January 1973

Test 1119: Alis-Chalmers 7030 Diesel

Nebraska Tractor Test Lab
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NEBRASKA TRACTOR TEST 1119 – ALLIS-CHALMERS 7030 DIESEL

POWER TAKE-OFF PERFORMANCE

	Hp	Crank-shaft speed rpm	Fuel Consumption Gal per hr	Fuel Consumption 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—1021 rpm)									
	130.98	2300	8.523	0.452	15.37	199	58	75	28.920
Standard Power Take-off Speed (1000 rpm)—One Hour									
	131.14	2253	8.487	0.449	15.45	198	58	75	28.920
VARYING POWER AND FUEL CONSUMPTION—Two Hours									
	117.17	2420	8.037	0.476	14.58	197	59	76	.....
	0.00	2535	3.065	.....	.....	180	57	74	.....
	59.98	2478	5.508	0.637	10.89	189	58	75	.....
	131.09	2301	8.539	0.452	15.35	200	58	74	.....
	30.21	2506	4.362	1.002	6.93	182	59	76	.....
	88.81	2450	6.805	0.532	13.05	192	58	75	.....
Av	**71.21**	**2448**	**6.053**	**0.590**	**11.76**	**190**	**58**	**75**	**28.925**

DRAWBAR PERFORMANCE

Hp	Draw-bar pull lbs	Speed miles per hr	Crank-shaft speed rpm	Slip of drivers %	Fuel Consumption Gal per hr	Fuel Consumption 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—9th Gear (4SL)											
110.29	8076	5.12	2299	7.24	8.538	0.537	12.92	174	49	55	28.747
75% of Pull at Maximum Power—Ten Hours—9th Gear (4SL)											
91.66	6229	5.52	2434	5.62	7.702	0.583	11.90	185	47	47	28.679
50% of Pull at Maximum Power—Two Hours—9th Gear (4SL)											
63.75	4179	5.72	2476	3.83	6.431	0.699	9.91	187	51	51	28.820
50% of Pull at Reduced Engine Speed—Two Hours—3rd Gear (2FH)											
64.32	4222	5.71	1568	3.42	4.719	0.509	13.63	180	53	60	28.810
MAXIMUM POWER WITH BALLAST											
101.54	12610	3.02	2369	14.97	4th Gear (1FL)			182	51	59	28.760
109.49	10800	3.80	2298	10.84	6th Gear (3SL)			178	49	59	28.950
113.28	8598	4.94	2298	7.73	8th Gear (3SH)			171	49	60	28.970
113.18	8306	5.11	2298	7.51	9th Gear (4SL)			170	49	59	28.985
112.36	6459	6.52	2300	5.59	10th Gear (2FL)			178	47	58	28.950
108.65	4862	8.38	2300	4.00	14th Gear (5SH)			172	49	60	28.950

VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST
9th Gear (4SL)

Pounds Pull	8306	9157	9513	10036	10217	9897
Horsepower	113.18	111.15	101.94	93.87	81.39	66.62
Crankshaft Speed rpm	2298	2065	1832	1614	1379	1161
Miles Per Hour	5.11	4.55	4.02	3.51	2.99	2.52
Slip of Drivers %	7.51	8.25	8.84	9.57	9.85	9.42

TRACTOR SOUND LEVEL (with OCS CAB)	**db(A)**
Maximum Available Power 2 Hours	79.5
75% of Pull at Max. Power 10 Hours	79.5
50% of Pull at Max. Power 2 Hours	79.5
50% of Pull at Reduced Engine Speed 2 Hours	77.0
Bystander 20th Gear (5 FH)	88.0

TIRES, BALLAST AND WEIGHT		**With Ballast**	**Without Ballast**
Rear Tires	—No., size, ply & psi	Two 20.8-38; 10; 20	Two 20.8-38; 10; 20
Ballast	—Liquid	1388 lb each	None
	Cast Iron	670 lb each	None
Front tires	—No., size, ply & psi	Two 11.00-16; 8; 36	Two 11.00-16; 8; 36
Ballast	—Liquid	None	None
	Cast Iron	None	None
Height of drawbar		22 inches	22½ inches
Static weight with operator—Rear		12720 lb	8605 lb
	Front	3840 lb	3825 lb
	Total	16560 lb	12430 lb

Department of Agricultural Engineering
Dates of Test: March 13 to March 30, 1973
Manufacturer: ALLIS-CHALMERS CORPORATION, MILWAUKEE, WISCONSIN

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°** 0.8334 **Weight per gallon** 6.939 lb **Oil SAE** 30 **API service classification** SB/SE-CA/CD (Formerly MS-DS) **To motor** 3.768 gal **Drained from motor** 3.430 gal **Transmission and final drive lubricant** ALLIS-CHALMERS Power Fluid 821 **Total time engine was operated** 65 hours

ENGINE **Make** Allis-Chalmers Diesel **Type** 6 cylinder with turbo-charger **Serial No** 3D-17798 **Crankshaft Mounted** lengthwise **Rated rpm** 2300 **Bore and stroke** 4.25" x 5.0" **Compression ratio** 16 to 1 **Displacement** 426 cu. in. **Cranking system** 12 volt electric Four 12 volt batteries **Lubrication** pressure **Air cleaner** single stage dry type with replaceable pleated paper element **Oil filter** two full flow replaceable cartridges **Oil Cooler** engine coolant heat exchanger for crankcase oil and radiator for transmission and hydraulic fluid **Fuel filter** replaceable cartridge **Muffler** was used **Cooling medium temperature control** 2 thermostats

CHASSIS **Type** standard **Serial No.** 7030-1004 **Tread width** rear 62" to 99" front 64" to 88" **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 27.7" Vertical distance above roadway 40" 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 range operator controlled power shifting **Advertised speeds mph** first 1.5 second 1.9 third 3.1 fourth 3.4 fifth 3.8 sixth 4.2 seventh 4.2 eighth 5.2 ninth 5.4 tenth 6.8 eleventh 6.8 twelfth 6.8 thirteenth 8.5 fifteenth 9.3 sixteenth 11.7 seventeenth 12.1 eighteenth 15.1 nineteenth 15.2 twentieth 19.0 reverse 2.8, 3.6, 6.3, 7.9 **Clutch** multiple wet disc operated by foot pedal **Brakes** wet multiple disc 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 170" left 170" **Turning space diameter** (on concrete surface with brake applied) right 318" left 318" (on concrete surface without brake) right 358" left 358" **Power take-off** 1000 rpm at 2253 engine rpm or 1021 rpm at 2300 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. First, second and third gears were not run at it was necessary to limit the pull in fourth gear due to excessive wheel slippage. Fifth, seventh, eleventh, twelfth, fifteenth, sixteenth, seventeenth, eighteenth, nineteenth, and twentieth gears were not run as test procedure requires only six gears.

We, the undersigned, certify that this is a true and correct report of official Tractor Test **1119.**

L. F. LARSEN
Engineer-in-charge

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