COMITATO PER L'OMOLOGAZIONE
DELLE MACCHINE AGRICOLE

O.E.C.D. No. 972

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

FIAT 70–66



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: October 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.972

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 70-66 has been tested in two variants:

1) As model FIAT 70-66/20 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 70-66/12 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
Duration of running-in:	Engine and tractor appr. 50 hours

SPECIFICATION OF TRACTOR

TRACTOR

Make:	FIAT TRATTORI S.p.A.
Trade name:	FIAT 70-66
Model:	70-66/20 and 70-66/12
Type:	wheeled tractor, rear wheel driven, unit construction
Serial N°:	391564
1st serial N°:	390001

ENGINE

Make:	FIAT
Model:	8045.06
Type:	4-stroke Diesel engine, direct injection, water cooled
Serial N°:	000016

Cylinders: 4, in line, bore 100 mm, stroke 115 mm, capacity 3613 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;
CAV rotating plunger pump model DPS DSA 590 serial n° 125102, injection timing 0° ± 1° before TDC; optionally BOSCH rotating plunger pump model VE L 164/1;
manufacturer's production setting 51 ± 1 mm^3/stroke (in total 15.3 ± 0.3 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: CAV centrifugal variable speed governor; optionally BOSCH 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: 2430 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 70-66/20);
totally 20 forward and 8 reverse speeds selected by means of 3 hand levers at model 70-66/20;
totally 12 forward and 4 reverse speeds selected by means of 2 hand levers at model 70-66/12;

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

Front axle: own make;
agricultural type with hydrostatic steering trak adjustable by telescopic axles

Transmission oils: capacity gear box, rear axle, power lift (commons): 40.0 l;
recommended oil change period: 1600 hrs;
type of oil filter: paper cartridge;
recommended filter change period: 400 hrs;
capacity final drives: 10.6 l;
recommended oil change period: 1600 hrs;
recommended oil: OLIO FIAT TUTELA MULTI F, SAE classification 20 W/40

Total ratios and speed (tyres 18.4 R 30)

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	0.31
	2 +	1420.47	0.48
	3 +	1160.05	0.58
	4 +	729.17	0.93
Medium (crawling speeds) SRM	1 +	937.03	0,72
	2 +	608.17	1.12
	3 +	496.67	1.37
	4 +	312.19	2.17
Low L	1	396.23	1.71
	2	257.17	2.64
	3	210.02	3,23
	4	132.01	5.14
Medium M	1	169.64	4.00
	2	110.10	6.16
	3	89.92	7.55
	4	56.52	12.01
High H	1	72.06	9.42
	2	46.77	14.51
	3	38.19	17.77
	4	24.01	28.26
Reverse (crawling speeds) RL	1 +	846.75	0.80
	2 +	549.57	1.23
	3 +	448.82	1.51
	4 +	282.11	2.41
Reverse R	1	153.30	4.43
	2	99.48	6.82
	3	81.26	8.35
	4	51.07	13.29

* Calculed with radius index: 720 mm

\+ Only at type 70-66/20

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, 705 mm above ground;
(with tyres: at front 7.50-18, at rear 18.4 R 30)

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: 18.4 R 30, radius index 720 mm;
travelling distance for one revolution of p.t.o. shaft 0.508 m with 540 p.t.o. and 0.296 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 clockwise, viewed from tractor rear

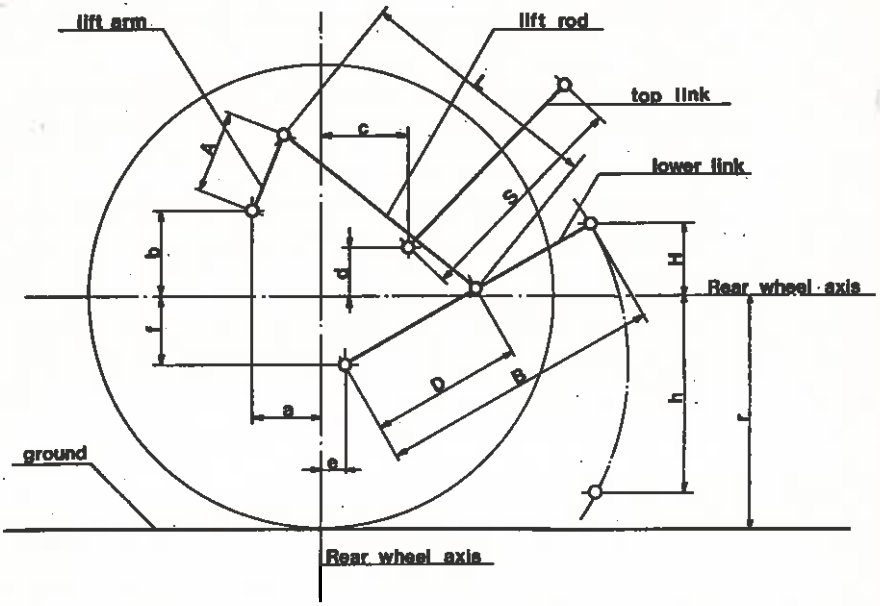
POWER LIFT

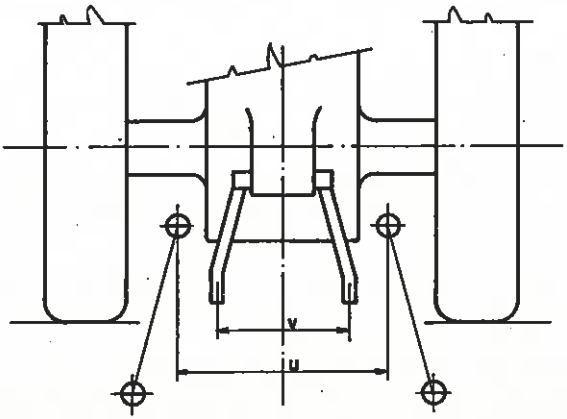
Own make;
hydraulic power lift in unit construction;
FIAT type A 31 gear pump with 32.8 l/min delivery;
driven by crankshaft with gear connection;
cartridge replaceable filter;
one single acting cylinder with bore 110 mm and stroke 128 mm;
over pressure (safety) valve setting 21.0 MPa;
hydraulic linkage 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) 40.0 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 18.4 R 30)	radius index	(r)	720
Front tyres (size 7.50-18)	radius index	(r')	405
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 720 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 18.4 R 30) 2 positions min 425 mm, max 535 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: 485 - 585 - 685 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. 265 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 215 mm;
working pressure 10.0 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 WHEELS
Two diagonal pneumatics at front 7.50-18, 8 ply;
max permissible load on each tyre 835 daN at 300 kPa;
track width 1420 mm, adjustable by telescopic axles in steps of 100 mm to 1920 mm;
rims 5.50 F - 18"

DRIVING WHEELS
Two radial pneumatics at rear 18.4 R 30, 6 ply;
max permissible load on each tyre 1875 daN at 100 kPa;
track width 1500 mm, adjustable by turning rims and lugs in steps of 100 mm to 2000 mm;
rims W 14 L - 30"

WHEELBASE 2310 mm

PROTECTIVE STRUCTURE
FIAT TS 25 frame at 4 steel bars with canopy;
approval O.E.C.D. n° CSD 0747/45 (for model 70-66/20) and O.E.C.D. n° CSD 0747/46 (for model 70-66/12);
optionally FIAT TS 24 frame at 4 steel bars with canopy;
approval O.E.C.D. n° CSD 0746/53 (for model 70-66/20) and O.E.C.D. n° CSD 0746/54 (for model 70-66/12);
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 9

DIMENSIONS (with tyres: at front 7.50-18, at rear 18.4 R 30)

Total lenght:	3770 mm	without ballast
	4080 mm	with ballast
total max width:	2430 mm	with and without ballast
total height:	2550 mm	to canopy top
	2430 mm	to top of exhaust mouth
ground clearance:	400 mm	below trailer hitch in lowest position

LIGHTING angle of light in accordance with italian regulation

	Height above ground of centre with tyres 18.4 R 30 mm	Size mm	Distance from outside edge of tractor to center at 1500 mm track width mm
Head lights	1100	120 x 180	790
Side lights	1610	60 x 75	303
Rear lights	1610	60 x 120	280
Reflectors	1370	55 x 90	165

AVAILABLE TYRES

Tyre size	
at front	at rear
7.50 - 16, 8 ply	13.6 R 36, 6 ply 14.9 R 30, 6 ply 16.9 R 30, 6 ply
7.50 - 20, 6 ply	16.9 R 34, 8 ply 13.6 R 38, 6 ply

TEST CONDITIONS

Track of wheels at front 1420 mm
at rear 1500 mm

Tractor mass as used for drawbar performance test

		without driver	with driver
Without ballast:	front	830 kg	850 kg
	rear	1785 kg	1840 kg
	total	2615 kg	2690 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	1320 kg	1340 kg
	rear	2005 kg	2060 kg
	total	3325 kg	3400 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 axle, 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: 1st October 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						
47.8	2502	1051	14,75	12.39	259	3.24
At standard p.t.o. speed						
46.7	2400	1008	14.01	11.77	252	3.33
At rated engine speed						
47.8	2502	1051	14,75	12.39	259	3.24
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						
42.3	2611	1097	13.13	11.03	261	3.22
(ii) unloaded						
—	2729	1146	5.00	4.20	—	—
(iii) 50% of the load defined in (i)						
21.8	2676	1124	8.49	7.13	327	2.57
(iv) maximum power						
47.8	2502	1051	14,75	12.39	259	3.24
(v) 25% of the load defined in (i)						
11.0	2707	1137	6.34	5.33	485	1.73
(vi) 75% of the load defined in (i)						
32.1	2638	1108	10.71	9.00	280	3.00

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						
40.3	2436	1023	12.32	10.35	257	3.27
(ii) unloaded						
--	2600	1092	4.46	3.75	--	--
(iii) 50% of the load defined in (i)						
20.8	2521	1059	7.77	6.53	314	2.68
(iv) maximum power						
46.4	2386	1002	13.94	11.85	255	3.33
(v) 25% of the load defined in (i)						
10.6	2557	1074	5.81	4.88	460	1.83
(iv) 75% of the load defined in (i)						
30.7	2469	1037	10.00	8.40	274	3.07

Standard specific fuel consumption (g/kWh): 261 - 327 - 257 - 314

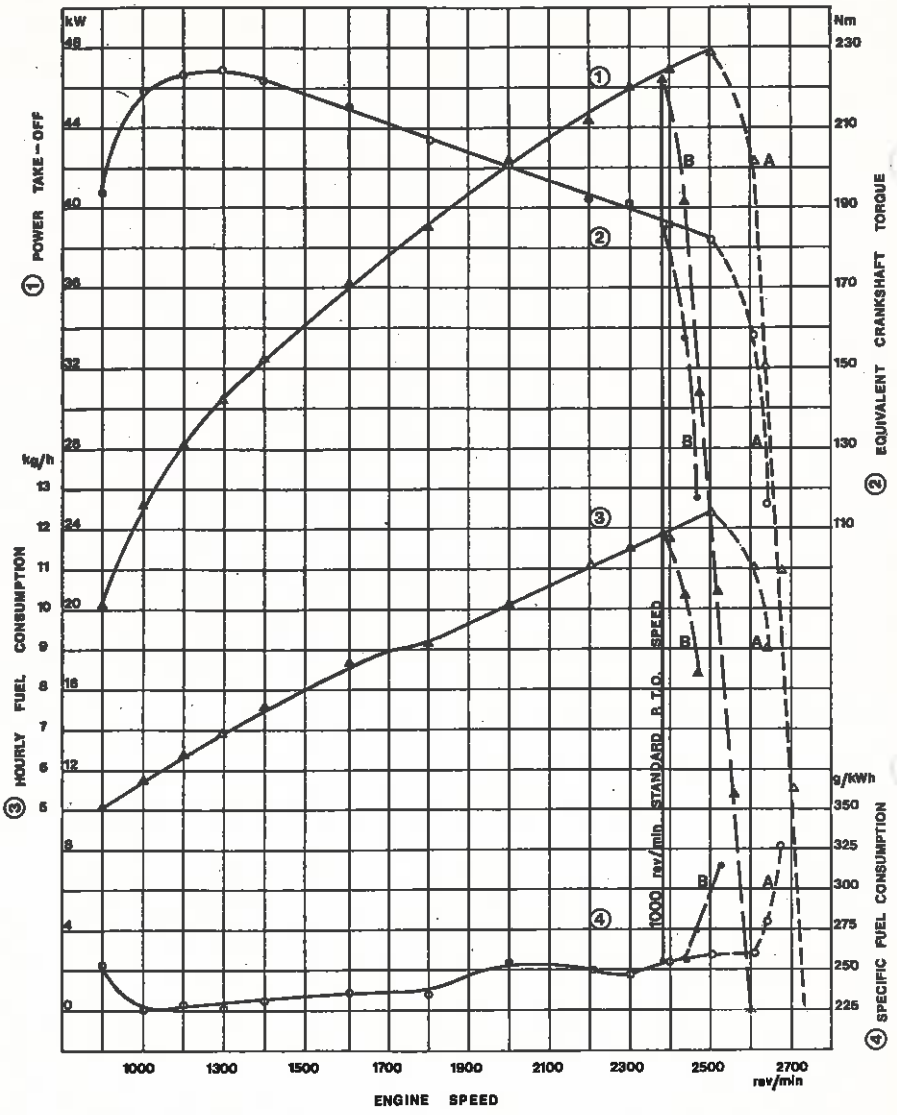
o load maximum engine speed: 2729 rev/min
Equivalent crankshaft torque ad maximum power (2 hours): 182 Nm
Maximum equivalent crankshaft torque: 224 Nm at 1298 rev/min of the engine

Mean atmospheric conditions:	temperature	20 °C
	pressure	1023 mbar
	relative humidity	53 %
Maximum temperatures:	coolant	86 °C
	engine oil	116 °C
	fuel	18 °C
	engine air intake	24 °C

POWER TAKE-OFF TEST

Date and location of test: 1st October 1983
Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano

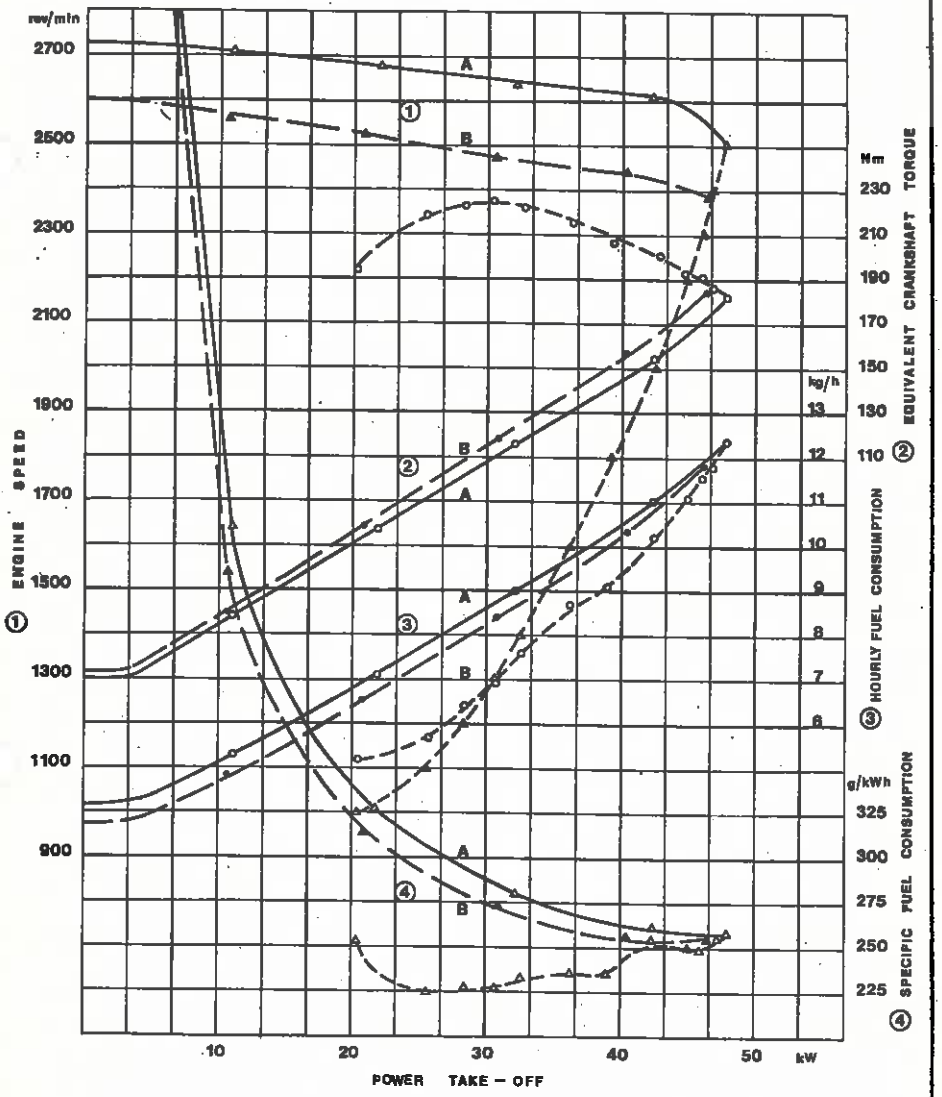
Motor: FIAT 8045.06



POWER TAKE-OFF TEST

Date and location of test: 1st October 1983
Istituto di Meccanica agraria - Università di Bologna (IMAUBo) - Cadriano

Motor: FIAT 8045.06



(2) **DRAWBAR PERFORMANCE**

Date of tests: 13rd till 19th 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 490 mm					
3 SRM	1.26	6.5	1850	2700	14.7
1 L	1.56	8.1	1860	2690	15.0
4 SRM	1.97	10.2	1870	2680	15.1
2 L	2.41	12.6	1880	2680	14.8
3 L	2.94	15.4	1880	2670	14.9
1 M	3.63	18.9	1870	2660	14.8
4 L	4.61	23.9	1870	2640	15.0
2 M	5.49	28.4	1860	2620	14.9
3 M	6.66	34.4	1860	2590	14.8
1 H	8.15	40.8	1800	2500	13.5
4 M	10.90	43.0	1420	2490	8.8
2 H	13.58	43.4	1150	2500	6.4
3 H	16.95	43.3	920	2500	4.6
(ii) MAXIMUM POWER (ballasted) - Height of drawbar above ground 490 mm					
1 SRL	0.29	1.7	2100	2720	15.1
2 SRL	0.44	2.6	2100	2720	14.9
3 SRL	0.54	3.2	2100	2710	14.7
1 SRM	0.66	3.9	2120	2710	15.2
4 SRL	0.86	5.1	2120	2710	15.0
2 SRM	1.03	6.1	2130	2700	15.1
3 SRM	1.26	7.5	2130	2700	14.8
1 L	1.57	9.3	2130	2690	14.9
4 SRM	1.98	11.8	2140	2690	15.2
2 L	2.41	14.3	2140	2680	14.8
3 L	2.93	17.5	2150	2670	15.0
1 M	3.61	21.6	2150	2650	14.8
4 L	4.58	27.2	2140	2620	14.9
2 M	5.46	32.5	2140	2600	14.8
3 M	6.49	38.4	2130	2530	15.0
1 H	8.27	41.1	1790	2500	12.2
4 M	11.11	43.2	1400	2500	7.5
2 H	13.64	43.2	1140	2500	6.0
3 H	17.10	42.7	900	2490	3.4
(iii) FIVE-HOUR-TEST at 75% of pull at maximum power					
1 H	9.13	34.5	1360	2600	6.8
(iv) FIVE-HOUR-TEST at pull corresponding to 15% wheel slip in test (ii)					
3 M	7.12	42.3	2140	2510	--

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

Tyre size front: 7.50-18 8 ply MICHELIN
rear: 18.4 R 30 6 ply MICHELIN
Tread bar height at the beginning of drawbar tests: 98% at front, 95% 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: 300 kPa at front; 100 kPa at rear							
--	--	14	76	92	15	57	1025
670	1.25	14	76	92	15	57	1025
607	1.38	14	76	92	15	55	1025
512	1.64	14	76	94	16	55	1025
462	1.82	14	76	94	16	55	1025
403	2.08	14	76	96	16	55	1025
372	2.26	15	77	97	17	55	1025
348	2.41	15	77	97	17	54	1025
340	2.47	15	78	98	17	53	1025
300	2.80	15	78	98	17	53	1025
289	2.91	15	78	99	17	52	1025
285	2.95	15	78	99	17	52	1025
286	2.94	15	78	99	17	52	1025
Tyre inflation pressure: 300 kPa at front; 100 kPa at rear							
--	--	13	76	91	14	64	1021
--	--	13	75	91	14	64	1021
--	--	13	76	91	14	64	1021
--	--	13	76	91	14	62	1021
--	--	13	77	92	14	62	1021
--	--	13	76	92	14	62	1021
--	--	13	76	92	14	62	1021
585	1.44	13	76	92	14	62	1021
504	1.67	13	76	92	14	62	1021
465	1.81	13	76	92	14	62	1021
408	2.06	13	76	94	15	61	1021
385	2.18	13	76	96	15	61	1021
349	2.41	13	77	97	15	61	1021
338	2.53	13	76	98	15	62	1021
308	2.73	14	78	98	15	61	1021
291	2.89	14	78	98	15	61	1021
286	2.94	14	78	99	15	60	1021
282	2.98	14	78	99	15	60	1021
284	2.96	14	78	99	15	60	1021
316	2.66	14	78	107	15	58	1018
--	--	14	78	108	15	60	1018

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

(3) TURNING SPACE AND TURNING CIRCLE

Wheel equipment	front:	7.50-18, 8 ply
	rear:	18.4 R 30, 6 ply
Track of wheels	front:	1420 mm
	rear:	1500 mm

	With brakes		Without brakes	
	left-hand	right-hand	left-hand	right-hand
Radius of turning space, m	3.45	3.50	3.84	3.86
Radius of turning circle, m	3.57	3.62	3.96	3.98

(4) LOCATION OF CENTRE OF GRAVITY

Height above ground	880 mm
Distance forward from rear axle centre	730 mm
Distance from tractor's median plane, to the right	5 mm

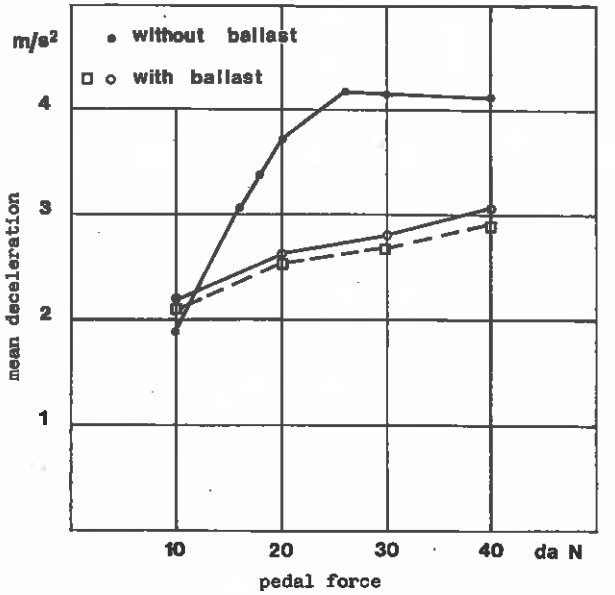
(5) BRAKING

Date of tests: 3rd November 1983

Tractor masses during tests with driver:	front kg	rear kg	total kg
without ballast	850	1840	2690
with ballast	1340	2060	3400

A) Service brake

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



Speed before application of brakes: without ballast 31.7 km/h
with ballast 31.6 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 2700 kg	
	up	down	up	down
Braking device control force daN	23	25	28	30

(6) MEASUREMENTS OF EXTERNAL NOISE LEVEL

Date of test: 4th October 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: 85.5 dB(A)

(7) NOISE MEASUREMENT AT THE DRIVER'S EAR

Date of tests: 14th October 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	1800	1.71	1.58	95.5
2 L	1750	2.64	2.43	95.5
3 L	1800	3.23	2.96	96.0
1 M	1900	4.00	3.61	96.0
4 L	1900	5.14	4.60	96.5
2 M	1890	6.10	5.47	96.5
3 M	1870	7.55	6.63	97.5
3 M	light load	7.55	7.84	95.5
1 H	1750	9.42	8.28	97.5
4 M	1300	12.01	11.22	97.5
2 H	1100	14.51	13.78	97.0
3 H	900	17.77	17.00	97.0
4 H	480	28.26	27.82	97.0
4 H	light load	28.26	29.30	95.0

(8) POWER LIFT TEST AND HYDRAULIC POWER TEST

Date of tests: 4th 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	435	545	2100	15.8	2090	--
On the frame	440	620	1670	15.8	2680	9°

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

Lifting heights relative to horizontal lower links

mm	- 80	- 75	0	+ 100	+ 200	+ 300	+ 400	+ 465	+ 500	+ 545

Lifting forces at hitch points

daN	2590	—	2520	2440	2340	2230	2180	2100	—	—

Lifting forces at test frame

daN	—	2320	2200	2090	1990	1880	1850	—	1690	1670

Hydraulic power test

Sustained pressure with relief valve open		17.5 MPa
Pump delivery rate at minimum pressure		31.6 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	30.9 l/min
	Pressure	15.8 MPa
	Power	8.1 kW
Flow rate and hydraulic pressure corresponding to maximum hydraulic power:		
	Flow rate	30.5 l/min
	Pressure	16.8 MPa
	Power	8.5 kW

Tapping point used for test: at rear of tractor

REMARKS AND REPAIR None

Bologna, July 1985

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