

**Note! Disconnect the electric power to the machine!**



---

# Service Manual

---

## Vegetable Preparation Machine RG-300i



Revision: 2021-04-14

Approved: Henrik Artursson

**Note! Disconnect the electric power to the machine!**

## Table of contents

<b>GENERAL .....</b>	<b>3</b>
Installation, operation and cleaning.....	3
Tools.....	3
Lubrication and thread locking.....	3
Advice on thread lock (Loctite) .....	3
<b>REMOVAL AND REPLACEMENT OF PARTS.....</b>	<b>4</b>
Accessories.....	4
Knife shaft and pins .....	5
Machine foot.....	5
Chassis, wiring and hinge .....	6
Buttons .....	10
Magnetic switch .....	11
Motor and gear box.....	12
Locking lug .....	13
Micro switch unit.....	14
<b>SERVICE PROCEDURES AND ADJUSTMENTS.....</b>	<b>16</b>
Function and safety test .....	16
Electrical safety tests .....	16
Electrical diagram .....	16
<b>TROUBLESHOOTING .....</b>	<b>17</b>

**Note! Disconnect the electric power to the machine!**

## General

This service manual gives instructions for removal and replacement of parts including service procedures and adjustments for the vegetable preparation machine RG-300i.

This service manual is prepared for the use of trained service technicians and should not be used by those not properly qualified. It is not necessary to follow the exact order in this manual. Some steps can be taken before others if a particular object need to be serviced.

### Installation, operation and cleaning

Refer to HALLDE User Manual.

### Tools

- Standards set of hand tools
- Heat gun
- HALLDE wrench part number 3162 for removal of decoring screw

### Lubrication and thread locking

- Loctite 243, 270 and activator 7649
- Food grade grease for lubricating seal washer
- Mineral oil for lubricating manual feeder and hinges

### Advice on thread lock (Loctite)

It is strongly recommended to let Loctite 243 cure for at least 12 hours before the machine is taken in service. If used in combination with Loctite activator 7649 (read the instruction before use) the cure time is decreased dramatically and should have cured completely within an hour. Always wipe off any excess fluid. For maximum strength thread lock like 270 can be used instead of 243. However, it is recommended to apply type according to this manual. It could otherwise make service attempts unnecessary difficult. We recommend that the screw is heated to 250-300° C / 482-572 F° before any attempt to remove it. Use a heat gun and focus the heat to the screw not to damage surrounding parts that cannot handle the temperature.

***Note! Disconnect the electric power to the machine!***

## **Removal and replacement of parts**

### **Accessories**

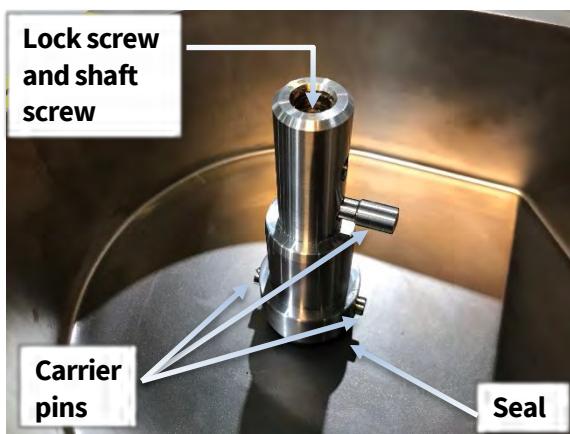
1. Remove any detachable accessories as tray, feed cylinder and manual feeder from the machine base.



**Note! Disconnect the electric power to the machine!**

### **Knife shaft and pins**

1. Preheat the lock screw to 300° C before undoing with a slotted screwdriver. Once unscrewed push the big carrier pin for cutting tools out from either side. Heat up the smaller carrier pins for ejector plate and undo with a slotted screwdriver. Heat up shaft/shaft screw and undo with hex key 3 mm and remove the shaft. All locked with Loctite 270.



Mount the parts in reversed order. The two smaller carrier pins must be aligned with the holes in the shaft. The bigger carrier pin should be set symmetric to the shaft. The seal ring should be lubricated with food grade grease. For best result use Loctite 7649 then 270 when refastening the screws. Leave it to harden according to recommendations in this manual. Always wipe off any excess fluid.

### **Machine foot**

1. Depending on what kind of working stand is at hand the knife shaft may have to be removed before any further disassembling, pls see above.
2. Turn the machine upside down on a suitable working stand (with space for the shaft); and be careful with the hinge and the locking lug.
3. Dismantle the two wheels and the two feet. Then remove the six screws holding the whole foot.



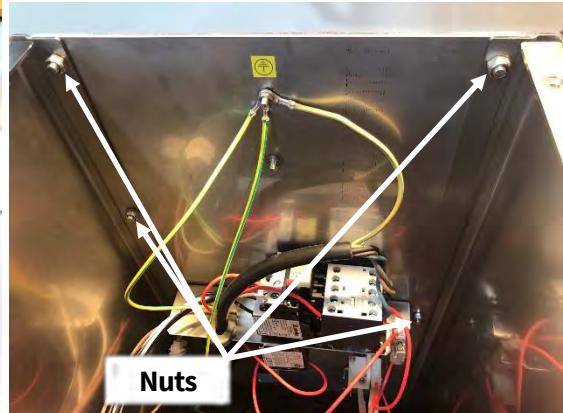
***Note! Disconnect the electric power to the machine!***



Reassemble in reversed order. The 6 screws that hold the machine foot is locked with a torque of ~6 Nm and Loctite 243.

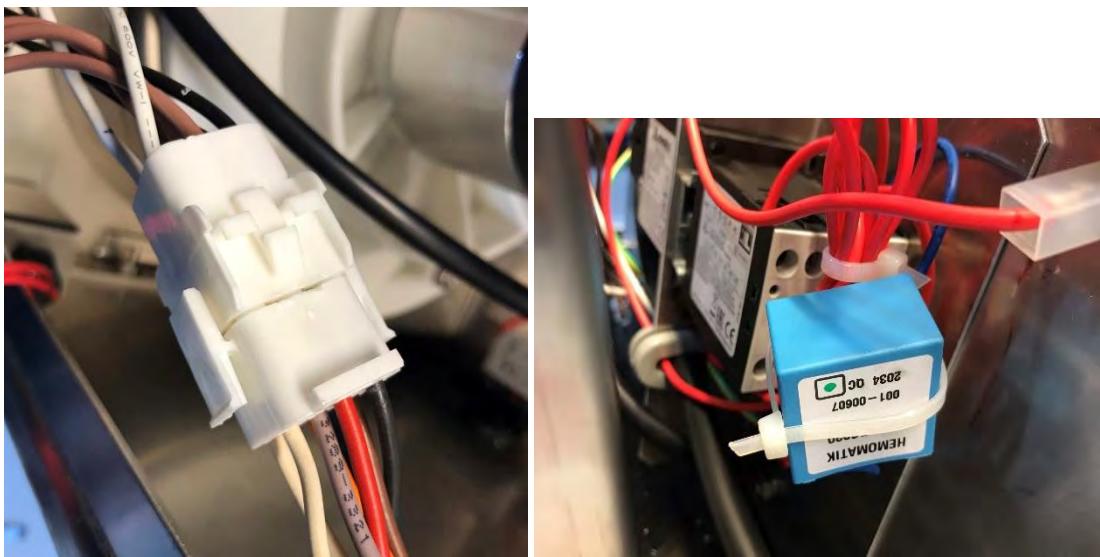
### **Chassis, wiring and hinge**

1. To remove the backside, undo the 2 screws on the outside and the 4 nuts on the inside. Then carefully lean the backside assembly against something suitable.

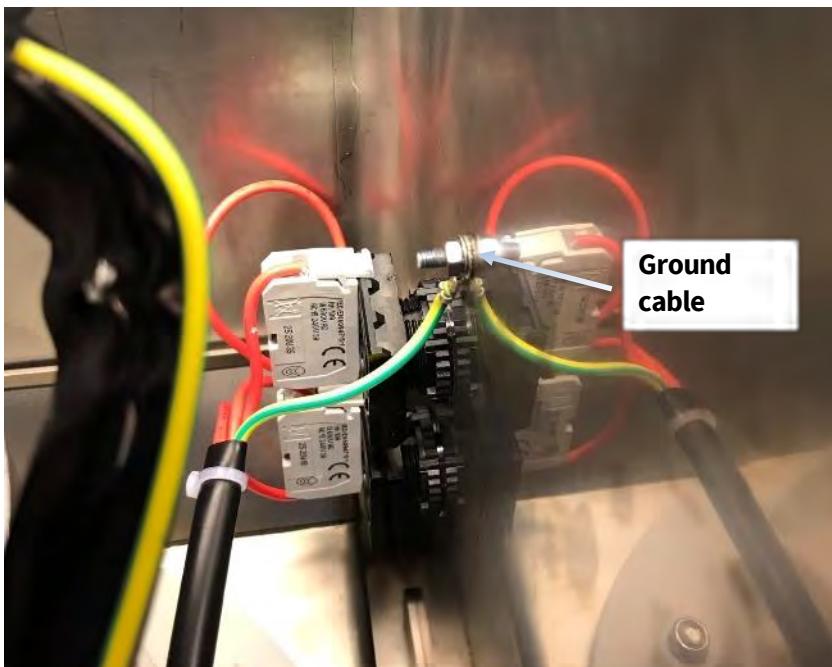


**Note! Disconnect the electric power to the machine!**

2. Unplug the quick connection. Cut all zip-ties.



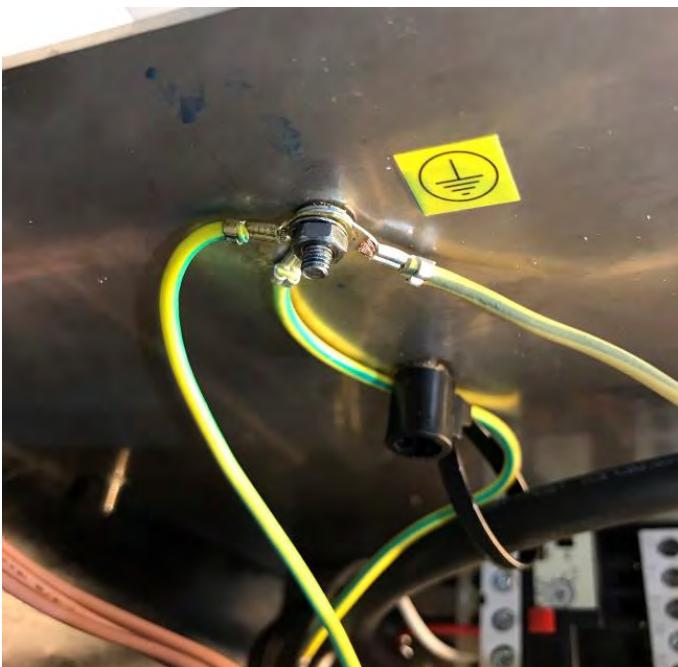
3. Disconnect the ground cable. Disconnect the button mechanisms by pushing the lock to open (off) position.



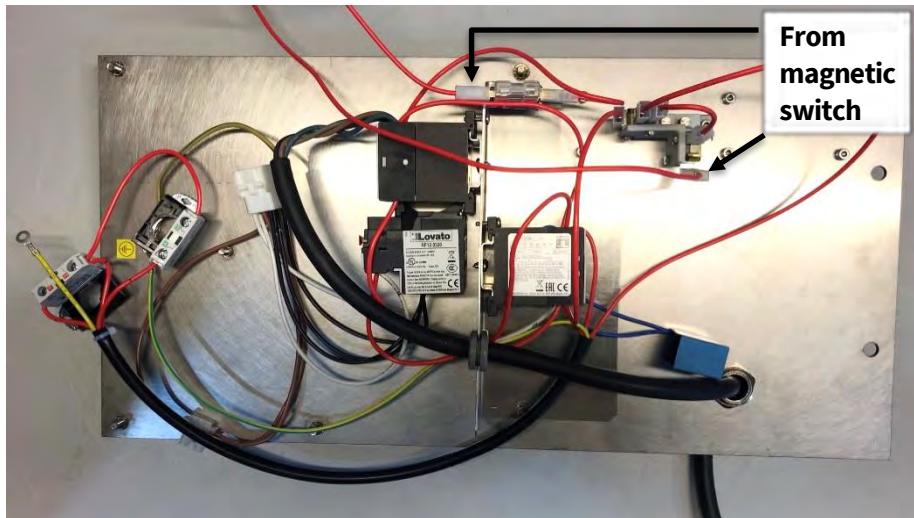
***Note! Disconnect the electric power to the machine!***



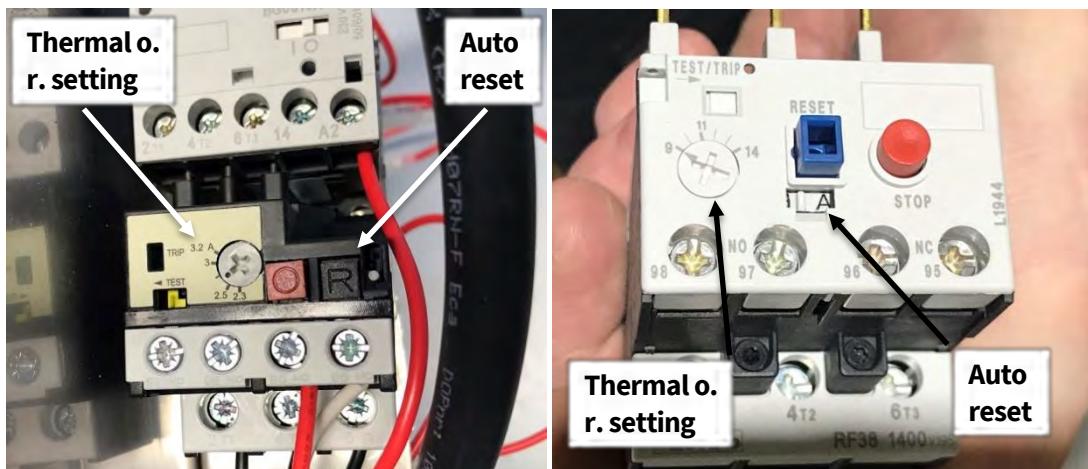
4. Undo the ground cable nut and one ground cable. Unplug the two remaining cables connected to the machine base/magnetic switch. The backside assembly is now detached.



**Note! Disconnect the electric power to the machine!**



5. Check thermal overload relay setting, pls see motor plate. Check that the auto reset (R) is locked in pressed state for 220-240V-market and that setting is "A" for 100-120V-market.



6. Undo the two slotted screws holding the hinge and the two screws on the opposite side. These are locked with Loctite 243 and a torque of 6 Nm. Use the proper tool size to avoid scratching the chassis.



**Note! Disconnect the electric power to the machine!**

7. Make sure the wires are untangled. The chassis can now be lifted off the machine.



Reassemble in reversed order. The chassis fits in the slot that goes around the ejection. See wiring diagram at [www.hallde.com](http://www.hallde.com) for internal wiring.

### **Buttons**

1. Undo the plastic nut holding the buttons to the chassis.



**Note! Disconnect the electric power to the machine!**

2. Press the button out of the hole. Note the cut-out in the chassis which is aligned with the small notch on the button.



Reassemble in reversed order.

### **Magnetic switch**

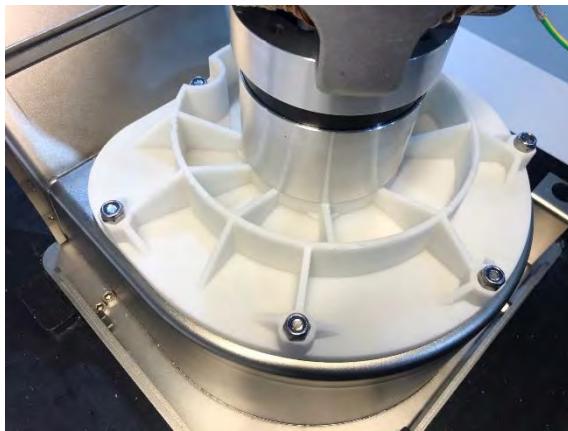
1. Undo the lower nut while holding on to the upper one. When reassembling, do not overtighten, plastic threads.



**Note! Disconnect the electric power to the machine!**

### **Motor and gear box**

1. Remove the six nuts holding the motor plate to the knife chambre.



Note that the motor plate is glued to the knife chamber with silicone. Lift the whole assembly of motor, gearbox and motor plate straight up. The assembly is heavy and it is recommended that two persons perform this step. Take care not damaging the fan blades when putting the motor down.



2. To remove the motor plate from the gear box, undo the four screws with hex key 5 mm. They are locked with Loctite 243.



**Note! Disconnect the electric power to the machine!**

Reassemble in reversed order. Do not forget to add plenty of food grade grease under seal. Remove old silicone and add new. Do not overtighten the six nuts on the motor plate or dimples will form on the opposite side of the knife chambre. Use a torque of maximum 6,5 Nm.



### **Locking lug**

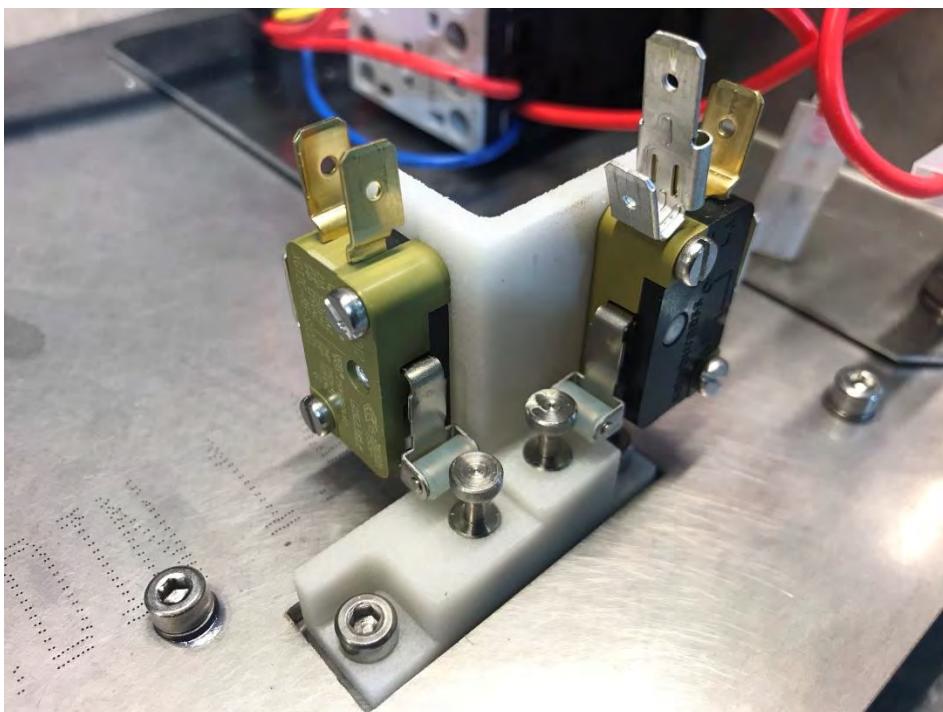
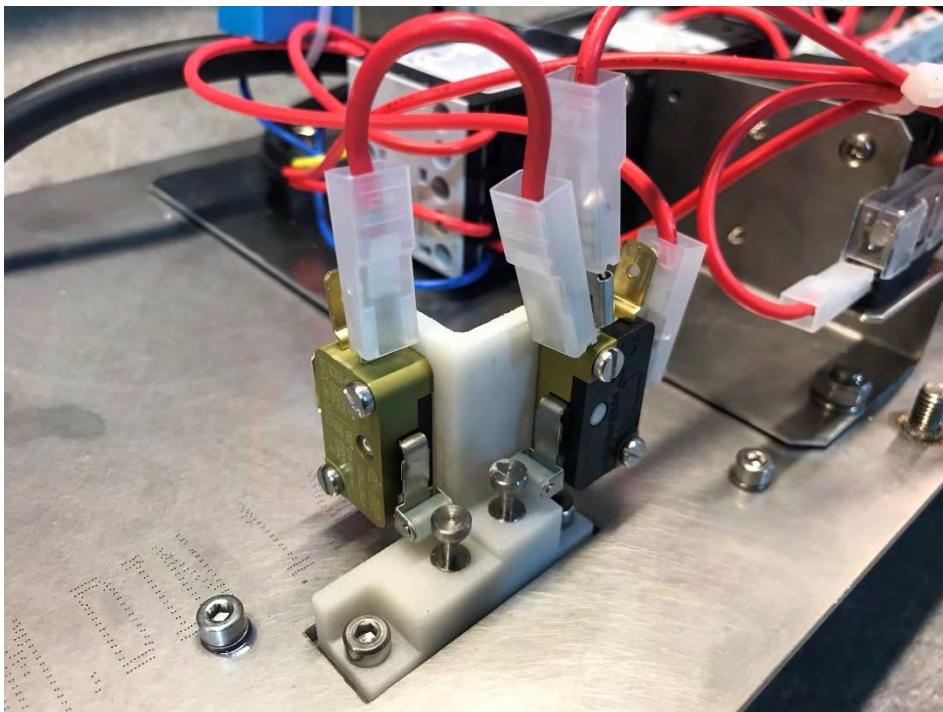
1. Remove the two screws holding the locking lug with hex key 4 mm, locked with Loctite 243.



***Note! Disconnect the electric power to the machine!***

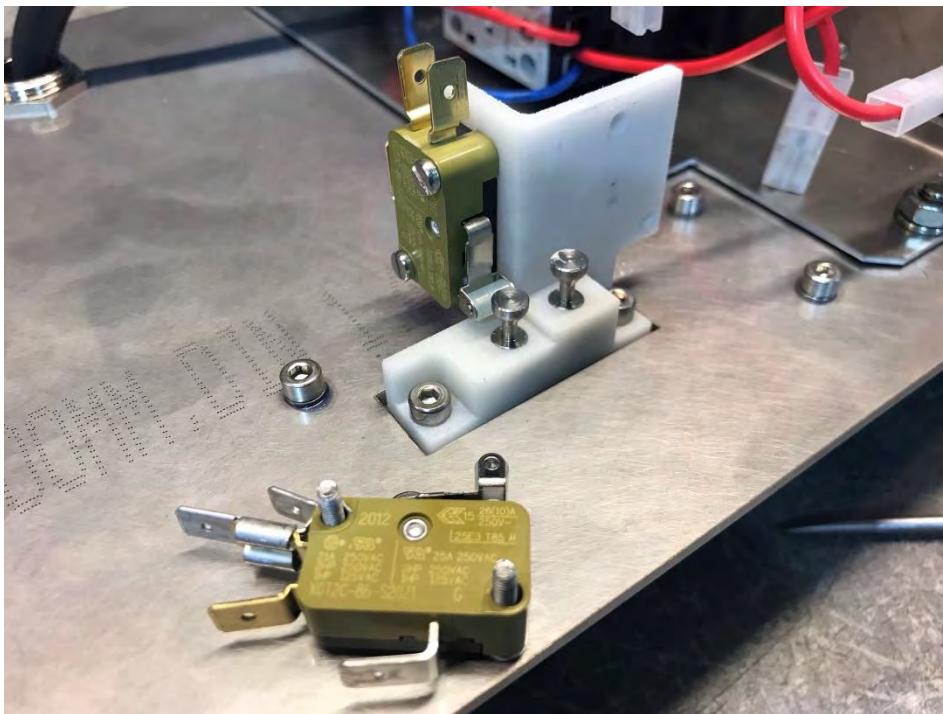
### **Micro switch unit**

1. On the backside assembly, remove the micro switch unit by unplugging all electrical connections.

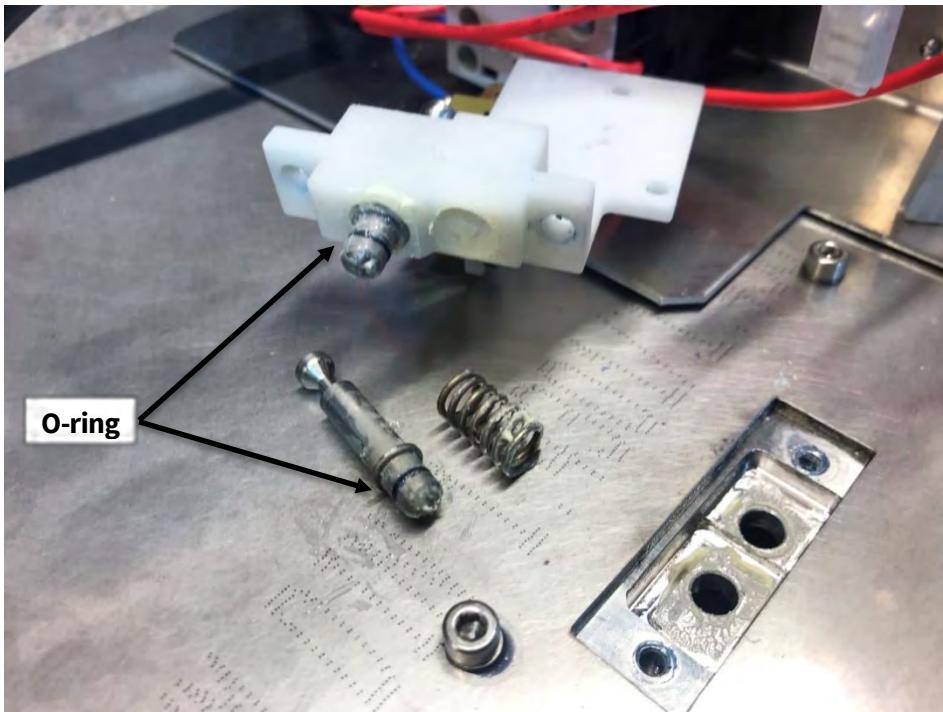


**Note! Disconnect the electric power to the machine!**

2. The micro switches are fastened with two screws and nuts, locked with Loctite 243.



3. Remove the two screws holding the micro switch unit with a hex key 3 mm, locked with Loctite 243. Replace o-rings on the micro switch rods if worn. When reassembling, grease the rods and springs.



Reassemble in reversed order.

**Important!**

*Always test the unit and assure that the switch actuators are clearly triggered. You could hear the trigger sound when inserting and turning the manual feeder shaft. If not, adjust micro switch.*

**Note! Disconnect the electric power to the machine!**

## Service Procedures and Adjustments

### Function and safety test

1. Remove decoring screw and cutting tools.
2. Connect food processor to the proper voltage source.
  1. Close feed cylinder and engage locking handle.
  2. Position pusher plate into the feed cylinder.
3. Press ON button and motor should start.
4. Press OFF button and motor should stop.
5. Press ON button, motor starts. Lift pusher plate out of feed cylinder and slowly rotate to the left.
  1. Motor should stop when the edge of pusher plate is no more than 4 cm from the inside edge of feed cylinder.
  2. Rotate the pusher plate over the cylinder. The motor should start when the edge of the pusher plate is 4 cm or less from the inside edge of feed cylinder.
6. With the motor running, lift pusher plate out of feed cylinder and rotate to the left. Open feed cylinder and close it. Thereafter, when the pusher plate is rotated back over feed cylinder the motor should not start.

### Electrical safety tests

If the machine has been opened the machine may need to undergo electrical safety tests.

1. An electric strength test should be done. From factory the machine is tested at 1.77 kV for 1 sec. Close the contactors when performing the test. The result should not exceed 3 mA.
2. An earth continuity test should be done on the assembled machine. At test current 10 A and open circuit voltage >12 V for 2 sec, max resistance allowed is 0,2 Ω.

### Electrical diagram

See user instructions and [www.halde.com](http://www.halde.com) for applicable electric diagram.

***Note! Disconnect the electric power to the machine!***

## Troubleshooting

SYMPTOM	POSSIBLE CAUSES
Motor will not start, feed cylinder is down, locking handle is locked and pusher plate is in operating position.	<ol style="list-style-type: none"><li>1. No voltage to machine or to only one or two phases.</li><li>2. “Shaft stand” and “micro switch unit” not aligned properly.</li><li>3. Check fuse.</li><li>4. Thermal overload relay is not set to auto reset.</li><li>5. OFF switch malfunction.</li><li>6. ON switch malfunction.</li><li>7. A micro switch has oxidized contact points.</li><li>8. Contactor malfunction.</li><li>9. Motor malfunction. Open circuit in winding.</li></ol>
Motor does not stop when pusher plate is raised out of feed hopper and rotated past the 4 cm maximum allowable feed cylinder opening.	<ol style="list-style-type: none"><li>1. Micro switch in micro switch unit is loose or worn down.</li></ol>
Motor stops during use, restarts after a couple of minutes.	<ol style="list-style-type: none"><li>1. Thermal overload relay is triggered.<ol style="list-style-type: none"><li>a. Excessive feed pressure on pusher plate.</li><li>b. Tools worn out.</li></ol></li><li>2. Thermal overload protection in motor triggered or is malfunctioning. The machine is working at the limits of its thermal capacity. See point 1 above.</li></ol>

**Note! Disconnect the electric power to the machine!**

Low output or poor cutting.	<ol style="list-style-type: none"><li>1. Wrong combination of cutting tools used.</li><li>2. Cutting tools dull.</li><li>3. Decoring screw not installed.</li><li>4. Excessive feed pressure on pusher plate.</li><li>5. Ejector plate not used.</li></ol>
-----------------------------	--