COMITATO PER L'OMOLOGAZIONE
DELLE MACCHINE AGRICOLE

O.E.C.D. No. 975

**REPORT ON TEST IN ACCORDANCE WITH O.E.C.D.
TEST CODE FOR AGRICULTURAL TRACTORS**

FIAT 80–66 DT



Manufactured by: **FIAT TRATTORI S.p.A.**
Via Pico della Mirandola, 72
Modena — Italy

CENTRO DI OMOLOGAZIONE DELL'ISTITUTO DI MECCANICA AGRARIA
UNIVERSITA' DEGLI STUDI DI BOLOGNA

This bulletin is based on engineering tests in accordance with the O.E.C.D. STANDARD CODE for the Official Testing of Agricultural Tractor Performance. It does not contain an evaluation of the tractor performance on practical work.

Duration of tests: September 1983 – July 1984
IMAUBo – Istituto di Meccanica agraria dell'Università degli Studi di Bologna – Via Filippo Re n° 4 – Bologna – Italy

This report has been approved by the O.E.C.D. Coordinating Centre (CEMAGREF-, France) as being in accordance with the O.E.C.D. STANDARD CODE.

Date of Approval: 27th February 1986 O.E.C.D. No. 975

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 daN	10 N	= 1,02 kp	or 1 kp	= 0,981 daN
Powers		1 kW	= 1,36 PS	or 1 PS	= 0,736 kW
Pressures		1 bar	= 1,02 kp/cm^2	or 1 kp/cm^2	= 0,981 bar

1000 mbar = 750,1 mm Hg

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The tractor FIAT 80-66 DT has been tested in two variants:

1) As model FIAT 80-66 DT/20 with a speed change gear with 4 speeds and 2 gear reducers one with 3 forward ranges (L,M,H) and 1 reverse range (R), another with 2 more forward ranges (SRL,SRM) and 1 more reverse range (RL) for 20 forward speeds totally and 8 reverse

2) As model FIAT 80-66 DT/12 with a speed change gear with 4 speeds and 2 gear reducers with 3 forward ranges (L,M,H) and 1 reverse gear (R) for 12 forward speeds totally and 4 reverse

Tractor manufacturer:	FIAT TRATTORI S.p.A. - Via Pico della Mirandola, 72 Modena - Italy
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement of Istituto di Meccanica agraria - Università degli Studi di Bologna
Place running-in:	FIAT TRATTORI S.p.A. workshop - Modena and IMAUBo-Cadriano
Duration of running-in:	Engine and tractor appr. 85 hours

SPECIFICATION OF TRACTOR

TRACTOR

Make:	FIAT TRATTORI S.p.A.
Trade name:	FIAT 80-66 DT
Model:	80-66 DT/20 and 80-66 DT/12
Type:	four wheel drive tractor, unit construction
Serial N°:	650563
1st serial N°:	650001

ENGINE

Make:	FIAT
Model:	8045.05
Type:	4-stroke Diesel engine, direct injection, water cooled
Serial N°:	000015

Cylinders: 4, in line, bore 104 mm, stroke 115 mm, capacity 3908 cm^3, compression ratio 17/1, valves overhead, replaceable dry cylinder liners

Fuel system: forced with CORONA model APM 45 FVI pump (optionally FISPA model 4066.03/A); one wire-mesh filter on pump suction side and two filters with replaceable paper cartridges;
BOSCH rotating plunger pump model VE L 164, serial n° 22301, injection timing 4° ± 1° before TDC; optionally CAV rotating plunger pump model DPS DSA 580;
manufacturer's production setting 54 ± 1.4 mm^3/stroke (in total 16.2 ± 0.4 l/h) at rated engine speed and full load;
BOSCH multihole injection nozzles model DLLA 136 S;
injection pressure: 23.0 ± 0.8 MPa;
capacity of fuel tank: 70 l

Governor: BOSCH centrifugal variable speed governor; optionally CAV centrifugal variable speed governor;
governed range of engine speed from 650 to 2800 rev/min

Rated engine speed: 2500 rev/min

Air cleaner: FIAT make, type 18518.212;
oil bath air filter with cyclone pre-cleaner;
oil change every 100 operating hours, no maintenance indicator;
oil capacity; 0.7 l;
air intake below bonnet

Lubrication system: FIAT
forced feed from gear pump;
sieve filter in suction and one paper cartridge replaceable filter TECNOCAR model 4648371 (optionally CARELLO model 4600875; SAVARA model 4625547; FIAAM model 4730586);
total oil capacity including filter: 11.7 l;
oil change period: 200 hrs;
recommended filter change period: 400 hrs;
recommended oil: FIAT AMBRA SUPER SAE 15W/40 or another oil conforming MIL L 2104 C or API-CD

Cooling system: water cooling with centrifugal pump and thermostatic control;
pressurized system adjusted to 70 kPa;
water capacity (added PARAFLU 11 from 20 to 50%, from -8° to -35°C) 14 l;
fan with 4 blades, 392 mm diameter

Starting system: safety device: operable only with engine clutch disengaged;
BOSCH solenoid pre-engaged drive starting, model JD 12 V, 3,5 kW (optionally MARELLI, model MT 68 AC);
cold starting aid with thermostart or start-pilot

Electrical system: 12 V, negative earth;
BOSCH three phase alternator model G1 14 V - 33 A-1 (optionally MARELLI, AA125 14 V - 45 A);
one lead acid battery, 110 Ah (optionally 120 Ah) at 20 hrs rating

Exaust system: own make;
multichamber-expansion type silencer;
78 mm diameter, 675 mm long;
vertical on the left hand side of bonnet;
outlet showing upwards;
height of outlet abowe ground: 2450 mm

TRANSMISSION

Clutch: LUK or VALEO make double clutch with 2 dry plates included in the same clutch pressure plate, one for p.t.o. and the other for gear box, but independently operated;
plates diameter: 280 mm;
pedal operated for gear box drive and hand lever operated for p.t.o. drive

Gear box: own make, mechanical;
syncromesh speed change gear with 4 speeds and 2 gear reducers;
one with 3 forward ranges (L,M,H) and 1 reverse range (R), another with 2 more forward ranges (SRL, SRM) and 1 more reverse range (RL) (only at model 80-66 DT/20);
totally 20 forward and 8 reverse speeds selected by means of 3 hand levers at model 80-66 DT/20;
totally 12 forward and 4 reverse speeds selected by means of 2 hand levers at model 80-66 DT/12;

Front axle and final drives: own make, mechanical type with crown wheel and pinion (ratio 1:4.333);
differenzial lock, pedal operated, self disengaged (optionally no-spin differential)
epycicloidal final drives (1:4.875)

Rear axle and final drives: own make;
bevel gear drive (ratio 1:4.778);
spur gear final drive (ratio 1:6.091);
differential lock, pedal operated, self disengaged

Transmission oils: capacity gear box, rear axle, power lift (commons): 40.8 l;
recommended oil change period: 1600 hrs;
type of oil filter: paper cartridge;
recommended filter change period: 400 hrs;
capacity final rear drives: 10.6 l;
capacity front axle: 6.1 l;
capacity final front drives: 2.4 l;
recommended oil change period: 1600 hrs;
recommended oil: OLIO FIAT TUTELA MULTI F, SAE classification 20 W/40

Total ratios and speed (tyres 16.9 R 34)

Group	Gear No.	No. of engine revolution for one revolution of the driving wheels	Nominal travelling speed* for 2500 rev/min rated engine speed km/h
Low (crawling speeds) SRL	1 +	2188.57	0.32
	2 +	1420.47	0.49
	3 +	1160.05	0.61
	4 +	729.17	0.96
Medium (crawling speeds) SRM	1 +	937.03	0,75
	2 +	608.17	1.15
	3 +	496.67	1.41
	4 +	312.19	2.25
Low L	1	396.23	1.77
	2	257.17	2.73
	3	210.02	3.34
	4	132.01	5.32
Medium M	1	169.64	4.14
	2	110.10	6.38
	3	89.92	7.81
	4	56.52	12.42
High H	1	72.06	9.74
	2	46.77	15.01
	3	38.19	18.38
	4	24.01	29.25
Reverse (crawling speeds) RL	1 +	846.75	0.83
	2 +	549.57	1.28
	3 +	448.82	1.56
	4 +	282.11	2.49
Reverse R	1	153.30	4.58
	2	99.48	7.06
	3	81.26	8.64
	4	51.07	13.75

* Calculed with radius index: 745 mm

\+ Only at type 80-66 DT/20

POWER TAKE-OFF

Main p.t.o.: indipendent, hand lever operated, driven by 2nd plate of dual clutch;
changing of p.t.o. speeds hand operated;
one shaft at rear tractor in median plane, 730 mm above ground (with tyres: at front 13.6 R 24, at rear 16.9 R 34)

p.t.o. proportional to engine speed:

540 rev/min
dimensions 35 mm diameter (1.3/8" conforming ISO R 500), 6 splines;
distance behind rear axle 320 mm;
p.t.o. speed at rated engine speed (2500 rev/min) 614 rev/min;
engine speed at standard p.t.o. speed (540 rev/min) 2199 rev/min;
ratio at rotation speed: 4.071;
direction of rotation clockwise, viewed from tractor rear

1000 rev/min
dimensions 35 mm diameter (1.3/8" conforming ISO R 500), 21 splines;
distance behind rear axle 288 mm;
p.t.o. speed at rated engine speed (2500 rev/min) 1050 rev/min;
engine speed at standard p.t.o. speed (1000 rev/min) 2381 rev/min;
ratio at rotation speed: 2.381;
direction of rotation clockwise, viewed from tractor rear

p.t.o. proportional to ground speed:

for size of tyres: 16.9 R 34, radius index 745 mm;
travelling distance for one revolution of p.t.o. shaft 0.526 m with 540 p.t.o. and 0.306 m with 1000 p.t.o.;
No. of p.t.o. shaft revolution for one revolution of the rear wheels: 8.9 with 540 p.t.o. and 15.3 with 1000 p.t.o.;
direction of rotation clochwise, viewed from tractor rear

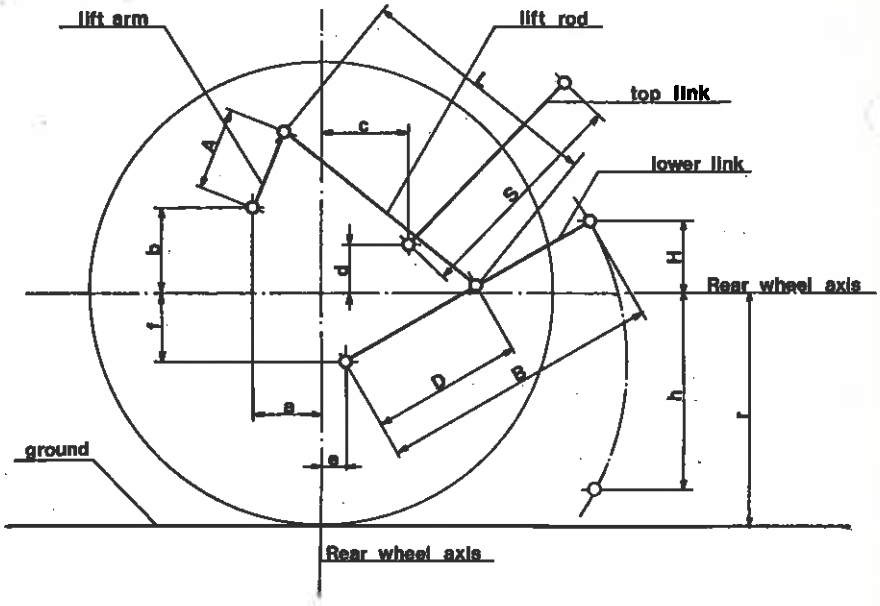
POWER LIFT

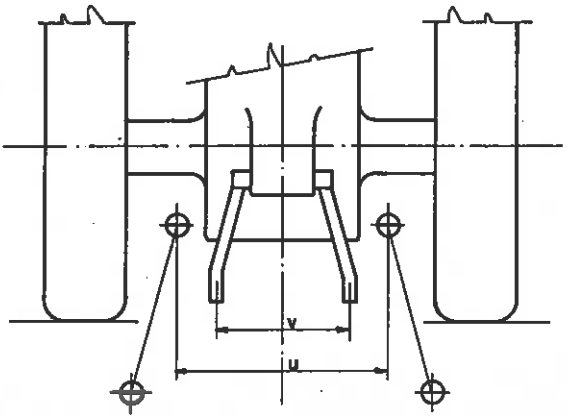
Own make;
hydraulic power lift in unit construction;
FIAT type A 31 gear pump with 32.8 l/min delivery;
driven by crankshaft with gear connection;
cartridge replaceable filter;
one single acting cylinder with bore 110 mm and stroke 128 mm;
over pressure (safety) valve setting 21.0 MPa;
hydraulic linkage lock for transport;
relief valve pressure setting 18.6 MPa;
3 double acting valves with oil tapping at rear of tractor available;
recommended oil change: 1600 hrs;
recommended filter change period: 400 hrs;

oil capacity (common at gear box and rear axles) 40.8 l;
maximum volume of oil available to external cylinder 23 l;
recommended oil: (see transmission oils)

THREE-POINT LINKAGE

Own make;
three-point linkage acc. to ISO 730/I, cat. 2





Dimensions of rear implement linkage (projected lengths, in mm)
Underlined dimensions are valid for power lift test page 23

Rear tyres (size 16.9 R 34)	radius index	(r)	745
Front tyres (size 13.6 R 24)	radius index	(r')	560
Length of lift arms		(A)	255
Length of lower links		(B)	940
Distance of lift arm pivot point from rear wheel centre line	horizontally	(a)	10
	vertically	(b)	296
Horizontal distance between the 2 lower link points		(u)	450
Horizontal distance between the 2 lift arm end points		(v)	507
Length of upper link		(S)	680 to 920, 802
Distance of upper link pivot point from rear wheel centre line	horizontally	(c)	194
	vertically	(d)	197 or 247
Distance of lower link pivot point from rear wheel centre line	horizontally	(e)	55
	vertically	(f)	205
Distance of lower link pivot points to lift rod pivot points on lower links		(D)	450 or 526
Length of lift rods		(L)	510 to 640, 575

Heigth of lower link hitch points relative to rear axle centre line (situated 745 mm above ground) in mm

These data are valid for unloaded power lift

	Lift rod length L		
	510 mm	575 mm	640 mm
Lowest position (h)	129 mm	280 mm	353 mm
Highest position (H)	421 mm	265 mm	225 mm
Transport position (H')	421 mm	265 mm	225 mm

SWINGING DRAWBAR

Cat. A (in accordance with italian regulation);
height above ground (tyre size 16.9 R 34) 2 positions min 450 mm, max 560 mm;
distance of hitch point from rear wheel centre line: horizontally at rear 670 mm;
distance of hitch point from p.t.o. shaft end:

vertically, below	min 215 mm	
	max 325 mm	
horizontally, rear	540 rev/min p.t.o.	340 mm
	1000 rev/min p.t.o.	375 mm

lateral adjustement (centre of clevis: right of left hand): 230 mm
distance of pivot point from rear axle axis, horizontally at rear: 128 mm;
diameter drawbar pin hole: 29 mm

TRAILER HITCH

Cat. C (in accordance with italian regulation);
height above ground, 3 positions: 510 - 610 - 710 mm;
distance of hitch point from rear axle axis horizontally at rear: 560 mm;
distance of hitch point from p.t.o. shaft end:

vertically, below	220 - 120 - 20 mm	
horizontally, rear	540 rev/min p.t.o.	230 mm
	1000 rev/min p.t.o.	263 mm

maximum vertical permissible load: 1470 daN
diameter pin hole: 29 mm

HOLED DRAWBAR Non fitted

STEERING

Own make hydrostatic steering;
pump FIAT model C 25;
oil reservoir capacity 1.8 l;
hydrostatic steering DANFOSS model OSPC 100;
one double acting cylinder, bore 55 mm, stroke 200 mm;
working pressure 12.5 MPa;
acting directly on front axle;
filter oil: wire-mesh;
filter change period: 300 hrs;
recommended oil: OLIO FIAT TUTELA MULTI F;
oil change period: 800 hrs

BRAKES

Service brake: own make;
wet discs brake, 8 for wheel, 165 mm diameter;
pedal operated muscle power brake with mechanical transmission

acting on rear axle;
trailer braking take-off (hydraulic brake): optionally, in conformity with the french national regulation

Parking brake: with indipendent mechanic system;
hand operated muscle power with mechanical transmission;
acting discs brake in gear box on secondary shaft;
lever with ratchet operated

Steering brake: divided pedals of service brake, for normal use locked together

STEERING AND DRIVING WHEELS
Two radial pneumatics at front 13.6 R 24, 8 ply;
max permissible load on each tyre 1360 daN at 200 kPa;
track width 1550 mm, adjustable by turning rims and lugs to 1920 mm;
rims W 12 - 24"

DRIVING WHEELS
Two radial pneumatics at rear 16.9 R 34, 8 ply;
max permissible load on each tyre 2100 daN at 170 kPa;
track width 1500 mm, adjustable by turning rims and lugs in steps of 100 mm to 2000 mm;
rims W 14 L - 34"

WHEELBASE 2250 mm

PROTECTIVE STRUCTURE
FIAT TS 25 frame at 4 steel bars with canopy;
approval O.E.C.D. n° CSD 0747/34 (for model 80-66 DT/20) and O.E.C.D. n° CSD 0747/35 (for model 80-66 DT/12);
fitted tractor with 4x2 M16 tie rods at rear axle;
drive footplate 810 mm above ground

DRIVER'S SEAT
GRAMMER model DS44/2H;
upholstered seat with back rest;
adjustable suspension with shock absorber;
height of loaded (55 kg) seat in rear position 405 mm above footplate;
longitudinal adjustement 150 mm

NUMBER OF GREASE POINTS 15

DIMENSIONS (with tyres: at front 13.6 R 24, at rear 16.9 R 34)

Total lenght:	3870 mm without ballast
	4080 mm with ballast
total max width:	2420 mm with and without ballast
total height:	2570 mm to canopy top
	2450 mm to top of exhaust mouth
ground clearance:	420 mm below trailer hitch in lowest position

LIGHTING angle of light in accordance with italian regulation

	Height above ground of centre with tyres 16.9 R 34 mm	Size mm	Distance from outside edge of tractor to center at 1500 mm track width mm
Head lights	1130	120 x 180	785
Side lights	1640	60 x 75	223
Rear lights	1640	60 x 120	261
Reflectors	1488	55 x 90	165

AVAILABLE TYRES

Tyre size	
at front	at rear
12.4 R 24, 8 ply	18.4 R 30, 6 ply
11.2 R 28, 8 ply	13.6 R 38, 6 ply
12.4 R 24, 8 ply	13.6 R 36, 8 ply

TEST CONDITIONS

Track of wheels at front 1550 mm
at rear 1500 mm

Tractor mass as used for drawbar performance test

Without ballast:	without driver	with driver
front	1145 kg	1170 kg
rear	1810 kg	1860 kg
total	2955 kg	3030 kg
Front ballast:	10 weights of 33 kg each + support, total	410 kg
Rear ballast:	3 weights (50 kg each) per wheel, total	300 kg
With ballast:		
front	1635 kg	1660 kg
rear	2030 kg	2080 kg
total	3665 kg	3740 kg

Fuel and lubricants used in tests

Fuel: agricultural Diesel oil (in accordance with italian standard)
density at 15°C: 0,840 g/cm^3

Engine oil: FIAT AMBRA SUPER SAE 15 W/40

Gear box, rear and front axles, rear final drive, steering and power lift:
OLIOFIAT TUTELA MULTI F SAE 20 W/30

Grease: FIAT TUTELA G9

COMPULSORY TESTS

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

Date of tests: 7th September 1983
Location of tests: Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano
Type of dynamometer: SCHENCK hydraulic dynamometer U-40

Power	Speed		Fuel consumption			Specific energy
	engine	p.t.o.	hourly		specific	
kW	rev/min	rev/min	l/h	kg/h	g/kWh	kWh/l
Maximum power						
At 2-hours test						
54.7	2500	1050	16.46	13.79	252	3.32
At standard p.t.o. speed						
53.4	2381	1000	15.93	13.35	250	3.35
At rated engine speed						
54.7	2500	1050	16,46	13.79	252	3.32
Part loads, the governor hand lever in the position corresponding to the maximum power at full load (curve A)						
(i) 85% of the torque at maximum power at 2-hours test						
48.4	2602	1093	14.14	11.85	245	3.42
(ii) unloaded						
—	2728	1146	5.11	4.28	—	—
(iii) 50% of the load defined in (i)						
24.7	2664	1119	8.95	7.50	304	2.75
(iv) maximum power						
54.7	2500	1050	16.46	13.79	252	3.32
(v) 25% of the load defined in (i)						
12.6	2702	1135	6.71	5.62	446	1.88
(vi) 75% of the load defined in (i)						
36.8	2633	1106	11.63	9.75	265	3.16

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
Part loads, the governor hand lever in the position corresponding to the standard p.t.o. speed at full load (curve B)						
(i) 85% of the torque at maximum power at standard p.t.o. speed						
46.5	2443	1026	13.34	11.18	240	3.48
(ii) unloaded						
--	2609	1096	4.30	3.60	--	--
(iii) 50% of the load defined in (i)						
23.4	2517	1057	8.05	6.75	288	2.91
(iv) maximum power						
53.4	2381	1000	15.67	13.13	246	3.41
(v) 25% of the load defined in (i)						
12.2	2562	1076	5.99	5.02	412	2.04
(iv) 75% of the load defined in (i)						
35.7	2481	1042	10.64	8.92	250	3.35

Standard specific fuel consumption (g/kWh): 245 - 304 - 240 - 288

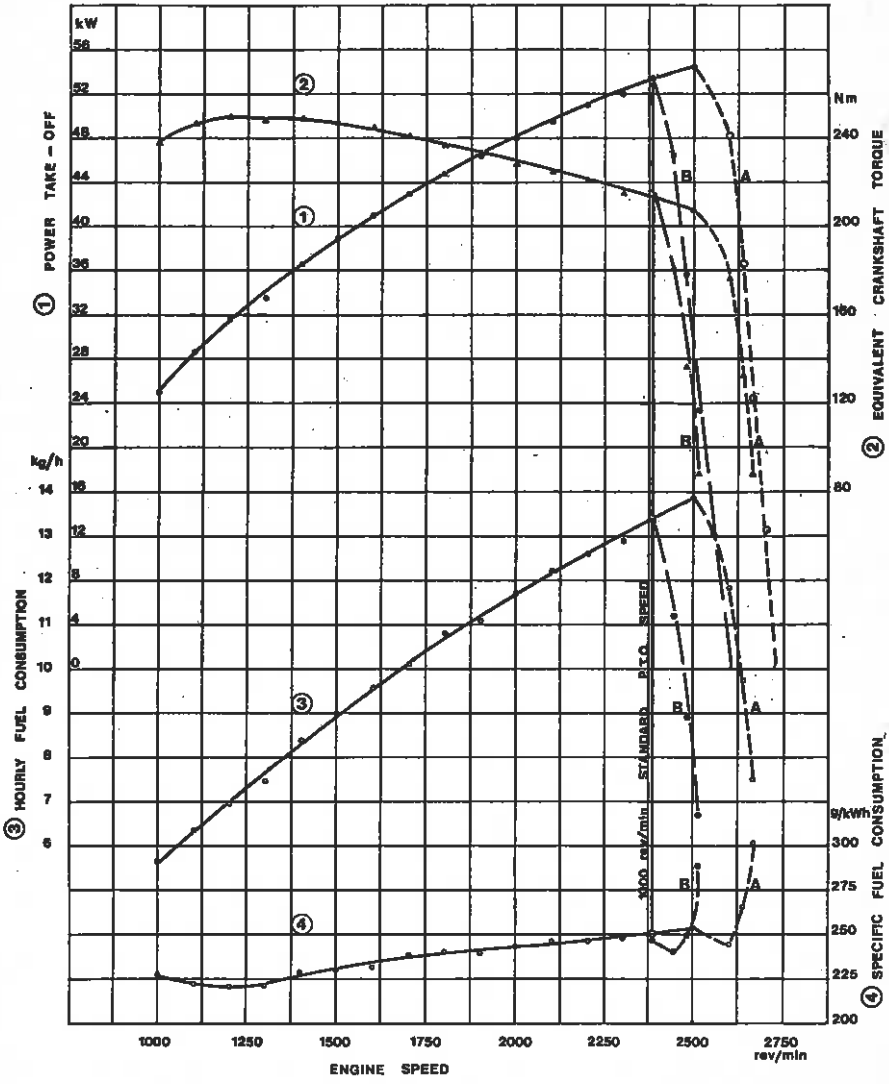
Full load maximum engine speed: 2736 rev/min
Equivalent crankshaft torque ad maximum power (2 hours): 208 Nm
Maximum equivalent crankshaft torque: 251 Nm at 1200 rev/min of the engine

Mean atmospheric conditions:	temperature	24 °C
	pressure	1013 mbar
	relative humidity	56 %
Maximum temperatures:	coolant	83 °C
	engine oil	120 °C
	fuel	25 °C
	engine air intake	26 °C

POWER TAKE-OFF TEST

Date and location of test: 7th September 1983
Istituto di Meccanica agraria - Università di Bolo gna (IMAUBo) - Cadriano

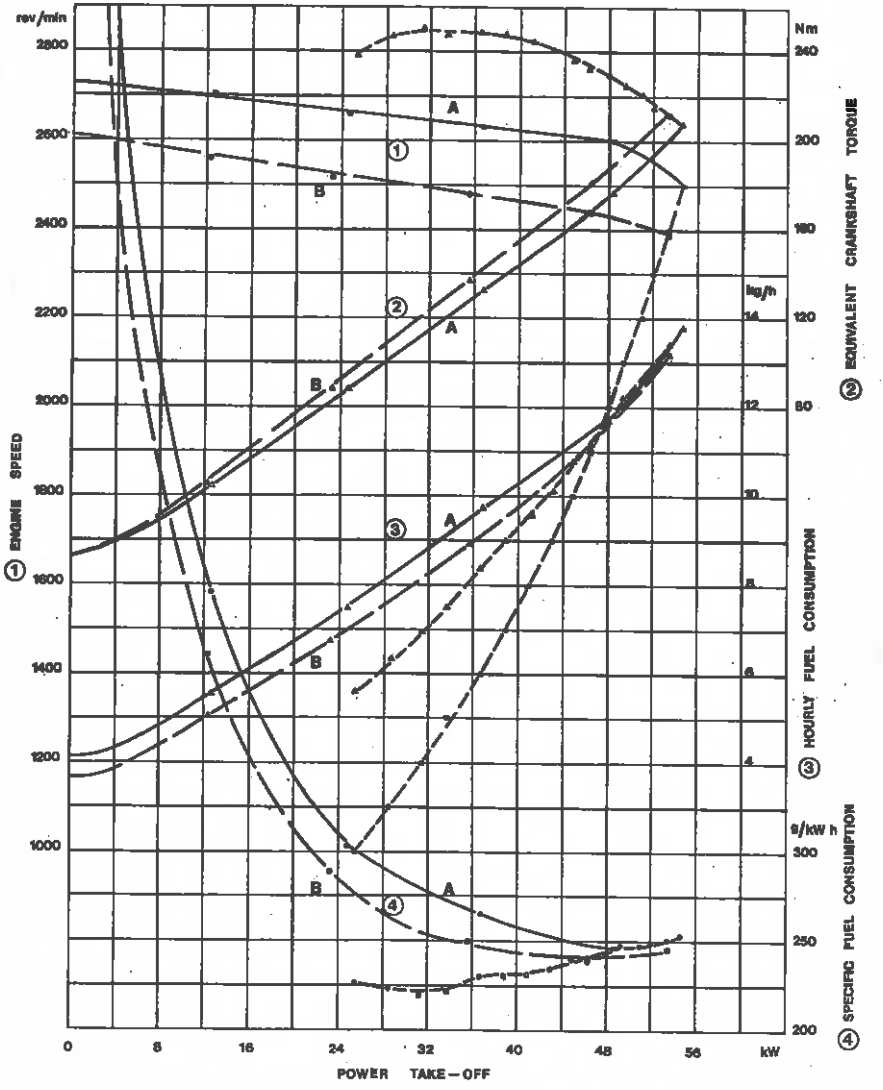
Motor: FIAT 8045.05



POWER TAKE-OFF TEST

Date and location of test: 7th September 1983
Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano

Motor: FIAT 8045.05



(2) **DRAWBAR PERFORMANCE**

Date of tests: 20th till 28th October 1983
Type of track: concrete

Gear no.and group	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed rev/min	Slip of wheels %
(i) MAXIMUM POWER (unballasted) - Height of drawbar above ground 510 mm					
3 SRM	1.28	9.1	2550	2690	15.0
1 L	1.63	11.5	2550	2695	14.8
4 SRM	2.05	14.6	2560	2690	15.0
2 L	2.50	17.9	2580	2670	14.9
3 L	3.04	21.8	2580	2655	14.8
1 M	3.73	26.7	2580	2640	14.9
4 L	4.76	34.0	2570	2620	15.0
2 M	5.65	40.2	2560	2585	14.8
3 M	6.76	46.8	2490	2500	14.1
1 H	8.96	49.0	1970	2495	8.3
4 M	11.85	49.2	1495	2500	5.0
2 H	14.51	48.8	1210	2500	3.8
3 H	18.18	48.2	955	2505	2.0
(ii) MAXIMUM POWER (ballasted) - Height of drawbar above ground 500 mm					
1 SRL	0.29	2.5	3120	2710	15.3
2 SRL	0.45	3.9	3120	2710	15.1
3 SRL	0.56	4.9	3120	2710	14.9
1 SRM	0.69	6.0	3120	2710	14.6
4 SRL	0.88	7.7	3140	2710	15.0
2 SRM	1.05	9.2	3150	2700	15.2
3 SRM	1.29	11.3	3140	2690	14.7
1 L	1.62	14.1	3140	2680	14.9
4 SRM	2.05	18.0	3160	2670	14.7
2 L	2.48	21.9	3180	2655	14.8
3 L	3.00	26.5	3180	2625	14.9
1 M	3.69	32.6	3180	2610	15.0
4 L	4.70	41.2	3160	2575	14.8
2 M	5.58	46.9	3030	2500	13.0
3 M	7.17	48.8	2450	2495	8.6
1 H	9.25	49.1	1910	2505	5.8
4 M	11.96	49.0	1475	2500	4.0
2 H	14.74	48.5	1185	2495	2.2
3 H	18.17	46.7	925	2500	1.1
(iii) FIVE-HOUR-TEST at 75% of pull at maximum power					
3 M	7.74	39.6	1840	2600	5.2
(iv) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii)					
4 L	4.95	43.5	3165	2580	--

Total oil consumption during ten hours duration of tests (iii) and (iv): 15 g/h

Tyre size front: 13.6 R 24 8 ply PIRELLI
rear: 16.9 R 34 8 ply PIRELLI

Tread bar height at the beginning of drawbar tests: 85% at front, 90% at rear of tractor

Drawbar fuel consump. g/kWh	Specific energy kWh/l	Temperatures Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Tempe-rature °C	Relative humidity %	Pressure mbar
Tyre inflation pressure: 200 kPa at front; 170 kPa at rear							
—	—	18	75	90	18	68	1022
510	1.64	18	75	94	18	70	1022
465	**1.81**	**18**	**75**	**94**	**18**	**68**	**1022**
396	2.12	18	75	94	18	70	1022
361	2.32	19	74	94	18	68	1022
343	2.44	20	76	95	18	66	1022
322	2.60	20	78	97	19	66	1022
304	2.76	22	79	96	19	64	1022
291	2.89	22	79	98	19	60	1022
276	3.04	23	80	100	19	60	1022
278	3.01	24	80	102	19	62	1022
276	3.04	24	80	102	19	64	1022
284	**2.95**	**24**	**80**	**102**	**19**	**64**	**1022**
Tyre inflation pressure: 200 kPa at front; 170 kPa at rear							
—	—	20	73	82	21	72	1019
—	—	20	74	82	21	72	1019
—	—	20	74	82	21	74	1019
—	—	20	74	83	21	72	1019
—	—	20	74	83	21	72	1019
—	—	20	75	83	21	74	1019
—	—	20	74	84	21	72	1019
440	1.90	20	74	88	21	74	1019
400	2.10	20	75	90	21	74	1019
373	2.25	20	76	92	21	74	1019
335	2.50	21	77	95	21	72	1019
316	2.65	22	78	96	21	70	1019
308	2.72	23	78	98	22	68	1019
289	2.90	23	79	101	22	68	1019
281	2.98	24	80	102	22	66	1019
278	3.01	25	78	100	22	66	1019
280	2.99	26	80	102	22	64	1019
284	2.95	26	80	101	23	64	1019
292	2.88	26	80	104	23	64	1019
298	2.81	19	80	102	13	48	1014
—	—	18	80	106	11	54	1016

Test (iv) was carried out with additional ballast (+ 400 kg at rear and 100 kg at front) the figures not quoted are therefore irrelevant

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment	front:	13.6 R 24, 8 ply
	rear:	16.9 R 34, 8 ply
Track of wheels	front:	1550 mm
	rear:	1500 mm

	With brakes		Without brakes	
	left-hand	right-hand	left-hand	right-hand
Radius of turning space, m	4.48	4.49	5.14	5.16
Radius of turning circle, m	4.23	4.25	4.90	4.92

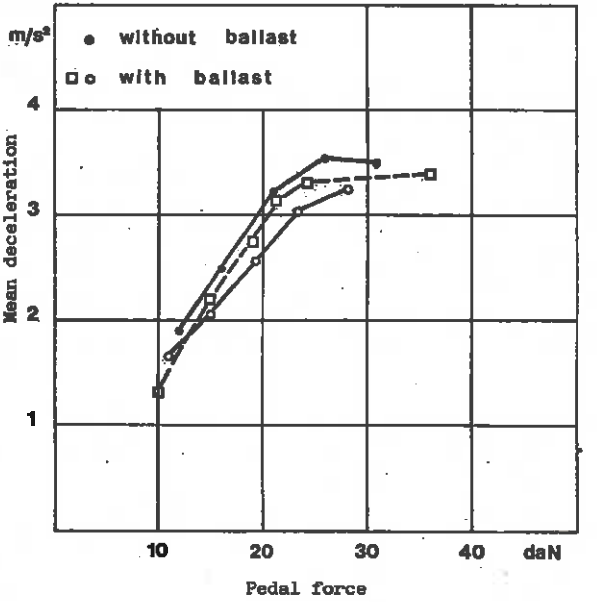
(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	862 mm
Distance forward from rear axle centre	864 mm
Distance from tractor's median plane, to the left	6 mm

(5) **BRAKING** (front wheel drive disengaged)
Date of tests: 15th November 1983

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	1170	1860	3030
with ballast	1660	2080	3740

A) Service brake
Type-O-test (cold brakes) ———, Type-I-(fade)test— — —



Speed before application of brakes: without ballast 32.8 km/h
with ballast 32.6 km/h
The brakes were heated by towing of the tractor for 1 km
Maximum deviation of tractor from its original course: 0 m
Abnormal vibration: none

B) Parking brake

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 3000 kg	
	up	down	up	down
Braking device control force daN	16	17	17	18

(6) **MEASUREMENTS OF EXTERNAL NOISE LEVEL**

Date of test: 4th November 1983
Type of track: concrete
Type of sound level meter: BRÜEL AND KJAER model 2209

Results of test

Gear: 4 H
Travelling speed before acceleration: 23.0 km/h
Sound level: 87,0 dB(A)

(7) **NOISE MEASUREMENT AT THE DRIVER'S EAR**

Date of tests: 4th November 1983
Type of track: concrete
Type of sound level meter: BRÜEL AND KJAER model 2209
with FIAT safety frame type TS 25

Results of tests

Gear no. and range	Drawbar pull at wich the tractor develops the maximum sound level daN	Travelling speed nominal km/h	Travelling speed effective km/h	Sound level dB(A)
1 L	2500	1.77	1.70	98.5
2 L	2500	2.73	2.50	98.0
3 L	2450	3.34	3.10	98.5
1 M	2520	4.14	3.80	98.5
4 L	2450	5.32	4.83	98.5
2 M	2530	6.38	5.60	99.0
3 M	2400	7.81	6.80	99.0
3 M	light load	7.81	8.20	97.5
1 H	1900	9.74	8.91	99.0
4 M	1450	12.42	12.00	99.0
2 H	1150	15.01	14.80	99.0
3 H	900	18.38	18.20	99.0
4 H	570	29.25	29.00	97.5
4 H	light load	29.25	30.40	98.0

(8) POWER LIFT TEST AND HYDRAULIC POWER TEST

Date of tests: 5th July 1984

Power lift

	Height of lower hitch point above ground in down pos. mm	Vertical movement mm	Max. force exerted through full range daN	Corresp. pressure of hydraul. fluid MPa	Moment about rear axle daNm	Max. tilt angle of mast over range of lift degrees
At hitch points	465	545	2100	15.8	2090	—
On the frame	470	620	1660	15.8	2664	9°

Temperature of hydraulic fluid at start of test: 65°C

Lifting heights relative to horizontal lower links

mm	- 75	- 70	0	+ 100	+ 200	+ 300	+ 400	+ 470	+ 500	+ 550

Lifting forces at hitch points

daN	2580	—	2510	2430	2350	2240	2170	2100	—	—

Lifting forces at test frame

daN	—	2300	2190	2080	1990	1870	1850	—	1680	1660

Hydraulic power test

Sustained pressure with relief valve open 17.6 MPa
Pump delivery rate at minimum pressure 31.8 l/min
Flow rate corresponding to a hydraulic pressure equivalent to 90 per cent of the actual relief valve pressure setting and corresponding hydraulic power:

Flow rate	30.8 l/min
Pressure	15.8 MPa
Power	8.1 kW

Flow rate and hydraulic pressure corresponding to maximum hydraulic power:

Flow rate	30.6 l/min
Pressure	16.9 MPa
Power	8.7

Tapping point used for test: at rear of tractor

REMARKS AND REPAIR None

Bologna, May 1985

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