



---

# Service Manual

---

## Combi Cutters

CC-34, CC-32 and CC-32s

*100 – 120 V Single Phase*

## Vegetable Preparation Machines

RG-50 and RG-50s

*100 – 120 V Single Phase*

## Vertical Cutter Blenders

VCB-32 and VCB-31s

*100 – 120 V Single Phase*



Date: Revision B 2015-10-14

Approved: Henrik Artursson

---

## Table of contents

<b>GENERAL .....</b>	<b>3</b>
Installation, operation and cleaning.....	3
Tools.....	3
Lubrication and thread locking.....	3
<b>REMOVAL AND REPLACEMENT OF PART .....</b>	<b>4</b>
Base and top housing.....	4
Motor.....	4
Control board.....	6
Knife shaft.....	6
Magnetic safety switch.....	8
Speed control switch.....	9
Rotary switch .....	9
Micro switch .....	10
<b>SERVICE PROCEDURES AND ADJUSTMENTS.....</b>	<b>12</b>
Electrical control test procedures.....	12
Motor resistance test .....	12
<b>ELECTRICAL OPERATION .....</b>	<b>13</b>
Component function.....	13
Component location .....	13
<b>WIRING DIAGRAM .....</b>	<b>14</b>
<b>TROUBLESHOOTING .....</b>	<b>14</b>

## General

This service manual gives instructions for removal and replacement of parts including service procedures and adjustments for the following machines:

- Combi Cutters: CC-34, CC-32 and CC-32s
- Vegetable preparation machines: RG-50 and RG-50s
- Vertical cutter blenders: VCB-32 and VCB-31s

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
- Standard VOM/Multimeter with AC current tester

### **Lubrication and thread locking**

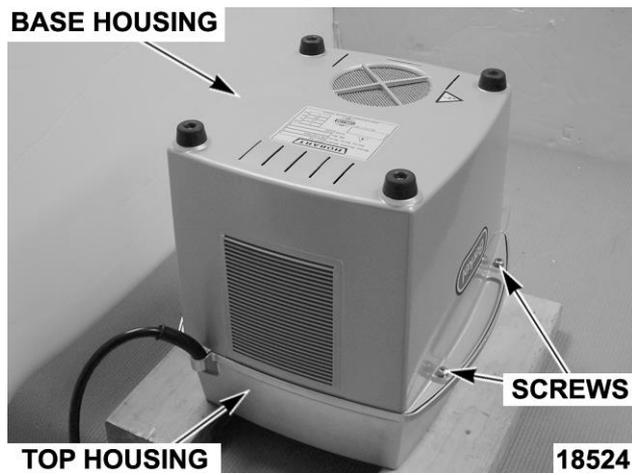
- Loctite 243 or equivalent

## Removal and replacement of part

### Base and top housing

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

1. Remove cutter/mixer bowl or feeder attachment.
2. Position unit on blocks as shown to protect knife shaft from damage during disassembly.
3. Remove four screws and base housing from top housing.

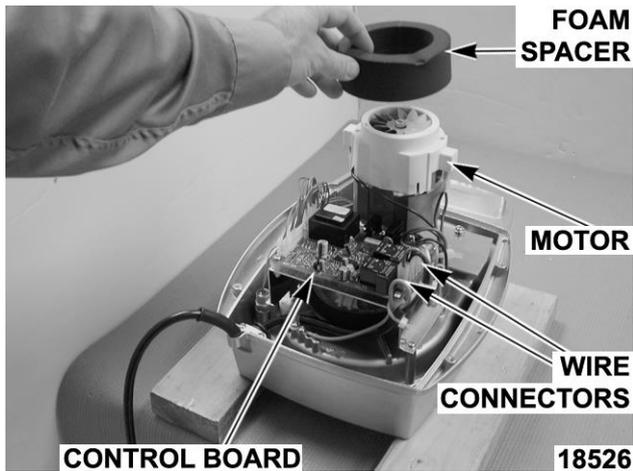


4. Install in reverse order of removal.

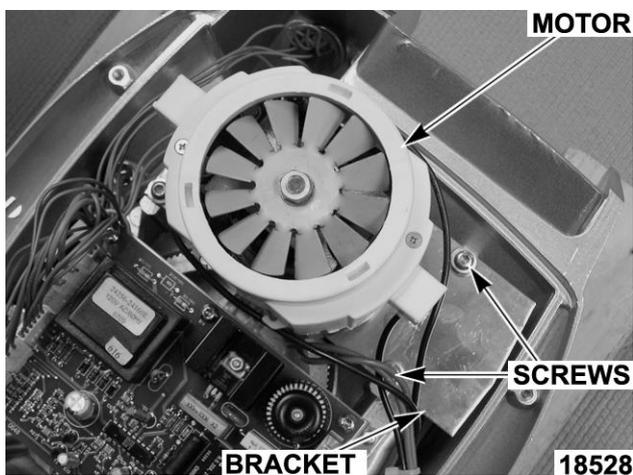
### Motor

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

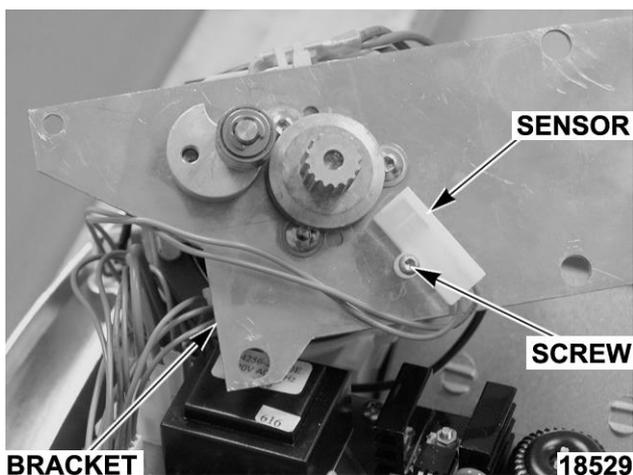
1. Remove base housing as outlined under BASE AND TOP HOUSING.
2. Tag and mark all wires.
3. Remove foam spacer from motor.
4. Remove four wire connectors from control board.



5. Remove screws from motor mounting bracket and lift motor from housing.



6. Carefully turn motor and bracket over to remove the torx screw and sensor.

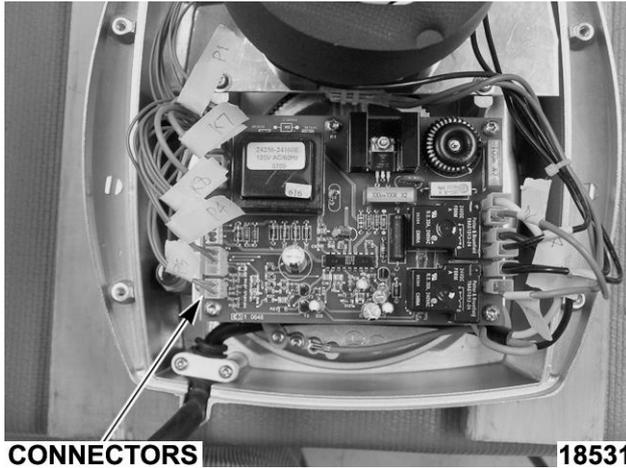


7. Remove motor, bracket, and wires from top housing. During motor installation, be sure to align drive belt correctly. The motor drive shaft should be inside the drive belt; the belt tensioner should be on the outside of the belt.
8. Install motor, brackets, and wires in reverse order of removal.

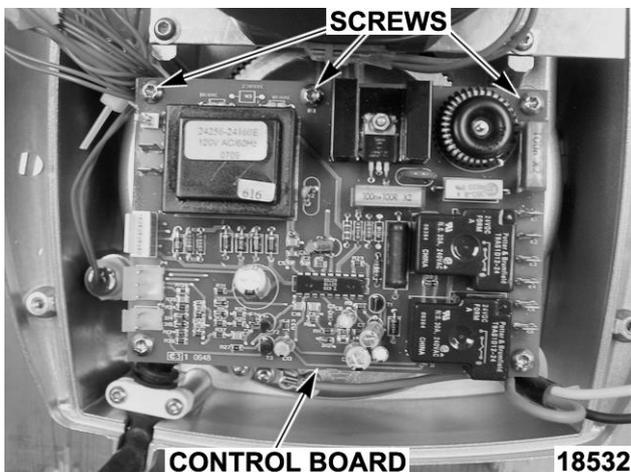
## Control board

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

1. Remove base housing as outlined under BASE AND TOP HOUSING.
2. Tag and mark all wires and connectors.
3. Remove wire ties as necessary.
4. Remove 12 connectors from control board.



5. Remove five torx screws and control board from control board plate.



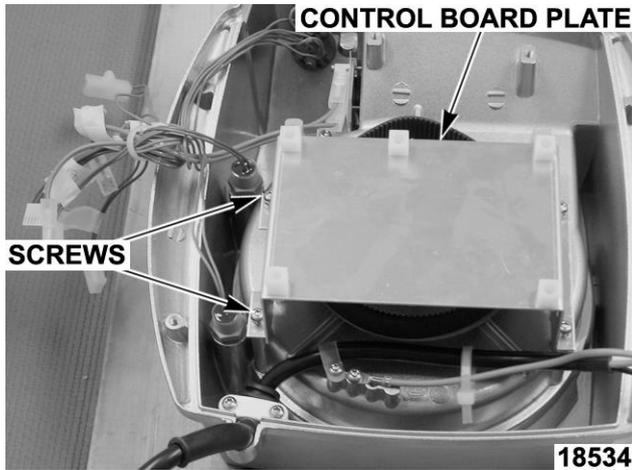
6. Install control board in reverse order of removal.

## Knife shaft

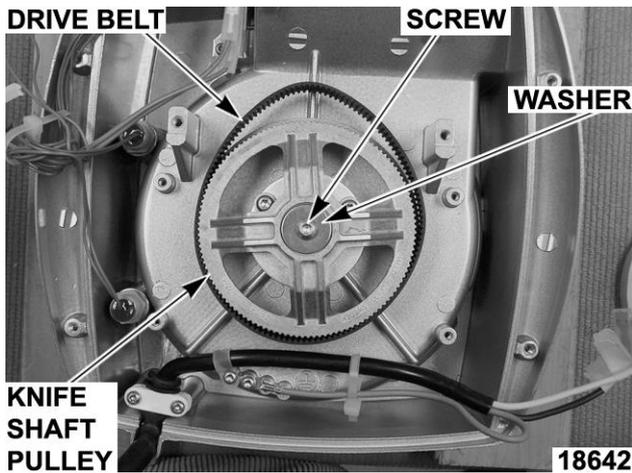
***Note! Disconnect the electric power to the machine!***

1. Remove base housing as outlined under BASE AND TOP HOUSING.
2. Remove motor as outlined under MOTOR.
3. Remove control board as outlined under CONTROL BOARD.

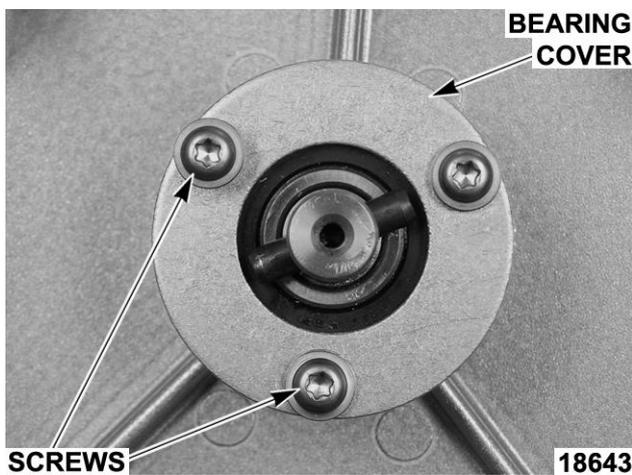
4. Remove wires and wire ties from control board plate.
5. Remove torx screws and control board plate from top housing.



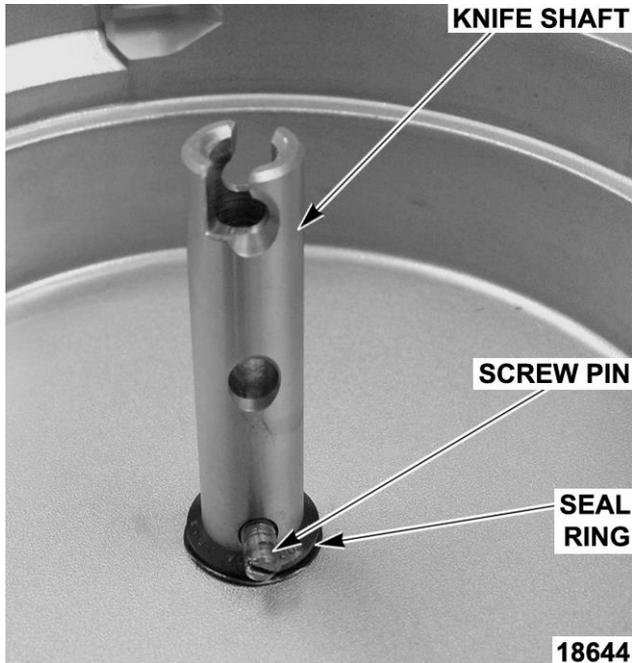
6. Remove drive belt, screw, washer, and knife shaft pulley.



7. Remove three torx screws and bearing cover.



8. Carefully turn top housing over to gain access to the knife shaft. Do not pinch or bend wires when removing screw from knife shaft. Remove screw pin from knife shaft. Some heat may be required to remove the screw pin.
9. Remove seal ring from knife shaft.

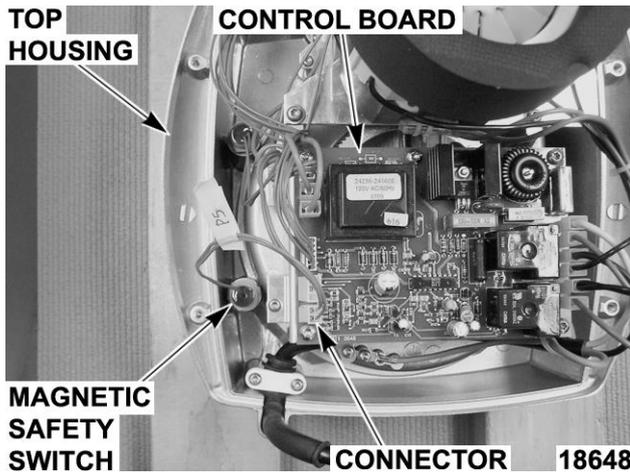


10. Tap knife shaft assembly from top housing.
11. Replace shaft assembly.
12. Install knife shaft in reverse order of removal. Add Loctite to screw pin during install.

### **Magnetic safety switch**

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

1. Remove base housing as outlined under Remove base housing as outlined under BASE AND TOP HOUSING.
2. Remove wire ties as necessary.
3. Tag and mark all wires and connectors.
4. Remove connector from control board.
5. Remove magnetic safety switch from top housing.

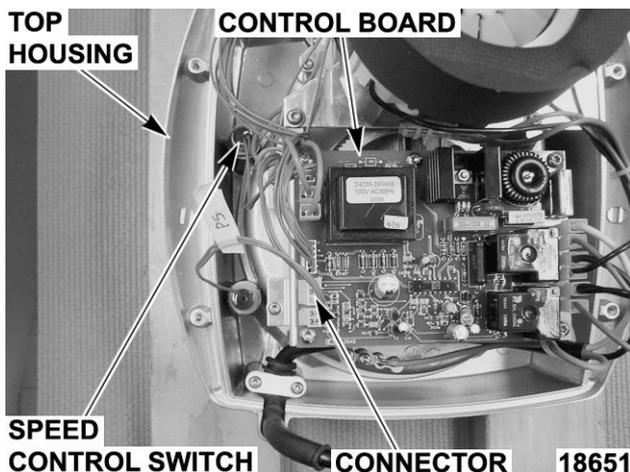


6. Install magnetic safety switch in reverse order of removal.

### Speed control switch

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

1. Remove base housing as outlined under Remove base housing as outlined under BASE AND TOP HOUSING.
2. Remove wire ties as necessary.
3. Tag and mark all wires and connectors.
4. Remove connector from control board.
5. Remove speed control switch from top housing.



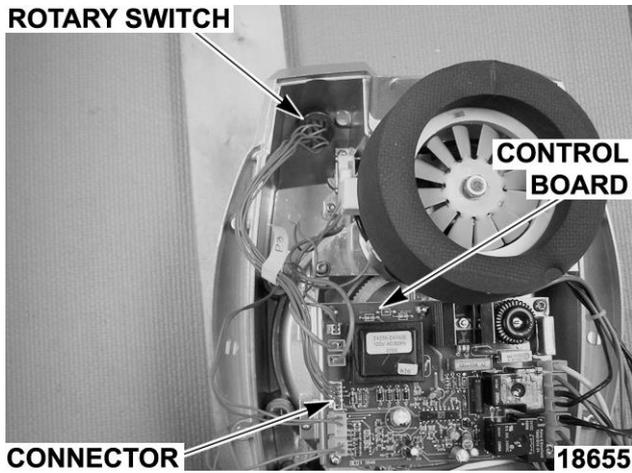
6. Install speed control switch in reverse order of removal.

### Rotary switch

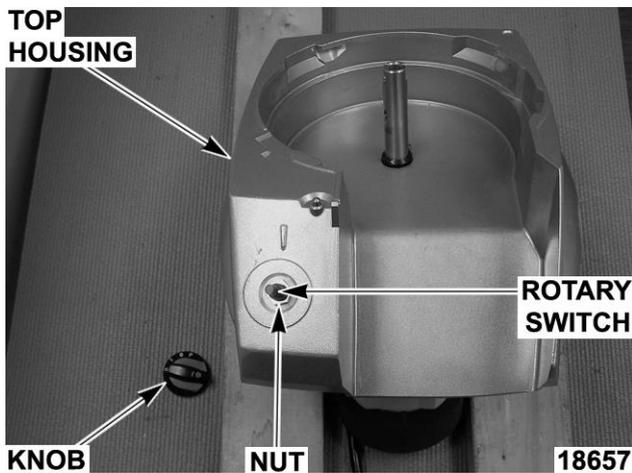
***Note! Disconnect the electric power to the machine!***

1. Remove base housing as outlined under Remove base housing as outlined under BASE AND TOP HOUSING.

2. Remove wire ties as necessary.
3. Tag and mark all wires and connectors.
4. Remove connector from control board.



5. Turn top housing upright and support.
6. Remove knob from rotary switch.
7. Remove nut and rotary switch from top housing.



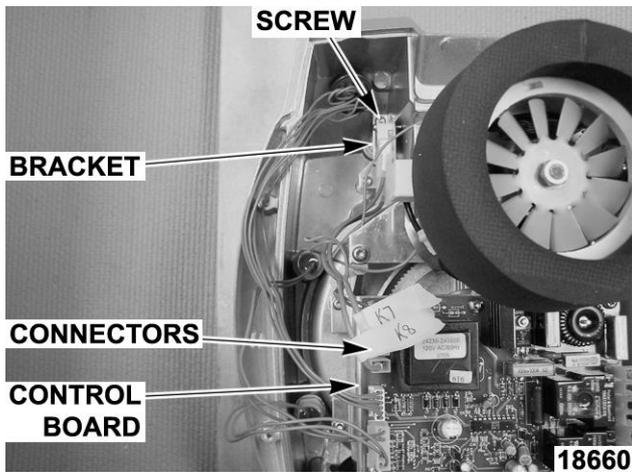
8. Install rotary switch in reverse order of removal.

### **Micro switch**

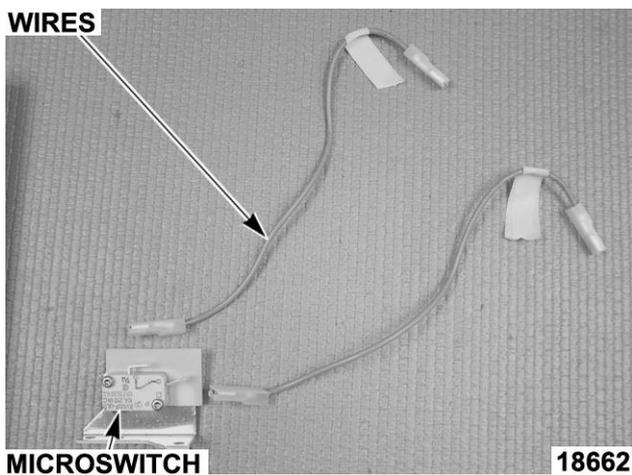
***Note! Disconnect the electric power to the machine!***

1. Remove base housing as outlined under Remove base housing as outlined under BASE AND TOP HOUSING.
2. Remove wire ties as necessary.
3. Tag and mark all wires and connectors.

4. Remove 2 connectors from control board.
5. Remove two torx screws and micro switch bracket from top housing.



6. Remove two wires and connectors from micro switch.



7. Install new micro switch and assemble in reverse order of removal.

# Service Procedures and Adjustments

## Electrical control test procedures

**Note! Do not install any cutting tools for the following tests!**

1. Remove the feeder, any cutting tools and ejector plate.
2. Remove the lid, knife, and bowl.
3. Turn the variable speed control to the I position and check that the machine will not start.
4. Install the feeder, set the variable speed control to the I position and check that the machine stops when the feeder handle is raised and re-starts when the handle is lowered.
5. Set the variable speed control to the I position, raise the feeder handle and check that the shaft stops rotating within 4 seconds.
6. Install the bowl and lid and set the variable speed control to the I position and check that the shaft stops rotating within four seconds after the lid has been lifted and turned counterclockwise as far as it will go.
7. Remove the power supply plug from the wall socket. Check that the electrical cable is in good condition and has no cracks. If the electrical cable is worn or damaged or shows signs of cracking, or if any of the above safety functions are not in good working order, the machine must be repaired before put back in operation.

## Motor resistance test

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

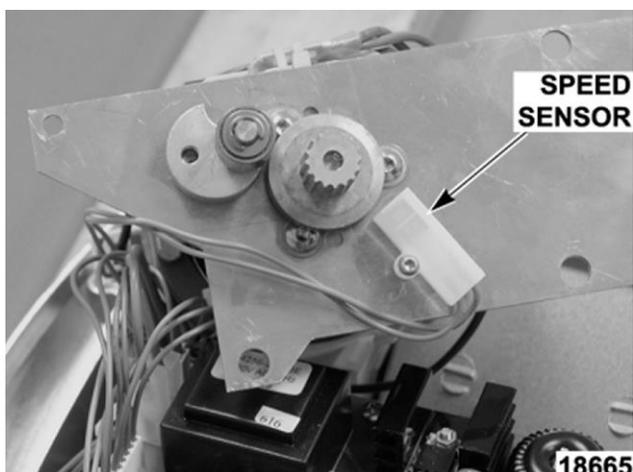
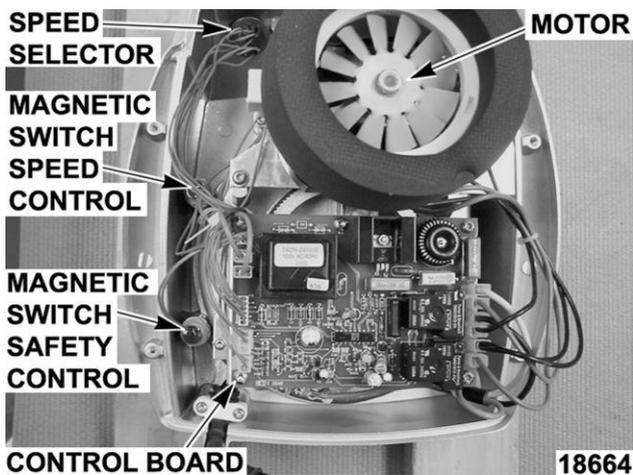
1. Remove base housing as outlined under BASE AND TOP HOUSING.
2. Remove wire ties as necessary.
3. Tag and mark all wires and connectors.
4. Unplug motor wire connectors from control board.
5. Test resistance between the following motor wire connectors
  - a. K2 to K6 0.2 to 0.4 Ohms
  - b. K2 to K5 Open
  - c. K2 to K4 Open
  - d. K5 to K4 2.8 to 2.9 Ohms
  - e. K5 to K6 Open
  - f. K6 to K4 Open

# Electrical Operation

## Component function

<b>Motor - M1</b>	Drive motor
<b>Speed sensor</b>	Monitors speed of blade rotation
<b>Speed selector</b>	Allows operator to set preferred speed
<b>Safety interlock ILS</b>	Keeps motor from turning if feeder is not installed properly
<b>Magnetic switch speed control</b>	Senses which attachment is installed and automatically sets speed range
<b>Magnetic switch safety control</b>	Keeps motor from turning if accessory is not installed properly

## Component location



## Wiring Diagram

Please refer to user manual or [www.halld.com](http://www.halld.com) for wiring diagram.

## Troubleshooting

Note! To eliminate the risk of damage to the motor, the CC34, B32, and C32 are 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.	<ol style="list-style-type: none"><li>1. No voltage, check power supply</li><li>2. Feeder or bowl lid is not installed properly</li><li>3. Safety interlock open</li><li>4. Magnetic switch speed control open</li><li>5. Magnetic safety switch open</li></ol>
Machine starts but stops during use, will start after waiting several minutes	<ol style="list-style-type: none"><li>1. Check for overload conditions</li><li>2. Malfunctioning motor</li></ol>
Low output or bad cutting results	<ol style="list-style-type: none"><li>1. Wrong cutting tools used</li><li>2. Wrong combination of cutting tools uses, i.e. combination for slicer and dicing grid</li><li>3. Cutting tools dull.</li><li>4. Too high speed</li><li>5. Malfunctioning motor</li></ol>
Stops when operating	<ol style="list-style-type: none"><li>1. Safety interlock open or malfunctioning</li><li>2. Magnetic switch speed control open or malfunctioning</li><li>3. Magnetic safety switch open or malfunctioning</li><li>4. Speed control switch malfunctioning</li></ol>
Motor runs but knife shaft does not turn	<ol style="list-style-type: none"><li>1. Check drive belt</li></ol>