T.C
TARIM VE KÖYİŞLERİ BAKANLIĞI
TARIM ALET VE MAKİNALARI
TEST MERKEZİ MÜDÜRLÜĞÜ

TEST REPORT

REPORT NUMBER:1379/2247 TGK.10

OECD APPROVAL NO: 2/2 176
DATE OF APPROVAL : 11/10/2004

Report on test in accordance with the OECD Standard Code 2 for the Official Testing of Agricultural Tractors Performance

CODE 2
(Restricted code)





NEW HOLLAND TD80D – 4 WD
(12+12 speeds-40 km/h)

CASE IH JX80 – 4 WD
(CASE IH JX75 for North America)
(12+12 speeds-40 km/h)

Tested Equipment
TRACTOR
Make : NEWHOLLAND
Model : TD80D
Type : 4WD

Applicant
Name: Türk Traktör ve Ziraat Mak.A.Ş.
Adress: Güvercin yolu 111-112 06560 Gazi/ANKARA
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MAY - 2004
ANKARA

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This is a report on a tractor tested in accordance with OECD standard code for the official Testing of Agricultural Tractor Performance, it doesn't contain an evaluation of the tractor on field activities.

UNITS

Forces	1 kN	= 1000 N	= 102 kp
Powers	1 kW	= 1.36 HP	
Pressures	1 MPa	= 10 bar	= 10.2 kp/cm^2
	100 kPa	= 1000 mbar	= 750.1 mmHg

New Holland TD 80 D (4WD) and Case IH JX 80 (4WD) tractors have same specification but they have different colour, bonnet, rim colour, grill, headlights, grill support and model (trade name).
All tests were carried out on New Holland TD 80 D.

Note:
[C] data declared by the manufacturer and controlled by the station
[D] data declared by the manufacturer

[C]	Tractor Manufacturer's name and address	:TÜRK TRAKTÖR ve ZIRAAT MAKINALARI A.Ş. Güvercin yolu 111-112 Gazi/ANKARA Tel:+90 312 211 01 90
[D]	Location of tractor assembly	:TÜRK TRAKTÖR ve ZIRAAT MAKINALARI A.Ş.
[D]	Submitted for test by	:TÜRK TRAKTÖR ve ZIRAAT MAKINALARI A.Ş.
[C]	Selected for test by	: TÜRK TRAKTÖR ve ZIRAAT MAKINALARI A.Ş. with agreement of the Testing Station
[C]	Place of running – in	:DAEMTC (The Directorate of Agricultural Equipment and Machinery Testing Centre)
[C]	Duration of running-in	: 15 hours
[C]	Location of test	:DAEMTC, Ankara

1. SPECIFICATIONS OF TRACTOR

1.1 IDENTIFICATION

1.1.1.	Make of the tractor	: NEW HOLLAND
[C]	Model (trade name)	: TD80D
[C]	Type	: 4 WD
1.1.2.	Serial No	
[D]	First Serial No or Prototype	: Prototype
[C]	Serial No	: Prototype
1.1.3.	Other Specifications;	
[D]	Model (s) for other countries	: sold as CASE IH JX 75 in North America
[C]	Transmission Type or Gears x Ranges	: Mechanical, full synchromesh, 12 forward 12 reverse
[C]	Speed version	: 40 km/h
[C]	Manufacturer identification or Technical type number	: D3R7AB

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1.2 ENGINE

[C]	Make, Model and Type	:IVECO, 8045.05 R, water cooled, direct injection, 4 cycles, diesel engine
[C]	Serial No.	: *639-927960*

1.2.1 Cylinders

[C]	Number/disposition	: 4, vertical in line
[D]	Bore/stroke	: (104 /115) mm
[D]	Capacity	: 3908 cm^3
[D]	Compression rate	: (18±0.5) /1
[D]	Arrangement of valves	: Overhead
[D]	Cylinder liners	: Dry

1.2.2 Supercharging : None

1.2.3 Fuel System

[C]	Fuel feed system	: With double diaphragm, mechanical
[C]	Make, type and model of fuel filter (s)	: New Holland, replaceable paper element cartridge
[D]	Capacity of fuel tank	: 90 dm^3
[C,D]	Make, model and type of injection pump	: BOSCH, VE 4/12 F1250 LV 15604, (or BOSCH, L985), rotative
[C]	Serial no	: 00101211

Manufacturer's production setting of injection pump

[C]	Flow rate*	: (14.64 -15.95) dm^3/h at rated engine speed and full load
[D]	Timing	: 4°± 0.5° before T.D.C
[D]	Make,type and model of injectors	: BOSCH, DLLA 132 S,multipoints injected
[D]	Injection pressure	: (26.0 ±1.2) MPa

*not any setting by the manufacturer because of atmospheric pressure

1.2.4 Governor

[C]	Make, model and type	: BOSCH, mechanical, in corporated in the fuel pump
[C]	Governed range of engine speed:	(650 – 2750) rev/min
[C]	Rated engine speed	: 2500 rev/min

1.2.5 Air cleaner

Pre-cleaner

[C]	Make, model and type	: CNH, 1930587,06A03(P), paper filter
[C]	Location of air intake	: In front of radiator, under bonnet

Main cleaner

[C]	Make, model and type	: CNH, 1930588 (P),1327 01 C
[C]	Maintenance indicator	: Warning light on the dashboard

1.2.6 Lubrication system

[D]	Type of feed pump	: Gear type
[D]	Type of filter(s)	: One is metal mesh strainer, the other is replaceable paper cartridge
[C]	Number of filters	: 2

1.2.7 Cooling system

[C]	Type of coolant	: Water
[D]	Type of pump	: Centrifugal, belt driven
	Specification of fan	
[C]	Number of fan blades	: 4
[C]	Fan diameter	: 392 mm
[D]	Coolant capacity	: 14 dm^3
[C]	Type of temperature control	: Thermostat and thermometer indicating temperature level on dashboard
[D]	Superpressure system	: 70 kPa

1.2.8 Starting system

[C]	Make, model and type	: BOSCH, 6 033 ACO,218, solenoid engaged
[D]	Starter motor power rating	: 3.5 kW
[C]	Cold starting aid	: Flame glow plug and additional fuel system in injection pump
[C]	Safety device	: Clutch safety switch

1.2.9 Electrical system

[C]	Voltage	: 12 V
	Generator	
[C]	Make,model and type	: MAGNETTI MARELLI, RTT 119 AC, alternator
[D]	Power	: 1.0 kW
	Battery of accumulators	
[C]	Number	: 1
[D]	Rating	: 120 Ah at 20 h

1.2.10 Exhaust system

[C,D]	Make, model and type	: BİLEN 5093950, (or ALCOM 5172688) under the bonnet, with expansion chamber
[C]	Location	: On left hand side of engine, vertical (or on left hand side of engine,horizontal)

1.3 TRANSMISSION

1.3.1 Clutch (travel and power take-off)

[D]	Make, model and type	:VALEO, dual clutch, dry, cerametallic material
[D]	Number of plates	: 2
[D]	Diameter of plates	: 280 mm
[C]	Method of operation	: Mechanical; pedal operated for main clutch and hand lever for PTO clutch

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1.3.2 Gear box

[D] Make, model and type : CNH, mechanical, full syncromesh

Description :

		Forward	Reverse
[C]	Number of gears	4	4
[C]	Number of ranges/groups	3/-	3/-
[C]	Total of arrangements	12	12

Available options :

[D] 12x4

[D] 20x12 with creeper

1.3.3 Rear axle and final drives

[D] Make, model and type : CNH, with reducter

Differantial lock

[D] Type : Mechanical

[C] Method of engagement : Pedal operated

[C] Method of disengagement : Self disengaged or steering movement

1.3.4 Front axle

[D] Make, model and type : NEW HOLLAND, B120503, 5164328

[C] Differantial lock : None

[C] 1.3.5 Total ratios & travelling speed (tested tractor)

Gear no	Group or range	Number of engine revolutions for one revolution of the driving wheels		Nominal travelling speed (*) at rated engine speed of 2500 rev/min km/h	
		Forward	Reverse	Forward	Reverse
1	I Slow	324.193	330.756	2.02	1.98
2		210.414	214.673	3.11	3.05
3		154.728	157.861	4.23	4.15
4		108.012	110.199	6.06	5.94
1	II Normal	138.803	141.612	4.72	4.63
2		90.088	91.912	7.27	7.13
3		66.247	67.588	9.89	9.69
4		46.245	47.181	14.16	13.88
1	III Fast	58.958	60.151	11.11	10.89
2		38.266	39.041	17.12	16.78
3		28.139	28.709	23.28	22.82
4		19.643	20.041	33.35	32.68

* Calculated with a tyre dynamic index of 695 mm (ISO 4251/1-1998)

Number of revolutions of front wheels for one revolutions of rear wheels:1.350

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[D] 1.3.6 Total ratios & travelling speed (Optional)

Gear no	Group or range	Number of engine revolutions for one revolution of the driving wheels		Nominal travelling speed (*) at rated engine speed of 2500 rev/min km/h	
		Forward	Reverse	Forward	Reverse
1	I Slow	324.193	-	2.02	-
2		210.414	-	3.11	-
3		154.728	-	4.23	-
4		108.012	-	6.06	-
1	II Normal	138.803	156.907	4.72	4.17
2		90.088	101.839	7.27	6.43
3		66.247	74.888	9.89	8.75
4		46.245	52.277	14.16	12.53
1	III Fast	58.958	-	11.11	-
2		38.266	-	17.12	-
3		28.139	-	23.28	-
4		19.643	-	33.35	-

*Calculated with a tyre dynamic index of 695 mm 4251/1-1998)
Number of revolutions of front wheels for one revolutions of rear wheels:1.350

[D] 1.3.7 Total ratios & travelling speed (Optional)

Gear no	Group or range	Number of engine revolutions for one revolution of the driving wheels		Nominal travelling speed (*) at rated engine speed of 2500 rev/min km/h	
		Forward	Reverse	Forward	Reverse
1	I Creeper	1790.681	-	0.37	-
2		1162.221	-	0.56	-
3		854.643	-	0.77	-
4		596.607	-	1.10	-
1	II Creeper	766.677	-	0.85	-
2		497.603	-	1.32	-
3		365.914	-	1.79	-
4		255.436	-	2.56	-
1	I Slow	324.193	341.256	2.02	1.92
2		210.414	221.488	3.11	2.96
3		154.728	162.872	4.23	4.02
4		108.012	113.697	6.06	5.76
1	II Normal	138.803	146.108	4.72	4.48
2		90.088	94.830	7.27	6.91
3		66.247	69.733	9.89	9.39
4		46.245	48.679	14.16	13.46
1	III Fast	58.958	62.061	11.11	10.55
2		38.266	40.280	17.12	16.26
3		28.139	29.620	23.28	22.11
4		19.643	20.677	33.35	31.68

*Calculated with a tyre dynamic index of 695 mm ISO 4251/1-1998)
Number of revolutions of front wheels for one revolutions of rear wheels:1.350

1.4 POWER TAKE-OFF

1.4.1 Main power take-off

[C]	Type	: Independent
[C]	Method of engagement	: Mechanical, by hand lever
[C]	Number of shafts	: 1
[D]	Method of changing power take-off shaft ends and speeds	:Hand lever and changing PTO shaft

1.4.1.1 Power take-off proportional to engine speed

540 rev/min

[C]	Location	: At rear of tractor
[C]	Diameter of power take-off shaft end	: 34.9 mm
[C]	Number of splines	: 6, in conformity with ISO 500:1991
[C]	Height above ground	: 675 mm
[C]	Distance from the median plane of the tractor	: 0 mm
[C]	Distance behind rear-wheel axis	: 325 mm
[C]	P.T.O speed at rated engine speed	: 614 rev/min
[C]	Engine speed at standard power take-off speed	: 2200 rev/min
[C]	Ratio of rotation speeds (engine speed/p.t.o speed)	: 4.074/1
[D]	Power restriction and maximum torque	: None
[D]	Maximum torque transmissible	: None
[C]	Direction of rotation (viewed from behind tractor)	: Clockwise

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750 rev/min (not fitted on tested tractor)

[D]	Location	: At rear of tractor
[D]	Diameter of power take-off shaft end	: 34.9 mm
[D]	Number of splines	:6,not in conformity with ISO 500:1991
[D]	Height above ground	: 675 mm
[D]	Distance from the median plane of the tractor	: 0 mm
[D]	Distance behind rear-wheel axis	: 325 mm
[D]	P.T.O speed at rated engine speed	: 787 rev/min
[D]	Engine speed at standard power take-off speed	: 2382 rev/min
[D]	Ratio of rotation speeds (engine speed/p.t.o speed)	: 3.176/1
[D]	Power restriction and maximum torque	: None
[D]	Maximum torque transmissible	: None
[D]	Direction of rotation (viewed from behind tractor)	: Clockwise

1000 rev/min (not fitted on tested tractor)

[D]	Location	: At rear of tractor
[D]	Diameter of power take-off shaft end	: 34.9 mm
[D]	Number of splines	: 21
[D]	Height above ground	: 675 mm
[D]	Distance from the median plane of the tractor	: 0 mm
[D]	Distance behind rear-wheel axis	: 325 mm
[D]	P.T.O speed at rated engine speed	: 1050 rev/min
[D]	Engine speed at standard power take-off speed	: 2381 rev/min

[D]	Ratio of rotation speeds (engine speed/p.t.o speed)	: 2.381/1
[D]	Power restriction and maximum torque	: None
[D]	Maximum torque transmissible	: None
[D]	Direction of rotation (viewed from behind tractor)	: Clockwise

1.4.1.2 Power take-off proportional to ground speed (rear)

		540	[D] 750*	[D] 1000*
[C]	Travelling distance for 1 revolution of take-off shaft	: 0.602 m	0.467 m	0.352 m
[C]	Number of power take-off shaft revolutions for one revolution of (rear) driving wheels	: 7.25	9.36	12.4
[C]	Direction of ratation with forward gear engaged (viewed from behind tractor)	: Clockwise		

* Not fitted on tested tractor.

1.4.2 Optional power take-off : None

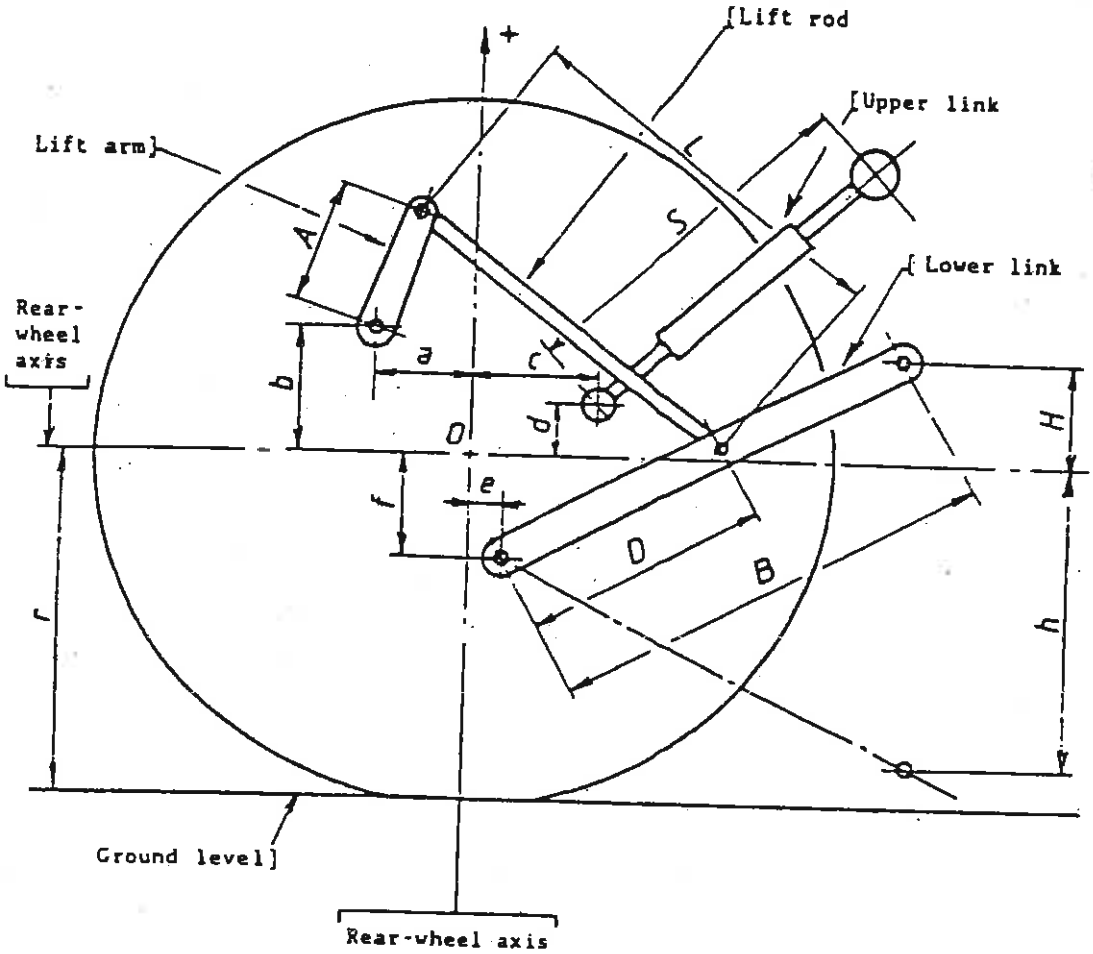
1.5 HYDRAULIC POWER LIFT

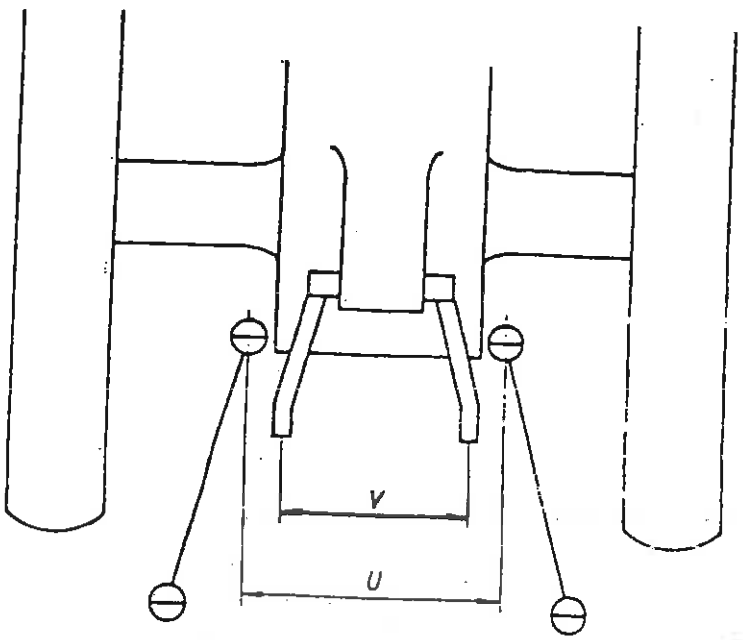
[C]	Make, model and type	: NEW HOLLAND, Lift-O-matic, draft and float controlled
[C]	Type of hydraulic system	: Open center system
[C]	Type and number of cylinders	: 1, single acting
[C]	Type of linkage lock for transport	: Hydraulic
[D]	Relief valve pressure setting	: (19.4-19.9) MPa
[D]	Opening pressure of cylinder safety valve	: (23.4 - 24.5) MPa
[D]	Lift pump type	: Gear
[D]	Transmission between pump and engine	: Mechanical
[C]	Type and number of filters	: 1, replaceable cartridge element
[C]	Site of oil reservoir	: Gear box and rear axle
[C]	Type, number and location of tapping points	: At rear of tractor, 2, double acting
[C]	Maximum volume of oil available to external cylinders	: None

1.6 Three- point linkage

[C]	Category	: II, ISO 730-1:1994 + Corrigendum 1:1995
[C]	Category adapter	: None

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TABLE 2.1. Dimensions of linkage geometry (when connected to the standard frame)

		Dimension or range (mm)	Settings used in test (mm)
[C] Length of lift arms	(A)	255	255
[C] Length of lower links	(B)	970	970
Distance of lift arm pivot point from rear wheel axis			
- [C] Horizontally	(a)	-16	-16
- [C] Vertically	(b)	295	295
[C] Horizontal distance between the two lower link points	(u)	510	510
[C] Horizontal distance between the two lift arm end points	(v)	505	505
[C] Length of upper link	(S)	from710 to1060	840
Distance of upper link pivot point from rear wheel axis			
- [C] horizontally	(c)	180/195	195
- [C] vertically	(d)	200/250	200
Distance of lower link pivot point from rear wheel axis			
- [C] horizontally	(e)	57	57
- [C] vertically	(f)	205	205
[C] Distance of lower link pivot points to lift rod pivot points on lower links	(D)	470/540	470
[C] Length of lift rods	(L)	from 520 to 690	600
Height of lower hitch points relative to the rear wheel axis			
- [C] in low position	(h)	from 185 to 640	485
- [C] in high position	(H)	from 140 to 450	250
[C] Height above ground of lower hitch points when locked in transport position (*)		Any height within lift range	
[C] (*)Assuming r = 695 mm tire dynamic radius index of ISO 4251/1-1998			

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1.7 SWINGING DRAWBAR

[C]	Type	: Clevis
	Height above ground;	
[C]	Maximum	: 485 mm
[C]	Minimum	: 375 mm
[C]	Type of adjustment	: Reversing
[C]	Distance of hitch point from rear – wheel axis horizontally	: 755 mm
[C]	Distance of hitch point from p.t.o shaft ends	
	Vertically	: 210/320 mm
	Horizontally	: 430 mm
	Lateral adjustment (center of clevis)	
[C]	Right-hand	: 90 mm
[C]	Left-hand	: 100 mm
[C]	Distance of pivot point from rear-wheel axis horizontally	: 127 mm
[C]	Diameter drawbar pin hole	: 29 mm
[D]	Maximum vertical permissible load	: None

1.8 TRAILER HITCH

[C]	Type	: Coupling
[C]	Hole diameter	: 29 mm
[C]	Height above ground	: 1045 mm
[C]	Distance of hitch point from rear – wheel axis, horizontally	: 523 mm
	Distance of hitch point from PTO shaft end	
[C]	Vertically	: 300 mm
[C]	Horizontally	: 198 mm
[D]	Maximum vertical permissible load	: None

1.9 HOLED DRAWBAR : None

1.10 STEERING

[D] Make, model and type : DANFOSS, OSPC ON 100, hydrostatic

Method of operation

[D] Pump(s) : Gear pump

[D] Ram(s) : 1, Double acting, actuated on front axle

[D] Working pressure : 10.0 MPa

1.11 BRAKES

1.11.1 Service brake

[D] Make, model and type : NEWHOLLAND, mechanical, oil immersed disc

[C] Method of operation : Mechanical, pedal operated

[C] Trailer braking take-off : None

1.11.2 Parking brake

[C] Type :Mechanical, independent from servise brake

[C] Method of operation :By hand lever operated

1.12. WHEELS

Number

[C] Front : 2/steering and driving

[C] Rear : 2/driving

[C] Wheelbase : 2245 mm

Track width adjustment

		Minumum mm	Maximum mm	Adjustment method
[D]	Front	1530	1955	reversing wheels and off-set lug rims
[D]	Rear	1515	2015	reversing wheels and off-set lug rims

1.13 PROTECTIVE STRUCTURE

[C]	Make, model and type	: NEW HOLLAND, TD-KÇ-2, (CNH GR7)
[C]	Manufacturer's name and address	: Türk Traktör Ziraat Mak. A.Ş. Güvercin yolu No:111-112 Gazi/ANKARA
	Protective device	
[C]	Cab / frame / roll guard / other	: Roll-bar
[C]	Tiltable / not tiltable	: Not tiltable
	OECD approval	
[C]	Approval number	: 4/0 762/1
[C]	Date of approval	: 10/05/2004

[D] Nos. of minor modification of certificates, if any: None

1.14 SEAT

1.14.1 Driver's seat

[C]	Make, model and type	: PILOT, 2001/SM 80 X, vinylex covered
[C]	Seat and steering wheel reversible	: No
[C]	Type of suspension	: Mechanical, with spring
[C]	Type of damping	: Hydraulic, with amortisor
	Range of adjustment	
[C]	Longitudinally	:150 mm
[C]	Vertically	: 65 mm
[C]	Safety belt	: None

1.14.2. Optional driver's seat(s)

1.14.2.1

[D] Make, model and type : PİLOT, T 300, vinylex covered

[D] Type of suspension : Mechanical, with spring

[D] Type of damping : Hydraulic, amortisor

Range of adjustment

[D] Longitudinally :150 mm

[D] Vertically : 65 mm

1.14.2.2

[D] Make, model and type : PILOT, T 300 A, vinylex covered

[D] Type of suspension : Mechanical, with spring

[D] Type of damping : Hydraulic, with amortisor

Range of adjustment

[D] Longitudinally :150 mm

[D] Vertically : 65 mm

1.14.3 Passenger seat : None

1.15 LIGHTING

		Height above ground of center mm	Size mm	Distance from outside edge of lights to median plane of tractor mm
[C]	Headlights	1275	145x90	196
[C]	Sidelights	1615	75x70	765
[C]	Rearlights	1615	75x70	655
[C]	Reflectors I	1615	75x35	690
[C]	Reflectors II	615	105x55	558

2. TEST CONDITIONS

2.1 OVERALL DIMENSIONS (unballasted tractor)

Length mm	Width		Height at top of	
	minimum mm	maximum mm	Protective structure mm	exhaust pipe mm
3850	1935	2450	2605	2500

2.2 GROUND CLEARANCE (unballasted tractor)

Clearance – limiting part :290 mm (bottom point of swinging drawbar)

2.3 TRACTOR MASS (with roll-bar)

	Unballasted	
	Without driver kg	with driver kg
Front	1254	1284
Rear	1857	1902
Total	3111	3186

2.4 TRACK SPECIFICATION: Not applicable

2.5 TYRES AND TRACK WIDTH SPECIFICATIONS

	Front	Rear
Tyres :	GOOD YEAR	GOOD YEAR
Dimensions	11.2-24	16.9-30
Ply rating	6	6
Type	Diagonal	Diagonal
Maximum load (tyre manufacturer's)	10.25 kN	18.63 kN
Maximum load (tractor manufacturer's)	10.25 kN	18.63 kN
Inflation pressure (tyre manufacturer's)	180 kPa	130 kPa
Dynamic radius index	515 mm	695 mm
Chosen track width	1553 mm	1515 mm

2.6 FUEL

Type : Diesel oil, in conformity with national standard, TS 3082

Density at 15 °C : 0.835 g/cm^3

2.7 OILS AND LUBRICATION

2.7.1 Capacity and change interval

	Capacity dm^3	Oil change h	Filter Change h
Engine	11.7	200	400
Gear box*	46	1600	400
Final drive (rear) *			
Hydraulic system *			
Final drive (front)	5.3	-	-
Steering	1.8	-	800

* Common with gear box

2.7.2 Specifications

	Recommended	Used during test
Engine oil Type Viscocity Classification	BP TERRAC DIESEL 20W/50 DM/12	Same
Hydraulic Fluid Type Viscocity Classification	BP TERRAC TRACTAN 8 Fluid 8 DT/14	Same
Transmission oils Type Viscocity Classification	BP TERRAC TRACTAN 8 Fluid 8 DT/14	Same
Steering Type Viscocity Classification	BP TERRAC TRACTAN 8 Fluid 8 DT/14	Same

2.7.3 Grease : MOBILUX EP2

Number of lubrication points : 11

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3. COMPULSORY TEST RESULTS

3.1 MAIN POWER TAKE-OFF

Date and location of tests : 28/05/2004, D.A.E.M.T.C,Ankara

Type of dynamometer bench : AEG, Electrical

Power	Speed		Fuel consumption			Specific energy
	Engine	PTO	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/ l
3.1.1. MAXIMUM POWER- TWO HOUR TEST						
47.9	2500	614	13.13	15.72	274	3.05
3.1.2. Power at rated engine speed						
47.9	2500	614	13.13	15.72	274	3.05
3.1.3. Standard Power Take-off speed (540 ± 10 rev/min)						
47.3	2200	540	12.14	14.54	257	3.25
3.1.4. PART LOADS						
3.1.4.1.The torque corresponding to maximum power at rated engine speed						
47.9	2500	614	13.13	15.72	274	3.05
3.1.4.2. 85% of torque obtained in 3.1.4.1.						
42.1	2584	634	11.67	13.98	277	3.01
3.1.4.3. 75% of torque defined in 3.1.4.2.						
32.1	2624	644	9.60	11.50	300	2.79
3.1.4.4. 50% of torque defined in 3.1.4.2.						
21.7	2664	654	7.76	9.29	357	2.34
3.1.4.5. 25% of torque defined in 3.1.4.2.						
11.1	2724	669	5.26	6.30	474	1.76
3.1.4.6. No load						
0	2750	675	3.82	4.58	-	-

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Power	Speed		Fuel consumption			Specific energy
	Engine	PTO	Hourly		Specific	
kW	rev/min		kg/h	l/h	g/kWh	kWh/ l
3.1.5.PART LOADS AT STANDARD POWER TAKE-OFF SPEED (540 ±10 rev/min)						
3.1.5.1. The torque corresponding to maximum power						
47.3	2200	540	12.14	14.54	257	3.25
3.1.5.2. 85% of torque obtained in 3.1.5.1.						
42.8	2340	574	11.22	13.44	262	3.18
3.1.5.3. 75% of torque defined in 3.1.5.2.						
32.9	2397	588	9.13	10.93	278	3.01
3.1.5.4. 50% of torque defined in 3.1.5.2.						
22.4	2453	602	7.07	8.47	315	2.65
3.1.5.5. 25% of torque defined in 3.1.5.2.						
11.6	2528	621	4.96	5.94	429	1.95
3.1.5.6. No load						
0	2563	629	3.30	3.95	-	-

Maximum engine speed at no load : 2750 rev/min

Torque at maximum power(equivalent crankshaft)
- At rated engine speed :183.16 Nm
- At 2-hour test :183.16 Nm

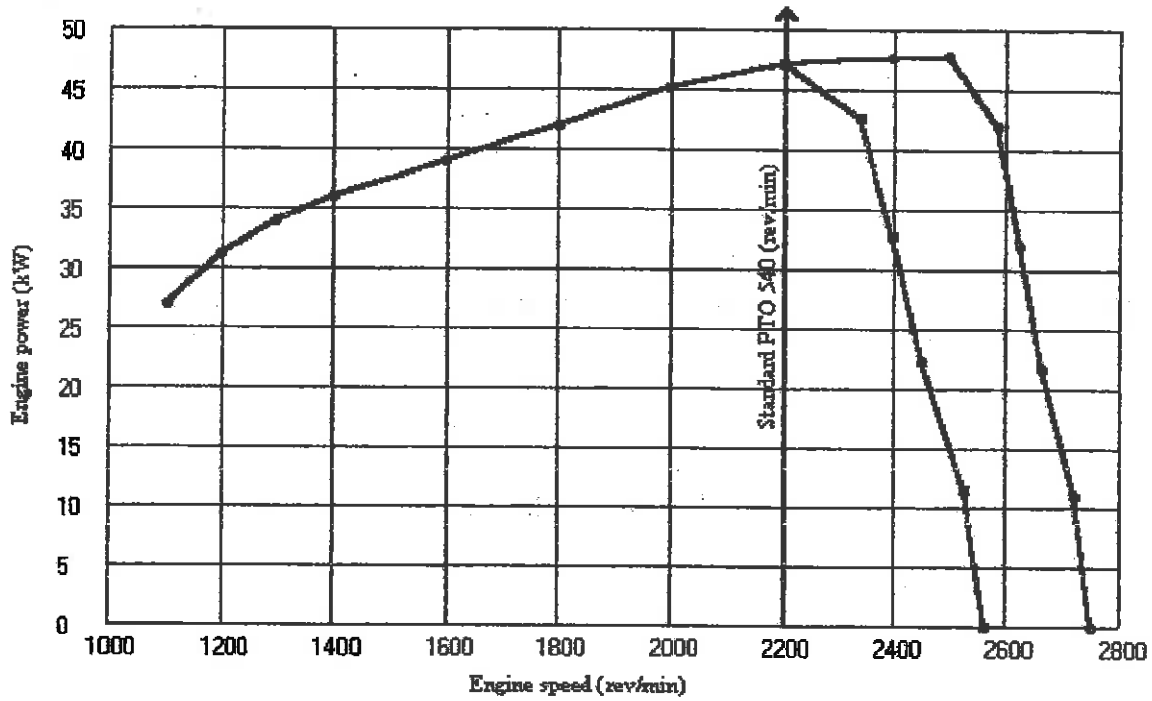
Maximum torque :250.47 Nm (1300 rev/min engine speed)

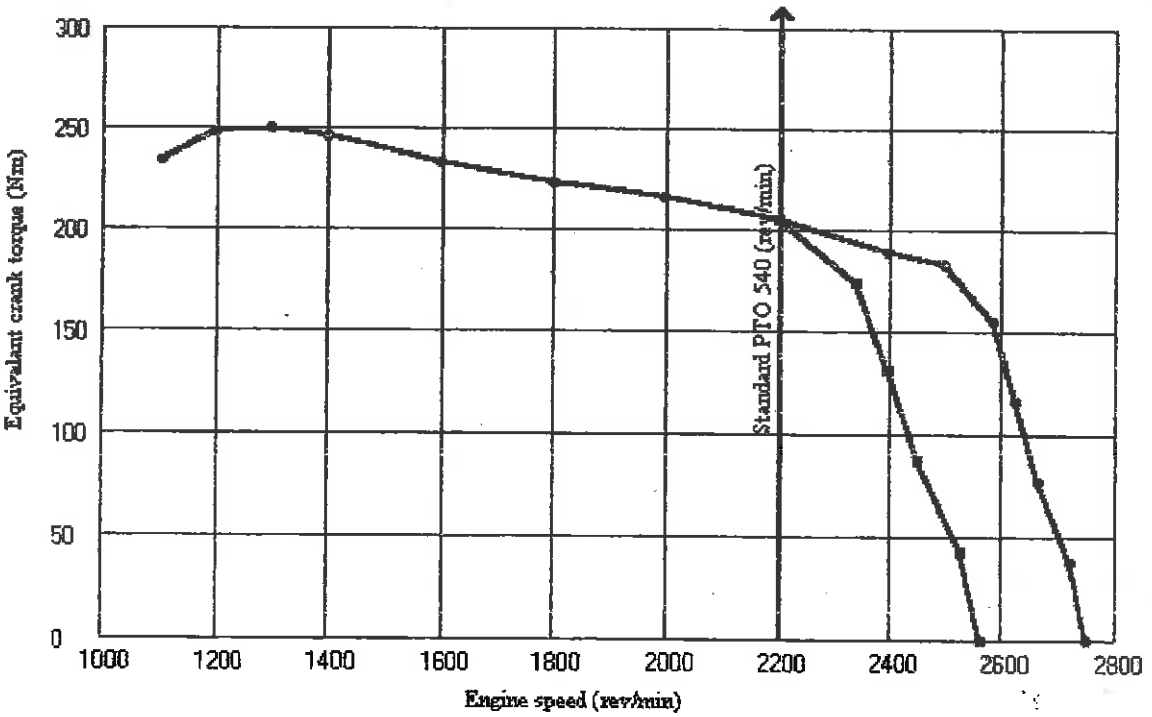
Mean atmospheric conditions
- Temperature : 27 °C
- Pressure : 92.1 kPa
- Relative humidity : 42%

Maximum temperatures (°C)
- Cooling water : 89
- Engine oil : 109
- Fuel : 36
- Engine air intake : 36

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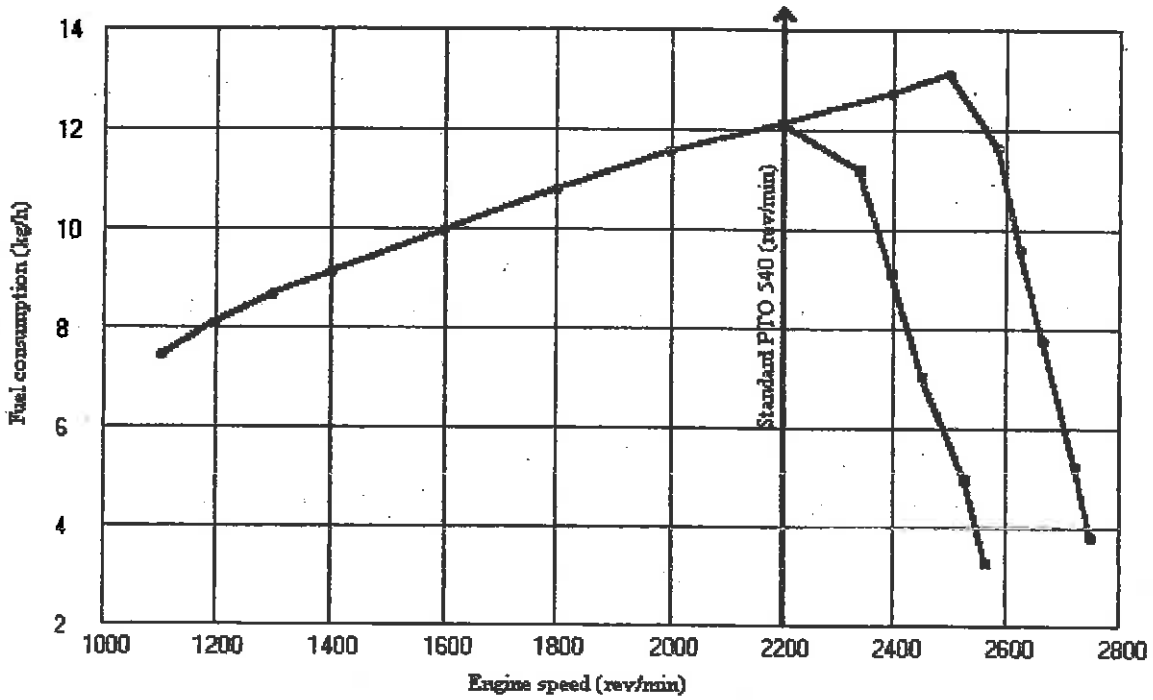
PTO POWER

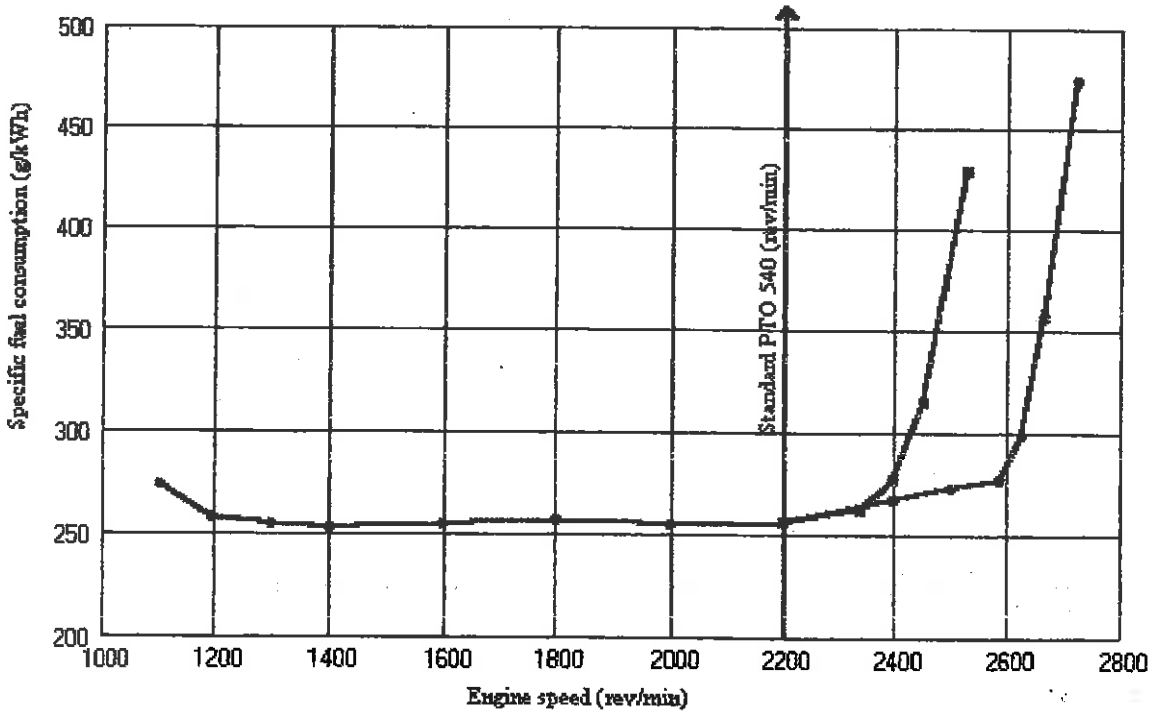




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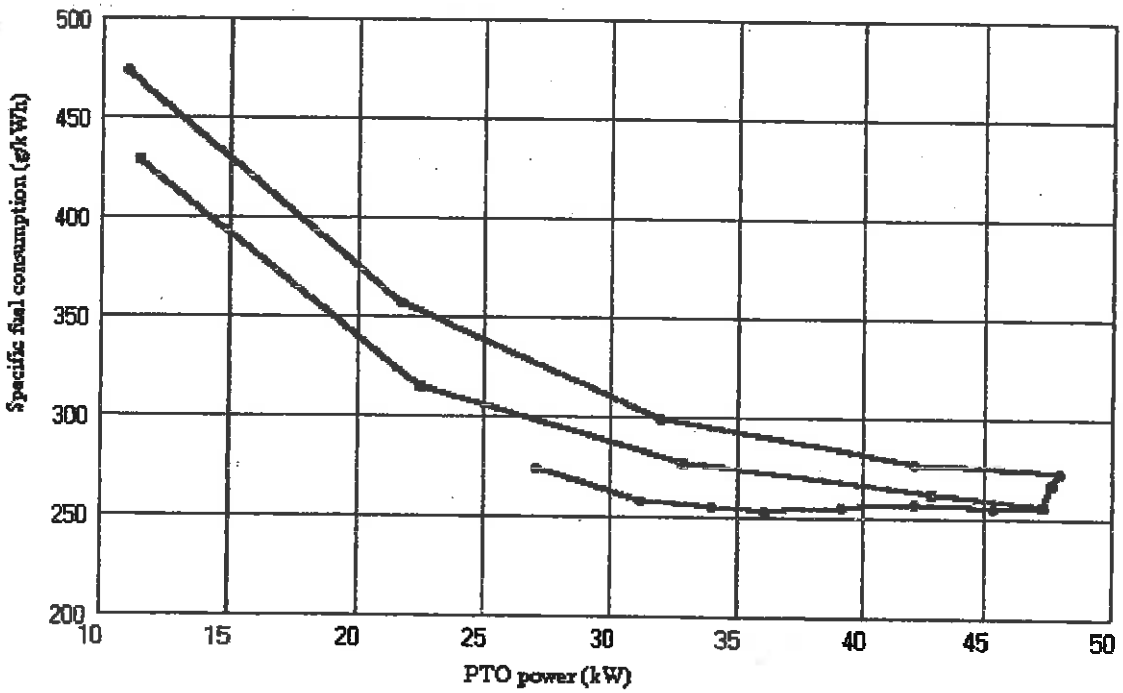
PTO POWER





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3.2 HYDRAULIC POWER AND LIFTING FORCE

Date of tests :29/04/2004 and 04/05/2004

3.2.1 Hydraulic power test

3.2.1.1 Hydrolic fluid data

Hydrolic fluid type : TERRAC TRACTAN 8
Viscosity index, ISO 3448 + Cor. 1:1993 : 95
Viscosity at 65 °C : Not declared

3.2.1.2 Compulsory Reporting (Test results) *

	Pressure(4)	Reservoir oil Temperature°C (65 °C target)		Engine speed	Flow rate	Power
	MPa	Min	Max	rev/min	L/min	kW
Rated Engine Speed (Manufacturer Specification)	-	-	-	2500	-	-
3.2.1.2.1 Maximum (sustained) pressure with relief valve open as measured at the coupler Pump stalled: No	(2) 17.5	60	70	2709	-	-
3.2.1.2.2 Flow rate corresponding to a hydraulic pressure equivalent to 90% of the actual relief valve pressure setting and corresponding hydraulic power	(2) 15.8	(3) 67		2717	29.9	7.9
3.2.1.2.3 Maximum avaible flow and maximum power from one coupler pair (1)	(2) 12.0	(3) 64		2734	53.7	10.7
3.2.1.2.4 Maksimum flow rate at minimum pressure	(2) 2.0	(3) 60		2750	57.6	-

Note1:Calculated maximum power is based on only the coupler outlet pressure (pressure near coupler where oil is exiting from tractor) and does take not into account the return coupler pressure.
Note 2:Record pressure as measured at the outlet coupler (pressure near coupler where oil is exiting from tractor).
Note 3:Average test temperature.
Note 4: See ISO 789-10:1996 for the specific location of the pressure measurements and other referenced terms.

3.2.2 Power lift test

Linkage settings for test: see 12-13 pages

		At the hitch point	On the frame
Height of lower hitch point above ground in down position	mm	210	210
Vertical movement With lifting force Without lifting force	 mm mm	 685 735	 885 940
Maximum corrected force exerted through full range	kN	22.4	15.4
Corresponding pressure of hydraulic fluid	MPa	15.8	15.8
Moment about rear wheel axis	kNm	23.0	25.2
Maximum tilt angle of mast from vertical	Degrees	-	15° 10'

Lifting heights relative to the horizontal lower links										
mm	-365	-280	-200	-100	0	+100	+200	+300	+405	+520
Lifting forces at the hitch point: Corresponding pressure:15.8 MPa										
kN*	-	24.1	24.4	24.4	24.5	24.3	24.0	24.0	22.4	-
Lifting forces at the frame: Corresponding pressure: 15.8 MPa										
kN*	19.6	19.8	19.9	19.5	19.1	18.6	18.3	17.5	17.0	15.4

*The values of force measured shall be corrected to correspond to a hydraulic pressure equivalent to 90 % of the actual relief valve pressure setting of the hydraulic lift system.

3.3 DRAWBAR POWER AND FUEL CONSUMPTION (unballasted tractor)

Date of tests :10/06/2004

Type of track : Concrete

Height of drawbar above ground	Tyre inflation pressure	
	Front	Rear
375 mm	180 kPa	130 kPa

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Gear and range	Power	Draw-bar pull	Speed	Engine speed	Slip of wheel	Specific fuel consump.	Specific energy	Temperature			Atmospheric conditions		
no	kW	kN	km/h	rev/min	%	g/ kWh	kWh / l	Fuel °C	Coolant °C	Engine Oil ° C	Temperature °C	Relative humidity %	Pressure kPa
3.3.1. MAXIMUM POWER IN TESTED GEARS (Unballasted tractor)													
I-1	13.4	25.86	1.87	2678	15.0	515	1.62	39	76	105	24	40	91.7
I-2	20.3	25.80	2.83	2636	15.0	431	1.94	39	76	105	24	40	91.7
I-3	27.7	26.21	3.81	2607	15.0	377	2.21	39	76	105	24	40	91.7
II-1	29.7	25.31	4.23	2598	15.0	379	2.20	39	77	108	24	40	91.7
I-4	34.4	22.70	5.46	2498	11.3	359	2.33	39	77	108	24	40	91.7
II-2	35.8	19.17	6.73	2500	8.8	343	2.44	39	77	108	24	40	91.7
II-3	36.1	13.72	9.47	2499	5.6	336	2.48	36	77	109	23	42	91.7
III-1	38.5	12.94	10.70	2497	4.9	317	2.64	36	79	109	23	42	91.7
II-4	34.1	8.89	13.81	2503	4.0	356	2.35	36	79	109	23	42	91.7
III-2	33.2	7.13	16.77	2497	3.3	365	2.29	36	79	109	23	42	91.7
3.3.2.FUEL CONSUMPTION													
3.3.2.1. In selected gear, at maximum power at rated speed													
III-1	38.5	12.94	10.70	2497	4.9	317	2.64	38	76	104	22	42	91.9
3.3.2.1.1. 75 % of pull at maximum power at rated speed													
III-1	30.4	9.71	11.27	2597	3.7	357	2.34	38	76	104	22	42	91.9
3.3.2.1.2. 50 % of pull at maximum power at rated speed													
III-1	20.8	6.47	11.56	2636	2.7	430	1.94	38	76	104	22	42	91.9
3.3.2.1.3. Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.1.													
II-4	30.4	9.77	11.21	2025	3.7	323	2.59	38	76	104	22	42	91.9
3.3.2.1.4. Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.1.2.													
II-4	20.8	6.47	11.55	2064	2.6	370	2.26	38	76	104	22	42	91.9
3.3.2.2. in selected gear nearest to 7.5 km/h at rated speed													
II-2	35.8	19.17	6.73	2500	8.8	343	2.44	39	78	107	22	43	91.9
3.3.2.2.1. 75 % of pull at maximum power at rated speed													
II-2	28.9	14.38	7.24	2604	5.8	365	2.29	39	78	107	22	43	91.9
3.3.2.2.2. 50 % of pull at maximum power at rated speed													
II-2	20.0	9.59	7.52	2640	3.5	418	2.00	39	78	107	22	43	91.9
3.3.2.2.3. Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.1.													
II-3	28.6	14.26	7.21	1905	5.7	313	2.67	39	78	107	22	43	91.9
3.3.2.2.4. Next higher gear at reduced engine speed; same pull and travelling speed as in 3.3.2.2.2.													
II-3	20.0	9.59	7.52	1943	3.5	342	2.44	39	78	107	22	43	91.9

4.OPTIONAL TESTS : None

5. REPAIRS : None

6. REMARKS : Atmospheric pressure 91.7 kPa, 91.9 kPa and 92.1 kPa less than 96.6 kPa fixed in the OECD code.

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REPORT NUMBER:1379/2247-TGK.10

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Kerim EKMEKCİ
Departmant Chief

Hüseyin YAŞAR
Chairman of Test Commission

This test report has been prepared and undersigned as 28 pages

Aşır NADAR
Assistant Director

Signatures that belong to members of test commission above have been approved **05/08/2004**

Dr. Hamdi TAŞBAŞ
Director