

# StrikeMaster 40V Trouble-Shooting Guide

## Service manual with TECH notes

These tech details should be taken into account for both warranty and non-warranty situations.

This information is for authorized service centers with a good grasp of basic electrical, and auger knowledge. Repairs should only be made by qualified StrikeMaster Authorized service centers.

Most all repairs can be made using a T20 Torx bit, a 4 mm Allen bit, and an internal/external snap ring pliers. Use this in conjunction with the IPL and Labor guide provided. Please take note that while under warranty, certain repairs should not be made; rather, an entire TOOL ONLY should be purchased to replace the powerhead that has failed. These situations are noted by an **Asterisk (\*)** on the labor guide, in the 1<sup>st</sup> column. Therefore explanations for acceptable repairs are listed below.

This troubleshooting guide will help determine:

- 1) Is there a problem?
- 2) What is the problem?
- 3) Where is the problem?
- 4) How to resolve the problem.
- 5) Explanation of fix, tech info for problem/fix.

**Overview:** Integrated safety monitoring boards in the battery have safety features built in; if it senses any specifications to be out of acceptable parameters, it will not function. These specifications include temperature, Amps, voltage, current, etc.

### BATTERY – part# 211012180 40 volt 5 Amp hour

**Issue:** Won't charge or run the powerhead.

**Diagnosis:** Too cold.

**Solution:** Warm up, and charge battery.

Almost all battery issues can be related to the battery being too cold.

The battery's cells are very dense and take a long time to warm up. Therefore, the battery must be kept warm. It is highly recommended to fully charge the battery before every use.

- ❖ If battery is colder than 32°F, it will not charge. It could take up to 5 hours to warm up enough for it to begin the charging process (even when brought to room temperature).
- ❖ A charged battery can operate when the battery itself is as cold as -4°F. So, it could be -10°F with a wind chill of -25°F and the battery will operate, IF it's already charged and IF the battery itself is not colder than -4°F.

The powerhead itself has no temperature cut off. So, as long as the battery is charged and warmer than -4°F, it will operate the powerhead.

**Very rarely does the battery have an internal cell issue that requires a replacement battery. This would only be necessary if the display lights or the battery latch do not function properly.**

Batteries are factory-built, assembled, tested and sealed. Therefore, only complete assemblies are available for these parts. Repair and disassembly should not be attempted.

The battery is a sealed cell and construction unit; no repairs or disassembly of any type should be attempted. To repair a failure found with any function of a battery that is incorrect (not cold related), **replace battery.**

**Again, almost all battery issues can be related to the battery being too cold.**

### **CHARGER - part # 211012181 40 volt 2.2 Amp wall charger**

**Overview:** Integrated monitoring boards in the charger have safety features built in. If it senses any specifications to be out of acceptable parameters, it will not function. These specifications include temperature, Amps, voltage, current, etc.

The charger has two indication lights. These will light in various colors to inform you of the status of the charger and battery:

Red/Red	battery is charging
Red/Green	battery fully charged
Red/Orange	Battery not charging/battery too cold/battery too warm
Red/Clear	no battery detected
Red/Red-Flashing	charger senses a defective battery

The charger is a factory-built, tested and sealed unit. No repairs or disassembly of any type should be attempted. To repair a failure found with any function of the charger that is incorrect (not battery/cold related), **replace entire charger assembly.**

### **POWERHEAD –**

**Overview:** Integrated safety monitoring boards in the powerhead have safety features built in; if it senses any specifications to be out of acceptable parameters, it will not turn on or operate.

These parameters are monitored within the control board, which will allow unit to turn on and perform various functions, or not. These include temperature, Amps, voltage, current, etc.

The powerhead is programmed to have “internal resistance” that will “warm up” the powerhead to optimal operating temperature range if initially on the verge of being too cold to operate correctly (when started at or around negative 4 degrees).

The basic layout of the powerhead consists of a brushless electric motor, a planetary gear transmission, a molded handle, LED lights, a forward/reverse switch, a start/stop button switch with a dead man safety trigger lever switch, plastic housings, various wires to and from these components, and the main control board (PCB).

The functionality of each part is ran through the control board which interoperates all the signals and is ultimately the brain of the entire powerhead assembly.

All parts within the powerhead are tied to the control board. If any of these are out of the allowed range of function, the control board will shut power to motor off, until issue is addressed and or corrected.

Certain major components of the powerhead, such as the **motor (361011755)** and the **control board/PCB assy (311041755)** are **NOT** “serviceable” as these are factory built/assembled, tested and sealed. Therefore, only complete assemblies are available for these parts, and repair/disassembly should not be attempted.

Individual internal components for the transmission (311021755) are also not available and should not be disassembled in any fashion. An entire assembly of each part should be replaced instead; “repairs” should not be attempted, for these components.

There are other parts not available as individual components, because of the necessary steps which are required to assemble/install or connect these parts. They could be factory soldered/connected/routed or constructed in a manner that disassembly or repair of such parts is not possible and should not be attempted. These items, such as the Variable Speed Switch (3630117550) and the Rocker Switch (363021755) fall within this category. If either is determined to be at fault, replacement of the powerhead with a tool only should be made for warranty approved failures. If unit is a non-warranty, a main handle assembly (311011755) replacement should be made.

The majority of the failures seen are not mechanical like the motor or transmission-related, as these components are very strong and we have not seen these fail. In the rare case of a “failure”, the control board/PCB is sensing a fault or issue. This “failure” can be an incorrect fault inside the control board itself, causing this issue. Or, there may be a legitimate fault detected by the control board. If it is the control board sensing a fault that was not in error, be sure to check all other components for possible reasons. Follow the beep sequence to determine the cause.

Smaller items, like the LED lights or any plastic housing breakage are available and are easy to replace with replacement part, a T20 torx bit, and minimal labor time.

#### **Other troubleshooting info:**

Sometimes the auger unit will stop rotating during cutting ice; this will not always be accompanied by a beep sequence. When this happens, the auger should be checked first. The blades must be checked to see if they are mounted tight, via the blade bolts, as well as the condition of the blades. Also, the connection of the collar bolt to the output shaft of powerhead must be tight and connection solid.

Any of these “loose” connections can cause the powerhead to “trip” the current overload and shut off. This can also indicate the battery is too low on a charge to run. The battery will indicate this, showing the lowest battery level light being lit.

If the battery is warm and charged, the collar bolt is tight, and the blades are in good condition/tight, Refer to above **NO BEEP COUNT** situation/solution: Replace the control board.

After issue and appropriate correction is decided, next determine if it will be a warranty or non-warranty issue. Review warranty info below.

**Auger:**

A standard steel Lazer Power Drill (LPD) is used; therefore, a straight center shaft, the correct pitch, and sharp, clean, un-damaged blades are a necessity. If these three things are correct, the auger will cut properly and will not adversely affect the powerhead operation, or the battery life. Just like with any other power auger, the blade condition is important. Now, it's more critical than ever, as any excessive drag caused by dull/damaged blades will cause the "hole count" to drop significantly. Blades in poor condition can also cause a false powerhead beep sequence, like "1" or "13". Do not replace control board/PCB until blades have been replaced and unit tried again.

The auger should cut fast and smooth, and progress into the ice, with no added pressure.

**Stress of running the unit with poor blades can damage the auger, motor, transmission and other parts within the powerhead, none of which will be covered by warranty.**

If the blades are dull and/or damaged, the powerhead has to operate harder and longer than it was designed for. This could lead to premature powerhead and/or auger damage not covered by any warranty.

Please contact an authorized MASTER Service center for further diagnosis and repair when it comes to further diagnosis of the auger and pitch issues.

StrikeMaster has one Canadian Master Service Center that is qualified to repair pitch issues:

Bay Distributors. 119 Progress Court. North Bay On. P1A 0C1 1-800-461-9500  
email; [george@bwmarineproducts.com](mailto:george@bwmarineproducts.com)

Any warranty situation for powerhead, battery or charger is covered for 2 years against manufacture defects only, and only from date of purchase. If date of purchase cannot be determined, serial number (date of production) will be used.

Any repair or replacement does not extend or "renew" the 2 year warranty.

The 2 year time frame remains from original date of purchase.

Auger is covered for 1 year against manufacture defect.

Blades have no warranty for "longevity" against wear from use.