Motor is wired incorrectly
Refer to the wiring diagram to verify the motor is wired correctly.

Motor damaged and rotor is striking stator
Rotate the motor’s shaft and feel for rubbing.

Power supply or line trouble
Check the source of power, overload, fuses, controls, etc..

Fuse or circuit breaker is tripped
Replace the fuse or reset the breaker.

Stator is shorted or went to ground (Motor will make a humming noise and the circuit breaker or fuse will trip)
Check for leaks through the coils. If leaks are found, the motor must be replaced.

Motor overloaded or jammed
Inspect to see that the load is free. Verify the amp draw of motor versus the nameplate rating.
### Troubleshooting Guide

#### 3. Motor runs but dies down
- **Load too high**
  - Verify that the load is not jammed. If the motor is a replacement, verify that the rating is the same as old motor. If the previous motor was a special design, a stock motor may not be able to duplicate the performance. Remove the load from the motor and inspect the amp draw of the motor unloaded. It should be less than the full load rating stamped on the nameplate (only true for three phase motors).

- **Ambient temperature too high**
  - Verify that the motor is getting enough air for proper cooling. Most motors are designed to run in an ambient temperature of or less than 40°C. (Note: A properly operating motor may be hot to the touch.)

- **Voltage drop**
  - If the voltage is less than 90% of the motor’s rating, contact your power company or check to see that another piece of equipment isn’t taking power away from the motor.

- **Load increased**
  - Verify that the load has not changed and the equipment has not gotten tighter. If it is a fan application, verify that the air flow hasn’t changed.

#### 4. Motor takes too long to accelerate
- **Defective capacitor**
  - Test the capacitor per previous instructions.

- **Bad bearings**
  - Noisy or rough feeling bearings should be replaced by the motor supplier.

- **Voltage too low**
  - Make sure the voltage is within 10% of the motor’s nameplate rating. If not, contact your power company or check if some other equipment is taking power away from the motor.

#### 5. Motor runs in the wrong direction
- **Incorrect wiring**
  - Rewire the motor according to the schematic provided.

#### 6. Motor overloaded / Thermal protector continuously drips
- **Load too high**
  - Verify that the load is not jammed. If the motor is a replacement, verify that the rating is the same as old motor. If the previous motor was a special design, a stock motor may not be able to duplicate the performance. Remove the load from the motor and inspect the amp draw of the motor unloaded. It should be less than the full load rating stamped on the nameplate (only true for three phase motors).

- **Ambient temperature too high**
  - Verify that the motor is getting enough air for proper cooling. Most motors are designed to run in an ambient temperature of or less than 40°C. (Note: A properly operating motor may be hot to the touch.)

#### 7. Motor overheating
- **Overload. Compare actual amps (measured) with nameplate rating**
  - Locate and remove the source of excessive friction in the motor or load. Reduce the load or replace the motor with one of greater capacity.

- **Single phasing (three phase only)**
  - Check the current at all phases. It should be approximately the same.

- **Improper ventilation**
  - Check external cooling fan to be sure air is moving properly through the cooling channels. If there is excessive dirt build-up, clean the motor.
<table>
<thead>
<tr>
<th>Issue</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unbalanced voltage (three phase only)</td>
<td>Check the voltage at all phases. It should be approximately the same.</td>
</tr>
<tr>
<td>Rotor rubbing on stator</td>
<td>Tighten the thru bolts.</td>
</tr>
<tr>
<td>Over voltage or under voltage</td>
<td>Check the input voltage at each phase of the motor to make sure the motor is running at voltage specified on the nameplate.</td>
</tr>
<tr>
<td>Open stator winding (three phase only)</td>
<td>Check the stator resistance at all three phases for balance.</td>
</tr>
<tr>
<td>Improper connections</td>
<td>Inspect all the electrical connections for proper termination, clearance, mechanical strength, and electrical continuity. Refer to the motor lead diagram.</td>
</tr>
<tr>
<td>Motor misaligned to load</td>
<td>Realign the load.</td>
</tr>
<tr>
<td>Load out of balance (direct drive application)</td>
<td>Remove the motor from load and inspect the motor by itself. Verify that the motor shaft is not bent.</td>
</tr>
<tr>
<td>Defective motor bearings</td>
<td>Test the motor by itself. If the bearings are bad, you will hear noises or feel roughness.</td>
</tr>
<tr>
<td>Load too light (single phase only)</td>
<td>Some vibration at a light load is standard. Consider switching to a smaller motor for excessive vibration.</td>
</tr>
<tr>
<td>Defective winding</td>
<td>Test the winding for shorted or open circuits. The amps may also be high. For defective winding, replace the motor.</td>
</tr>
<tr>
<td>High voltage</td>
<td>Check the power supply to make sure voltage is accurate.</td>
</tr>
<tr>
<td>Load to motor may be excessive or unbalanced</td>
<td>Check the motor load and inspect the drive belt tension to ensure it’s not too tight. An unbalanced load will also cause the bearings to fail.</td>
</tr>
<tr>
<td>High ambient temperatures</td>
<td>If the motor is used in an environment with high ambient temperatures, a different type of bearing grease may be required. You may need to consult the factory.</td>
</tr>
<tr>
<td>High motor temperatures</td>
<td>Check and compare the actual motor loads to the motor’s rated load capabilities.</td>
</tr>
<tr>
<td>Ambient temperature too high</td>
<td>Verify that the ambient temperature does not exceed the motor’s temperature rating (found on the nameplate)</td>
</tr>
<tr>
<td>Possible power surge to the motor (caused by a lightning strike or other high transient voltage)</td>
<td>If this is a common problem, install a surge protector.</td>
</tr>
</tbody>
</table>

If problems can’t be resolved with this chart, please contact your supplier for assistance.