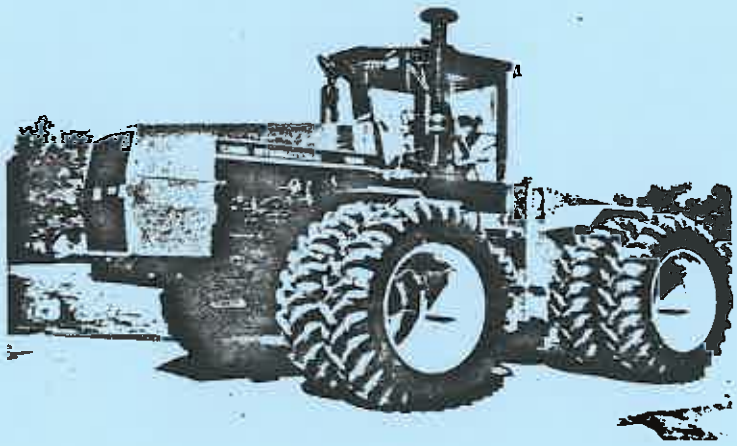
		OECD APPROVAL No.s
Approval dates:	Case IH 9180	29 January 1988 - 1129/1
	Steiger Lion 1000	29 January 1988 - 1129/2
	Case IH 9280	25 March 1991 - 1129/3
	Steiger 9280	25 March 1991 - 1129/4

CENTER FOR AGRICULTURAL EQUIPMENT
DEPARTMENT OF AGRICULTURAL ENGINEERING
INSTITUTE OF AGRICULTURE AND NATURAL RESOURCES
UNIVERSITY OF NEBRASKA - EAST CAMPUS
LINCOLN, NEBRASKA 68583-0832, USA

REPORT ON TEST IN ACCORDANCE WITH OECD STANDARD CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTOR PERFORMANCE

SUPPLEMENTAL TEST FOR THE EXTENDED TRACTOR: CASE IH 9280

CASE INTERNATIONAL 9180 (4 WD) Articulated
STEIGER LION 1000 (4 WD) Articulated
CASE INTERNATIONAL 9280 (4 WD) Articulated
STEIGER 9280 (4 WD) Articulated



MANUFACTURED BY: J.I. Case Company
700 State Street
Racine, Wisconsin 53404 USA

Test date: April and July, 1987
9280 Brake tests October, 1990

This test report provides the results of the SUPPLEMENTAL BRAKING tests conducted in accordance with the OECD Standard Test Code for the Official Testing of Agricultural Tractor Performance - C(87)53 Final - Annex I

It is the opinion of this testing station that the changes in the braking system and the braking performance do not affect the other test results of the original performance figures obtained in test # OECD 1129.

This report has been approved by the OECD Coordinating Centre in Paris (CEMAGREF) on January 29, 1988 and March 25, 1991

No reproduction of this report or any part of it can be made without prior approval by the Center for Agricultural Equipment.

Supervisor, Nebraska power Lab.

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Date: 25 May 1991

LINCOLN, NEBRASKA 68583-0832,USA

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****
* The Case International 9180 is identical to the Steiger *
* Lion 1000 (Cummins powered) except with regard to color *
* and model desigination. *
****
* The Case International 9280 is identical to the Steiger *
* 9280 except with regard to model desigination. *
****

SPECIFICATIONS OF TRACTOR.

Manufacturers name/address	:	J.I. Case Company 3101 1st Avenue North Fargo,North Dakota USA
Submitted for test by	:	The manufacturer
Selected for test by	:	The manufacturer in agreement with the test station.
Place of running in	:	J.I. Case Fargo, North Dakota
Duration of running in	:	78 hours

TRACTOR.

Make	Case International
Model	9180 (also 9280)
Type	Articulated frame, four-wheel drive (4WD)
Number of driving wheels	8
Serial Number	9180-17900712 9280-JCB0006667
1st Serial number	Case IH 9180; 17000670 Steiger Lion 1000;17900259

ENGINE.

Make	Cummins
Model	NTA-855-A
Type	Diesel,turbocharged and intercooled
Serial Number	9180-11385474 9280-30326737

Cylinders	
Number & Disposition	6, in-line, vertical
Bore x stroke	140 mm x 152 mm(5.5 in x 6.0 in)
Cubic capacity	14013 ml (855 in)
Compression Ratio	14.0 - 1
Arrangement of valves	Overhead
Cylinder liners	Wet, replaceable
Turbocharger	
Make and type	Cummins,T46B,exhaust gas driven 9280-Holset BHT3 B
Intake manifold pressure	170+/- 13.8 kPa (24.6+/-2 psi) at rated speed
Fuel System	
Feed system	Engine driven transfer pump
Make/Type/Model of filters	Two, Case IH, spin on, 28-035 9270-one,90-3941T1
Fuel Tank capacity	948 liter (250 US gallons)

Make/Model/Type Injection Pump	Cummins Type G,Model PT Non AFC - Variable speed govenor,gear pump supplies pressure for PT system
Pump Serial number	0929944
Production setting of pump Flow Rate (2100 rev/min)	60.3 - 63.1 kg/hr 133 - 139 lb/hr 9280-maximum 62.6 kg/h(138 lb/h)
Make/Model/Type of injectors	Cummins/PDT,DFF, P/N 3047973
Injection pressure	103.4 MPa (1020.6 atm) (9280-93.0 MPa)
Rail Pressure	993-1103 kPa (144-160 psi)
Timing	17 degrees before TDC
Governor	
Make and type	Centrifugal flyweight, integral to fuel pump
Governed engine speed range	From 850 to 2350 rev/min
Rated engine speed	2100 rev/min
Air Cleaner.	
Pre-cleaner	
Make/Type	Donaldson/aspirating
Position	Integral with air cleaner
Main Cleaner	
Make/Model/Type	Donaldson/EGB14-0160/ pleated paper
Position	Mounted on front left fender
Maintenance indicator	Sight glass in engine compartment, Donaldson RBX00-2252 (9280-Warning light in dash)
Lubrication system.	
Type of feed pump	Full pressure, positive displacement.
Type of filters	Full flow and bypass,spin on
Number	2
Oil cooler	Heat exchanger with engine coolant
Cooling system.	
Type of coolant	Liquid
Type of pump	Centrifugal
Fan specification	Belt driven
Number of fan blades	8
Fan diameter	813 mm (32.0 in)
Coolant system capacity	62.5 liter (66 qt)
Type of temperature control	thermostat
Superpressure system	48.3 kPa (7 psi)

Starting system.	
Make/Model/Type of starter	Delco Remy/42 MT 400/electric
Power Rating	7.46 kW (10 hp)
Cold starting aid	In block coolant heater and Ether spray in intake manifold.
Safety device	Electrical lockout on gearshift and PTO controls
Electrical system.	
Voltage & grounding.	12 Volt DC;negative ground
Generator	
Make/Model/Type	Delco Remy/21SI
Power rating	90 Ampere at 2100 engine rpm. (9280-125 Amps)
Batteries	
Number & connection	3-12 V batteries in parallel
Rating	90 amp-hours per battery at 20 hour rating 625 Cold crank amps per battery
Exhaust system.	
Make/Model/Type	Donaldson,expansion chamber 229 mm dia x 1372 mm long (9.0 in dia x 54 in long)
Location	Vertical,right front corner of cab outlet directed to right front
TRANSMISSION.	
Clutch. (travel)	
Make/Type	FTK, multi-plate,oil cooled
Plate diameter	Main 229 mm (9.0 in) PTO 178 mm (7.0 in)
Method of operation	Hydraulic, foot pedal.
Gear Box.	
Make/Type	FTK, Full Power shift
Arrangement	counter shaft
Number of gears	12 forward, 2 reverse (9280-12 forward,3 reverse) controlled by a single hand lever
Oil cooler	Heat exchanger with air
Available options	None
Front and Rear axle and final drives.	
Make/Type	Raba 598,outboard planetary
Differential Lock	
Type	Multiple disc clutch, limited slip
Method of engagement	Electrical switch
Method of disengagement	Electrical switch

Gear ratios and travel speeds.
(Tire dynamic radius of 889 mm (35.0 in) ISO 4251/1-1984)

Gear Number	Number of engine revolutions for one revolution of the driving wheels		Nominal travel speed at rated engine speed of 2100 rev/min	
			[km/h]	[mph]
	9180	9280		
Forward				
1	195.67	195.67	3.6	2.2
2	163.11	164.54	4.3	2.6
3	132.54	133.71	5.3	3.3
4	108.21	108.21	6.5	4.0
5	90.20	91.07	7.7	4.8
6	73.29	73.95	9.5	5.9
7	61.55	61.55	11.4	7.1
8	51.30	51.76	13.6	8.4
9	41.68	42.03	16.7	10.4
10	34.03	34.03	20.7	12.8
11	28.35	28.61	24.8	15.3
12	23.05	23.26	30.6	18.8
Reverse				
R1	149.63	149.63	4.7	2.9
R2	82.74	82.74	8.5	5.3
R3		47.08	14.9	9.3

Number of front wheel revolutions
for one rear wheel revolution 1.000

POWER - TAKE - OFF.

Main Power-Take-Off.

Type	Independent
Method of engagement	Hydraulically actuated wet multiplate clutch operated by hand lever, independent of main drive clutch.
Number of shafts	One

Standard PTO. 1000 rev/min.

Location	Rear of tractor, vertical center plane.
Diameter of shaft	44.4 mm (1.75 in)
Number of splines	20;conforms to ISO 500/1979.
Height above ground	744 mm (29.3 in)
Distance from median plane of tractor	0 mm
Distance behind rear axle	635 mm (25.0 in)
PTO Speed at rated engine spd.	1000.5 rev/min
Engine speed at Std.PTO Speed	2099 rev/min
Ratio of Engine rpm to PTO rpm	2.09797 to 1
Direction of rotation (viewed facing driving end)	Clockwise.

POWER LIFT.

Make	Cessna
Type of hydraulic system	axial piston,closed center pressure and flow compensated Draft and position control, electric/hydraulic,adjustable rate of drop
Number/Type of cylinders	Two external,both single acting
Type of linkage lock for transport	Hydraulic
Relief valve setting	17.237 MPa (2500 psi)
Opening pressure of cylinder safety valve	20.7 MPa (3000 psi)
Power transmission to pump	Direct drive from transmission
Type/Number of filters	Spin on cartridge/one
Location of oil reservoir	Separate reservoir
Number/Type/Location of tapping points.	4 pairs of ISO standard coup - lings at rear of tractor
Max. oil volume available for external cylinders	98.4 l (20 US gal) (9280 35.7 l (6 US gal))

THREE POINT LINKAGE.

- Category 4 in conformity with ISO 730/1-1977
- Category adaptor - Quick attach

THREE POINT LINKAGE

Figure 1.1

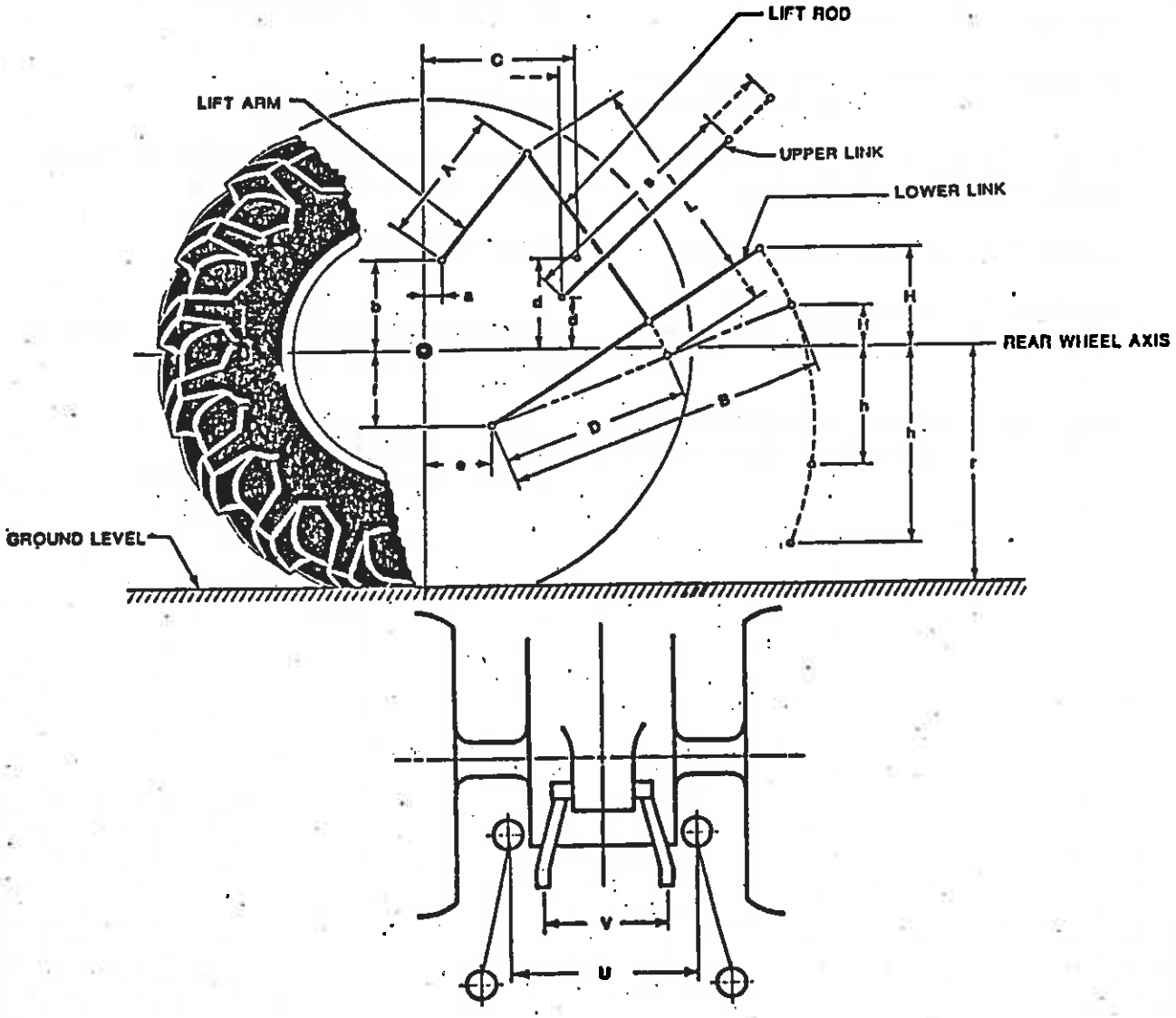


Figure 1.2

THREE POINT LINKAGE

Table 1.1 -*Linkage geometry dimensions.

		Dimension or range [mm]	Dimension or range [in]	Settings used on test [mm]	Settings used on test [in]
Lift category		IV			
Rear Tire - Radius Index	(r)	889	35.0		
Front Tire - Radius Index	(r')	889	35.0		
Length of lift arms	(A)	533	21.0	same	
Length of lower links	(B)	997	39.3	same	
Distance of lift arm pivot from: horizontal	(a)	371	14.6	same	
rear wheel axis: vertical	(b)	601	23.7	same	
Horizontal distance between the 2 lower link points	(u)	825	32.5	same	
Horizontal distance between the 2 lift arm end points	(v)	1057	41.6	same	
Length of upper link	(S)	756 to 946	29.8 to 37.2	774	30.5
Distance of upper link pivot from: horizontal	(c)	535	21.0	same	
rear wheel axis: vertical	(d)	280	11.0	same	
Distance of lower link pivot from: horizontal	(e)	302	11.9	same	
rear wheel axis: vertical	(f)	345	13.6	same	
Distance of lower link pivot points to lift rod pivot pts on lower links.	(D)	652	25.7	same	
Length of lift rods	(L)	829 to 1032	32.6 to 40.6	956	40.6
Height of lower hitch points relative to rear wheel axis					
In low position	(h)	458 to 775	18.0 to 30.5	665	26.2
In high position	(H)	112 to 315	4.4 to 12.4	112	4.4

*Assuming (r) with a dynamic tire index of 889 mm (35.0 in)
ISO 4251/1-1984

SWINGING DRAWBAR.

Type	Oscillating
Height above ground:	Maximum 614 mm (24.2 in) Minimum 456 mm (17.9 in)
Adjustments	Inverting drawbar
Distance of hitch point from rear wheel axis, horizontal	1143 mm (45.0 in)
Distance of hitch point from PTO shaft end	
Vertical	203 mm (8.0 in),356 mm (14.0)
Horizontal	509 mm (20.0 in)
Lateral adjustment;Right side	165 mm (6.5 in)
Left side	165 mm (6.5 in)
Distance of pivot point from rear wheel axle; horizontal	1778 mm (70.0 in) (9280-1410 mm (55.5 in))
Diameter of drawbar pin hole	46 mm (1.81 in)

STEERING

Make/Type	Eaton/hydrostatic steering control unit
Method of operation	Steering wheel
Pump(s)	Cessna axial piston,pressure and flow compensated 9280 - Cessna gear pump
Oil supplied from	Hydraulic reservoir
Working pressure	15.9 MPa (2300 psi) maximum

BRAKE SYSTEM.

Service brake.	
Make/Model/Type	Kelsey Hayes,caliper,dry disc 2 calipers, 9280-1 caliper
Position	On front axle drive shaft at differential
Method of operation	Manual/hydraulic, operated by one foot pedal.
Parking brake	
Type	Caliper/dry disc,
Method of operation	mechanically by hand lever
Trailer Brake	
Type	None

WHEELS.

Number.	
Front	Four; Driving and steering
Rear	Four; Driving and steering
Wheel base	9170 - 3594 mm (141.5 in)
	9270 - 3594 mm (141.5 in)
Track width adjustment	None
Track settings used	inner, 1935 mm (76.2 in)
	outer, 3360 mm (132.3 in)
	front and rear have same settings

PROTECTIVE STRUCTURE.

Make/Model/Type	Case IH, 4CSF-2
Manufacturer's name/address	Case International
	Racine, Wisc.
Protective device	Cab, not tiltable.
OECD approval number	Case 9180: CSS 076/1
	Steiger Lion 1000: CSS 076/2
	Case IH 9280: CSS 076/23
	Steiger 9280: CSS 076/24

DRIVER'S SEAT.

Make/Type	Sears, PN198715C1
Type of suspension	Air ride,lateral and fore/aft isolator and ride control
Type of damping	Hydraulic
Range of adjustment	
Longitudinal	152 mm (6.0 in)
Vertical	76 mm (3.0 in)

LIGHTING.

	Height above ground of center		Size	Distance from out - side edge to median plane of tractor.	
	[mm]	[in]	[mm]	[mm]	[in]
Headlights	1840	72.4	102 x 152	420	16.5
Rearlights	1925	75.8	57 x 165	1067	42.0
Reflectors					
front	1374	54.1	48 x 111	648	25.5
rear	1900	74.8	48 x 111	1003	39.5
	(9280 - does not have reflectors)				

TEST CONDITIONS.

Overall dimensions.

Length		7160 mm (282.0 in)
Width	Minimum	3890 mm (153.1 in)
	Maximum	3890 mm (153.1 in)
Height - Top of exhaust		3870 mm (152.4 in)
Ground clearance (unballasted)		424 mm (16.7 in)
Clearance-limiting part		Bottom of linkage restraints

Tractor Mass (with Cab, full fuel tank)

CASE INTERNATIONAL 9180

	Unballasted [kg]	Unballasted [lb]	Ballasted [kg]	Ballasted [lb]
Front	8518	18780	10475	23100
Rear	7616	16790	7665	16900
Total	16134	35570	18140	40000

CASE INTERNATIONAL 9280

	Unballasted [kg]	Unballasted [lb]	Ballasted [kg]	Ballasted [lb]
Front	8294	18285	10718	23630
Rear	7434	16390	7434	16390
Total	15728	34675	18152	40020

Tire Specifications.

	Front wheels	Rear wheels
Make	Goodyear	Goodyear
Dimensions	20.8-42	20.8-42
Ply rating	10 ply	10 ply
Type	Bias	Bias
Max.load (tire manufacturer)	2676 kg/tire (5900 lb/tire)	2676 kg/tire (5900 lb/tire)
Inflation pressure (tire mfr)	110 kPa (18 psi)	110 kPa (18 psi)
Dynamic Radius Index	889 mm (35.0 in)	889 mm (35.0 in)
Chosen track width - inner	1935 mm (76.2 in)	1935 mm (76.2 in)
- outer	3360 mm(132.3 in)	3360 mm(132.3 in)

Oils and Lubrication.

Capacity and change interval:

	Capacity liter	Capacity quart	Oil change hrs	Filter change hrs
Engine (w/o filter)				
9270 -	39.8	42	250	250
9280 -	37.0	39		
Transmission	34	32	1000	500(9280-1000)
Hydraulic system	178	188	1500	750
Front and rear axle	21.2	22	500(9280-1000)	

Oil and Lubricant specifications:

	Recommended	Used during test
Engine oil		
Type	Texaco URSA SP	same
Viscosity	10 cSt at 100'C	
Classification	API - CD MIL-L-2104D	
Transmission		
Type	Case IH Hytran Plus	same
Viscosity	6.2 cSt at 100'C	
Classification	NA	
Hydraulic fluid		
Type	Case IH Hytran Plus	same
Viscosity	6.2 cSt at 100'C	
Classification	NA	
Steering oil	same as hydraulic	same
Front & rear axles	SAE 80W-90	same
9280 -	Case IH hytran Plus	same
Grease		
Number of lubrication points	35(includes 17 for PTO and 3 point)	
9280 -	27(includes 15 for PTO and 3 point)	

Fuel

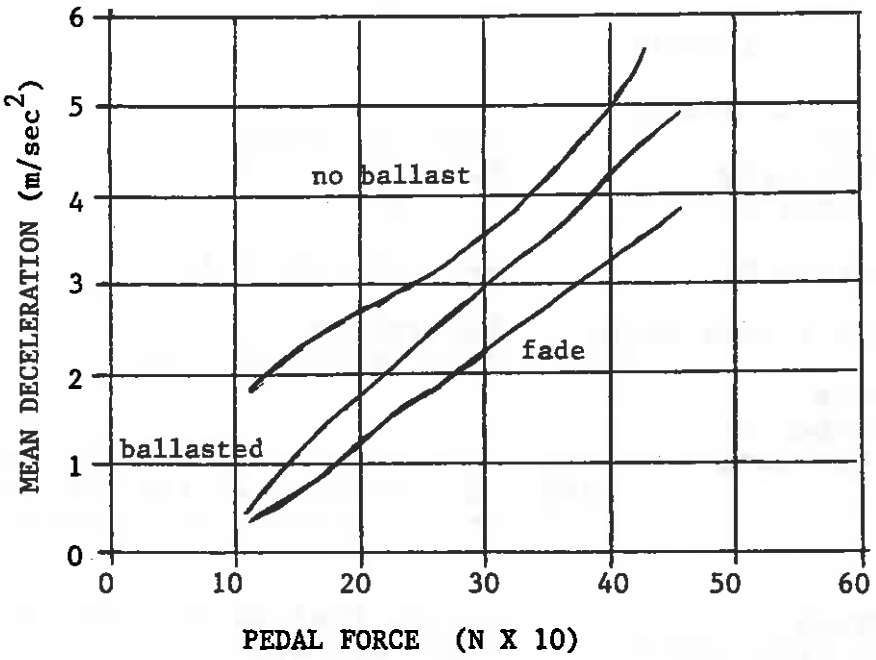
Type/grade	Diesel Fuel to SAE J313 grade 2-D
Density (Pto test)	0.859 g/cubic-cm at 15'C (59'F)
(Drawbar test)	0.854 g/cubic-cm
Cetane number	40 min.
Viscosity	2.0-4.27 cSt at 38'C (100'F)

BRAKING

Dates of Test: 3rd June 1987
Type of track: Concrete
Masses during brake tests

	Front kg	Front lb	Rear kg	Rear lb	Total kg	Total lb
Ballasted	10475	(23100)	7665	(16900)	18140	(40000)
Unballasted	8518	(18780)	7616	(16790)	16134	(35570)

CASE IH 9180



Travelling speed before application of brakes, 33.9 km/h

Brake heating method: Actuating of brakes for 1 km at 80% of maximum speed with pedal force corresponding to 1 m/s²

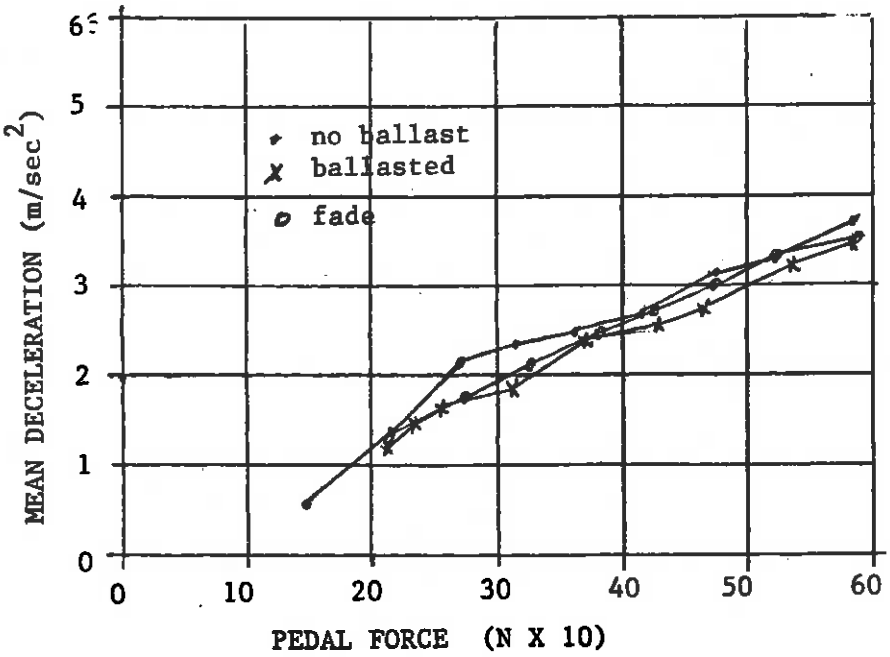
Comments on deviation and vibration: none

Braking Tests Case IH 9280

Dates of tests:October 3rd & 4th,1990
Type of track: Concrete
Masses during tests:

	Front kg	Front lb	Rear kg	Rear lb	Total kg	Total lb
Ballasted	10718	(23630)	7434	(16390)	18152	(40020)
Unballasted	8294	(18285)	7434	(16390)	15728	(34675)

CASE IH 9280



Travelling speed before application of brakes, 35.6 km/h

Brake heating method: Actuating of brakes for 1 km at 80% of maximum speed with a pedal force corresponding to 1 m/s^2

Comments on deviation and vibration: none

REPAIRS AND ADJUSTMENTS DURING TESTS: None
REMARKS: None

The request for an extension on the Canadian report (OECD No.1129) is hereby granted. Thus this extension is valid for OECD test report 1129 (code 1).