Consiglio Nazionale delle Ricerche
ISTITUTO PER LA MECCANIZZAZIONE AGRICOLA
Strada delle Cacce, 73 - 10135 TORINO (Italy)

*Report No. 2181/T/1997*

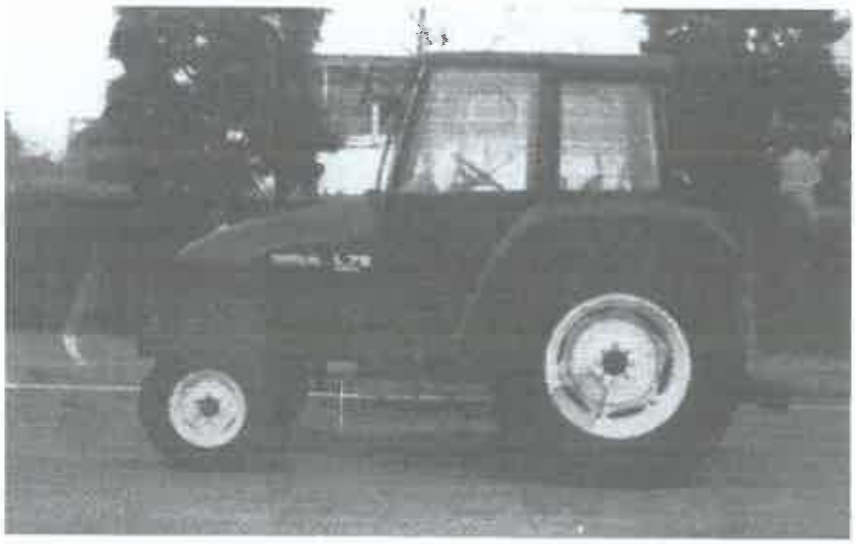
TEST IN ACCORDANCE WITH THE OECD FULL
CODE FOR THE OFFICIAL TESTING OF AGRICULTURAL TRACTORS

TRACTORS: Make: **NEW HOLLAND ITALIA**

Models: **FIAT L 75** Approval number: **1662/1**
with 24 x 12 HI-LO Transmission (30 km/h version)

Models: **FORD 5635** Approval number: **1662/2**
with 24 x 12 HI-LO Transmission (30 km/h version)

Type: 2 WD



Manufactured by: NEW HOLLAND ITALIA S.p.A. - MODENA (Italy)

Date and location of the tests: September 1996 ÷ January 1997 - TORINO (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.

Date of approval: 30th April 1997

## PRELIMINARY REMARK

The NEW HOLLAND ITALIA FIAT L75 (2 WD) and the NEW HOLLAND ITALIA FORD 5635 (2 WD) tractors are technically identical in all main respects, except with regard to the following items:

- model designation;
- colour;

Therefore, tests have not been repeated, and approval number is valid for both tractor models.
All tests were carried out on the NEW HOLLAND ITALIA FIAT L75 (2 WD) tractor equipped with safety cab.

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

The NEW HOLLAND ITALIA FIAT L75 (2 WD) and the NEW HOLLAND ITALIA FORD 5635 (2 WD) tractors are manufactured in following variants:

1. with 12 x 12 Mechanical Transmission - (4x3 gear units and one reverse group) and equipped with safety cab;

2. with 12 x 12 Mechanical Transmission - (4x3 gear units and one reverse group) and equipped with 2 post safety frame folding or not folding;

3. with 20 x 12 Mechanical Transmission - (4x3 gear units and one reverse group plus 4x2 gear units responsible of the 8 forward creeper gears) and equipped with safety cab; when the reverse group is engaged the 8 creeper gears are automatically forbidden reducing to 12 the number of reverse speeds;

4. with 20 x 12 Mechanical Transmission - (4x3 gear units and one reverse group plus 4x2 gear units responsible of the 8 forward creeper gears) and equipped with 2 post safety frame folding or not folding; when the reverse group is engaged the 8 creeper gears are automatically forbidden reducing to 12 the number of reverse speeds;

5. with 24 x 12 HI-LO Transmission - (4x3 gear units plus one reduction gear HI-LO and one reverse group) and equipped with safety cab; when the reverse group is engaged the position HI is automatically forbidden reducing to 12 the number of reverse speeds;

6. with 24 x 12 HI-LO Transmission - (4x3 gear units plus one reduction gear HI-LO and one reverse group) and equipped with 2 post safety frame folding or not folding; when the reverse group is engaged the position HI is automatically forbidden reducing to 12 the number of reverse speeds;

Tests have been carried out on tractor with the fifth variant.

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

TABLE OF CONTENTS


| | Page |
|---|---|
| **1. Specification of tractor** | 4 |
| **2. Test condition** | 21 |
| **3. Compulsory tests** | |
| 3.1 - Main power take-off performance | 23 |
| 3.2 - Hydraulic power and lifting force | 24 |
| 3.3 - Drawbar performance | 26 |
| 3.4 - Turning area and turning circle | 28 |
| 3.5 - Location of centre of gravity | 28 |
| 3.6 - Braking | 28 |
| 3.7 - Measurement of external noise level | 29 |
| **4. Repairs** | 29 |
| **5. Remarks** | 29 |
| **6. Optional tests** (on request of the manufacturer) | |
| 6.1 - Drawbar performance | 30 |

**Annex**

| | Fig. No. |
|---|---|
| **Compulsory main** power take-off test | |
| Curves of crankshaft power and specific fuel consumption/crankshaft speed | 1 |
| Curves of crankshaft torque and hourly fuel consumption/crankshaft speed | 1 |
| Curves of specific fuel consumption/crankshaft power p.t.o. | 2 |

| | |
|---|---|
| - Tractor manufacturer's name and address: | NEW HOLLAND ITALIA<br>Viale delle Nazioni, 55<br>41100 MODENA - Italy |
| - Location of tractor assembly: | Plant of JESI (AN) - ITALY |
| - Submitted for test by: | The Manufacturer |
| - Selected for test by: | Manufacturer with the agreement of I.M.A. |
| - Place of running-in: | MODENA (MO) - ITALY |
| - Duration of running-in: | Appr. 50 hours |
| - Location of test : | I.M.A. - Torino - Italy |

## 1 SPECIFICATIONS OF TRACTOR

### 1.1 IDENTIFICATION

| | |
|---|---|
| - Make/Model/Type: | NEW HOLLAND ITALIA, FIAT L75 (2WD), wheeled tractor, unit construction, all wheels drive tractors |
| - Number of driving wheels: | 2 |
| - Serial N°: | 001044840 |
| - 1st serial N°: | 001044840 |

### 1.2 ENGINE

| | |
|---|---|
| - Make/Model/Type: | NEW HOLLAND ITALIA, FIAT 8045.05R (*), water cooled, 4 stroke, Diesel engine, direct injection, naturally aspirated |
| - Serial N°: | 822049 |

#### 1.2.1 Cylinders

| | |
|---|---|
| - Number/disposition: | 4, vertical, in-line |
| - Bore/stroke: | 104 x 115 mm |
| - Capacity: | 3908 $cm^3$ |
| - Compression ratio: | 17 : 1 |
| - Arrangement of valves: | overhead |
| - Cylinder liners: | dry |

#### 1.2.2 Supercharging

| | |
|---|---|
| - Make/Model/Type: | none |
| - Pressure: | --- |

(*) The engine manufacturer is going to change the model denomination of the engine from FIAT 8045.05R to IVECO 8045.05R maintaining the same technical characteristics and test performances

### 1.2.3 Fuel system

| | |
|---|---|
| - Fuel feed system: | AC CORONA fuel feed pump |
| - Make/Model/type of fuel filter(s): | n° 1, NEW HOLLAND make, with replaceable cartridge and n° 1 mesh filter inside the fuel feed pump |
| - Capacity of fuel tank: | 115 $dm^3$ on the left side under the protective structure |
| - Make/Model/Type of injection pump: | BOSCH VE4/11 F 1250 L 613-1, rotary injection pump (as option, BOSCH VE4/11 F 1250 LV13765, rotary injection pump) |
| - Serial N°: | none |
| - Manufacturer's production setting of injection pump: | |
| - flow rate: | 49.8 $mm^3$/stroke at rated speed and full load corresponding 14.96 $dm^3/h$ (50±1 $mm^3$/stroke given by the manufacturer) |
| - timing: | 4.0°±1° before TDC |
| - Make/Model/Type of injectors: | BOSCH DLLA 136 S multihole injection nozzles used with engine equipped with BOSCH VEL 613, rotary injection pump (as option BOSCH DLLA 132 S multihole injection nozzles used with engine equipped with BOSCH VE4/11 F 1250 LV13765, rotary injection pump and STANADYNE DLL 136 S multihole injection nozzles used with engine equipped with BOSCH VEL 613, rotary injection pump) |
| - Injection pressure: | 22.6 ± 1 Mpa for BOSCH DLLA 136 S and STANADYNE DLL 136 S multihole injection nozzles and 26.0 ± 1 Mpa for BOSCH DLLA 132 S multihole injection nozzles (*) |
| - Make/Model/Type of carburettor: | none |

### 1.2.4 Governor

| | |
|---|---|
| - Make/Model/Type: | BOSCH make, centrifugal variable speed governor,mechanical type, incorporated in the fuel injection pump |
| - Governed range of engine speed: | from 750 to 2745 rev/min |
| - Rated engine speed: | 2500 rev/min |

### 1.2.5 Air cleaner

| | |
|---|---|
| - Pre-cleaner: | none |
| • Make/Model/Type: | --- |
| • Location of air intake: | --- |

(*) Although the injection pressure of the available injectors is different, the performances of the engine - tested according to the 80/1269/EEC, 88/195/EEC and 89/491/EEC - change within the tollerance given by these EEC Directives

| | |
|---|---|
| - Main cleaner: | |
| • Make/Model/Type: | DONALDSON make, NEW HOLLAND ITALIA drawing n. 5157064, dry paper element filter with two replaceable cartridge elements; DONALDSON make, 1930588 type for the internal one and 1930587 type for the external one (as option DONALDSON make, NEW HOLLAND ITALIA drawing n. 5165665, dry paper element filter with two replaceable cartridge elements;) |
| • Location of air intake: | on front of the radiator under the bonnet cowling |
| - Maintenance indicator: | with the warning lamp on the dashboard |

**1.2.6 Lubrication system**

| | |
|---|---|
| - Type of feed pump: | forced feed by means of gear pump. Engine oil cooling is provided by a heat exchanger using engine coolant |
| - Type of filter(s): | replaceable cartridge type, installed on the pressure line of the engine and wire mesh type, installed on the pump suction line. |
| - Number of filters: | 2 |

**1.2.7 Cooling System**

| | |
|---|---|
| - Type of coolant: | water |
| - Type of pump: | impeller pump |
| - Specification of fan: | propeller fan driven by engine shaft |
| - Number of fan blades: | 4 |
| - Fan diameter: | 450 mm |
| - Coolant capacity: | 16 $dm^3$ (14 $dm^3$ for the tractor equipped with the safety frame) |
| - Type of temperature control: | a temperature gauge, with display on the dashboard, alerts the operator to potential problems |
| - Superpressure system: | radiator cap |

**1.2.8 Starting system**

| | |
|---|---|
| - Make/Model/Type: | BOSCH, 4807375, electromagnetic engagement (as option, MAGNETI MARELLI, 4755109, electromagnetic engagement) |
| - Starter motor power rating: | 3.5 kW for both type |
| - Cold starting aid: | LUCAS make, thermostart model with variable resistance (as option, "start-pilot" device) |
| - Safety device: | tractor doesn't start unless the clutch pedal is depressed |

**1.2.9 Electrical system**

| | |
|---|---|
| - Voltage: | 12 V, negative earth |
| - Generator: | |
| • Make/Model/Type: | MAGNETI MARELLI, AA 125E, 12 V 65A, Alternator for the tractor equipped with the safety cab and MAGNETI MARELLI, AA 125E, 12 V 45A, Alternator for the tractor equipped with the safety frame |
| • Power: | 780 W for the tractor equipped with the safety cab and 540 W for the tractor equipped with the safety frame |

| | |
|---|---|
| - Battery: | 1 lead acid type |
| • Rating: | 100 Ah at 20 hours or as option 132 Ah at 20 hours |

**1.2.10 Exhaust system**

| | |
|---|---|
| - Make/Model/Type: | NEW HOLLAND ITALIA, drawing n. 5169710, DGM SA 3757, interference type with internal perforated pipe (as option, NEW HOLLAND ITALIA, drawing n. 5167695, DGM SA 3758, interference type with internal perforated pipe and an air displacement device) |
| - Location: | on the left hand side of engine, under the bonnet cowling, with the vertical exhaust pipe above the bonnet cowling |

## 1.3 TRANSMISSION

### 1.3.1 Clutch

| | |
|---|---|
| - Make/Model/Type: | LUK, drawing n. 5179849, dual disk dry clutch, one for travelling and one for PTO engagement; the two discs are composed respectively by cerametallic material - travelling disc - and organic material - PTO disc. |
| - Number of plates: | 2 |
| - Diameter of plates | 305 mm |
| - Method of operation: | Mechanically operated by pedal, for travelling and by lever, for PTO engagement. |

As option:

| | |
|---|---|
| - Make/Model/Type: | LUK, drawing n. 5179832, independent single disc dry clutch, used only for travelling, composed by cerametallic material and one independent multiplate wet discs, used for PTO engagement composed by organic material. |
| - Number of plates: | 1 for clutch used for travelling and 5 for clutch used for PTO engagement |
| - Diameter of plates | 127 mm |
| - Method of operation: | Mechanically operated by pedal, for travelling and hydraulically operated by button, for PTO engagement. |

### 1.3.2 Gearbox

| | |
|---|---|
| - Make/Model/Type: | Own make, drawing n. 5170536, mechanical syncromesh speed change gears, fitted on the tested tractor |
| - Arrangement: | four speeds forward with three ranges, one reduction gear (HI-LO) and one reverse group; when the reverse group is engaged the position HI is automatically forbidden reducing to 12 the number of reverse speeds. |
| - Number of gears: | 24 forward and 12 reverse |
| - Available options: | |
| - Make/Model/Type: | Own make, drawing n. 5170520, mechanical syncromesh speed change gears. |

| | |
|---|---|
| • Arrangement: | four speeds forward with three ranges and one reverse group; |
| • Number of gears: | 12 forward and 12 reverse |
| - Make/Model/Type: | Own make, drawing n. 5170528, mechanical syncromesh speed change gears. |
| • Arrangement: | four speeds forward with five ranges - two of these are responsible of the creeper gears engagement -, and one reverse group; when the reverse group is engaged the 8 creeper gears are automatically forbidden reducing to 12 the number of reverse speeds; |
| • Number of gears: | 20 forward and 12 reverse |

**1.3.3 Rear axle and final drives**

| | |
|---|---|
| - Make/Model/Type: | Own make, drawing n. 5171125, bevel gear differential and epyciclic final drives |
| - Differential lock | |
| • Make/Model/Type: | Own make, mechanical engagement |
| • Method of engagement: | pushing pedal |
| • Method of disengagement: | pushing brake pedals |

As option:

| | |
|---|---|
| - Differential lock | |
| • Make/Model/Type: | Own make, electrohydraulic engagement |
| • Method of engagement: | by means of a button placed on the dashboard with three positions (left, middle and right); the button should be placed in the middle or right position; |
| • Method of disengagement: | by means of the same button used for the differential lock engagement; it may be released manually, bringing the button back to the left position or automatically, using the brakes while the button is in the middle position or pressing the lift-o-matic control when the button is in the right position. |

**1.3.4 Front axle and final drives**

| | |
|---|---|
| - Make/Model/Type: | Own make, drawing n. LK-21339, centrally pivoted, telescoping inverted "U" shape section |
| - Differential lock | |
| • Make/Model/Type: | none |
| • Method of engagement: | --- |
| • Method of disengagement: | --- |

### 1.3.5 Total ratios and travelling speeds

**NEW HOLLAND ITALIA FIAT L 75 with 24 x 12 HI-LO Transmission (fitted on the tested tractor)**

| 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 LO | Low | 444.533 | 1.58 |
| I HI | | 390.322 | 1.80 |
| II LO | | 305.854 | 2.30 |
| II HI | | 268.555 | 2.61 |
| III LO | | 212.164 | 3.31 |
| III HI | | 186.290 | 3.77 |
| IV LO | | 148.107 | 4.74 |
| IV HI | | 130.045 | 5.40 |
| I LO | Medium | 190.326 | 3.69 |
| I HI | | 167.116 | 4.20 |
| II LO | | 130.951 | 5.36 |
| II HI | | 114.981 | 6.11 |
| III LO | | 90.838 | 7.73 |
| III HI | | 79.760 | 8.80 |
| IV LO | | 63.412 | 11.07 |
| IV HI | | 55.678 | 12.61 |
| I LO | High | 80.843 | 8.69 |
| I HI | | 70.984 | 9.89 |
| II LO | | 55.623 | 12.62 |
| II HI | | 48.840 | 14.38 |
| III LO | | 38.584 | 18.20 |
| III HI | | 33.879 | 20.73 |
| IV LO | | 26.935 | 26.07 |
| IV HI | | 23.650 | 29.69 |
| I | Reverse Low | 396.994 | 1.77 |
| II | | 273.146 | 2.57 |
| III | | 189.474 | 3.71 |
| IV | | 132.268 | 5.31 |
| I | Reverse Medium | 169.972 | 4.13 |
| II | | 116.947 | 6.00 |
| III | | 81.123 | 8.66 |
| IV | | 56.630 | 12.40 |
| I | Reverse High | 72.198 | 9.73 |
| II | | 49.674 | 14.14 |
| III | | 34.458 | 20.38 |
| IV | | 24.054 | 29.19 |

(**) Calculated for the rated engine speed 2500 rev/min and dynamic index ratio of 480/70 R 34 tyres: 745 mm (ISO 4251/1 - 1992).

**NEW HOLLAND ITALIA FIAT L 75 with 20 x 12 Mechanical Transmission**

| 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 | Low | 2155.940 | 0.33 |
| II | | 1483.360 | 0.47 |
| III | | 1028.970 | 0.68 |
| IV | | 718.303 | 0.98 |
| I | Medium Low | 923.064 | 0.76 |
| II | | 635.099 | 1.11 |
| III | | 440.553 | 1.59 |
| IV | | 307.540 | 2.28 |
| I | Medium | 390.322 | 1.80 |
| II | | 268.555 | 2.61 |
| III | | 186.290 | 3.77 |
| IV | | 130.045 | 5.40 |

continue in the next page

| 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 | | 167.116 | 4.20 |
| II | Medium | 114.981 | 6.11 |
| III | High | 79.760 | 8.80 |
| IV | | 55.678 | 12.61 |
| I | | 70.984 | 9.89 |
| II | High | 48.840 | 14.38 |
| III | | 33.879 | 20.73 |
| IV | | 23.650 | 29.69 |
| I | | 410.865 | 1.71 |
| II | Reverse | 282.689 | 2.48 |
| III | Low | 196.095 | 3.58 |
| IV | | 136.889 | 5.13 |
| I | | 175.911 | 4.00 |
| II | Reverse | 121.033 | 5.80 |
| III | Medium | 83.958 | 8.36 |
| IV | | 58.609 | 11.99 |
| I | | 74.720 | 9.40 |
| II | Reverse | 51.410 | 13.66 |
| III | High | 35.662 | 19.69 |
| IV | | 24.895 | 28.20 |

(**) Calculated for the rated engine speed 2500 rev/min and dynamic index ratio of 480/70 R 34 tyres: 745 mm (ISO 4251/1 - 1992).

**NEW HOLLAND ITALIA FIAT L 75 with 12 x 12 Mechanical Transmission**

| 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 | | 390.322 | 1.80 |
| II | Low | 268.555 | 2.61 |
| III | | 186.290 | 3.77 |
| IV | | 130.045 | 5.40 |
| I | | 167.116 | 4.20 |
| II | Medium | 114.981 | 6.11 |
| III | | 79.760 | 8.80 |
| IV | | 55.678 | 12.61 |
| I | | 70.984 | 9.89 |
| II | High | 48.840 | 14.38 |
| III | | 33.879 | 20.73 |
| IV | | 23.650 | 29.69 |
| I | | 398.223 | 1.76 |
| II | Reverse | 273.991 | 2.56 |
| III | Low | 190.061 | 3.69 |
| IV | | 132.677 | 5.29 |
| I | | 170.499 | 4.12 |
| II | Reverse | 117.309 | 5.99 |
| III | Medium | 81.374 | 8.63 |
| IV | | 56.806 | 12.35 |
| I | | 72.421 | 9.70 |
| II | Reverse | 49.828 | 14.09 |
| III | High | 34.565 | 20.31 |
| IV | | 24.129 | 29.10 |

(**) Calculated for the rated engine speed 2500 rev/min and dynamic index ratio of 480/70 R 34 tyres: 745 mm (ISO 4251/1 - 1992).

**NEW HOLLAND ITALIA FIAT L 75 with 12 x 4 Mechanical Transmission**

| 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 | Low | 390.322 | 1.80 |
| II | | 268.555 | 2.61 |
| III | | 186.290 | 3.77 |
| IV | | 130.045 | 5.40 |
| I | Medium | 167.116 | 4.20 |
| II | | 114.981 | 6.11 |
| III | | 79.760 | 8.80 |
| IV | | 55.678 | 12.61 |
| I | High | 70.984 | 9.89 |
| II | | 48.840 | 14.38 |
| III | | 33.879 | 20.73 |
| IV | | 23.650 | 29.69 |
| I | Reverse | 160.486 | 4.38 |
| II | | 110.420 | 6.36 |
| III | | 76.596 | 9.17 |
| IV | | 53.470 | 13.13 |

(**) Calculated for the rated engine speed 2500 rev/min and dynamic index ratio of 480/70 R 34 tyres: 745 mm (ISO 4251/1 - 1992).

## 1.4 POWER TAKE OFF

### 1.4.1 Main power take-off

- Type: two sistems are available - fully independent mechanical or hydraulic system. The second one is fitted on the tested tractor. Both systems are equipped with ground speed.
- Method of engagement: the engagement or disengagement of the power take off is operated, in case of mechanical system, by means of a lever, mechanically acting on a single dry plate made of organic material; in case of hydraulic system, that is the one fitted on the tested tractor, by means of a knob, hydraulically acting on a multiplate wet discs clutch; in both systems a second lever at the right hand side of the seat is responsible of the choice between engine synchronized speed and ground speed. There are 3 speed ground, determined mechanically by engine drive PTO control.
- Number of shafts: 1
- Method of changing power take-off shaft ends and speeds: in the mechanical system, shaft ends may be changed removing three bolts, swopping shaft and replacing bolts; in the hydraulic system, that is the one fitted on the tested tractor, shaft ends may be changed removing a simple circlip that retains it. Speed selection by means of a lever at the right hand side of the seat.

**1.4.1.1Main power take-off**

**540 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Diameter of power take-off shaft end: | 35 mm |
| - Number of splines: | 6, in conformity with ISO 500/1991 type 1 |
| - Height above ground: | 735 mm |
| - Distance from the median plane of the tractor: | 0 mm |
| - Distance behind rear-wheel axis: | 530 mm |
| - PTO speed at rated engine speed: | 614 rev/min |
| - Engine speed at standard power take-off speed: | 2198 rev/min |
| - Ratio of rotation speeds (engine speed/p.t.o. speed): | 4.0714 |
| - Power restriction and maximum torque: | ----- |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**750 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Diameter of power take-off shaft end: | 35 mm |
| - Number of splines: | 6 or 21, not in conformity with ISO 500/1991 |
| - Height above ground: | 735 mm |
| - Distance from the median plane of the tractor: | 0 mm |
| - Distance behind rear-wheel axis: | 530 mm |
| - PTO speed at rated engine speed: | 787 rev/min |
| - Engine speed at standard power take-off speed: | 2382 rev/min |
| - Ratio of rotation speeds (engine speed/p.t.o. speed): | 3.176 |
| - Power restriction and maximum torque: | ----- |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**1000 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Diameter of power take-off shaft end: | 35 mm |
| - Number of splines: | 21, in conformity with ISO 500/1991 type 3 |
| - Height above ground: | 735 mm |
| - Distance from the median plane of the tractor: | 0 mm |
| - Distance behind rear-wheel axis: | 530 mm |
| - PTO speed at rated engine speed: | 1050 rev/min |
| - Engine speed at standard | |

| | |
|---|---|
| power take-off speed: | 2381 rev/min |
| - Ratio of rotation speeds (engine speed/p.t.o. speed): | 2.381 |
| - Power restriction and maximum torque: | ----- |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**1.4.1.2 Power take-off proportional to ground speed**

**540 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Travelling distance for one revolution of power take-off shaft: | 0.53 m |
| - Number of power take-off shaft revolutions for one revolution of rear wheels: | 8.9 |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**750 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Travelling distance for one revolution of power take-off shaft: | 0.41 m |
| - Number of power take-off shaft revolutions for one revolution of rear wheels: | 11.4 |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**1000 rev/min**

| | |
|---|---|
| - Location: | at rear of tractor, in tractor's median plane |
| - Travelling distance for one revolution of power take-off shaft: | 0.31 m |
| - Number of power take-off shaft revolutions for one revolution of rear wheels: | 15.2 |
| - Power restriction and maximum torque: | ----- |
| - Direction of rotation (viewed from behind tractor): | clockwise |

**1.4.2 Front Power take-off**

| | |
|---|---|
| - Type: | none |
| - Method of engagement: | ---- |
| - Number of shafts: | - |
| - Method of changing power take-off shaft ends and speeds: | ---- |

## 1.5 POWER LIFT

### 1.5.1 Rear power lift

| | |
|---|---|
| - Make/Model/Type: | Own make, draught, position, position float and combined draught and position control operated by two independent levers; there is a lift-o-matic device to raise and to low in a fast way the lower links. |
| - Type of hydraulic system: | open centre system |
| - Type and number of cylinders: | 1, single acting, internal and as option, 1, single acting, external, which was mounted on the tested tractor. |
| - Type of linkage lock for transport: | lift-o-matic device |
| - Relief valve pressure setting: | 19 ± 1 MPa |
| - Opening pressure of anti-shock valve: | 21 ± 0.5 MPa |
| - Opening pressure of cylinder safety valve: | none |
| - Lift pump type: | hydraulic NEW HOLLAND C 42 rotary pump (with a pump delivery rate of 44.5 l/min), driven by engine shaft; as option, hydraulic BOSCH 0 510 725 085 or SAUER 550/1/34385 rotary pump (with a pump delivery rate of 60 l/min), driven by engine shaft. The BOSCH pump was the one mounted on the tested tractor |
| - Transmission between pump and engine: | mechanical |
| - Type and number of filters: | 1, replaceable paper cartridge; |
| - Site of oil reservoir: | in common with transmissione and rear axle |
| - Type, number and location of tapping points: | 3 ways distributor at rear of tractor |
| - Maximum volume of oil available to external cylinders: | 10 $dm^3$ |

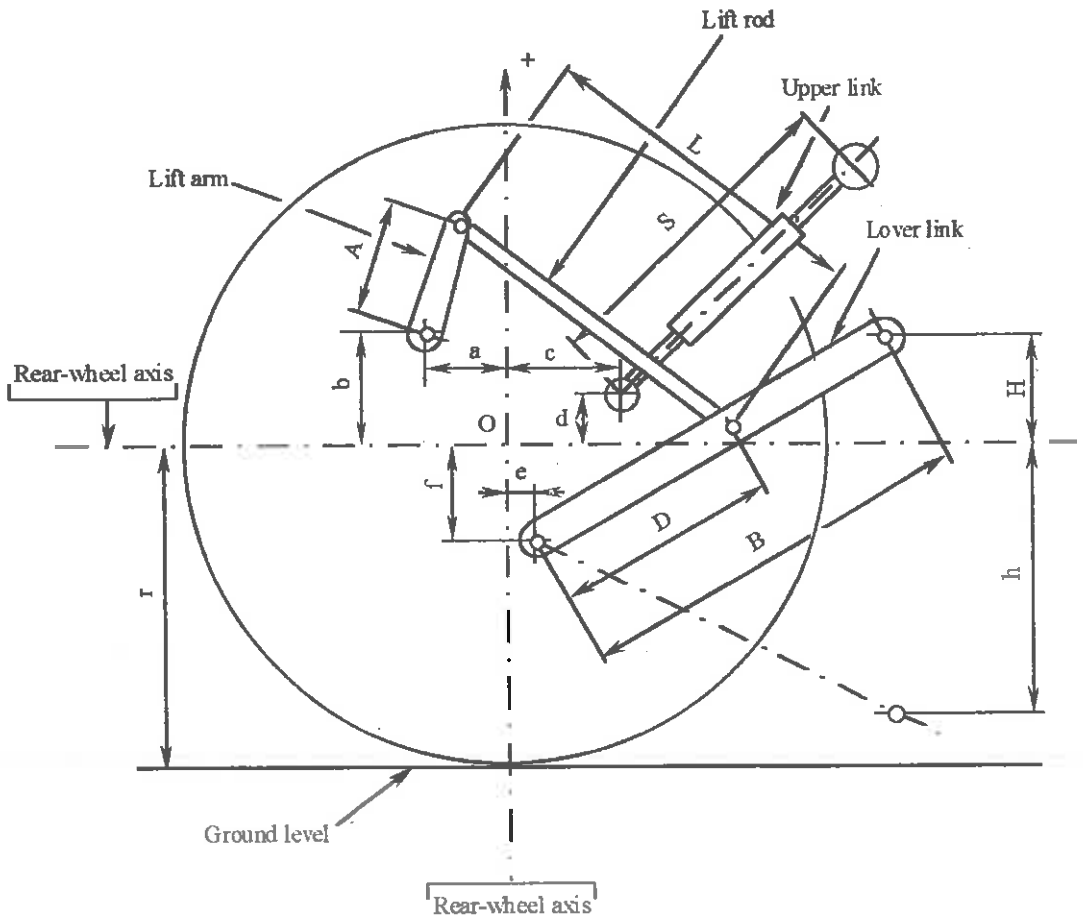
### 1.5.2 Front power lift

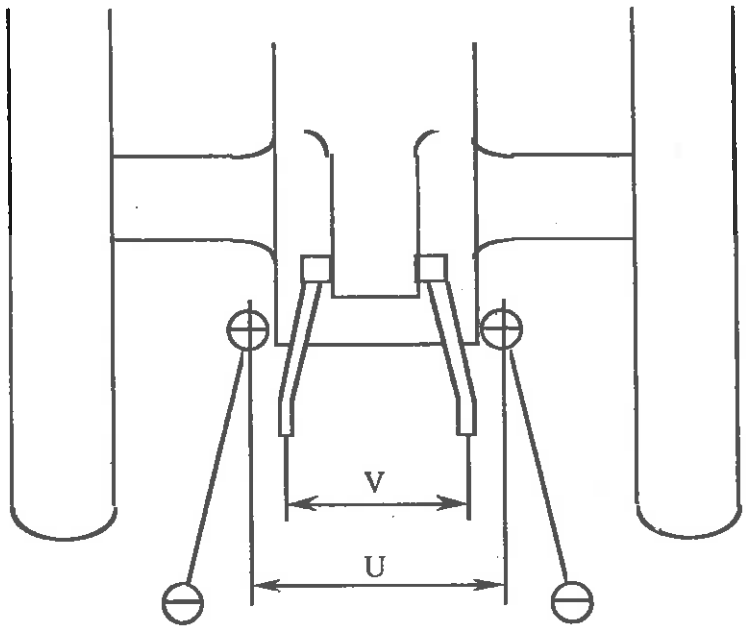
(not available on the 2WD version)

## 1.6 THREE POINT LINKAGE

### 1.6.1 Rear three point linkage

| | |
|---|---|
| Category: | 2nd, implement attachment with three point linkage and lower links, in conformity with I.S.O. STANDARD 730/I-1994 |
| Category adapter: | none |


Lift rod
+
Upper link
L
Lift arm
S
A
Lover link
a
c
b
H
Rear-wheel axis
O
d
e
f
D
B
h
r
Ground level
Rear-wheel axis


V
U

| | | Dimension or range mm | Settings used in test mm |
|---|---|---|---|
| Length of lift arms | (A) | 255 | 255 |
| Length of lower links | (B) | 965 | 965 |
| Distance of lift arm pivot point from rear wheel axis: - horizontally | (a) | 135 rearward | 135rearward |
| - vertically | (b) | 300 | 300 |
| Horizontal distance between the 2 lower link points | (u) | 450-475 | 450-475 |
| Horizontal distance between the 2 lift arm end points | (v) | 510 | 510 |
| Length of upper link | (S) | from 585 to 875 | 675 |
| Distance of upper link pivot point from rear wheel axis: - horizontally | (c) | 400 | 400 |
| - vertically | (d) | 255-335 | 255 |
| Distance of lower link pivot point from rear wheel axis: - horizontally | (e) | 135 | 135 |
| - vertically | (f) | 205 | 205 |
| Distance of lower link pivot points to lift rod pivot points on lower links | (D) | 465-540 | 465 |
| Length of lift rods | (L) | from 510 to 640 | 620 |
| Heigth of lower hitch points relative to the rear wheel axis: | | | |
| - in low position | (h) | 535 | 535 |
| - in high position | (H) | 175 | 175 |
| Height above ground of lower hitch points when locked in transport position (*) | | 920 | - |

(*) Assuming r = 745 mm tyre dynamic radius index of ISO 4251/1-1992

Table 1.1 - **Dimension of rear linkage geometry**
(when connected to the standard frame)

**1.6.2 Front three point linkage** none

**1.7 SWINGING DRAWBAR**

- Type: own make, DGM-GA 1086 A 6t V0
- Height above ground
  - Minimum: 410 mm
  - Maximum: 520 mm
- Type of adjustment: overturning the drawbar to position the fork uppermost or downmost
- Distance of hitch point from rear-wheel axis, horizontally: 860 - 930 mm
- Distance of hitch point from PTO shaft end:
  - Vertically: 215 to 325 mm
  - Horizontally: 330 - 400 mm

| | |
|---|---|
| - Lateral adjustment (centre of clevis): | |
| • Right hand: | 210 mm |
| • Left hand: | 210 mm |
| - Distance of pivot point from rear-wheel axis, horizontally: | 210 mm |
| - Diameter drawbar pin hole: | 33 mm |
| - Maximum vertical permissible load: | 0 kN |

## 1.8 TRAILER HITCH

| | |
|---|---|
| - Type: | own make, DGM-GA 1087 C 6t V1.5 |
| - Hole diameter: | 28 mm |
| - Height above ground: | |
| - min: | 465 mm |
| - max: | 950 mm |
| - Distance of hitch point from rear wheel axis, horizontally: | 700 mm |
| - Distance of hitch point from power take-off shaft end: | |
| - vertically: | 270 mm below, 215 mm above |
| - horizontally: | 170 mm |
| - Maximum vertical permissible load: | 14.7 kN |

## 1.9 HOLED DRAWBAR

(available as option and not present on the tested tractor)

## 1.10 STEERING

| | |
|---|---|
| - Make/Model/Type: | DANFOSS make, ORBITROL OSPC 125 OR model, hydrostatic type |
| - Method of operation: | |
| - pump: | hydrostatic steering with NEW HOLLAND A31 XRP hydraulic gear pump or NEW HOLLAND A31 XRP2 hydraulic gear pump |
| - rams: | two double acting rams acting directly on front axle; |
| - Working pressure: | 17 Mpa |

## 1.11 BRAKES

### 1.11.1 Service brake

| | |
|---|---|
| - Make/Model: | Own make, drawing n. 5172711 |
| - Type: | oil bath disc, total 2 discs at rear (1 for wheel), mounted on differential shaft. Rear disc 259 mm dia, FRENDO ABEX HDT 303 lining material |
| - Method of operation: | hydraulically actuated with 2 pedals |
| - Trailer braking take-off: | hydraulic or pneumatic traler braking systems |

**1.11.2 Parking brake:**

- Type: fully independent of service brake, 4 oil bath sectors, mounted on the secondary shaft of the gear box, FRENDO ABEX 40 A lining material
- Method of operation: mechanical by hand lever

**1.12 WHEELS**

**Steering wheels**

- Number: 2
- Location: at front

**Driving wheels**

- Number: 2
- Location: at rear

- Wheelbase: 2342 mm

- Track width adjustment:

| | Minimum mm | Maximum mm | Adjustment method |
|---|---|---|---|
| Front | 1400 | 2110 | Adjusting the telescopic beam and alternating wheel rims |
| Rear | 1440 | 2205 | Changing the position of the rims in respect to the disc |

**1.13 PROTECTIVE STRUCTURE**

- Make/Model/Type: NEW HOLLAND make, SLTV 3 model, not tiltable cab type
- Manufacture's name and address: NEW HOLLAND ITALIA S.p.A.,
  Viale delle Nazioni, 55
  41100 MODENA (MO) - Italy
- Protective device: cab, not tiltable
- OECD approval number: CSD 1404/6 for the FIAT version and CSD 1404/16 for the FORD version
- Date of approval: 9th October 1995

As option:

- Make/Model/Type: NEW HOLLAND make, 35/L/1 model, not tiltable Rear Roll Bar type
- Manufacture's name and address: NEW HOLLAND ITALIA S.p.A.,
  Viale delle Nazioni, 55
  41100 MODENA (MO) - Italy
- Protective device: Rear Roll Bar, not tiltable
- OECD approval number: CSS 0349/6 for the FIAT version and CSS 0349/16 for the FORD version
- Date of approval: 9th October 1995

- Make/Model/Type: NEW HOLLAND make, 35/L/A model, folding Rear Roll Bar type
- Manufacture's name and

| | |
|---|---|
| address: | NEW HOLLAND ITALIA S.p.A.,<br>Viale delle Nazioni, 55<br>41100 MODENA (MO) - Italy |
| - Protective device: | Rear Roll Bar, folding |
| - OECD approval number: | CSD 1406/6 for the FIAT version and CSD 1406/16 for the FORD version |
| - Date of approval: | 9th October 1995 |
| - Make/Model/Type: | NEW HOLLAND make, 35/L/B model, NON folding Rear Roll Bar type |
| - Manufacture's name and address: | NEW HOLLAND ITALIA S.p.A.,<br>Viale delle Nazioni, 55<br>41100 MODENA (MO) - Italy |
| - Protective device: | Rear Roll Bar, NON foldng |
| - OECD approval number: | CSD 1406/26 for the FIAT version and CSD 1406/36 for the FORD version |
| - Date of approval: | 9th October 1995 |
| - Make/Model/Type: | NEW HOLLAND make, 35/L/3 model, not tiltable Rear Roll Bar type |
| - Manufacture's name and address: | NEW HOLLAND ITALIA S.p.A.,<br>Viale delle Nazioni, 55<br>41100 MODENA (MO) - Italy |
| - Protective device: | Rear Roll Bar, not tiltable |
| - OECD approval number: | CSD 1412/47÷48 for the FIAT version and CSD 1412/67÷68 for the FORD version |
| - Date of approval: | 12TH February 1997 |
| - Make/Model/Type: | NEW HOLLAND make, 35/L/C model, folding Rear Roll Bar type |
| - Manufacture's name and address: | NEW HOLLAND ITALIA S.p.A.,<br>Viale delle Nazioni, 55<br>41100 MODENA (MO) - Italy |
| - Protective device: | Rear Roll Bar, folding |
| - OECD approval number: | CSD 1411/51÷52 for the FIAT version and CSD 1411/71÷72 for the FORD version |
| - Date of approval: | 12TH February 1997 |
| - Make/Model/Type: | NEW HOLLAND make, 35/L/D model, NON folding Rear Roll Bar type |
| - Manufacture's name and address: | NEW HOLLAND ITALIA S.p.A.,<br>Viale delle Nazioni, 55<br>41100 MODENA (MO) - Italy |
| - Protective device: | Rear Roll Bar, NON folding |
| - OECD approval number: | CSD 1411/131÷132 for the FIAT version and CSD 1411/131÷152 for the FORD version |
| - Date of approval: | 12TH February 1997 |

## 1.14 SEAT

### 1.14.1 Driver's seat

| | |
|---|---|
| - Make/Model/Type: | GRAMMER make, DS 85H/3A model, upholstered seat with back rest, is mounted on tractor equipped with safety cab |
| - Type of suspension: | adjustable spring |
| - Type of damping: | shock absorber |
| - Range of adjustment: | |
| - longitudinal: | 210 mm |
| - vertical: | 60 mm |

### 1.14.2 Optional driver's seat

- Make/Model/Type: GRAMMER make, LS 95H1/90A model, upholstered seat with back rest, is mounted on tractor equipped with safety cab
- Type of suspension: adjustable spring
- Type of damping: shock absorber
- Range of adjustment:
  - longitudinal: 170 mm
  - vertical: 60 mm

- Make/Model/Type: GRAMMER make, MSG 95A/20 model, upholstered seat with back rest, is mounted on tractor equipped with safety cab
- Type of suspension: adjustable spring
- Type of damping: shock absorber
- Range of adjustment:
  - longitudinal: 170 mm
  - vertical: 60 mm

- Make/Model/Type: GRAMMER make, DS 44/2H model, upholstered seat with back rest, is mounted on tractor equipped with all above mentioned Rear Roll Bar frame.
- Type of suspension: adjustable spring
- Type of damping: shock absorber
- Range of adjustment:
  - longitudinal: 150 mm
  - vertical: 60 mm

- Make/Model/Type: GRAMMER make, DS 85H/3A model, upholstered seat with back rest, is mounted on tractor equipped with all above mentioned Rear Roll Bar frame.
- Type of suspension: adjustable spring
- Type of damping: shock absorber
- Range of adjustment:
  - longitudinal: 210 mm
  - vertical: 60 mm

### 1.14.3 Passenger seat

- Location: on left hand side of the driver's seat
- Number of places: 1

## 1.15 LIGHTING

| | Height above ground of centre (*) mm | Size mm | Distance from outside edge of lights to median plane of tractor mm |
|---|---|---|---|
| Headlights: | 1130 | 165 x 105 | 210 |
| Sidelights | 1455 | 110 x 35 | 785 |
| Rearlights | 1590 | 75 x 70 | 795 |
| Reflectors | 660 | Ø 55 | 475 |

(*) with tyres: 9.00 - 16 front - 480/70 R 34 rear

## 2. TEST CONDITIONS

### 2.1 OVERALL DIMENSIONS (with tyres 9.00 - 16 front and 480/70 R 34 rear)

| | Length | Width | | Height at top of | |
|---|---|---|---|---|---|
| | | minimum | maximum | protective structure | exhaust silencer |
| | mm | mm | mm | mm | mm |
| Ballasted | 4270 | 2020 | 2685 | 2550 | 2770 |
| Unballasted | 4000 | 2020 | 2685 | 2550 | 2770 |

### 2.2 GROUND CLEARANCE

(unballasted tractor): 500 mm

- Clearance-limiting part: below the rear differential housing

### 2.3 TRACTOR MASS

Mass (with safety cab and full fuel tank):

| | Ballasted | | Unballasted | |
|---|---|---|---|---|
| | Without driver kg | With driver kg | Without driver kg | With driver kg |
| Front | 1770 | 1790 | 1200 | 1220 |
| Rear | 2420 | 2475 | 2220 | 2275 |
| Total | 4190 | 4265 | 3420 | 3495 |

### 2.4 BALLAST

| | Weights | | Water (kg) |
|---|---|---|---|
| | Number | Total mass (kg) | |
| Front wheels | - | - | - |
| Front weight | 10 + support | 470 | - |
| Rear wheels | 6 | 300 | - |
| Optional | 1 | 1235 | - |

### 2.5 TYRES AND TRACK WIDTH SPECIFICATIONS

| | Front | Rear |
|---|---|---|
| Tyres: | | |
| - dimensions | 9.00 - 16 | 480/70 R 34 |
| - ply rating | 8 ply | 143 A8 |
| - type | radial | radial |
| - maximum load (tyre manufacturer') | 10.59 kN | 26.72 kN |
| - maximum load (tractor manufacturer's) | 10.78 kN | 22.07 kN |
| - inflaction pressure (tyre manufacturer's) | 310 kPa | 160 kPa |
| - dynamic radius index | 395 mm | 745 mm |
| Chosen track width: | 1560 mm | 1540 mm |

The optional ballasts have been used in order to carry out optional drawbar tests in the condition of the following maximum admittable load on the axles:
Front axle: 2200 kg - Rear axle: 4500 kg - Total: 5500 kg

| Tyre matching | | | |
|---|---|---|---|
| At front | | At rear | |
| 7.50 - 16 | 8 ply | 18.4 R 30 | 142 A8 |
| | | 16.9 R 30 | 137 A8 |
| | | 480/70 R 30 | 141 A8 |
| 7.50 - 18 | 8 ply | 16.9 R 34 | 139 A8 |
| | | 13.6 R 38 | 128 A8 |
| 7.50 - 20 | 8 ply | 16.9 R 34 | 139 A8 |
| 9.00 - 16 | 8 ply | 480/70 R 34 | 143 A8 |
| | | 540/65 R 34 | 140 A8 |
| | | 520/70 R 30 | 145 A8 |
| | | 18.4 R 30 | 142 A8 |
| 10.00 - 16 | 8 ply | 480/70 R 34 | 143 A8 |
| | | 540/65 R 34 | 140 A8 |
| | | 520/70 R 30 | 145 A8 |
| | | 18.4 R 30 | 142 A8 |

## 2.5 OILS AND LUBRICANTS

### 2.5.1 Capacity and change interval

| | Capacity $dm^3$ | Oil change h | Filter change h |
|---|---|---|---|
| - Engine with filter | 10.7 | 300 | 300 |
| - Gear box with power lifts, rear axle, final drive and hydraulic system | 55.0 | 1200 | 300 |
| - Steering system | 2.0 | 1200 | 300 |

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

| | Recommended | Used during test |
|---|---|---|
| Engine oil<br>- Type:<br>- Viscosity:<br>- Classification: | AMBRA SUPER GOLD 15W-40<br>12.50 cSt<br>API SE - CD | As recommended |
| Hydraulic fluid<br>- Type:<br>- Viscosity:<br>- Classification | AMBRA MULTI G<br>11.50 cSt<br>API GL 4 | As recommended |
| Rear axle, final drives and gear box<br>- Type:<br>- Viscosity:<br>- Classification: | AMBRA MULTI G<br>11.50 cSt<br>API GL 4 | As recommended |
| Steering oil<br>- Type:<br>- Viscosity:<br>- Classification: | AMBRA MULTI G<br>11.50 cSt<br>API GL 4 | As recommended |

**2.5.3 Grease:** AMBRA GR9 NLGI2 international specification

- Number of lubrication points:12

## 2.7 FUEL

- Type: ERG DIESEL oil, in conformity with national standard.
- Density at 15 °C: 0.830 $g/cm^3$

## 3. COMPULSORY TEST RESULTS

### 3.1 Main power take-off

- Date and location of tests: 6th September 1996, 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 |
| 3.1.1 MAXIMUM POWER - TWO HOUR TEST | | | | | | |
| 49,71 | 2500 | 1050 | 12,42 | 14,96 | 250 | 3,32 |
| 3.1.2 POWER AT RATED ENGINE SPEED | | | | | | |
| 49,71 | 2500 | 1050 | 12,42 | 14,96 | 250 | 3,32 |
| 3.1.3 STANDARD POWER TAKE OFF SPEED (1000 ± 25 rev/min) | | | | | | |
| 48,27 | 2381 | 1000 | 11,90 | 14,34 | 247 | 3,37 |
| 3.1.4 PART LOADS | | | | | | |
| 3.1.4.1 the torque corresponding to maximum power at rated engine speed | | | | | | |
| 49,71 | 2500 | 1050 | 12,42 | 14,96 | 250 | 3,32 |
| 3.1.4.2 85% of torque obtained in 3.1.4.1 | | | | | | |
| 44,60 | 2638 | 1108 | 11,27 | 13,58 | 253 | 3,28 |
| 3.1.4.3 75% of torque defined in 3.1.4.2 | | | | | | |
| 33,66 | 2655 | 1115 | 9,45 | 11,39 | 281 | 2,96 |
| 3.1.4.4 50% of torque defined in 3.1.4.2 | | | | | | |
| 22,54 | 2667 | 1120 | 7,55 | 9,10 | 335 | 2,48 |
| 3.1.4.5 25% of torque defined in 3.1.4.2 | | | | | | |
| 11,49 | 2719 | 1142 | 5,62 | 6,77 | 489 | 1,70 |
| 3.1.4.6 unloaded | | | | | | |
| - | 2743 | 1152 | 4,01 | 4,83 | - | - |
| 3.1.5 PART LOADS AT STANDARD POWER TAKE OFF SPEED (1000 rev/min) | | | | | | |
| 3.1.5.1 the torque corresponding to maximum power | | | | | | |
| 48,27 | 2381 | 1000 | 11,90 | 14,34 | 247 | 3,37 |
| 3.1.5.2 85% of torque obtained in 3.1.5.1 | | | | | | |
| 43,13 | 2500 | 1050 | 10,94 | 13,18 | 254 | 3,27 |
| 3.1.5.3 75% of torque defined in 3.1.5.2 | | | | | | |
| 32,69 | 2526 | 1061 | 8,90 | 10,72 | 272 | 3,05 |
| 3.1.5.4 50% of torque defined in 3.1.5.2 | | | | | | |
| 22,02 | 2552 | 1072 | 7,15 | 8,61 | 325 | 2,56 |
| 3.1.5.5 25% of torque defined in 3.1.5.2 | | | | | | |
| 11,20 | 2598 | 1091 | 5,25 | 6,33 | 469 | 1,77 |
| 3.1.5.6 unloaded | | | | | | |
| - | 2624 | 1102 | 3,69 | 4,45 | - | - |

- No load maximum engine speed: 2743 rev/min
- Torque (equivalent crankshaft) at maximum power:
  - at rated engine speed 189.9 Nm
  - at standard power take-off speed 193.6 Nm
- Maximum torque (equivalent crankshaft) 219.9 Nm
  (engine speed: 1352 rev/min)

| Mean atmospheric conditions | |
|---|---|
| Temperature: | 20 °C |
| Pressure: | 98.1 kPa |
| Relative humidity: | 75 % |
| Maximum temperatures | |
| Coolant: | 86.0 °C |
| Engine oil: | 120.0 °C |
| Fuel: | 53.0 °C |
| Engine air intake: | 34.0 °C |

## 3.2 HYDRAULIC POWER AND LIFTING FORCE

- Date of tests: 20th September 1996

### 3.2.1 Hydraulic Power Test

- Sustained pressure with relief valve open: 19.0 MPa
- Pump delivery rate at minimum pressure: 58.0 l/min

| | Flow rate l/min | Power kW | Pressure MPa |
|---|---|---|---|
| Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power | 56.0 | 16.0 | 17.1 |
| Flow rate and hydraulic pressure corresponding to maximum hydraulic power | 56.0 | 16.3 | 17.5 |

- Tapping point used for test: at rear of tractor
- Temperature of hydraulic fluid: 60 °C
- Opening pressure of the unloading valve: --- MPa
- Closing pressure of the unloading valve: --- MPa

### 3.2.2 POWER LIFT TEST

Rear power lift linkage settings for test - see Table 1.1 and figg. 1.1 ÷ 1.2

| | at the hitch point | | on the frame | |
|---|---|---|---|---|
| Height of lower hitch points above ground in down position | 210 | mm | 210 | mm |
| Vertical movement | 640 (*)<br>700 (+) | mm<br>mm | 640 (*)<br>700 (+) | mm<br>mm |

(*) with lifting forces (+) without lifting forces

| | at the hitch point | | on the frame | |
|---|---|---|---|---|
| Maximum corrected force exerted through full range | 17.53 (**) | kN | 13.72 (**) | kN |
| | 23.92 (++) | kN | 18.06 (++) | kN |
| Corresponding pressure of hydraulic fluid | 17.1 | MPa | 17.1 | MPa |
| Moment about rear-wheel axis | 19.28 (**) | kNm | 23.46 (**) | kNm |
| | 26.31 (++) | kNm | 30.88 (++) | kNm |
| Maximum tilt angle of mast from the vertical | - degrees | | 3 degrees | |

(**) without supplementary external cylinder
(++) with supplementary external cylinder

***Results without supplementary external cylinder***

| Lifting heights relative to the horizontal plane including the lower pivot points | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | - 330 | - 300 | - 200 | - 100 | - 50 | 0 | 50 | 100 | 200 | 310 |
| Lifting forces | | | | | | | | | | |
| at the hitch points kN | 17.53 | 18.53 | 21.80 | 23.74 | 24.27 | 24.89 | 25.24 | 25.33 | 24.89 | 23.83 |
| Corresponding pressure: 17.1 MPa | | | | | | | | | | |
| at the frame kN | 23.97 | 24.18 | 24.71 | 24.54 | 24.45 | 24.18 | 23.12 | 22.51 | 21.71 | 13.72 |
| Corresponding pressure: 17.1 MPa | | | | | | | | | | |

***Results with supplementary external cylinder***

| Lifting heights relative to the horizontal plane including the lower pivot points | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| mm | - 330 | - 300 | - 200 | - 100 | - 50 | 0 | 50 | 100 | 200 | 310 |
| Lifting forces | | | | | | | | | | |
| at the hitch points kN | 25.35 | 26.30 | 28.77 | 30.18 | 30.18 | 30.36 | 30.27 | 29.74 | 30.10 | 23.92 |
| Corresponding pressure: 17.1 MPa | | | | | | | | | | |
| at the frame kN | 33.75 | 33.27 | 32.92 | 31.16 | 30.54 | 29.74 | 28.86 | 27.36 | 25.86 | 18.06 |
| Corresponding pressure: 17.1 MPa | | | | | | | | | | |

## 3.3 DRAWBAR PERFORMANCE

Date of tests: 27th January ÷ 30th January 1997
Type of track: asphalt
Tyre size - front: 9.00 - 16 8 ply
- rear: 480/70 R 34 143 A8

| | Height of hitch above ground | Tyre inflaction pressure | |
|---|---|---|---|
| | | Front | Rear |
| Unballasted | 765 mm | 310 kPa | 160 kPa |
| Ballasted | 760 mm | 310 kPa | 160 kPa |

| Gear no. and group | Driving speed km/h | Power kW | Drawbar pull daN | Engine speed rev/min | Wheel slip % | Specific fuel consumpt. g/kWh | Specific energy kWh/l | Temperature Fuel °C | Coolant °C | Engine oil °C | Atmospheric conditions Tempe rature °C | Relative humidity % | Pres sure kPa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3.3.1 MAXIMUM POWER IN TESTED GEARS (unballasted tractor) | | | | | | | | | | | | | |
| 1 LO Medium | 3.32 | 32.40 | 3511 | 2637 | 15.0 | 339 | 2.45 | 20 | 36 | 106 | 3.0 | 47 | 98.9 |
| 1 HI Medium | 3.75 | 36.59 | 3511 | 2619 | 15.1 | 333 | 2.49 | 19 | 35 | 108 | 3.0 | 48 | 98.9 |
| 4 LO Slow | 4.22 | 39.64 | 3383 | 2497 | 11.3 | 312 | 2.66 | 22 | 41 | 112 | 3.0 | 50 | 98.9 |
| 4 HI Slow | 4.98 | 40.71 | 2942 | 2500 | 8.2 | 313 | 2.65 | 20 | 39 | 108 | 3.0 | 50 | 98.9 |
| 2 LO Medium | 4.99 | 42.14 | 3040 | 2501 | 7.4 | 303 | 2.74 | 15 | 33 | 111 | 3.0 | 52 | 98.9 |
| 2 HI Medium | 5.78 | 42.15 | 2628 | 2502 | 5.9 | 303 | 2.74 | 15 | 33 | 111 | 3.0 | 54 | 98.9 |
| 3 LO Medium | 7.44 | 42.36 | 2050 | 2502 | 4.3 | 296 | 2.81 | 15 | 33 | 111 | 3.0 | 55 | 98.9 |
| 3 HI Medium | 8.52 | 41.77 | 1765 | 2501 | 3.7 | 304 | 2.73 | 13 | 32 | 110 | 3.0 | 57 | 98.9 |
| 1 LO High | 8.38 | 42.93 | 1844 | 2502 | 4.0 | 294 | 2.83 | 12 | 30 | 110 | 3.0 | 62 | 98.9 |
| 1 HI High | 9.61 | 42.42 | 1589 | 2501 | 3.3 | 297 | 2.79 | 12 | 31 | 110 | 3.0 | 61 | 98.9 |
| 4 LO Medium | 10.78 | 41.40 | 1383 | 2502 | 3.2 | 311 | 2.67 | 12 | 31 | 110 | 3.0 | 59 | 98.9 |
| 4 HI Medium | 12.30 | 40.19 | 1177 | 2501 | 3.0 | 316 | 2.63 | 13 | 32 | 111 | 3.0 | 58 | 98.9 |
| 3.3.2 MAXIMUM POWER IN TESTED GEARS (ballasted tractor) | | | | | | | | | | | | | |
| 1 LO Slow | 1.45 | 15.17 | 3776 | 2680 | 14.9 | - | - | 25 | 87 | 106 | 5.0 | 50 | 98.9 |
| 1 HI Slow | 1.64 | 17.12 | 3756 | 2673 | 15.0 | - | - | 25 | 88 | 106 | 5.0 | 50 | 98.9 |
| 2 LO Slow | 2.09 | 21.71 | 3746 | 2664 | 15.0 | - | - | 25 | 89 | 107 | 5.5 | 51 | 98.9 |
| 2 HI Slow | 2.37 | 24.52 | 3727 | 2653 | 14.9 | - | - | 17 | 36 | 108 | 5.0 | 52 | 98.9 |
| 3 LO Slow | 2.99 | 31.56 | 3795 | 2649 | 14.9 | 333 | 2.49 | 16 | 36 | 111 | 5.0 | 54 | 98.9 |
| 3 HI Slow | 3.38 | 35.57 | 3795 | 2623 | 15.0 | 339 | 2.45 | 15 | 34 | 110 | 4.5 | 56 | 98.9 |

| Gear no. and group | Driving speed km/h | Power kW | Drawbar pull daN | Engine speed rev/min | Wheel slip % | Specific fuel consumpt. g/kWh | Specific energy kWh/l | Temperature | | | Atmospheric conditions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Fuel °C | Coolant °C | Engine oil °C | Tempe rature °C | Relative humidity % | Pres sure kPa |
| 1 LO Medium | 3.32 | 34.58 | 3756 | 2637 | 15.1 | 333 | 2.49 | 15 | 34 | 110 | 4.5 | 58 | 98.9 |
| 1 HI Medium | 3.78 | 37.77 | 3599 | 2599 | 13.8 | 331 | 2.51 | 21 | 39 | 114 | 5.0 | 60 | 98.9 |
| 4 LO Slow | 4.29 | 40.77 | 3423 | 2497 | 9.7 | 307 | 2.70 | 18 | 37 | 112 | 5.0 | 62 | 98.9 |
| 4 HI Slow | 5.09 | 41.32 | 2922 | 2504 | 6.2 | 306 | 2.71 | 18 | 37 | 112 | 5.0 | 64 | 98.9 |
| 2 LO Medium | 5.00 | 41.78 | 3011 | 2499 | 7.1 | 305 | 2.72 | 18 | 37 | 112 | 4.0 | 66 | 98.9 |
| 2 HI Medium | 5.78 | 41.74 | 2599 | 2501 | 5.7 | 300 | 2.77 | 17 | 36 | 108 | 4.0 | 68 | 98.9 |
| 3 LO Medium | 7.43 | 41.88 | 2030 | 2500 | 4.2 | 291 | 2.85 | 20 | 38 | 113 | 4.0 | 70 | 98.9 |
| 3 HI Medium | 8.51 | 41.50 | 1755 | 2498 | 3.6 | 308 | 2.69 | 19 | 38 | 113 | 3.5 | 72 | 98.9 |
| 1 LO High | 8.39 | 42.26 | 1814 | 2497 | 3.7 | 297 | 2.80 | 18 | 37 | 113 | 3.5 | 74 | 98.9 |
| 1 HI High | 9.62 | 41.92 | 1569 | 2498 | 3.0 | 296 | 2.81 | 20 | 37 | 113 | 3.5 | 76 | 98.9 |
| 4 LO Medium | 10.85 | 41.06 | 1363 | 2502 | 2.5 | 303 | 2.74 | 17 | 36 | 112 | 3.0 | 78 | 98.9 |
| 4 HI Medium | 12.41 | 39.87 | 1157 | 2503 | 2.1 | 311 | 2.67 | 18 | 36 | 113 | 3.0 | 80 | 98.9 |
| 3.3.3 FIVE-HOUR TESTS | | | | | | | | | | | | | |
| 3.3.3.1 FIVE HOUR TEST at 75% of pull at maximum power | | | | | | | | | | | | | |
| 3 LO Medium | 7.99 | 33.71 | 1520 | 2651 | 2.9 | 325 | 2.56 | 12 | 32 | 111 | 4.0 | 60 | 99.2 |
| 3.3.3.2 FIVE HOUR TEST at pull corresponding to 15% wheelslip - with 460 kg as additional ballast | | | | | | | | | | | | | |
| 1 LO Medium | 3.57 | 37.20 | 3756 | 2627 | - | - | - | 25 | 39 | 110 | 7.0 | 75 | 99.2 |

Oil consumption during ten hours tests 3.3.3.1 and 3.3.3.2: 76 g/h

Tests 3.3.3.2 was carried out with additional ballast; so. the not quoted figures are irrelevant

### 3.4 TURNING AREA AND TURNIG CIRCLE

Wheel equipment: front: 9.00 - 16 (8 ply) rear: 480/70 R 34 (143 A8)
Track width: front: 1560 rear: 1540

| | With brakes | | Without brakes | |
|---|---|---|---|---|
| | Right-hand m | Left-hand m | Right-hand m | Left-hand m |
| Radius of turning area | 3.50 | 3.52 | 3.95 | 3.94 |
| Radius of turning circle | 3.36 | 3.38 | 3.81 | 3.80 |

### 3.5 LOCATION OF CENTRE OF GRAVITY

| | |
|---|---|
| Height above ground | 880 mm |
| Distance forward from the vertical plane containing the axis of the rear wheels | 818 mm |
| Distance from the median plane of the tractor: to the left | 0 mm |

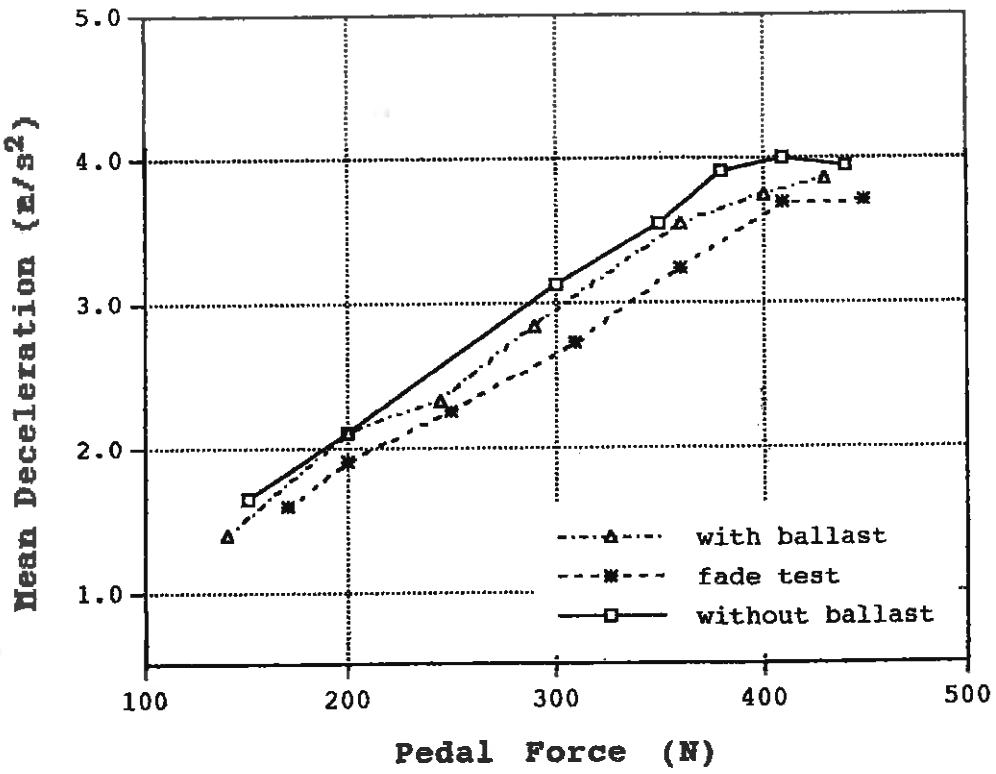
### 3.6 BRAKING

- Date of tests: 13th January 1997
- Type of track: asphalt
- Type of decelerometer: PEISELER
- Tractor masses during test (*)

| | front axle kg | rear axle kg | total kg |
|---|---|---|---|
| Ballasted | 1790 | 2485 | 4275 |
| Unballasted | 1220 | 2285 | 3505 |

(*) tractor carring a driver and the decelerometer (85 kg)

### 3.6.1 Cold service braking device test - 3.6.2 Fade test



### 3.6.1 Cold service braking device test

| | Ballasted tractor | Unballasted tractor |
|---|---|---|
| Speed before application of brakes (km/h) | 32.0 | 31.9 |

### 3.6.2 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 25.5 km/h with a towing force of 4.27 kN

### 3.6.3 Parking braking device test

| | Uphill | Downhill |
|---|---|---|
| Braking device control force | 19.0 daN | 19.1 daN |

### 3.7 MEASUREMENT OF EXTERNAL NOISE LEVEL

- Date of tests: 14th January 1997 - I.M.A. - TORINO
- Sound level meter: make,model and type: RION make, NA 29 E model, impulse precision type
- Type of track: asphalt
- Gear number: 4 HI High
- Travelling speed before acceleration: 24.0 km/h
- Sound level: 87.0 dB(A)

## 4. REPAIRS = none

## 5. REMARKS = none

## 6. OPTIONAL TEST (on request of the manufacturer)

### 6.1 Drawbar performance

This test has been carried out using optional ballasts in order to reach the condition of the maximum admittable load on the axles; measurements have been done in the same gears tested during the drawbar performance shown at the point 3.3.2 of this report.

## 6.1 DRAWBAR PERFORMANCE

**Date of tests:** 31st January 1997
**Type of track:** asphalt
**Tyre size** - front: 9.00 - 16 8 ply
- rear: 480/70 R 34 143 A8

**Tractor masses used during tests:**

| | |
|---|---|
| front | 2200 kg |
| rear | 3300 kg |
| Total | 5500 kg |

| | | Tyre inflaction pressure | |
|---|---|---|---|
| | | Front | Rear |
| | Height of hitch above ground | 160 kPa | 160 kPa |
| Ballasted | 755 mm | 160 kPa | 160 kPa |

| Gear no. and group | Driving speed km/h | Power kW | Drawbar pull daN | Engine speed rev/min | Wheel slip % | Specific fuel consumpt. g/kWh | Specific energy kWh/l | Temperature Fuel °C | Temperature Coolant °C | Temperature Engine oil °C | Atmospheric conditions Tempe rature °C | Atmospheric conditions Relative humidity % | Atmospheric conditions Pres sure kPa |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAXIMUM POWER IN TESTED GEARS (tractor with the maximum admittable load on the axles) | | | | | | | | | | | | | |
| 1 LO Slow | 1.44 | 17.78 | 4462 | 2674 | 15.0 | - | - | 25 | 87 | 106 | 6.0 | 60 | 100.4 |
| 1 HI Slow | 1.63 | 20.21 | 4472 | 2663 | 15.0 | - | - | 25 | 88 | 106 | 6.5 | 61 | 100.4 |
| 2 LO Slow | 2.07 | 25.64 | 4462 | 2652 | 14.9 | - | - | 25 | 89 | 107 | 6.5 | 62 | 100.4 |
| 2 HI Slow | 2.35 | 29.23 | 4472 | 2646 | 14.9 | - | - | 25 | 39 | 116 | 6.0 | 62 | 100.4 |
| 3 LO Slow | 2.94 | 36.57 | 4482 | 2614 | 15.0 | 329 | 2.53 | 23 | 42 | 117 | 5.5 | 64 | 100.4 |
| 3 HI Slow | 3.36 | 39.95 | 4276 | 2498 | 10.6 | 311 | 2.67 | 22 | 39 | 116 | 5.5 | 66 | 100.4 |
| 1 LO Medium | 3.31 | 40.57 | 4413 | 2501 | 10.2 | 304 | 2.73 | 21 | 38 | 115 | 5.0 | 65 | 100.4 |
| 1 HI Medium | 3.93 | 41.82 | 3834 | 2500 | 6.4 | 298 | 2.79 | 19 | 36 | 114 | 5.0 | 67 | 100.4 |
| 4 LO Slow | 4.52 | 42.48 | 3383 | 2504 | 4.7 | 292 | 2.84 | 17 | 35 | 113 | 5.0 | 68 | 100.4 |
| 4 HI Slow | 5.15 | 42.21 | 2952 | 2495 | 4.3 | 300 | 2.77 | 17 | 35 | 113 | 4.5 | 69 | 100.4 |
| 2 LO Medium | 5.15 | 43.02 | 3011 | 2497 | 3.8 | 288 | 2.88 | 15 | 34 | 112 | 4.5 | 70 | 100.4 |
| 2 HI Medium | 5.89 | 42.85 | 2618 | 2498 | 3.3 | 291 | 2.85 | 14 | 33 | 110 | 4.0 | 70 | 100.4 |
| 3 LO Medium | 7.53 | 42.67 | 2040 | 2499 | 2.4 | 298 | 2.79 | 13 | 31 | 111 | 3.5 | 70 | 100.4 |
| 3 HI Medium | 8.63 | 41.58 | 1736 | 2503 | 2.0 | 306 | 2.71 | 13 | 30 | 110 | 3.0 | 72 | 100.4 |
| 1 LO High | 8.50 | 42.34 | 1795 | 2500 | 2.1 | 301 | 2.76 | 10 | 28 | 107 | 2.5 | 74 | 100.4 |
| 1 HI High | 9.68 | 41.37 | 1540 | 2496 | 1.9 | 304 | 2.73 | 10 | 29 | 109 | 2.5 | 76 | 100.4 |
| 4 LO Medium | 10.90 | 40.65 | 1344 | 2500 | 1.5 | 306 | 2.71 | 11 | 29 | 109 | 2.0 | 77 | 100.4 |
| 4 HI Medium | 12.44 | 39.62 | 1147 | 2504 | 1.5 | 316 | 2.63 | 11 | 30 | 110 | 2.0 | 76 | 100.4 |

## NEW HOLLAND ITALIA FIAT L 75

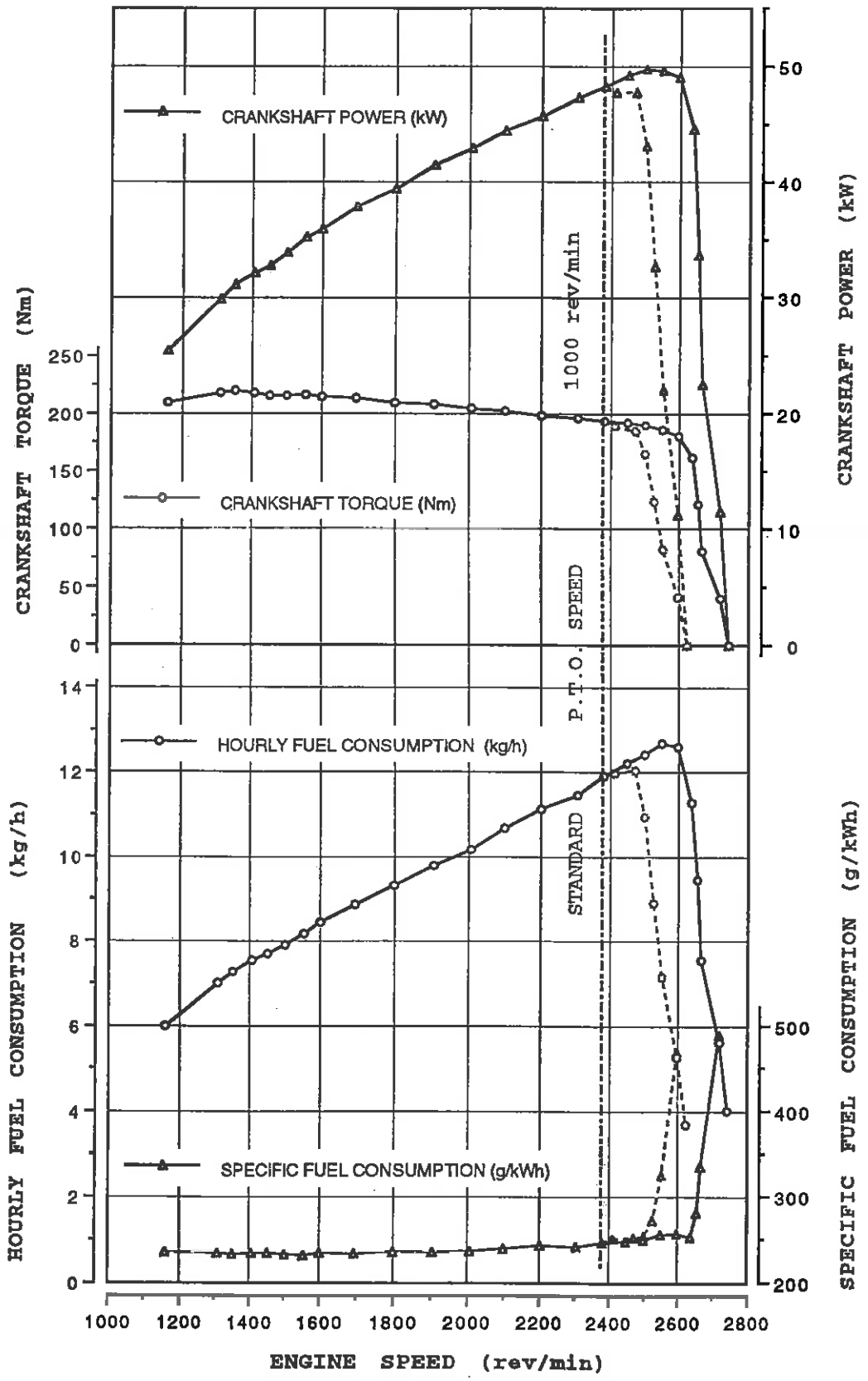



FIG. 1 - POWER TAKE-OFF TEST

## NEW HOLLAND ITALIA FIAT L 75

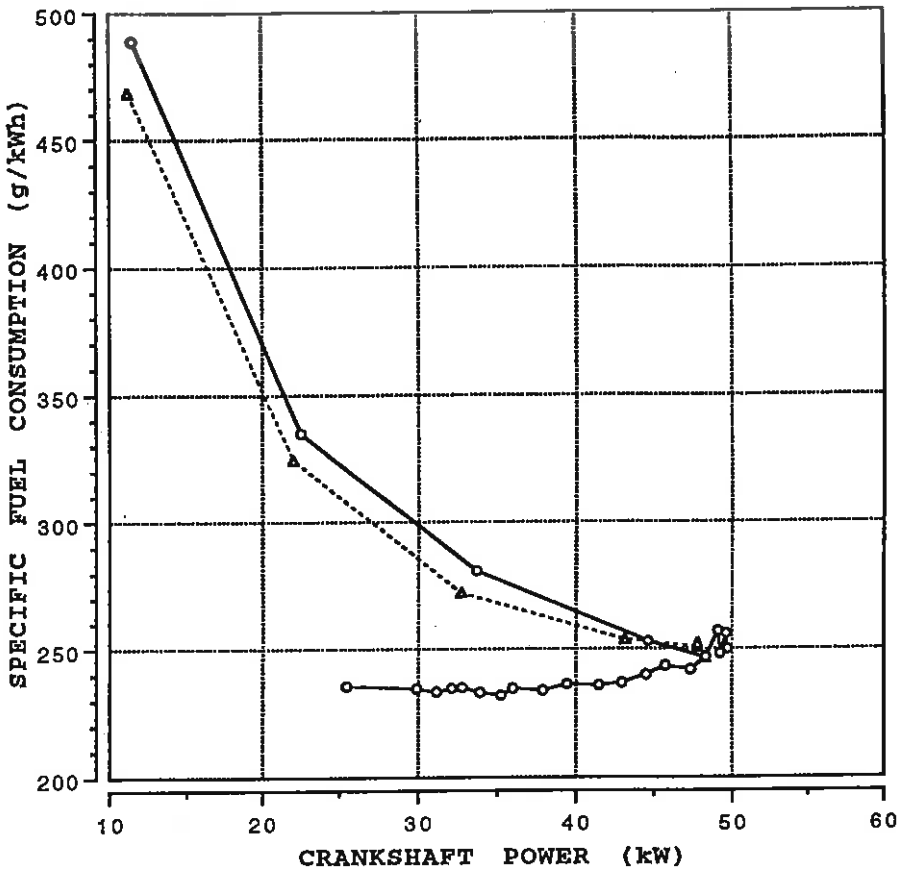



Fig. 2 - POWER TAKE- OFF TEST

The Head of the Section

R. MARENGO

The Director

P. PICCAROLO

Torino, 24th February 1997