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January 1996

## Test 1711: Case IH 7240 Diesel 18-Speed (Chassis S/N JJA 0065000 and Higher)

Nebraska Tractor Test Lab

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# NEBRASKA OECD TRACTOR TEST 1711—SUMMARY 206

## CASE IH 7240 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
<b>MAXIMUM POWER AND FUEL CONSUMPTION</b>					
<b>Rated Engine Speed—(PTO speed—1002 rpm)</b>					
196.62 (146.62)	2200	11.82 (44.76)	0.422 (0.257)	16.63 (3.28)	
<b>Maximum Power (2 hours)</b>					
219.05 (163.35)	1900	11.91 (45.10)	0.382 (0.232)	18.39 (3.62)	

#### VARYING POWER AND FUEL CONSUMPTION

192.62 (146.62)	2200	11.82 (44.76)	0.422 (0.257)	16.63 (3.28)	Air temperature
170.93 (127.46)	2252	10.68 (40.44)	0.439 (0.267)	16.00 (3.15)	75°F (24°C)
130.20 (97.09)	2282	8.76 (33.16)	0.472 (0.287)	14.86 (2.93)	Relative humidity
88.30 (65.84)	2325	6.88 (26.04)	0.547 (0.333)	12.84 (2.53)	37%
45.32 (33.80)	2374	4.91 (18.60)	0.761 (0.463)	9.22 (1.82)	Barometer
1.57 (1.17)	2416	3.16 (11.97)	14.120 (8.589)	0.50 (0.10)	29.06" Hg (98.41 kPa)

Maximum Torque 688 lb.-ft. (932 Nm) at 1300 rpm  
Maximum Torque Rise 46.6%  
Torque rise at 1801 engine rpm 32%

#### 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)
<b>Maximum Power—8th Gear</b>									
167.00 (124.53)	12425 (55.27)	5.04 (8.11)	2202	4.38	0.494 (0.301)	14.21 (2.80)	187 (86)	62 (17)	28.94 (98.00)
<b>75% of Pull at Maximum Power—8th Gear</b>									
130.47 (97.29)	9277 (41.26)	5.27 (8.49)	2271	3.05	0.521 (0.317)	13.48 (2.66)	187 (86)	70 (21)	28.89 (97.83)
<b>50% of Pull at Maximum Power—8th Gear</b>									
89.45 (66.70)	6187 (27.52)	5.42 (8.73)	2308	1.86	0.595 (0.362)	11.80 (2.32)	185 (85)	70 (21)	28.89 (97.83)
<b>75% of Pull at Reduced Engine Speed—10th Gear</b>									
130.46 (97.29)	9283 (41.29)	5.27 (8.48)	1717	2.96	0.444 (0.270)	15.83 (3.12)	183 (84)	70 (21)	28.89 (97.83)
<b>50% of Pull at Reduced Engine Speed—10th Gear</b>									
89.56 (66.78)	6191 (27.54)	5.42 (8.73)	1747	1.77	0.486 (0.296)	14.45 (2.85)	181 (83)	70 (21)	28.89 (97.83)

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

**Dates of Test:** May 3-15, 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 4.259  
gal (16.123 l) Drained from motor 4.068 gal  
(15.401 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 21.0 hours.

**ENGINE:** Make Consolidated Diesel Corporation  
Diesel Type six cylinder vertical with turbocharger  
and intercooler Serial No. \*45257943\* 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: 82.9-91.7 lb/h (37.6-41.6 kg/h) High idle:  
2370-2530 rpm Turbo boost nominal 18.6-24.4 psi  
(128-168 kPa) as measured 21.5 psi (148 kPa)

**CHASSIS:** Type front wheel assist Serial No.  
\*JJA0065008\* 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 1900 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)	
5th Gear									
146.67 (109.37)	17456 (77.65)	3.15 (5.07)	2244	9.83	0.542 (0.330)	12.95 (2.55)	186 (85)	57 (14)	28.95 (98.04)
6th Gear									
159.47 (118.91)	16591 (73.80)	3.60 (5.80)	2193	8.16	0.520 (0.316)	13.50 (2.66)	186 (86)	59 (15)	28.95 (98.04)
7th Gear									
173.66 (129.50)	16433 (73.10)	3.96 (6.38)	2073	8.33	0.488 (0.297)	14.39 (2.83)	185 (85)	61 (16)	28.95 (98.04)
8th Gear									
179.86 (134.12)	15569 (69.25)	4.33 (6.97)	1954	7.43	0.465 (0.283)	15.08 (2.97)	187 (86)	63 (17)	28.94 (98.00)
9th Gear									
183.62 (136.92)	13903 (61.84)	4.95 (7.97)	1903	5.68	0.453 (0.275)	15.50 (3.05)	189 (87)	64 (18)	28.94 (98.00)
10th Gear									
185.25 (138.14)	12073 (53.70)	5.75 (9.26)	1901	4.38	0.449 (0.273)	15.62 (3.08)	190 (88)	66 (19)	28.93 (97.97)
11th Gear									
183.78 (137.05)	10328 (45.94)	6.67 (10.74)	1903	3.59	0.452 (0.275)	15.52 (3.06)	188 (87)	66 (19)	28.93 (97.97)
12th Gear									
185.01 (137.96)	9015 (40.10)	7.70 (12.39)	1902	2.87	0.452 (0.275)	15.52 (3.06)	187 (86)	66 (19)	28.93 (97.97)
13th Gear									
183.10 (136.54)	7760 (34.52)	8.85 (14.24)	1902	2.41	0.452 (0.275)	15.55 (3.06)	190 (88)	66 (19)	29.92 (97.93)

actuated by two foot pedals which can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2193 engine rpm **Unladen tractor mass** 17850 lb (8097 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 137° F (58°C). The pull in 5th gear was limited to avoid excessive tractor bouncing. 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. **1711**, Summary 206, May 28, 1996.

LOUIS I. LEVITICUS  
Engineer-in-Charge

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

Board of Tractor Test Engineers

## **TRACTOR SOUND LEVEL WITH CAB**

**dB(A)**

At 75% load in 7th Gear	73.0
Bystander in 18th Gear	87.0

## **TIRES AND WEIGHT**

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

## **Tested Without Ballast**

Two 20.8R42; \*\*, 18 (125)  
Two 16.9R30; \*\*, 12 (85)

## **Height of Drawbar**

17.5 in (445 mm)

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

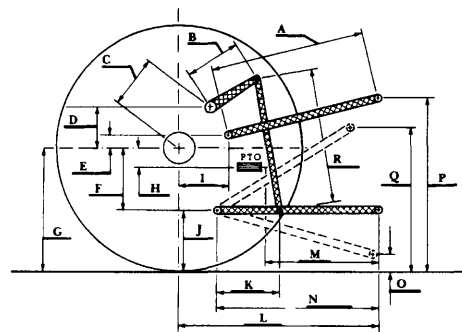
12436 lb (5641 kg)  
5580 lb (2531 kg)  
18016 lb (8172 kg)

### THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Yes

Maximum Force Exerted Through Whole Range:	12758 lbs	(56.7 kN)
	14400 lbs	(64.1 kN) with 2.25" (57 mm) lift cylinders
i) Opening pressure of relief valve:	NA	
Sustained pressure with pump stalled:	2680 psi	(185 bar)
ii) Pump delivery rate at minimum pressure:	29.0 GPM	(109.8 l/min)
iii) Pump delivery rate at maximum		
hydraulic power:	26.8 GPM	(101.4 l/min)
Delivery pressure:	2250 psi	(155 bar)
Power:	35.2 HP	(26.2 kW)



HITCH DIMENSIONS AS TESTED—NO LOAD

### 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	
<b>Maximum Lift Capacity</b>		
QUICK ATTACH	Yes	Yes
CATEGORY:	III	III
LOAD lbs (kg)	12825 (5817)	*15170 (6881)
TIME sec	4.36	5.01
HITCH MOVEMENT in (mm)		
Lowest position	14.1 (358)	14.1 (358)
Top of timed range	40.1 (1019)	40.1 (1018)
Highest position	40.7 (1034)	40.6 (1031)
LOAD CG MOVEMENT in (mm)		
Lowest position	15.0 (381)	15.0 (381)
Top of timed range	40.4 (1026)	40.4 (1026)
Highest position	41.1 (1044)	41.0 (1041)

\*with 2.25" (57 mm) lift cylinders

	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 7240 DIESEL

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