COMITATO PER L'OMOLOGAZIONE
DELLE MACCHINE AGRICOLE

O.E.C.D. No. 969

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

FIAT 55–66 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. 969

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

TABLE OF CONTENTS

	Page
SPECIFICATION OF TRACTOR	3 to 12
TEST CONDITIONS	13
COMPULSORY TESTS	
(1) Main power take-off performance	14 to 17
(2) Drawbar performance on a concrete track	18 and 19
(3) Turning space and turning circle	20
(4) Location of centre of gravity	20
(5) Braking	21
(6) Measurements of external noise level	22
(7) Noise measurement at the driver's ear	22
(8) Power lift test and hydraulic power test	23

The tractor FIAT 55-66 DT has been tested in two variants:

1) As model FIAT 55-66 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 55-66 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 55-66 DT
Model:	55-66 DT/20 and 55-66 DT/12
Type:	four wheels drive tractor, unit construction
Serial N°:	370772
1st serial N°:	370001

ENGINE

Make:	FIAT
Model:	8035.06
Type:	4-stroke Diesel engine, direct injection, water cooled
Serial N°:	000009

Cylinders: 3, in line, bore 100 mm, stroke 115 mm, capacity 2710 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 163/1, serial n° 00417, injection timing 6° ± 1° before TDC; optionally CAV rotating plunger pump model DPS DSA 583;
manufacturer's production setting 49 ± 2 mm^3/stroke (in total 11.0 ± 0.5 l/h) at rated engine speed and full load;
BOSCH multihole injection nozzles model DLLA 124 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) 10 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: 2320 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 speed 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 55-66 DT/20);
totally 20 forward and 8 reverse speeds selected by means of 3 hand levers at model 55-66 DT/20;
totally 12 forward and 4 reverse speeds selected by means of 2 hand levers at model 55-66 DT/12

Rear axle and final drives: own make;
bevel gear drive (ratio 1:4.778);
spur gear final drive (ratio 1:5.636);
differential lock, pedal operated, self disengaged

Front axle and final drives: own make;
mechanical type with crown wheel and pinion (ratio 1:4.222);
differential lock, pedal operated, self disengaged (optionally no-spin differential);
epycicloidal final drives (ratio 1:4.600)

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: 7.8 l;
capacity front axle: 4.3 l;
capacity final front drives: 1.6 l;
recommended oil change period: 1600 hrs;
recommended oil: OLIO FIAT TUTELA MULTI F, SAE classification 20 W/40

Total ratios and speed (tyres 12.4 R 32)

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 +	2025.24	0.30
	2 +	1314.46	0.46
	3 +	1073.48	0.56
	4 +	674.76	0.89
Medium (crawling speeds) SRM	1 +	867.10	0,70
	2 +	562.78	1.07
	3 +	459.61	1.31
	4 +	288.89	2.09
Low L	1	366.66	1.65
	2	237.98	2.53
	3	194.35	3.10
	4	122.16	4.94
Medium M	1	156.98	3.84
	2	101.89	5.92
	3	83.21	7.25
	4	52.30	11.53
High H	1	66.68	9.05
	2	43.28	13.94
	3	35.34	17.07
	4	22.22	27.15
Reverse (crawling speeds) RL	1 +	783.56	0.77
	2 +	508.56	1.19
	3 +	415.32	1.45
	4 +	261.06	2.31
Reverse R	1	141.86	4.25
	2	92.07	6.55
	3	75.19	8.02
	4	47.26	12.76

* Calculed with radius index: 640 mm

+ Only at type 55-66 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, 625 mm above ground (with tyres: at front 8.3 R 24, at rear 12.4 R 32)

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 336 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 304 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: 12.4 R 32, radius index 640 mm;
travelling distance for one revolution of p.t.o. shaft 0.490 m with 540 p.t.o. and 0.285 m with 1000 p.t.o.;
No. of p.t.o. shaft revolution for one revolution of the rear wheels: 8.2 with 540 p.t.o. and 14.1 with 1000 p.t.o.;
direction of rotation clockwise, viewed from tractor rear

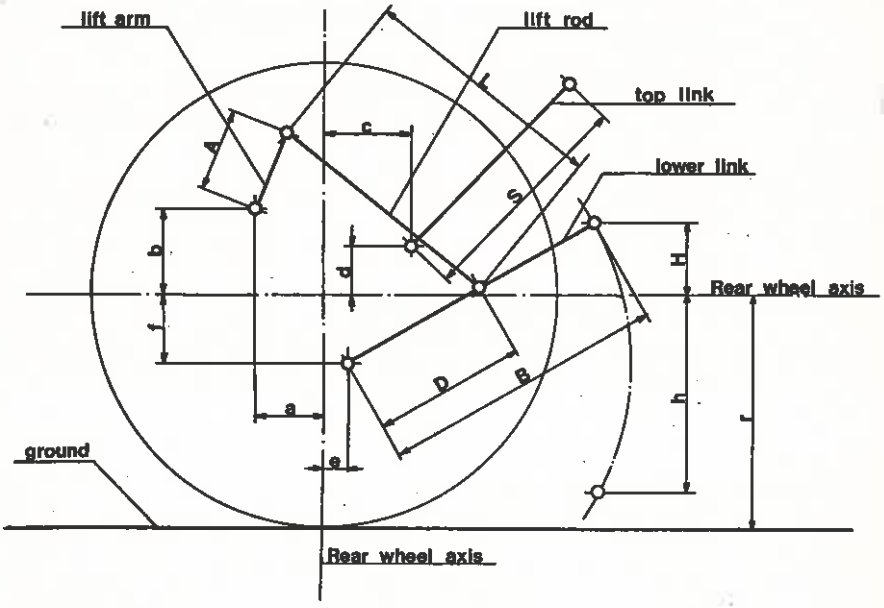
POWER LIFT

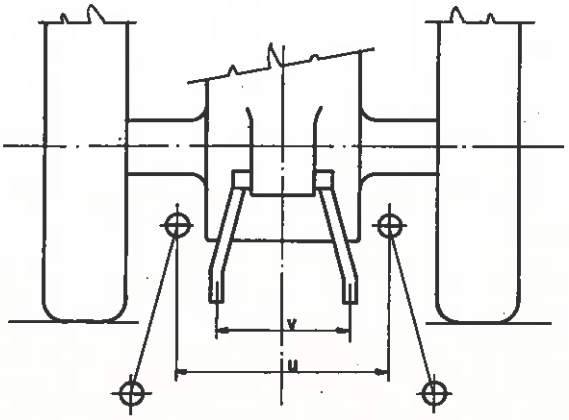
Own make;
hydraulic power lift in unit construction;
FIAT type A 31 gear pump with 32.8 l/min delivery;
driven by crankshaft with gear connection;
cartridge replaceable filter;
one single acting cylinder with bore 100 mm and stroke 128 mm;
over pressure (safety) valve setting 21.0 MPa;
hydraulic linkage 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 12.4 R 32)	radius index	(r)	640
Front tyres (size 8.3 R 24)	radius index	(r')	470
Length of lift arms		(A)	255
Length of lower links		(B)	900
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)	648 to 910, 770
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)	71
	vertically	(f)	205
Distance of lower link pivot points to lift rod pivot points on lower links		(D)	428 or 504
Length of lift rods		(L)	466 to 603, 535

Heigth of lower link hitch points relative to rear axle centre line (situated 640 mm above ground) in mm

These data are valid for unloaded power lift

	Lift rod length L		
	466 mm	535 mm	603 mm
Lowest position (h)	67 mm	230 mm	396 mm
Highest position (H)	449 mm	295 mm	154 mm
Transport position (H')	449 mm	295 mm	154 mm

SWINGING DRAWBAR

Cat. A (in accordance with italian regulation);
height above ground (tyre size 12.4 R 32) 2 positions min 350 mm, max 460 mm;
distance of hitch point from rear wheel centre line: horizontally at rear 770 mm;
distance of hitch point from p.t.o. shaft end:
vertically, below min 168 mm
max 278 mm
horizontally, rear 540 rev/min p.t.o. 435 mm
1000 rev/min p.t.o. 467 mm
lateral adjustement (centre of clevis: right of left hand): 252 mm
distance of pivot point from rear axle axis, horizontally at rear: 144 mm;
diameter drawbar pin hole: 29 mm

TRAILER HITCH

Cat. C (in accordance with italian regulation);
height above ground, 3 positions: 405 - 505 - 605 mm;
distance of hitch point from rear axle axis horizontally at rear: 576 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. 240 mm
1000 rev/min p.t.o. 272 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 48 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, 6 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 8.3 R 24, 8 ply;
max permissible load on each tyre 930 daN at 310 kPa;
track width 1440 mm, adjustable by turning rims and lugs of 100 mm to 1940 mm;
rims W 8 - 24"

DRIVING WHEELS

Two radial pneumatics at rear 12.4 R 32, 6 ply;
max permissible load on each tyre 1380 daN at 170 kPa;
track width 1430 mm, adjustable by turning rims and lugs in steps of 100 mm to 1930 mm;
rims W 11 - 32"

WHEELBASE 2120 mm

PROTECTIVE STRUCTURE

FIAT TS 24 frame at 4 steel bars with canopy;
approval O.E.C.D. n° CSD 0746/64 (for model 55-66 DT/20) and O.E.C.D. n° CSD 0746/65 (for model 55-66 DT/12);
fitted tractor with 4x2 M16 tie rods at rear axle;
drive footplate 720 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 8.3 R 24, at rear 12.4 R 32)

Total lenght:	3600 mm	without ballast
	3900 mm	with ballast
total max width:	2250 mm	with and without ballast
total height:	2370 mm	to canopy top
	2320 mm	to top of exhaust mouth
ground clearance:	310 mm	below trailer hitch in lowest position

LIGHTING angle of light in accordance with italian regulation

	Height above ground of centre with tyres 12.4 R 32 mm	Size mm	Distance from outside edge of tractor to center at 1530 mm track width mm
Head lights	1050	120 x 180	747
Side lights	1450	60 x 75	180
Rear lights	1440	60 x 120	223
Reflectors	1200	55 x 90	117

AVAILABLE TYRES

Tyre size	
at front	at rear
11.2 R 20, 8 ply	14.9 R 28, 6 ply
8.00 R 20, 6 ply	13.6 R 28, 6 ply

TEST CONDITIONS

Track of wheels at front 1440 mm
at rear 1530 mm

Tractor mass as used for drawbar performance test

Without ballast:	without driver	with driver
front	940 kg	960 kg
rear	1535 kg	1590 kg
total	2475 kg	2550 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	1440 kg	1460 kg
rear	1745 kg	1800 kg
total	3185 kg	3260 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: 6th 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						
37.4	2500	1050	11.45	9.62	257	3.27
At standard p.t.o. speed						
37.2	2386	1002	11.25	9.45	254	3.31
At rated engine speed						
37.4	2500	1050	11.45	9.62	257	3.27
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						
33.2	2607	1095	10.54	8.85	267	3.15
(ii) unloaded						
--	2743	1152	4.02	3.38	--	--
(iii) 50% of the load defined in (i)						
17.0	2671	1122	6.79	5.70	335	2.51
(iv) maximum power						
37.4	2500	1050	11.45	9.62	257	3.27
(v) 25% of the load defined in (i)						
8.6	2710	1138	5.10	4.28	498	1.68
(vi) 75% of the load defined in (i)						
25.2	2638	1108	8.75	7.35	292	2.88

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
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						
32.9	2486	1044	10.18	8.55	260	3.23
(ii) unloaded						
--	2624	1102	3.75	3.15	--	--
(iii) 50% of the load defined in (i)						
16.5	2541	1067	6.43	5.40	327	2.57
(iv) maximum power						
37.0	2383	1001	11.13	9.35	253	3.32
(v) 25% of the load defined in (i)						
8.5	2588	1087	4.55	3.82	449	1.87
(iv) 75% of the load defined in (i)						
24.6	2507	1053	8.05	6,75	274	3.07

Standard specific fuel consumption (g/kWh): 267 - 335 - 260 - 327

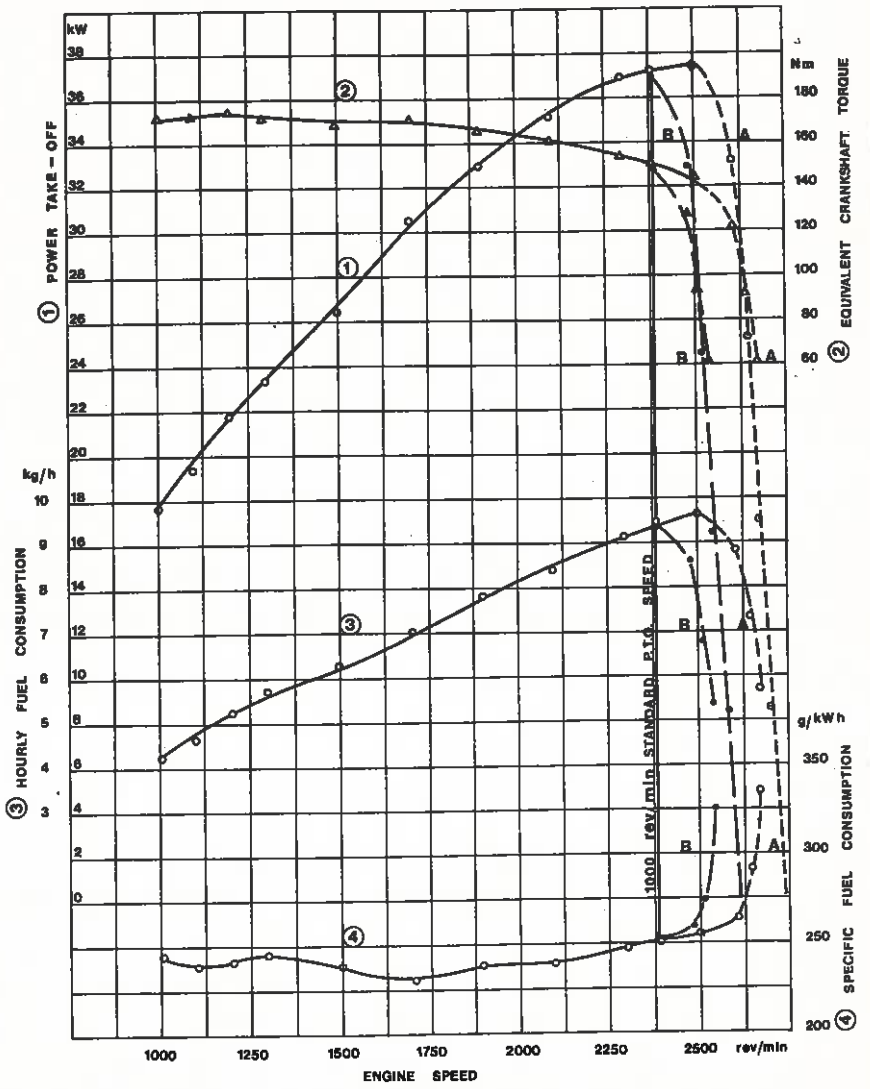
load maximum engine speed: 2743 rev/min
equivalent crankshaft torque ad maximum power (2 hours): 142.9 Nm
Maximum equivalent crankshaft torque: 174 Nm at 1200 rev/min of the engine

Mean atmospheric conditions:	temperature	25 °C
	pressure	1022 mbar
	relative humidity	54 %
Maximum temperatures:	coolant	81 °C
	engine oil	108 °C
	fuel	24 °C
	engine air intake	26 °C

POWER TAKE-OFF TEST

Date and location of test: 6th September 1983
Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano

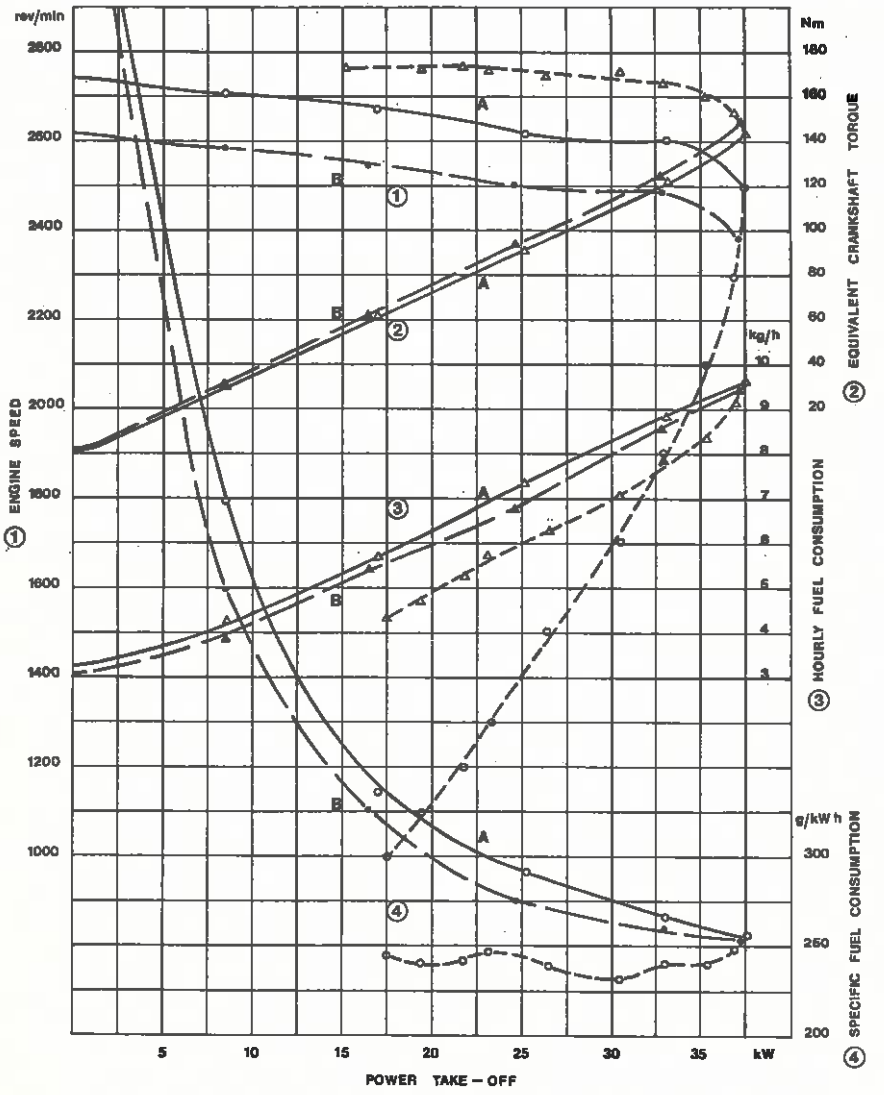
Motor: FIAT 8035.06



POWER TAKE-OFF TEST

Date and location of test: 6th September 1983
Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano

Motor: FIAT 8035.06



(2) **DRAWBAR PERFORMANCE**

Date of tests: 7th - 12nd September 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 500 mm					
3 SRM	1.22	7.3	2160	2720	14.6
1 L	1.52	9.2	2170	2710	14.8
4 SRM	1.93	11.6	2160	2700	14.5
2 L	2.30	13.9	2180	2670	15.0
3 L	2.80	16.8	2160	2650	14.7
1 M	3.45	20.9	2180	2640	14.9
4 L	4.38	26.3	2160	2600	14.7
2 M	5.15	29.8	2080	2490	12.6
3 M	6.65	30.5	1650	2500	8.3
1 H	8.42	31.3	1340	2490	6.6
4 M	11.06	32.9	1070	2510	4.5
2 H	13.51	32.6	870	2500	3.1
3 H	16.69	31.5	680	2500	2.2
(ii) MAXIMUM POWER (ballasted) - Height of drawbar above ground 500 mm					
1 SRL	0.28	2.1	2740	2730	14.8
2 SRL	0.43	3.3	2750	2730	14.6
3 SRL	0.52	4.0	2760	2720	15.1
1 SRM	0.65	5.0	2760	2720	14.7
4 SRL	0.82	6.3	2770	2720	15.1
2 SRM	0.99	7.6	2770	2710	14.7
3 SRM	1.21	9.3	2770	2710	15.1
1 L	1.52	11.7	2760	2700	14.7
4 SRM	1.90	14.6	2770	2680	15.1
2 L	2.28	17.6	2780	2650	15.0
3 L	2.78	21.5	2780	2630	14.9
1 M	3.42	26.2	2760	2600	14.7
4 L	4.40	28.7	2350	2490	10.5
2 M	5.47	30.5	2010	2500	7.6
3 M	6.85	31.4	1650	2490	5.2
1 H	8.69	32.1	1330	2500	4.0
4 M	11.23	32.1	1030	2510	3.0
2 H	13.62	31.8	840	2500	2.3
3 H	16.71	31.1	670	2490	1.7
(iii) FIVE-HOUR-TEST at 75% of pull at maximum power					
3 M	7.30	25.1	1240	2550	5.8
(iv) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii)					
1 M	3.64	28.3	2800	2520	--

Total oil consumption during ten hours duration of tests (iii) and (iv): 22 g/h

Tyre size front: 8.3 R 24 8 ply PIRELLI
rear: 12.4 R 32 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: 250 kPa at front; 150 kPa at rear							
—	—	18	78	70	21	60	1016
471	1.78	18	78	72	21	60	1016
390	2.15	18	78	74	21	60	1016
405	2.07	18	78	78	21	62	1016
357	2.35	18	78	84	21	62	1016
360	2.33	19	78	88	21	63	1016
328	2.56	19	78	90	21	63	1016
305	2.75	19	80	92	21	64	1016
298	2.81	19	80	93	21	65	1016
295	2.84	19	80	94	21	66	1016
293	2.87	19	80	95	21	66	1016
285	2.95	19	80	95	21	67	1016
295	2.85	19	80	95	21	67	1016
Tyre inflation pressure: 310 kPa at front; 170 kPa at rear							
—	—	19	76	80	22	55	1018
—	—	19	76	80	22	55	1018
—	—	19	77	81	22	54	1018
—	—	20	77	81	22	54	1018
—	—	20	77	82	22	55	1018
—	—	20	77	82	22	55	1018
—	—	20	77	82	23	55	1018
380	2.21	20	77	84	23	55	1018
370	2.27	20	77	84	23	55	1018
330	2.55	20	77	82	23	55	1018
308	2.73	20	77	84	23	55	1018
308	2.73	21	77	84	23	55	1018
307	2.74	21	78	84	24	56	1018
306	2.75	21	78	86	24	56	1018
297	2.82	21	78	88	24	56	1018
300	2.80	21	78	80	24	56	1018
295	2.85	21	78	94	24	56	1018
303	2.77	21	80	94	24	56	1018
305	2.75	21	80	94	24	56	1018
307	2.74	17	76	90	18	52	1015
—	—	16	76	93	18	62	1015

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: 8.3 R 24, 8 ply
rear: 12.4 R 32, 6 ply

Track of wheels — front: 1440 mm
rear: 1530 mm

	With brakes		Without brakes	
	left-hand	right-hand	left-hand	right-hand
Radius of turning space, m	3.75	3.75	5.45	5.30
Radius of turning circle, m	3.65	3.65	5.35	5.20

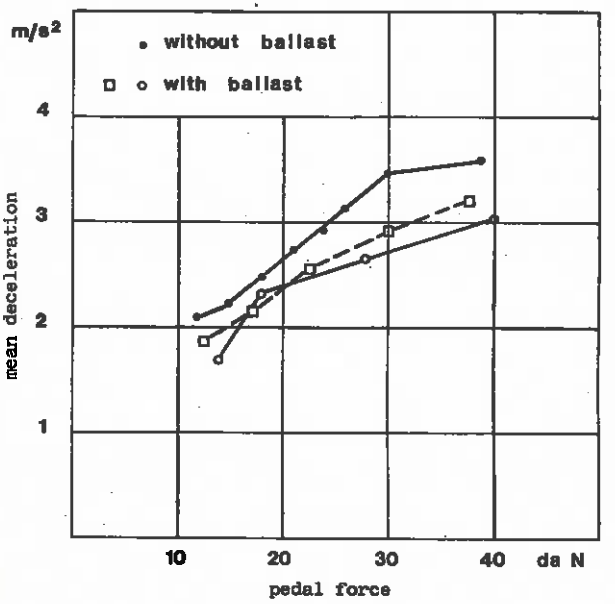
(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	785 mm
Distance forward from rear axle centre	798 mm
Distance from tractor's median plane	0 mm

(5) BRAKING (front wheels drive disengaged)
Date of tests: 13rd September 1983

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	960	1590	2550
with ballast	1460	1800	3260

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



Speed before application of brakes: without ballast 29.3 km/h
with ballast 29.0 km/h
The brakes were heated by towing of the tractor for 1 km
Maximum deviation of tractor from its original course: 0 mm
Abnormal vibration: none

B) Parking brake

	Ballasted tractor on 18%-slope		Unballasted tractor on 12%-slope with trailer of 2550 kg	
	up	down	up	down
Braking device control force daN	12	13	16	18

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

Date of test: 23rd September 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: 22.0 km/h
Sound level: 86.0 dB(A)

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

Date of tests: 14 th September 1983
Type of track: concrete
Type of sound level meter: BRÜEL AND KJAER model 2209
with FIAT safety frame type TS 24

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	1700	1.65	1.60	97.0
2 L	2100	2.53	2.30	97.0
3 L	2150	3.10	2.80	97.0
1 M	2100	3.84	3.47	97.0
4 L	2000	4.94	4.45	97.0
2 M	1850	5.92	5.25	97.5
3 M	1600	7.25	6.70	97.5
3 M	light load	7.25	7.80	96.0
1 H	1200	9.05	8.40	97.0
4 M	1050	11.53	11.05	96.0
2 H	800	13.94	13.60	96.5
3 H	600	17.07	16.70	97.0
4 H	250	27.15	26.80	96.5
4 H	light load	27.15	29.30	97.5

(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	410	525	2020	15.8	1961	—
On the frame	410	625	1500	15.8	2371	11°50'

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

Lifting heights relative to horizontal lower links

mm	- 25	0	+ 100	+ 200	+ 300	+ 400	+ 500	+ 600	—	—

Lifting forces at hitch points

daN	2380	2320	2260	2200	2140	2050	2020	—	—	—

Lifting forces at test frame

daN	2120	2070	1960	1850	1790	1660	1580	1500	—	—

Hydraulic power test

Sustained pressure with relief valve open 17.5 MPa
Pump delivery rate at minimum pressure 33.0 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	31.4 l/min
Pressure	15.8 MPa
Power	8.3 kW

Flow rate and hydraulic pressure corresponding to maximum hydraulic power:

Flow rate	30.0 l/min
Pressure	17.4 MPa
Power	8.7 kW

REMARKS AND REPAIR None

Bologna, May 1985

TEST ENGINEER
Prof .Dr. G. Capelli

HEAD OF TRACTOR TEST CENTER
Prof. Dr. G. Casini-Ropa

DIRECTOR OF ISTITUTO DI
MECCANICA AGRARIA
UNIVERSITA' DI BOLOGNA
(IMAUBo)
Prof. Ing. E. Manfredi