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## Test 1659: Case International 9270 and Steiger 9270 Manual Diesels 12-Speed

Nebraska Tractor Test Lab

University of Nebraska-Lincoln, [tractortestlab@unl.edu](mailto:tractortestlab@unl.edu)

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# NEBRASKA OECD TRACTOR TEST 1659—SUMMARY 114

## CASE INTERNATIONAL 9270 MANUAL DIESEL

## ALSO STEIGER 9270 MANUAL DIESEL

### 12 SPEED

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

**Dates of Test:** June 16-19, 1992.

**Manufacturer:** J.I. CASE CO. 3401 First Avenue  
North, Fargo, North Dakota 58102

#### 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—1001 rpm)</b>					
299.06 (223.01)	2102	17.48 (66.18)	0.408 (0.248)	17.11 (3.37)	
<b>Maximum Power (2 Hours)</b>					
317.50 (236.76)	1849	17.16 (64.97)	0.377 (0.229)	18.50 (3.64)	
<b>VARYING POWER AND FUEL CONSUMPTION</b>					
299.06 (223.01)	2102	17.48 (66.18)	0.408 (0.248)	17.11 (3.37)	Air temperature
261.20 (194.78)	2162	16.12 (61.03)	0.431 (0.262)	16.20 (3.19)	75°F (24°C)
199.37 (148.67)	2199	13.54 (51.26)	0.474 (0.288)	14.72 (2.90)	Relative humidity
134.75 (100.48)	2227	10.36 (39.22)	0.537 (0.326)	13.01 (2.56)	49%
67.93 (50.66)	2253	8.00 (30.27)	0.821 (0.500)	8.50 (1.67)	Barometer
1.04 (0.78)	2298	5.33 (20.18)	35.708 (21.721)	0.20 (0.04)	28.55" Hg (96.69 kPa)
Maximum Torque 1115 lb.-ft (1512 Nm) at 1292 rpm					
Maximum Torque Rise 49.3%					

#### 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—4th (A3) Gear</b>									
264.77 (197.44)	21318 (94.83)	4.66 (7.50)	2099	2.72	0.458 (0.279)	15.24 (3.00)	180 (82)	76 (24)	28.87 (97.77)
<b>75% of Pull at Maximum Power—4th (A3) Gear</b>									
207.11 (154.44)	15950 (70.95)	4.87 (7.84)	2177	2.00	0.495 (0.301)	14.09 (2.78)	180 (82)	85 (29)	28.91 (97.90)
<b>50% of Pull at Maximum Power—4th (A3) Gear</b>									
141.07 (105.19)	10626 (47.26)	4.98 (8.01)	2211	1.18	0.580 (0.353)	12.04 (2.37)	177 (81)	85 (29)	28.91 (97.90)
<b>75% of Pull at Reduced Engine Speed—5th (B2) Gear</b>									
206.92 (154.30)	15940 (70.90)	4.87 (7.83)	1775	1.91	0.436 (0.265)	16.00 (3.15)	179 (82)	85 (29)	28.91 (97.90)
<b>50% of Pull at Reduced Engine Speed—5th (B2) Gear</b>									
142.14 (106.00)	10684 (47.52)	4.99 (8.03)	1808	1.27	0.486 (0.295)	14.37 (2.83)	177 (81)	85 (29)	28.91 (97.90)

**FUEL, OIL and TIME:** Fuel No. 2 Diesel Cetane No. 53.9 Specific gravity converted to 60°/60°F (15°/15°C) 0.8381 Fuel weight 6.978 lbs/gal (0.836 kg/l) Oil SAE 15W-40 API service classification CE, CD To motor 7.708 gal (29.176 l) Drained from motor 7.678 gal (29.065 l) Transmission and final drive lubricant Case IH Hy-tran Plus fluid Hydraulic lubricant Case IH Hytran Plus fluid Total time engine was operated 17.0 hours.

**ENGINE:** Make Cummins Diesel Type six cylinder vertical with turbocharger and intercooler Serial No. 30334714 Crankshaft lengthwise Rated engine speed 2100 Bore and stroke (as specified) 5.5" × 6.0" (140 mm × 152 mm) Compression ratio 14.5 to 1 Displacement 855 cu in (14013 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 Muffler vertical Cooling medium temperature control thermostat.

**ENGINE OPERATING PARAMETERS:** fuel rate: 118.0 - 122.0 lb/h (53.5 - 55.3 kg/h) high idle: 2250 - 2350 rpm Turbo boost nominal 17 - 21 psi (119 - 145 kPa) as measured 18.0 psi (124 kPa)

**CHASSIS:** Type four wheel drive with duals Serial No. -JCB0029600- Tread width rear 76.5" (1943 mm) and 132.6" (3368 mm) front 76.5" (1943 mm) and 132.6" (3368 mm) Wheel base 144.8" (3678 mm) Hydraulic control system direct engine drive Transmission selective gear fixed ratio Nominal travel speeds mph (km/h) first 2.58 (4.16) second 3.49 (5.62) third 4.33 (6.97) fourth 4.78 (7.69) fifth 5.86 (9.43) sixth 6.85 (11.03) seventh 8.01 (12.90) eighth 9.26 (14.91) ninth 10.77 (17.32) tenth 12.67 (20.39) eleventh 14.55 (23.42) twelfth 19.92 (32.06) reverse 3.68 (5.92), 6.17 (9.93), 9.76 (15.70) 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 34045 lb (15442 kg).

**REPAIRS AND ADJUSTMENTS:** No repairs or adjustments.

# **DRAWBAR PERFORMANCE** **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)
<b>1st (A1) Gear</b>									
208.44 (155.43)	34197 (152.11)	2.29 (3.68)	2153	13.89	0.532 (0.324)	13.11 (2.58)	177 (80)	81 (27)	28.90 (97.87)
<b>2nd (A2) Gear</b>									
264.31 (197.10)	32688 (145.40)	3.03 (4.88)	1965	7.41	0.454 (0.276)	15.38 (3.03)	179 (82)	79 (26)	28.89 (97.83)
<b>3rd (B1) Gear</b>									
276.71 (206.34)	28366 (126.18)	3.66 (5.89)	1849	4.22	0.429 (0.261)	16.28 (3.21)	180 (82)	78 (26)	28.88 (97.80)
<b>4th (A3) Gear</b>									
279.81 (208.66)	25777 (114.66)	4.07 (6.55)	1848	3.34	0.429 (0.261)	16.28 (3.21)	181 (83)	75 (24)	28.86 (97.73)
<b>5th (B2) Gear</b>									
282.79 (210.87)	21072 (93.73)	5.03 (8.10)	1847	2.45	0.422 (0.257)	16.54 (3.26)	180 (82)	69 (21)	28.82 (97.60)
<b>6th (C1) Gear</b>									
282.83 (210.91)	17912 (79.68)	5.92 (9.53)	1850	2.09	0.423 (0.258)	16.48 (3.25)	181 (83)	71 (22)	28.84 (97.66)
<b>7th (B3) Gear</b>									
281.16 (209.66)	15192 (67.58)	6.94 (11.17)	1848	1.73	0.422 (0.257)	16.52 (3.26)	181 (83)	73 (23)	28.85 (97.70)
<b>8th (C2) Gear</b>									
279.00 (208.05)	12980 (57.74)	8.06 (12.97)	1852	1.54	0.427 (0.260)	16.34 (3.22)	180 (82)	74 (23)	28.86 (97.73)

## TRACTOR SOUND LEVEL WITH CAB

	<b>dB(A)</b>
At 75% load in 5th (B2) gear	75.5
Bystander	.....

## TIRES AND WEIGHT

<b>Rear Tires</b>	—No., size, ply & psi (kPa)
<b>Front Tires</b>	—No., size, ply & psi (kPa)
<b>Height of Drawbar</b>	
<b>Static Weight with Operator</b>	—Rear
	—Front
	—Total

## Tested Without Ballast

Four 20.8R42; **, 12 (85)
Four 20.8R42; **, 12 (85)
16.5 in (420 mm)
15776 lb (7156 kg)
18432 lb (8360 kg)
34208 lb (15516 kg)

**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 inlet was maintained at 131°F (55°C). The performance figures on this summary were taken from a test conducted under the OECD Code II restricted standard test code procedure.

We, the undersigned, certify that this is a true report of official Tractor Test No. **1659**, Summary 114, July 23, 1992.

LOUIS I. LEVITICUS

Engineer-in-Charge

L. L. BASHFORD

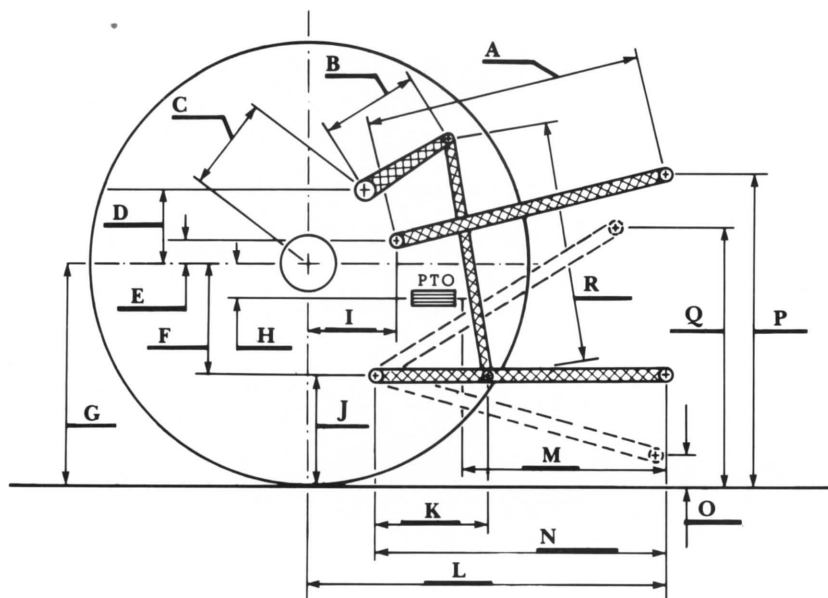
R. D. GRISSO

K. VON BARGEN

Board of Tractor Test Engineers

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

CATEGORY:	IV-N
Quick Attach:	Yes
Maximum Force Exerted Through Whole Range:	16650 lbs (74.1 kN)
i) Opening pressure of relief valve:	NA
Sustained pressure with pump stalled:	2550 psi (176 bar)
ii) Pump delivery rate at minimum pressure:	30.3 GPM (114.7 l/min)
iii) Pump delivery rate at maximum hydraulic power:	26.8 GPM (101.4 l/min)
Delivery pressure:	2350 psi (162 bar)
Power:	36.7 HP (27.4 kW)



**HITCH DIMENSIONS AS TESTED—NO LOAD**

	inch	mm
A	33.5	851
B	21.0	533
C	27.7	704
D	23.3	592
E	10.6	270
F	14.0	355
G	36.1	917
H	3.3	85
I	18.4	467
J	22.1	562
K	25.5	647
L	51.5	1308
*L'	58.7	1492
M	26.1	664
N	39.3	997
O	9.0	229
P	48.9	1241
Q	40.6	1031
R	38.4	975

\*L' to end of Quick coupler



**Case International 9270 Manual Diesel**