

## Technical Data Sheet

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### **HMD200 230V Spindle Mixer Series E-F** **What is new with the Series E-F?**

Series E introduces a more robust toggle switch and grounding wire for the toggle switch. The Series F Introduces replaceable motor brushes.


#### Troubleshooting guide

- **Symptom:** During normal cycle the unit stops spinning.
- **Cause:** The unit has over heated and needs to cool down. If cooling does not cure the problem go to the repair guide.
  
- **Symptom:** Upper button falls down.
- **Cause:** There is too much drag on the upper button from the contents in the cup. This is usually caused by the use of hard ice cream. See agitators in the next section.
  
- **Symptom:** Container guide falls out of unit.
- **Cause:** Lock Block is worn or weakened. Replace lock block.

#### Repair Guide

##### Housing Disassembly

- Turn off the unit and unplug it from the electrical socket.
- Loosen the three screws that hold the top cover in place. Note: The screws have keepers to prevent the screws from coming out of the cover.
- Carefully remove cover from unit.
- The motor, toggle switch, speed switch and can all be checked or changed from here. To change the internal switch the back of the unit will also need to be removed. These instructions follow.
- Remove the four feet,
- Remove the screw holding the back on the unit.
- Carefully remove the rear housing.
- Reassemble is reverse order.

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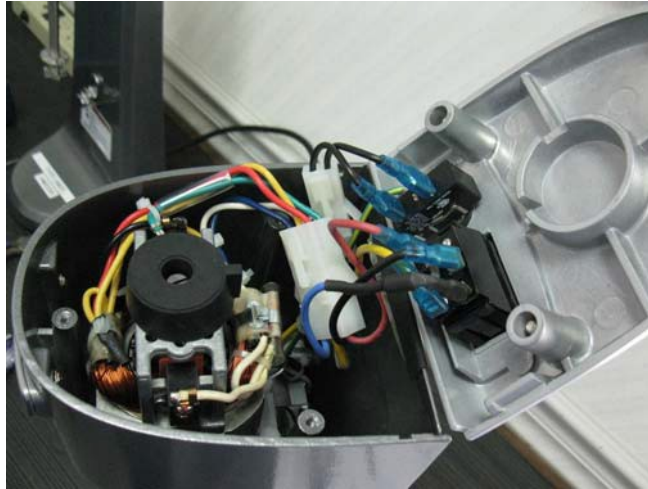



Figure 1 **HMD200** Open Cover

### **Changing the Motor**

- Remove the top cover per the instruction in the previous section.
- Unplug the modular plug connecting the motor to the wiring harness.
- Lift the motor out of the machine paying attention to how it is oriented with the housing.
- To install the new motor reverse the process.
- Gently lower the new motor into the housing in the same orientation as the old motor.
- Plug the modular plug back into the wiring harness.
- If the rubber motor mount has come loose from the top of the new motor in the process put it back in place. The cutout goes over the ground screw and the protrusion aims at the center rear of the machine.
- Carefully put the top back in place.
- Be careful not to pinch any wires.
- Gently tighten the screws, rotate your efforts so you do not apply too much pressure in one spot at once.
- Plug the machine in and test it.

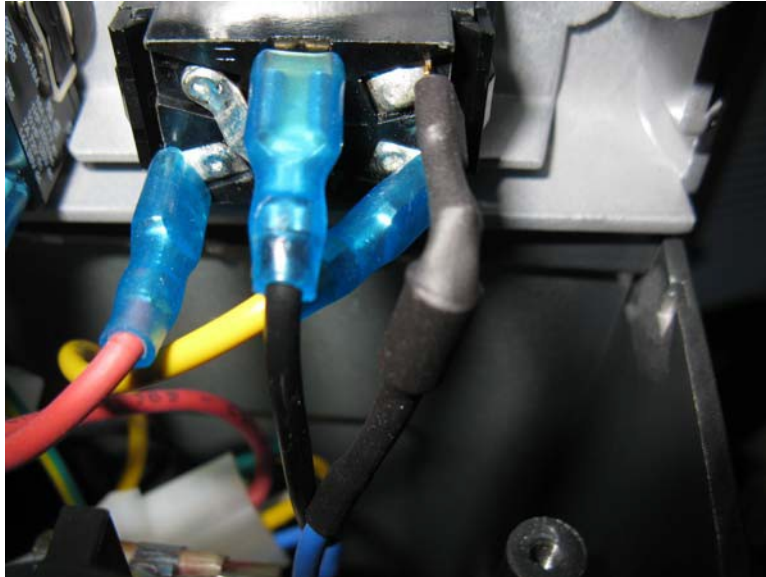
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### **Changing the Speed Switch**

- Remove the top cover per the instruction in the Housing Disassembly section above.
- Draw a sketch of where each wire goes and remove the wire connectors. See (fig 2)



**Figure 2 Speed Switch Wiring**

- Push in on both ends of the switch housing and push the switch through the hole in the cover.
- Orient the new switch and push it through the hole from the top of the cover.
- Reattach the wires.
- Test the unit.

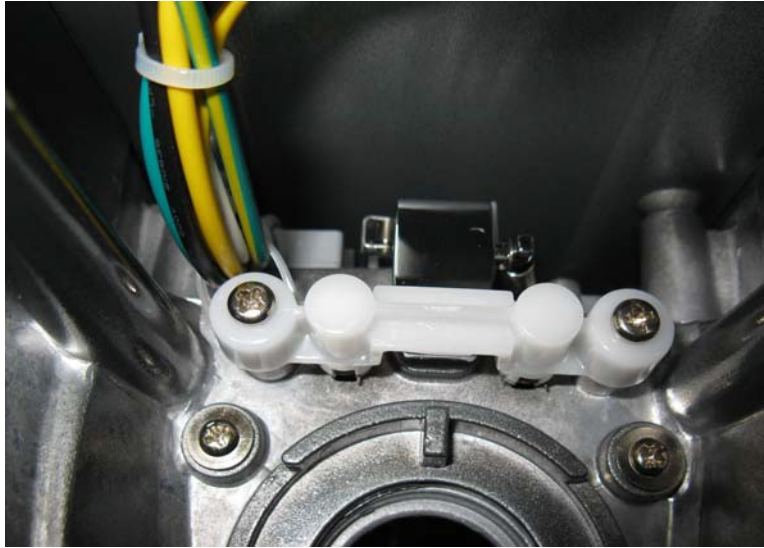
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### Changing the Lock Block

- Follow the instructions for replacing the motor to the point of removing the motor from the unit.
- Remove the container guide and pin switch actuator.
- Once the motor is out of the way the lock block can be easily changed from the top of the unit.
- Reassemble in reverse order.




**Figure 3 Lock Block**

### Changing the Internal Switch

- The internal switch is the one component that you need to remove the rear cover of the housing to replace.
- Follow the instructions in Housing Disassembly to remove the top cover and the rear cover.
- Once the covers are removed the internal switch easy to replace.
- Remove the screws holding the switch assembly in place.
- Remove the old assembly.
- Install the new assembly.
- Put the housings back together.
- Test the unit.

### Changing Agitators

- The upper button can be changed or replaced if it falls down.
- Remove the bottom agitator and using a deep well socket or similar tube and a hammer tap the upper button back up the shaft. The shaft is tapered so the higher you go the tighter it will become. The upper button is normally located  $\frac{3}{4}$  of an inch from the bottom of the shaft. Do not push is more than a inch up the shaft. If not tight by the time you get to an inch replace the upper button.

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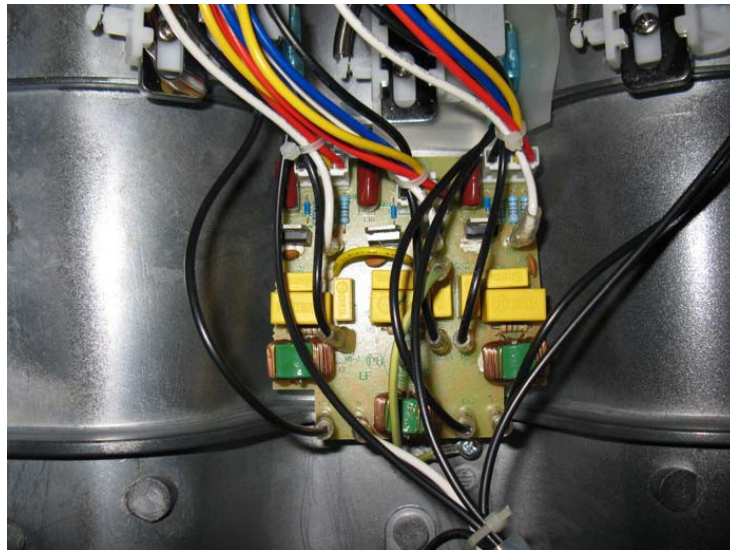
- The bottom agitator is held in place by a screw. Simply unscrew the screw to remove the bottom agitator.
- If the screw holding the bottom agitator is hard to remove there are a couple things you can do to aid in the removal of the screw.
- Soak the bottom agitator and spindle end in hot water for a few minutes and try again.
- Wrap masking tape around the shaft, grasp the masking tape with a pair of vice grips to steady the shaft and unscrew the screw.
- In extreme cases it may be necessary to grasp the shaft with one pair of vice grips and use another pair in the screw.

### **Changing the Toggle Switch**

- Remove the rubber boot over the switch.
- Remove the cover following the directions in the section Housing Disassembly.
- Disconnect the wiring harness.
- Remove switch from cover.
- Install new switch in reverse order.

### **Changing the RFI Board**

- Turn off and unplug the unit.
- Remove the top and back of the unit as described in Housing Disassembly.
- Mark and unplug the wires attaché to the RFI board.
- Remove the RFI Board.
- To assemble reverse the process.



**RFI Board**

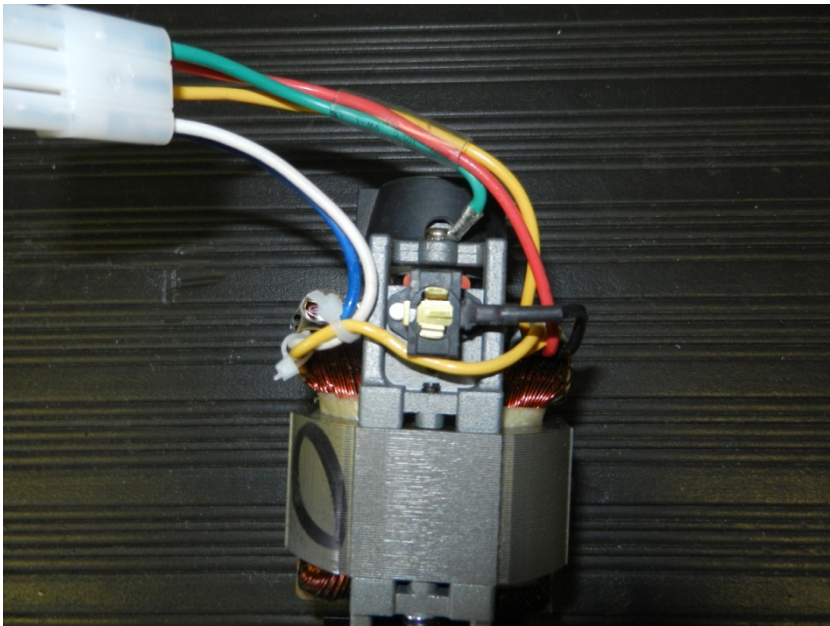
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### Changing the Motor Brushes

- With the motor removed press down on the metal tab of the motor lead centered beneath the metal retaining clips of the brush holder.
- Pull the motor brush and spring out and replace with new part.
- Repeat process for the other side of motor.
- To lock the brush into place, insert the brush and spring back into the brush holder until the metal clips are resting against the edge of the brush holder. Insert the metal tab from the motor lead into the same slot it was removed from until you feel resistance. Press down on the center tab of the motor lead and it will lock into the correct position.



**Figure 4:** Motor Brush Holder and Retaining Clip

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