1-1-1993

Test 1663: Case International 7150 and 7250 Diesels 18-Speed

Nebraska Tractor Test Lab
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NEBRASKA OECD TRACTOR TEST 1663—SUMMARY 121
CASE INTERNATIONAL 7150 DIESEL
18 SPEED

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

Dates of Test: November 3-13, 1992

Manufacturer: J. I. Case Company, 700 State Street, Racine, Wisconsin 53404

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)					
216.83 *(161.69)*	2200	12.51 *(47.34)*	0.403 *(0.245)*	17.34 *(3.42)*	
Maximum Power (2 Hours)					
240.99 *(179.70)*	2002	13.13 *(49.72)*	0.381 *(0.232)*	18.35 *(3.61)*	Air temperature
VARYING POWER AND FUEL CONSUMPTION					
216.83 *(161.69)*	2200	12.51 *(47.34)*	0.403 *(0.245)*	17.34 *(3.42)*	76°F *(24°C)*
189.39 *(141.23)*	2258	11.38 *(43.07)*	0.420 *(0.255)*	16.65 *(3.28)*	Relative humidity
144.63 *(107.85)*	2294	9.36 *(35.43)*	0.452 *(0.275)*	15.45 *(3.04)*	28%
97.57 *(72.76)*	2331	7.26 *(27.47)*	0.520 *(0.316)*	13.45 *(2.65)*	Barometer
49.66 *(37.03)*	2363	5.11 *(19.34)*	0.719 *(0.437)*	9.72 *(1.91)*	28.98″ Hg *(98.14 kPa)*
0.41 *(0.31)*	2389	3.09 *(11.70)*	52.072 *(31.674)*	0.13 *(0.03)*	

Maximum Torque 691 lb.-ft *(937 Nm)* at 1556 rpm
Maximum Torque Rise 33.4%

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)*	Fuel Consumption Hp.hr/gal *(kW.h/l)*	Temp.°F *(°C)* cool-ing med	Temp.°F *(°C)* Air dry bulb	Barom. inch Hg *(kPa)*
Maximum Power—7th Gear									
190.56 *(142.10)*	16635 *(74.00)*	4.30 *(6.91)*	2200	5.02	0.458 *(0.279)*	15.25 *(3.00)*	183 *(84)*	50 *(10)*	29.00 *(98.21)*
75% of Pull at Maximum Power—7th Gear									
151.06 *(112.65)*	12451 *(55.38)*	4.55 *(7.32)*	2278	2.67	0.483 *(0.294)*	14.45 *(2.85)*	182 *(83)*	50 *(10)*	29.00 *(98.21)*
50% of Pull at Maximum Power—7th Gear									
103.46 *(77.15)*	8305 *(36.94)*	4.67 *(7.52)*	2314	1.77	0.548 *(0.334)*	12.74 *(2.51)*	180 *(82)*	48 *(9)*	29.04 *(98.34)*
75% of Pull at Reduced Engine Speed—9th Gear									
151.24 *(112.78)*	12440 *(55.34)*	4.56 *(7.34)*	1726	2.85	0.417 *(0.254)*	16.76 *(3.30)*	180 *(82)*	50 *(10)*	29.00 *(98.21)*
50% of Pull at Reduced Engine Speed—9th Gear									
103.89 *(77.47)*	8289 *(36.87)*	4.70 *(7.56)*	1759	1.77	0.454 *(0.276)*	15.39 *(3.03)*	177 *(81)*	48 *(9)*	29.04 *(98.34)*

FUEL OIL and TIME: Fuel No. 2 Diesel **Cetane No.** 53.9 **Specific gravity converted to 60°/60°F *(15°/15°C)*** 0.8392 **Fuel weight** 6.987 lbs/gal *(0.837 kg/l)* **Oil SAE** 15W40 **API service classification** SG/CE **To motor** 4.522 gal *(17.119 l)* **Drained from motor** 4.020 gal *(15.217 l)* **Transmission and hydraulic lubricant** Case IH Hytran Plus fluid **Front axle lubricant** Case IH Hytran Plus fluid **Total time engine was operated** 32.0 hours.

ENGINE: Make Consolidated Diesel Corporation Diesel **Type** six cylinder vertical with turbocharger and intercooler **Serial No.** *44746415* **Crankshaft** lengthwise **Rated rpm** 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 *(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 **Muffler** underhood **Exhaust** vertical **Cooling medium temperature control** two thermostats and variable speed fan

ENGINE OPERATING PARAMETERS: Fuel rate 85.5-94.5 lb/hr *(38.8-42.8 kg/hr)* **High idle** 2315-2440 rpm **Turbo boost** nonimal 16.5-22.5 psi *(114-155 kPa)* as measured 21.0 psi *(145 kPa)*

CHASSIS: Type front wheel assist **Serial No.** *JJA0043990* **Tread width** rear 64.0″ *(1626 mm)* to 155.6″ *(3953 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 7.77 *(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 power actuated by two foot pedals which

DRAWBAR PERFORMANCE (UNBALLASTED)
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)*
				6th Gear					
168.55 *(125.69)*	19098 *(84.95)*	3.31 *(5.33)*	2198	14.44	0.517 *(0.315)*	13.51 *(2.66)*	183 *(84)*	50 *(10)*	29.00 *(98.21)*
				7th Gear					
197.86 *(147.54)*	18519 *(82.37)*	4.01 *(6.45)*	2116	7.83	0.457 *(0.278)*	15.30 *(3.01)*	184 *(84)*	50 *(10)*	29.00 *(98.21)*
				8th Gear					
208.83 *(155.72)*	17569 *(78.15)*	4.46 *(7.17)*	2012	6.03	0.441 *(0.268)*	15.86 *(3.12)*	185 *(85)*	51 *(11)*	29.00 *(98.21)*
				9th Gear					
213.13 *(158.93)*	15261 *(67.88)*	5.24 *(8.43)*	2008	4.16	0.431 *(0.262)*	16.22 *(3.20)*	186 *(85)*	51 *(11)*	29.00 *(98.21)*
				10th Gear					
212.24 *(158.27)*	13169 *(58.58)*	6.04 *(9.73)*	2001	3.11	0.430 *(0.262)*	16.25 *(3.20)*	188 *(87)*	51 *(11)*	29.00 *(98.21)*
				11th Gear					
210.60 *(157.05)*	11329 *(50.39)*	6.97 *(11.22)*	2000	2.58	0.433 *(0.264)*	16.12 *(3.18)*	188 *(87)*	51 *(11)*	29.00 *(98.21)*
				12th Gear					
208.05 *(155.14)*	9719 *(43.23)*	8.03 *(12.92)*	1998	2.04	0.440 *(0.268)*	15.88 *(3.13)*	188 *(86)*	50 *(10)*	29.00 *(98.21)*

DRAWBAR PERFORMANCE (BALLASTED—AT 2200 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)*
				3rd Gear					
168.47 *(125.63)*	26034 *(115.80)*	2.43 *(3.91)*	2248	7.75	0.497 *(0.302)*	14.07 *(2.77)*	183 *(84)*	57 *(14)*	28.72 *(97.26)*
				4th Gear					
186.15 *(138.81)*	25007 *(111.23)*	2.79 *(4.49)*	2204	5.52	0.471 *(0.287)*	14.83 *(2.92)*	185 *(85)*	57 *(14)*	28.73 *(97.29)*
				5th Gear					
189.64 *(141.41)*	21776 *(96.86)*	3.27 *(5.26)*	2202	3.54	0.462 *(0.281)*	15.13 *(2.98)*	185 *(85)*	55 *(13)*	28.73 *(97.29)*
				6th Gear					
190.21 *(141.84)*	18885 *(84.00)*	3.78 *(6.08)*	2201	2.74	0.461 *(0.281)*	15.15 *(2.98)*	186 *(85)*	53 *(12)*	28.74 *(97.32)*
				7th Gear					
194.15 *(144.77)*	16417 *(73.02)*	4.43 *(7.14)*	2204	2.29	0.450 *(0.274)*	15.53 *(3.06)*	188 *(86)*	55 *(13)*	28.73 *(97.29)*
				8th Gear					
192.37 *(143.45)*	14155 *(62.96)*	5.10 *(8.20)*	2199	1.84	0.455 *(0.277)*	15.37 *(3.03)*	185 *(85)*	53 *(12)*	28.74 *(97.32)*
				9th Gear					
190.37 *(141.96)*	12116 *(53.89)*	5.89 *(9.48)*	2201	1.75	0.459 *(0.279)*	15.21 *(3.00)*	188 *(86)*	53 *(12)*	28.74 *(97.32)*
				10th Gear					
188.40 *(140.49)*	10447 *(46.47)*	6.76 *(10.88)*	2197	1.48	0.464 *(0.282)*	15.05 *(2.96)*	188 *(86)*	53 *(12)*	28.74 *(97.32)*
				11th Gear					
185.51 *(138.33)*	8926 *(39.70)*	7.79 *(12.54)*	2204	1.20	0.472 *(0.287)*	14.79 *(2.91)*	186 *(86)*	53 *(12)*	28.74 *(97.32)*
				12th Gear					
181.01 *(134.98)*	7581 *(33.72)*	8.95 *(14.41)*	2202	1.11	0.483 *(0.294)*	14.46 *(2.85)*	188 *(87)*	53 *(12)*	28.74 *(97.32)*

can be locked together **Steering** hydrostatic **Power take-off** 1000 rpm at 2193 engine rpm **Unladen tractor mass** 18587 lb *(8431 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. The drawbar pull in 3rd and 4th gears (ballasted tractor) was limited to avoid tractor bouncing. For the maximum power tests, the fuel temperature at the injection pump return was maintained at 188° F *(87° 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 and correct report of official Tractor Test No. **1663,** Summary 121, November 20, 1992.

LOUIS I. LEVITICUS
Engineer-in-Charge

L. L. BASHFORD
R. D. GRISSO
K. VON BARGEN
Board of Tractor Test Engineers

DRAWBAR PERFORMANCE (BALLASTED—AT 2000 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)*
				4th Gear					
187.97 *(140.17)*	26119 *(116.18)*	2.70 *(4.34)*	2170	7.18	0.474 *(0.288)*	14.75 *(2.90)*	185 *(85)*	57 *(14)*	28.73 *(97.29)*
				5th Gear					
202.40 *(150.93)*	25986 *(115.59)*	2.92 *(4.70)*	2035	6.52	0.455 *(0.277)*	15.36 *(3.03)*	185 *(85)*	57 *(14)*	28.73 *(97.29)*
				6th Gear					
208.08 *(155.16)*	22939 *(102.04)*	3.40 *(5.47)*	2007	3.98	0.441 *(0.268)*	15.84 *(3.12)*	186 *(85)*	55 *(13)*	28.73 *(97.29)*
				7th Gear					
213.51 *(159.21)*	20013 *(89.02)*	4.00 *(6.44)*	2004	3.01	0.426 *(0.259)*	16.39 *(3.23)*	188 *(87)*	55 *(13)*	28.73 *(97.29)*
				8th Gear					
213.11 *(158.92)*	17307 *(76.99)*	4.62 *(7.43)*	2003	2.48	0.429 *(0.261)*	16.29 *(3.21)*	187 *(86)*	53 *(12)*	28.74 *(97.32)*
				9th Gear					
212.51 *(158.47)*	14933 *(66.43)*	5.34 *(8.59)*	2001	2.02	0.431 *(0.262)*	16.21 *(3.19)*	188 *(87)*	53 *(12)*	28.74 *(97.32)*
				10th Gear					
210.17 *(156.73)*	12841 *(57.12)*	6.14 *(9.88)*	2000	1.66	0.435 *(0.265)*	16.07 *(3.17)*	189 *(87)*	53 *(12)*	28.74 *(97.32)*
				11th Gear					
208.13 *(155.20)*	11033 *(49.08)*	7.07 *(11.38)*	2005	1.48	0.440 *(0.267)*	15.89 *(3.13)*	187 *(86)*	53 *(12)*	28.74 *(97.32)*
				12th Gear					
204.21 *(152.28)*	9427 *(41.93)*	8.12 *(13.07)*	2002	1.11	0.447 *(0.272)*	15.62 *(3.08)*	189 *(87)*	53 *(12)*	28.74 *(97.32)*

TRACTOR SOUND LEVEL WITH CAB	dB(A)
At 75% load in 7th gear	76.0
Bystander	—

TIRES BALLAST AND WEIGHT	With Ballast	Without Ballast
Rear Tires—No., size, ply & psi (kPa)	Four 20.8R42; **; 12 *(85)*	Two 20.8R42; **; 16 *(110)*
Ballast—Liquid (total)	1158 lb *(525 kg)*	None
—Cast Iron (total)	1740 lb *(789 kg)*	None
—Duals (total)	1720 lb *(780 kg)*	None
Front Tires—No., size, ply & psi *(kPa)*	Two 16.9R30; **; 20 *(140)*	Two 16.9R30; **; 16 *(110)*
—Cast Iron (total)	2610 lb *(1184 kg)*	None
Height of Drawbar	19.5 in *(495 mm)*	18.5 in *(470 mm)*
Static Weight with operator—Rear	16976 lb *(7700 kg)*	12990 lb *(5892 kg)*
—Front	9004 lb *(4084 kg)*	5762 lb *(2614 kg)*
—Total	25980 lb *(11784 kg)*	18752 lb *(8506 kg)*

SAE DYNAMIC TEST

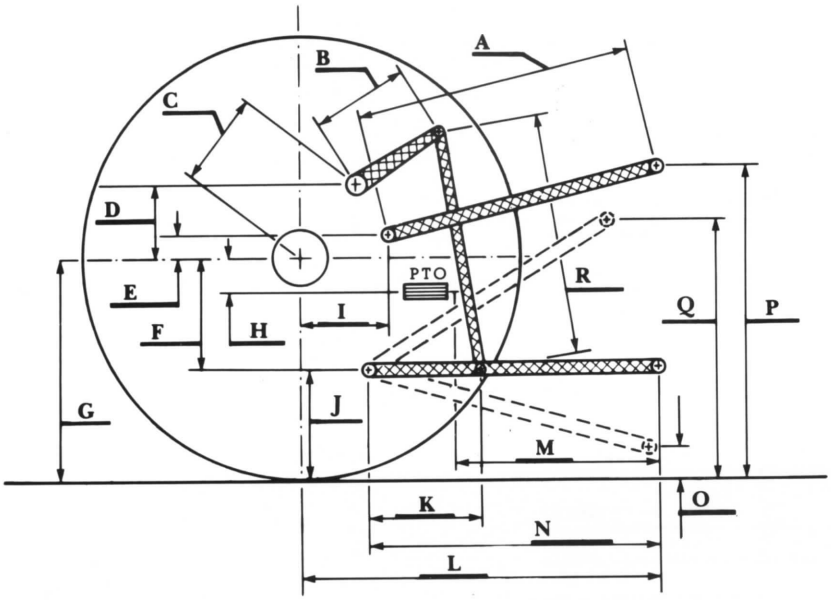
THREE POINT HITCH PERFORMANCE

Observed Maximum Pressure psi *(kPa)*	2680	*(18480)*
Location	Lift cylinder	
Hydraulic oil temperature °F *(C°)*	145	*(63)*
Location	Transmission sump	
	Maximum Lift Capacity	
QUICK ATTACH	Yes	
CATEGORY	III	
Load lbs *(kg)*	15216	*(6902)*
TIME sec.	6.59	
HITCH POINT MOVEMENT in *(mm)*		
Lowest position	14.0	*(356)*
Top of timed range	40.0	*(1016)*
Highest position	40.0	*(1016)*
LOAD CG MOVEMENT in *(mm)*		
Lowest position	14.1	*(358)*
Top of timed range	40.0	*(1016)*
Highest position	40.0	*(1016)*

THREE POINT HITCH PERFORMANCE
(OECD Static Test)

CATEGORY: III
Quick Attach: yes

Maximum Force Exerted Through Whole Range:	12294 lbs	*(54.7 kN)*
i) Opening pressure of relief valve:	NA	
Sustained pressure at compensator cutoff:	2680 psi	*(185 bar)*
ii) Pump delivery rate at minimum pressure and rated engine speed:	24.8 GPM	*(93.9 l/min)*
iii) Pump delivery rate at maximum hydraulic power:	23.2 GPM	*(87.8 l/min)*
Delivery pressure:	2200 psi	*(152 bar)*
Power:	29.8 HP	*(22.2 kW)*



HITCH DIMENSIONS AS TESTED—NO LOAD

	OECD test		SAE test	
	inch	*mm*	inch	*mm*
A	26.0	*660*	26.1	*664*
B	15.0	*381*	15.0	*381*
C	21.9	*557*	21.9	*557*
D	16.6	*422*	16.6	*422*
E	6.7	*169*	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	22.6	*573*	22.6	*573*
K	22.8	*579*	22.8	*579*
L	51.8	*1316*	51.8	*1316*
L′	56.8	*1443*	56.8	*1443*
M	20.5	*520*	20.5	*520*
N	33.9	*861*	33.9	*861*
O	9.0	*229*	8.0	*203*
P	44.6	*1132*	44.6	*1132*
Q	37.1	*943*	35.7	*908*
R	32.8	*832*	33.9	*860*

L′ to end of Quick Attach

Case International 7150 Diesel

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