS DS) **To motor** 1.905 gal **Drained from motor** 1.661 gal **Transmission and final drive lubricant** SAE 20 **Total time engine was operated** 52 hours.

**ENGINE** Make Deutz Diesel Type 3 cylinder vertical Serial No. 7876/2921 **Crankshaft Mounted** lengthwise **Rated rpm** 2300 **Bore and Stoke** 3.94" x 4.72" **Compression ratio** 17 to 1 **Displacement** 172.5 cu. in. **Cranking system** 12 volt electric **Lubrication pressure** **Air cleaner** dry replaceable paper element with automatic dust unloader **Oil filter** replaceable pleated paper cartridge **Oil cooler** radiator for crankcase oil **Fuel filter** replaceable pleated paper cartridge **Muffler** horizontal **Cooling medium temperature control** air-cooled.

**CHASSIS** Type standard Serial No. 5159377 **Tread width** rear 48" to 68" front 54.7" to 74.5" **Wheel base** 78.5" **Center of gravity** (without operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from centerline of rear wheels 29.4" Vertical distance above roadway 28.1" Horizontal distance from center of rear wheel tread 0" to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio **Advertised speeds mph** first 1.3 second 2 third 3 fourth 3.9 fifth 5.1 sixth 6.2 seventh 9.1 eighth 15.3 reverse 1.5, 2.4, 3.4, & 5.8 **Clutch** dry dual disc clutch operated by foot pedal and hand lever for PTO **Brakes** internal expanding shoes operated by two foot pedals that can be locked together **Steering** power assist **Turning radius** (on concrete surface with brake applied) right 125" left 126" (on concrete surface without brake) right 130" left 130" **Turning space diameter** (on concrete surface with brake applied) right 277" left 273" (on concrete surface without brake) right 304" left 303" **Power take-off** 540 rpm at 2070 engine rpm.

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

**REMARKS:** All test results were determined from observed data obtained in accordance with SAE and ASAE test code or official Nebraska test procedure.

Six gears were chosen between tire tangential pull limit and 12 mph.

**NOTE:** 1) Supplemental permit for Deutz D4507 granted February 1981. 2) Supplemental permit for Deutz Fahr D4507 granted November 1982.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1131.

L. F. LARSEN  
Engineer-in-charge

G. W. STEINBRUEGGE, Chairman  
W. E. SPLINTER  
D. E. LANE  
Board of Tractor Test Engineers