

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Nebraska Tractor Tests

Tractor Test and Power Museum, The Lester F. Larsen

January 1996

Test 1712: Case IH 7250 Diesel 18-Speed (Chassis S/N JJA0065000 and Higher)

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, tractortestlab@unl.edu

Follow this and additional works at: <https://digitalcommons.unl.edu/tractormuseumlit>



Part of the [Energy Systems Commons](#), [History of Science, Technology, and Medicine Commons](#), [Other Mechanical Engineering Commons](#), [Physical Sciences and Mathematics Commons](#), [Science and Mathematics Education Commons](#), and the [United States History Commons](#)

Nebraska Tractor Test Lab, "Test 1712: Case IH 7250 Diesel 18-Speed (Chassis S/N JJA0065000 and Higher)" (1996). *Nebraska Tractor Tests*. 2021.

<https://digitalcommons.unl.edu/tractormuseumlit/2021>

This Article is brought to you for free and open access by the Tractor Test and Power Museum, The Lester F. Larsen at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Nebraska Tractor Tests by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

NEBRASKA OECD TRACTOR TEST 1712—SUMMARY 207

CASE IH 7250 DIESEL

18 SPEED

(CHASSIS SERIAL NUMBERS JJA0065000 AND HIGHER)

POWER TAKE-OFF PERFORMANCE

Power HP (kW)	Crank shaft speed rpm	Gal/hr (l/h)	lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Mean Atmospheric Conditions
MAXIMUM POWER AND FUEL CONSUMPTION					
Rated Engine Speed—(PTO speed—1003 rpm)					
216.90 (161.74)	2200	12.66 (47.93)	0.410 (0.249)	17.13 (3.37)	
Maximum Power (2 hours)					
242.97 (181.18)	1950	13.25 (50.14)	0.383 (0.233)	18.34 (3.61)	
VARYING POWER AND FUEL CONSUMPTION					
216.90 (161.74)	2200	12.66 (47.93)	0.410 (0.249)	17.13 (3.37)	Air temperature
189.98 (141.67)	2268	11.45 (43.35)	0.423 (0.257)	16.59 (3.27)	76°F (24°C)
145.22 (108.29)	2307	9.31 (35.26)	0.450 (0.274)	15.59 (3.07)	Relative humidity
98.30 (73.30)	2348	7.22 (27.34)	0.516 (0.314)	13.61 (2.68)	56%
50.28 (37.49)	2389	5.13 (19.41)	0.716 (0.436)	9.81 (1.93)	Barometer
1.05 (0.78)	2429	3.20 (12.13)	21.350 (12.987)	0.33 (0.06)	28.94" Hg (98.04 kPa)

Maximum Torque 717 lb.-ft. (972 Nm) at 1400 rpm
Maximum Torque Rise 38.4%
Torque rise at 1800 engine rpm 31%

DRAWBAR PERFORMANCE (UNBALLASTED—FRONT DRIVE ENGAGED) FUEL CONSUMPTION CHARACTERISTICS

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
Maximum Power—8th Gear									
187.40 (139.74)	14180 (63.08)	4.96 (7.98)	2198	5.44	0.475 (0.289)	14.79 (2.91)	191 (88)	71 (22)	28.78 (97.46)
75% of Pull at Maximum Power—8th Gear									
149.28 (111.32)	10570 (47.02)	5.30 (8.52)	2296	3.26	0.498 (0.303)	14.09 (2.78)	189 (87)	69 (21)	28.78 (97.46)
50% of Pull at Maximum Power—8th Gear									
102.76 (76.63)	7055 (31.38)	5.46 (8.79)	2337	2.08	0.561 (0.341)	12.51 (2.46)	187 (86)	69 (21)	28.78 (97.46)
75% of Pull at Reduced Engine Speed—10th Gear									
149.58 (111.54)	10574 (47.04)	5.30 (8.54)	1739	3.35	0.427 (0.260)	16.45 (3.24)	187 (86)	69 (21)	28.78 (97.46)
50% of Pull at Reduced Engine Speed—10th Gear									
102.77 (76.64)	7052 (31.37)	5.47 (8.80)	1769	1.99	0.466 (0.284)	15.07 (2.97)	185 (85)	69 (21)	28.78 (97.46)

Location of Test: Tractor Testing Laboratory,
University of Nebraska, Lincoln, Nebraska 68583-
0832

Dates of Test: May 7-13, 1996

Manufacturer: Case Corporation, 700 State Street,
Racine, Wisconsin 53404

FUEL OIL and TIME: Fuel No. 2 Diesel **Cetane**
No. 50.6 Specific gravity converted to 60°/60°
F (15°/15°C) 0.8432 **Fuel weight** 7.021 lbs/gal
(0.841 kg/l) **Oil SAE 15W-40 API service**
classification CG-4, CE, CD-II **To motor** 4.362
gal (16.512 l) **Drained from motor** 3.981 gal
(15.071 l) **Transmission and hydraulic lubricant**
Case IH Hytran Plus fluid **Front axle lubricant**
Case IH 135 HEP Gear Lube SAE 85W140 **Total**
time engine was operated 16.0 hours.

ENGINE: Make Consolidated Diesel Corporation
Diesel **Type** six cylinder vertical with turbocharger
and intercooler **Serial No.** *45260171* **Crankshaft**
lengthwise **Rated engine speed** 2200 **Bore and**
stroke (as specified) 4.488" × 5.315" (114.0 mm ×
135.0 mm) **Compression ratio** 16.5 to 1 **Dis-**
placement 505 cu in (8268 ml) **Starting system** 12
volt **Lubrication** pressure **Air cleaner** two paper
elements and aspirator **Oil filter** one full flow cartridge
Oil cooler engine coolant heat exchanger for crankcase
oil, radiator for hydraulic and transmission oil **Fuel**
filter two paper elements **Fuel cooler** radiator for
return fuel **Muffler** vertical **Cooling medium**
temperature control two thermostats and variable
speed fan

ENGINE OPERATING PARAMETERS: **Fuel**
rate: 88.4-97.2 lb/h (40.1-44.1 kg/h) **High idle:**
2370-2530 rpm **Turbo boost** nominal 19.0-24.8 psi
(131-171 kPa) as measured 21.3 psi (147 kPa)

CHASSIS: **Type** front wheel assist **Serial No.**
JJA0065023 **Tread width** rear 64.0" (1626 mm) to
133.0" (3378 mm) front 60.1" (1527 mm) to 94.8" (2408
mm) **Wheel base** 118.3" (3006 mm) **Hydraulic**
control system direct engine drive **Transmission**
selective gear fixed ratio with full range operator
controlled powershift **Nominal travel speeds mph**
(km/h) first 1.92 (3.09) second 2.20 (3.54) third 2.54
(4.08) fourth 2.91 (4.68) fifth 3.34 (5.37) sixth 3.83
(6.16) seventh 4.47 (7.19) eighth 5.12 (8.24) ninth 5.90
(9.50) tenth 6.77 (10.90) eleventh 7.78 (12.50) twelfth
8.91 (14.34) thirteenth 10.20 (16.41) fourteenth 11.69
(18.82) fifteenth 13.49 (21.71) sixteenth 15.47 (24.90)
seventeenth 17.75 (28.56) eighteenth 20.36 (32.76)
reverse 2.76 (4.44), 3.16 (5.09), 6.43 (10.34), 7.37
(11.86) **Clutch** multiple wet disc hydraulically actuated
by foot pedal **Brakes** wet multiple disc hydraulically

DRAWBAR PERFORMANCE AT 1950 RPM **MAXIMUM POWER IN SELECTED GEARS**

Power Hp (kW)	Drawbar pull lbs (kN)	Speed mph (km/h)	Crank- shaft speed rpm	Slip %	Fuel Consumption lb/hp.hr (kg/kW.h)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
6th Gear								
161.45 (120.39)	17776 (79.07)	3.41 (5.48)	2240	14.75	0.546 (0.332)	12.86 (2.53)	187 (86)	49 (10)
7th Gear								
181.06 (135.02)	16125 (71.73)	4.21 (6.78)	2211	8.33	0.494 (0.300)	14.22 (2.80)	192 (89)	71 (22)
8th Gear								
194.07 (144.72)	16059 (71.43)	4.53 (7.29)	2068	8.09	0.471 (0.287)	14.91 (2.94)	197 (91)	70 (21)
9th Gear								
204.31 (152.35)	15347 (68.26)	4.99 (8.03)	1951	7.03	0.454 (0.276)	15.46 (3.05)	199 (93)	70 (21)
10th Gear								
207.73 (154.90)	13278 (59.06)	5.87 (9.44)	1954	4.75	0.446 (0.271)	15.75 (3.10)	199 (93)	70 (21)
11th Gear								
207.48 (154.72)	11456 (50.96)	6.79 (10.93)	1951	3.70	0.448 (0.272)	15.68 (3.09)	200 (93)	70 (21)
12th Gear								
208.57 (155.53)	9909 (44.08)	7.89 (12.70)	1961	3.08	0.444 (0.270)	15.83 (3.12)	199 (93)	69 (21)
13th Gear								
207.94 (155.06)	8625 (38.37)	9.04 (14.55)	1953	2.63	0.448 (0.272)	15.68 (3.09)	193 (89)	69 (21)

TRACTOR SOUND LEVEL WITH CAB

dB(A)

At 75% load in 7th Gear	73.5
Bystander in 18th Gear	88.0

TIRES AND WEIGHT

Rear Tires—No., size, ply & psi (kPa)
Front Tires—No., size, ply & psi (kPa)

Tested Without Ballast

Two 20.8R42; **, 16 (110)
Two 16.9R30; **, 16 (110)

Height of Drawbar

18.5 in (470 mm)

Static Weight with Operator—Rear
—Front
—Total

12564 lb (5699 kg)
5740 lb (2604 kg)
18304 lb (8303 kg)

actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2193 engine rpm **Unladen tractor mass** 18140 lb (8228 kg)

REPAIRS AND ADJUSTMENTS: No repairs or adjustments

REMARKS: All test results were determined from observed data obtained in accordance with official OECD, SAE and Nebraska test procedures. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 148° F (65°C). The performance results on this summary were taken from OECD tests conducted under the Code II Restricted Standard Test Code procedure.

NOTE: The performance figures on this report apply to tractors with chassis serial numbers JJA0065000 and higher.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1712**, Summary 207, May 28, 1996.

LOUIS I. LEVITICUS
Engineer-in-Charge

L.L. BASHFORD
R.D. GRISIO
M.F. KOCHER

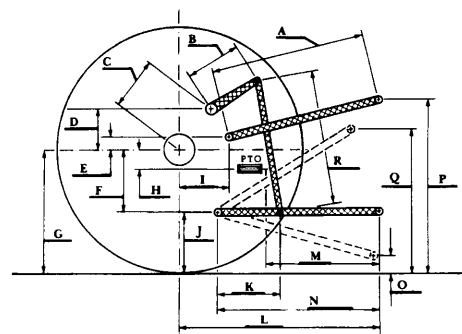
Board of Tractor Test Engineers

THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Yes

Maximum Force Exerted Through Whole Range:	14400 lbs	(64.1 kN)
i) Opening pressure of relief valve:	NA	
Sustained pressure with pump stalled:	2680 psi	(185 bar)
ii) Pump delivery rate at minimum pressure:	28.9 GPM	(109.4 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	26.7 GPM	(101.1 l/min)
Delivery pressure:	2240 psi	(154 bar)
Power:	34.9 HP	(26.0 kW)



THREE POINT HITCH PERFORMANCE (SAE Dynamic Test)

Observed Maximum Pressure psi. (bar)	2650	(183)
Location	Remote outlet	
Hydraulic oil temperature °F (°C)	140	(60)
Location	Transmission sump	

Maximum Lift Capacity

QUICK ATTACH	Yes	
CATEGORY:	III	
LOAD lbs (kg)	15170	(6881)
TIME sec	5.01	
HITCH MOVEMENT in (mm)		
Lowest position	14.1	(358)
Top of timed range	40.1	(1018)
Highest position	40.6	(1031)
LOAD CG MOVEMENT in (mm)		
Lowest position	15.0	(381)
Top of timed range	40.4	(1026)
Highest position	41.0	(1041)

HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	mm	inch	mm
A	25.0	635	25.0	635
B	15.0	381	15.0	381
C	21.9	557	21.9	557
D	16.6	422	16.6	422
E	9.8	250	9.8	250
F	13.1	332	13.1	332
G	35.6	905	35.6	905
H	3.5	90	3.5	90
I	24.7	627	24.7	627
J	22.5	573	22.5	573
K	21.3	540	21.3	540
L	50.5	1282	50.5	1282
*L'	55.5	1409	55.5	1409
M	19.1	486	19.1	486
N	33.0	837	33.0	837
O	9.0	229	8.0	203
P	44.5	1132	44.5	1132
Q	37.3	946	36.2	919
R	32.6	829	33.5	851

*L' to Quick Attach ends



CASE IH 7250 DIESEL

Agricultural Research Division
Institute of Agriculture and Natural Resources
University of Nebraska—Lincoln
Darrell Nelson, Dean and Director