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Test 1398: Allis-Chalmers 6080 Diesel Also Deutz-Allis 6080 Diesel 12-Speed

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1398—ALLIS CHALMERS 6080 DIESEL ALSO DEUTZ ALLIS 6080 DIESEL 12 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—955 rpm)									
83.66 (62.39)	2300	5.016 (18.988)	0.420 (0.256)	16.68 (3.286)	188 (86.4)	66 (18.9)	75 (23.9)	28.767 (97.141)	
Standard Power take-off Speed (1000 rpm)—One Hour									
74.49 (55.55)	2408	4.745 (17.962)	0.447 (0.272)	15.70 (3.093)	184 (84.3)	66 (18.8)	75 (23.9)	28.795 (97.236)	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
74.43 (55.50)	2408	4.737 (17.931)	0.446 (0.271)	15.71 (3.095)	184 (84.4)	66 (18.9)	75 (23.6)	..... .....
0.00 (0.00)	2567	1.532 (5.799)	..... .....	..... .....	174 (78.9)	65 (18.3)	75 (23.6)	..... .....
38.69 (28.85)	2500	3.222 (12.197)	0.584 (0.355)	12.01 (2.365)	180 (82.2)	65 (18.3)	75 (23.9)	..... .....
83.83 (62.51)	2300	5.002 (18.935)	0.418 (0.255)	16.76 (3.301)	187 (86.1)	66 (18.9)	75 (23.9)	..... .....
19.59 (14.61)	2536	2.345 (8.877)	0.839 (0.511)	8.35 (1.646)	175 (79.4)	66 (18.9)	75 (23.9)	..... .....
57.03 (42.53)	2460	3.979 (15.062)	0.489 (0.298)	14.33 (2.824)	182 (83.3)	66 (18.9)	77 (24.7)	..... .....
Av Av	45.60 (34.00)	2462	3.470 (13.135)	0.534 (0.325)	13.14 (2.589)	180 (82.4)	66 (18.7)	75 (23.9)	28.817 (97.310)

DRAWBAR PERFORMANCE

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 8th (4-I) Gear											
70.50 (52.57)	4609 (20.50)	5.74 (9.23)	2301	5.30	4.939 (18.695)	0.491 (0.299)	14.27 (2.812)	189 (87.2)	62 (16.4)	77 (25.0)	28.790 (97.220)
75% of Pull at Maximum Power—Ten Hours 8th (4-I) Gear											
57.00 (42.50)	3469 (15.43)	6.16 (9.91)	2429	3.70	4.450 (16.846)	0.547 (0.333)	12.81 (2.523)	184 (84.7)	57 (13.9)	71 (21.9)	29.069 (98.162)
50% of Pull at Maximum Power—Two Hours 8th (4-I) Gear											
39.37 (29.36)	2326 (10.35)	6.35 (10.21)	2478	2.69	3.601 (13.633)	0.641 (0.390)	10.93 (2.153)	184 (84.4)	66 (18.6)	85 (29.2)	28.745 (97.068)
50% of Pull at Reduced Engine Speed—Two Hours 9th (1-H) Gear											
39.29 (29.30)	2319 (10.32)	6.35 (10.22)	1734	2.58	2.657 (10.056)	0.474 (0.288)	14.79 (2.913)	185 (84.7)	66 (18.6)	90 (31.9)	28.725 (97.000)

MAXIMUM POWER IN SELECTED GEARS

62.72 (46.77)	9003 (40.05)	2.61 (4.20)	2377	14.92	5th (1-I) Gear			183 (83.9)	55 (12.8)	64 (17.8)	28.900 (97.591)
68.93 (51.40)	7386 (32.85)	3.50 (5.63)	2300	9.66	6th (2-I) Gear			187 (85.8)	60 (15.6)	71 (21.7)	28.850 (97.422)
70.65 (52.68)	5852 (26.03)	4.53 (7.29)	2302	6.55	7th (3-I) Gear			188 (86.4)	59 (15.0)	70 (21.1)	28.860 (97.456)
72.32 (53.93)	4725 (21.02)	5.74 (9.24)	2302	5.37	8th (4-I) Gear			184 (84.4)	56 (13.3)	68 (20.0)	28.920 (97.659)
71.80 (53.54)	3218 (14.32)	8.37 (13.46)	2298	3.28	9th (1-H) Gear			187 (86.1)	60 (15.6)	68 (20.0)	28.870 (97.490)

LUGGING ABILITY IN 8th (4-I) GEAR

Crankshaft Speed rpm	2302	2070	1836	1612	1386	1152
Pull—lbs (kN)	4725 (21.02)	5317 (23.65)	5755 (25.60)	6000 (26.69)	5942 (26.43)	5072 (22.56)
Increase in Pull %	0	13	22	27	26	7
Power—Hp (kW)	72.32 (53.93)	72.64 (54.17)	69.32 (51.69)	63.26 (47.17)	53.88 (40.18)	38.65 (28.82)
Speed—Mph (km/h)	5.74 (9.24)	5.12 (8.25)	4.52 (7.27)	3.95 (6.36)	3.40 (5.47)	2.86 (4.60)
Slip %	5.37	5.99	6.55	6.82	6.82	5.86

Department of Agricultural Engineering

Dates of Test: June 8-20, 1981

Cab Sound Test: August 31, 1982

Manufacturer: ALLIS CHALMERS CORPORATION, P.O. Box 512, Milwaukee, Wisconsin 53201

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 46.3 (rating taken from oil company's inspection data) Specific gravity converted to 60°/60° (15°/15°) 0.8420 Fuel weight 7.011 lbs/gal (0.840 kg/l) Oil SAE 15W40 API service classification SE-CD To motor 2.529 gal (9.573 l) Drained from motor 2.691 gal (10.187 l) Transmission and final drive lubricant Allis Chalmers Power Fluid 821 Total time engine was operated 40.0 hours

ENGINE: Make Allis Chalmers Diesel Type four cylinder vertical with turbocharger and inter-cooler Serial No. 33-05899 Crankshaft lengthwise Rated rpm 2300 Bore and stroke 3.876" × 4.25" (98.4 mm × 107.9 mm) Compression ratio 14.1 to 1 Displacement 200 cu in (3287 ml) Starting system 12 volt Lubrication pressure Air cleaner one paper element with centrifugal pre-cleaner Oil filter one full flow cartridge Oil cooler engine coolant heat exchanger for crankcase oil Fuel filter one paper cartridge Muffler vertical Cooling medium temperature control one thermostat.

CHASSIS: Type standard Serial No. 6080 1265 Tread width rear 60.6" (1538 mm) to 84.6" (2148 mm) front 60" (1524 mm) to 88" (2235 mm) Wheel base 96" (2438 mm) 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 29.8" (757 mm) Vertical distance above roadway 35.4" (899 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 1.0 (1.6) second 1.4 (2.2) third 1.7 (2.7) fourth 2.1 (3.4) fifth 3.0 (4.9) sixth 4.0 (6.4) seventh 5.0 (8.0) eighth 6.2 (10.0) ninth 8.8 (14.2) tenth 11.5 (18.6) eleventh 14.4 (23.2) twelfth 18.0 (29.0) reverse 1.0 (1.6), 2.9 (4.6), 8.4 (13.4) Clutch single dry disc operated by foot pedal Brakes multiple wet disc hydraulically operated by two foot pedals which can be locked together Steering hydrostatic Turning radius (on concrete surface with brake applied) right 143" (3.63 m) left 145" (3.68 m) (on concrete surface without brake) right 155" (3.94 m) left 157" (3.98 m) Turning space diameter (on concrete surface with brake applied) right 304" (7.72 m) left 307" (7.81 m) (on concrete surface without brake) right 328" (8.34 m) left 331" (8.41 m) Power take-off 1000 rpm at 2408 engine rpm and 540 rpm at 2124 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

TRACTOR SOUND LEVEL	with cab dB(A)	without cab dB(A)
Maximum Available Power—Two Hours	81.0	93.0
75% of Pull at Maximum Power—Ten Hours	81.5	92.0
50% of Pull at Maximum Power—Two Hours	80.0	91.0
50% of Pull at Reduced Engine Speed—Two Hours	78.0	89.0
Bystander in 12th (4-H) gear	84.5	86.0

TIRES, BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear Tires		
—No., size, ply & psi (kPa)	Two 18.4-34; 8; 18 (125)	Two 18.4-34; 8; 18 (125)
Ballast		
—Liquid (each)	1048 lb (475 kg)	None
—Cast Iron (each)	1000 lb (454 kg)	None
Front Tires		
—No., size, ply & psi (kPa)	Two 7.50-16; 6; 36 (250)	Two 7.50-16; 6; 36 (250)
Ballast		
—Liquid (each)	None	None
—Cast Iron (each)	52 lb (24 kg)	None
Height of Drawbar	19.5 in (495 mm)	19.5 in (495 mm)
Static Weight with Operator—Rear	9365 lb (4248 kg)	5270 lb (2391 kg)
—Front	2425 lb (1100 kg)	2320 lb (1052 kg)
—Total	11790 lb (5348 kg)	7590 lb (3443 kg)

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 return was 144°F (62.0°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 No. 1398.

LOUIS I. LEVITICUS
Engineer-in-Charge

K. VON BARGEN
W. E. SPLINTER
L. L. BASHFORD
Board of Tractor Test Engineers



Allis Chalmers 6080 Diesel