

**Applies to:**

Mercury scooters (before 09/03) (Product codes: M34 / M36 / M44 / M46 / M48)

Apollo scooters (before 09/03) (Product codes: AP001)

**Diagnostics**

Available in 70A and 110A versions.

When the keyswitch is turned on, the scooter will beep if a fault is detected. To indicate the fault, the controller will sound a number of beeps, then pause and sound another number of beeps. (e.g. for a low battery voltage the controller will sound once, pause, then sound 4 times).



BLEEP CODE	DESCRIPTION	EXPLANATION	POSSIBLE CAUSE
1 pause 1	THERMAL CUTBACK	over/under-temp. cutback	1. Temperature > 92 deg. C or <- 25 deg. C. 2. Excessive load on vehicle. 3. Operation in extreme environments. 4. Electromagnetic brake not releasing properly.
1 pause 2	THROTTLE FAULT 1	Pot high or pot low voltage out of range	1. Throttle input wire open or shorted. 2. Throttle pot defective. 3. Wrong throttle type selected.
1 pause 3	SPD LIMIT POT FAULT	Speed limit pot fault	1. Speed limit pot wire(s) open or shorted. 2. Broken speed limit pot.
1 pause 4	LOW BATTERY VOLTAGE	Battery voltage too low	1. Battery voltage < 17 volts. 2. Bad connection at battery or controller.
1 pause 5	OVERVOLTAGE	Battery voltage too high	1. Battery voltage > 36 volts. 2. Vehicle operating with charger attached. 3. Intermittent battery connection.
2 pause 1	MAIN OFF FAULT	Main cont. driver OFF fault	1. Main contactor driver failed open.
2 pause 2	MAIN CONT WELDED	Internal controller fault or Brake coil resistance above 200 ohms	1. Main contactor welded. 2. Main contactor driver fault. 3. Brake coil resistance too high.
2 pause 3	MAIN CONTACTOR DNC	Internal controller fault or Brake coil resistance above 200 ohms	1. Main contactor stuck open. 2. Main contactor driver fault. 3. Brake coil resistance too high.
2 pause 4	MAIN ON FAULT	Internal controller fault	1. Main contactor driver failed closed.
3 pause 1	PROCWIRING FAULT	HPD fault present > 10 sec.	1. Misadjusted throttle. 2. Broken throttle pot or throttle mechanism.
3 pause 2	BRAKE ON FAULT	Brake on fault	1. Electromagnetic brake driver shorted. 2. Electromagnetic brake coil open.
3 pause 3	PRECHARGE FAULT	Precharge fault	1. Controller failure; or 2. Low battery voltage.
3 pause 4	BRAKE OFF FAULT	Brake off fault	1. Electromagnetic brake driver open. 2. Electromagnetic brake coil shorted.
3 pause 5	HPD	HPD fault	1. Improper sequence of throttle and KSI, push, or inhibit inputs. 2. Misadjusted throttle pot.
4 pause 1	CURRENT SENSE FAULT	Current sense voltage fault	1. Short in motor or in motor wiring. 2. Controller failure.
4 pause 2	HW FAILSAFE	Motor voltage fault	1. Motor voltage does not correspond to throttle request. 2. Short in motor or in motor wiring, or 3. Controller failure.
4 pause 3	EEPROM FAULT	Internal Controller Fault	1. EEPROM failure or fault.
4 pause 4	POWER SECTION FAULT	Output section fault	1. EEPROM failure or fault, or 2. Short in motor or wiring. 3. Controller failure.

