Service Manual

Blender SB-4

100 – 240 V Single Phase

Date: 2023-04-06
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General

This service manual gives instructions for removal and replacement of parts including service procedures and adjustments for the Blender SB-4 100 – 240 V single phase.

This service manual is prepared for the use of trained service technicians and should not be used by those not properly qualified.

Installation, operation and cleaning

Refer to HALLDE User Manual.

Tools

- Standards set of hand tools
- Set of torx bits
- Knife guard
- Torque wrench

Lubrication and thread locking

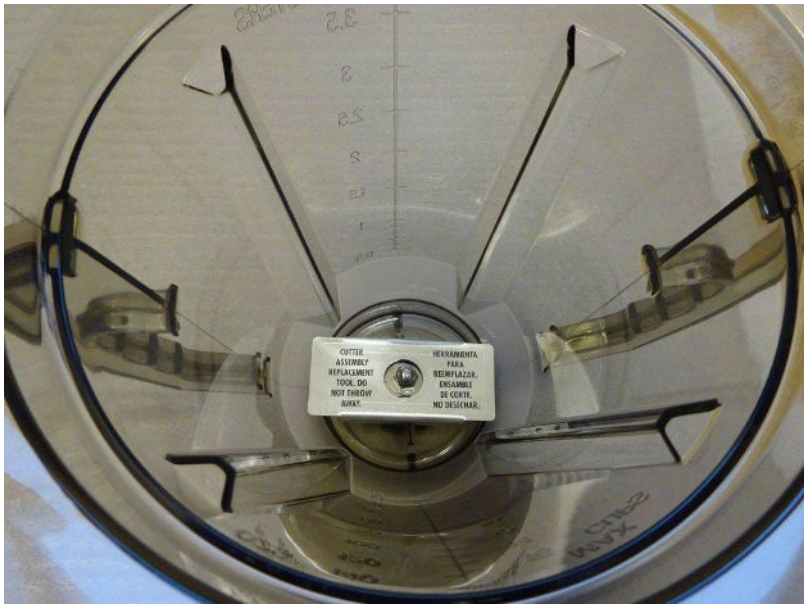
- Loctite 2400, 243 or equivalent

Removal and replacement of part

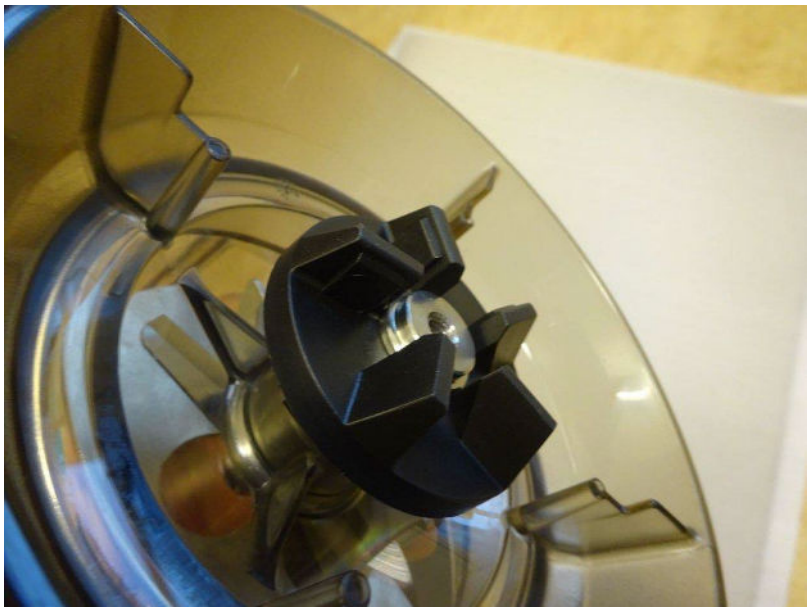
Coupling

1. Remove the jug from the machine.

2. Place the knife guard over the knives.



3. Hold the knife guard in place and turn the jug upside down.



4. Undo the coupling by hand.

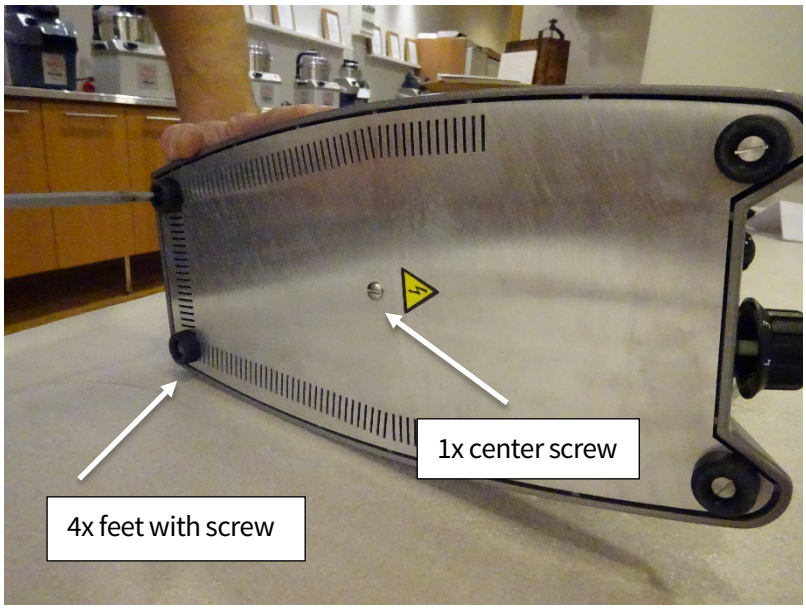
Coupling and Drive Shaft

Note! Disconnect the electric power to the machine!

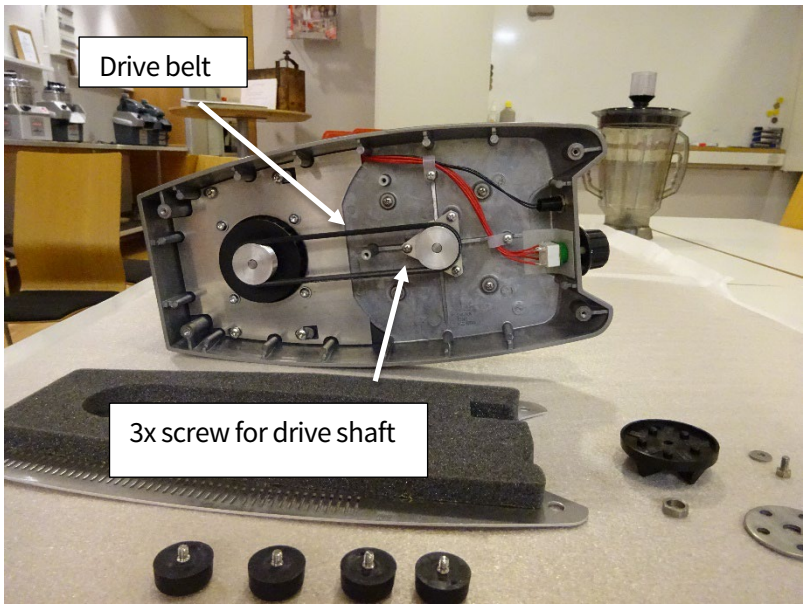
1. Remove the screw, the screw is looked with Loctite and could be difficult to remove.

2. Remove the coupling and washer.

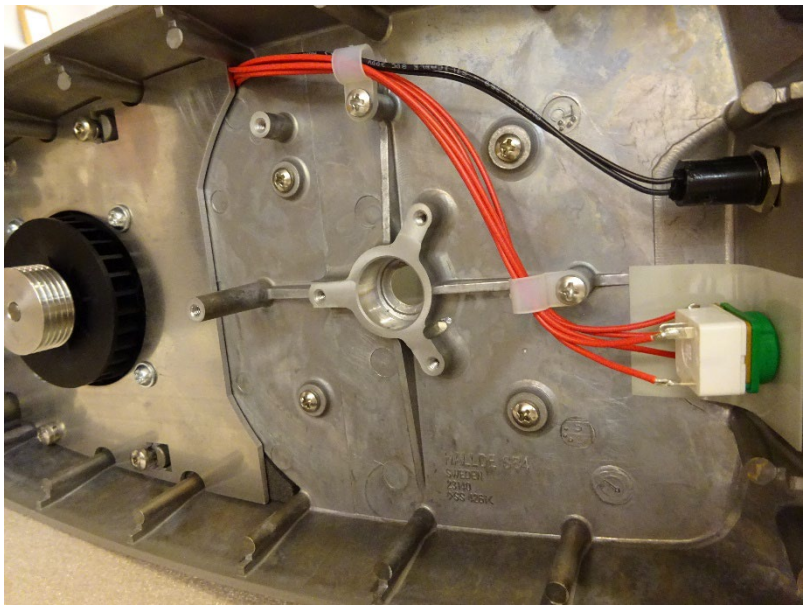
3. Remove 4 feet with screw, one center screw and bottom plate from machine.



4. Pull off the drive belt and remove three screws that hold the drive shaft.



5. Pull out the drive shaft.

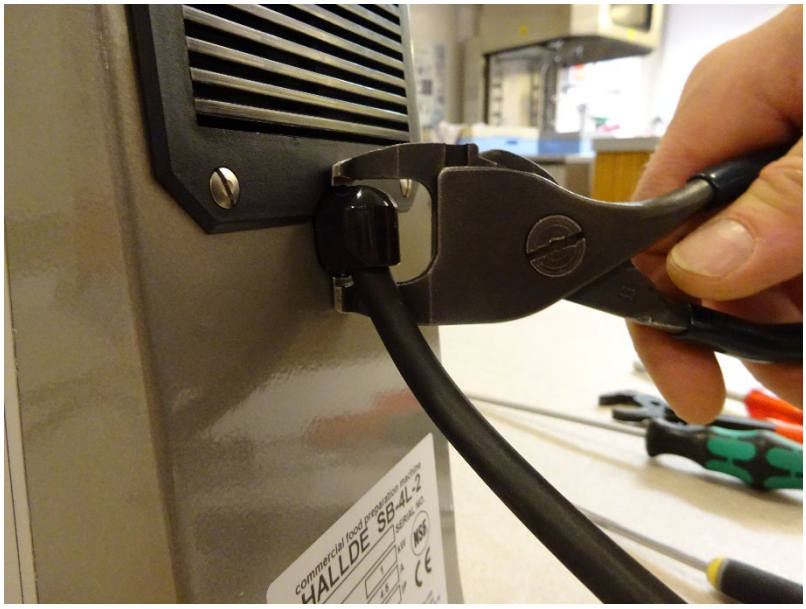


6. Install the new drive shaft and assemble in reverse order. Tighten the drive belt as described under “Motor”. Use Loctite to secure the screw that holds the coupling in position.

Power Cord

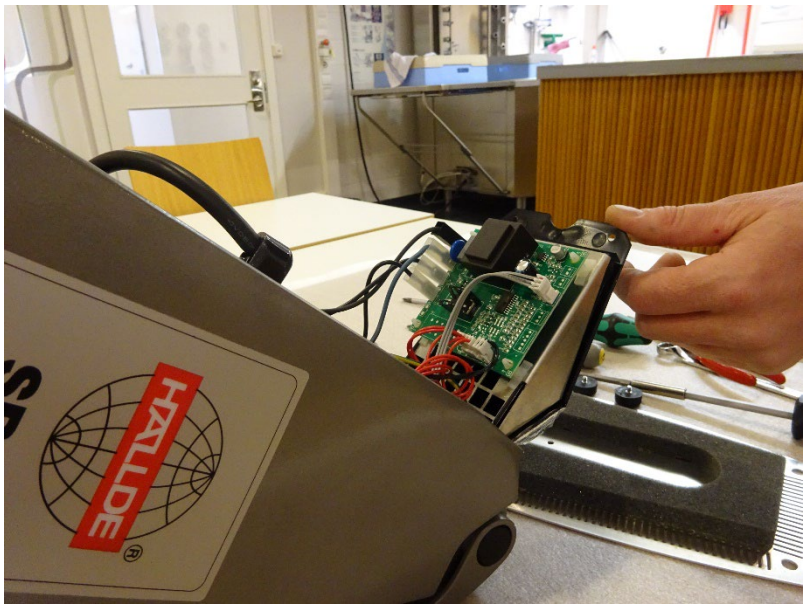
Note! Disconnect the electric power to the machine!

1. Compress the cable retainer and carefully pull it from the back plate.



2. Remove two screws and pull out the back plate.

3. Turn the machine on its side and pull out the back plate and circuit board.



4. Remove the lead wires from the circuit board.

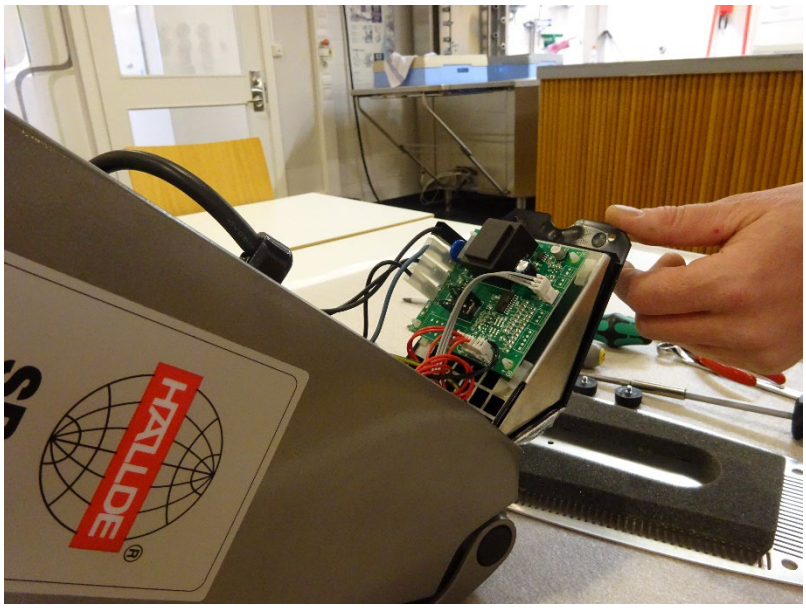
5. Assemble in reverse order.

Micro switch

Note! Disconnect the electric power to the machine!

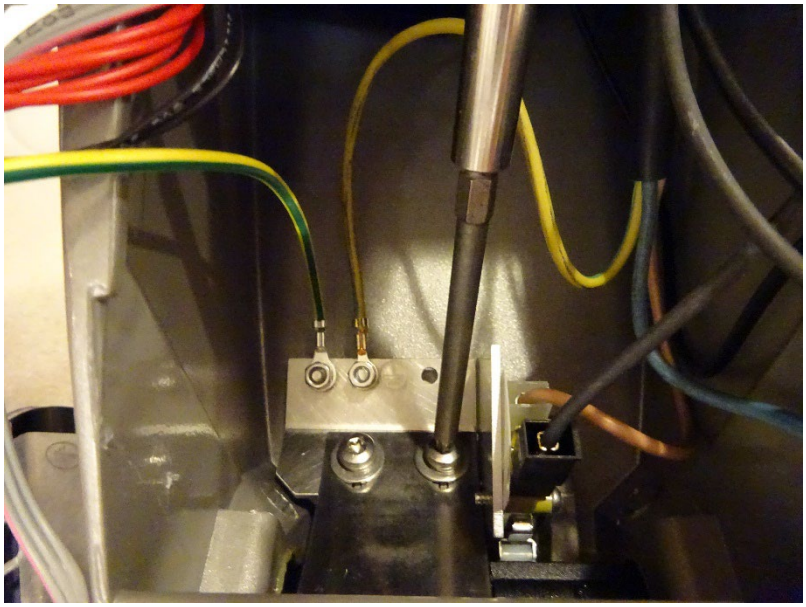
1. Remove two screws and pull out the back plate.

2. Turn the machine on its side and pull out the back plate and circuit board.

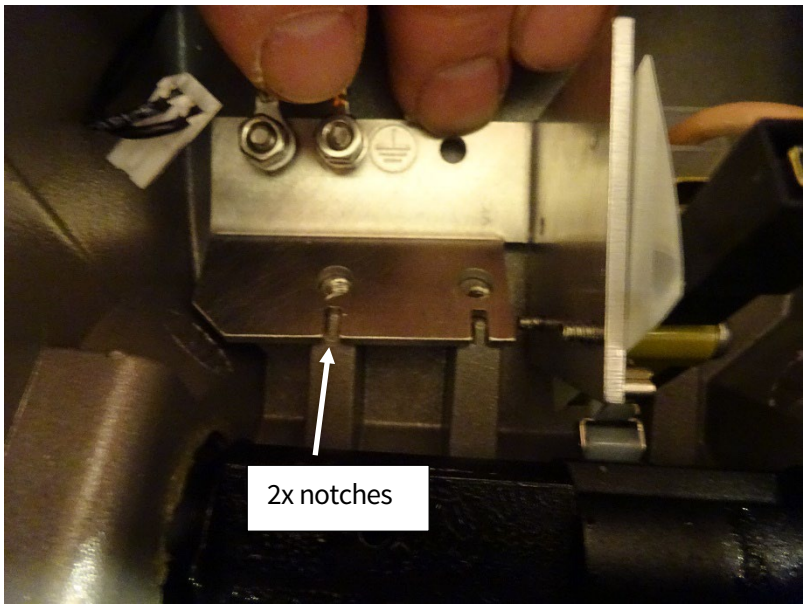


3. Remove wires from the micro switch.

4. Remove two screws and pull out the micro switch.



5. Install the new micro switch, be careful to position the two notches in the right position.



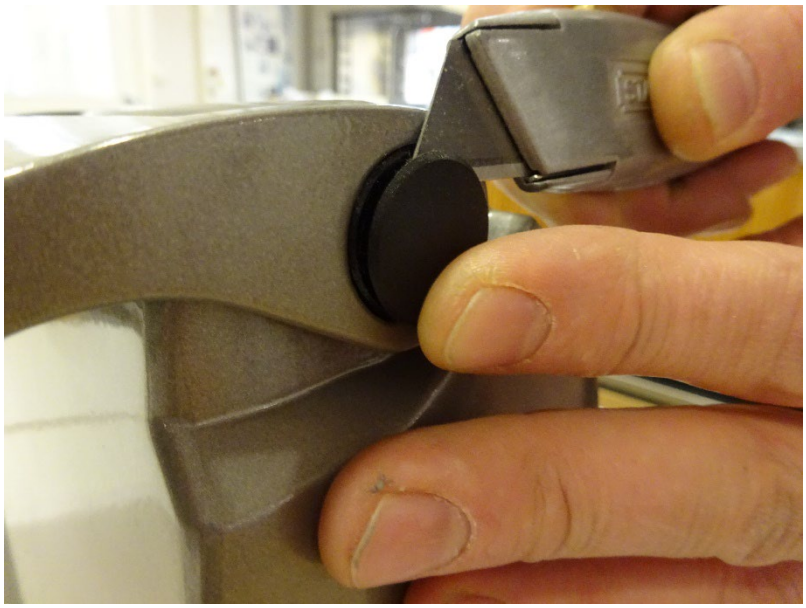
6. Assemble in reverse order.

Camshaft

Note! Disconnect the electric power to the machine!

1. Remove the micro switch as outlined in “Micro switch”

2. Carefully remove the camshaft plug on the left side of the machine.



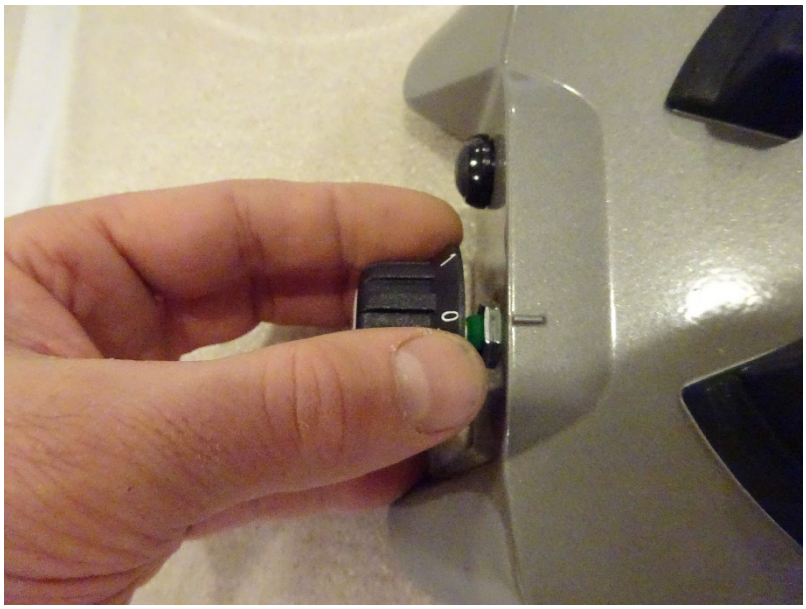
3. Carefully push the camshaft out using a screwdriver.

4. Install the new camshaft from the right side of the machine.
5. Install the camshaft plug.
6. Install the micro switch and assemble in reverse order.

Knob pulse push button and speed control potentiometer

Note! Disconnect the electric power to the machine!

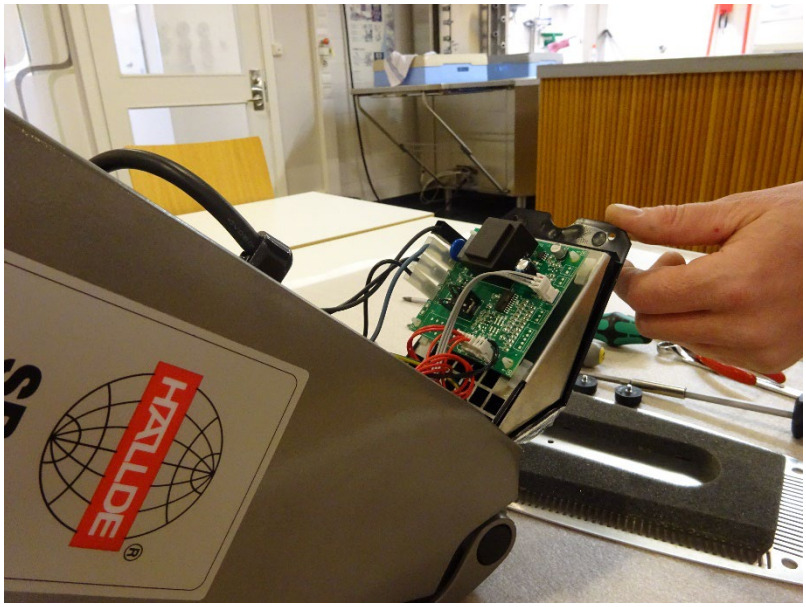
1. Remove the knob from the machine.



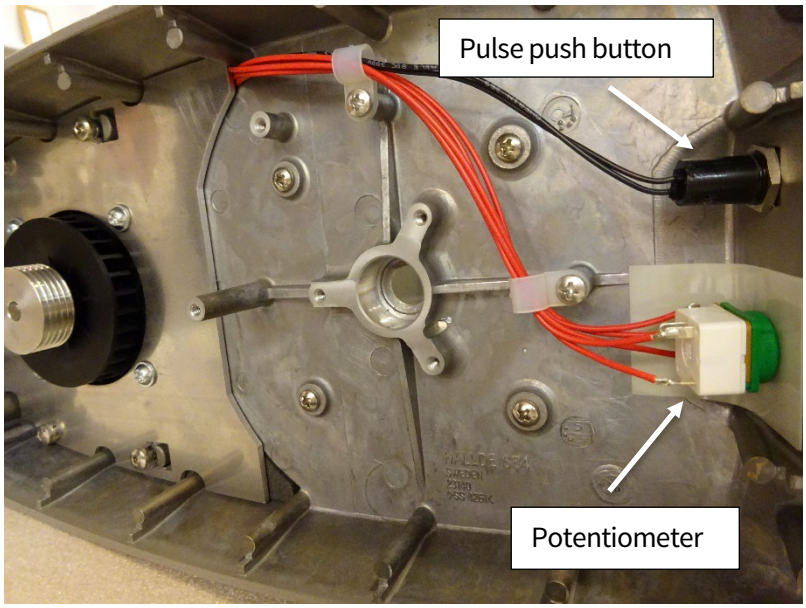
2. Remove the motor as outlined under “ Motor”

3. Remove two screws and pull out the back plate.

4. Turn the machine on its side, disconnect the potentiometer and pulse push buttons wires from the circuit board.

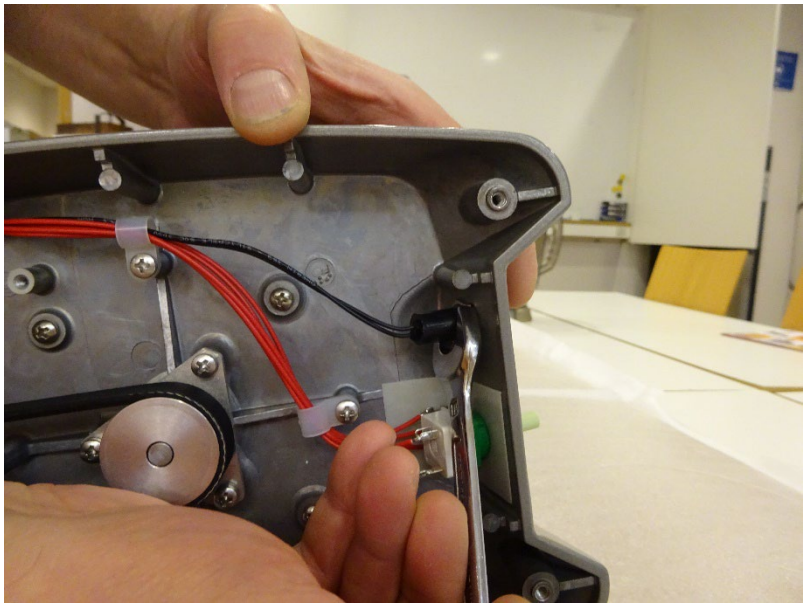


5. Open the cable clips and pull out the wires to the potentiometer and pulse push button.



6. Remove the potentiometer.

7. Use a M10 spanner to the pulse push button.



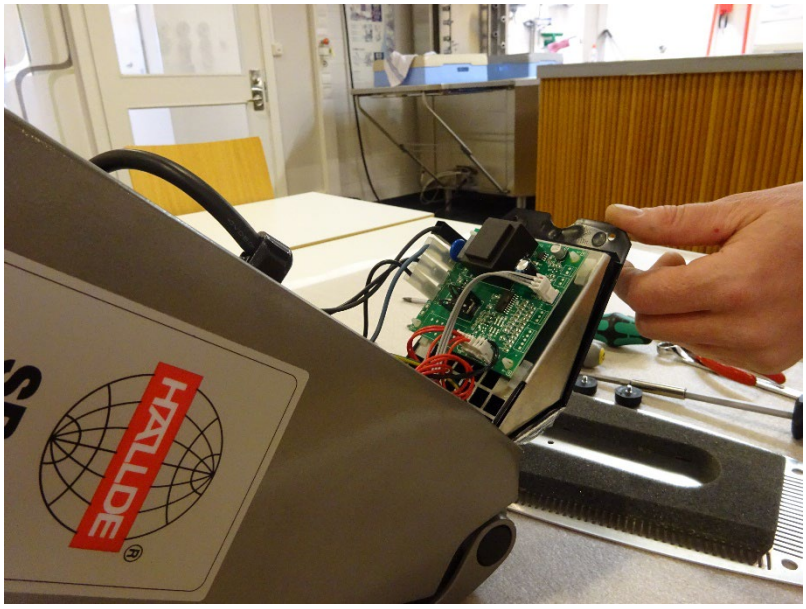
8. Install new potentiometer and pulse push button and assemble in reverse order.

Circuit Board

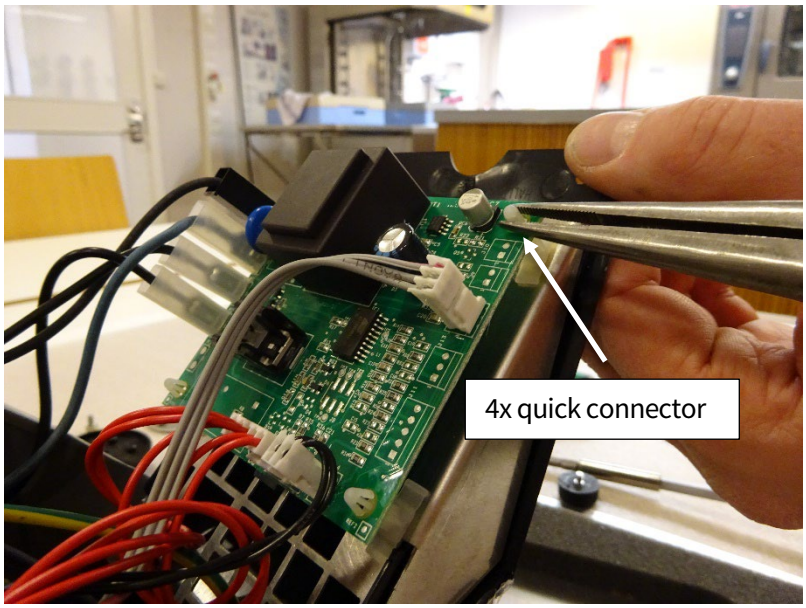
Note! Disconnect the electric power to the machine!

1. Remove two screws and pull out the back plate.

2. Turn the machine on its side, disconnect the wires from the circuit board.



3. Disconnect the circuit board from the back plate by compressing the four quick connectors.



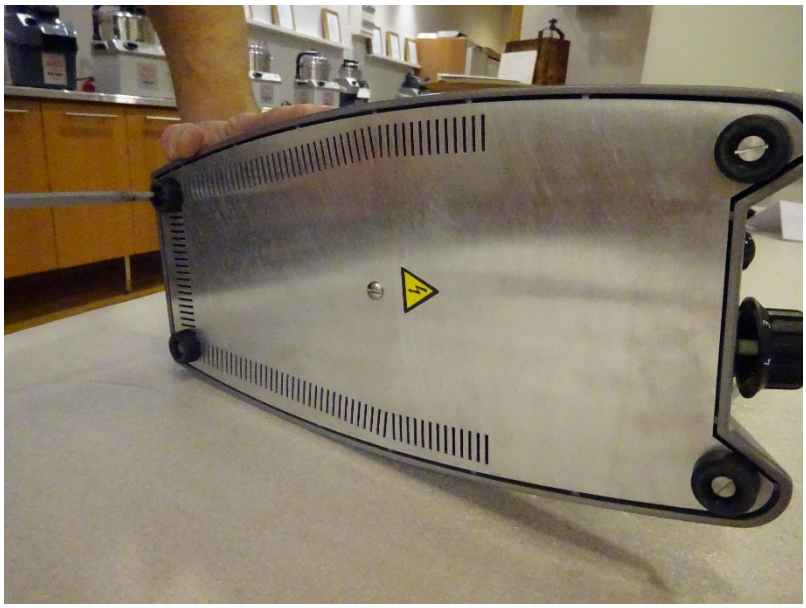
4. Install new circuit board and back plate in reverse order of assembly.

Motor

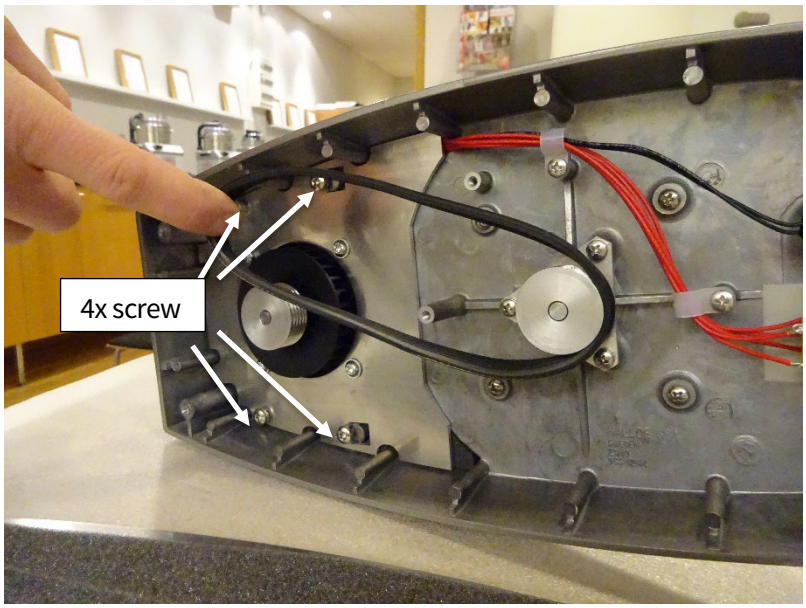
Note! Disconnect the electric power to the machine!

1. Remove the circuit board as outlined under CIRCUIT BOARD.

2. Remove 4 feet with screw, one screw and bottom plate from machine.

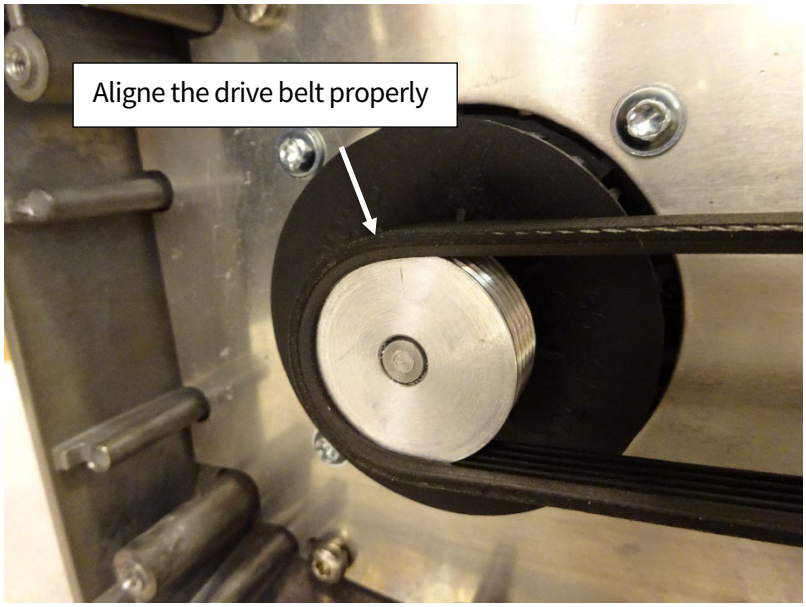


3. Remove drive belt, 4 screws and pull out motor with motor plate.

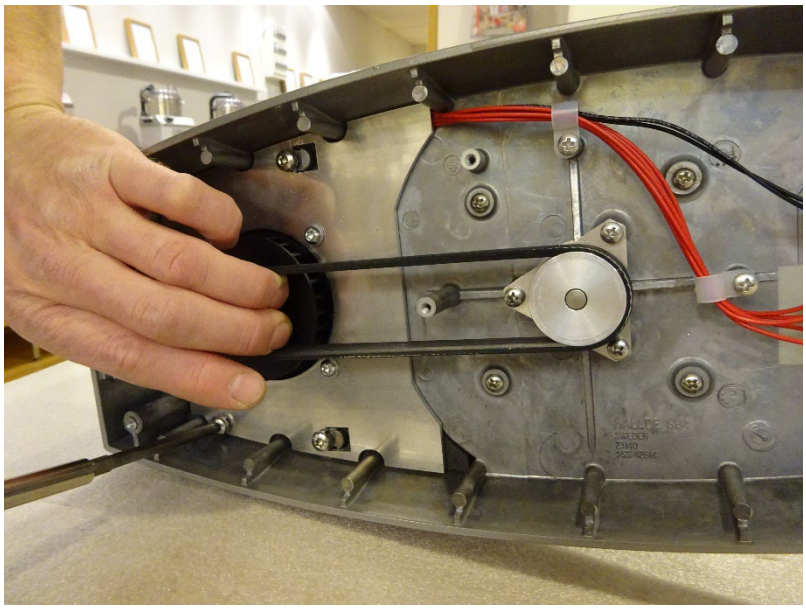


4. Install motor in reverse order.

5. Attach the drive belt. Note! The drive belt must be properly aligned to the drive wheel.



6. Tighten the drive belt by pulling back the complete motor unit, do not tighten the drive belt to hard. The drive belt should flex 5 – 10 mm when pressed down.



7. Install bottom plate and screws in reverse order.

Service Procedures and Adjustments

Electrical Control Test Procedures

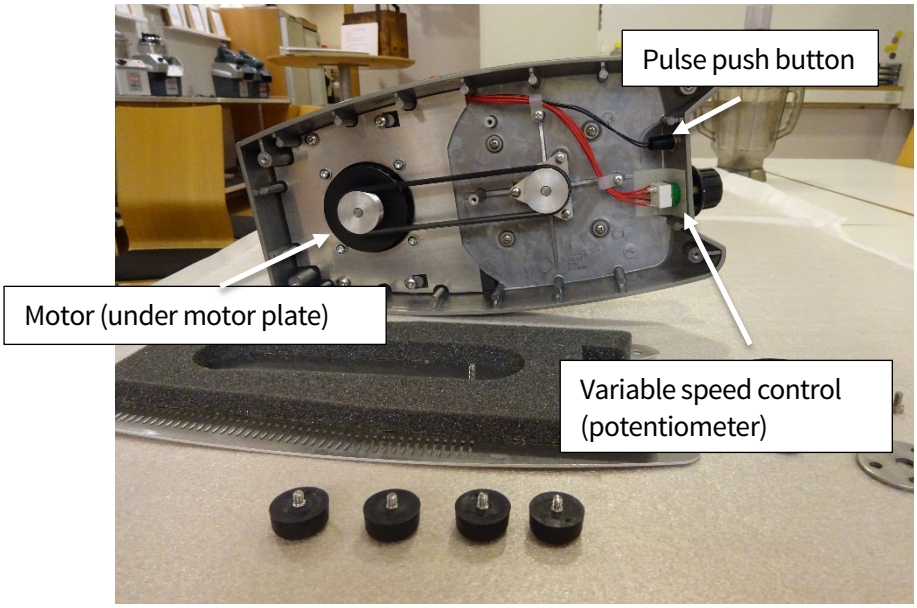
1. Remove jug.
2. Remove the power supply plug from the wall socket. Check that the electrical cable is in good condition and has no cracks. A damaged electric cable must be replaced.
3. Connect the power supply to the wall socket.
4. Turn the variable speed control and check that the machine will not start. Turn the variable speed control to “0”.
5. Press the pulse button and check that the machine will not start.
6. Install the jug, open the lid, turn the variable speed control and check that the machine will not start. Turn the variable speed control to “0”.
7. Close the lid, turn the variable sped control and check that the machine will start. Open the lid and check that the machine stops.
8. If any of the above safety functions are not in good working order, the machine must be repaired before put back in operation.

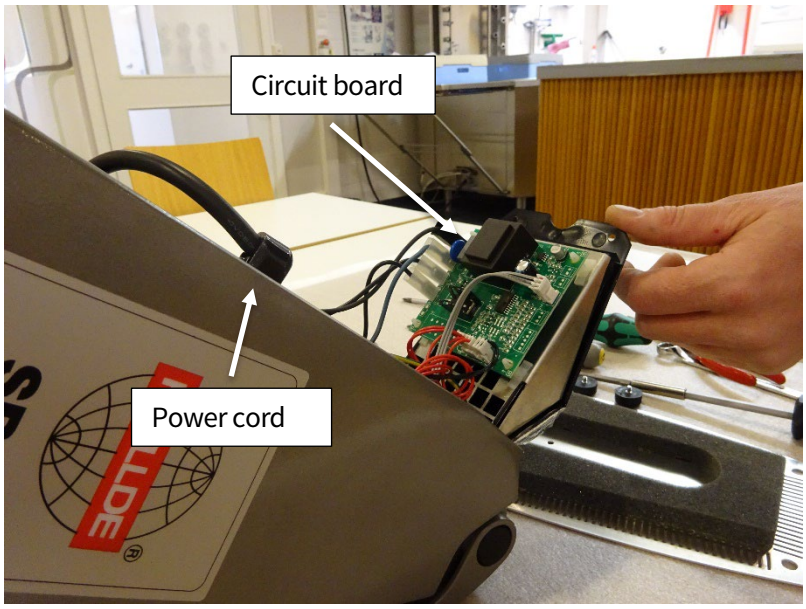
Electrical Operation

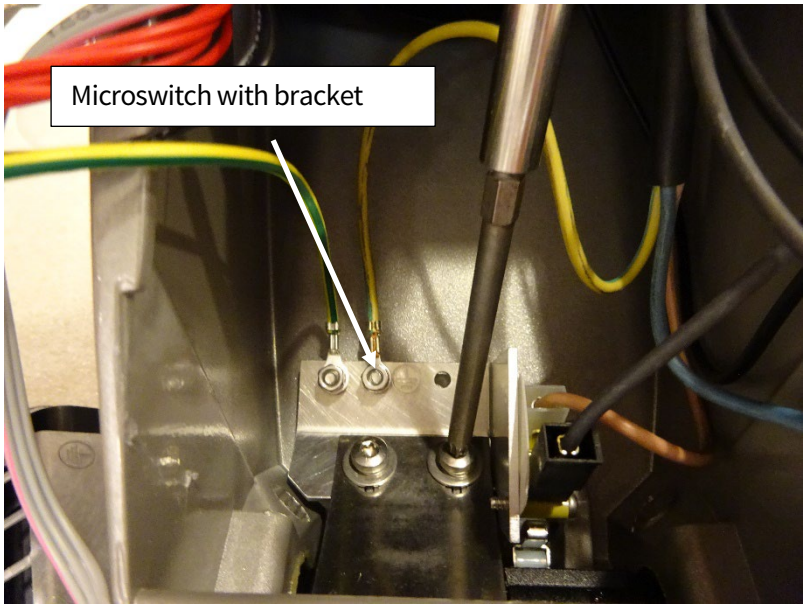
Component function

Motor	Drive motor
Speed sensor	Monitors speed of motor, the speed sensor is included in the motor
Variable speed control	Allows operator to set preferred speed
Micro switch	Keeps motor from turning if jug is not installed properly
Pulse push button	Sets speed to maximum as long as the button is activated

Component location







Wiring Diagram

Please refer to user manual or www.hallde.com for wiring diagram.

Troubleshooting

Note! To eliminate the risk of damage to the motor, the SB-4 is fitted with thermal motor protection that automatically switches off the machine if the temperature of the motor should become too high. The thermal motor protection has automatic reset, which means that the machine can be started again when the motor has cooled down, which usually takes between 10 and 30 minutes.

Symptoms	**Possible Causes**
Machine will not start.	1. No voltage, check power supply 2. Jug or lid is not installed properly 3. Micro switch open
Machine starts but stops during use, will start after waiting several minutes	1. Check for overload conditions 2. Malfunctioning motor 3. Micro switch open or malfunctioning 4. Speed control or pulse push button malfunctioning
Bad results	1. Knives dull 2. Too little fluid used for preparation 3. Too high speed 4. Malfunctioning motor
Motor runs but shaft does not turn	1. Check drive belt
Noise	1. Bad ball bearing in machine 2. Bad ball bearing in jug