Attix 30 / Attix 50
Service Manual

Nilfisk
ALTO
Why Compromise

ATTIX 30

ATTIX 30 HEPA

ATTIX 30 AS/E

ATTIX 50

ATTIX 50 HEPA

ATTIX 50 AS/E

ATTIX 50 AS/E XC

Wap
KEW
TECHNOLOGIES

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Preface

A

In this manual you will find the essentials you need to know when repairing wet and dry cleaners of the Attix 30 and 50 series.

When carrying out repairs, make sure you have a suitable workbench or the like with the necessary power supply available.

If you determine an error in operation, be sure to refer the customer to the user manual.

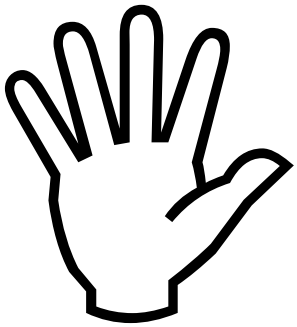
A fault in the equipment can have a number of causes. Chapter E Troubleshooting will help you here.
Use the illustrated spare parts lists for your repairs. These show you the location of the individual parts and the sequence in which they are assembled.
Read the technical information sheets. These will tell you about any technical modifications made after publication of this repair manual.

Repair manuals such as this are a supplement to the spare parts list. Please refer to the spare parts list for any parts that you do not find in this manual.

Use original Nilfisk-ALTO spare parts only!

Symbols used to mark instructions

Safety instructions marked with this symbol must be observed to prevent danger and/or personal injury.



This symbol is used to mark safety instructions that must be observed to prevent damage to the equipment and degradation of performance.

This symbol indicates tips and instructions to simplify work and to ensure safe operation.

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Safety Issues.

A

For your own safety

Repairs should only be made by someone who has received proper instructions for the job or who is a qualified electrician.

Unplug the machine from it's power supply socket when not in use and before performing any service or maintenance work on the machine.

Before starting any service or maintenance work, be sure to read this service manual fully and keep it close by for reference.

Be sure to observe any national safety directives and regulations before attempting to repair or service your machine.

The machine should only be used by persons who have been instructed in its use and are authorized to do so.

ESD (Electro-Static Discharge)

Observe the following ESD precautions before repairing or working near electronic parts:

- Discharge any static build up on your own body by touching a properly earth-grounded source.
- Wear an anti-static wrist strap, if possible.
- Use a conducting floor or tabletop.
- Never touch a circuit board or electronic component directly, always hold them by their plastic frame or insulation.
- Transport electronic parts in conductive packaging (e.g. special ESD packages).

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Technical Data.

B

TECHNICAL DATA	ATTIX 30	ATTIX 30 w/ HEPA	ATTIX 30 AS/E
Voltage / Frequency, V/Hz	120/60	120/60	120/60
Power, W	1000	1000	1000
Max. Air Flow, cfm	135	135	135
Max. Waterlift, in. H2O	92	92	92
Noise Level, dB(A)*	59	59	59
Container Volume, liters/gal.	30/8	30/8	30/8
L x W x H, inches	18x15x23	18x15x23	18x15x23
Shipping Weight, pounds	32	32	34
Electrical Approval *at working distance of 3 meters	ETL-C	ETL-C	ETL-C

TECHNICAL DATA	ATTIX 50	ATTIX 50 HEPA	ATTIX 50 AS/E	ATTIX 50 AS/E XC	ATTIX 50 AS/PE XC
Voltage / Frequency, V/Hz	120/60	120/60	120/60	120/60	120/60
Power, W	1000	1000	1000	1000	1000
Max. Air Flow, cfm	135	135	135	135	135
Max. Waterlift, in. H2O	92	92	92	92	92
Noise Level, dB(A)*	59	59	59	59	59
Container Volume, liters/gal.	47/12	47/12	47/12	47/12	47/12
L x W x H, inches	18x15x30	18x15x30	18x15x30	18x15x30	18x15x30
Shipping Weight, pounds	38.5	38.5	38.5	37.5	40
Electrical Approval * at working distance of 3 meters	ETL-C	ETL-C	ETL-C	ETL-C	ETL-C

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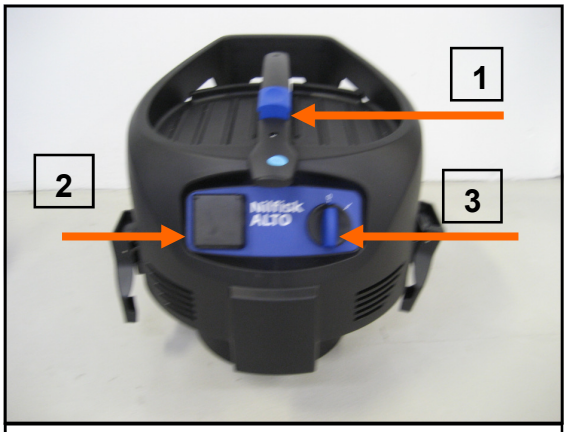
Disassembly

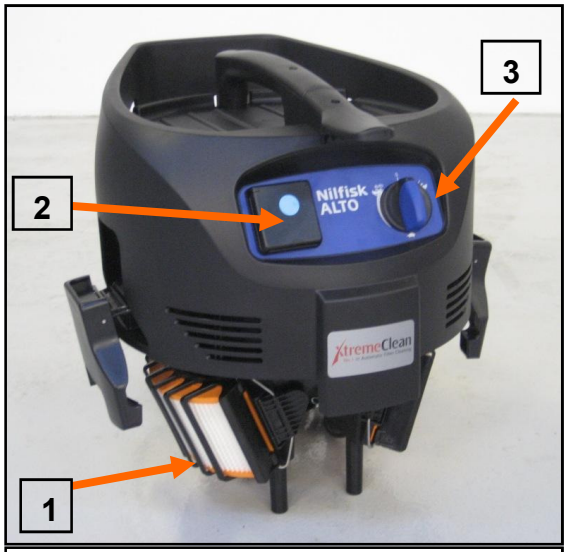
C



Attix 30 A/SE Motorhead

Shown with both Push & Clean Feature and Auto Start Electrical Outlet

1. Push & Clean button
2. Outlet socket
3. On / Off switch



Attix 50 A/SE XC Motorhead

Shown with both Xtreme Clean Feature and Auto Start Electrical Outlet

1. Xtreme Clean Filter
2. Outlet socket
3. On / Off switch

Attix 30 Collection Container

Attix 50 Collection Container

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Disassembly

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Remove the motor cover by removing the 3 screws (Torx 10) shown in Fig. 1 on the top of the handle. Then remove the 3 screws (Torx 20) shown in Fig. 2 under the handle.

Fig. 1

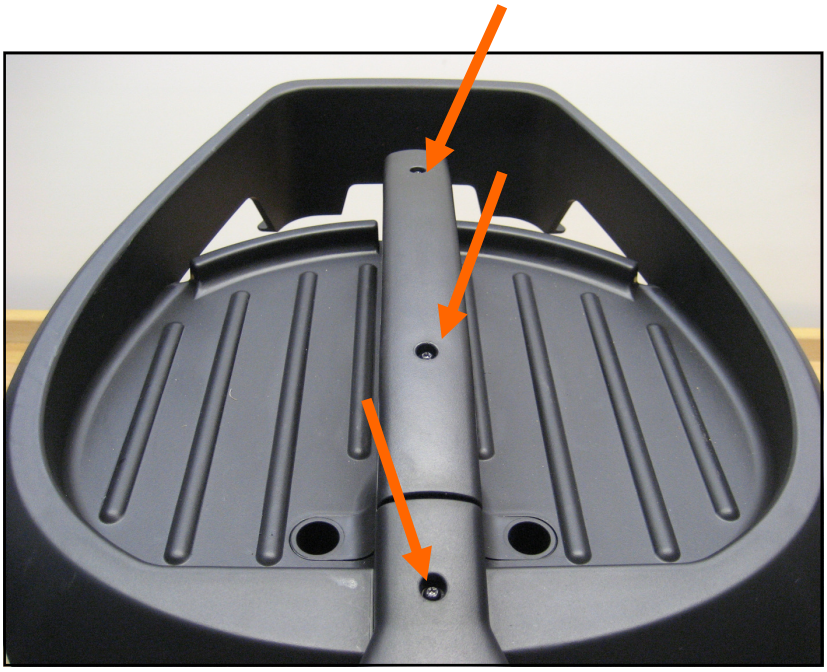
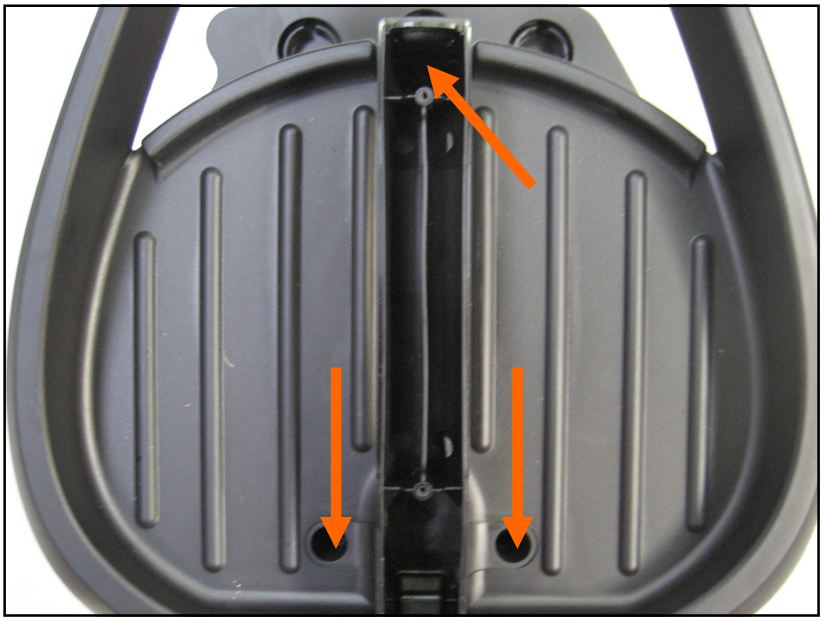


Fig. 2



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Disassembly

C

Attix 30/50 Push&Clean Motorhead

In order to access the motor once the motorcover has been removed, carefully remove the dashboard, circuit board (if present) and the air guide in order to expose the remaining screws underneath.

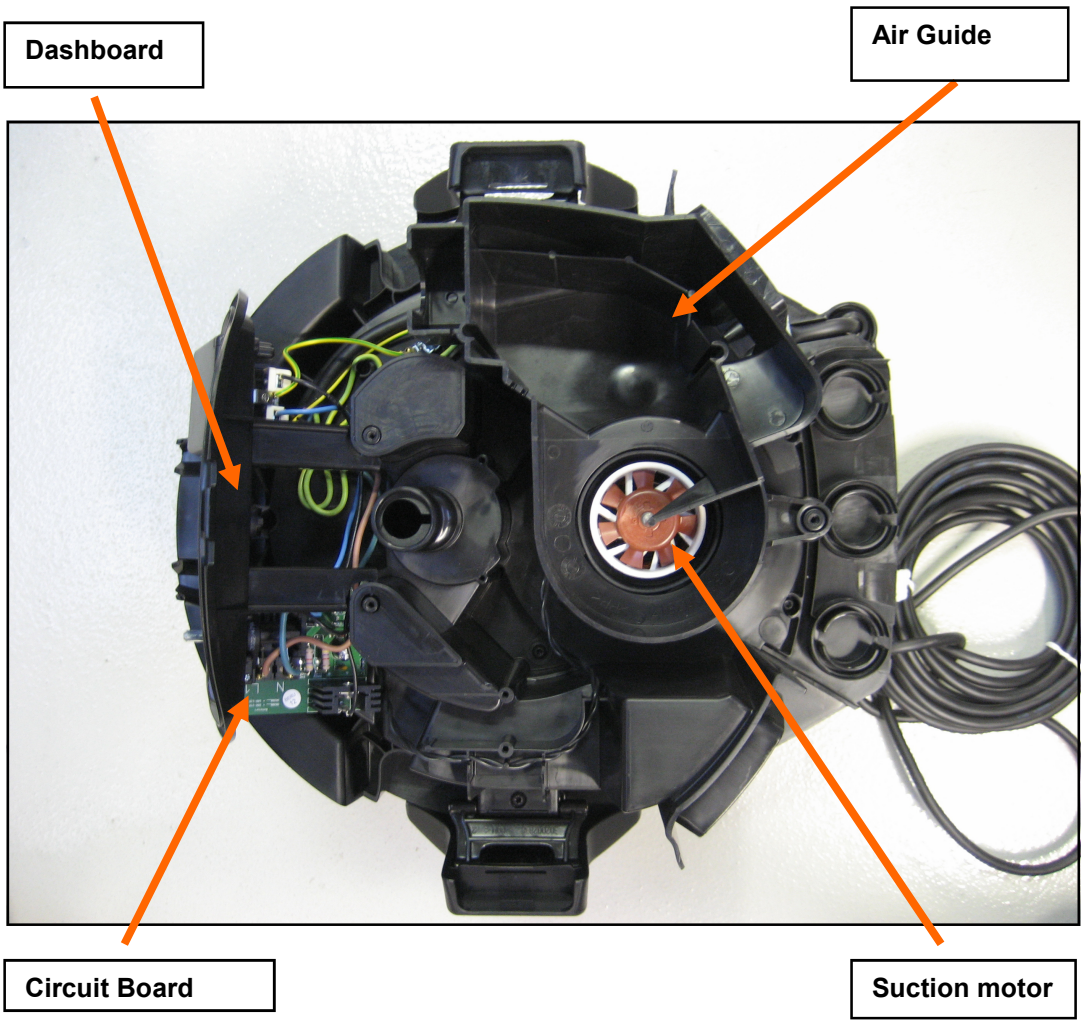

Fig. 3 Attix 30 AS/E motorhead

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Disassembly

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Attix 30/50 Push&Clean Motorhead

Remove the 7 screws (Torx 20) shown in Fig. 4 and then remove the clamping plate. Remove the 6 screws (Torx 20) shown in Fig. 5 and then remove the filter plate.

Fig. 4

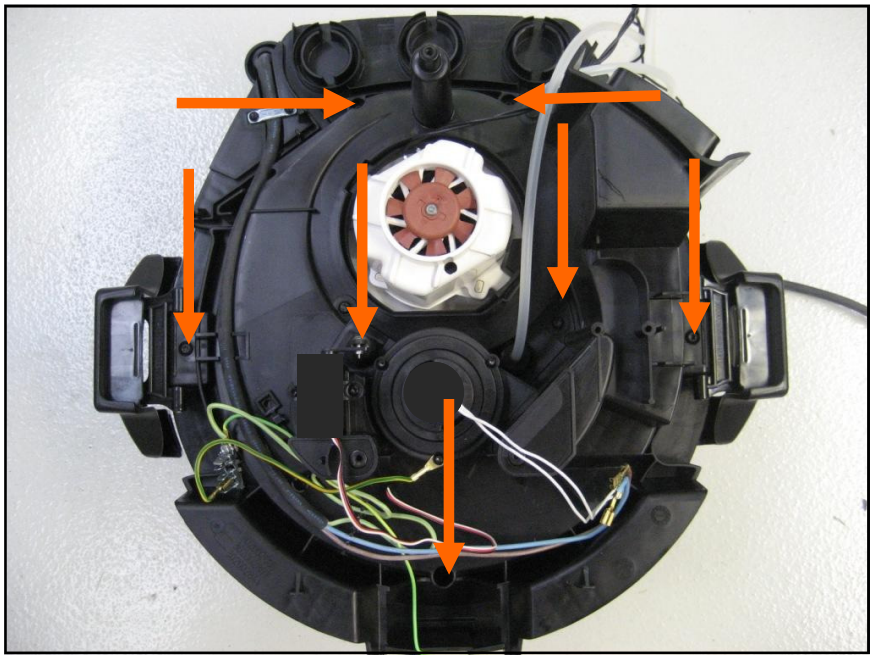
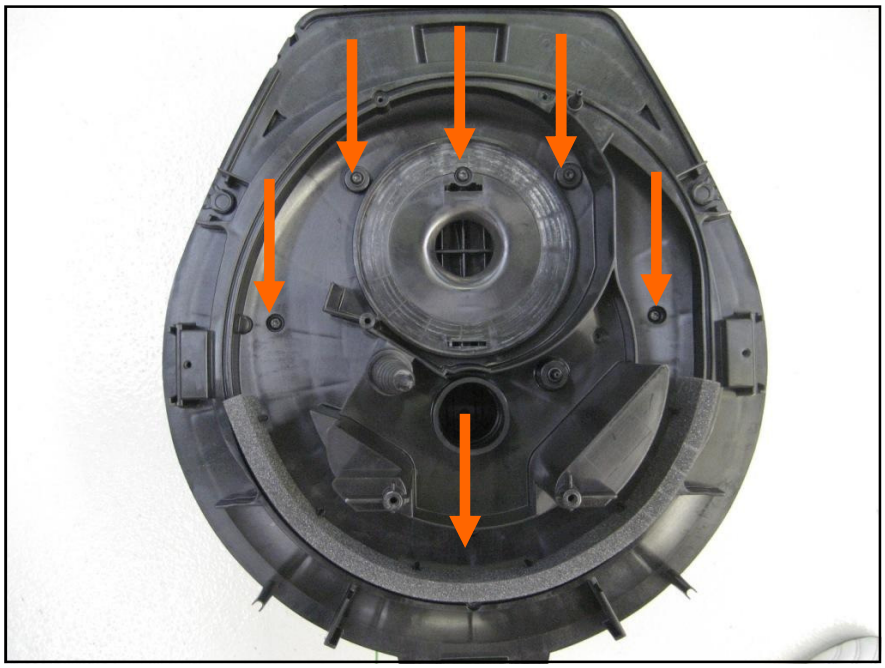


Fig. 5



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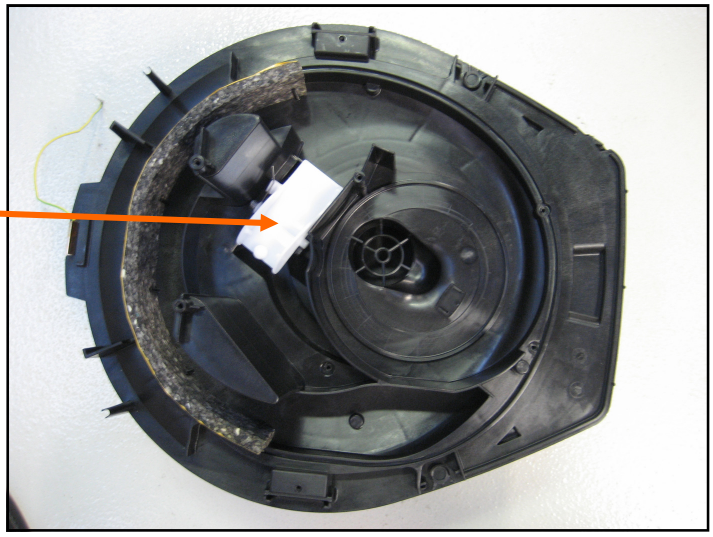
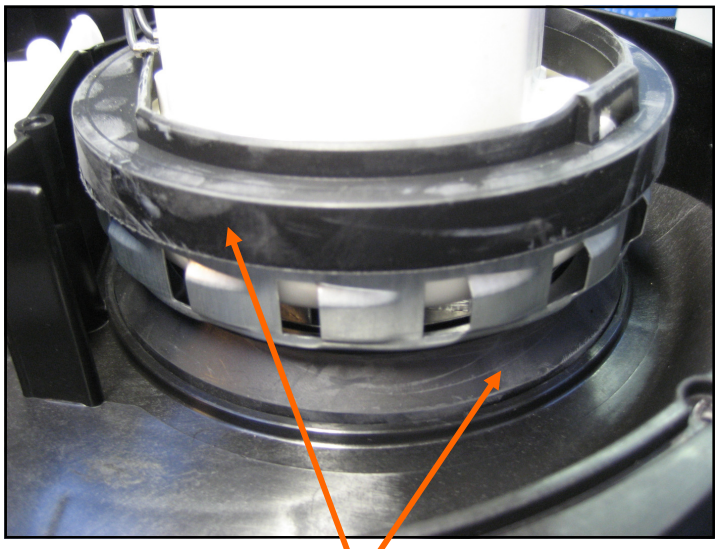
Disassembly

C

Attix 30/50 Push&Clean Motorhead



Underside of Push&Clean motorhead with filter plate removed



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Disassembly

C

Attix 50 XtremeClean Motorhead

In order to access the motor once the motor-cover has been removed, carefully remove the dashboard, circuit board (if present) and the air guide in order to expose the remaining screws underneath.

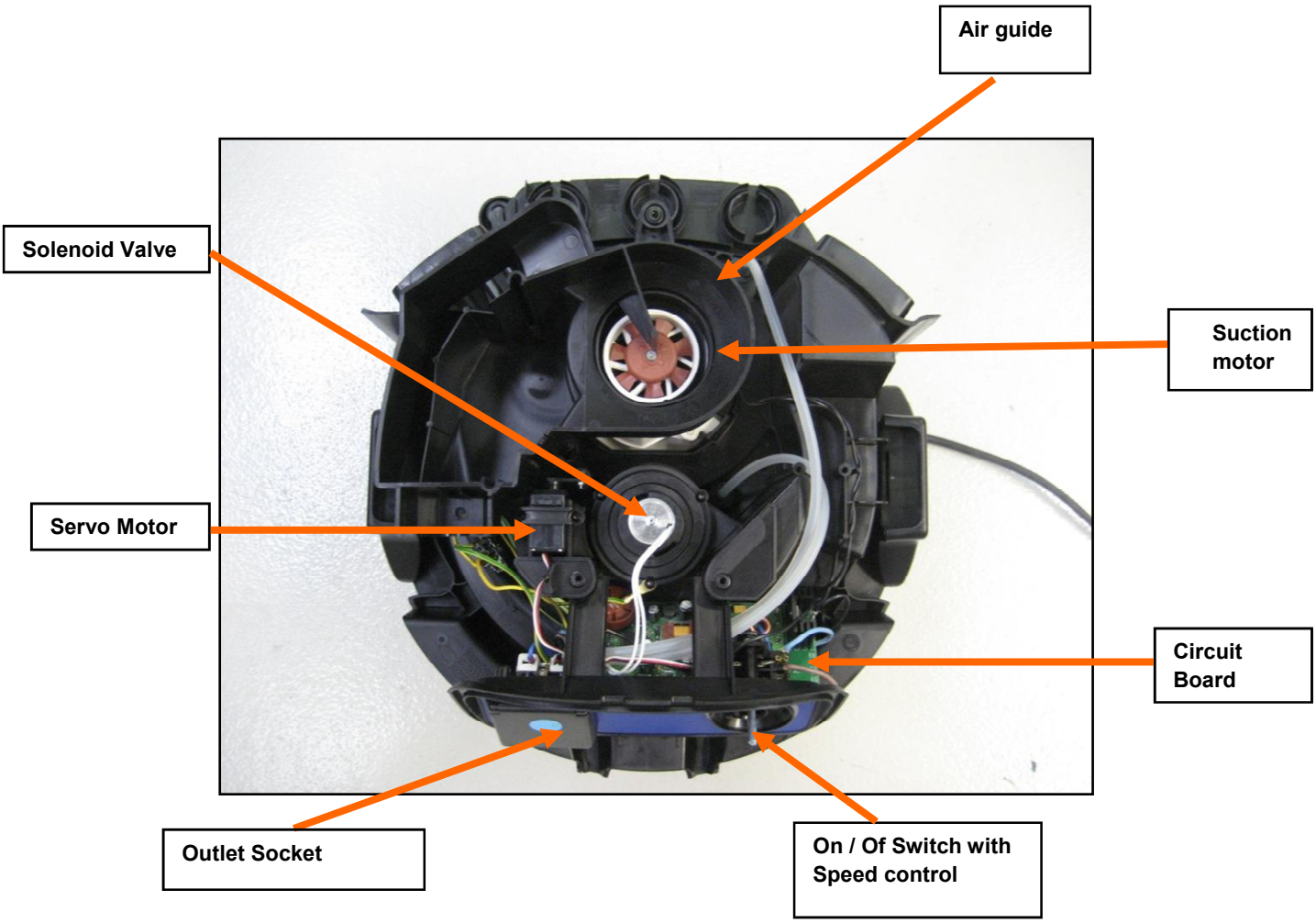

Fig. 6 Attix 50 AS/E XC motorhead

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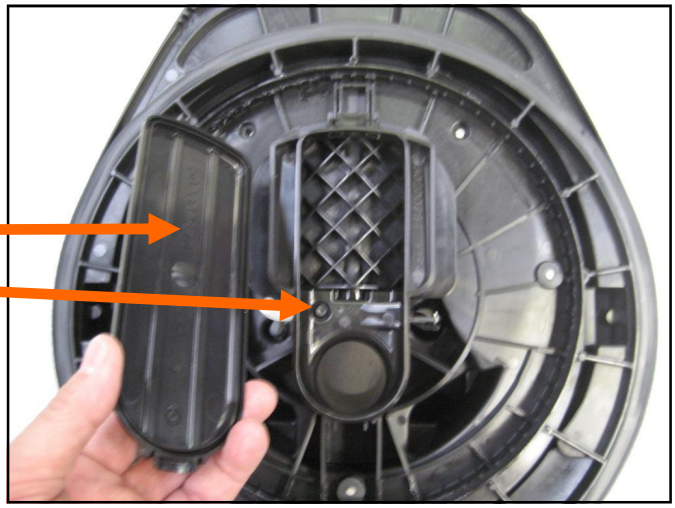
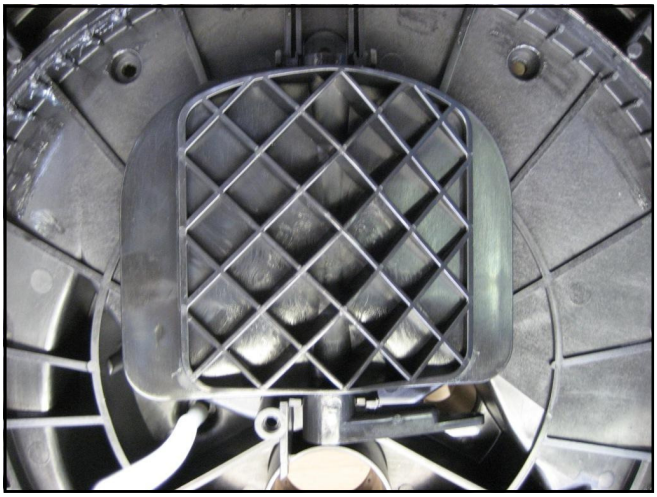
Disassembly

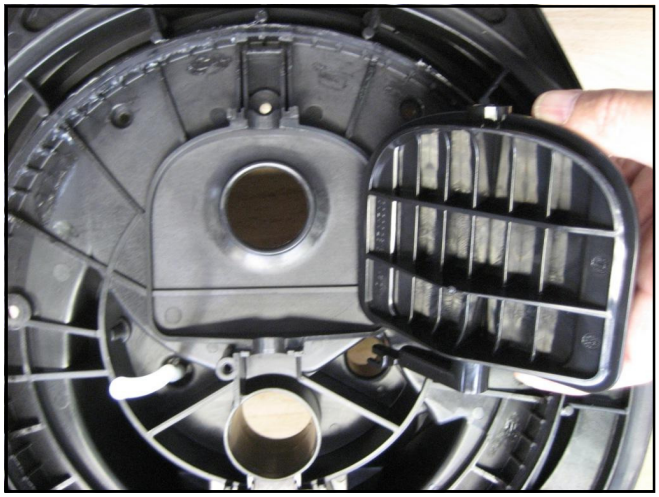
C

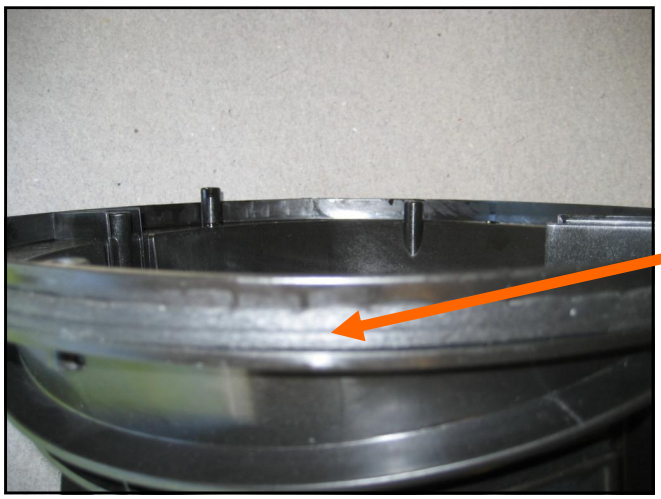
Attix 50 XtremeClean Motorhead

Remove cover and 1 screw (Torx 20) on bracket









Lubricate the 2 O-rings on the filter bracket before reassembling

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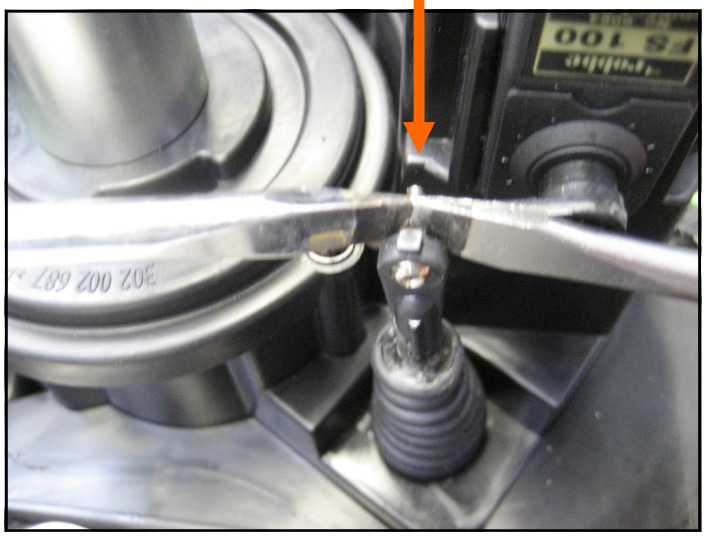
Disassembly

C

Attix 50 XtremeClean Motorhead

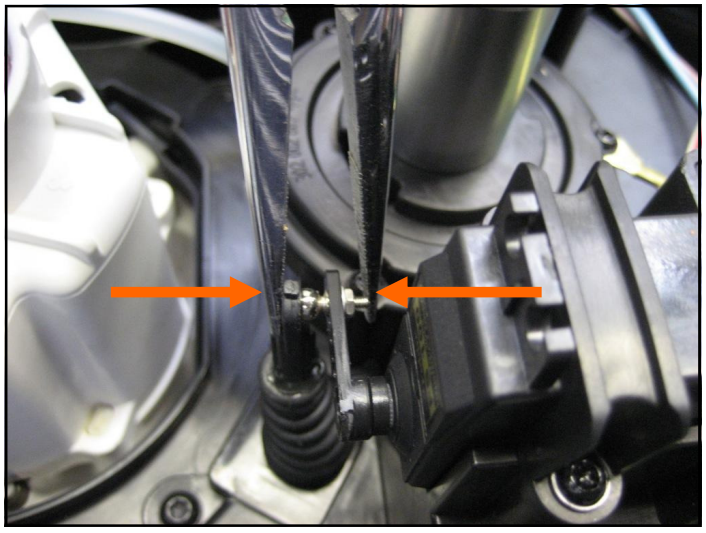
Use 2 screwdrivers **very carefully** as shown in Fig. 7 to separate the shaft from the arm of the servo motor.

Fig. 7



Use a pair or pliers as shown in Fig. 8 to reconnect the shaft to the motor arm.

Fig. 8



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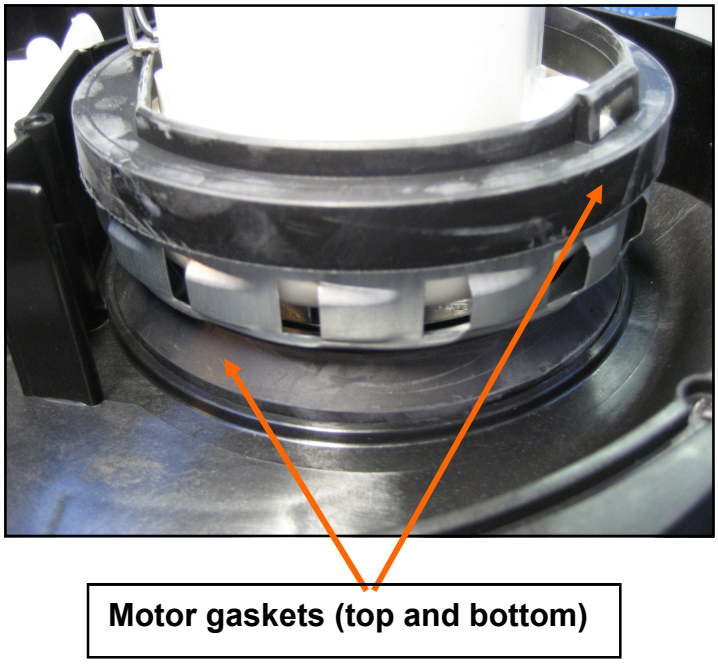
Disassembly

C

Attix 50 Xtreme Clean Motorhead

When assembling the machine be sure the two O-rings are mounted properly



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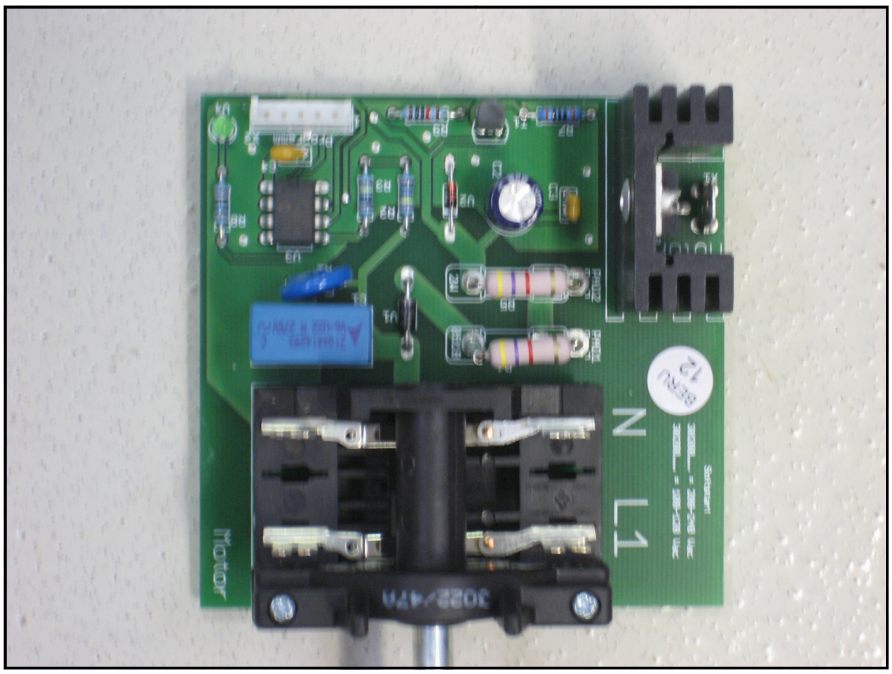
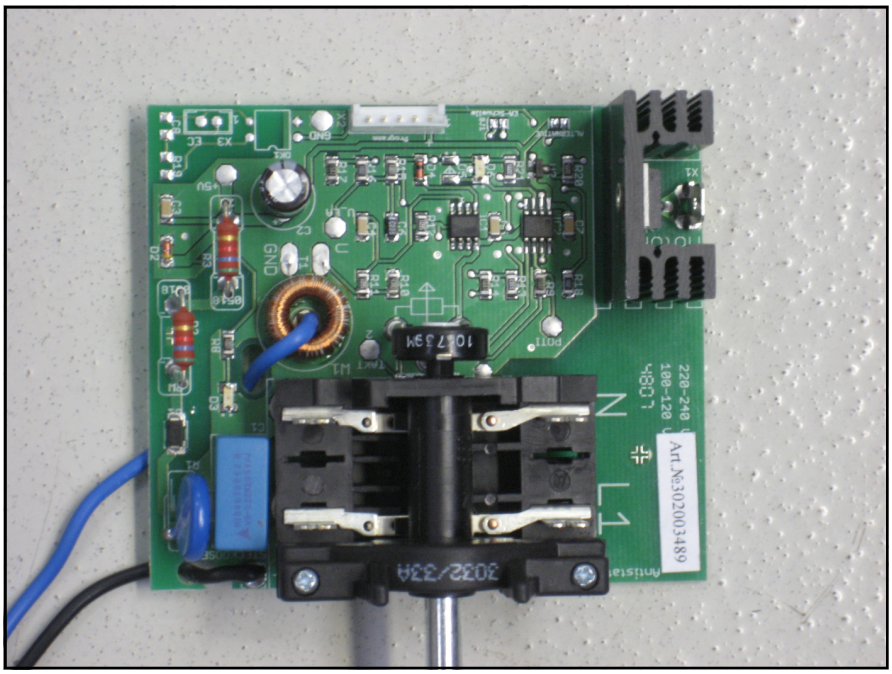
Disassembly

C

Circuit Boards



Attix 50 Circuit Board with Soft-Start (w/o speed control)



Attix 30 AS/E and Attix 50 AS/E Circuit Board with Soft-Start, Speed Control and Automatic Tool Start for Electric tools

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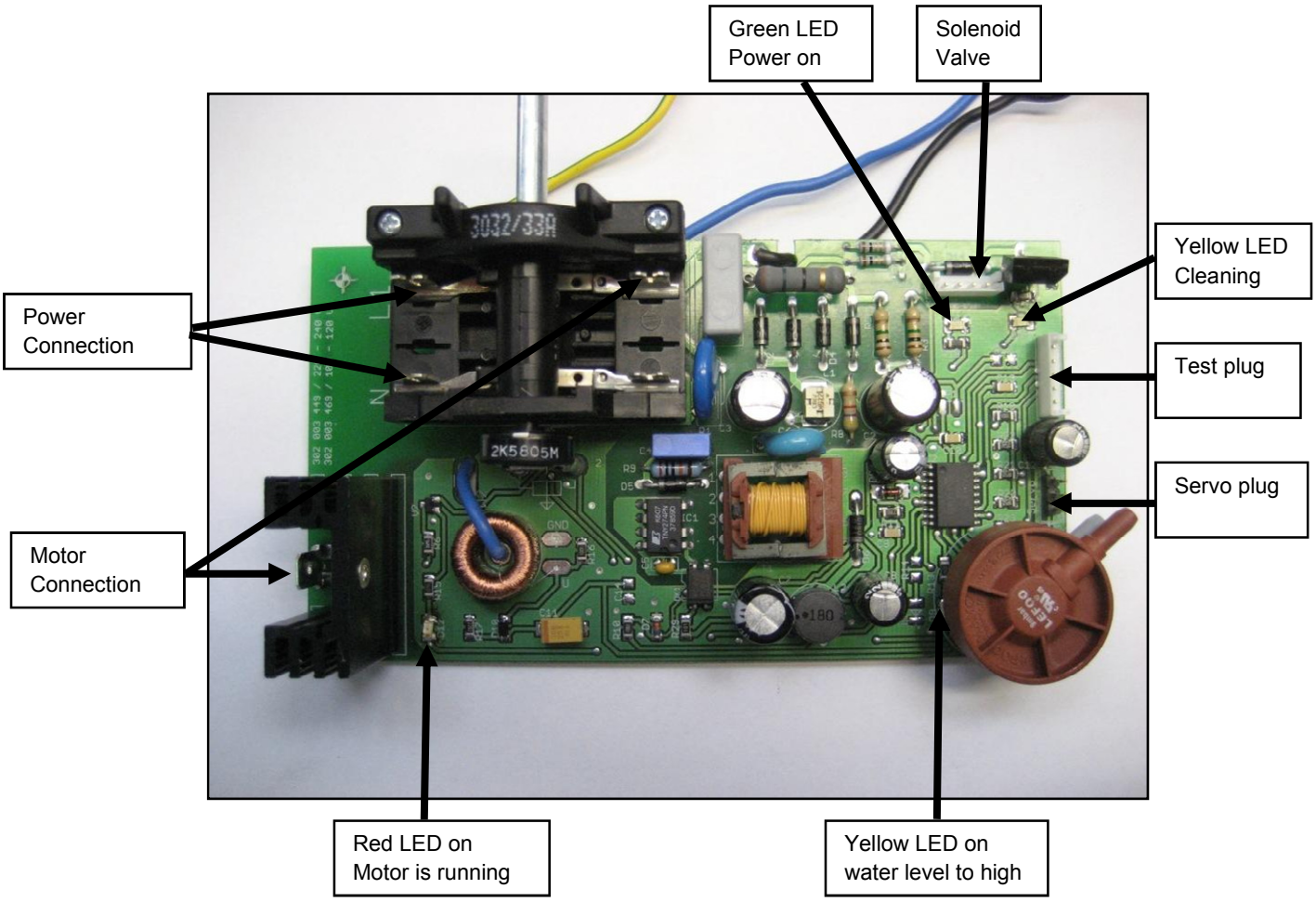
Disassembly

C

Circuit Boards



Attix 50 AS/E XC Circuit Board with Soft-Start,

Speed Control and Automatic Tool Start for Electric tools

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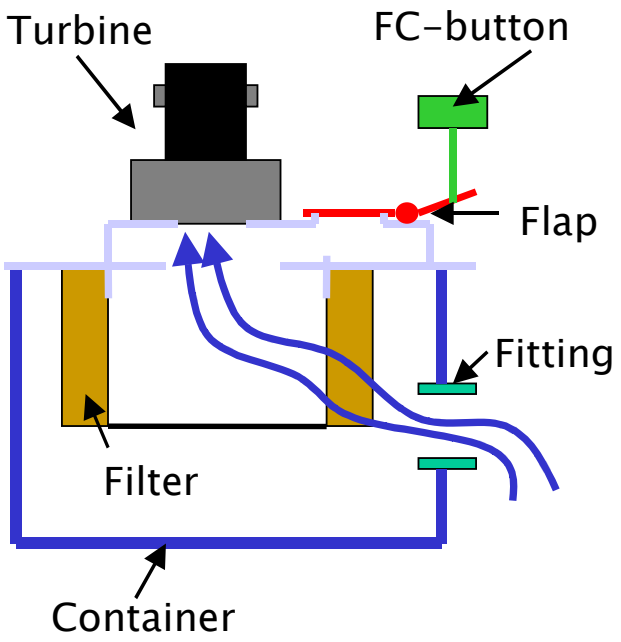
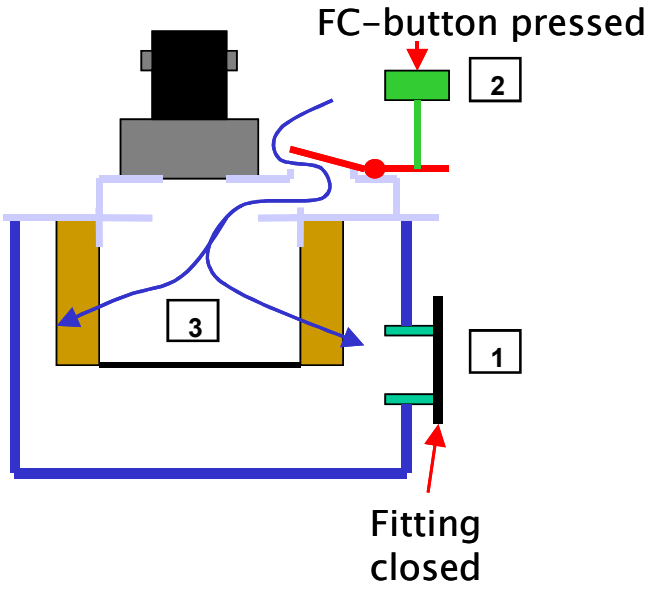
Function

D

Attix 30 / 50 Push&Clean





By sealing the suction opening (1) a high negative pressure is generated inside the dirt tank when the motor is running. By actuating the cleaning button (2) on the suction head, an air flap is opened in the carrier plate, which allows air to flow into the inside of the filter (3). The air flows through the filter material from the inside to the outside. The negative pressure inside the dirt tank is reduced very quickly and the tank wall relieved of pressure. The dirt that has adhered to the filter is blown and shaken off, causing it to fall back into the tank. To optimise the cleaning effect, it is recommended to actuate the cleaning button briefly several times.

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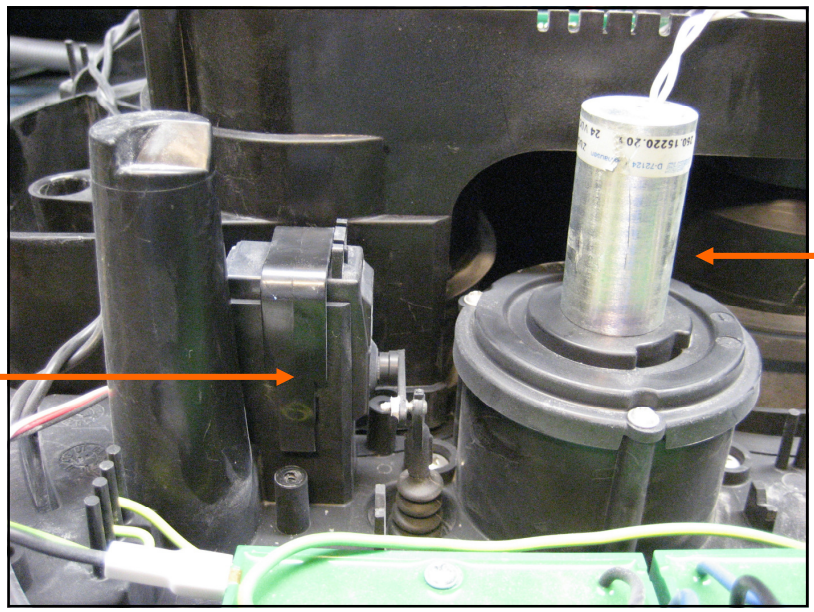
Function

D

Attix 50 XtremeClean



Automatic Cleaning function

Even with extremely fine dust the automatic filter cleaning function allows you to work constantly with the same suction performance without having to manually clean the filter. To make it possible to clean the filter during cleaning work, the filter has been divided into two halves by means of two side seals on the filter holder. The cleaner sucks in dirt through one side while the other side is being cleaned by a blast of air from the inside to the outside. One solenoid valve (pos 1.) and the the servo motor (pos.2) control (every 30 sec.) the suction air stream and the blast of air to clean the filter.

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Function

D

Automatic Start with Speed Control (A/SE)

Several functions are integrated on this printed circuit board.
- Main switch with positions
-“Man-0-Auto”
- Radio interference suppression
- Speed control
- Soft-Start

Advantages:

- Optimum adjustment of the suction power to suit the application.
- Increase in the service life of the turbine
- Reduction in noise emission
- Energy savings

Main switch:

Two modes can be selected with the main switch:

Man: The turbine starts immediately.

Auto: The turbine waits for an electric tool to be switched on at the socket.

Speed control:

Speed control has been integrated into the manual and automatic modes.
Settings on the switch range are possible from 45° to 135°.

Soft-Start:

The features allows the motor to ramp up to its operating speed which greatly reduces amperage spiking at start up. This will prolong the life of the motor.

Automatic starter

Work with an electric tool (grinder, etc.) can be optimised by using the automatic starter. The main switch is set to the “AUTO” position and the electric tool connected to the socket of the cleaner.

The suction motor is switched off. When the electric tool is now switched on, the automatic starter detects. The flow through the connected machine and switches the suction motor on.

When work with the electric tool is stopped, the suction motor switches off after a delay of approx. 3 seconds. The cleaner now stays in the standby mode until the electric tool is switched on again.

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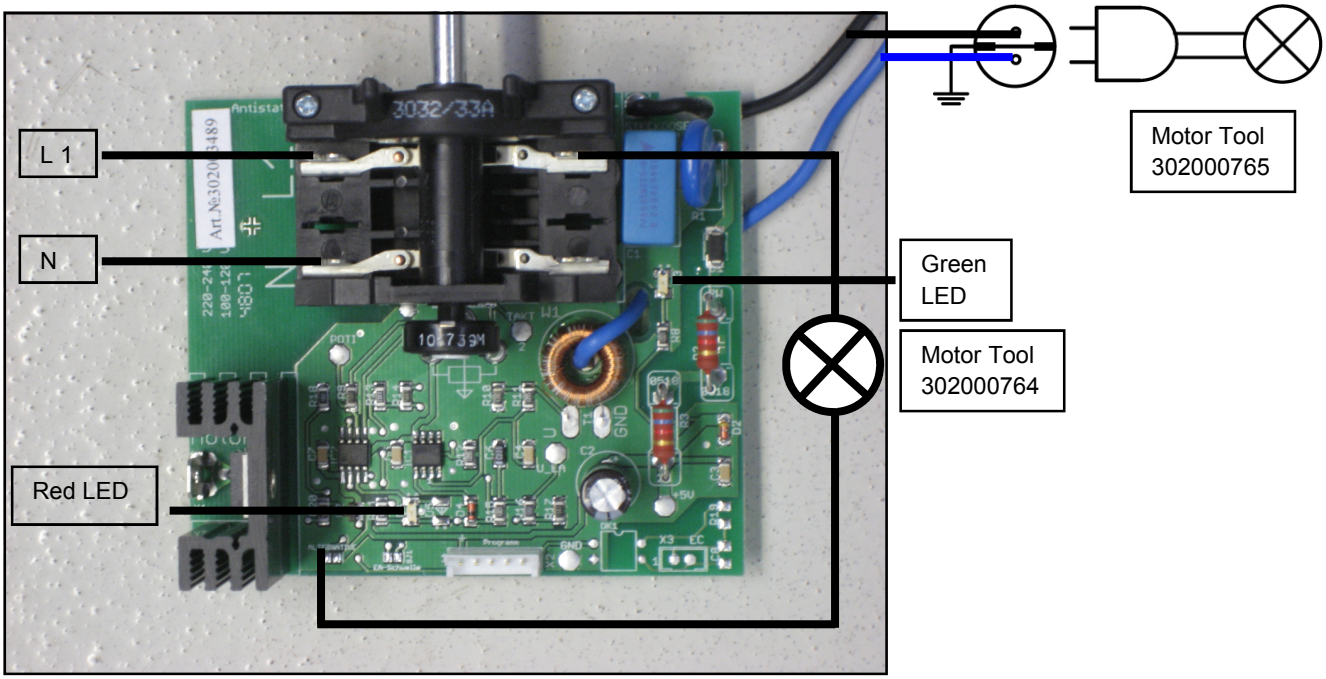
Troubleshooting

E

Checking electronics of automatic starter with speed control in “AUTO”

Attix 30 AS/E and Attix 50 AS/E Circuit Board with Soft-Start, Speed Control and Automatic Tool Start for Electric tools



1. Isolate component from the electricity supply.
2. Remove cover.
3. Apply mains voltage.

Set switch to position “I” at full power.

4. Visual inspection:

Green LED lights up (5 V OK).

Red LED lights up (motor is activated).

5. Isolate component from the electricity supply.
6. Remove the two motor cables from the circuit board and the switch.
7. Connect test lamp 302000764.
8. Apply mains voltage.
9. Test:

“Motor” lamp slowly star it to light up (soft star t).

Set switch to minimum speed.

The brightness of the lamp becomes less.

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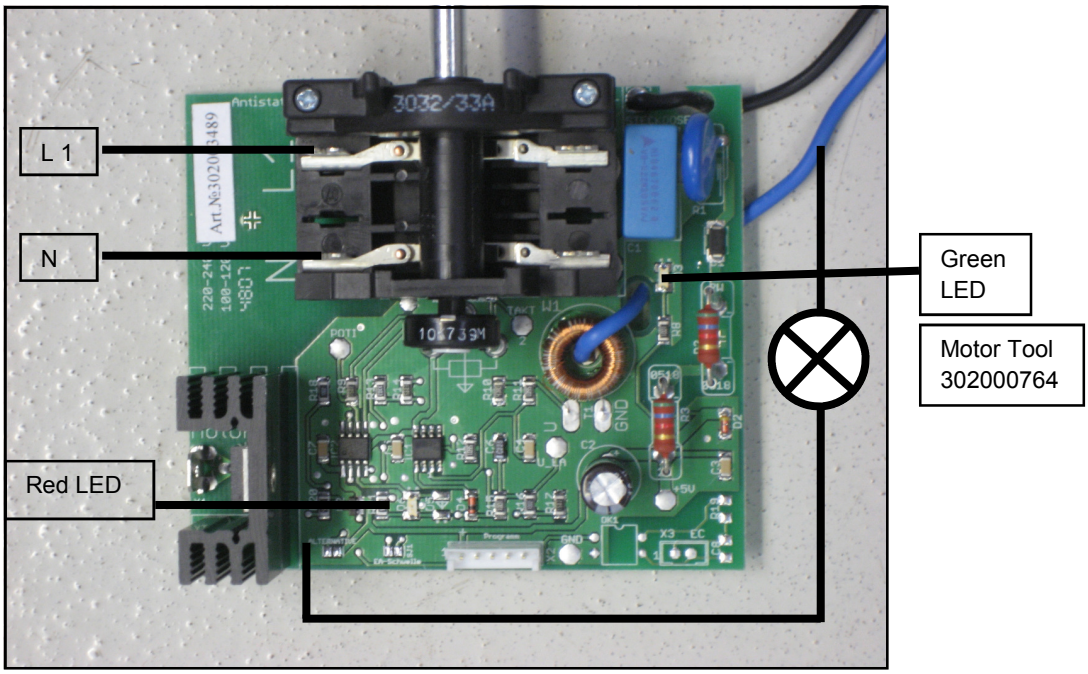
Troubleshooting

E

Checking automatic starter with speed control in “MAN”

Attix 30 AS/E and Attix 50 AS/E Circuit Board with Soft-Start, Speed Control and Automatic Tool Start for Electric tools



1. Isolate component from the electricity supply.

2. Remove cover.

3. Apply mains voltage.

Set switch to position “AUTO” at full power.

4. Visual inspection:

Green LED lights up (5 V OK).

Red LED off (motor is not activated).

5. Isolate component from the electricity supply.

6. Remove the two motor cables from the circuit board and the switch.

7. Connect test lamp 302000764.

8. Test:

Green LED lights up (5 V OK)

Red LED lights up (motor is activated).

“Motor” test lamp is off (302000764).

Plug “Electrical tool” test lamp into the socket (302000765)

“Electrical tool” test lamp lights up immediately.

“Motor” test lamp slowly starts to light up (soft start).

Set switch to minimum speed.

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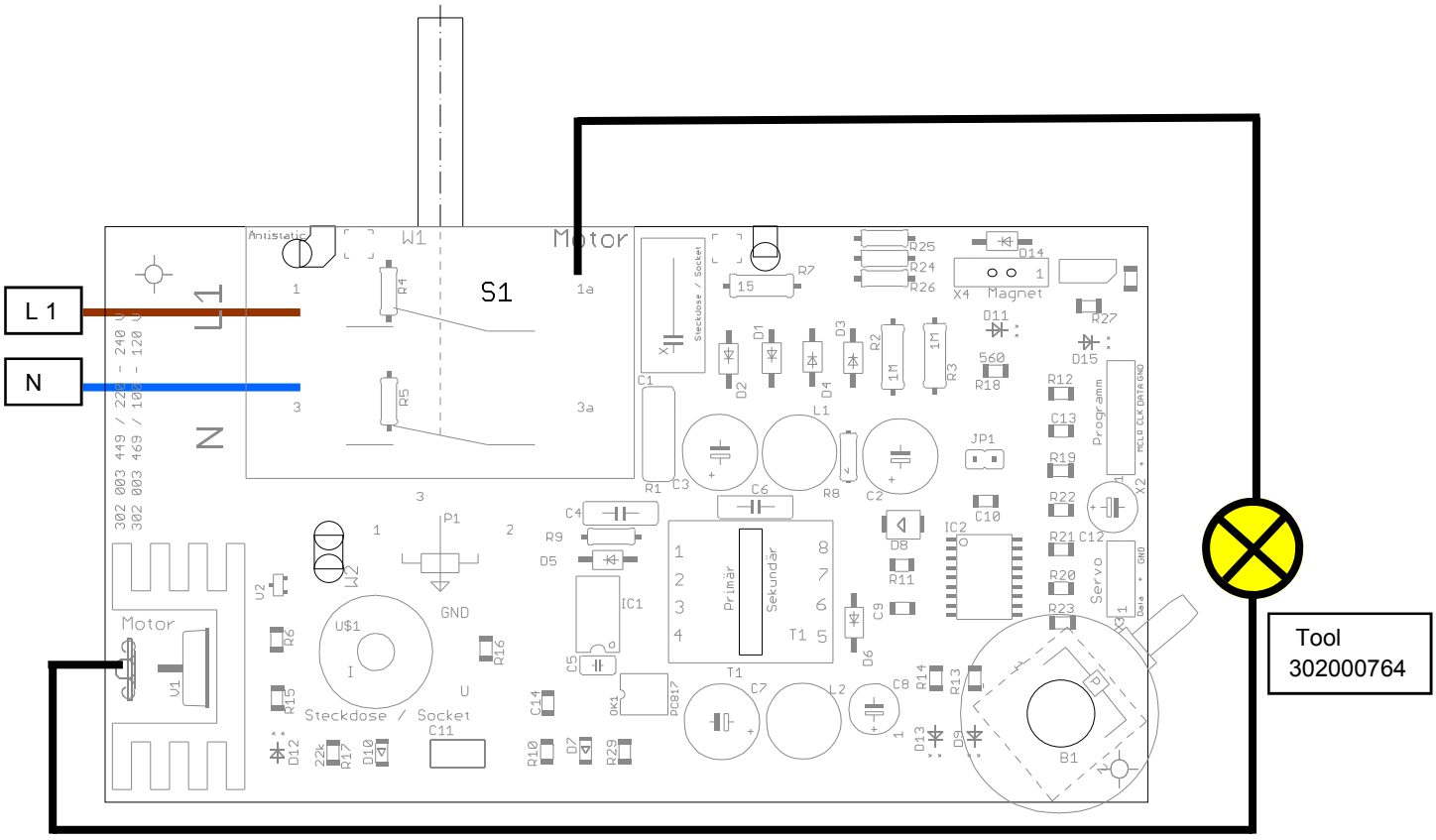
Troubleshooting

E

Checking electronics of automatic starter with speed control in “AUTO” mode

Attix 50 AS/E XC Circuit Board with Soft-Start,

Speed Control and Automatic Tool Start for Electric tools



1. Isolate component from the electricity supply. 2. Remove cover.

3. Apply mains voltage. Set switch to position “I” at full power.

4. Visual inspection: Green LED lights up (5 V OK). Red LED lights up (motor is activated).

5. Isolate component from the electricity supply.

6. Remove the two motor cables from the circuit board and the switch. 7. Connect test lamp 302000764.

8. Apply mains voltage. 9. Test:

“Motor” lamp slowly star it to light up (soft star t). Set switch to minimum speed.

The brightness of the lamp becomes less.

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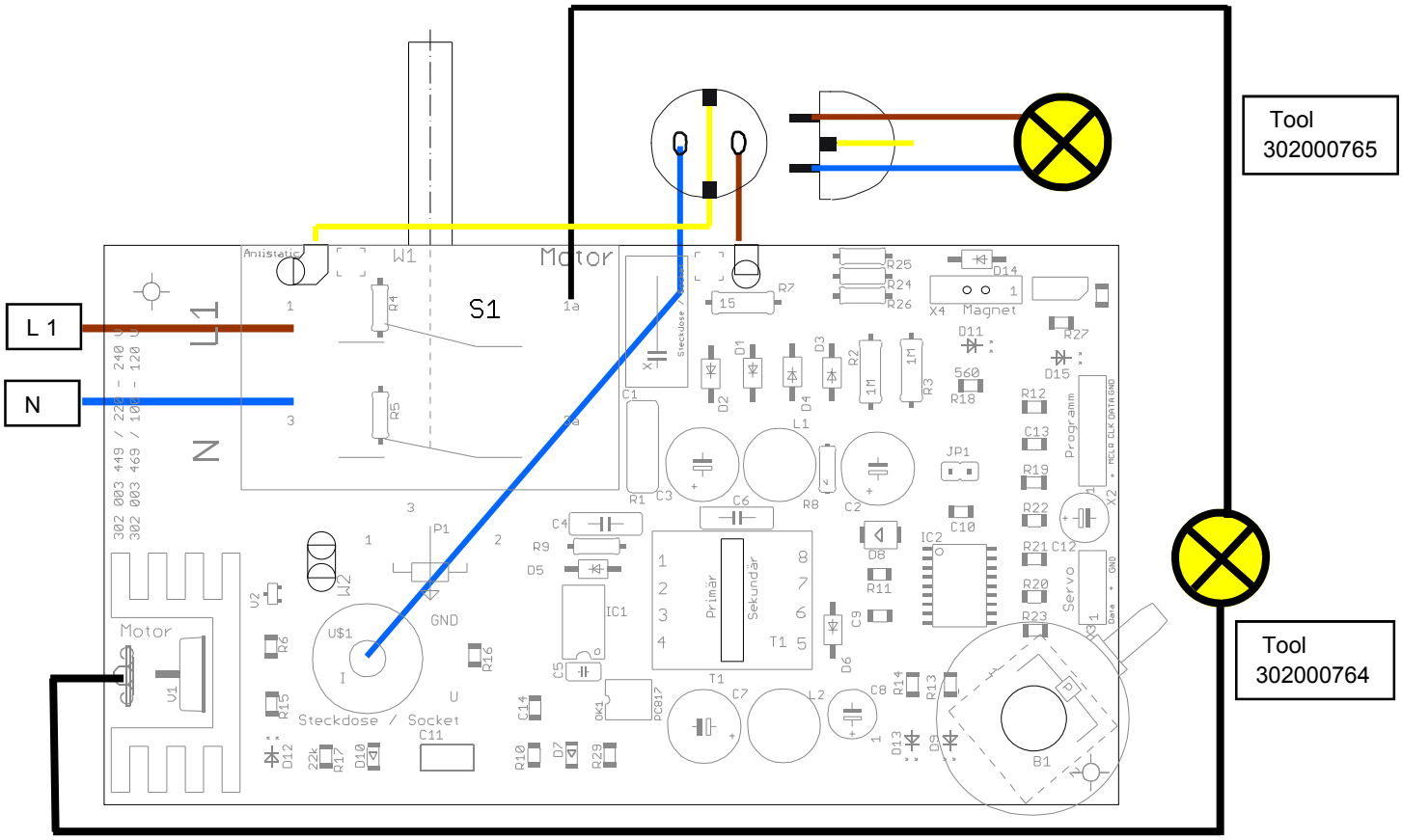
Troubleshooting

E

Checking electronics of automatic starter with speed control in “MAN” mode

Attix 50 AS/E XC Circuit Board with Soft-Start,

Speed Control and Automatic Tool Start for Electric tools



1. Isolate component from the electricity supply. 2. Remove cover. 3. Apply mains voltage.

Set switch to position “AUTO” at full power.

4. Visual inspection:

Green LED lights up (5 V OK).

Red LED off (motor is not activated).

5. Isolate component from the electricity supply. 6. Remove the two motor cables from the circuit board and the switch.

7. Connect test lamp 302000764. 8. Test:

Green LED lights up (5 V OK) Red LED lights up (motor is activated).

“Motor” test lamp is off (302000764). Plug “Electrical tool” test lamp into the socket (302000765)

“Electrical tool” test lamp lights up immediately. “Motor” test lamp slowly starts to light up (soft start).

Set switch to minimum speed. The brightness of the “Motor” test lamp becomes less.

Unplug “Electrical tool” test lamp.

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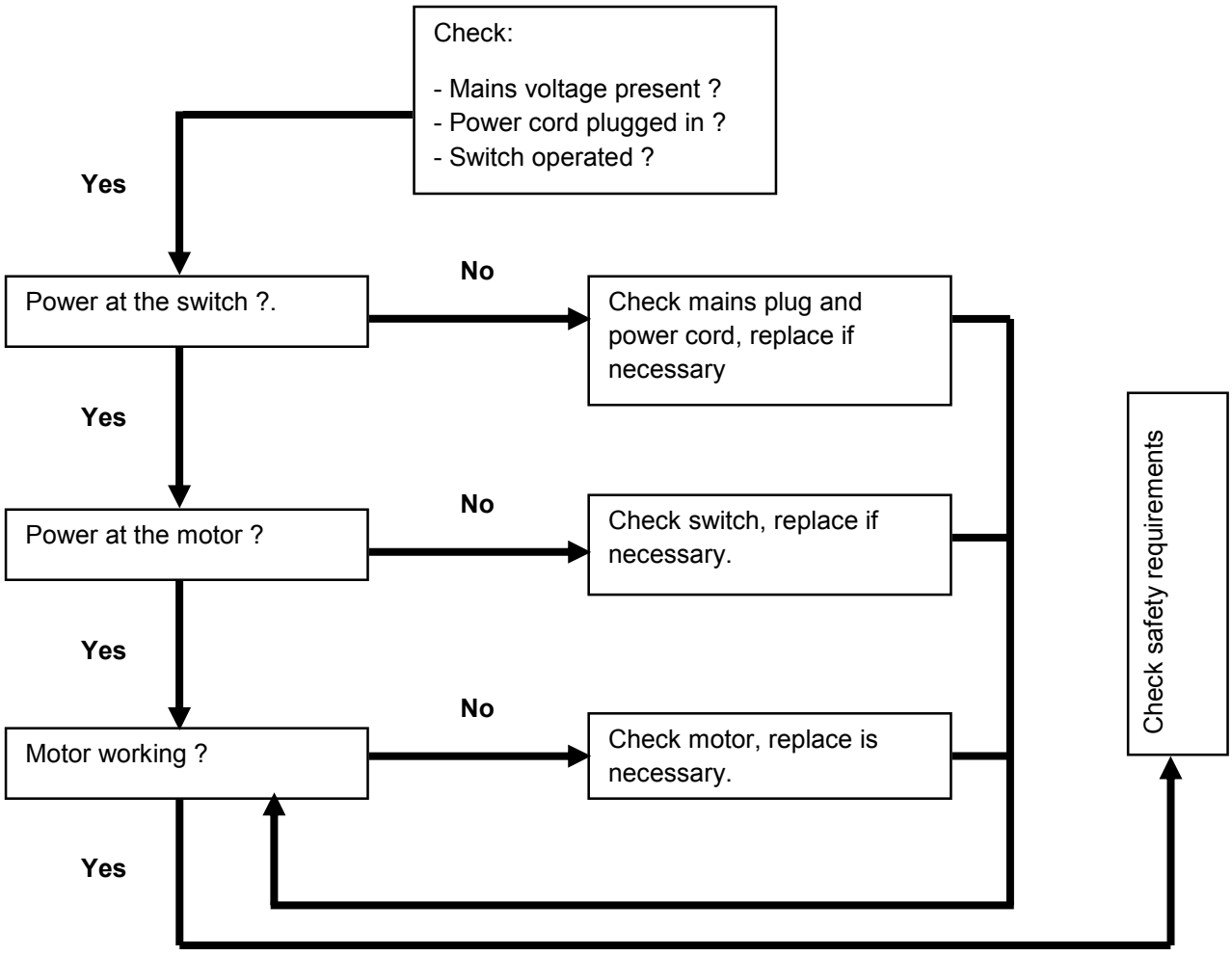
Troubleshooting

E

Motor is not working



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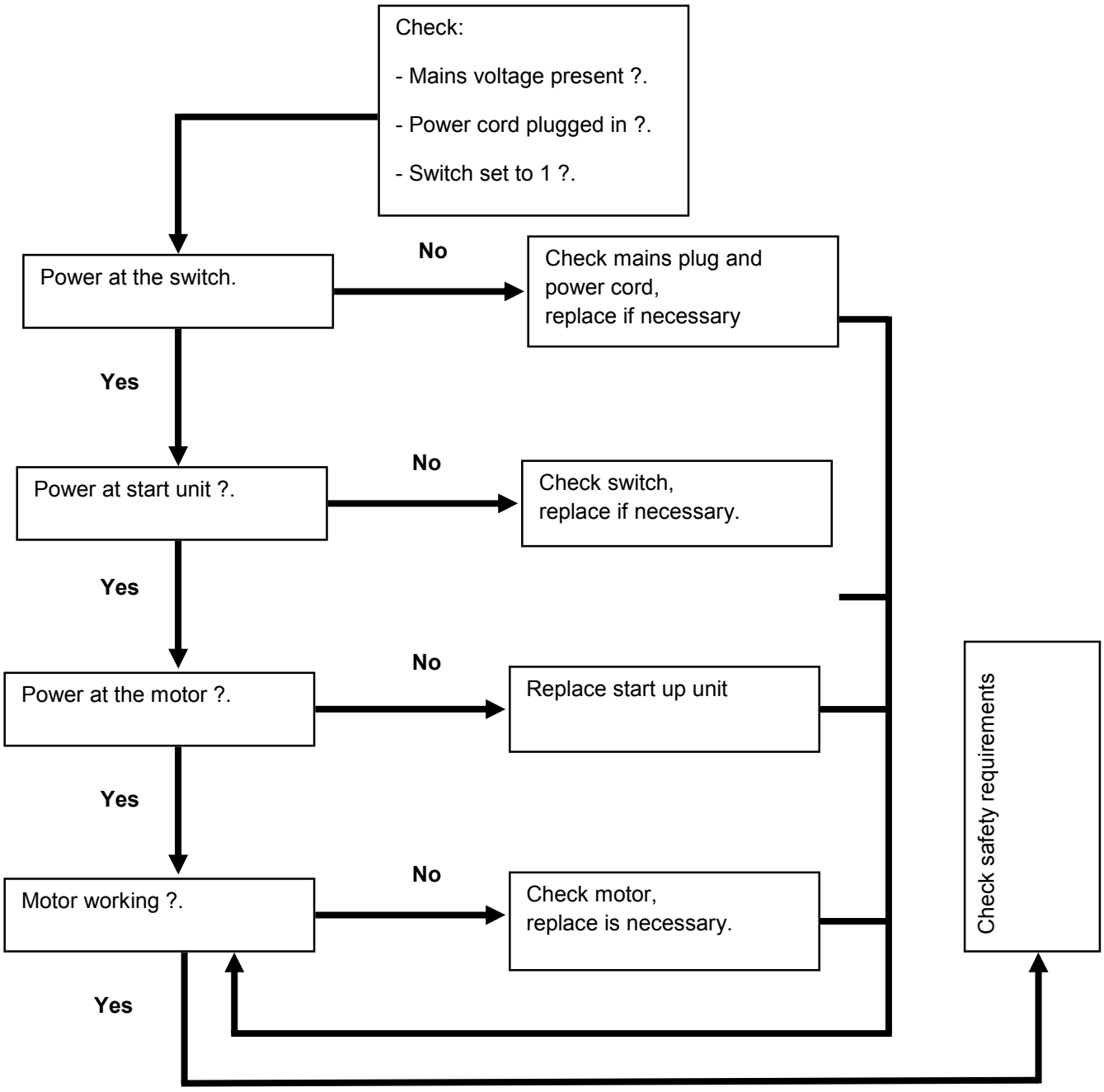
Troubleshooting

E

Motor not working with switch set to 1



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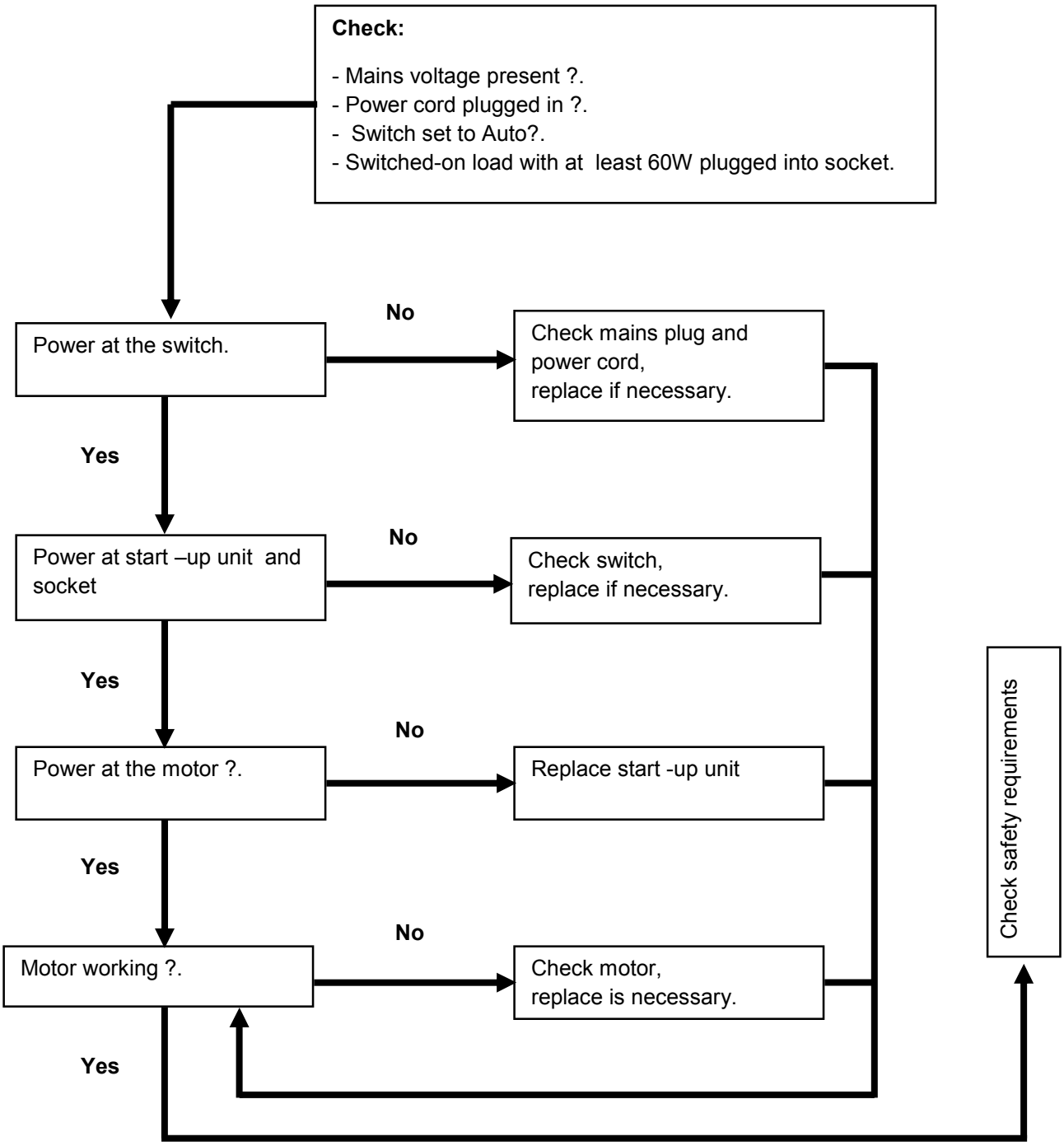
Troubleshooting

E

Motor is not working with switch set to Auto



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Troubleshooting

E

Testing water level control

(XtremeClean machines only)

Fig. 1

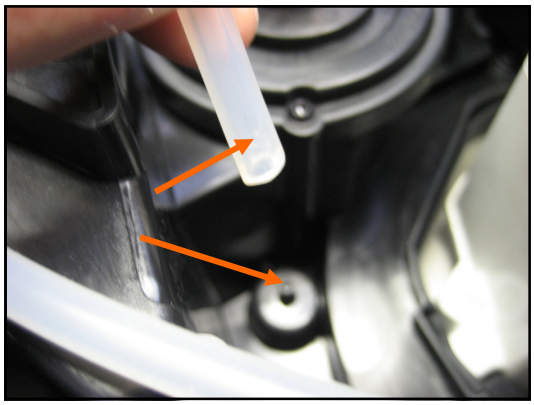
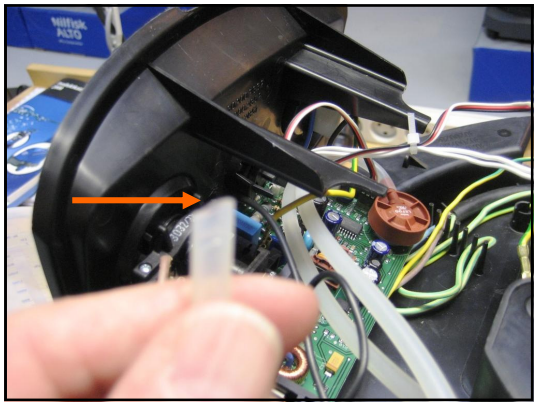
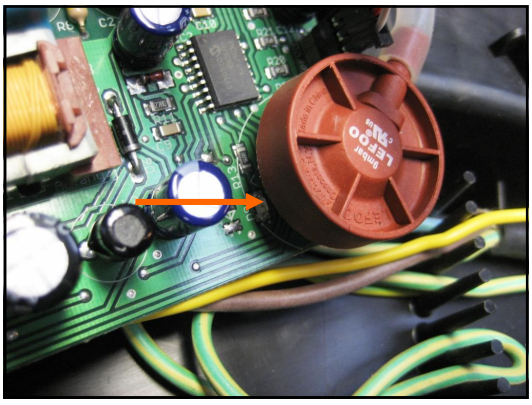


Fig. 2



1. Remove hose from connection (Fig.1)
2. Run machine for 20 seconds
3. Blow into the hose (Fig.2)
4. IF the yellow LED starts flashing (Fig.3) and the machine stops

Fig. 3



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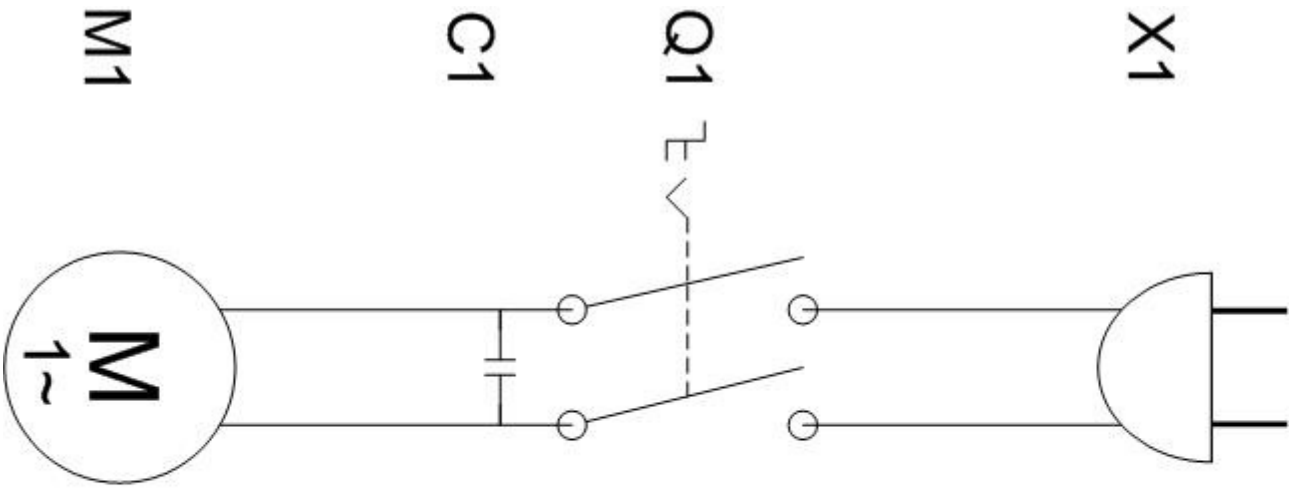
Wiring Diagram

F

Attix 30

Attix 30 HEPA



		0	1		
		-	X	1	2
		-	X		

C1 Filtering capacitor

M1 Motor turbine

Q1 Rotary switch

X1 Power cord

Nilfisk
ALTO

Wiring Diagram

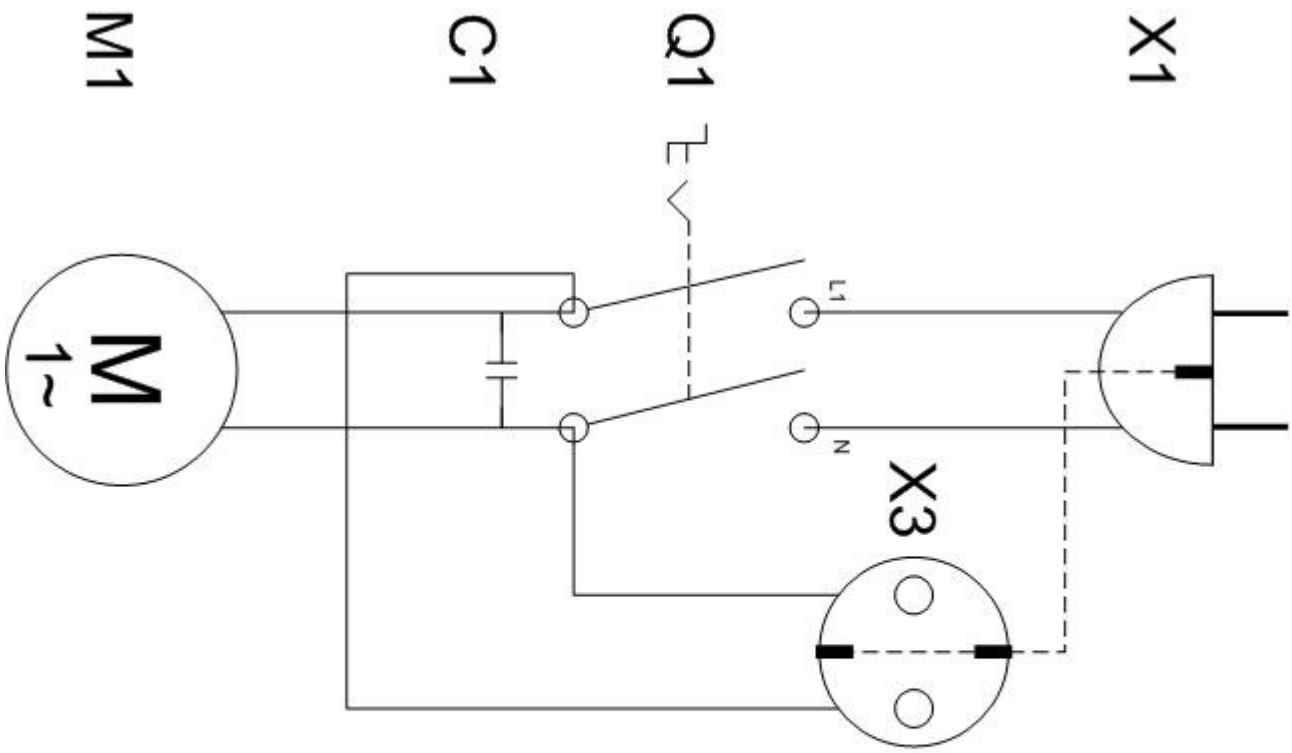
F

Attix 30 AS/E

Attix 50

Attix 50 HEPA

Attix 50 AS/E



C1	Filtering capacitor
M1	Motor turbine
Q1	Rotary switch
X1	Power cord
X3	Power plug

Nilfisk
ALTO

Wiring Diagram

F

Attix 50 AS/E XC