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January 1972

Test 1093: Ford 7000 Diesel (Also Ford 7000 Row Crop Diesel) 8-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

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NEBRASKA TRACTOR TEST 1093 – FORD 7000 DIESEL (ALSO FORD 7000 ROW CROP DIESEL) 8-SPEED

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
Rated Engine Speed—Two Hours (PTO Speed—596 rpm)								
83.49	2100	5.069	0.420	16.47	203	61	77	28.467
Standard Power Take-Off Speed (540 rpm)—One Hour								
78.81	1901	4.737	0.415	16.64	204	61	76	28.445
VARYING POWER AND FUEL CONSUMPTION—Two Hours								
71.08	2192	4.631	0.432	16.00	191	61	75	.....
0.00	2361	1.363	.....	.....	166	62	76	.....
38.29	2263	3.012	0.544	12.71	173	61	75	.....
83.41	2099	5.095	0.422	16.37	201	61	75	.....
19.70	2330	2.196	0.771	8.97	167	61	75	.....
56.38	2225	3.802	0.466	14.83	179	61	75	.....
Av. 45.31	2245	3.350	0.511	13.53	180	61	75	28.450

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—4th Gear											
66.66	5348	4.67	2101	9.40	5.045	0.523	13.21	190	59	73	28.655
75% of Pull at Maximum Power—Ten Hours—4th Gear											
56.13	4124	5.10	2231	6.89	4.365	0.537	12.86	170	45	47	28.847
50% of Pull at Maximum Power—Two Hours—4th Gear											
39.13	2765	5.31	2262	4.50	3.399	0.600	11.51	169	53	61	28.860
50% of Pull at Reduced Engine Speed—Two Hours—5th Gear											
38.75	2744	5.30	1881	4.25	3.074	0.548	12.61	170	57	69	28.645
MAXIMUM POWER WITH BALLAST											
42.34	8138	1.95	2240	14.91	2nd Gear	.....	.....	168	45	48	28.860
64.05	7332	3.28	2107	12.99	3rd Gear	.....	.....	174	45	48	28.860
68.47	5495	4.67	2103	9.59	4th Gear	.....	.....	192	61	77	28.625
71.42	4687	5.71	2105	7.82	5th Gear	.....	.....	197	63	76	28.620
70.97	3661	7.27	2101	5.78	6th Gear	.....	.....	192	64	80	28.620
65.37	1868	13.12	2105	2.75	7th Gear	.....	.....	187	60	80	28.620
VARYING DRAWBAR PULL AND TRAVEL SPEED WITH BALLAST—4th Gear											
Pounds Pull				5495	5703	5773	5688	5320	4691		
Horsepower				68.47	63.11	57.01	49.50	39.90	29.51		
Crankshaft Speed—rpm				2103	1884	1683	1478	1264	1046		
Miles Per Hour				4.67	4.15	3.70	3.26	2.81	2.36		
Slip of Drivers %				9.59	10.29	10.42	10.16	9.40	8.22		

TRACTOR SOUND LEVEL WITHOUT CAB db(A)

Maximum Available Power 2 Hours	93.5
75% of Pull at Max. Power 10 Hours	97.0
50% of Pull at Max. Power 2 Hours	97.5
50% of Pull at Reduced Engine Speed 2 Hours	94.0
Bystander—8th Gear	88.5

TIRES, BALLAST, AND WEIGHT

	With Ballast	Without Ballast
Rear Tires—No., size, ply & psi	Two 18.4-34; 6; 16	Two 18.4-34; 6; 16
Ballast—Liquid	1195 lb each	None
Cast Iron	1100 lb each	None
Front Tires—No., size, ply & psi	Two 7.50-18; 6; 32	Two 7.50-18; 6; 32
Ballast—Liquid	None	None
Cast Iron	None	None
Height of drawbar	18 inches	18 inches
Static weight with operator—rear	8685 lb	4095 lb
front	2110 lb	2120 lb
total	10795 lb	6215 lb

Department of Agricultural Engineering

Dates of Test: April 10 to April 20, 1972

Manufacturer: FORD MOTOR COMPANY,
Troy, Michigan

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° 0.8302 Weight per gallon 6.912 lb
Oil SAE 30 API service classification SB/SE-
CA/CD (formerly MS DS) To motor 2.187 gal
Drained from motor 1.863 gal Transmission and
final drive lubricant Ford Oil ESN-M-2C53-A
Total time engine was operated 47 hours.

ENGINE Make Ford Diesel Type 4 cylinder
vertical with turbo charger Serial No. F344223
Crankshaft Mounted lengthwise Rated rpm 2100
Bore and stroke 4.4" x 4.2" Compression ratio
16.5 to 1 Displacement 256 cu. in. Cranking
system 12 volt electric Lubrication pressure Air
cleaner two paper elements with centrifugal pre-
cleaner Oil filter Pleated paper cartridge Oil
cooler engine coolant heat exchanger for trans-
mission oil Fuel filter replaceable paper element
Muffler was used Cooling medium temperature
thermostat.

CHASSIS Type standard Serial No. C325231
Tread width rear 56" to 80" front 52" to
80" Wheel base 87.5" Center of gravity (without
operator or ballast, with minimum tread, with
fuel tank filled and tractor serviced for opera-
tion) Horizontal distance forward from center-
line of rear wheels 32.06" Vertical distance above
roadway 32.95" Horizontal distance from center
of rear wheel tread 0" to the right/left Hy-
draulic control system direct engine drive Trans-
mission selective gear fixed ratio Advertised
speeds mph first 1.5 second 2.0 third 3.5 fourth
4.7 fifth 5.6 sixth 7.0 seventh 12.4 eighth 16.8
reverse 2.3, 8.1 Clutch single plate dry disc
operated by foot pedal Brakes oil cooled mul-
tiple disc mechanically operated by two foot
pedals that can be locked together Steering
mechanical with power assist Turning radius
(on concrete surface with brake applied) right
117" left 117" (on concrete surface without
brake) right 141" left 141" Turning space di-
ameter (on concrete surface with brake applied)
right 249" left 249" (on concrete surface with-
out brake) right 294" left 294" Belt pulley
1072 rpm at 2050 engine rpm diam 11" face 6.5"
Belt speed 3087 fpm Power take-off 540 rpm at
1901 engine rpm

REPAIRS AND ADJUSTMENTS: During
the 12 hour break-in run the right rear (16.9-34;
6 ply) tire slipped on the rim causing tube fail-
ure. A new tube was installed and the break-in
run was completed even though the tire con-
tinued to slip on the rim. Before starting the
drawbar runs two 18.4-34; 6 ply tires were
installed and test completed.

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
15% slip and 15 mph.

We, the undersigned, certify that this is a
true and correct report of official Tractor Test
1093.

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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