Report on test in accordance with
OECD STANDARD CODE II for the Official
Testing of Agricultural Tractor Performance

Restricted Code

OECD No. 1311



Agricultural Tractor
CASE-IH 5140-MAXXUM (4WD)
version 81 kW

Model denomination 5140 A

Manufacturer
JI CASE GmbH
D-4040 Neuss

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This is a report on a tractor test in accordance with OECD STANDARD CODE for the Official Testing of Agricultural Tractor Performance (C(87)53(Final), Code II).

It does not contain an evaluation of the tractor on practical work.

Duration of tests: August 1990 till January 1991

DLG-Testing Station for Agricultural Machinery, Max-Eyth-Weg 1,
D-6114 Groß-Umstadt

This report has been approved by the OECD Co-Ordinating Centre (CEMAGREF, France) as being in accordance with the OECD STANDARD CODE.

Date of approval: 13th May 1991

OECD No. 1311
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In this report all performance characteristics are given corresponding to the International System of Units.

The reference to the former used Technical System of Units is given by the following relations:

Forces	1 kN	=	1000 N	=	102 kp
Powers			1 kW	=	1,36 PS
Pressures	1 MPa	=	10 bar	=	10,2 kp/cm²
	100 kPa	=	1000 mbar	=	750,10 mm Hg

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PRELIMINARY REMARK

The EUR-version of the tractor CASE-IH 5140 MAXXUM (4WD) (see tractor test OECD No. 1287) is offered slightly modified as version 81 kW in several European countries.

These modifications affect the tractor's performance. Therefore the tractor CASE-IH 5140 (4WD), version 81 kW, was retested.

Modifications: Injection pump
transmission ratio

TABLE OF CONTENTS

		Page
SPECIFICATION OF TRACTOR		4 to 19
TEST CONDITIONS		19 to 21
COMPULSORY TESTS		
1	Main power take-off performance	22 to 25
2	Hydraulic power and lifting force	26
3	Drawbar power and fuel consumption	27 to 29
4	Repairs and Remarks	30

CASE-IH 5140 (81 kW) Test No. 91-5

Tractor manufacturer:	JI CASE GmbH D-4040 Neuss
Location of tractor assembly:	D-4040 Neuss
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by DLG
Place of running in:	Neuss and Groß-Umstadt
Duration of running in:	50 hours engine appr. 100 hours

SPECIFICATION OF TRACTOR

Tractor

Make:	CASE INTERNATIONAL
Trade name:	5140 - MAXXUM, version 81 kW
Model denomination:	5140 A
Type:	Wheel tractor, unit construction, four wheel driven
Serial no.:	JJF 1004980
1st Serial no.:	JJF 1000001

Engine

Make:	CASE
Model:	6T-590
Type:	Watercooled 4 stroke Diesel-engine direct injection, turbo charged
Serial no.:	52100630
Cylinders:	6, in line, bore 102 mm, stroke 120 mm, displacement 5883 cm^3 compression ratio 17,5±1,5:1
Valves:	Overhead

Supercharging

Make:	HOLSET
Model:	3522778; optional 3528741 (not fitted)
Type:	Exhaust driven, without intercooler
Max. pressure:	50 kPa

CASE-IH 5140 (81 kW) Test No. 91-5

Fuel system:	AC SPARK fuel supply pump, BOSCH distributor injection pump CASE no.: J 918 207, (CUMMINS no.: 3 918 207), serial no.: 94979370 manufacturer's production setting 58,0±1,5 mm^3/stroke at full load and rated speed; automatic injection timing device, static injection timing: 1,50±0,15 mm piston stroke of injection pump at TDC, 14 degrees dynamic adjustment; BOSCH multihole injection nozzles DLLA 155 P 74 (fitted to tested tractor), or optional: BOSCH DLLA 155 PV 3176 127, LUCAS CAV 6801 071, LUCAS CAV 6801 118; capacity of fuel tank 170 dm^3
Governor:	BOSCH centrifugal variable speed governor, governed range of engine speed 900±100 to 2384±44 rev/min, rated engine speed 2200 rev/min
Air cleaner:	MANN 4433592114, dry paper element filter with precleaner, replaceable cartridge; electric warning indicator lamp; air intake below bonnet
Exhaust silencer:	NELSON-BURGESS multi-chamber expansion reflection type, oval 266 x 139 mm, 517 mm long, below bonnet, vertical pipe; mouth showing to the left upwards, 2685 mm above ground
Lubrication system:	Forced feed by internal gear pump, oil filter in full flow with replaceable cartridge, engine oil/cooling-water heat exchanger in crankcase
Cooling system:	Water cooling with impeller pump, overpressure relief valve set to 103,0 kPa; thermostat and by-pass circuit; fan with 6 blades with 450 mm dia; water capacity 22,0 dm^3
Starting system:	Electrical BOSCH solenoid pre engaged-drive starter motor 3,1 kW; cold starting aid: CAV flame plug in air intake channel, optional starting fluid (ether)

	Safety device: Range gear in neutral position, forward/reverse control in forward position, p.t.o. lever off
Electrical system:	12 Volt, negative earth; BOSCH 3-phase alternator K1-14 V/ 65 A 910 W; optional 95 A, 1330 W, fitted to tested tractor; 1 lead acid battery, 105 Ah at 20 hours rating; optional 2 batteries, 105 Ah each

Transmission

Clutch:	CASE POCLAIN wet multi-plate clutch, 127 mm dia, pedal operated or hydraulically controlled by forward-reverse lever
Gear box:	CASE POCLAIN 40 km/h version (30 km/h version optional); power shift speed change gear with 4 speeds; range gear with 4 synchronized ranges (I, II, III, IV); power shift reversing gear (F,R); in position reverse 3 ranges can be used; total 16 forward, 12 reverse speeds; optional 1 collar shifted creeper range(CR), acting on 2 range gears (I, II), fitted to tested tractor; total 24 forward and 20 reverse speeds; creeper range must not be used for heavy drawbar pull; 4 levers (3 without creeper gear); optionally available synchromesh speed change gear instead of power shift gearbox
Rear axle and final drives:	CASE POCLAIN, bevel gear drive; bevel gear differential with multiplate differential lock, electro-hydraulically engaged/disengaged by switch or disengaged at service brake operation or engine cutoff; planetary final drives
Front axle and final drives:	CARRARO 709/S4P, driven by wet multi-plate clutch, propeller shaft (in tractor's median plane) and bevel gear; clutch operated by electro-hydraulic switch; limited slip differential; planetary final drives

CASE-IH 5140 (81 kW) Test No. 91-5

Total ratios and speeds: See tables below and on page -8-

number of revolutions of front wheels for one revolution of rear wheels: 1.4066, optional 1.2894 (not fitted)

Creeper Speeds

Range	Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed 2200 rev/min km/h *)
Forward speeds			
I	1	1386,64	0,49
	2	1144,08	0,59
	3	926,19	0,73
	4	747,25	0,91
II	1	608,41	1,12
	2	501,98	1,35
	3	406,38	1,67
	4	327,87	2,07
Reverse speeds			
I	1	1166,81	0,58
	2	962,71	0,71
	3	779,35	0,87
	4	628,79	1,08
II	1	511,95	1,33
	2	422,40	1,61
	3	341,95	1,99
	4	275,89	2,47

*) calculated with the radius index (ISO 4251/1-1984) 820 mm

CASE-IH 5140 (81 kW) Test No. 91-5

Normal speeds: Creeper range out of work

Range	Gear	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed at rated engine speed 2200 rev/min km/h *)
Forward speeds			
I	1	255,09	2,67
	2	210,47	3,23
	3	170,38	3,99
	4	137,47	4,95
II	1	111,92	6,08
	2	92,35	7,36
	3	74,76	9,10
	4	60,32	11,28
III	1	68,08	9,99
	2	56,17	12,11
	3	45,47	14,96
	4	36,69	18,54
IV	1	33,56	20,26
	2	27,69	24,56
	3	22,42	30,34
	4	18,09	37,60
Reverse speeds			
I	1	214,65	3,17
	2	177,10	3,84
	3	143,37	4,74
	4	115,67	5,88
II	1	94,18	7,22
	2	77,71	8,75
	3	62,91	10,81
	4	50,75	13,40
III	1	57,28	11,87
	2	47,26	14,39
	3	38,26	17,77
	4	30,87	22,03

*) calculated with the radius index (ISO 4251/1-1984) 820 mm

Main p.t.o.

Independent; driven by multi-plate clutch, operated by electro-hydraulic switch;
1 shaft at tractor's rear;
2 speeds preselectable by hand lever, profile changeable by reversing the shaft;
35 mm dia, 6 splines, ISO 500-1979 type 1
or
35 mm dia, 21 splines, ISO 500-1979 type 2

724 mm above ground, 498 mm behind rear wheel centre, in tractors' median plane;
sense of rotation clockwise, viewed facing tractor's rear

p.t.o.	p.t.o. speed rev/min	engine speed rev/min	p.t.o. transmission ratio	Power restriction kW
540	540 634	1875 2200	3,4720	-
1000	1000 996	2209 2200	2,2095	-

Front p.t.o.

Optionally available, not fitted

Power lift

CASE POCLAIN
servohydraulic power lift, unit construction, draft, position and intermixable control, floating position, fast raising, lowering throttle, lower links' sensing

Hydraulic system:
Closed centre system;
REXROTH adjustable axial-piston pump, gear driven by gearbox,
max. delivery 75 l/min at rated engine speed;
oil cooler in front of engine water cooler,
oil filter in feed line;
REXROTH control valve (lever in transport position lockable),
relief valve pressure setting 19,0±0,4 MPa;
single acting cylinder with 105 mm bore and 227 mm stroke, safety valve set to 22,0 MPa;

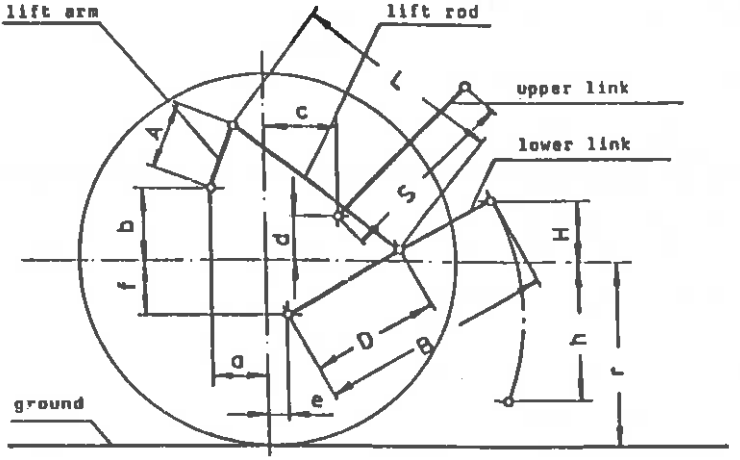
3 double acting additional CASE control valves with 2 oil couplings each at rear of tractor;
maximum volume of oil available to external cylinders:
12 l stationary and during driving operation
with increased oil level;
hydraulic oil reservoir in common with gearbox with 76 l capacity (88 l with increased oil level);

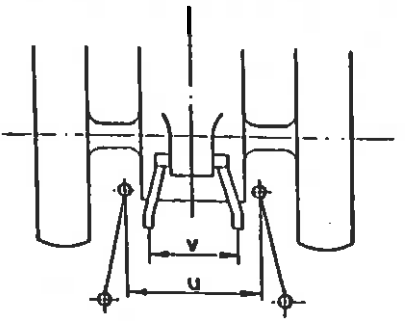
power lift at front optional
(fitted to tested tractor);

the hydraulic oil pump further provides hydraulic pressure for actuating of steering, p.t.o. clutch and power-shift gear and for shifting the front axle drive clutch and the rear axle differential lock

CASE-IH 5140 (81 kW) Test No. 91-5

Three point-linkage: Category 2 acc. to ISO 730/1-1977
with WALTERSCHEID quick couplers





CASE-IH 5140 (81 kW) Test No. 91-5

Dimensions of rear implement linkage (projected lengths in mm, underlined dimensions are valid for power lift measurements p.26)

Rear tyres 520/70 R 38	radius index +)	(r)	820
Front tyres 420/70 R 24	radius index +)	(r')	590
Length of lift arms		(A)	230
Length of lower links		(B)	877
Distance of lift arm pivot points from rear wheel centre	horizontal	(a)	-243
	vertical	(b)	181
Horizontal distance between lower link pivot points		(u)	543
Horizontal distance between lift arm end points		(v)	692
Length of upper link		(S)	610 to 880, <u>760</u>
Distance of upper link pivot point from rear wheel centre	horizontal	(c)	<u>359</u> or 349
	vertical	(d)	<u>230</u> or 300
Distance of lower link pivot point from rear wheel centre	horizontal	(e)	231
	vertical	(f)	246
Distance of lower link pivot points from lift rod pivot points on lower links		(D)	555
Length of lift rods		(L)	540 to <u>640</u>

Height of lower link hitch points relative to rear wheels' centre line (situated 820 mm above ground), these data are valid for unloaded power lift:

Length of lift rods	(L)	<u>640</u>		540
Linkage distance of lift rods	(D)	555		
Lowest position	(h)	585		310
Highest position	(H)	140		315
Transport position	(H')	140		315

+) Assuming r resp. r' = tyre dynamic radius index of ISO 4251/1-1984

Pull attachment

Swinging drawbar:	Optionally available, not fitted	
Trailer hitch:	CRAMER KU 94002, automatical	
	diameter of hitch pin	32 mm
	height above ground adjustable by one-hand quick adjustment to	
	420/525/610/755/830/890/960 or	1000 mm
	distance of hitch point from rear wheel centre line, horizontal	690 mm
	from p.t.o. shaft end vertical	
	(above p.t.o.)10,85,145,215 or	255 mm
	(below p.t.o.) 135,220 or	325 mm
	horizontal	192 mm
	maximum vertical permissible load	20 kN
Holed drawbar:	Short bar,	
	length between joint balls	825 mm
	9 holes, 33 mm dia with 80 mm distance each,	
	thickness/width of the drawbar	30/80 mm
	height above ground: minimum	235 mm
	maximum	1135 mm
	horizontal distance to p.t.o. shaft end (lower links in horizontal position)	610 mm
Towing hitch:	At front, height above ground	840 mm

Steering

EATON, Q/AMP LSR (fitted to tested tractor), DANFOSS, OSPC 160 LSR, at 30 km/h version; hydrostatic steering, connected by sequence valve to the hydraulic system of the tractor (see on page 10); 1 integrated WEBER ram (symmetrical design), 236 mm stroke, 75 mm bore and 42 mm dia of piston rod, directly acting on steering levers; working pressure 17,2 MPa

Brakes

Service brake:	CASE POCLAIN pedal operated muscle power brake with hydraulic transmission, using oil of gearbox, acting on rear wheels, front axle drive is automatically engaged during braking; oil-immersed disc brake with 1 ring-piston on each differential half shaft; disc diameter 300 mm; trailer braking take-off optional, fitted to tested tractor: single/dual line air brake
Parking brake:	Mechanical wet disc brake, operated by lever with ratchet; 2 lining discs with 141 mm dia each, situated on drive shaft of rear axle (in front of bevel-gear pair)
Steering brake:	Divided pedal of service brake, for normal use locked together

Wheels

Front:	Driving and steering, 2 pneumatics
Rear:	Driving, 2 pneumatics
Wheelbase:	2585 mm
Track width:	At front 1530 mm up to 2230 mm, at rear 1630 mm up to 2230 mm, adjustable in steps of 100 mm each by adjustable gauge bowl wheels and by turning the wheels

Possible combinations of tyres sizes front/rear

with inter axle ratio 1.4066 (fitted to tested tractor)

Tyres sizes at front	Tyres sizes at rear
11.2 R 24 12.4 R 24	18.4 R 30
11.2 R 24 12.4 R 24 360/70 R 24	16.9 R 34
12.4 R 24 13.6 R 24 380/70 R 24 11.2 R 28	18.4 R 34
11.2 R 24 12.4 R 24	13.6 R 38
11.2 R 24 12.4 R 24	15.5 R 38
13.6 R 24 14.9 R 24 11.2 R 28 12.4 R 28	23.1 R 30
13.6 R 24 14.9 R 24 380/70 R 24 420/70 R 24 11.2 R 28 12.4 R 28	16.9 R 38
13.6 R 24 380/70 R 24	520/70 R 34
13.6 R 24 14.9 R 24 420/70 R 24 12.4 R 28	480/70 R 38
14.9 R 24 420/70 R 24 16.9 R 24 14.9 R 26 12.4 R 28 13.6 R 28 380/70 R 28	18.4 R 38
14.9 R 24 420/70 R 24 12.4 R 28	520/70 R 38

CASE-IH 5140 (81 kW) Test No. 91-5

with inter axle ratio 1.2894 (optional, not fitted)

Tyres sizes	
at front	at rear
13.6 R 24 14.9 R 24 380/70 R 24 11.2 R 28 12.4 R 28	18.4 R 30
14.9 R 24 420/70 R 24 11.2 R 28 12.4 R 28	16.9 R 34
16.9 R 24 14.9 R 26 12.4 R 28 13.6 R 28 380/70 R 28	18.4 R 34
13.6 R 24 11.2 R 28 12.4 R 28	13.6 R 38
13.6 R 24 14.9 R 24 11.2 R 28 12.4 R 28	15.5 R 38
16.9 R 24 14.9 R 26 13.6 R 28	23.1 R 30
16.9 R 24 14.9 R 26 13.6 R 28 380/70 R 28	16.9 R 38
14.9 R 24 420/70 R 24 12.4 R 28	480/70 R 34
16.9 R 24 14.9 R 26 13.6 R 28 380/70 R 28	520/70 R 34
16.9 R 24 14.9 R 26 13.6 R 28	480/70 R 38

Protective structure	CASE POCLAIN, cab model CX-94; OECD-tested driver's platform with integrated safety frame, OECD approval no. CSS 088/11 not tiltable, antivibration mounted by silent-blocks on tractor; 2 doors and 3 steps each, steps 540, 753 mm and 969 mm, driver's platform 1165 mm above ground; rear window and rear side windows tiltable; combined heating/ventilation system with 3-step blower and cooling-water heat exchanger incorporated in roof; air intake above rear window, dry air filter; air outlet jets and defroster nozzles in the roof at front air conditioner optionally available, not fitted to tested tractor	
Noise reduction materials:		
Roof:	Fabric, PUR-foam	3,5 mm
	resin impregnated felt (molded part)	7 mm
	PUR-foam	50 mm
Roof, front part:	ABS-panel part	3 mm
Doors, below:	PVC foil + fabric, PUR-foam	1 to 15 mm
	ABS-carrier	1,5 mm
Floor:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded)	5 mm
	PE-foam	25 mm
	or partially PE-chip foam with waterproof sealing	22,5 mm
Seat support, on the surface and the front side:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded)	5 mm
	PE-foam + waterproof sealing	25 mm

CASE-IH 5140 (81 kW) Test No. 91-5

Console panel:	Compound mat, consisting of: Synthetic heavy foil + PVC coated (molded)	5 mm
	PE-foam	7 mm
Front panel	-	
Rear panel:	ABS-panel part	3 mm
Mudguards:	PVC-foil	3 mm
	PUR-foam	22 mm
B-posts:	ABS-panel part	3 mm
Bulk head:	PUR-heavy-foil	6 mm
	PE-foam	up to 6 mm
Draught proofing:	Rubber seals and Silicon	

Driver's seat: SEARS, 2000
upholstered seat with back rest,
hydraulic shock absorber,
pneumatic suspension;
height of unloaded seat above platform
steplessly adjustable from 380 to 520 mm,
longitudinal adjustment 150 mm

Running-time meter: Electronic, counts real operating hours when engine is running

Lighting Electrical, 12 Volt, acc. to German legislation

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1395	160x80	290
Auxiliary lights Side lights	2580 1820	135x80 110x65	465 817
Rearlights	1760	100x40	1040
Reflectors 1st pair 2nd pair	1775 870	80x40 80 dia	1055 527

TEST CONDITIONS

Overall dimensions

Length mm	Width mm	Height at top of	
		protective structure mm	exhaust silencer mm
4380 +) 4830	2385	2750	2760

+) with front power lift (lower links horizontal)

Ground clearance: 365 mm below bracket of trailer hitch

Tractor mass (inclusive front power lift)

	Without driver kg	With driver kg
Front	2245	2255
Rear	3250	3315
Total	5495	5570

Tyres and track widths specifications

	Front	Rear
Tyres:	PIRELLI	PIRELLI
dimensions	420/70 R 24	520/70 R 38
type	radial-ply	radial-ply
ply rating/load index	-/130	-/150
speed index	A8	A8
maximum load	1900 kg (40 km/h)	3350 kg (40 km/h)
inflation pressure	160 kPa	160 kPa
radius index	590 mm	820 mm
Chosen track width	1830 mm	1830 mm
Rims	W12x24	DW15x38
Technically permissible axle load	3100 kg	6000 kg
Technically permissible total weight	8300 kg	

CASE-IH 5140 (81 kW) Test No. 91-5

Oils and lubrication

Capacity and change interval:

	Capacity dm^3	Oil change h	Filter change h
Engine	14,3	250	250
Gearbox, hydraulic system, rear axle and final drives	76,0	1000	1000
Front axle	6,5		-
Final drives (front)	2x1,0		-

Specifications:

	Recommended	Used during test
Engine oil:		
used in: Engine		
Type	Engine oil	FINA
Viscosity		SAE 10W/30
Winter	SAE 10W/30	
Summer	SAE 15W/40 or 10W/30	
Tropics	SAE 15W/40	
Classification	API SF-CD or MIL-L 2104 C	API-CD
Transmission oil:		
used in: Gearbox with rear axle incl. final drives, hydraulic-, steering- and braking system		
Type	HY-TRAN PLUS	FINA HYTRAN-PLUS
Viscosity	ISO-VG 95-115	ISO-VG 95-115
Classification *)	MS 1207	MS 1207
Front axle incl. final drives		
Type	Gear oil	FINA
Viscosity	SAE 85W/140	SAE 85W/140
Classification *)	MS 1316	MS 1316

*) MS = CASE material specification

Grease: Multi purpose grease, number of lubrication points: 17

Fuel

Type: ARAL Diesel-fuel in conformity with DIN 51601

Density at 15°C: At p.t.o. test 0,831 g/cm^3
at drawbar power test 0,828 g/cm^3

CASE-IH 5140 (81 kW) Test No. 91-5

COMPULSORY TESTS

1. MAIN POWER TAKE OFF PERFORMANCE (1000 rev/min)

Date of tests: 16th August 1990
Location of tests: DLG-Testing Station Groß-Umstadt
Type of dynamometer: SCHENCK hydraulic dynamometer U1-40

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
Maximum power						
1.1 At 2-hour test						
75,7	2150	973	22,68	18,85	249	3,34
1.2 At rated speed						
75,3	2200	996	22,81	18,96	252	3,30
1.3 At standard p.t.o. speed						
75,3	2200	996	22,81	18,96	252	3,30
1.4 Part loads, the governor hand lever in the position corresponding to maximum power at full load (curve a)						
1.4.1 the torque corresponding to maximum power at rated speed						
75,3	2200	996	22,81	18,96	252	3,30
1.4.2 85% of the torque obtained in 1.4.1						
65,8	2261	1023	20,87	17,34	264	3,15
1.4.3 75% of the torque defined in 1.4.2						
49,9	2284	1034	17,38	14,45	290	2,87
1.4.4 50% of the torque defined in 1.4.2						
33,7	2313	1047	14,03	11,66	346	2,40
1.4.5 25% of the torque defined in 1.4.2						
17,0	2337	1058	10,67	8,86	521	1,59
1.4.6 unloaded						
-	2356	1066	7,42	6,16	-	-

Power kW	Speed Engine rev/min	Speed P.t.o. rev/min	Fuel consumption hourly l/h	Fuel consumption hourly kg/h	Fuel consumption specific g/kWh	Specific energy kWh/l
1.5 Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve b)						
1.5.1 the torque corresponding to maximum power						
75,3	2200	996	22,81	18,96	252	3,30
1.5.2 85% of the torque obtained in 1.5.1						
65,8	2261	1023	20,87	17,34	264	3,15
1.5.3 75% of the torque defined in 1.5.2						
49,9	2284	1034	17,38	14,45	290	2,87
1.5.4 50% of the torque defined in 1.5.2						
33,7	2313	1047	14,03	11,66	346	2,40
1.5.5 25% of the torque defined in 1.5.2						
17,0	2337	1058	10,67	8,86	521	1,59
1.5.6 unloaded						
-	2356	1066	7,42	6,16	-	-

No load maximum engine speed: 2356 rev/min
Equivalent flywheel torque at rated engine speed: 327 Nm
Equivalent flywheel torque at 2-hour test: 336 Nm
Maximum equivalent flywheel torque: 427 Nm at 1301 rev/min of the engine

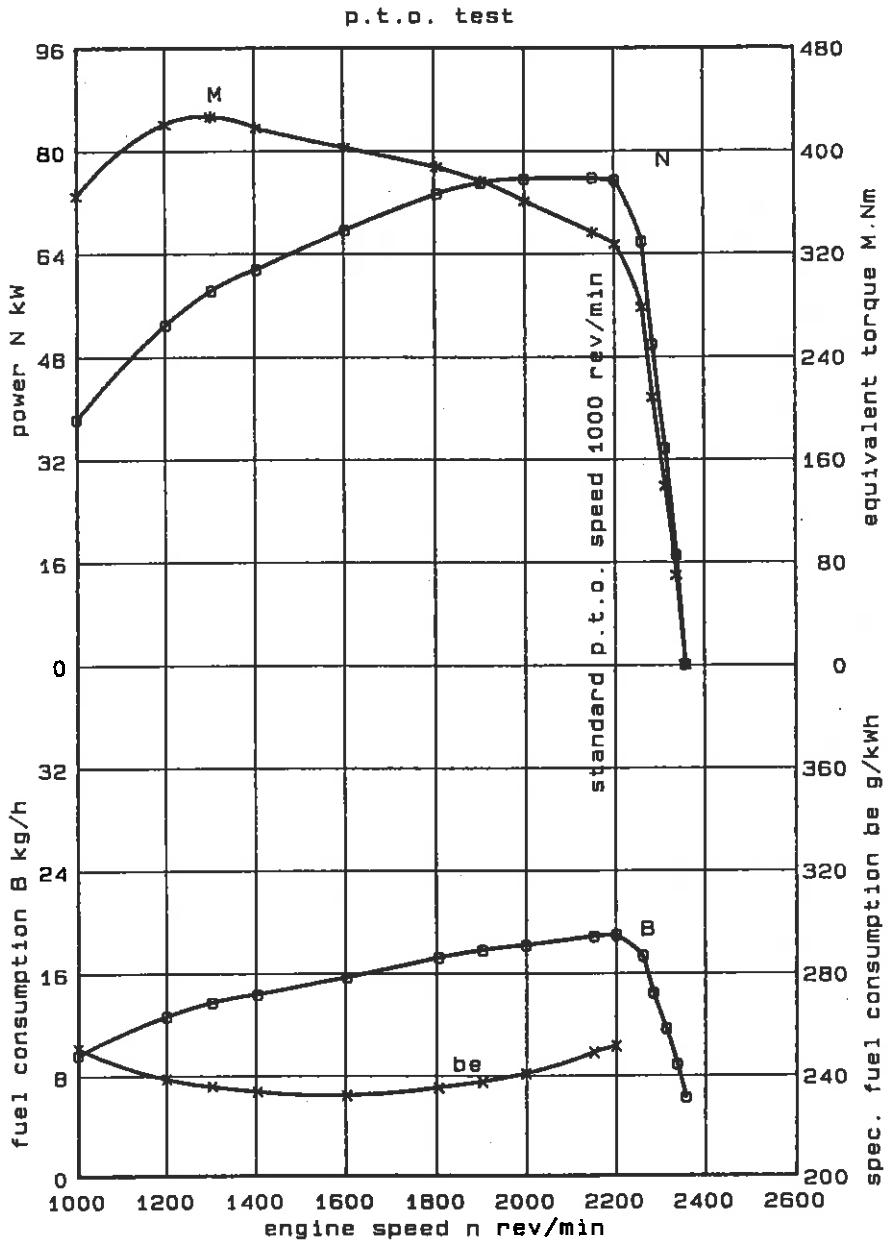
Mean atmospheric conditions

temperature	21 °C
pressure	99 kPa
rel. humidity	70 %

Maximum temperatures

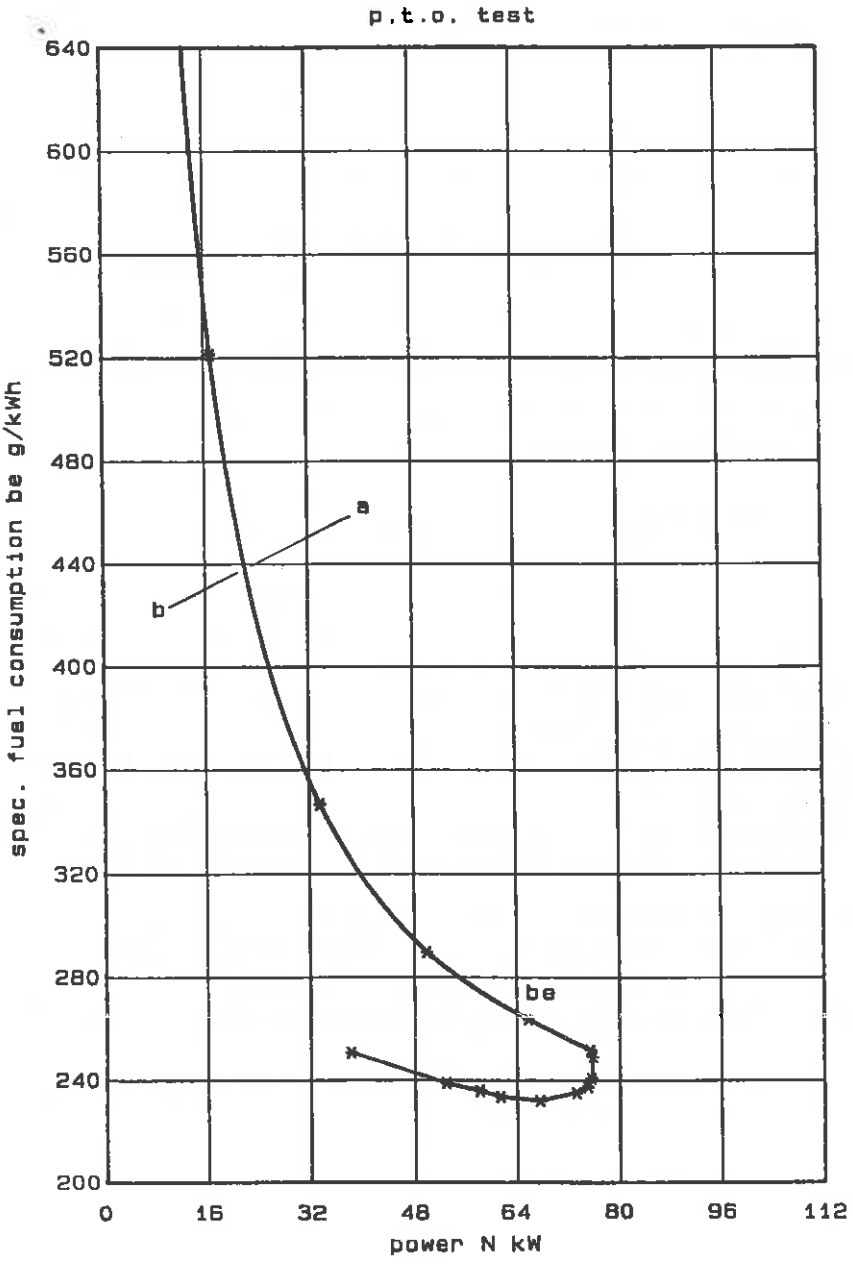
coolant	85 °C
oil	105 °C
fuel	26 °C
air intake	26 °C

CASE-IH 5140 (81 kW) Test No. 91-5



CASE-IH 5140 (81 kW)

Test No. 91-5



2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests: 12th and 13th December 1990

2.1 Hydraulic power test

Sustained pressure with relief valve open 18,6 MPa
Pump delivery rate at minimum pressure 72,6 l/min

	Hydraulic power kW	Flow rate l/min	Pressure MPa	+) Oil temperature °C
At 90% of the actual relief valve setting	15,5	55,8	16,7	40
At max. power	16,9	63,2	16,0	40

Tapping point used for test: At rear of tractor
+) 40°C in the hydraulic fluid tank (gear box), no higher value available due to oil cooler

2.2 Power lift test

Main linkage dimensions see on pages 11 and 12

	At the hitch points	On the frame
Height of lower hitch points above ground in down position	++) 235 mm	
Vertical movement without lifting forces	725 mm	760 mm
with lifting forces	685 mm	713 mm
Max. corrected forces exerted through full range	37,4 kN	33,3 kN
Corresponding pressure	16,0 MPa	
Moment about rear axle	-	66,1 kNm
Max. tilt angle of mast from vertical	-	3°

++) 200 mm not available due to limitation of lift rods' length

Lifting heights relative to horizontal lower links

mm	-347	-339	-300	-200	-100	0	+100	+200	+300	+346	+366

Lifting forces at hitch points, corrected to 16,0 MPa

kN		37,4	39,6	42,8	43,7	43,7	42,8	41,9	41,3	41,3	

Lifting forces at standard frame, corrected to 16,0 MPa

kN	38,5		40,0	41,9	41,9	41,1	39,6	37,6	34,8		33,3

3 DRAWBAR POWER AND FUEL CONSUMPTION (UNBALLASTED TRACTOR)

Date of tests: 10th January 1991

Type of track: Concrete

	Tyre inflation pressure	
Height of drawbar above ground	Front	Rear
540 mm	80 kPa	80 kPa

Gear and range	Speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Slip of wheels %
3.1	MAXIMUM POWER IN TESTED GEARS				
2 I	2,87	57,54	45,9	2265	14,9
3 I	3,50	57,23	55,6	2251	15,1
4 I	4,47	49,98	62,1	2152	8,6
1 II	5,65	40,58	63,7	2154	5,6
2 II	6,94	33,89	65,3	2150	4,5
3 II	8,67	26,45	63,7	2156	3,3
1 III	9,60	24,03	64,1	2165	3,0
4 II	10,74	21,19	63,2	2141	2,6
3.2	FUEL CONSUMPTION				
3.2.1	in selected gear nearest to 7,5 km/h, at rated speed				
2 II	7,11	32,85	64,9	2198	4,2
3.2.1.1	75% of pull at maximum power at rated speed				
2 II	7,41	24,58	50,6	2265	3,1
3.2.1.2	50% of pull at maximum power at rated speed				
2 II	7,57	16,47	34,6	2289	2,1
3.2.1.3	next higher gear at reduced engine speed; same pull and				
3 II	7,42	24,76	51,0	1841	3,0
3.2.1.4	next higher gear at reduced engine speed; same pull and				
3 II	7,60	16,46	34,7	1863	1,9
3.2.2	in selected gear, at maximum power, at rated speed				
1 III	9,75	23,58	63,9	2198	3,0
3.2.2.1	75% of pull at maximum power at rated speed				
1 III	10,14	17,79	50,1	2267	2,2
3.2.2.2	50% of pull at maximum power at rated speed				
1 III	10,30	11,74	33,6	2289	1,6
3.2.2.3	next higher gear at reduced engine speed; same pull and				
4 II	10,17	17,66	49,8	2017	2,1
3.2.2.4	next higher gear at reduced engine speed; same pull and				
4 II	10,29	11,72	33,5	2024	1,3

CASE-IH 5140 (81 kW) Test No. 91-5

Specific fuel consumption g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Temperature °C	Relative humidity %	Pressure kPa
355	2.33	21	76	95	14	72	99.0
340	2.44	20	76	95	14	80	99.0
305	2.72	25	75	94	14	78	99.0
297	2.78	25	76	95	14	75	99.0
292	2.84	21	76	95	16	78	99.1
293	2.83	20	75	95	15	79	99.1
294	2.82	24	75	94	14	79	99.1
297	2.78	21	76	94	14	79	99.1
gear identical with gear with maximum available power							
293	2.82	21	75	94	14	75	99.0
322	2.58	21	75	94	14	75	99.0
376	2.20	21	74	93	14	75	99.0
travelling speed as in 3.2.1.1							
285	2.91	22	75	94	14	80	99.0
travelling speed as in 3.2.1.2							
329	2.52	22	75	95	14	80	99.0
296	2.80	21	75	96	15	76	99.0
328	2.52	21	75	96	15	76	99.0
387	2.14	21	75	96	15	76	99.0
travelling speed as in 3.2.2.1							
305	2.72	21	74	96	14	75	99.0
travelling speed as in 3.2.2.2							
358	2.31	21	74	96	14	75	99.0

4 REPAIRS AND REMARKS None

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