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January 1972

Test 1091: Deutz D60 06 Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1091 – DEUTZ D60 06 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
MAXIMUM POWER AND FUEL CONSUMPTION								
Rated Engine Speed—Two Hours (PTO Speed—1062 rpm)								
66.25	2300	4.416	0.458	15.00	air-cooled	54	75	29.037
Standard Power Take-off Speed (1000 rpm)—One Hour								
63.93	2167	4.190	0.451	15.26	air-cooled	54	74	29.020
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
58.04	2372	3.668	0.435	15.82	air-cooled	54	74	.....
0.00	2483	1.021	.....	.....	air-cooled	53	74	.....
29.64	2423	2.172	0.504	13.65	air-cooled	54	75	.....
65.30	2303	4.423	0.465	14.76	air-cooled	54	75	.....
15.02	2452	1.566	0.717	9.59	air-cooled	54	75	.....
44.02	2398	2.822	0.441	15.69	air-cooled	54	75	.....
Av. 35.34	2405	2.612	0.508	13.53	air-cooled	54	75	28.993

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 med	Air wet bulb	Air dry bulb	Barometer inches of Mercury
VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST											
Maximum Available Power—Two Hours—7th Gear (Z3)											
57.71	4330	5.00	2298	6.67	4.434	0.528	13.02	A-cooled	47	59	28.720
75% of Pull at Maximum Power—Ten Hours—7th Gear (Z3)											
45.56	3217	5.31	2395	4.83	3.340	0.504	13.64	A-cooled	33	42	28.898
50% of Pull at Maximum Power—Two Hours—7th Gear (Z3)											
32.03	2205	5.45	2421	3.35	2.726	0.585	11.75	A-cooled	31	39	28.960
50% of Pull at Reduced Engine Speed—Two Hours—9th Gear (Z4)											
32.40	2233	5.44	1765	3.42	2.289	0.485	14.15	A-cooled	35	40	28.960
MAXIMUM POWER WITH BALLAST											
55.61	8623	2.42	2364	14.71	4th Gear (Z1)	air-cooled	32	40	28.940		
56.21	5389	3.91	2300	8.68	6th Gear (Z2)	air-cooled	41	55	28.930		
57.36	4295	5.01	2302	6.58	7th Gear (Z3)	air-cooled	41	55	28.930		
57.69	3996	5.41	2331	6.12	8th Gear (S1)	air-cooled	41	55	28.930		
58.15	3107	7.02	2302	4.58	9th Gear (Z4)	air-cooled	41	56	28.930		
57.42	2501	8.61	2298	3.62	10th Gear (S2)	air-cooled	41	54	28.930		

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—7th Gear (Z3)

Pounds Pull	4295	4457	4717	4774	4868	4767
Horsepower	57.35	53.18	50.05	44.16	38.55	31.66
Crankshaft Speed rpm	2302	2060	1843	1611	1380	1156
Miles Per Hour	5.01	4.47	3.98	3.47	2.97	2.49
Slip of Drivers %	6.58	6.84	7.35	7.48	7.61	7.48

TRACTOR SOUND LEVEL

	dB(A)
Maximum Available Power 2 Hours	95.0
75% of Pull at Max. Power 10 Hours	95.0
50% of Pull at Max. Power 2 Hours	93.5
50% of Pull at Reduced Engine Speed 2 Hours	90.5
Bystander 12th gear (S-4)	87.5

TIRES, BALLAST AND WEIGHT

	With Ballast	Without Ballast
Rear tires	—No., size, ply & psi	Two 18.4-30; 8; 16
Ballast	—Liquid	650 lb each
	Cast Iron	1370 lb each
Front tires	—No., size, ply & psi	Two 7.50-16; 6; 36
Ballast	—Liquid	None
	Cast iron	440 lb each
Height of drawbar	19½ inches	19½ inches
Static weight with operator—rear	8180 lb	4140 lb
front	3070 lb	2190 lb
total	11250 lb	6330 lb

Department of Agricultural Engineering

Dates of Test: March 17 to April 3, 1972

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° 0.8261 Weight per gallon 6.878 lb Oil SAE 30 API service classification MS DG DM DS To motor 2.543 gal Drained from motor 1.915 gal. Transmission and final drive lubricant SAE 20 Total time engine was operated 49½ hours.

ENGINE Make Deutz Diesel Type 4 cylinder air-cooled Serial No. 5072051 Crankshaft Mounted lengthwise Rated rpm 2300 Bore and stroke 3.94" x 4.72" Compression ratio 17 to 1 Displacement 230 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 in cooling system Fuel filter replaceable pleated paper cartridge Muffler was used Cooling medium temperature control air-cooled.

CHASSIS Type Standard Serial No. 7898/9803 Tread width rear 56" to 79" front 57" to 77" Wheel base 84.5" Center of gravity (with-out operator or ballast, with minimum tread, with fuel tank filled and tractor serviced for operation) Horizontal distance forward from centerline of rear wheels 28.7" Vertical distance above roadway 27.1" Horizontal distance from center of rear wheel tread 0" to the right/left Hydraulic control system direct engine drive Transmission constant mesh selective gear fixed ratio Advertised speeds mph first 1.37 second 2.11 third 2.61 fourth 2.73 fifth 3.60 sixth 4.22 seventh 5.28 eighth 5.71 ninth 7.27 tenth 8.82 eleventh 11.06 twelfth 15.16 reverse 3.35, 5.22, 6.52, 9.01 Clutch dry disc dual clutch operated by a foot pedal and hand lever for PTO Brakes internal expanding shoes operated by two foot pedals that can be locked together Steering hydraulic with power assist Turning radius (on concrete surface with brake applied) right 137" left 126" (on concrete surface without brake) right 147" left 147" Turning space diameter (on concrete surface with brake applied) right 270" left 275" (on concrete surface without brake) right 306" left 304" Belt pulley 1290 rpm at 2300 engine rpm diam 12.5" face 5.5" Belt speed 4250 fpm Power take-off 540 rpm at 2025 engine rpm and 1000 at 2167 engine rpm.

REPAIRS and ADJUSTMENTS: Following the PTO runs it was necessary to tighten the four nuts holding the exhaust riser.

REMARKS: All test results were determined from observed data in accordance with SAE and ASAE test code or official Nebraska test procedure. First, second, and third gears were not run as it was necessary to limit the pull in fourth gear because of excessive slippage. Eleventh and twelfth gears were not run as test procedure requires only one gear over eight miles per hour.

We, the undersigned, certify that this is a true and correct report of official Tractor Test 1091.

L. F. LARSEN

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

D. E. LANE

Board of Tractor Test Engineers

The University of Nebraska Agricultural Experiment Station
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