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January 1996

## Test 1713: Case IH 9330 Diesel 12-Speed (Chassis S/N JEE0036501 and Higher)

Nebraska Tractor Test Lab

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# NEBRASKA OECD TRACTOR TEST 1713—SUMMARY 208

## CASE IH 9330 DIESEL

### 12 SPEED

#### (CHASSIS SERIAL NUMBERS JEE0036501 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					
<b>Rated Engine Speed (PTO speed—1047 rpm)</b>					
200.85 (149.77)	2200	13.05 (49.38)	0.456 (0.277)	15.40 (3.03)	
<b>Standard Power take-off Speed (1000 rpm)</b>					
217.03 (161.84)	2100	13.37 (50.62)	0.433 (0.263)	16.23 (3.20)	
<b>Maximum Power (2 hours)</b>					
229.96 (171.48)	1950	13.31 (50.40)	0.406 (0.247)	17.27 (3.40)	

#### VARYING POWER AND FUEL CONSUMPTION

200.85 (149.77)	2200	13.05 (49.38)	0.456 (0.277)	15.40 (3.03)	Air temperature
175.51 (130.88)	2257	11.79 (44.64)	0.472 (0.287)	14.88 (2.93)	75°F (24°C)
133.71 (99.71)	2296	9.78 (37.04)	0.514 (0.313)	13.66 (2.69)	Relative humidity
90.51 (67.49)	2336	7.78 (29.44)	0.603 (0.367)	11.64 (2.29)	56%
46.34 (34.56)	2378	5.68 (21.51)	0.861 (0.524)	8.15 (1.61)	Barometer
1.65 (1.23)	2433	3.89 (14.72)	16.509 (10.042)	0.43 (0.08)	29.00" Hg (98.21 kPa)

Maximum Torque 754 lb.-ft. (1022 Nm) at 1350 rpm

Maximum Torque Rise 57.4%

Torque rise at 1800 engine rpm 34%

#### DRAWBAR PERFORMANCE

##### 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 5th Gear</b>									
185.88 (138.61)	14822 (65.93)	4.70 (7.57)	2202	2.84	0.488 (0.297)	14.40 (2.84)	199 (93)	65 (18)	29.07 (98.44)
<b>75% of Pull at Maximum Power 5th Gear</b>									
144.97 (108.10)	11104 (49.39)	4.90 (7.88)	2271	1.86	0.515 (0.313)	13.62 (2.68)	189 (87)	70 (21)	29.03 (98.31)
<b>50% of Pull at Maximum Power 5th Gear</b>									
98.45 (73.41)	74.02 (32.92)	4.99 (8.03)	2297	1.28	0.581 (0.353)	12.09 (2.38)	183 (84)	70 (21)	29.03 (98.31)
<b>75% of Pull at Reduced Engine Speed 7th Gear</b>									
145.18 (108.26)	11061 (49.20)	4.92 (7.92)	1571	2.02	0.421 (0.256)	16.69 (3.29)	182 (83)	70 (21)	29.03 (98.31)
<b>50% of Pull at Reduced Engine Speed 7th Gear</b>									
98.56 (73.50)	7402 (32.93)	4.99 (8.04)	1583	1.19	0.447 (0.272)	15.72 (3.10)	179 (81)	70 (21)	29.03 (98.31)

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

**Dates of Test:** May 29-June 4, 1996

**Manufacturer:** CASE CORPORATION, 3401  
First Avenue North, Fargo, North Dakota 58102

**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, CF-2 **To motor** 4.877 gal  
(18.460 l) **Drained from motor** 4.291 gal (16.245 l)  
**Transmission and final drive lubricant** Case  
IH Hytran Plus fluid **Hydraulic lubricant** Case IH  
Hytran Plus fluid **Total time engine was operated**  
15.5 hours.

**ENGINE: Make** Consolidated Diesel Corporation  
**Diesel Type** six cylinder vertical with turbocharger  
and intercooler **Serial No.** \*45192498\* **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  
**Displacement** 505 cu in (8269 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, separate radiators for hydraulic and  
transmission oil **Fuel filter** one paper element **Fuel  
cooler** radiator for return fuel **Muffler** vertical  
**Cooling medium temperature control** two  
thermostats and variable speed fan

**ENGINE OPERATING PARAMETERS: fuel  
rate:** 86.2 - 95.4 lb/h (39.1 - 43.3 kg/h) **high idle:**  
2350 - 2450 rpm **Turbo boost** nominal 25.0 - 27.8  
psi (172 - 192 kPa) as measured 28.3 psi (195 kPa)

**CHASSIS: Type** four wheel drive with duals **Serial  
No.** \*JEE0035883\* **Tread width** rear 60.0" (1524  
mm) to 130.0" (3302 mm) front 60.0" (1524 mm) to  
130.0" (3302 mm) **Wheel base** 120.4" (3058 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 2.17 (3.50) second 2.63  
(4.24) third 3.24 (5.21) fourth 3.93 (6.33) fifth 4.76  
(7.66) sixth 5.86 (9.43) seventh 6.92 (11.13) eighth  
8.37 (13.47) ninth 10.30 (16.58) tenth 12.51 (20.13)  
eleventh 15.14 (24.36) twelfth 18.64 (29.99) reverse  
2.85 (4.58), 5.15 (8.28), 9.05 (14.56) **Clutch** multiple  
wet disc hydraulically actuated by foot pedal **Brakes**  
caliper disc hydraulically operated by foot pedal  
**Steering** hydrostatic and articulated **Power take-  
off** 1000 rpm at 2098 engine rpm **Unladen tractor  
mass** 23650 lb (10727 kg)

## 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)	Hp.hr/gal (kW.h/l)	Temp. °F (°C) cool- ing med	Air dry bulb	Barom. inch Hg (kPa)
2nd Gear									
171.01 (127.52)	25802 (114.77)	2.49 (4.00)	2231	8.33	0.519 (0.316)	13.53 (2.67)	185 (85)	59 (15)	29.04 (98.34)
3rd Gear									
190.15 (141.79)	24534 (109.13)	2.91 (4.68)	2107	7.82	0.490 (0.298)	14.33 (2.82)	191 (88)	63 (17)	29.06 (98.41)
4th Gear									
206.17 (153.74)	22717 (101.05)	3.40 (5.48)	1987	5.74	0.457 (0.278)	15.37 (3.03)	196 (91)	65 (18)	29.07 (98.44)
5th Gear									
207.91 (155.04)	18942 (84.26)	4.12 (6.62)	1952	4.19	0.446 (0.271)	15.73 (3.10)	202 (94)	66 (19)	29.06 (98.41)
6th Gear									
208.27 (155.30)	15225 (67.72)	5.13 (8.26)	1953	2.92	0.446 (0.271)	15.74 (3.10)	204 (96)	68 (20)	29.05 (98.37)
7th Gear									
208.60 (155.56)	12848 (57.15)	6.09 (9.80)	1952	2.27	0.447 (0.272)	15.71 (3.09)	203 (95)	69 (21)	29.05 (98.37)
8th Gear									
208.52 (155.50)	10621 (47.24)	7.36 (11.85)	1941	1.86	0.446 (0.271)	15.76 (3.10)	202 (94)	69 (21)	29.05 (98.37)
9th Gear									
206.57 (154.04)	8473 (37.69)	9.14 (14.71)	1949	1.36	0.453 (0.276)	15.49 (3.05)	192 (89)	69 (21)	29.04 (98.34)

**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 131° F (55° C). The drawbar pull in 2nd gear was limited to avoid excessive tractor bouncing. The performance figures on this summary were taken from a test conducted under the OECD Code II Restricted Standard Test Code procedure.

**NOTE:** The performance figures on this report apply to tractor chassis serial numbers JEE0036501 and higher.

We, the undersigned, certify that this is a true and correct report of official Tractor Test No. **1713**, Summary 208, June 7, 1996.

LOUIS I. LEVITICUS  
Engineer-in-Charge

L.L. BASHFORD  
G.J. HOFFMAN  
M.F. KOCHER

Board of Tractor Test Engineers

### TRACTOR SOUND LEVEL WITH CAB

	dB(A)
At 75% load in 6th Gear	75.0
Bystander	—

### TIRES AND WEIGHT

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

### Tested Without Ballast

Four 18.4R38; \*, 14 (95)  
Four 18.4R38; \*, 12 (85)

### Height of Drawbar

13.5 in (345 mm)

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

11364 lb (5155 kg)  
12450 lb (5647 kg)  
23814 lb (10802 kg)

## THREE POINT HITCH PERFORMANCE (OECD Static Test)

CATEGORY: III

Quick Attach: Yes

Maximum Force Exerted Through Whole Range:

13878 lbs (61.7 kN)

i) Opening pressure of relief valve:

NA

Sustained pressure with pump installed:

2920 psi (201 bar)

ii) Pump delivery rate at minimum pressure:

28.7 GPM (108.6 l/min)

iii) Pump delivery rate at maximum

hydraulic power:

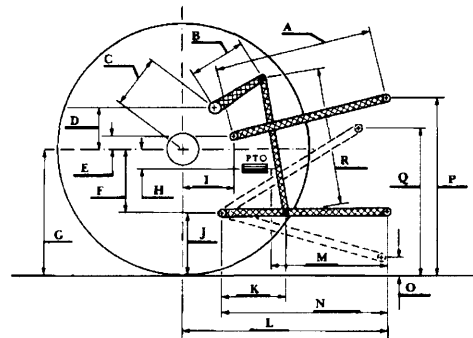
23.7 GPM (89.7 l/min)

Delivery pressure:

2700 psi (186 bar)

Power:

37.3 HP (27.8 kW)



### HITCH DIMENSIONS AS TESTED—NO LOAD

	inch	mm
A	29.3	743
B	21.0	533
C	25.6	651
D	25.1	637
E	11.4	289
F	9.9	251
G	32.3	820
H	2.2	56
I	22.8	579
J	22.4	569
K	23.0	584
L	52.2	1326
*L'	57.2	1453
M	25.0	635
N	42.0	1067
O	9.0	229
P	44.4	1128
Q	40.0	1016
R	34.5	876

\*L' to end of Quick Attach



CASE IH 9330 Diesel

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