

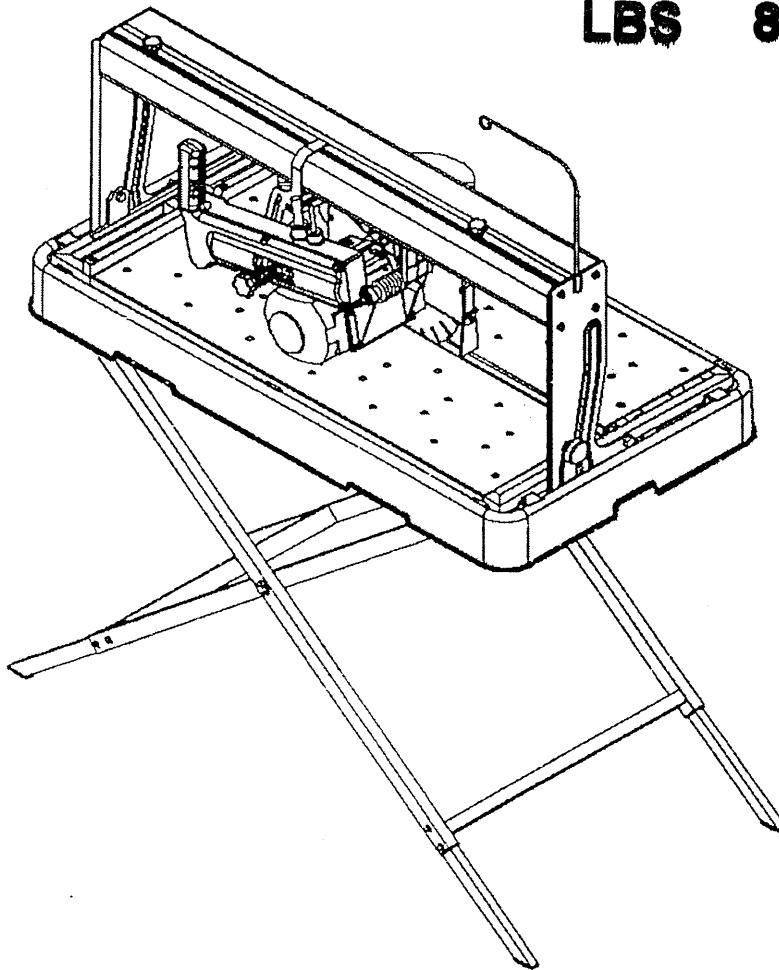
COMBI 250 V

SAWING MACHINE

COD. 1188199

S/N 483189

LBS 86



OPERATING, MAINTENANCE, SPARE PARTS MANUAL

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6/2002-R1
- Cod. 3210213 -

Dear Customer,
Congratulations on your choice of purchase: IMER saws are the result of years of experience and are equipped with all the latest technical innovations.

⚠ - WORKING IN SAFETY.

To work in complete safety, read the following instructions carefully before using the machine.

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This OPERATION AND MAINTENANCE manual must be kept on site by the person in charge, e.g. the SITE FOREMAN, and must always be available for consultation.
The manual is to be considered integral part of the machine and must be kept for future reference until the machine is disposed of. If the manual is damaged or lost, a replacement may be requested from the manufacturer.

The manual contains important information regarding site preparation, machine use, maintenance procedures, and requests for spare parts.

Nevertheless, the installer and the operator must both have adequate experience and knowledge of the machine prior to use.

To guarantee complete safety of the operator, safe operation and long life of equipment, follow the instructions in this manual carefully, and observe all safety standards currently in force for the prevention of accidents at work (use of safety footwear and suitable clothing, helmets, gloves, goggles etc.).

⚠ - Make sure that all signs are legible.

⚠ - It is strictly forbidden to carry out any form of modification to the steel structure or working parts of the machine.

IMER INTERNATIONAL declines all responsibility for failure to comply with laws and standards governing the use of this equipment, in particular; improper use, defective power supply, lack of maintenance, unauthorised modifications, and partial or total failure to observe the instructions contained in this manual.

IMER INTERNATIONAL reserves the right to modify features of the saw and contents of this manual, without the obligation to update previous machines and/or manuals.

1. TECHNICAL DATA

Technical data are stated in table 1 and electrical specifications in table 2.

TECHNICAL DATA - Table 1	
Model	COMBI 250 V
Max. diamond blade diameter	10 inches
Diamond blade hole diameter	1 inches
Single phase motor (115V 60Hz) output	1.1 Kw
Max. blade rotation speed (115V 60Hz)	3.400 rpm
Worktop dimensions	500x840 mm
90° cut length (th=16mm)	660mm
Length of cuts from above	785mm
Maximum cut depth with single stroke	66 mm
Maximum cut depth with two strokes	95 mm
Water pump flow rate	10 L/min
Water tank capacity	42 L
Machine dimensions	1040x560x640mm
Packed machine dimensions	1050x570x660mm
Weight with packaging	41 Kg

Feature	115/60 Hz
Power (kW)	1.1
Rated voltage (V)	115
Frequency (Hz)	60
Absorbed current	14.4
Number of poles	2
rpm	3400
Service type	S6 40%
Insulation category	F
Protection category	IP 55
Capacitor (µF)	110(Ø 50x120)

2. DESIGN STANDARDS

The saws have been designed and manufactured according to the following european standards: EN 292-1-2; EN 60204-1; EN 12418.

3. NOISE EMISSION LEVEL

Table 3 specifies the sound emission levels measured on the saw (L_{WA}) in accordance with EN ISO 3744 and the sound pressure level measured at the ear of the operator under no load conditions (L_{PA}).

TABLE 3			
SAWING MACHINE	TYPE OF MOTOR	L _{PA}	L _{WA}
CM250 V	ELECTRIC	70	85

4. GENERAL SAW DESCRIPTION

4.1 General description:

The Combi 250 V is a saw comprising the following main sub-groups :

- cutting head (ref. A fig.1).
- sliding guide (ref. B fig.1).
- water collection tank (ref. C fig.1).
- frame (ref. D fig.2).
- cutting surface (ref. F fig.2).
- stand (ref. G fig.5).

The cutting head is mounted on a reinforced aluminium profile and is equipped with horizontal and vertical movement facilities. The aluminium profile is hinged onto sheet steel arms (ref.H fig. 5) and the entire unit can rotate through 45° (fig. 6) by means of the relative handwheels (ref.L fig. 7).

The cutting surfaces are positioned on the tubular frame of the saw which is placed on the tank constructed in impact-resistant plastic.

The water immersion pump is mounted below the cutting surfaces on a special bracket and supplies a water distributor inside the blade guard for cooling the cutting blade during operation.

The high resistance plastic handle (ref.M fig. 6), is equipped with the main ON-OFF switch on the operator side to facilitate saw activation and shutdown. The raised position of the red OFF button on the handle is designed to facilitate shutdown of the machine in the event of an emergency. The motor capacitor is located in a protected position inside the handle. The saw is fitted with a guard to guarantee optimal safety during operation and to protect the user during cutting cycles. A valve is mounted above the blade guard to adjust the flow rate of water delivered to the cutting blade.

4.2 Processable materials:

This saw has been designed for cutting the following materials: ceramic tiles, masonry and stone in general with


maximum dimensions compatible with the length, cutting depth and dimensions of the surfaces specified in Table 1.

Maximum weight of processable materials: 25 kg.


4.3 Unsuitable material :


Materials unsuitable for this machine are all those not specified in paragraph 4.2.

In any event, before using the saw with materials other than as specified by the manufacturer for this saw model, contact IMER INTERNATIONAL S.p.A.

 - Use of this machine with workpieces outside the specified dimensions is strictly prohibited and constitutes a hazard for the operator.

5. OPERATION SAFETY

 - Before using the saw, ensure that all protection devices are fitted.

 - Never use the saw in environments subject to the risk of explosions, fire or underground.

The saw is not fitted with specific lighting and therefore the workplace must be sufficiently lit for this purpose.

The power lines must be laid to prevent any possible damage. Never stand the saw on the power supply cable. Ensure that the electrical connection is protected against the risk of water penetration in connectors. Use exclusively connectors and couplings equipped with water spray protection.

- Never use inadequate or makeshift electrical lines or cables without earthing; if in doubt consult a specialised technician.

- Repairs to the electrical circuit must be performed exclusively by specialised personnel. Disconnect the machine from the power supply before performing maintenance or repairs.

6. GENERAL SAFETY WARNINGS

Note that this machine has been designed to ensure optimal performance and maximum safety; however the operator must also guarantee this level of safety by paying special attention to the machine throughout all work phases.

1. **Ensure that an efficient earthing system is installed.**
2. **Work only with all protection devices fitted correctly and in efficient working order.**
3. **Keep the machine clean: general cleaning (and the work surfaces in particular) represents an important safety factor.**
4. **Always stop the machine and disconnect from the power supply before cleaning or removing any protection device (for maintenance or disassembly purposes).**
If water jets are used for cleaning, never point jets directly at the power supply unit or electric motor.
5. **Remove rings, watches, bracelets or ties before using the machine; these elements constitute a serious hazard to the operator.**
Also ensure that sleeves are tight around the wrists, hair is tied back and robust footwear is used.
6. **Never cut workpieces that have dimensions or weight that are not suited to machine capacity as specified by the manufacturer (see point 4.2)**
7. **Always use personal protection devices such as safety goggles, suitably sized gloves, ear muffs or plugs and hair caps when necessary.**

8. **Use original diamond blades as recommended by the manufacturer to ensure optimal performance of the machine.**

9. **Always keep hands well away from the working zone while the machine is running; before removing workpieces from the blade area, always press the stop pushbutton to shut down rotation.**

10. **The instructions in this manual are aimed at machine users (operators, maintenance engineers).**

11. **Never use diamond blades that are chipped or deformed.**

12. **Never use blades over the rotation speed specified by the manufacturer.**

13. **Use exclusively water-cooled continuous rim blades suited to the material to be cut.**

14. **Never dry cut material or cut when cooling water levels are low.**

15. **Ensure that the machine, with or without stand, is placed on a stable surface with a maximum inclination of 5°.**


7. SAFETY DEVICES

The COMBI 250 V has been constructed taking into account current harmonised European safety standards. According to machine directive 98/37/EEC all safety devices have been installed with the aim of safeguarding the operator.

7.1 Guards and safety devices

The machine is equipped with fixed guards, secured by means of screws and protections that prevent access to moving or dangerous parts.


All fixed guards, covers, shields fixed by means of screws have been envisaged to protect the operator (maintenance engineers, technicians and others) from possible accidents cause by electrical discharge or moving mechanical parts. Therefore use of the machine with guards removed or modified in any way is strictly prohibited.

 **Before performing maintenance or repairs to the machine, turn it off via the main switch and disconnect from the power supply to prevent inadvertent start-up and isolate all machine electrical circuits.**

8. MACHINE INSTALLATION


8.1 Lifting and handling

The Combi 250 V saw weights 39 Kg and can be moved by means of the side handles on the tank (ref.N fig.5).

 **Always empty the tank before moving the machine.**


8.2 POSITIONING.

The machine must be placed on a smooth surface that is at least as large as the tank, with the saw on the relative stand.

 - **Ensure that the stand is positioned on the relative inserts on the tank base and thus secured.**

The correct side for the operator is as shown in Fig.3 position X.

In the event of moving the saw, take care to secure the head by means of the fixing knobs (ref.O, L fig.7) and carry the machine by means of the handles on the tank (ref.N fig.5) after disconnecting the power supply.

 **Always remove the plug from the mains power before moving the machine.**

8.3 STAND ASSEMBLY

The stand is supplied pre-assembled. Before use complete assembly by inserting the foot (ref.T fig.5) in the stand frame and tightening the screw and nut (ref.U fig.5).

9. ELECTRICAL CONNECTION

⚠ - Ensure that voltage corresponds to machine dataplate specifications.

Connect the machine to an efficient earthing system. The size of the power cable wires must be based on operating current and length of the power line to prevent excessive voltage drops (ref. Table 4).

Combi250 V - Tab. 4				
Cable length (m)	V115 I= 14.4 A	0 ÷ 12	13 ÷ 20	21 ÷ 32
Cable (mm ²)		1.5	2.5	4

⚠ - Ensure that the electric line has a suitable differential overload switch (RCD) (GFCI-USA).

Connect the saw plug to the mains.
 - The saw is now ready for operation.

11. SAW START-UP

Connect the mains power cable to the plug on the electrical panel.

Then start the saw by means of the switch on the handle (ref.

P fig.6), comprising two buttons: green for start, red for stop.

The switch is fitted with low voltage protection; in the event of accidental power failure, press the green button again to resume operation.

In the event of an emergency, press the red pushbutton to shut down the machine and disconnect the plug from the power mains.

THERMAL CUTOFF PROTECTION:

⚠ - The electric motor is protected against overload by a thermal cutoff; in the event of overheating this device shuts down the motor.

Cool the motor and restart by means the main switch on the handle (ref. P fig. 6).

12. MACHINE USE

Operation

The correct side for the operator is shown in fig. 3 ref X. Fill the water tank to the maximum level (approx. 42 litres). Connect the machine to the power mains and start as described in paragraph 11. Open the valve (ref. V fig.7) and ensure sufficient flow of cooling water to the diamond blade.

Cutting

Place the material to be cut on the cutting surface against the fence at the required angle using a protractor.

Adjust the height of the cutting head by means of the handwheel (ref. R fig. 6).

Ensure that the handwheels for angled cuts (ref. L fig. 7) and tightened fully down.

Start the saw as described in paragraph 11.

Proceed with cutting moving the saw head by means of the handle.

In the event of blade rotation shutdown due to excessive force, free the disk by moving it forwards and wait for the saw to reach normal operating speed before resuming operation.

Angled cuts

Loosen the handwheels (ref. L fig. 7), set the cutting head at the required angle, retighten the handwheels, and proceed as described in the point above.

Ensure that the tank is kept full during all work phases and in

the event of prolonged work intervals replace water regularly and remove all processing residue. Press the workpiece by hand onto the cutting surface. Apply sufficient pressure on the handle to move the cutting head without blocking the blade.

13. Maintenance

13.1 Premise

Routine maintenance operations can also be performed by non-specialised personnel provided that all safety standards specified in the relative sections of this manual are observed at all times.

13.2 Machine cleaning

The machine should be cleaned exclusively when it is stationary.

⚠ - All power switches must be set to "0" and plugs must be disconnected from the mains.

- ♦ Never use compressed air; this could cause infiltration of dust or residue in enclosed parts.
- ♦ Ensure that the cooling water nozzles are not obstructed.
- ♦ Above all the cooling water in the tank must be changed every day.
- ♦ Recommended product for cleaning and lubricating the mechanical parts of the saw: WD40

13.3 Waste disposal

As regards disposal of processing waste observe all current legislation in the country of use.

13.4 Repairs

Repairs to the electrical installation must be performed exclusively by specialised personnel. Use exclusively original IMER spare parts; modifications to parts are strictly prohibited. The special design of the COMBI 250 V ensures that no other maintenance other than as specified above is required.

Ensure that the contacts of the power plug and plug-switch assembly are efficient. If oxidation is detected, clean immediately

13,5 Cleaning the tank

Clean the tank in the event of build-up of sediment on the base, or at least once a day. Failure to clean the tank could impair operation of the immersion pump used for circulation of the diamond blade cooling water.

13.6 Blade replacement

The diamond blade is made of material that may be damaged when subject to high temperatures, and therefore must be cooled during the work phases.

To replace the blade, proceed as follows:

1. Block axial movement of the cutting head by means of the handwheels (ref. O fig. 7).
2. Disassemble the front guard (ref. D fig.4).
3. Loosen the locknut by rotating clockwise (left thread), using a 19 mm wrench.
4. Move the cutting head forward slightly and incline to remove the blade from its seat.

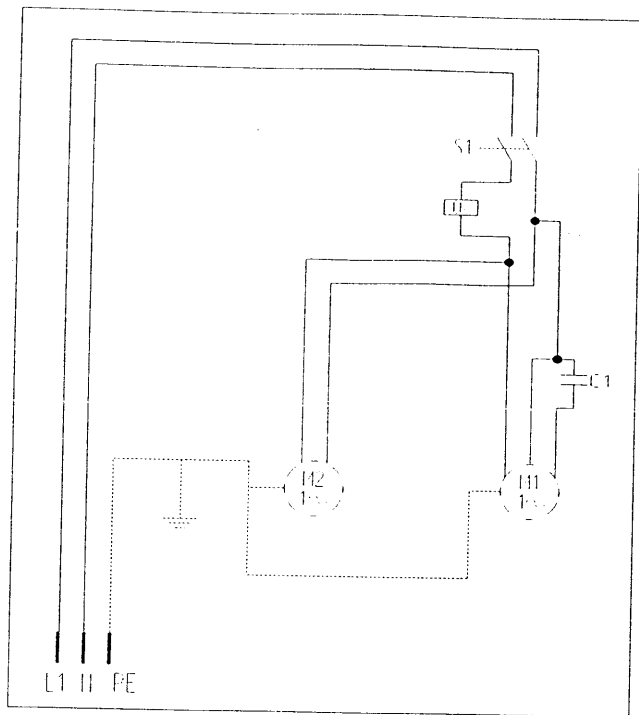
5. Ensure that there are no foreign objects between the fixing flange and diamond blade. During disassembly, avoid use of tools that could dent or deform the flange.

6. Insert the new blade proceeding in reverse order of the operation described at point 4. Take special care to ensure correct direction of rotation of the diamond blade.

7. Tighten the blade locknut fully down by rotating anticlockwise (left thread), to a torque of 40 Nm.

13.7 Cleaning the cooling water supply circuit

At regular intervals (or when the flow rate of the blade cooling water is reduced) clean the cooling water supply circuit. To do this, disassemble the delivery nozzle (ref. S fig. 4) located inside the blade guard and clean in water. Periodically clean the cooling water delivery line between the pump and valve, (ref. V fig. 7) and blade guard using water.



- S1 Control switch
- C1 Capacitor
- PE Earthing cable
- N Neutral line cable
- L1 Phase line conductor
- M1 Blade motor
- M2 Pump motor

14. Troubleshooting

⚠ CAUTION!!! All maintenance operations must be performed exclusively with the machine switched off, with the selector set to "0" and the power plug disconnected from the mains.

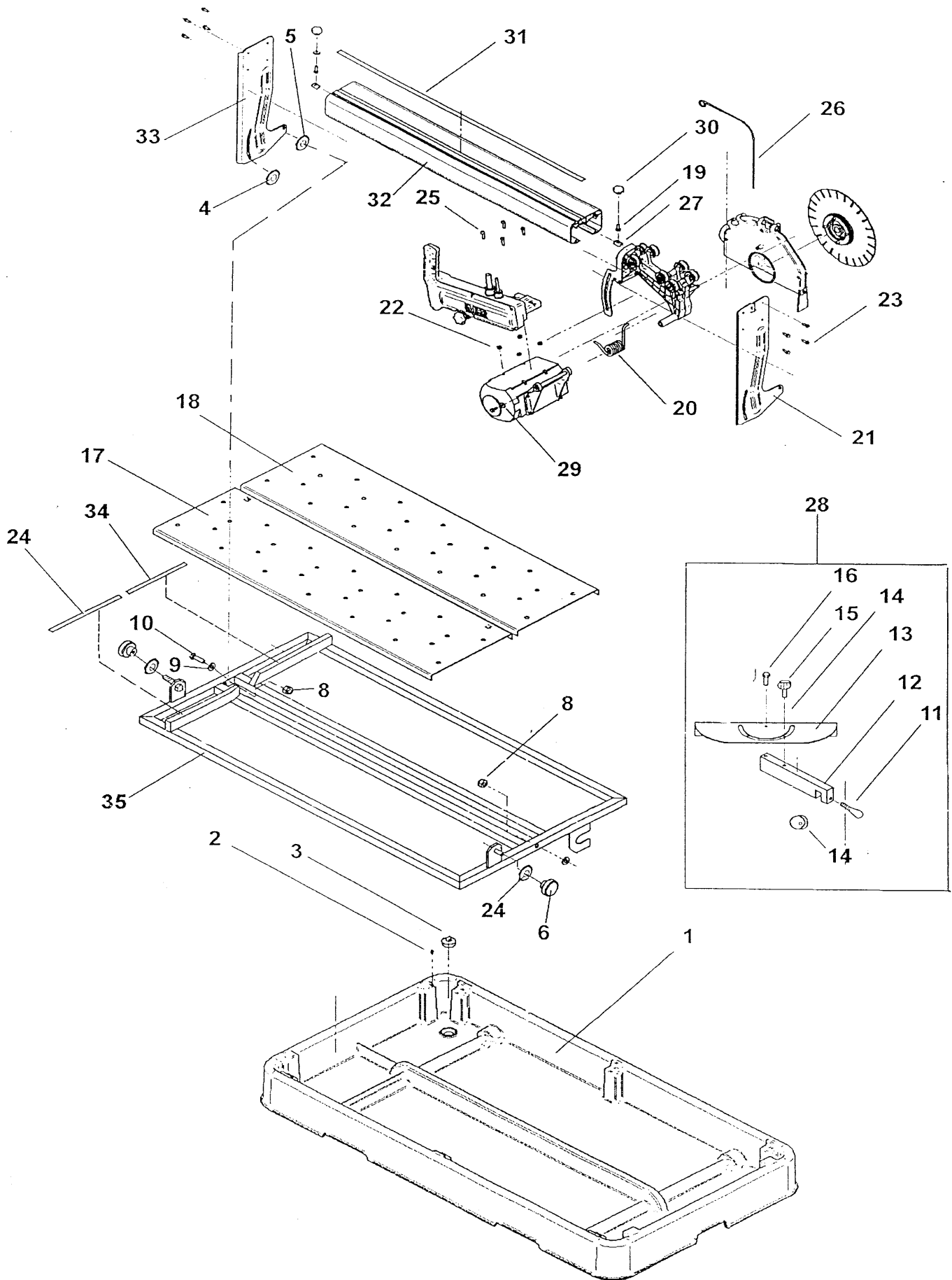
Problem	Cause	Remedy
Start button is pressed but motor does not start.	<ul style="list-style-type: none"> - No voltage on power line. - Socket and plug not fitted correctly. - Power cable from plug to panel is disconnected. - Electric wire loose inside motor terminal board. - Electric wire loose inside panel. - Start switch faulty. 	<ul style="list-style-type: none"> - Check power line. - Fit correctly. - Replace cable - Arrange repairs by electrician - Arrange repairs by electrician. - Change switch.
No delivery of cooling water to blade.	<ul style="list-style-type: none"> - Refer to "machine cleaning tank cleaning" . 	
Blade does not cut.	<ul style="list-style-type: none"> - Incorrect direction of blade rotation. - Blade worn. 	<ul style="list-style-type: none"> - Disassemble blade and reposition in the direction as shown on the blade label. - Fit new blade.

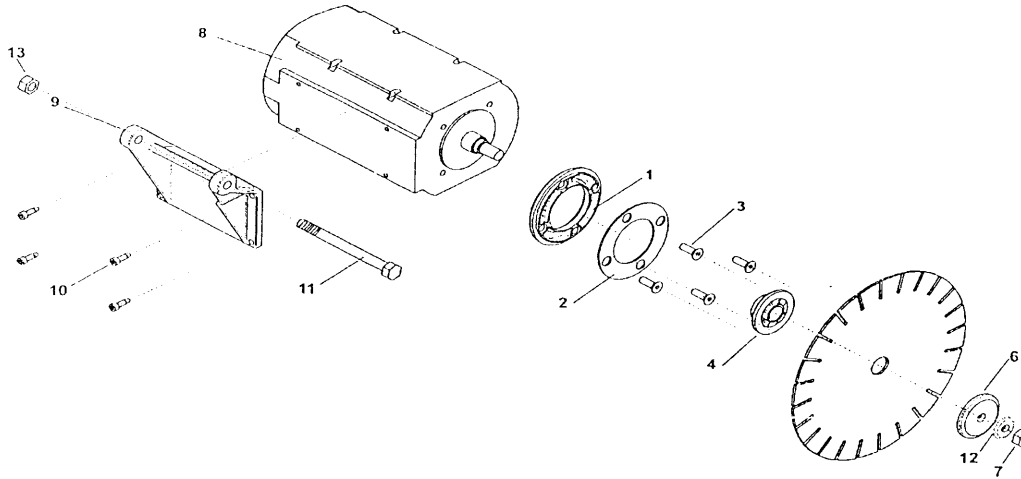
18. SPARE PARTS :All orders for spare parts must indicate the following: 1 - Type of machine.2 - Part number and position number of each part.3 - Serial number and year of manufacture reported on the machine's identification plate.

SYMBOL: Interchangeability (example):Pos..1 P.n. 2222002 was installed on machincs up to N° 5240 and Pos.1.1 P.n. 2222018 installed on machine N° 5241 onwards. Pos. 1.1 is interchangeable () with Pos. 1.Pos. 1 and Pos. 1.1 are not interchangeable if the () symbol appears in the table.

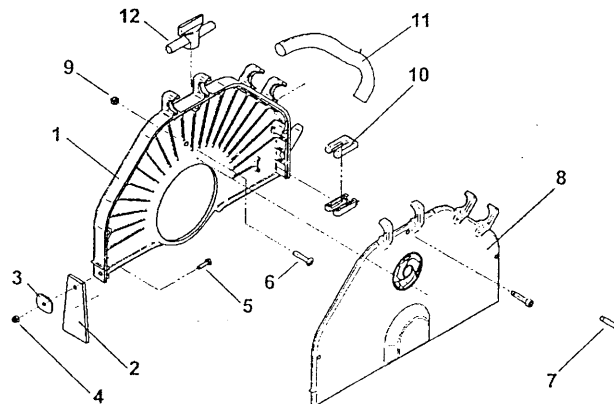
SPARE PARTS			NOTES
Ref.	Code		
1	2222002	SCREW	5240
2	2222018	SCREW	5241

TAV. 1 MACHINE STRUCTURE -			
Ref.	Code	Description	
1	3210055	TANK	
2	2222449	SCREW	
3	2235430	CAP	
4	2224140	WASHER	6593 8x18
5	3207076	WASHER	NYLON 10,5x21x1
6	2284866	KNOB	M8
7	2222005	SCREW	5739 8x30
8	2223920	NUT	M10
9	2224140	WASHER	6593 10x21
10	2222098	SCREW	5739 10x40
11	3210625	KNOB	M8
12	3210064	GONIOMETER SUPPORT	
13	3208423	GONIOMETER	
14	3209332	CAM	
15	3206085	HANDWHEEL	M8
16	3208416	GONIOMETER PIN	
17	3210060	L.H. SURFACE	
18	3210061	R.H. SURFACE	
19	SCREW	BOLT	5739 6x16
20	3210087	SPRING	
21	3210097	FRONT ARM	
22	2223280	NUT	5588 M6
23	3210099	SCREW	
24	3210056	RIGHT FENCE ADHESIVE LABEL	
25	2225541	SCREW	5931 6x25
26	3210070	ROD	
27	3210071	SUPPORT	
28	3210063	GONIOMETER ASSEMBLY	
29	2224530	WASHER	6592 6x12,5
30	3204885	KNOB	M6
31	3210069	FENCE ADHESIVE LABEL	
32	3210068	SLIDEWAY	
33	3210073	REAR ARM	
34	3210057	LEFT FENCE ADHESIVE LABEL	
35	3210018	FRAME	

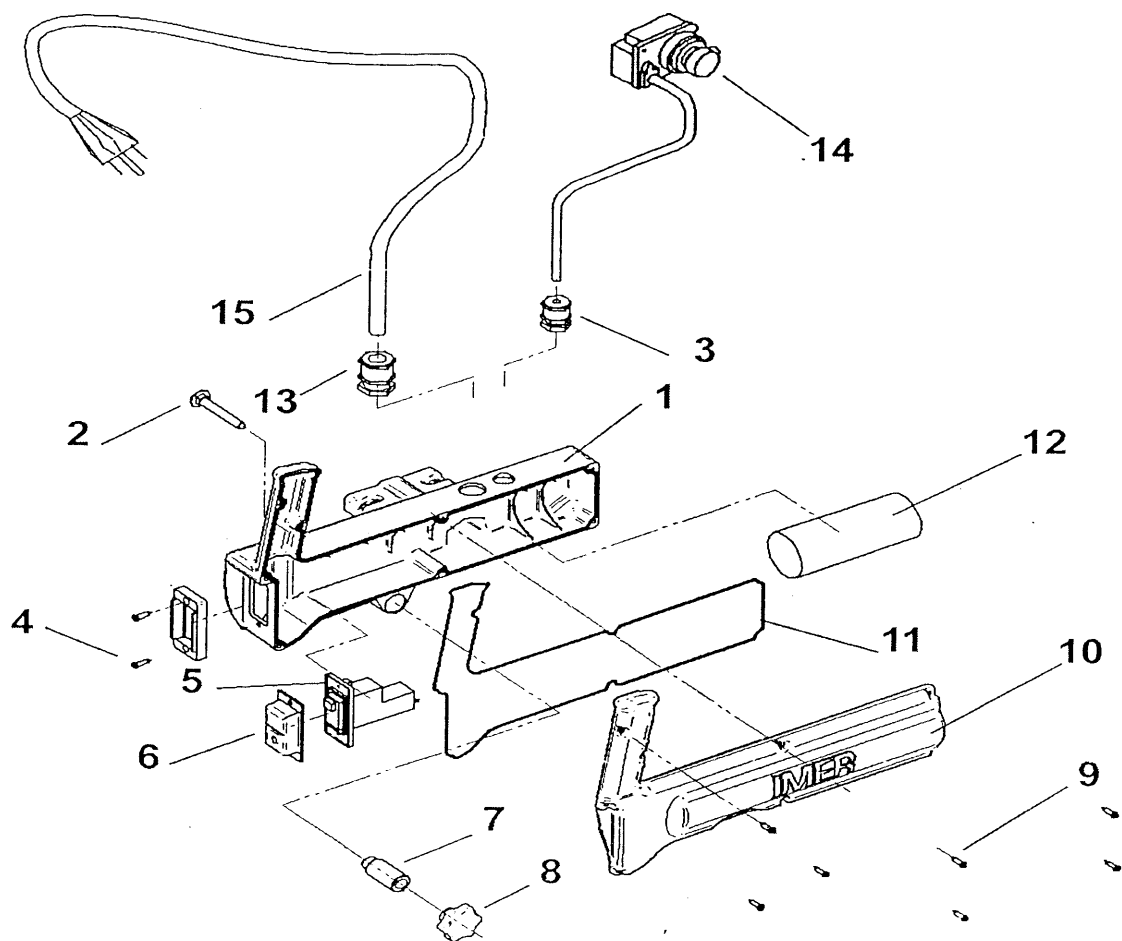




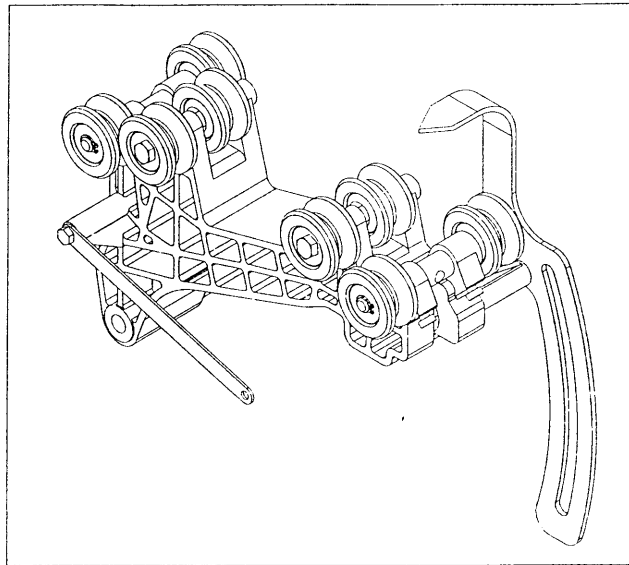
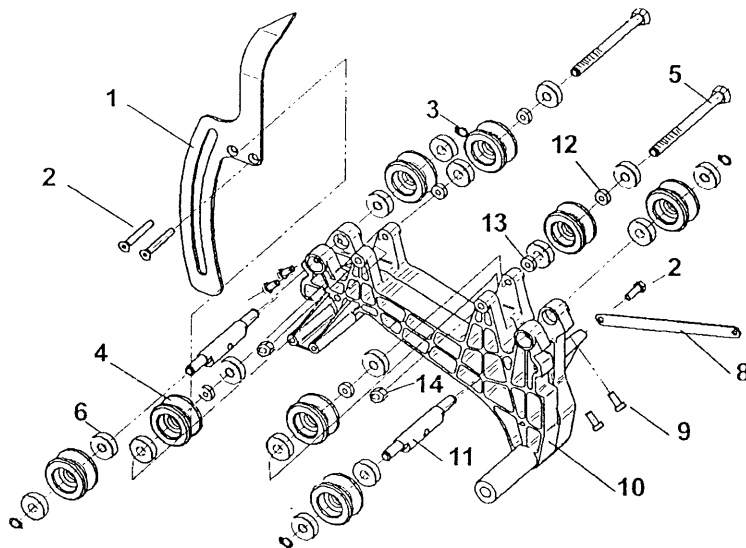
TAV. 2 ASSEMBLY OF MOTOR -			
Ref.	Code	Description	Notes
1	3210042	COVER	
2	3210043	SPACER BRACKET	
3	3201339	SCREW	5933 M8x25
4	3210238	INNER FLANGE	
6	3210046	OUTER FLANGE	
7	3210053	NUT	M12 SX
8	3210218	MOTOR	115V-60Hz
9	3210038	ENGINE SUPPORT	
10	2222541	SCREW	5739 M6x16
11	3210637	SCREW	
12	2224380	WASHER	6593 12X25
13	2223920	NUT	M10



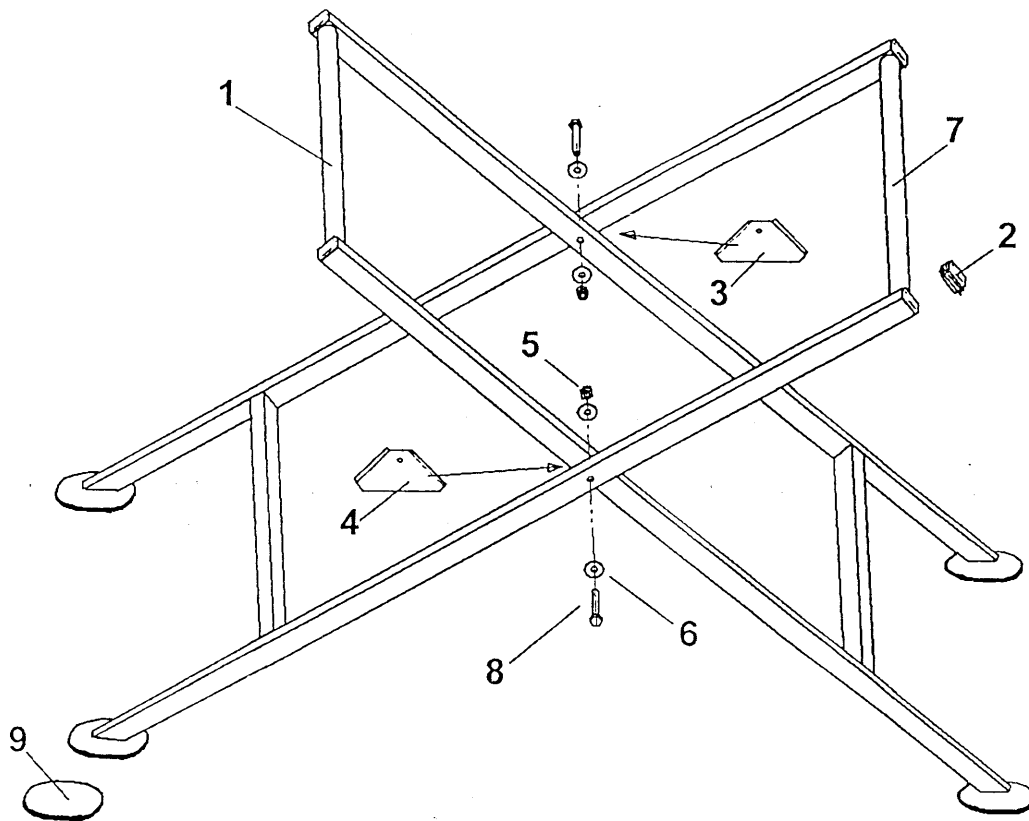
TAV. 3 - BLADE GUARD			
Ref.	Code.	Description	Notes
1	3210041	BLADE GUARD	
2	3210050	SPRAY SHIELD	
3	2224535	WASHER	
4	2223926	NUT	AUTOBL. M4
5	2222001	SCREWF	5739 M4x20
6	3209060	SCREW	5737 M6X35
7	3204399	SCREW	5931 M5x25
8	3210040	BLADE GUARD	
9	2223924	NUT	5588 M6
10	3210047	COOLANT HOSE	
11	2292365	TUBE	
12	3207884	COCK	



COD.3210216		TAV. 4 - ELECTRIC PANEL	
Ref.	Code	Description	Notes
1	3210230	JUNCTION BOX	
2	3210096	SCREW	5732 M8X60
3	3210112	CABLE CLAMP	
4	3210120	SCREW	
5	3210233	SWITCH	115V
6	3209340	LEAKAGE PROTECTION	
7	3210089	TUBE	
8	2284866	HANDWHEEL	M8
9	2222460	SCREW	
10	3210231	COVER	
11	3210111	GASKET	
12	3210232	CAPACITOR	115V
13	3210113	CABLE CLAMP	
14	3210524	WATER PUMP	115V
15	3209065	PLUG+ELECTRIC CABLE	115V



COD.3210025		TAV. 5 - CARRIAGE	
Ref.	Code	Description	Notes
1	3210028	CARRIAGE BLOCK	
2	3210105	SCREW	
3	3210627	RING	
4	3207397	WHEEL ASSEMBLY	
5	2222114	SCREW	
6	3204945	BEARING	608 2RS1
8	3210029	BLADE GUARD	
9	3210036	SCREW	TCEI SX16
10	3210031	CARRIAGE	
11	3210032	CAM	
12	3207393	SPACER BRACKET	
13	3210622	SPACER BRACKET	
14	2223920	NUT	M10



COD.3210080		TAV 6 - TRESTLE ELEMENT	
Ref.	Code	Description	Notes
1	3210645	INTERNAL TRESTLE ELEMENT	
2	3206205	TERMINAL	
3	3207193	RIGHT RABBET	
4	3207194	LEFT RABBET	
5	2223924	NUT	AUTOBL. M8
6	2224204	WASHER	6593 8x24
7	3210641	EXTERNAL TRESTLE ELEMENT	
8	1222030	SCREW	5737 8x60
9	3210646	RUBBER COATING	

ONE YEAR WARRANTY

We warrant to the original purchaser that the IMER equipment described herein (the "equipment") shall be free from defects in material and workmanship under normal use and service for which it was intended for a period of one (1) year from the date of purchase by the original purchaser.

Our obligation under this warranty is expressly limited to replacing or repairing, free of charge, F.O.B. our designated service facility, such part or parts of the equipment as our inspection shall disclose to be defective. Parts such as engines, motors, pumps, valves, electric motors, etc. furnished by us but not manufactured by us will carry only the warranty of the manufacturer. Transportation charges or duties shall be borne by the purchaser. This shall be the limit of our liability with respect to the quality of the equipment.

This warranty shall not apply to any equipment, or parts thereof, which has been damaged by reason of accident, negligence, unreasonable use, faulty repairs, or which has not been maintained and operated in accordance with our printed instructions for our equipment. Further, this warranty is void if the equipment, or any of its components, is altered or modified in any way.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE.

We make no other warranty, representation or guarantee, nor is anyone authorized to make one on our behalf. We shall not be liable for any consequential damage of any kind, including loss or damage resulting, directly or indirectly, from the use or loss of use of the machine. Without limiting the generality of the foregoing, this exclusion from liability embraces the purchase's expenses for downtime, damages for which the purchaser may be liable to other persons, damages to property, and injury or death of any persons.

This warranty shall not be deemed to cover maintenance parts, including but not limited to blades, belts, hoses, hydraulic oil or filters, for which we shall have no responsibility or liability whatsoever.

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