CEMAGREF

CENTRE NATIONAL
DU MACHINISME AGRICOLE
DU GÉNIE RURAL
DES EAUX ET DES FORÊTS

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Division Tracteurs et Machines Agricoles

TEST REPORT N° 9229

DATE : 10th september 1992

OECD TEST OF AN AGRICULTURAL TRACTOR (RESTRICTED CODE) 50.3

Reference text : O.E.C.D code II

OECD Approval
N° 1384 Restricted Code
Date 8th september 1992



Tested equipment	
Nature	: TRACTOR
Make	: MASSEY FERGUSON
Model	: B 105/2 A
Trade name	: 3095
Number of driving wheels	: 2
Type	: standard

Submitted for tests by	
Name	: MASSEY FERGUSON S.A.
Address	: avenue Blaise Pascal
	BP 307
	60026 BEAUVAIS CEDEX
Phone : 44.89.33.33	Telex : 140396 F

This test report may only be duplicated as a whole

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1. GENERALITIES

Tractor manufacturer's name and address : MASSEY FERGUSON S.A, BP 307 avenue Blaise Pascal 60026 BEAUVAIS

Submitted for tests by : MASSEY FERGUSON S.A.

Selected for tests by the manufacturer with the agreement of CEMAGREF

Place of running in : BEAUVAIS

Duration of running in : 20 h

Date of arrival of the equipment in CEMAGREF : 18th november 1991

2. SPECIFICATIONS

2.1 Tested tractor

Make : MASSEY FERGUSON
Model : B 105/2 A
Trade name : 3095
Number of driving wheels : 2
Type : standard
Serial number : S 143 045
1st serial number : S 338 038

2.2 Engine

2.2.1 Identification

Make : PERKINS
Model : 1006-6 HR3
Type : 4 strokes - Direct injection diesel, naturally aspirated
Serial number : U 527 785 V

2.2.2 Cylinders

Number : 6
Disposition : vertical, in line
Bore/stroke : 100/127 mm
Capacity : 5985 cm^3
Compression ratio : 16,5/1
Arrangement of valves : overhead
Cylinders liners : dry

2.2.3 Supercharging : none

2.2.4 Fuel system

Fuel feed system : diaphragm fuel feed pump
Make, type and model of fuel filter : CAV 2 FAS 58488130, dual element with water
Capacity of fuel tank : 190 l
Make, type and model of injection pump : CAV, 977 DPA, rotative
Manufacturer's setting of injection pump : 55 ± 2 mm^3/cp
Injection pump timing : 18° before TDC
Make, type and model of injectors : CAV, LRB 670 1422 JU
Injection pressure : 220 bars

2.2.5 Governor

Make : CAV
Type : mechanical, incorporated into fuel injection pump
Model : DPA
Governed range of engine speed : 850 - 2310 rev/min

2.2.6 Rated engine speed : 2200 rev/min

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2.2.7 Air cleaner

Pre-cleaner : . Make : DONALDSON
. Type and model : cyclone
. Location : over bonnet

Main : . Make : DONALDSON
. Type and model : dry, FLB 08-0024
. Location : under bonnet horizontal

Maintenance indicator : lamp on desk board

2.2.8 Lubrication system

Type of feed pump : gear
Total oil capacity including filter : 19 l
Oil change period : 400 h
Type and number of filter : 1 cartridge
Filter change period : 400 h
Recommended oil : see "fuel and lubricants used in test"

2.2.9 Cooling system

Type of coolant : water or water anti-freeze mixture
Type of pump : centrifugal
Description of fan :
. Puller
. Number of fan blades : 7
. Fan diameter : 504 mm
Coolant capacity : 25 l
Type of temperature control : thermostatic
Surpressure system : 0,5 bar

2.2.10 Starting system

Safety device : switch operated by main clutch pedal
Make : LUCAS
Type and model : pre-engaged M 127
Power : 2,8 kW
Cold starting aid : CAV - Thermostart

2.2.11 Electrical system

Voltage : 12 V negative earth
Generator : alternator
. Make : MOTOROLA
. Type and model : alternator 70 A
. Power : 980 W
Batteries
. Number : 2
. Rating : 80 Ah at 20 hours
. Cold starting capacity : 420 A for 60 s at -18°C

2.2.12 Exhaust system

Make : LUCHAIRE
Type : perforated
Model : 86
Location : under bonnet with vertical stack pipe
Height of outlet above ground : 2774 mm

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2.3 Transmission

2.3.1 Clutch (travel)

Mak : VALEO
Type : dry, single plate clutch
Number of plates : 1
Diameter of plates : 330 mm
Method of operation (for travel) : foot pedal

2.3.2 Gear box

Make : MASSEY FERGUSON
Type and model : mechanically operated gear shift
Arrangement : 4 gears with two positions speed shift,
2 ranges and one reverse group
Number of speeds : 16 forward and 16 reverse
Available option : creeper - speed shift

2.3.3 Rear axle and final drives

Make : MASSEY FERGUSON
Type and model : crown wheel and pinion and outboard
epicyclic gear reduction
Differential lock :
- Type and model : mechanical hydraulically actuated
- Method of engagement : electrical switch
- Method of disengagement : when brake pedal is depressed

2.3.4 Front axle

Make : MASSEY FERGUSON
Type and model : telescopic

2.3.6 Total ratios and travelling speeds

Range	Gear	Number of engine revolutions for one revolution of driving wheels	Nominal travelling speed(*) at rated engine speed of 2200 rev/min (km/h)
AT forward	1	296,371	2,225
	2	248,524	2,654
	3	211,737	3,114
	4	179,602	3,672
AT reverse	1	260,612	2,530
	2	218,539	3,017
	3	186,189	3,542
	4	157,932	4,296
BT forward	1	147,934	4,457
	2	124,052	5,315
	3	105,689	6,239
	4	89,649	7,355
BT reverse	1	147,861	4,460
	2	123,990	5,318
	3	105,636	6,242
	4	89,604	7,874
AL forward	1	73,903	8,921
	2	61,972	10,640
	3	52,799	12,488
	4	44,786	14,722

T : Turtle - L : Rabbit - B : Fast - A : Slow

(*) Calculated with a tyre dynamic radius index of 795 mm (ISO 4251/1-1984)

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2.3 Transmission (continued)

2.3.6 Total ratios and travelling speeds (continued)

Range	Gear	Number of engine revolutions for one revolution of driving wheels	Nominal travelling speed(*) at rated engine speed of 2200 rev/min (km/h)
AL	1	70,231	9,389
	2	58,893	11,196
reverse	3	50,175	13,141
	4	42,560	15,493
BL	1	36,889	17,874
	2	30,934	21,316
forward	3	26,355	25,019
	4	22,355	29,496
BL	1	39,329	16,766
	2	32,979	19,993
reverse	3	28,098	23,467
	4	23,833	27,665

T : Turtle - L : Rabbit - B : Fast - A : Slow

(*) Calculated with a tyre dynamic radius index of 795 mm (ISO 4251/1-1984)

2.4 Main power take-off

2.4.1 General specifications

Type : rear independant power take-off (wet, hydraulic, multiplate clutch)

Engagement by lever with electrical switch located at the middle of the upper right hand side console

Number of shafts : 1

Method of changing power take-off speed : speed and spline change achieved by physically replacing the 540 rev/min shaft by the 1000 rev/min and vice-versa

2.4.2 Power take-off proportional to engine speed

540 rev/min

Location : at the rear of the tractor on vertical center plane
Diameter of power take-off shaft : 34,9 mm
Number of splines : 6 (in accordance with ISO R 500-1979)
Height above ground : 752 mm with tyres 16.9-38
Distance from the median plane of the tractor : 0 mm
Distance behind rear axle : 450 mm

Power take-off speed : 601 rev/min
for rated engine speed : 2200 rev/min

Engine speed : 1976 rev/min
for standard power take-off speed : 540 rev/min

Engine to power take-off ratio : 3,66
Power restriction : none
Direction of rotation (viewed facing driving end) : clockwise

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2.4 Main power take-off (continued)

2.4.2 Power take-off proportional to engine speed (continued)

1000 rev/min

Location : at the rear of the tractor on vertical center plane
Diameter of power take-off shaft : 34,9 mm
Number of splines : 21 (in accordance with ISO R 500-1979)
Height above ground : 752 mm with tyres 16.9-38
Distance from the median plane of the tractor : 0 mm
Distance behind rear axle : 400 mm

Power take-off speed : 1100 rev/min
for rated engine speed : 2200 rev/min

Engine speed : 2000 rev/min
for standard power take-off speed : 1000 rev/min

Engine to power take-off ratio : 2,00
Power restriction : none
Direction of rotation (viewed facing driving end) : clockwise

2.4.3 Power take-off proportional to ground speed :

Speed of shaft : both 540 and 1000 rev/min
Size of tyreS : 16.9-38
Travelling distance for one revolution of power take-off shaft : 0,589 (540); 0,321 (1000)
Number of power take-off shaft revolutions for one revolution rear wheels :
8,478 (540); 15,543 (1000)
Direction of rotation with forward gear engaged : clockwise

2.5 Power lift

Make : MASSEY FERGUSON
Type : top link, electronic position, draft or mixed control, open centre system
Type and number of cylinders : 2, single acting, diameter 66 mm
Type of linkage lock for transport : hydraulic lock
Relief valve pressure setting : 188 bars
Opening pressure of cylinder safety valve : 200 bars
Lift pump type : gear
Transmission between pump and engine : mechanical
Make and number of filters : 1 - PUROLATOR
Time between oil changes : 1200 h
Time between filter changes : 600 h
Oil capacity : 64 l
Site of oil tank : transmission housing
Type and number of tapping points : 2 - on lift cover
Maximum volume of oil available to external cylinders : 25 l
Recommended oil : see "fuel and lubricants used in test"

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2.6 Three-point linkage

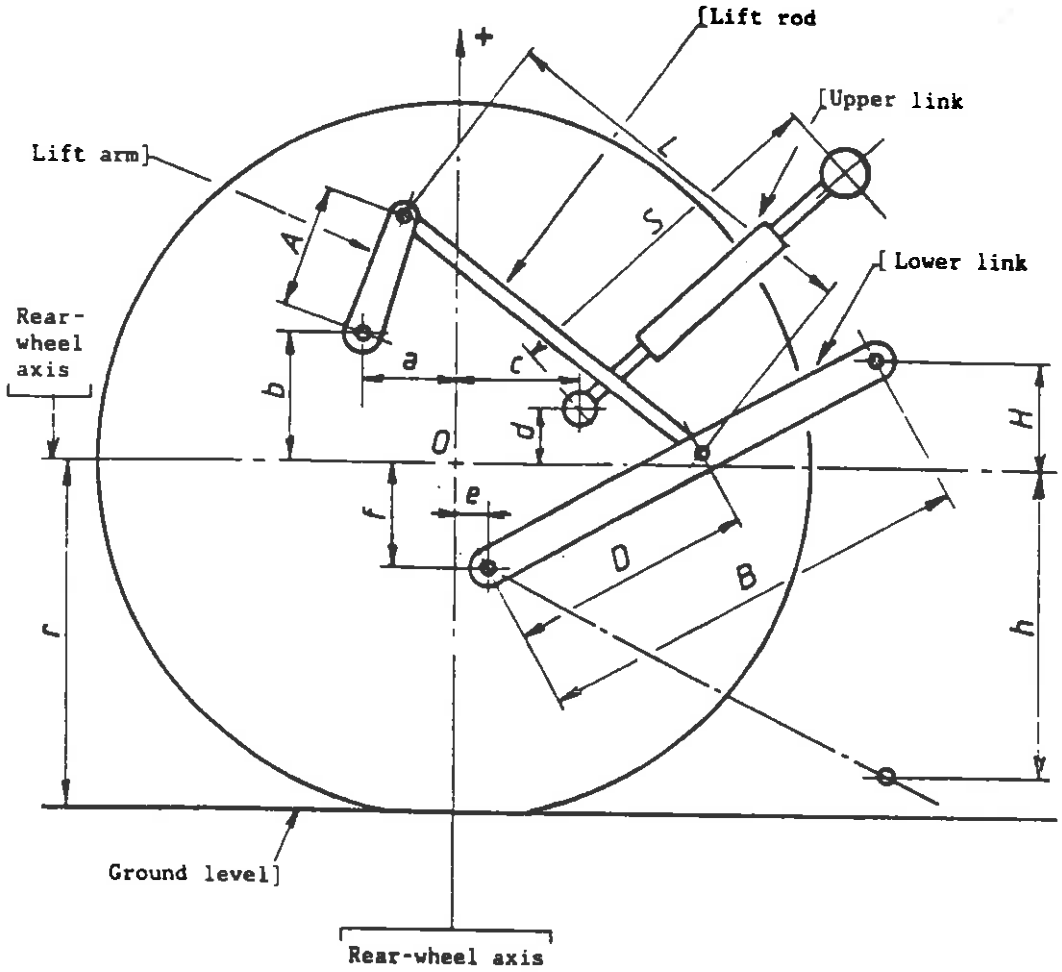
Category : II (in accordance with ISO 730/I-1990 art.II)
Category adapter : none
Controls : . position control by linear sensor measuring the rockshaft position
. draft control by pin sensors at each lower link

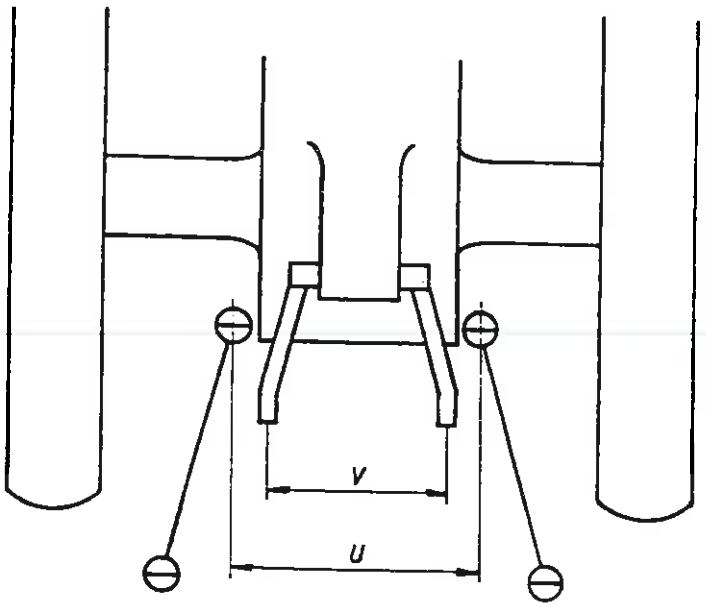
Linkage dimensions (mm)				Settings used for test
Rear tyres : dynamic index radius	16.9 - 38	(r)	795	
Front tyres : loaded radius	11.00 - 16	(r')	450	
Length of lift arms		(A)	266	
Length of lower links		(B)	940	
Distance of lift arm pivot point from rear wheels centre line	horizontally	(a)	128	
	vertically	(b)	330	
Horizontal distance between the two lower link points		(u)	580	
Horizontal distance between the two lift arm end points		(v)	604	
Length of upper link		(S)	from 590 to 750	650
Distance of upper link pivot point from rear wheels centre	horizontally	(c)	382	
	vertically	(d)	120 | 160 | 200	200
Distance of lower link pivot point from rear wheels centre	horizontally	(e)	100	
	vertically	(f)	260	
Distance of lower link points to lift rod pivot points on lower link		(D)	568	568
Length of lift rods		(L)	from 680 to 745	745
Height of lower hitch points relative to the rear wheels centre				
- in low position		(h)	from 447 to 578	580
- in high position		(H)	from 15 to 149	15
Height of lower hitch points when locked in transport position (*)			from 863 to 964	

(*) Assuming the dynamic index radius = 795 mm (ISO 4251/1-1984)

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2.7 Linkage geometry





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2.8 Swinging drawbar

Height above ground : . maximum : 538 mm
. minimum : 538 mm
Type of adjustment : none
Distance of hitch point from rear axle centre : 875 mm horizontally
Distance of hitch point from power take-off shaft end : . vertically : 234 mm
. horizontally : 400 mm
Lateral adjustment : 293 mm right and left hands
Distance of pivot point from rear axle horizontally : 106 mm
Diameter drawbar pin hole : 30 mm
Maximum vertical permissible load : 17 kN

2.9 Trailer hitch

Height above ground : . maximum : 945 mm
. minimum : 560 mm
Distance of hitch point from rear axle centre, horizontally : 619 mm
Distance of hitch point from power take-off shaft end :
. vertically above maximum : 223 mm
minimum : 162 mm
. horizontally : 144 mm
Diameter of pin hole : 33 mm
Maximum vertical permissible load : 30 kN

2.10 Linkage drawbar

Height above ground : . maximum : 964 mm
. minimum : 237 mm
Horizontal distance to power take-off shaft end : 565 mm
Number of holes : 9
Distance between holes : 80 mm
Hole diameter : 24 mm
Thickness and width of drawbar : 30 X 80 mm

2.11 Front towing hitch

Vertical height at centre of clevis : 851 mm
Width of clevis : 365 mm
Diameter of pin hole : 32 mm

2.12 Steering

Method of operation : hydrostatic steering system, gearbox housing mounted on gear pump
Make : DANFOSS steering unit
Model : OSPC - ON
Type : open center type with integral system relief valves, anti-shock end and anti-cavitation valves
Working pressure : 15,7 to 16,2 MPa
Oil capacity : 64 l
Oil change period : 1200 h
Filter change period : 600 h
Recommended oil : see "fuels and lubricants used in test"

2.13 Brakes

2.13.1 Service brake

Make : MASSEY FERGUSON and GIRLING
Model : oil-immersed, 652 cm² friction area on each brake
Type : single disk brake, hydraulic actuated Girling hydraulic master cylinder
MF hydraulic slave annular piston.
Method of operation : independant or dependant operation of twin pedals (which can be latched)

2.13.2 Parking brake

Make and type : SIRMAC, HUSCO
Method of operation : hand lever - cable and rod

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2.13 Brakes (continued)

2.13.3 Trailer brake

Make : BOSCH
Type : hydraulically actuated valve to regulate oil flow and pressure to the trailer brakes proportional and progressive trailer/tractor braking effort is achieved by linking their services together via a sensive valve
Method of operation : automatic, as the right hand side tractor brake pedal is depressed
Maximum braking pressure : 130-150 bars
Maximum flow : 30 l/min

2.14 WHEELS

2.14.1 Number and location

- Front : 2 steering
- Rear : 2 driving

2.14.2 Wheelbase : 2696 mm

2.14.3 Track width adjustment

	Minimum mm	Maximum mm	Adjustment method
Front	1543	2333	telescopic
Rear	1530	1950	Reversing wheels and off-set lug rims

2.17 Protective structure specifications

2.17.1 Specifications

Manufacturer's name : MASSEY FERGUSON S.A.
Trade name : 3000 B
Type of structure : . cab
. tiltable : no
CEMAGREF test : 7689
OECD approval number : CSD 1043 10

Description : the cab is made up from 3 major sub-assemblies, the plateform, side pillars and roof and the front pillars. These sub-assemblies are bolted together to form the complete cab structure

2.17.2 Driver's seat

Make : GRAMMER DS 85H/90 AR
Type of suspension : parallelogram
Type of damping : gas cylinder
Range of adjustment . longitudinal : 150 mm
. vertical : 60 mm

2.17.3 Miscellaneous

Passenger's seat : either factory fitted or as an accessory
Location : left of the operator
Number of places : 1

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2.18 Lighting

Unrestricted beam angle of head light in plan view in accordance with French regulation

	Height above ground of centre (mm)	Size (mm)	Distance from outside edge of tractor to centre at 1950 mm track width (mm)
Headlights	1208	167 x 107	1057
Sidelights	1720	120 x 80	460
Rearlights	1734	300 x 62	444
Reflectors	769	98 x 62	723

3. CONDITIONS DURING TEST

3.1 Overall dimensions

LENGTH m	WIDTH		HEIGHT	
	min m	max m	exhaust silencer m	at top of protective structure
4,323	1,899	2,399	2,774	2,774

3.2 Ground clearance : 457 mm limited by drawbar bracket

3.3 Tractor mass (kg)

(with or without driver but with tanks full and cab)

	Without driver kg	With driver kg
Front	1475	1490
Rear	2640	2700
Total	4115	4190

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3.4 Tyres and track width specifications

	Front	Rear	
Tyres :	GOOD YEAR	GOOD YEAR	
. dimensions	11.00 - 16	16.9-38	
. ply rating	8	8	
. type of casing	cross ply	cross ply	
. maximum load (tyre manufacturer's)	13,1	25,2	kN
. maximum load (tractor manufacturer's)	13,1	25,2	kN
. inflation pressure (tyre manufacturer's)	2,8	1,7	bar
. loaded/dynamic radius index	450	795	mm
Chosen track width :	1543	1650	mm

3.5 Oils and lubrication recommended and used during tests

Engine oil . Type . Viscosity . Classification	B.P TERRAC MANAGER 10 W 30 MIL L 2104 D
Transmission oils . Type . Viscosity . Classification	B.P TERRAC MANAGER 10 W 30 MIL L 2104 D
Final drives oils . Type . Viscosity . Classification	B.P TERRAC MANAGER 10 W 30 MIL L 2104 D
Hydraulic fluid . Type . Viscosity . Classification	B.P TERRAC MANAGER 10 W 30 API GL 4
Steering oil . Type . Viscosity . Classification	B.P TERRAC MANAGER 10 W 30 API GL 4

- Grease : B.P TERRAC CHARGE

. Number of lubrication points : 13

3.6 Fuel

. Type : Diesel Oil
. Gravity at 15°C : 0,851
. Viscosity : (NFT 60.100) : 4,84 cSt

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4. COMPULSORY TESTS RESULTS .

4.1 Main power take-off performance

Location and date of tests : Antony , of 15th january 1992
Type of dynamometer : SCHENCK W700

Power	Speed		Fuel consumption			Specific
	Engine	Power take-off	Hourly		Specific	energy
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
MAXIMUM POWER - TWO HOURS TEST						
76,7	1981	990	18,82	22,12	245	3,47
MAXIMUM POWER AT RATED ENGINE SPEED						
74,0	2199	1100	18,57	21,83	251	3,39
PART LOADS (governor control being set for maximum power at rated engine speed) (1) Torque corresponding to 85% of the torque at maximum power at rated engine speed .						
63,8	2227	1113	16,42	19,29	257	3,31
(2) 75% of the torque defined in (1) .						
48,2	2239	1120	13,39	15,74	278	3,06
(3) 50% of the torque defined in (1) .						
32,1	2247	1123	10,50	12,34	327	2,60
(4) 25% of the torque defined in (1) .						
16,3	2259	1129	7,71	9,06	473	1,80
(5) Unloaded						
-	2270	1134	5,22	6,13	-	-
MAXIMUM POWER AT STANDARD POWER TAKE-OFF SPEED (1000 +/- 25 rev/min)						
76,5	2002	1001	18,76	22,04	245	3,47
PART LOADS (governor control being set for maximum power at standard power take-off speed) (6) Torque corresponding to 85% of the torque at maximum power at standard power take-off speed						
64,6	2015	1008	15,72	18,47	243	3,50
(7) 75% of the torque defined in (6) .						
49,3	2031	1016	12,75	14,98	258	3,29
(8) 50% of the torque defined in (6) .						
33,3	2046	1023	9,81	11,53	294	2,89
(9) 25% of the torque defined in (6) .						
16,7	2062	1031	6,88	8,08	411	2,07
(10) Unloaded						
-	2081	1041	4,25	4,99	-	-

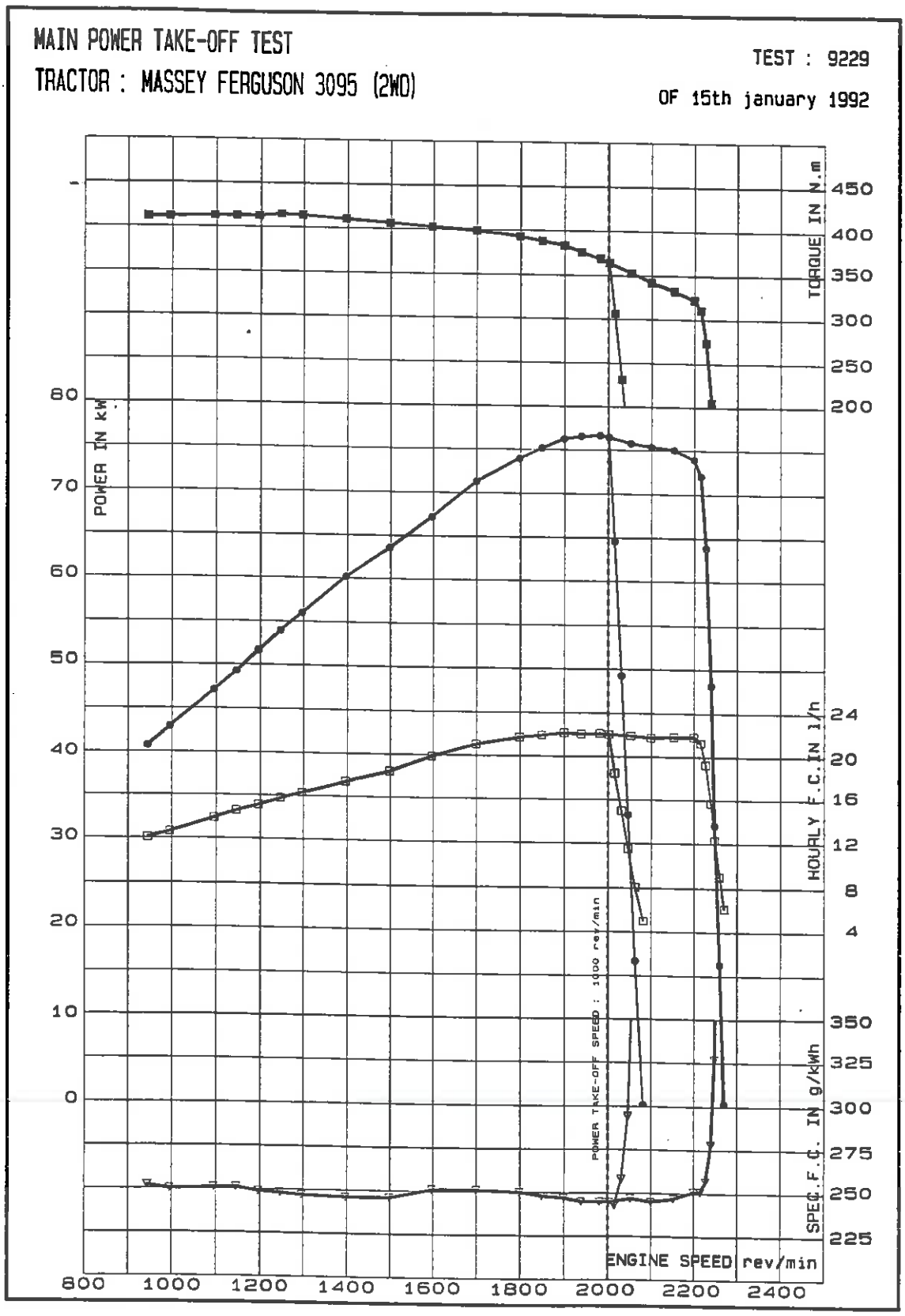
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MAIN POWER TAKE-OFF TEST

TRACTOR : MASSEY FERGUSON 3095 (2WD)

TEST : 9229

OF 15th january 1992



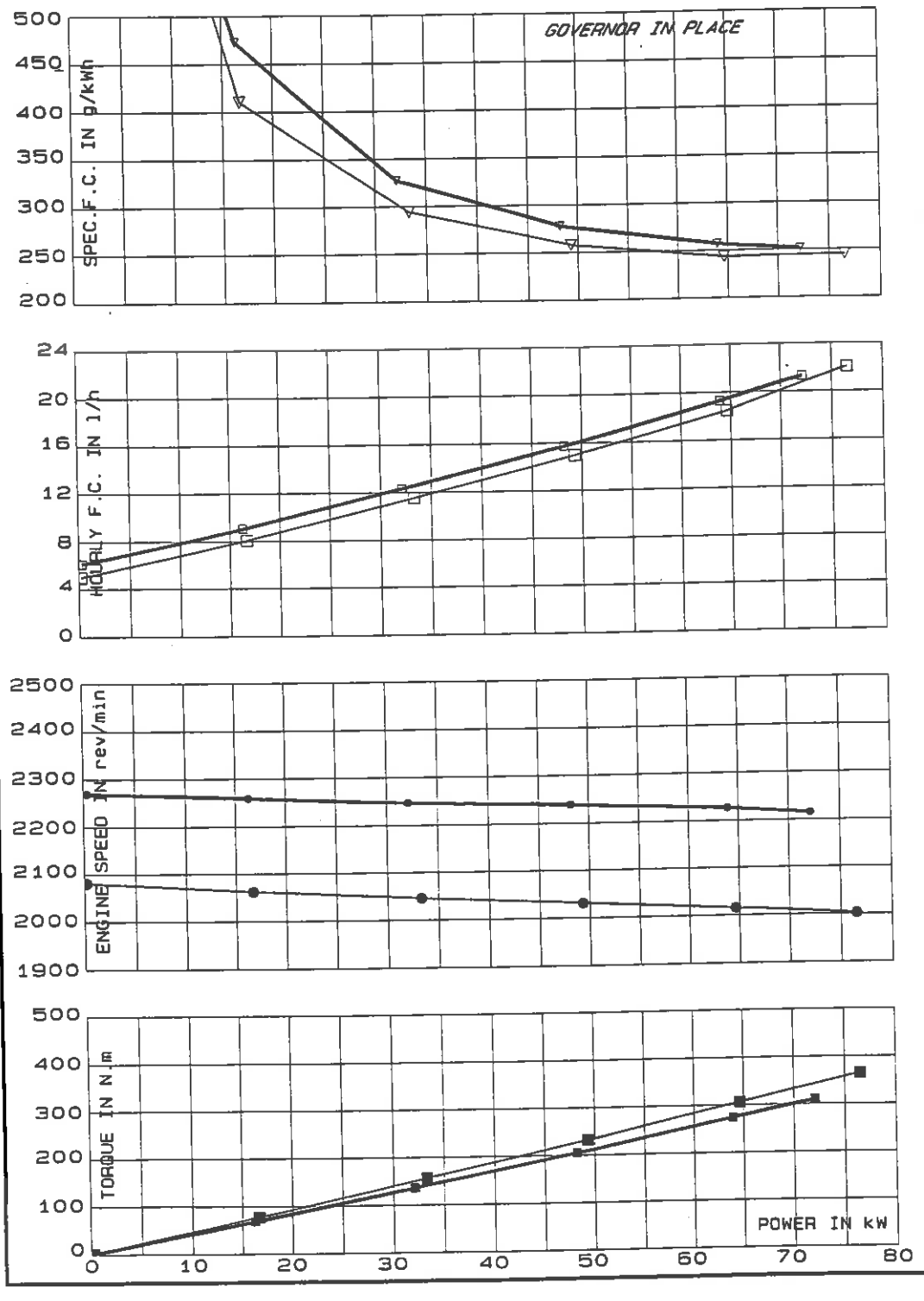
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MAIN POWER TAKE-OFF TEST

TEST : 9229

TRACTOR : MASSEY FERGUSON 3095 (2WD)

OF : 15th january 1992



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4.1 Main power take-off performance (continued)

Other results

No load, maximum engine speed : 2270 rev/min

Equivalent crankshaft torque at maximum power at rated engine speed : 322,3 N.m

Equivalent crankshaft torque at maximum power : 368,7 N.m

Maximum equivalent crankshaft torque : 415,1 N.m at 1247 rev/min

Mean atmospheric conditions

Temperature : 23 °C

Pressure : 1032 mbar

Relative humidity : 32 %

Maximum temperatures

Coolant : 87 °C

Engine oil : 107 °C

Fuel : 33 °C

Air intake : 25 °C

Fuel consumption at variyng load

Charge	Governor control being set for maximum power at rated engine speed		Governor control being set for maximum power at standard pto speed	
	at 85% (1)	at 50% of 85% (2)	at 85% (1)	at 50% of 85% (2)
Hourly consumption (l/h)	19,29	12,34	18,47	11,53
Standard specific consumption (g/kWh)	257	327	243	294

(1) 85% of the torque corresponding to maximum power for the position of the governor hand lever

(2) 50% of the torque defined in (1)

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4.2 Lifting force and hydraulic power

Date : 13th january 1992

4.2.1 Hydraulic power test (lift and auxiliary service connection number I)

- Tapping point used for test : auxiliary service connection
- Sustained pressure with relief valve open : 182 bars
- Pump delivery rate at minimum pressure : 50,6 l/min

	Flow rate l/min	Pressure bars	Power kW
Flow rate corresponding to a hydraulic pressure equivalent to 90 percent of the actual relief valve pressure setting and corresponding hydraulic power	44,8	164	12,3
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	48,1	158	12,7

4.2.2 Power lift test

Hydraulic fluid : see "fuel and lubricants used in tests"

	at the hitch point	on the frame
Height of lower hitch point above ground in low position mm	215	215
Vertical movement mm	595	635
Maximum force exerted through full range kN	34,7	29,0
Corresponding pressure of hydraulic fluid bar	158	158
Moment about rear axle kN.m	36,1	47,9
Maximum tilt angle of mast over range of lift degree	/	3 °

4.2.3 Power lift test

Lifting height (1)	mm	-320	-300	-200	-100	0	+100	+200	+275	+305
Lifting force (2)	at the hitch point kN	34,7	36,9	39,2	40,5	41,8	41,8	42,3	40,4	/
	at the frame kN	39,4	39,0	38,5	35,6	36,8	35,0	33,6	33,2	29,0

Corresponding pressure : 158 bars

(1) Lifting height relative to the horizontal plane including the lower link pivot points
(2) The values of force measured are corrected to correspond to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting or to maximum power delivered by the hydraulic system, whichever is lower.

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4.3 Drawbar performance (unballasted tractor)

Date and location of test : 17th march 1992, Antony

Type of track : Tarmacadam

Height of drawbar above ground : 0,95 m

Tyres	Front	Rear
. Size :	11.00 - 16	16.9 - 38
. Inflation pressure (bar) :	2,5	1,0

Atmospheric conditions :

- Temperature : 13 °C
- Pressure : 1021 mbar
- Relative humidity : 64 %

Gear ratio	Travelling speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Wheelslip %	Specific consumption g/kWh	Specific energy kW/l	Temperatures (1) °C	(2) °C	(3) °C
MAXIMUM POWER IN TESTED GEAR										
1 TA	1,95	32,1	17,4	2259	15	533	1,60	30	82	89
2 TA	2,31	32,0	20,5	2243	15	470	1,81	31	83	97
3 TA	2,70	31,0	23,3	2245	15	431	1,97	31	83	100
4 TA	3,20	30,8	27,3	2239	15	404	2,11	34	86	102
1 TB	3,88	30,7	33,1	2241	15	381	2,23	32	82	101
2 TB	4,62	31,0	39,8	2246	15	359	2,37	33	83	102
3 TB	5,43	30,6	46,2	2240	15	348	2,45	33	82	103
4 TB	6,37	30,2	53,4	2235	15	338	2,52	33	82	103
1 LA	7,07	29,5	58,0	2040	15	325	2,62	35	82	102
2 LA	8,61	25,0	59,7	2007	12	318	2,68	35	83	103
3 LA	10,07	21,6	60,5	1962	10	315	2,70	35	82	105
4 LA	11,90	18,0	59,5	1924	8	320	2,66	32	83	105
1 LB	14,69	14,3	58,2	1916	6	328	2,59	32	84	103
2 LB	17,05	12,0	56,7	1844	5	331	2,57	32	81	101

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4.3 Drawbar performance (unballasted tractor) (continued)

Gear ratio	Travelling speed km/h	Drawbar pull kN	Power kW	Engine speed rev/min	Wheelslip %	Specific consumption g/kWh	Specific energy kW/l	Temperatures (1) °C	(2) °C	(3) °C
TRANSMISSION AND FUEL CONSUMPTION CHARACTERISTICS (1) Maximum drawbar power in tested gear										
3 LA	10,07	21,6	60,5	1963	10	315	2,70	35	82	105
(2) 75% of pull at maximum power at rated engine speed										
3 LA	12,09	13,6	45,7	2259	6	345	2,47	35	82	103
(3) 50% of pull at maximum power at rated engine speed										
3 LA	12,41	9,0	31,0	2265	4	406	2,10	35	82	102
(4) next higher gear at reduced engine speed, same pull and travelling speed as in (2)										
4 LA	12,08	13,5	45,2	1910	6	322	2,64	32	83	105
(5) next higher gear at reduced engine speed, same pull and travelling speed as in (3)										
4 LA	12,45	8,9	30,8	1926	4	368	2,32	32	83	102
(6) Maximum drawbar power in selected gear nearest to 7,5 km/h										
4 TB	6,37	30,2	53,4	2235	15	338	2,52	33	82	101
(7) 75% of pull at maximum power										
4 TB	6,74	22,6	42,4	2245	11	349	2,44	33	82	102
(8) 50% of pull at maximum power										
4 TB	7,05	15,1	29,5	2253	7	399	2,14	33	82	101
(9) Higher gear at reduced engine speed; same pull and travelling speed as in (7)										
1 LA	6,75	22,8	42,7	1859	11	312	2,73	35	82	99
(10) Higher gear at reduced engine speed; same pull and travelling speed as in (8)										
1 LA	7,02	15,0	29,2	1847	7	341	2,49	35	82	98

(1) Fuel temperature - (2) Coolant temperature - (3) Engine oil temperature

CEMAGREF

5. OPTIONAL TESTS RESULTS

5.2 Measurement of external noise level

Date of test : 25th march 1992
Type of sound level meter : BRUEL & KJAER 2209
Type of track : Tarmacadam
Gear : 4 LB
Travelling speed before acceleration : 22,5 km/h
Sound level : 88 dB(A)

6. REPAIRS AND ADJUSTMENTS DURING TESTS

none

Le Technicien chargé des essais	L'Ingénieur responsable des essais	Le Chef de la Division Tracteurs et Machines Agricoles
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