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## Test 1168: Allis-Chalmers 7080 Diesel

Nebraska Tractor Test Lab

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# NEBRASKA TRACTOR TEST 1168 — ALLIS-CHALMERS 7080 DIESEL

## POWER TAKE-OFF PERFORMANCE

Hp	Crankshaft speed rpm	Fuel Consumption		Hp-hr per gal	Temperature °F			Barometer inches of Mercury
		Gal per hr	Lb per hp-hr		Cooling medium	Air wet bulb	Air dry bulb	

### MAXIMUM POWER AND FUEL CONSUMPTION

Rated Engine Speed—Two Hours (PTO Speed—996 rpm)								
181.51	2550	11.553	0.440	15.71	191	59	75	29.080

### VARYING POWER AND FUEL CONSUMPTION—Two Hours

161.42	2670	10.900	0.467	14.81	187	63	76	.....
0.00	2817	3.651	.....	.....	174	61	76	.....
83.34	2756	7.540	0.625	11.05	179	59	74	.....
182.10	2551	11.542	0.438	15.78	191	60	75	.....
42.34	2792	5.548	0.906	7.63	176	60	75	.....
123.10	2713	9.220	0.518	13.35	184	60	75	.....
<b>Av 98.72</b>	<b>2716</b>	<b>8.067</b>	<b>0.565</b>	<b>12.24</b>	<b>182</b>	<b>60</b>	<b>75</b>	<b>29.050</b>

## DRAWBAR PERFORMANCE

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

### VARYING DRAWBAR POWER AND FUEL CONSUMPTION WITH BALLAST

Maximum Available Power—Two Hours—8th Gear (4SL)											
148.89	12192	4.58	2549	6.42	11.250	0.522	13.23	181	51	54	28.900
75% of Pull at Maximum Power—Ten Hours—8th Gear (4SL)											
124.54	9470	4.93	2699	4.82	10.281	0.570	12.11	179	33	35	28.701
50% of Pull at Maximum Power—Two Hours—8th Gear (4SL)											
86.63	6375	5.10	2748	3.26	8.646	0.690	10.02	177	38	43	29.045
50% of Pull at Reduced Engine Speed—Two Hours—12th Gear (2FL)											
87.18	6417	5.09	1893	3.18	6.529	0.518	13.35	177	45	48	29.000

### MAXIMUM POWER WITH BALLAST

139.64	18478	2.83	2635	13.97	3rd Gear (2SL)			182	38	47	29.070
152.99	14157	4.05	2552	7.57	6th Gear (1FH)			183	50	52	29.030
153.78	12580	4.58	2553	6.50	8th Gear (4SL)			184	52	54	29.010
152.92	9967	5.75	2551	4.93	10th Gear (4SH)			184	50	52	29.030
153.54	8461	6.80	2550	4.04	12th Gear (2FL)			183	45	50	29.040
147.75	5851	9.47	2548	2.72	15th Gear (3FL)			183	40	49	29.050

### VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—8th Gear (4SL)

Pounds Pull	12580	14525	15856	15900	15078	13586
Horsepower	153.78	157.09	149.96	131.29	108.32	81.46
Crankshaft Speed rpm	2553	2291	2032	1781	1531	1264
Miles Per Hour	4.58	4.06	3.55	3.10	2.69	2.25
Slip of Drivers %	6.50	7.87	9.20	9.06	8.32	7.27

### TRACTOR SOUND LEVEL WITH CAB

	Acousta I dB(A)	Acousta II dB(A)
Maximum Available Power—Two Hours	81.5	80.0
75% of Pull at Maximum Power—Ten Hours	83.0	81.5
50% of Pull at Maximum Power—Two Hours	83.5	81.5
50% of Pull at Reduced Engine Speed—Two Hours	79.0	79.5
Bystander 20th Gear (5FH)	91.0	

Department of Agricultural Engineering

Dates of Test: November 1-13 1974

Sound Retest: March 20, 1978

Manufacturer: Allis-Chalmers Corporation Milwaukee, Wisconsin

**FUEL, OIL AND TIME:** Fuel No 2 Diesel Cetane No 51.9 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60°** 0.8300 **Weight per gallon** 6.911 lb **Oil SAE 30 API service classification** SE-CD **To motor** 4.469 gal **Drained from motor** 3.013 gal **Transmission and final drive lubricant** Allis-Chalmers Power Fluid 832 **Total time engine was operated** 43½ hours

**ENGINE:** Make Allis-Chalmers Diesel **Type** 6 cylinder vertical with turbo-charger and inter-cooler **Serial No** 3D-27273 **Crankshaft Mounted** lengthwise **Rated rpm** 2550 **Bore and stroke** 4.25" x 5.0" **Compression ratio** 16 to 1 **Displacement** 426 cu in **Cranking system** 12 volt **Lubrication** pressure **Air cleaner** dry type two stage with replaceable pleated paper elements and pre-cleaner with aspirator **Oil filter** two full flow replaceable cartridges and one by-pass type with replaceable element **Oil cooler** engine coolant heat exchanger for crankcase oil and radiator for transmission and hydraulic fluid **Fuel filter** replaceable cartridge **Muffler** vertical **Cooling medium temperature control** 2 thermostats

**CHASSIS:** **Type** standard with duals **Serial No** 7080-1001 **Tread width** rear 68" to 128" front 71.5" to 99.5" **Wheel base** 106" **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 29.5" Vertical distance above roadway 37" Horizontal distance from center of rear wheel tread 0" to the right/left **Hydraulic control system** direct engine drive **Transmission** selective gear fixed ratio with partial (2) range operator controlled power shift **Advertised speeds mph** first 1.6 second 2.0 third 3.2 fourth 3.6 fifth 4.0 sixth 4.4 seventh 4.4 eighth 4.9 ninth 5.5 tenth 6.1 eleventh 6.7 twelfth 7.2 thirteenth 8.2 fourteenth 8.8 fifteenth 9.8 sixteenth 11.0 seventeenth 12.1 eighteenth 13.6 nineteenth 14.8 twentieth 18.3 reverse 3.0, 3.7, 6.7 and 8.2 **Clutch** multiple plate wet disc hydraulically actuated by foot pedal **Brakes** wet multiple discs operated hydraulically by two foot pedals that can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 150" left 150" (on concrete surface without brake) right 203" left 203" **Turning space diameter** (on concrete surface with brake applied) right 327" left 327" (on concrete surface without brake) right 429" left 429" **Power take-off** 996 rpm at 2550 engine rpm

**TIRES, BALLAST AND WEIGHT**

**Rear Tires** —No., size, ply & psi  
**Ballast** —Liquid (each)  
—Cast Iron (each)

**Front Tires** —No., size, ply & psi  
**Ballast** —Liquid (each)  
—Cast Iron (each)

**Height of Drawbar**

**Static Weight with Operator**—Rear  
—Front  
—Total

**With Ballast**

Four 20.8-38; 10; 16  
977 lb  
623 lb

Two 18.4-16.1; 8; 20  
None  
358 lb

22 inches

16910 lb  
4810 lb  
21720 lb

**Without Ballast**

Four 20.8-38; 10; 16  
None  
None

Two 18.4-16.1; 8; 20  
None  
None

22½ inches

10510 lb  
4095 lb  
14605 lb

**REPAIRS AND ADJUSTMENTS:** No repairs and 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 stability limit and 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1168**.

LOUIS I. LEVITICUS

Engineer-in-Charge

G. W. STEINBRUEGGE, Chairman

W. E. SPLINTER

K. VON BARGEN

Board of Tractor Test Engineers



**Allis-Chalmers 7080 Diesel**