

John Deere 5090G

Tractor Test No. 1980/12

APPLICANT

Matra, branch of Robert Aebi AG
Industriering 19
3250 Lyss

TRACTOR

Manufacturer: John Deere
Model: John Deere 5090G
Approval certificate no.: 4JA2 94

SUSPENSION AND BRAKES

Central four-wheel drive with powershift transmission
Wet disc brake on front and rear axle
Automatic all-wheel activation
Mechanical parking brake

DRIVER PROTECTION

Integrated safety cab



TYRES

	Track width:
front: 320/70 R24	1520 mm
rear: 480/70 R30	1520 mm

DIMENSIONS

Length:	3870 mm
With front mounting:	— mm
Front overhang from steering wheel:	— mm
Width:	2000 mm
Height:	2400 mm
Wheelbase:	2200 mm
Ground clearance:	380 mm
Turning diameter:	8,4 m (without four-wheel drive) 9,3 m (with four-wheel drive)

TEST EQUIPMENT

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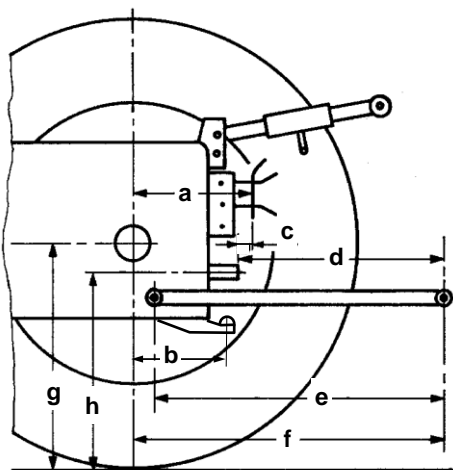
WEIGHT

in test equipment

Front:	1420 kg	43 %
Rear:	1900 kg	
Total:	3320 kg	
Permissible front axle load:	2200 kg	
Permissible rear axle load:	3600 kg	
Permissible total weight:	5100 kg	
Payload:	1780 kg	
Towed weight, braked:	14 000 kg	

CAPACITIES

Fuel tank	96 l	
AdBlue tank	— l	
Engine oil	8 l	(change interval 500 h)
Gearbox and Hydraulic oil	38 l	(change interval 1250 h)



Rear

a:	650 mm
b:	— mm
c:	160 mm
d:	540 mm
e:	910 mm
f:	1030 mm
g:	680 mm
h:	690 mm

Front

d:	— mm
e:	— mm
f:	— mm
g:	— mm
h:	— mm

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ENGINE (Manufacturer's data)

Manufacturer: John Deere
Model: 4045HAT81
Injection: Diesel direct injection

Supercharging: Exhaust gas turbocharger and air-to-air intercooling

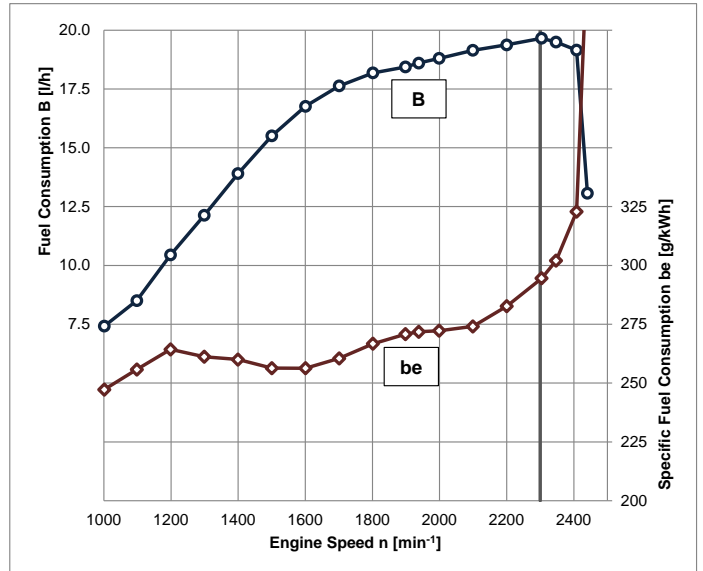
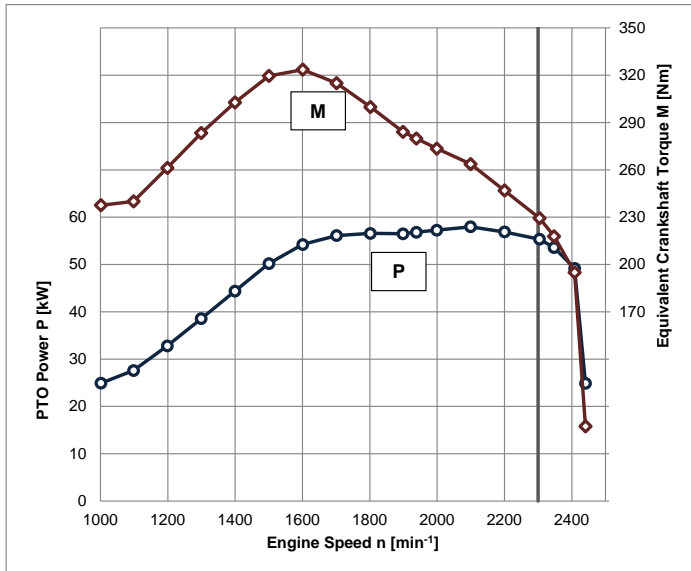
Exhaust emission treatment: -

Bore/stroke: 106,5 /127 mm
Cylinders / capacity: 4 / 4525 cm³
Cooling: Water, viscous fan

Rated power: 66 kW (90 PS) EG 97/68

Rated engine speed: 2300 min⁻¹
Exhaust stage: IIIA

POWER TAKE-OFF MEASUREMENT



Measurement conditions:

- air temperature 20 °C
- relative atmospheric humidity 46 %
- atmospheric pressure 961 mbar



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Full load test values

	Speed [min ⁻¹]		Power		Fuel consumption		AdBlue consumption	
	Engine	PTO	kW	HP	Specific [g/kWh]	Absolute [l/h]	Specific [g/kWh]	Absolute [l/h]
Rated power	2300	641	55,3	75,2	295	19,7		
Maximum power	2100	585	58,1	79,0	273	19,1		
Normal speed PTO	1938	540	56,8	77,2	272	18,6		

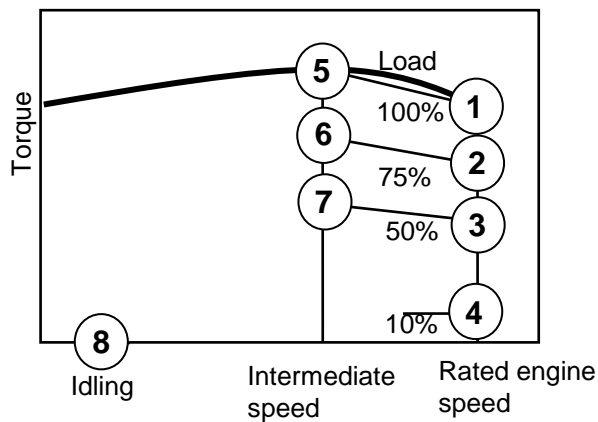
Max. torque: 324 Nm at 1600 min⁻¹
 Torque increase: 41 % at 30 % speed drop
 Starting torque: 104 %
 Idling speed: 840 min⁻¹
 Cutoff speed: 2450 min⁻¹

Partial load values

Fuel consumption with 42,5 % partial load at normal PTO speed

PTO shaft Fuel AdBlue
 1000 min⁻¹: 333 g/kWh, 9,7 l/h — g/kWh, — l/h
 1000E min⁻¹: — g/kWh, — l/h — g/kWh, — l/h

In characteristic diagram (with boost)



Measuring point	Fuel consumption		AdBlue consumption	
	Specific [g/kWh]	Absolute [l/h]	Specific [g/kWh]	Absolute [l/h]
1	295	19,7		
2	323	16,3		
3	366	12,3		
4	925	6,4		
5	256	16,8		
6	268	13,3		
7	285	9,4		
8	-	1,2		

EMISSIONS

Exhaust gas emissions

▪ Black smoke 2,45 SZ (BOSCH)

Emissions according to ISO 8178-4, C1

(with boost)

▪ Hydrocarbons HC 0,31 g/kWh*
 ▪ Nitrogen oxides NOx 5,50 g/kWh*
 ▪ Carbon monoxide CO 0,92 g/kWh*
 ▪ Particulate number Pn 3,2E14 #/kWh*
 ▪ Cycle consumption
 Fuel 313 g/kWh* (12,0 l/h)
 AdBlue — g/kWh* (— l/h)

Noise level

▪ Noise level at driver's ear: 82,5 dB(A)
 ▪ Passing noise: 79,5 dB(A)

* With reference to PTO power



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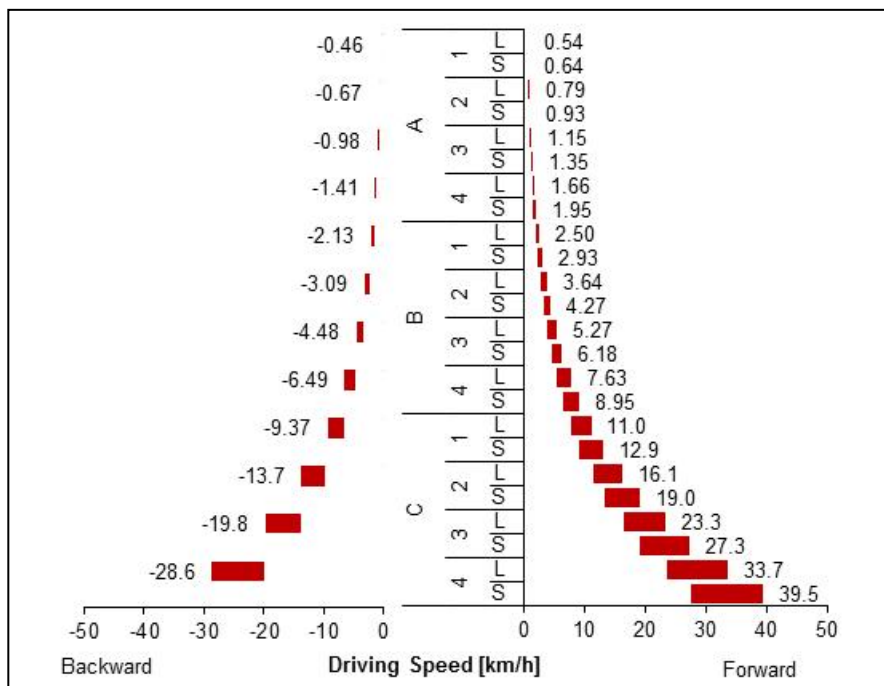
TRANSMISSION

Travel gear

- 24 forward and 12 reverse gears
- Wet multi-plate clutch
- 3 groups
- 4 gears
- 2 powershift stages
- Powershift reverse gearbox

Driving speed at rated engine speed

(tyre radius r = 700 mm)



PTO transmission

Rear

- Wet multi-plate clutch, electro-hydraulic engagement

Front

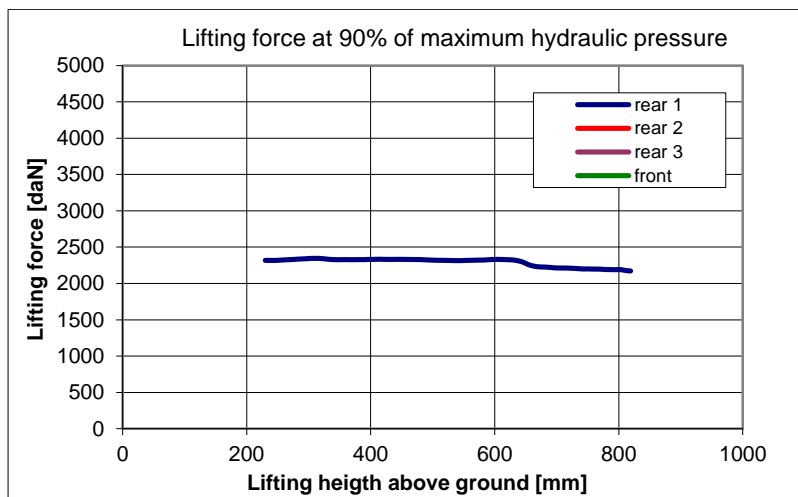
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	Rear						Front
PTO shaft	430	540	540E	1000	1000 E	Ground speed	1000
Engine speed	-	1938	-	1962	-	-	-

HYDRAULICS

Remote hydraulics

- max. oil pressure: 194,7 bar
- max. flow rate : 60,3 l/min
- flow rate: 45,7 l/min at 165,5 bar
- max. hydraulic power: 14,1 kW (55,4 l/min and 152,5 bar)
- max. flow rate through a single coupler: 60,3 l/min
- max. quantity of oil taken: 15 (25) l



3-Point Hitch

Rear

3-Point Hitch, category: II
Control hydraulics electronic via lower link, (EHR)

Front

- —

Measurement		Lifting movement	Lifting force at 90% pressure	
			Continuous	Maximum
Rear	Lower link, short	589 mm	2155 daN	2350 daN
	Lower link, medium			
	Lower link, long			
Front				

Explanatory notes on tractor test at:

www.traktorentest.ch



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