MANITOU

547783 EN (13 / 12 / 2001)

MSI 40
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REPAIR MANUAL

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YOUR DEALER

547783 EN (13 / 12 / 2001)

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REPAIR MANUAL

1st DATE OF ISSUE 13 / 12 / 2001

DATE OF ISSUE	OBSERVATION
13 / 12 / 2001	- 1st ISSUE

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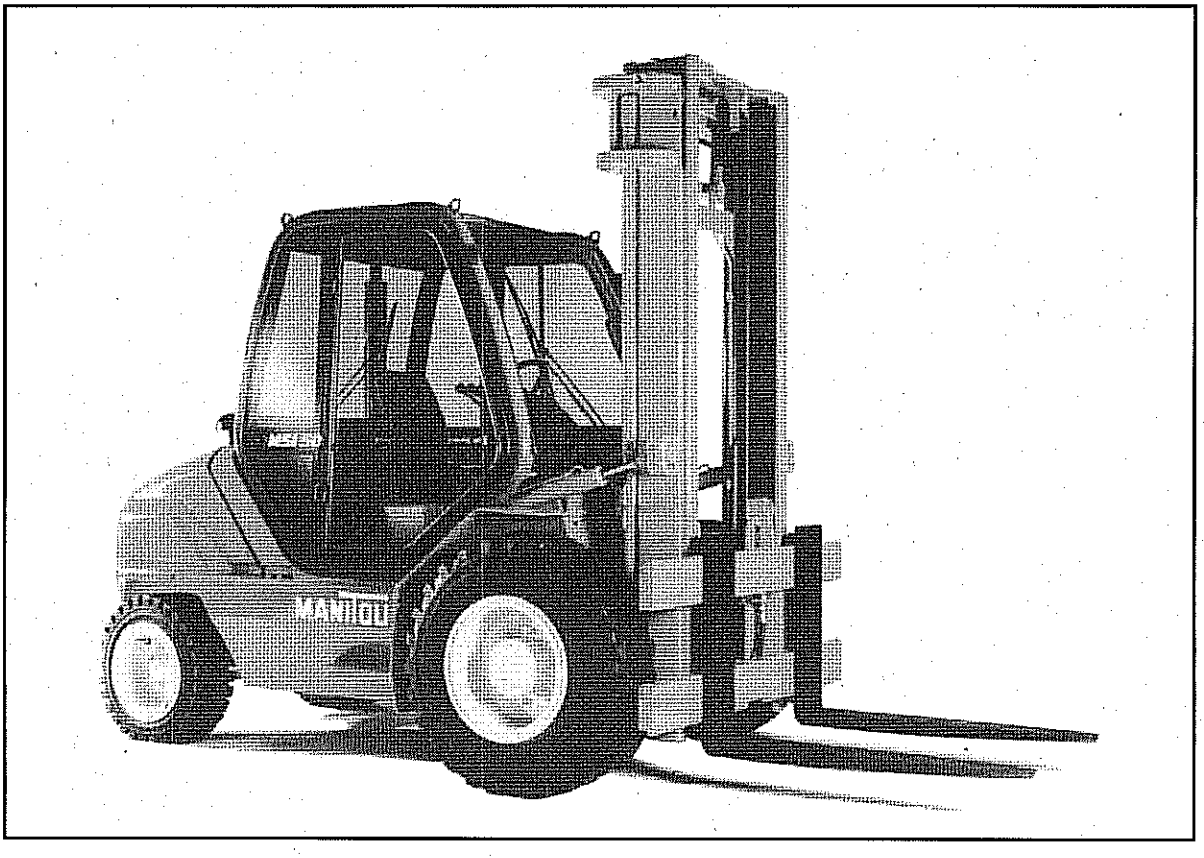
MSI 40 / MSI 50
0-1-M44 EN

11 / 12 / 2001



IDENTIFICATION OF THE LIFT TRUCK

As our policy is to promote a constant improvement of our products, our range of telescopic lift trucks may undergo certain modifications, without obligation for us to advise our customers.

When you order parts, or when you require any technical information, always specify :

NOTE : For the owner's convenience, it is recommended that a note of these numbers is made in the spaces provided, at the time of the delivery of the lift truck.

A

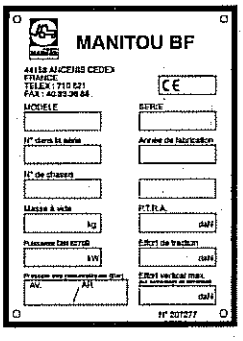
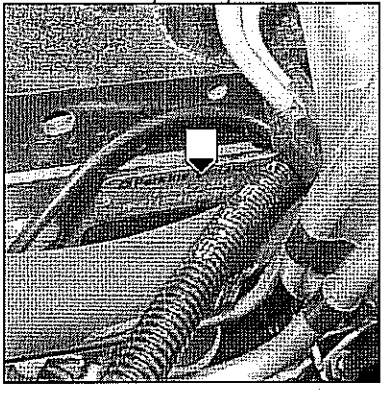


PLATE MANUFACTURER OF THE LIFT TRUCK (FIG. A)

- Model _____
- Series _____
- Serial Nr _____
- Chassis Nr _____
- Year of manufacture _____

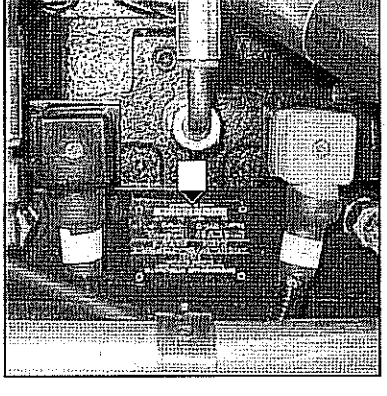
B



I.C. ENGINE (FIG. B)

- Engine Nr _____

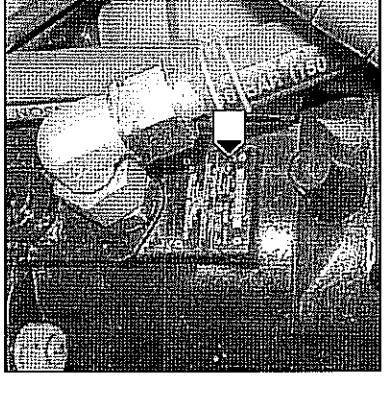
C



HYDROSTATIC PUMP (FIG. C)

- Pump Nr _____
- Codification type _____
- Manufacturer's Nr _____
- Year of manufacture _____

D



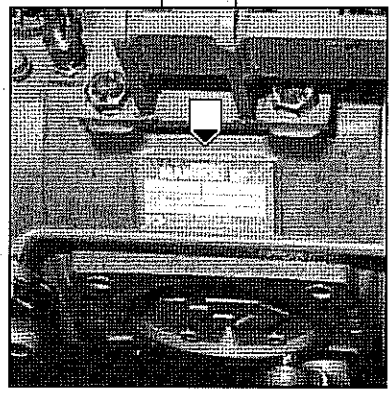
HYDROSTATIC MOTOR (FIG. D)

- Pump Nr _____
- Codification type _____
- Manufacturer's Nr _____
- Year of manufacture _____

TRANSFER BOX-FRONT (FIG. E)

- Type _____
- MANITOU reference _____

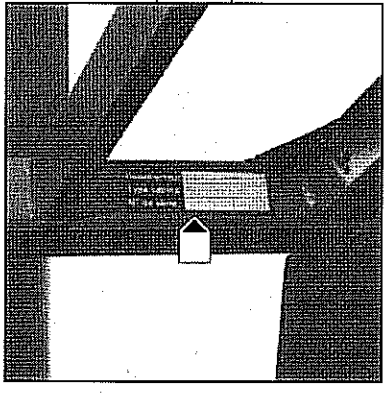
E



CAB (FIG. F)

- Type _____
- Serial Nr _____

F



MAST (FIG. G)

- Mast identification Nr _____

G

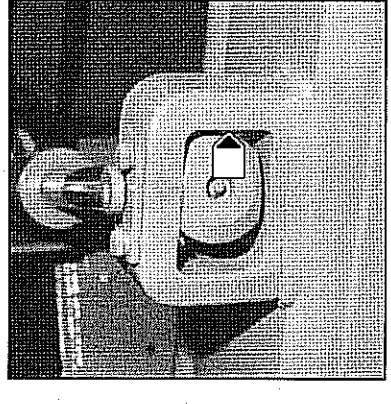
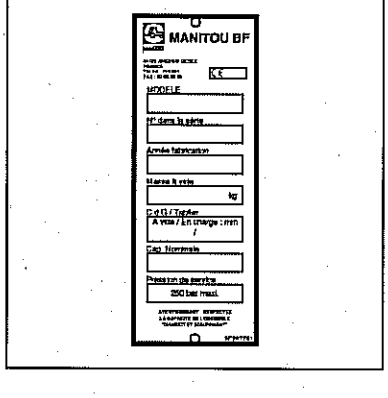


PLATE MANUFACTURER OF THE ATTACHMENT (FIG. H)

- Model _____
- Serial Nr _____
- Year of manufacture _____

H



CHARACTERISTICS

UP TO MACHINE N° 142 126

ENGINE

- Type	**PERKINS 1004-4**
- Number of cylinders	4
- Number of strokes	4
- Injection system	Direct
- Ignition sequence	1.3.4.2
- Clearance of rocker valve (Cold)	
. Inlet	0,20 mm
. Exhaust	0,45 mm
- Capacity	3990 cm³
- Bore	100 mm
- Stroke	127 mm
- Volumetric ratio	16.5 : 1
- Nominal running speed	2300 tr/mn
- Idle speed	850 tr/mn
- Full speed	2500 tr/mn
- Power DIN 70.020	82 cv 60,5 kw
- Power DIN 6270 B	80,5 cv 59,3 kw
- Power SAE	85,2 cv 62,9 kw
- Power BS.AU 141 a 1971	82,1 cv 60,5 kw
- Maximum torque	289 Nm to 1425 rpm
- Air cleaner	dry 3 microns

COOLING CIRCUIT

- Type	By water
- Fan	Puller
. Number of blades	6
. Diameter	457 mm
- Thermostat	
. Start opening	77 °C to 85 °C
. Full opening	92 °C to 98 °C

ELECTRIC CIRCUIT

- Earth	Negative
- Battery	12 V - 105 Ah
- Alternator	14 V - 35 A (1st Assembly)
	12 V - 55 A (2nd Assembly)
- Tension regulator	Incorporated into the alternator
- Starter	12 V - 2,2 kw

HYDROSTATIC TRANSMISSION

HYDROSTATIC PUMP

- Type	**A4VG56DA** With variable cubic capacity and with automatic power governor.
- Gear reverser	Electromagnetic 12V.
- Inching control	Hydraulic by valve TH7
- Main pump	
. Capacity MAXI	56 cm³
. Capacity MINI	0 cm³
. MAX. flow rate	141,68 L/min

. Working pressure	
(Up to pump N° : 3890010)	420 Bar
(From pump N° : 3890011)	380 Bar
- Boost pump	
. Cubic capacity	11,1 cm^3
. MAX. flow rate	27,19 L/min.
. Boost pressure MAX. r.p.m.	25 Bar (Transmission in neutral).

HYDROSTATIC MOTOR

- Type	**A6VM107DA** variable displacement
. Capacity MAXI	107 cm3
. Capacity MINI	26 cm3

TRANSFER BOX

- Type	**HURTH** Coupled with front axle.
- Number of forward speeds	1
- Number of reverse speeds	1

FRONT AXLE

- Type	**HURTH**
- Hub reducers	Epicyclic
- Differential lock	Foot pedal. Mechanical

BRAKE

- Type	Multidisc brake immersed in oil.
- Service brake	Foot pedal. Hydraulic brake acting on front wheels.
- Parking brake	Mechanical hand lever applied on the front wheels.

FROM MACHINE N° 142 127

ENGINE

- Type	**PERKINS 1004-42 AR 81155**
- Number of cylinders	4
- Number of strokes	4
- Injection system	Direct
- Ignition sequence	1.3.4.2
- Rocker arm clearance (Hot)	
. Inlet	0,20 mm
. Exhaust	0,45 mm
- Capacity	4233 cm³
- Bore	103 mm
- Stroke	127 mm
- Volumetric ratio	18.5 / 1
- Nominal running speed	2300 tr/mn
- Idle speed	825 tr/mn
- Full speed	2500 tr/mn
- Power ISO 3046-1	83 cv 61,5 kw
- Power ISO/TR 14396	85 cv 63 kw
- Power SAE	89 cv 65,5 kw
- Maximum torque ISO 3046-1	298 Nm to 1400 tr/mn
- Maximum torque ISO/TR 14396	300 Nm to 1400 tr/mn
- Air cleaner	dry 3 microns

COOLING CIRCUIT

- Type	By water
- Fan	Puller
. Number of blades	6
. Diameter	457 mm
- Thermostat	
. Start opening	77° C to 85° C
. Full opening	92° C to 98° C

ELECTRIC CIRCUIT

- Earth	Negative
- Battery	12 V - 105 Ah - 680 A EN
- Alternator	12 V - 65 A
. Type	Magneti Marelli A127
. Tension regulator	Incorporated into the alternator
- Starter	12 V
. Type	Magneti Marelli M127

HYDROSTATIC TRANSMISSION

HYDROSTATIC PUMP

- Type	**A4VG56DA** With variable cubic capacity and with automatic power governor.
- Gear reverser	Electromagnetic 12V.
- Inching control	Hydraulic by valve TH7
- Main pump	
. Capacity MAXI	56 cm³
. Capacity MINI	0 cm³
. MAX. flow rate	141,68 L/mn
. Working pressure	380 Bar

- Boost pump
  - . Cubic capacity — 11,1 cm³
  - . MAX. flow rate — 27,19 L/min.
  - . Boost pressure MAX. r.p.m. — 25 Bar (Transmission in neutral).

HYDROSTATIC MOTOR

- Type — **A6VM107DA** variable displacement
  - . Capacity MAXI — 107 cm3
  - . Capacity MINI — 26 cm3

TRANSFER BOX

- Type — **HURTH** Coupled with front axle.
- Number of forward speeds — 1
- Number of reverse speeds — 1

FRONT AXLE

- Type — **HURTH**
- Hub reducers — Epicyclic
- Differential lock — Foot pedal. Mechanical

BRAKE

- Type — Multidisc brake immersed in oil.
- Service brake — Foot pedal. Hydraulic brake acting on front wheels.
- Parking brake — Mechanical hand lever applied on the front wheels.

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FRONT TYRES

STANDARD

DIMENSIONS	PRESSURE	TYRE LOAD		PRESSURE ON THE CONTACT SURFACE		AERA OF THE CONTACT SURFACE	
		UNLADEN	LOADED	UNLADEN	LOADED	UNLADEN	LOADED
315/70 R22,5 G391 GOOD YEAR	6,75 Bar	2000 Kg	5200 Kg	6,7 Kg/cm²	6,7 Kg/cm²	300 cm²	780 cm²

OPTION

DIMENSIONS	PRESSURE	TYRE LOAD		PRESSURE ON THE CONTACT SURFACE		AERA OF THE CONTACT SURFACE	
		UNLADEN	LOADED	UNLADEN	LOADED	UNLADEN	LOADED
12-5 R20 16PR MPT80 CONTINENTAL	5 Bar	2000 Kg	5200 Kg	3,6 Kg/cm²	4,2 Kg/cm²	560 cm²	1250 cm²
445/65 R19,5 Tubeless XZY 165K MICHELIN	6,3 Bar	2000 Kg	5200 Kg	4,3 Kg/cm²	5,7 Kg/cm²	470 cm²	905 cm²
16/70-20 14PR E91-2 DUNLOP	4,5 Bar	2000 Kg	5200 Kg	7,2 Kg/cm²	8,8 Kg/cm²	280 cm²	595 cm²
10.00-20 CSE SC10 CONTINENTAL (Solid)		2000 Kg	5200 Kg	5,5 Kg/cm²	8,4 Kg/cm²	365 cm²	620 cm²

REAR TYRES

STANDARD

DIMENSIONS	PRESSURE	TYRE LOAD		PRESSURE ON THE CONTACT SURFACE		AERA OF THE CONTACT SURFACE	
		UNLADEN	LOADED	UNLADEN	LOADED	UNLADEN	LOADED
225/75 R15 XZM 149 A5 MICHELIN	5 Bar	1850 Kg	650 Kg	5,4 Kg/cm²	3,1 Kg/cm²	345 cm²	210 cm²

OPTION

DIMENSIONS	PRESSURE	TYRE LOAD		PRESSURE ON THE CONTACT SURFACE		AERA OF THE CONTACT SURFACE	
		UNLADEN	LOADED	UNLADEN	LOADED	UNLADEN	LOADED
PPS 28-9x15 CSE SC10 CONTINENTAL (Solid)		1850 Kg	650 Kg	7,2 Kg/cm²	4,4 Kg/cm²	260 cm²	150 cm²

HYDRAULIC CIRCUIT

UP TO MACHINE N° : 109 832 EXCEPT FOR N° : 107 781

- Lifting, tilting, attachment circuit	
. Type of pump	Gear pump
. Flow rate at full speed	71,3 L/min.
. Pressure	200 Bar
. Capacity	31 cm³
- Steering direction	
. Type of pump	Gear pump
. Flow rate at full speed	27,6 L/min.
. Pressure	140 Bar
. Capacity	12 cm³
- Filtration	
. Return	10 Microns
- Hydraulic shock absorber	
. Capacities	1,4 L
. Pressure	120 Bar