CONSIGLIO NAZIONALE DELLE RICERCHE
ISTITUTO PER LA MECCANIZZAZIONE AGRICOLA
Strada delle Cacce, 73 - 10135 TORINO (Italia)

Report No. 1633/T/1992

TEST IN ACCORDANCE WITH THE OECD FULL CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

TRACTOR: Make: FIAT
Model: 39-66/12/I
Type: 2 WD



Manufactured by: FIATGEOTECH S.p.A. - MODENA (Italy)

Date and location of tests: July - October 1992 - Turin (Italy)

This report has been approved by the O.E.C.D. Co-ordinating Center (CEMAGREF, France) as being in accordance with the O.E.C.D. Tractor Test Code.

Number and date of approval: 1418 - 28th December 1992

This bulletin is based on engineering tests in accordance with O.E.C.D. Tractor Code.
It does not contain an evaluation of performance of the tractor on pratical farm work.

The FIAT 39-66 tractor is manufactured in following variants:

1. 39-66/12 model with 12 forward and 4 reverse speeds (4x4 gear units)

2. 39-66/12/I model with 12 forward and 12 reverse speeds (4x3x2 gear units)

3. 39-66/20 model with 20 forward and 8 reverse speeds (4x4 + 3x4 gear units)

Tests have been carried out on FIAT 39-66/12/I

In this report all performance characteristics are given corresponding to the International System of Units.

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Tractor manufacturer's name and address:	FIATGEOTECH S.p.a. Viale delle Nazioni, 55 MODENA - Italy
Submitted for test by:	Manufacturer
Selected by:	Manufacturer with agreement by Istituto per la Meccanizzazione Agricola - Torino (Italy)
Place of running-in:	FIATGEOTECH - San Matteo - MODENA (Italy)
Duration of running-in:	Engine and tractor appr. 70 hours
Location of test:	Istituto per la Meccanizzazione Agricola - Torino (Italy)

SPECIFICATION OF TRACTOR

TRACTOR

Make:	FIAT
Model:	39-66/12/I
Type:	Wheel tractor unit construction, two wheel driven
Serial No.:	211016
1st serial No.:	211001

ENGINE

Make:	FIAT
Model:	8035.06
Type:	4-stroke Diesel engine, direct injection, water cooled, naturally aspirated
Serial No.:	598105
Cylinders:	3 cylinders, vertical, in-line, 100 mm bore x 115 mm stroke, capacity 2710 cm^3 compression ratio 17 : 1, overhead in-line valves, replaceable cast-iron 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 one CAV filter with replaceable cartridge and sediment bowls on pressure side of injection pump; one standard fuel tank capacity 42 l; CAV DPS DSA 699 rotating plunger injection pump (optionally BOSCH VEL 163-2 rotating plunger pump), 28866FJG serial number. Manufacturer's production setting 8.63 l/h at rated engine speed and full load; injection timing 0° $\pm$ 1° before TDC; BOSCH multihole injectors DLLA 124S (optionally OMAP OLL 124S) injection pressure 230$\pm$8 bar.

Governor:	CAV centrifugal variable speed governor, mechanical type, incorporated in injection pump; governed range engine speed 650 to 2800 rev/min; rated engine speed 2500 rev/min (optionally BOSCH centrifugal variable speed governor, mechanical type, incorporated in injection pump).
Air cleaner:	FIAT make, oil bath air filter, type 18518.218 with cyclone pre-cleaner, type 8323083 WMF. Oil capacity: 0.7 l. Air inlet under bonnet in front of engine. Maintenance indicator: electrical device with a red advising lamp on the instruments panel.
Lubrication system:	Forced-feed lubrication with gear pump; two filters: one wire mesh type filter on pump suction, and one replaceable cartridge type on pressure side pump of oil to the engine.
Cooling system:	Pressurized water cooled system with centrifugal pump, overpressure relief valve set to 69 kPa; thermostatic control; 340 mm dia, 6 blades, belt driven fan; cooling water capacity: 12 l. Temperature check with thermometer. Superpressure system: radiator cap.
Starting system:	Electrical, MARELLI make, 12 V 2.5 kW, or as option BOSCH make, 12 V 2.5 kW, starting motor pinion coupling solenoid operated. Cold starting aid: thermostart. Safety device: operable only when the engine clutch is disengaged.

ELECTRICAL SYSTEM

Voltage:	12 V, negative earth.
Generator:	Alternator MARELLI make, AA 125 type, three phase, 14 V, 540 W power or BOSCH make, G1 type, three phase, 14 V, 540 W power.
Battery:	One lead acid type; MARELLI make, 6ATM30 type; capacity: 100 Ah at 20 hours rating.
EXHAUST SILENCER:	Own make, DGM-SA 748 (optionally FIAT DGM-SA 1057) interfance type with internal perforated pipe; square shape 95 x 95 mm, 675 mm length. Vertical position on engine left side, maximum height above ground 2030 mm.

TRANSMISSION TO WHEELS

Clutch:	LUK or OMG make, dry dual disc clutch, one for p.t.o. and the other for gear box; but indipendently operated; disc 280 mm dia; pedal operated for gear box drive and hand level operated for P.T.O. drive.
Gearbox:	Own make. On the tractor model tested: mechanical syncronized type, constant mesh gear with total 12 forward and 12 reverse speeds; the transmission consists of the three mechanical in series gear units: the first with four speeds, the second with

three positions to select the gear groups (normal, medium, high) the third with two positions to select the forward or the reverse speeds; each unit is operated by own lever.
The FIAT 39-66 tractor is available in other two variants:

- 39-66/20 model with 20 forward and 8 reverse speeds; three series gear units: the first with four speeds, the second with four positions to select the gear groups (normal, medium, high, reverse), the third with two positions to engage or disengage on additional drive creeper gear to have 2 more forward ranges (low, superlow) and 1 more reverse range (low).
- 39-66/12 model with 12 forward and 4 reverse speeds; two series gear units: the first with four speeds, the second with four positions to select the gear groups (normal, medium, high and reverse).

Rear axle and final drive: Own make, mechanical type with Gleason crown wheel and pinion; bevel gear type differential with mechanical pedal operated and self-disengaging lock; epycicloidal final drives.

Front axle: Own make, not driven.

FIAT 39-66/12

Total ratios and travelling speeds (tyres 13.6 R 28 and pressure 160 KPa)

Gear	Group	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed (*) at rated engine speed (2500 rev/min) km/h
I	Normal	428.689	1.34
II		269.414	2.13
III		211.774	2.71
IV		132.894	4.32
I	Medium	166.133	3.46
II		104.408	5.50
III		82.070	7.00
IV		51.502	11.16
I	High	65.151	8.82
II		40.945	14.03
III		32.185	17.85
IV		20.197	28.45
I	Reverse	157.084	3.66
II		98.721	5.82
III		77.600	7.41
IV		48.696	11.80

(*) Calculated with a tyre dynamic radius index of 610 mm (ISO 4251/1-1984)

FIAT 39-66/12/I

Total ratios and travelling speeds (tyres 13.6 R 28 and pressure 160 KPa)

Gear	Group	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed (*) at rated engine speed (2500 rev/min) km/h
I	Normal	428.689	1.34
II		269.414	2.13
III		211.774	2.71
IV		132.894	4.32
I	Medium	166.133	3.46
II		104.408	5.50
III		82.070	7.00
IV		51.502	11.16
I	High	65.151	8.82
II		40.495	14.03
III		32.185	17.85
IV		20.197	28.45
I	Reverse normal	432.564	1.33
II		271.838	2.11
III		213.679	2.69
IV		134.090	4.29
I	Reverse medium	167.628	3.43
II		105.347	5.45
III		82.809	6.94
IV		51.965	11.06
I	Reverse high	65.737	8.74
II		41.313	13.91
III		32.474	17.70
IV		20.379	28.20

(*) Calculated with a tyre dynamic radius index of 610 mm (ISO 4251/1-1984)

FIAT 39-66/20

Total ratios and speeds (tyres 13.6 R 28 and pressure 160 KPa)

Gear	Group	Number of engine revolutions for one revolution of the driving wheels	Nominal travelling speed (*) at rated engine speed (2500 rev/min) km/h
I	Super low	1665.460	0.35
II		1046.680	0.55
III		822.747	0.70
IV		516.298	1.11
I	Normal	428.689	1.34
II		269.414	2.13
III		211.774	2.71
IV		132.894	4.32
I	Low	645.432	0.89
II		405.627	1.42
III		318.843	1.80
IV		200.085	2.87

I	Medium	166.133	3.46
II		104.408	5.50
III		82.070	7.00
IV		51.502	11.16
I	High	65.151	8.82
II		40.945	14.03
III		32.185	17.85
IV		20.197	28.45
I	Reverse low	610.274	0.94
II		383.534	1.50
III		301.478	1.91
IV		189.185	3.04
I	Reverse	157.084	3.66
II		98.721	5.82
III		77.600	7.41
IV		48.695	11.80

(*) Calculated with a tyre dynamic radius index of 610 mm (ISO 4251/1-1984

POWER TAKE OFF

Main:

Type: independent p.t.o. driven by 2nd plate of dual disc clutch; one shaft; hand lever operated.
Position: rear of tractor, in median plane; height above ground 610 mm (with tyre 13.6 R 28).

Proportional engine speed p.t.o.:

- *540 rev/min:* distance behind rear axle 230 mm; diameter of p.t.o. shaft end 34.9 mm; 6 splines, in conformity with ISO 500/1990; no power restriction; 614 rev/min at rated engine speed; standard p.t.o. speed 540 rev/min at engine speed 2199 rev/min; p.t.o. shaft rotates clockwisely, viewed from tractor rear.
  Ratio of rotation speed:

  $$\text{Engine/p.t.o. ratio} = \frac{2500}{614} = 4.071$$

P.t.o. proportional to ground speed:

- *540 rev/min p.t.o.:* travelling distance for one revolution of p.t.o. shaft 508 mm with tyre 13.6 R 28; number of p.t.o. shaft revolutions for one revolution of rear wheels 7.4 rev.; p.t.o. shaft rotates clockwisely viewed from tractor rear.

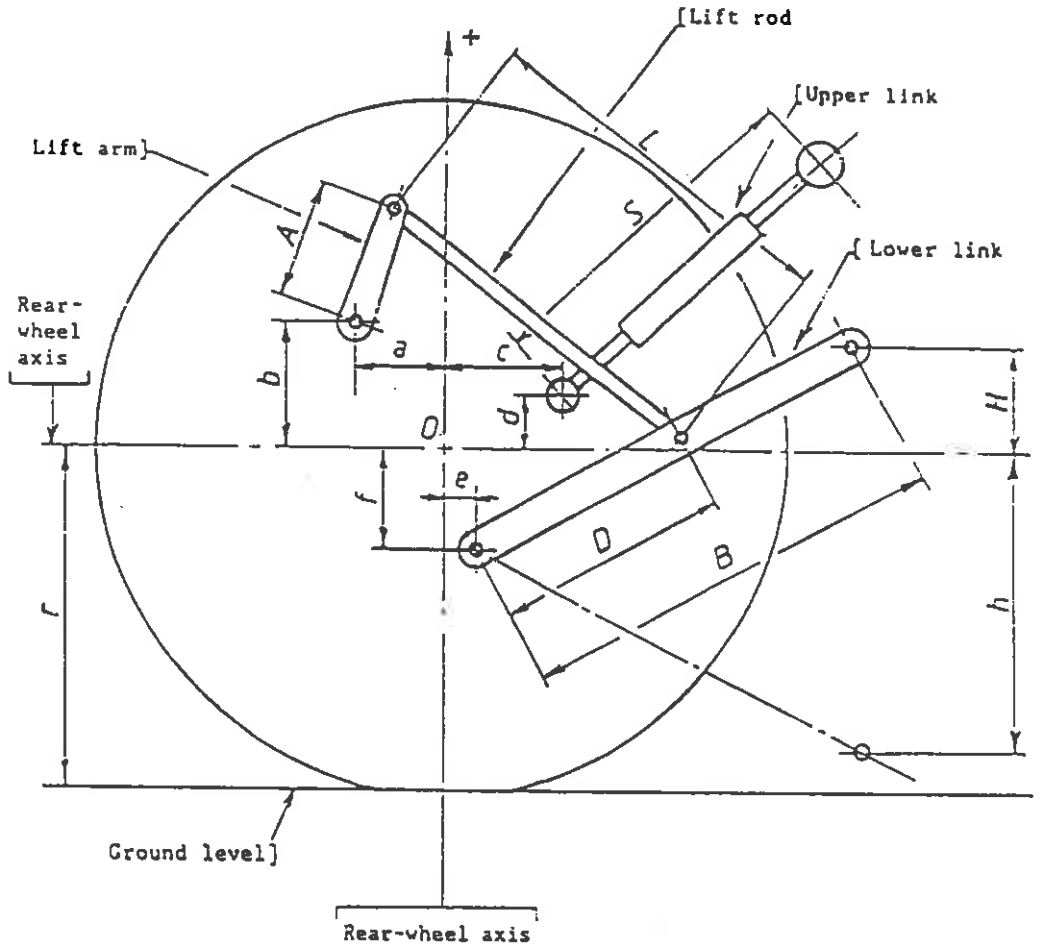
POWER LIFT:

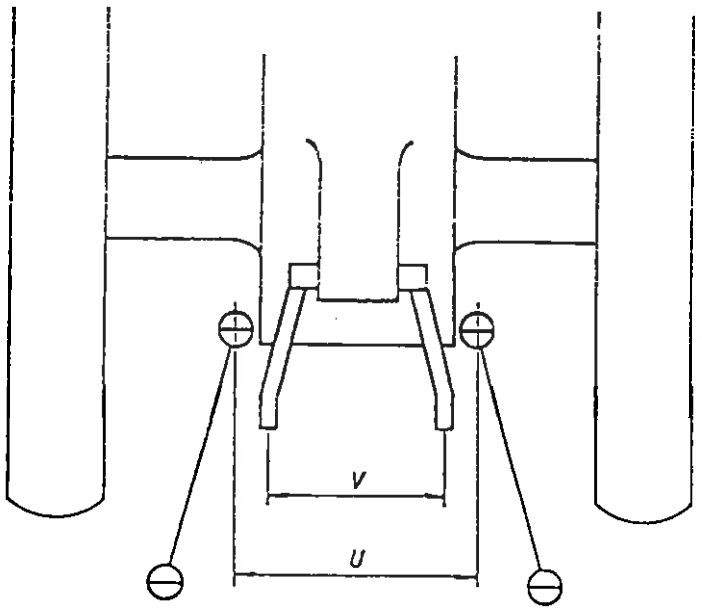
Own make; hydraulic power lift in unit construction. Draft and position control operated by two indipendent levers; lift-o-matic device to raise and to low in a fast way lower links.

- *Hydraulic system:* open centre system with hydraulic oil taken from the gear box and the rear transmission by means of a gear pump. Own make gear pump A 31, directly driven by engine; delivery 32.8 l/min at rated engine speed; one hydraulic oil filter with paper cartridge.
  Own make control valve; maximum working pressure 18.0 - 20.0 MPa. Single acting cylinder with 100 mm bore and 128 mm stroke; over pressure relief

valve in cylinder set 22.5 MPa. Type of linkage lock for transport: hydraulic.
There are no cylinder safety valves. Site of the oil reservoir: rear transmission cast housing.
Maximum 2 tapping point at rear of tractor.
Maximum volume of oil available to external cylinders: 9 l.

Implement linkage:
2nd category implement attachment with three point linkage, according to I.S.O. STANDARD 730/I-1990; dimensions see on pag. 10.





Dimension of linkage geometry (when connected to the standard frame)

		Dimension or range mm	Setting used in compulsory test mm
Length of lift arms	(A)	230	230
Length of lower links	(B)	840	840
Distance of lift arm pivot point from rear wheel axis: - horizontally	(a)	- 7	- 7
- vertically	(b)	260	260
Horizontal distance between the 2 lower link points	(u)	360	360
Horizontal distance between the 2 lift arm end points	(v)	430	430
Length of upper link	(S)	from 645 to 920	680
Distance of upper link pivot point from rear wheel axis: - horizontally	(c)	115 - 130	115
- vertically	(d)	210 - 280	280
Distance of lower link pivot point from rear wheel axis: - horizontally	(e)	- 7	- 7
- vertically	(f)	150	150
Distance of lower link pivot points to lift rod pivot points on lower links	(D)	370	370
Length of lift rods	(L)	from 420 to 520	465
Heigth of lower hitch points relative to the rear wheel axis:			
- in low position	(h)	from 580 to 605	410
- in high position	(H)	from 155 to 355	150
Height above ground of lower hitch points when locked in transport position (*)		Any height within lift range	-

(*) Assuming the dynamic radius index: 610 mm (ISO 4251/1-1984)

HITCH:

Own make; clevis type; 4 positions from an height above ground (with tyres 13.6 R 28) of 450 - 550 - 650 - 750 mm, changeable by sliding on drilled guides; hitch hole 28 mm dia; distance of hitch hole to rear axle horizontally 420 mm; position relative to p.t.o.: vertical from 160 mm below to 140 mm above; 180 mm horizontal behind.
Maximum vertical load 9.3 kN according to italian legislation (with tyres 13.6 R 28 123 A8)

HOLED DRAWBAR:

Fitted on hitch points of lower links; number 7 holes; distance between holes 80 mm, 28 mm dia holes, 32 mm thickness 80 mm width, height above ground min 45 mm, max 945 mm (with tyres 13.6 R 28); horizontal distance to p.t.o. shaft end 603 mm.

STEERING:

Own make, hydrostatic control with independent hydraulic circuit. Distributor DANFOSS make, OSPC 100; gear pump FIAT C 25, 19 l/min delivery at rated engine speed; one double acting cylinder directly acting on front axle, transversaly mounted, bore 48 mm, stroke 200 mm, piston rod 22 mm; working pressure 10.0 MPa. One metal cartridge filter in oil reservoir.

BRAKES:

Service brake:
Own make, oil bath disc brake type, axle shaft mounted two discs 162 mm dia, 4.7 mm thickness; mechanically acting on rear differential half shaft; operated by 2 indipendent pedals locked together for road drive. Hydraulic traile braking take off available as optional.
Parking brake:
Own make, hand lever operated; it operates the same brake as the foot brake; the final part of the parking brake linkage is the same of service brake.
Steering brake:
Divided pedal of service brake, for normal use locked together.

WHEELS:

Steering wheels:
at front, two tyres with steel plate discs and rims
Tyres available:
6.50 - 16 8 ply
5.50 - 16 6 ply
6.00 - 16 6 ply

Driving wheels:
at rear,two tyres with steel plate discs and rims
Tyres available:
13.6 R 28 123 A8
12.4 - 28 6 ply
14.9 - 28 6 ply
12.4 - 32 6 ply

Recommended tyre matching			
At front		At rear	
6.50 - 16	8 ply	13.6 R 28	123 A8
5.50 - 16	6 ply	12.4 - 28	6 ply
6.00 - 16	6 ply	14.9 - 28	6 ply
6.00 - 16	6 ply	12.4 - 32	6 ply

- Wheelbase: 2000 mm

- Track width adjustment:

	Minimum mm	Maximum mm	Adjustement method
Front	1260	1830	manual, estending axle and placing disc bulge facing either inward or outward
Rear	1300	1800	manual placing disc bulge facing either inward or outward

PROTECTIVE STRUCTURE: none

SEAT: *Driver's seat:*
KAB make, XH2 model, upholstered seat with back rest, adjustable spring with shock absorber; height of unloaded seat above driver's platform adjustable from 560 mm to 580 mm in a continuous way; longitudinal adjustment 180 mm in three positions.

Passenger seat: none.

LIGHTING: Electrical 12 V, in accordance with Italian legislation

	Height above ground of centre mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
Headlights	1025	140 x 90	220
Sidelights	1330	115 x 35	685
Rearlights	1330	80 x 60	610
Reflectors 1st pair	1200	90 x 55	700

TEST CONDITIONS

OVERALL DIMENSIONS

	Length	Width		Height to top of exhaust silencer
		mini	maxi	
	m	m	m	m
With ballast	3.25	1.64	2.14	2.03
Without ballast	3.25	1.64	2.14	2.03

Ground clearance: 375 mm below swinging drawbar frame.

Tractor mass
(with full fuel tank):

	Without driver	With driver
	Without ballasts kg	Without ballasts kg
Front	650	670
Rear	1050	1100
Total	1700	1770

Ballasts: none

Tyres and track width specifications

	Front	Rear
Tyres: dimensions ply rating type maximum load inflaction pressure (tyre manufacturer's) dynamic radius index	PIRELLI 6.50 - 16 8 ply diagonal 735 kg (30 km/h) 420 KPa 350 mm	PIRELLI 13.6 R 28 123 A8 radial 1660 kg (30 km/h) 160 KPa .610 mm
Chosen track width:	1260 mm	1300 mm

Oils and lubrication
- Capacity and change interval

	Capacity dm^3	Oil change h	Filter change h
Engine	11.7	200	400
Gear box with hydraulic system, rear transmission	40.8	1600	400
Steering system	1.8	1600	400
Final reduction	7.8	1600	-

- Specifications (SAE, API, MIL-L, ISO)

	Recommended	Used during test
Engine oil - Type: - Viscosity: - Classification:	FIAT AMBRA SUPER SAE 15 W 40 MIL-L-2104 C	As recommended
Gear box, hydraulic system and trasmission oils - Type: - Viscosity: - Classification	FIAT TUTELA MULTI F SAE 15 W 40 MIL-L-2104 C or API-CD	As recommended
Steering oil - Type: - Viscosity: - Classification:	FIAT TUTELA MULTI F SAE 20 W 40 MIL-L-2104 C or API-CD	As recommended
Final reduction - Type: - Viscosity: - Classification:	FIAT TUTELA MULTI F SAE 20 W 40 MIL-L-2104 C or API-CD	As recommended

- Grease: FIAT TUTELA G9

Number of lubrication points: 12

Fuel:

- Type: Esso Diesel oil, in conformity with national standard.

- Density at 15° C: 0.845 g/cm^3

COMPULSORY TEST RESULTS

1. MAIN POWER TAKE OFF

- Date and location of tests: 24th August 1992, I.M.A., TORINO, ITALY
- Type of dynamometer: PARASITIC CURRENTS, BORGHI & SAVERI FA 300-30 SP

Power	Speed		Fuel consumption			Specific energy
	Engine	P.t.o.	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
1.1 MAXIMUM POWER - TWO HOUR TEST						
26.68	2500	614	7.25	8.68	272	3.07
1.2 POWER AT RATED ENGINE SPEED						
26.74	2500	614	7.20	8.62	269	3.10
1.3 STANDARD POWER TAKE OFF SPEED (540 ± 10 rev/min)						
25.14	2200	540	6.40	7.66	255	3.28
1.4 PART LOADS 1.4.1 the torque corresponding to maximum power at rated engine speed						
26.74	2500	614	7.20	8.62	269	3.10
1.4.2 85% of torque obtained in 1.4.1						
24.44	2689	661	7.05	8.44	288	2.89
1.4.3 75% of torque defined in 1.4.2						
18.39	2697	662	5.85	7.01	318	2.62
1.4.4 50% of torque defined in 1.4.2						
12.37	2721	668	4.75	5.69	384	2.17
1.4.5 25% of torque defined in 1.4.2						
6.22	2735	672	3.85	4.61	619	1.35
1.4.6 unloaded						
----	2742	674	3.30	3.95	----	----

Power	Speed		Fuel consumption			Specific energy
	Engine	P.t.o.	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/l
1.5 PART LOADS AT STANDARD POWER TAKE OFF SPEED (540 ± 10 rev/min)						
1.5.1 the torque corresponding to maximum power						
25.19	2200	540	6.40	7.66	254	3.29
1.5.2 85% of torque obtained in 1.5.1						
23.20	2383	585	6.05	7.25	261	3.20
1.5.3 75% of torque defined in 1.5.2						
17.44	2389	587	5.05	6.05	290	2.88
1.5.4 50% of torque defined in 1.5.2						
11.78	2420	594	4.10	4.91	348	2.40
1.5.5 25% of torque defined in 1.5.2						
5.95	2444	600	3.20	3.83	538	1.55
1.5.6 unloaded						
----	2465	606	2.35	2.81	----	----

STANDARD SPECIFIC CONSUMPTION:	288/384/261/348 (g/kWh)
No load maximum engine speed:	2742 rev/min
Torque at maximum power (2 hours):	102.1 N/m
Maximum torque:	128.6 N/m at 1300 rev/min of the engine
Mean atmospheric conditions:	Temperature 26 °C
	Pressure 997 mbar
	Relative humidity 75%
Maximum temperature:	Coolant 83 °C
	Engine oil 111 °C
	Fuel 27 °C
	Engine air intake 27 °C

2. HYDRAULIC POWER AND LIFTING FORCE

- Date of tests: 12th October 1992

2.1 HYDRAULIC POWER TEST

- Sustained pressure with relief valve open: 20.1 MPa
- Pump delivery rate at minimum pressure: 35 l/min

	Flow rate l/min	Pressure MPa	Power kW
Flow rate corresponding to a hydraulic pressure equivalent to 90 per cent of the actual relief valve pressure setting and corresponding hydraulic power	34.0	18.1	10.05
Flow rate and hydraulic pressure corresponding to maximum hydraulic power	34.0	20.1	11.17

- Tapping point used for test: at rear of tractor
- Temperature of hydraulic fluid: 65 °C

2.2 POWER LIFT TEST

	at the hitch point		on the frame	
Height of lower hitch points above ground in down position	200	mm	200	mm
Vertical movement	560	mm	650	mm
Maximum corrected force exerted through full range	13.90	kN	11.25	kN
Corresponding pressure of hydraulic fluid	18.0	MPa	18.0	MPa
Moment about rear-wheel axis	-	kNm	16.23	kNm
Maximum tilt angle of mast from vertical	- degress		6 degress	

Lifting heights relative to the horizontal plane including the lower pivot points										
mm	- 260	- 200	- 100	- 50	0	+ 50	+ 100	+ 200	+ 300	+ 390
Lifting forces										
at the hitch points kN	13.90	14.75	15.90	16.30	16.60	16.75	16.75	16.70	16.40	-
Corresponding presure: 18.0 MPa										
at the frame kN	14.00	14.80	15.25	15.25	15.15	15.00	14.80	14.20	12.25	11.25
Corresponding pressure: 18.0 MPa										

3. DRAWBAR PERFORMANCE

Date of tests: 10th - 11th September 1992
Type of track: concrete
Tyre size - front: 6.50 - 16 8 ply
- rear: 13.6 R 28 123 A8

	Tyre inflaction pressure	
Height of hitch above ground	Front	Rear
620 mm	420 KPa	160 KPa

Gear no. and group	Driving speed km/h	Power kW	Drawbar pull daN	Engine speed rev/min	Slip of wheels %	Specific fuel consumption g/kWh	Specific energy kWh/l	Temperature Fuel °C	Coolant °C	Engine oil °C	Atmospheric conditions Temperature °C	Relative humidity %	Pressure mbar
3.1 - MAXIMUM POWER IN TESTED GEARS													
I Normal	1.23	4.59	1420	2735	15.0	-	-	26	81	108	17.5	90	994.0
II Normal	1.96	7.71	1420	2731	15.0	-	-	26	81	108	17.5	92	994.0
III Normal	2.47	9.79	1425	2714	15.0	-	-	26	81	108	17.5	94	994.0
I Medium	3.15	12.41	1420	2705	15.0	443	1.88	27	82	110	17.5	94	994.0
IV Normal	3.92	15.34	1410	2695	14.8	438	1.91	27	82	110	17.5	96	994.0
II Medium	4.93	19.31	1410	2664	14.9	378	2.21	27	82	110	17.5	96	994.0
III Medium	6.32	22.56	1285	2504	11.0	330	2.53	27	83	111	17.5	96	994.0
I High	8.15	23.43	1035	2495	6.3	309	2.70	28	83	111	17.5	94	994.0
IV Medium	10.65	22.78	770	2505	3.6	325	2.57	28	83	111	17.5	94	994.0
II High	13.55	22.77	605	2505	3.4	321	2.60	28	84	112	17.5	95	994.0
3.1.1 - FIVE HOUR TEST at 75% of pull at maximum power													
III Medium	7.08	18.99	965	2685	4.9	340	2.46	28	83	112	18.5	85	994.6
3.1.2 - FIVE HOUR TEST at pull corresponding to 15% wheelslip - with 250 kg as additional ballast													
IV Normal	4.29	16.93	1420	2700	-	-	-	29	84	113	23.0	70	994.6

Oil consumption during ten hours tests 3.1.1 and 3.1.2: 25 g/h

Tests 3.1.2 was carried out with additional ballast; so, the not quoted figures are irrelevant

4. TURNING AREA AND TURNIG CIRCLE

Wheel equipment front: 6.50 - 16 8 ply
rear: 13.6 R 28 123 A8

Track width front: 1260
rear: 1300

	With brakes		Without brakes	
	Right-hand m	Left-hand m	Right-hand m	Left-hand m
Radius of turning area	3.07	2.95	3.48	3.36
Radius of turning circle	2.98	2.86	3.39	3.27

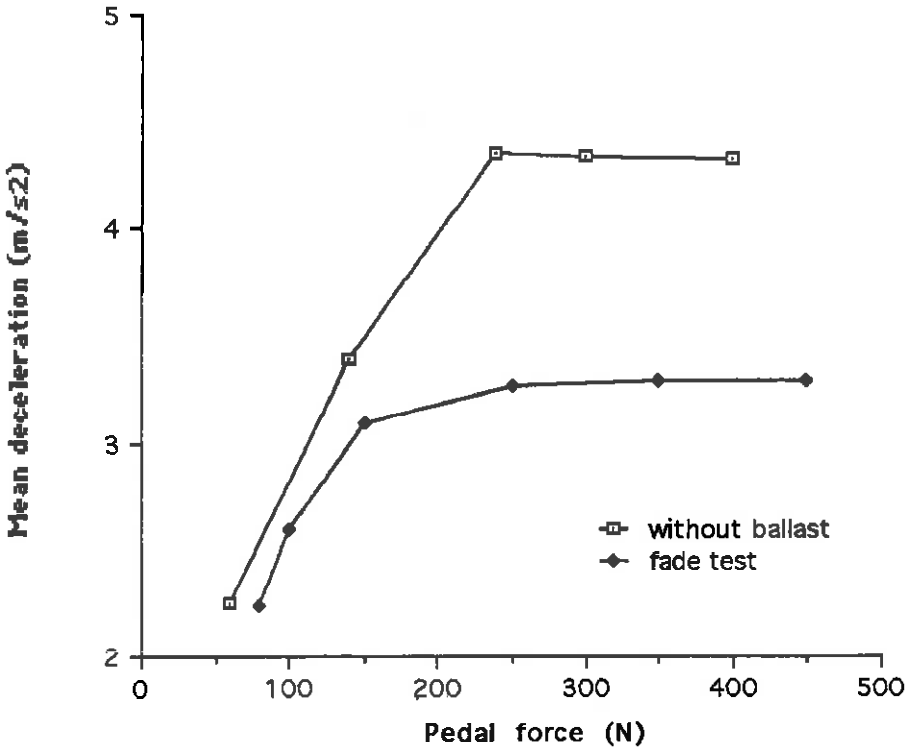
5. LOCATION OF CENTRE OF GRAVITY

Height above ground	740 mm
Distance forward from the vertical plane containing the axis of the rear wheels	757 mm
Distance from the median plane of the tractor. to the left	0 mm

6. BRAKING

- Date of tests: 26th October 1992

6.1 *COLD SERVICE BRAKING DEVICE TEST* - 6.2 *FADE TEST*



Cold service braking device test

Speed before application of brakes (km/h): 29.50

Fade test

- Maximum deviation of the tractor from its original course: none
- Abnormal vibration: none
- Brake heating method: by means of towing the tractor for 1 km at 22.2 km/h with a towing force of 17.36 kN

6.3 *PARKING BRAKING DEVICE TEST*

	Uphill	Downhill
Braking device control force	250 N	230 N

7. **MEASUREMENT OF EXTERNAL NOISE LEVEL**

- Date of tests: 29th September 1992
- Type of sound level meter: impulse precision BRUEL & KJAER 2209 model
- Type of track: concrete

7.1 *Results of test with DGM-SA 833 model*

- Gear number: IV High
- Travelling speed before acceleration: 21.35 km/h
- Sound level: 83.5 dB(A)

8. **REPAIRS AND ADJUSTEMENT DURING TEST** = none

9. **REMARKS** = none

OPTIONAL TESTS RESULTS

10. ENGINE PERFORMANCE

- Date and location of tests: 22nd July 1992, I.M.A., TORINO, ITALY
- Type of dynamometer: PARASITIC CURRENTS, BORGHI & SAVERI FA 300-30 SP

Power	Speed	Fuel consumption			Specific
	Engine	Hourly		Specific	energy
kW	rev/min	kg/h	l/h	g/kWh	kWh/l
10.1 MAXIMUM POWER - TWO HOUR TEST					
28.75	2500	7.21	8.63	251	3.33
10.2 POWER AT RATED ENGINE SPEED					
28.75	2500	7.21	8.63	251	3.33
10.3 POWER TAKE OFF SPEED (540 ± 10 rev/min)					
26.32	2200	6.43	7.70	244	3.42
10.4 PART LOADS 10.4.1 the torque corresponding to maximum power at rated engine speed					
28.75	2500	7.21	8.63	251	3.33
10.4.2 85% of torque obtained in 10.4.1					
26.10	2670	7.00	8.38	268	3.11
10.4.3 75% of torque defined in 10.4.2					
19.64	2678	5.76	6.90	293	2.85
10.4.4 50% of torque defined in 10.4.2					
13.21	2702	4.85	5.81	367	2.27
10.4.5 25% of torque defined in 10.4.2					
6.66	2724	3.71	4.44	557	1.50
10.4.6 unloaded					
----	2745	3.28	3.93	----	----

STANDARD SPECIFIC CONSUMPTION:	268/367 (g/kWh)
No load maximum engine speed:	2745 rev/min
Torque at maximum power (2 hours):	109.8 N/m
Maximum torque:	134.4 N/m at 1300 rev/min of the engine
Mean atmospheric conditions:	Temperature 28 °C Pressure 993 mbar Relative Humidity 65%
Maximum temperature:	Coolant 82°C Engine oil 103 °C Fuel 29.5 °C Engine air intake 28.5 °C

TEST CARRIED OUT BY:

R. Marengo

M. Giangualano

DIRECTOR OF I.M.A.

L. Lisa

Turin, 30th October 1992

FIAT 39-66/12/I

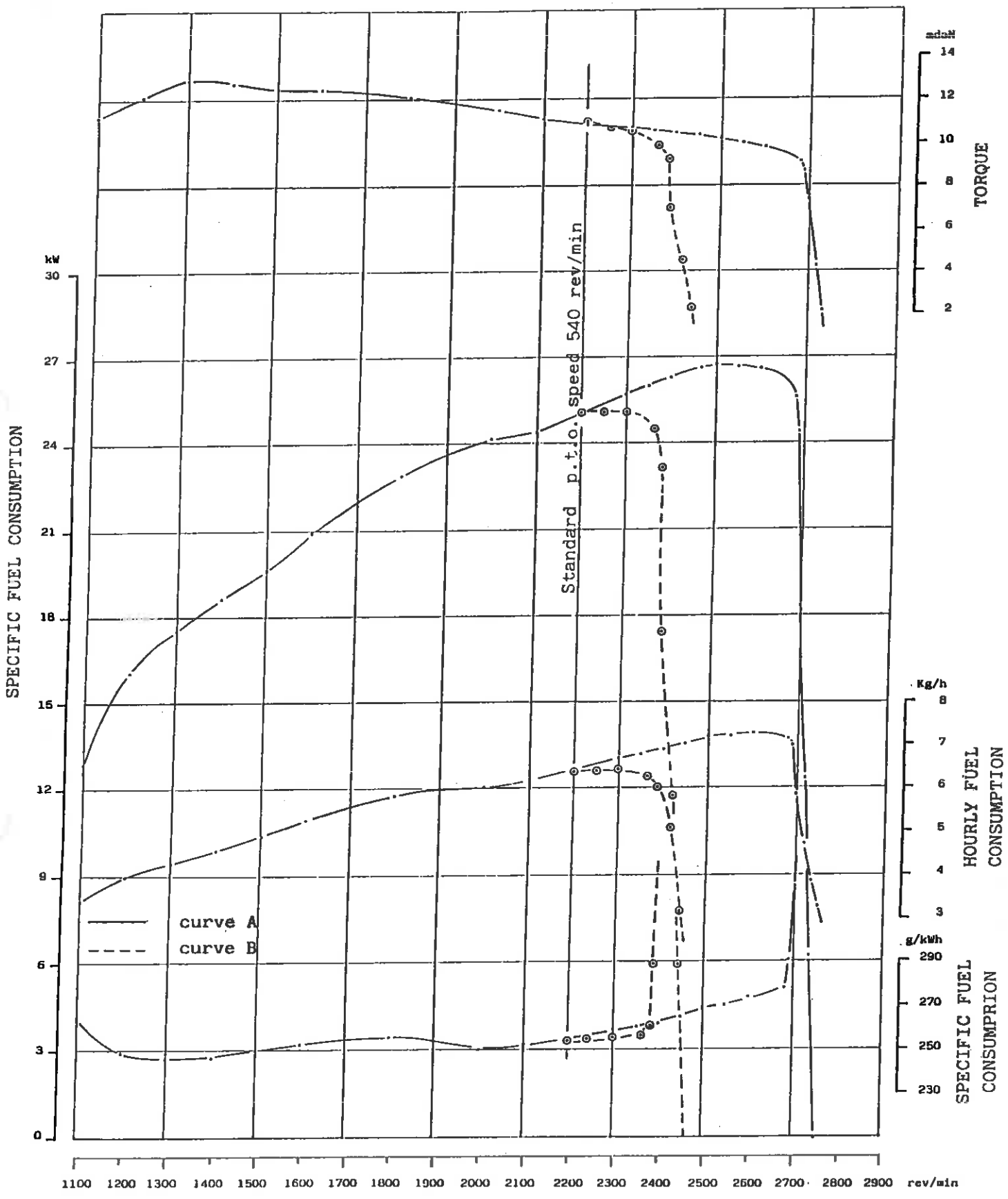


FIG. 1 – POWER TAKE-OFF TEST

FIAT 39-66/12/I

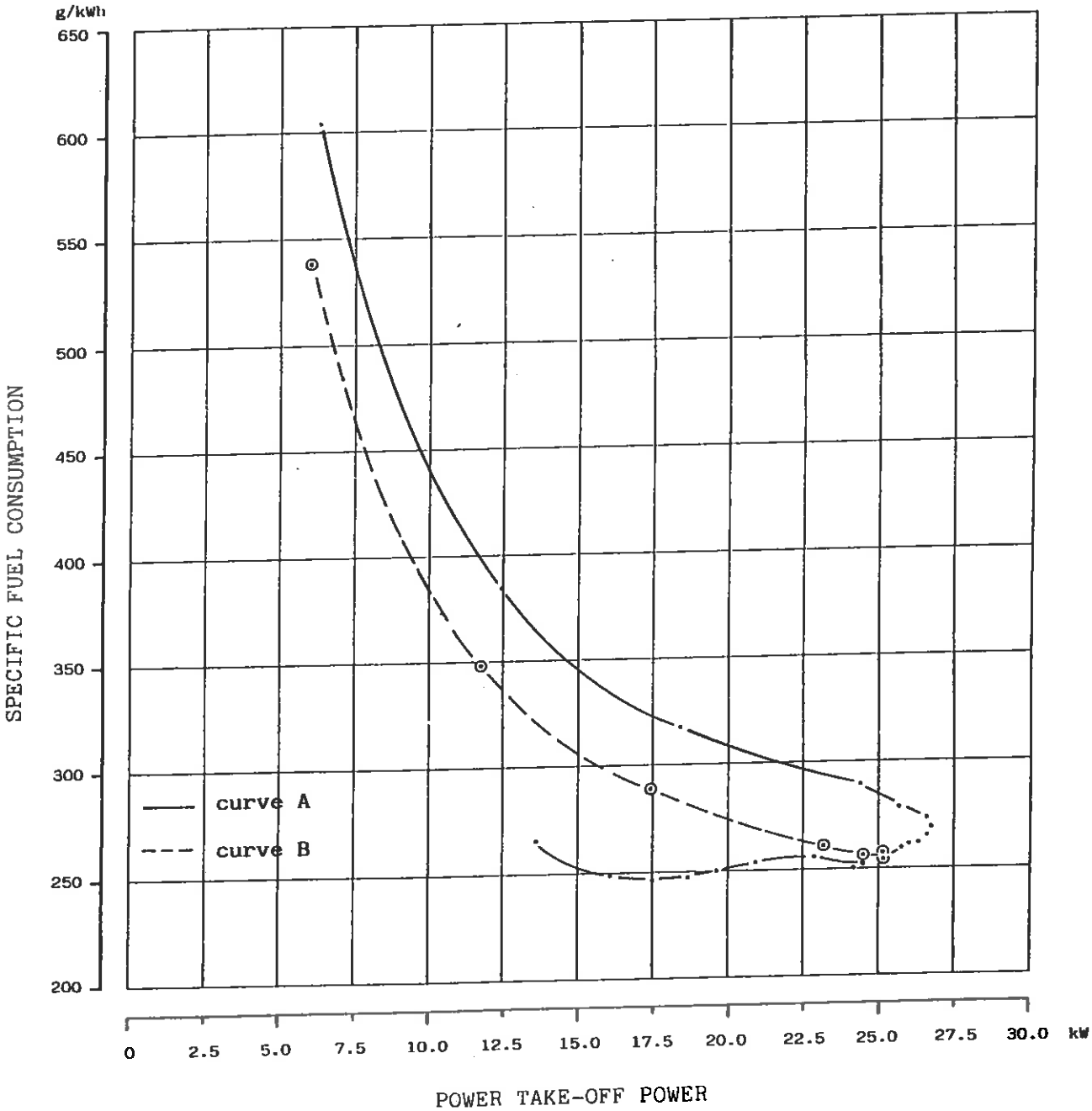


Fig. 2 - POWER TAKE-OFF TEST

FIAT 39-66/12/I

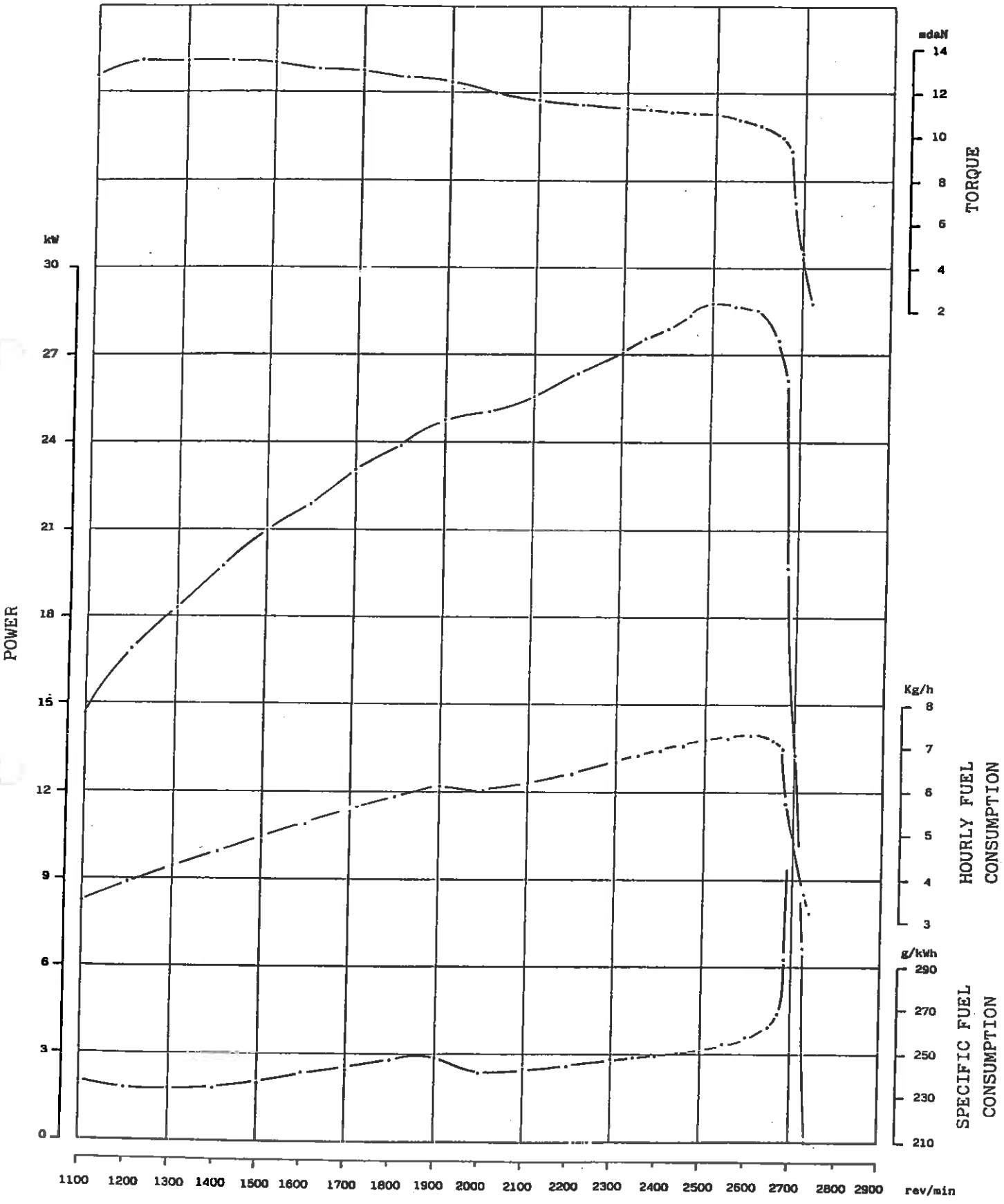


Fig. 3 – ENGINE TEST

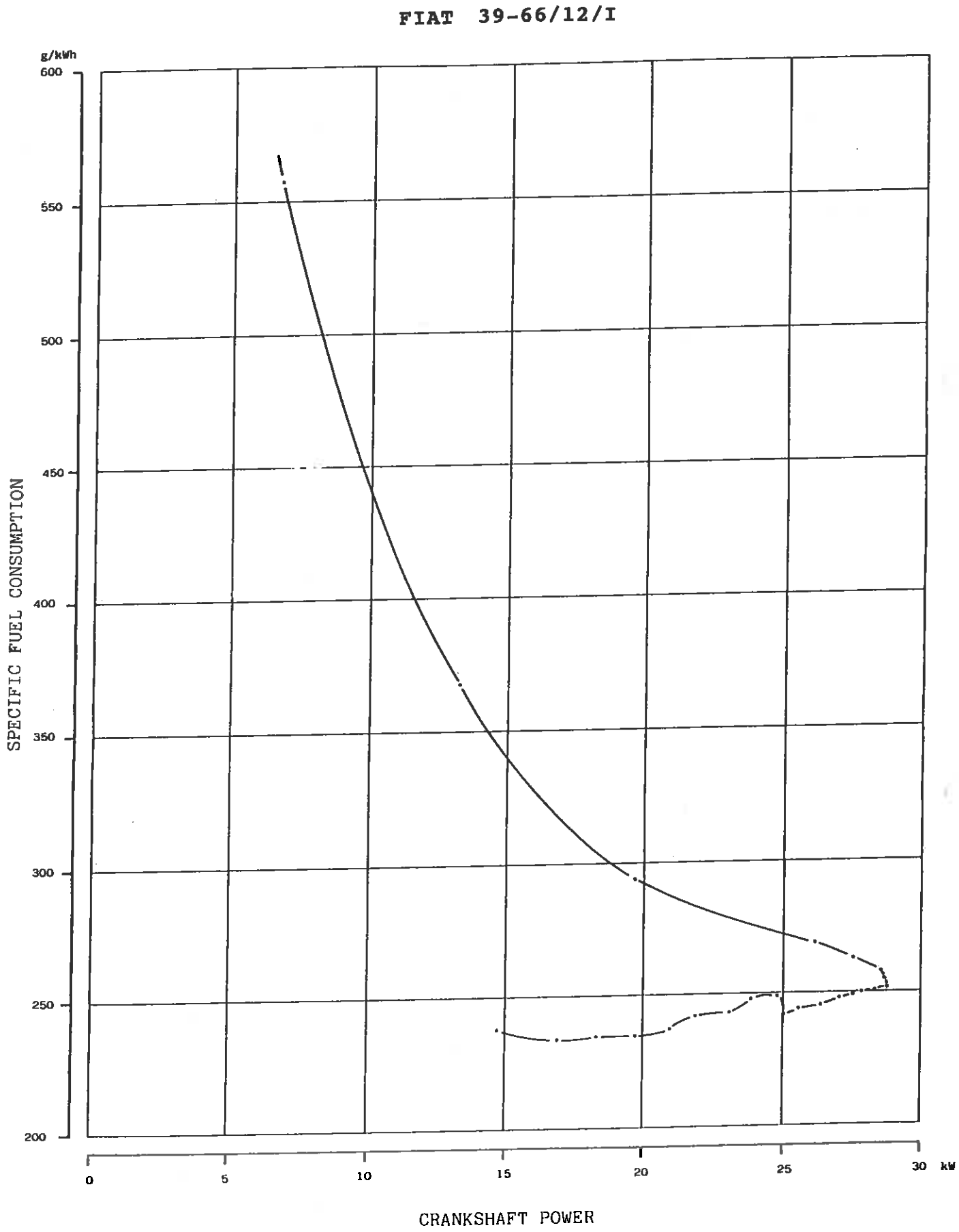


Fig. 4 – ENGINE TEST

FIAT 39-66/12/I

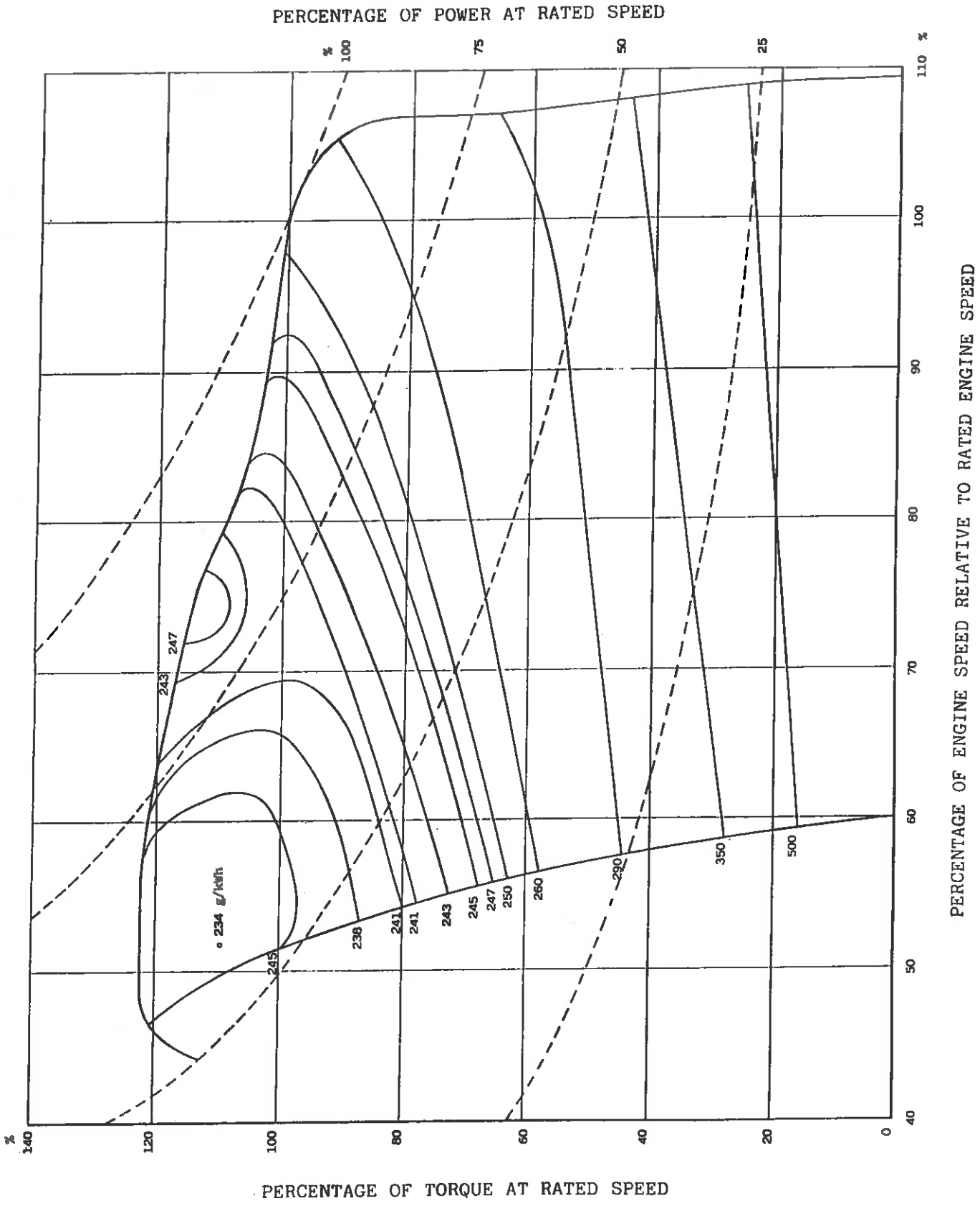


Fig. 5 – ENGINE SPEED