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Test 1195: Allis-Chalmers 7000 PS Diesel

Nebraska Tractor Test Lab

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NEBRASKA TRACTOR TEST 1195 — ALLIS-CHALMERS 7000 PS DIESEL

ALSO SOUND RETEST

POWER TAKE-OFF PERFORMANCE

Hp	Crank shaft speed rpm	Fuel Consumption			Temperature Degrees F			Barometer inches of Mercury	
		Gal per hr	Lb per hp-hr	Hp-hr per gal	Cooling medium	Air wet bulb	Air dry bulb		
MAXIMUM POWER AND FUEL CONSUMPTION									
Rated Engine Speed—Two Hours (PTO Speed—1019 rpm)									
106.44	2200	6.807	0.442	15.64	190	54	75	29.090	
Standard Power Take-off Speed (1000 rpm)—One Hour									
105.85	2159	6.743	0.440	15.70	190	54	74	29.080	
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
94.05	2288	6.287	0.462	14.96	186	53	72	.....
0.00	2468	2.294	.....	.....	175	53	73	.....
48.56	2368	4.280	0.609	11.35	181	52	72	.....
106.27	2201	6.799	0.442	15.63	191	54	75	.....
24.82	2420	3.332	0.927	7.45	177	54	74	.....
72.00	2332	5.318	0.510	13.54	184	55	76	.....
Av	57.62	2346	4.718	0.565	12.21	182	53	73	29.140

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 Cool- ing med	Degrees F Air wet bulb	Air dry bulb	Barom. inches of Merc.
Maximum Available Power—Two Hours 8th (3-I) Gear											
89.46	5521	6.08	2201	5.99	6.770	0.523	13.21	190	45	56	28.840
75% of Pull at Maximum Power—Ten Hours 8th (3-I) Gear											
74.29	4278	6.51	2319	4.46	6.054	0.563	12.27	184	59	64	28.926
50% of Pull at Maximum Power—Two Hours 8th (3-I) Gear											
49.68	2775	6.71	2353	2.97	4.888	0.679	10.16	180	40	40	29.115
50% of Pull at Reduced Engine Speed—Two Hours 9th (3-H) Gear											
49.55	2773	6.70	1883	2.93	4.200	0.585	11.80	180	31	36	28.980

MAXIMUM POWER WITH BALLAST

85.63	9907	3.24	2213	14.98	4th Gear (2-L)		186	54	57	28.940
90.87	7839	4.35	2198	9.01	5th Gear (2-I)		189	42	54	28.870
90.13	7171	4.71	2201	8.18	6th Gear (3-L)		190	43	55	28.860
90.63	6098	5.57	2199	6.47	7th Gear (2-H)		189	40	52	28.890
92.64	5713	6.08	2199	5.96	8th Gear (3-I)		188	39	51	28.910
90.82	4423	7.70	2200	4.47	9th Gear (3-H)		187	38	50	28.920

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST 8th (3-I) GEAR

Pounds Pull	5713	6381	6660	6890	6367	5515
Horsepower	92.64	92.11	84.84	76.76	60.65	44.36
Crankshaft Speed rpm	2199	1974	1752	1534	1303	1089
Miles Per Hour	6.08	5.41	4.78	4.18	3.57	3.02
Slip of Drivers %	5.96	6.76	7.33	7.62	6.76	5.88

TRACTOR SOUND LEVEL WITH CAB

	Acousta I dB(A)	Acousta II dB(A)
Maximum Available Power 2 Hours	79.5	76.5
75% of Pull at Max. Power 10 Hours	79.0	76.0
50% of Pull at Max. Power 2 Hours	79.5	75.0
50% of Pull at Reduced Engine Speed 2 Hours	78.0	75.0
Bystander in 12th (4-H) gear	88.5	86.0

Department of Agricultural Engineering

Dates of Test: November 8 to 20, 1975

Sound Retest: August 16, 1978

Manufacturer: ALLIS-CHALMERS CORPORATION, 1126 South 70th Street, Milwaukee, Wisconsin

FUEL, OIL AND TIME: Fuel No. 2 Diesel Cetane No. 51.7 (rating taken from oil company's typical inspection data) **Specific gravity converted to 60°/60° (15°/15°)** 0.8293 **Fuel weight** 6.905 lbs/gal **Oil SAE 30 API service classification** SE-CD **To motor** 3.144 gal **Drained from motor** 2.529 gal **Transmission and final drive lubricant** Allis Chalmers power fluid 821 **Total time engine was operated** 46 hours.

ENGINE Make Allis-Chalmers Diesel **Type** 6 cylinder vertical with turbocharger **Serial No.** 2D-84657 **Crankshaft Mounted** lengthwise **Rated rpm** 2200 **Bore and Stroke** 3.875" x 4.250" **Compression ratio** 16.25 to 1 **Displacement** 301 cu in **Cranking system** 12 volt **Lubrication** pressure **Air cleaner** two stage dry type with pleated paper primary and safety element and centrifugal pre-cleaner **Oil filter** two full flow cartridges **Oil cooler** engine coolant heat exchanger for crank-case oil and radiator for transmission and hydraulic oil **Fuel filter** one cartridge **Muffler** vertical **Cooling medium temperature control** thermostat.

CHASSIS: **Type** Standard **Serial No.** 1047 **Tread width** rear 64" to 93" front 62" to 86" **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 33.3" Vertical distance above roadway 36.5" 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 (3) range operator controlled power shift **Advertised speeds mph** first 1.9 second 2.4 third 3.0 fourth 3.9 fifth 5.0 sixth 5.3 seventh 6.2 eighth 6.7 ninth 8.4 tenth 12.3 eleventh 15.5 twelfth 19.3 reverse 3.6, 4.5, 5.6 **Clutch** single dry disc operated by foot pedal **Brakes** dry double disc operated by two foot pedals which can be locked together **Steering** hydrostatic **Turning radius** (on concrete surface with brake applied) right 143.5" left 143.5" (on concrete surface without brake) right 165" left 165" **Turning space diameter** (on concrete surface with brake applied) right 300" left 300" (on concrete surface without brake) right 343" left 343" **Power take-off** 1000 rpm at 2159 engine rpm and 540 rpm at 2121 engine rpm.

REPAIRS and ADJUSTMENTS: No repairs or adjustments.

TIRES, BALLAST AND WEIGHT

		With Ballast	Without Ballast
Rear Tires	—No., size, ply & psi (<i>kPa</i>)	Two 18.4-38; 10; 20	Two 18.4-38; 10; 20
	—Liquid	945 lb each	None
	—Cast Iron	500 lb each	None
Front Tires	—No., size, ply & psi (<i>kPa</i>)	Two 10.00-16; 8; 40	Two 10.00-16; 8; 40
	—Liquid	None	None
	—Cast Iron	70 lb each	None
Height of Drawbar		20.5 inches	20.5 inches
Static Weight with Operator	—Rear	9480 lb	6590 lb
	—Front	3100 lb	2960 lb
	—Total	12580 lb	9550 lb

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 was 141°F. Six gears were chosen between 15% slip and 15 mph.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1195**.

L. I. LEVITICUS

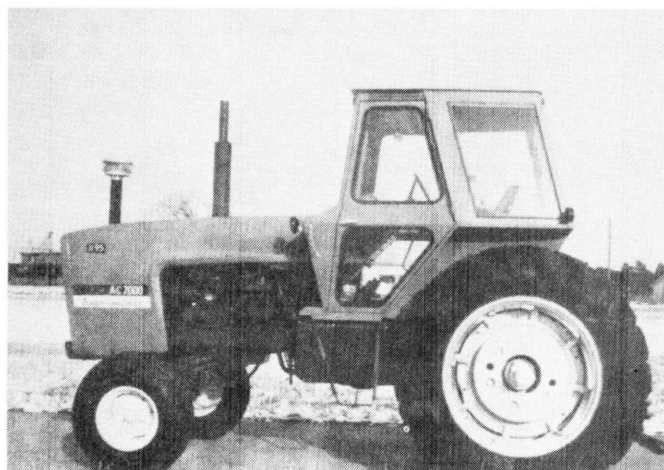
Engineer-in-Charge

G. W. STEINBRUEGGE

W. E. SPLINTER

K. VON BARGEN

Board of Tractor Test Engineers



Allis-Chalmers 7000 PS DIESEL