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## INSTRUCTIONS

### IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including the following:

1. **READ AND FOLLOW ALL SAFETY INSTRUCTIONS**
2. Disconnect power before performing work on electrical equipment.
3. Do not use outdoors.
4. Do not let power cords touch hot surfaces and do not mount near gas or electric heaters.
5. Use caution when servicing batteries. Battery acid can cause burns to skin and eyes. If acid is spilled on skin or eyes, flush with fresh water and contact a physician immediately.
6. Equipment should be mounted in locations and at heights where unauthorized personnel will not readily subject it to tampering.
7. The use of accessory equipment not recommended by Beghelli USA may cause an unsafe condition, and will void the unit's warranty.
8. Do not use this equipment for other than its intended purpose.
9. Servicing of this equipment should be performed by qualified service personnel.
10. **SAVE THESE INSTRUCTIONS!**

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### INTRODUCTION

After unit is properly installed according to Installation Instruction Sheet and with AC power supplied, the exit sign will be ON, the dual colour LED indicator will be green, and the self-diagnostic test function will automatically initiate. The dual colour indicator points out the current unit status. The green colour indicates the normal service/ green blinking indicates testing. The red colour indicates the service alert, please refer to Diagnostic Display for detail. The green/red flash indicates the unit under charging. The indicator will be off at emergency mode.

### SELF-DIAGNOSTIC SERVICE








The self-diagnostic function is factory pre-set. Any field adjustments are not required. The automatic self-diagnostic performs the following tests:

- i) 5 minutes discharge and self-testing every 30 days; after AC power is applied
- ii) 30 minutes discharge and self-testing every 6 months; after AC power is applied
- iii) 90 minutes discharge and self-testing every 12 months, after AC power is applied

At all times the following are being monitored: Battery disconnection, LED failure, battery charging operation and the battery failure.

### DIAGNOSTIC DISPLAY

The Auto-Test Self-Diagnostics provides a visual indication of unit status via a multi-coloured LED. The LED may indicate just one or any combination of various conditions as follows:

	Steady Green:	Normal operation
	Flashing Green:	Testing under way
	Flashing Red/Green:	High Charging
	Steady Red:	Battery Disconnected
	Flashing Red:	Battery Test Failure
	Red Double Blink:	Battery Charging Failure
	Red Three Blink:	LED Failure

### MANUAL TESTING

The unit also provides manual testing by pressing the test button as follows. The testing can be stopped by pushing the button during the manual testing.

1. **LED failure test:** Press **TEST** button **once** (lasting between 3 sec. and 5 sec.)
  - The **RED** light "triple blinks" once after the release of button, to acknowledge that this manual test was performed
  - If LED failure was detected **RED** light will triple blink continuously after the release of button to display LED failure alarm condition

- If **TEST** button is pressed less than 3 sec. pressing will be ignored
  - If **TEST** button stays pressed more than 5 sec. **RED** light will start displaying “triple blinks” continuously as long as button is pressed to warn of the button being pressed for too long or “stuck” button
  - **This test is always allowed**
2. **30 sec. test:** Press **TEST** button **two times** (within 3 sec.)
    - The **GREEN** light will start flashing after 3 sec. and continue flashing during the remaining of the 30 sec. test.
    - If two presses of **TEST** button are not completed within 3 sec., this manual test will be ignored
    - If **TEST** button stays pressed more than 5 sec. **RED** light will start displaying “triple blinks” continuously as long as button is pressed to warn of the button being pressed for too long or “stuck” button
    - **This test is always allowed**
  3. **15 min. test:** Press **TEST** button **three times** (within 3 sec.)
    - The **GREEN** light will start “double blinks” after 3 sec. and continue “double blinks” during the remaining of the 15 min. test. **If the GREEN light starts “double blinks” only once, this is to acknowledge that the command is received. However, the test may NOT be performed because an AC power failure, Auto-Test (30 or 90 mins), manual test (15 or 90 mins) has occurred in the past 24 hours.**
    - If three presses of **TEST** button are not completed within 3 sec., this manual test will be ignored or 30sec. test will be performed
    - If **TEST** button stays pressed more than 5 sec. **RED** light will start displaying “triple blinks” continuously as long as button is pressed to warn of the button being pressed for too long or “stuck” button
  4. **90min. test:** Press **TEST** button **four times** (within 3 sec.)
    - The **GREEN** light will start “triple blinks” after 3 sec. and continue “triple blinks” during the remaining of the 90 min. test. **If the GREEN light starts “triple blinks” only once, this is to acknowledge that the command is received. However, the test may NOT be performed because an AC power failure, auto-test (30 or 90 mins), manual test (15 or 90 mins) has occurred in the past 24 hours.**
    - If four presses of **TEST** button are not completed within 3 sec., this manual test will be ignored or 30 sec. test/15 min. test will be performed
    - If **TEST** button stays pressed more than 5 sec. **RED** light will start displaying “triple blinks” continuously as long as button is pressed to warn of the button being pressed for too long or “stuck” button

Manual test can be stopped/aborted at any time by pushing **TEST** button **once** (lasting > 5sec.), during the manual testing.

Note: MANUAL Test Modes of NiCd Charger Unit could be initiated only if any periodical Auto-Test is not under way. Otherwise pushing **TEST** button will be ignored.

**If the battery fails on any of the above tests, an alarm signal of “Flashing Red” LED will be activated and displayed at all time until the LED board is reset.**

If the diagnostic LED indicator does not light or the board malfunctions, resetting the LED board might clear all errors.

**To reset the LED board:**

- 1) Disconnect the battery and then disconnect the AC power
- 2) Wait for 10 seconds, first reconnect the battery to the board and then resume AC power

After exiting from MANUAL Test Mode a 24h counter will be started to prevent any new AUTO/MANUAL test execution before 24h of battery charging is performed or before battery is fully charged, whichever comes first, **with the exception of 5 min Auto-Test, 30 sec. manual test and LED failure test.** However, any new emergency operation will be entered promptly, regardless of battery voltage level, with one exception; when battery voltage is <4V (that is BATTERY FAILURE ALARM).

#### **WARNING**

- 1) Make sure that power is off before making any electrical connections!!!
- 2) Unused wires must be capped using enclosed wire nuts!