

RESTRICTIONS

Not for Exploding Bridgewire (EBW) Detonators, Exploding Foil Detonators, or Electronic Detonators

- 1) **ONLY USE** on commercially manufactured EBCs, which you have verified, follow I.M.E. guidelines, or have a minimum ignition current greater than 170 mA.
- 2) **NEVER** press the fire button while live charges are connected without the intent to detonate
- 3) **DO NOT USE** in the presence of an explosive or flammable atmosphere, this unit is not certified by MSHA to operate in such conditions
- 4) **DO NOT USE** if you are unfamiliar or not licensed to work with explosives
- 5) **DO NOT USE** on electronic (RF controlled, digitally secure, etc.) detonators - the continuity tester has not been tested for this application.
- 6) **DO NOT TEST** homemade, hobby, or improvised EBCs - as there is no telling what the no-fire current may be
- 7) **DO NOT USE** while under the influence of alcohol, drugs, or fatigue
- 8) **DO NOT USE** on energized circuits, or connect to any source of power- damage to the BB-75 and/or unintended detonation may occur
- 9) **DO NOT USE** on electrically fired explosive devices under any of the following conditions:
 - a. In any way not described in these instructions
 - b. During electrical storms (lightning)
 - c. In close proximity to high voltage power lines or electrical cables
 - d. In close proximity to operational two-way radios
 - e. In the presence of static electricity
 - f. Near any source of open flame or EMI producing devices
 - g. In a highly humid or wet environment - the BB-75 produces high voltage that may travel through moisture and cause injury
 - h. in any manner that may be deemed irresponsible when compared with standard explosives procedures
- 10) **DO NOT USE** if dropped over 5 feet, or if the case shows any signs of physical damage. If your BB-75 is damaged, contact BlasterONE for repair instructions before using.
- 11) **DO NOT SUBMERGE** in any liquid, allow to freeze, or store in direct sunlight/high heat for extended periods of time - permanent damage to machine may occur that may not be covered under warranty
- 12) **DO FOLLOW** complete instructions at every use

TECHNICAL SPECS – verified at 75° F

- 1) Energy: average 10.49 joules at 325 VDC (Max: 11.02 joules @ 332 VDC; Min: 9.86 joules @ 314 VDC)
- 2) Battery life: average 60 charge/fire cycles (depends on battery brand and operating temperature)
- 3) Testing current: average 0.800 mA (limited by regulated power supply and protected with safety fuse)
- 4) Testing sensitivity: exceeds 1500 ohms
- 5) Capacitor life: 5000 charge/fire cycles when operated and stored at 75° F (dramatically reduced at temps over 100° F)
- 6) Blasting circuit temp range: 30° to 125° F
- 7) Testing circuit temp range 10° to 125° F

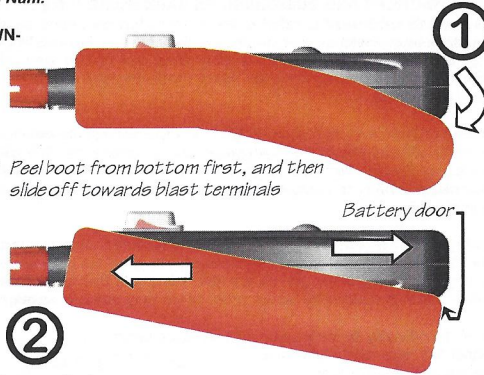
CARE, STORAGE, AND MAINTENANCE

- 1) Clean exterior using a dry or barely moistened cotton cloth - do not submerge, or use solvents or abrasives
- 2) Rubber boot may be removed and washed with mild soap and rinsed, allow to dry completely before reattaching (see "Removing Rubber Boot" on page 5)
- 3) Clean dirty test contacts by gently polishing with a soft cloth
- 4) If mud, dirt, or debris gets into blasting contacts, clean with a cotton swab, wooden toothpick or compressed air - usually easier to accomplish once dirt has dried
- 5) Do not store in direct sunlight, or freezing temps - for optimal life operate and store between 32° and 105° F (battery may temporarily fail at freezing temperatures and protective boots will become stiff. Capacitor life will be quickly shortened at temps exceeding 150° F)
- 6) Do not store uncovered device with conductive objects, battery may be drained if conductive object shorts testing contacts.
- 7) Store unit for extended periods of time with battery removed, and always use a fresh battery

BATTERIES, AND REMOVING RUBBER BOOT

Access Battery, Quick Ref., and Serial Num.

- 1) **ONLY USE NAME-BRAND, KNOWN-GOOD 9-VOLT BATTERY.**
 - a. Recommended batteries are: **Energizer Industrial; Energizer Max; or Duracell Coppertop**
 - b. Rechargeable, High Capacity NiMH batteries may also work
 - c. Lesser batteries, or expired batteries may not work at all.
- 2) When changing 9-Volt Battery, do not pull on leads
- 3) Peel rubber boot from bottom as shown
- 4) Remove rubber boot by forward sliding over top as shown
- 5) Reinstall boot by first sliding over blast terminals and then pulling over bottom
- 6) **Trying to peel rubber boot over blast terminals first may cause thin section of boot to tear**



90-DAY LIMITED REPLACEMENT WARRANTY

A free replacement warranty is offered against manufacturer's defects. This warranty does not apply to loss, or damage due to misuse, abuse, or physical damage, and does not cover the cost of shipping and handling or accessories. Original product must be returned to determine warranty coverage. BlasterONE shall not be held liable for any damages, injuries, or other consequences caused by improper use of this product. This warranty is in effect for 90 Days from the original date of purchase, provided you have registered this product.

Certain components may be repairable through BlasterONE if damaged outside of this warranty; parts, labor, and shipping fees apply.

Visit www.BlasterOne.com for more details.

IMPORTANT: TO ACTIVATE YOUR WARRANTY YOU MUST REGISTER YOUR BB-75 BY REGISTERING ONLINE AT WWW.BLASTERONE.COM WITHIN 30 DAYS OF PURCHASE.

BlasterONE EOD Equipment Inc.
PO Box 2395
Tempe, AZ • 85280-2395
www.BlasterOne.com

ALSO FROM BLASTER ONE



BCT-4 Haptic Bridgewire Tester DG-2plus Digital Blasters' Ohmmeter DCT-80 Combo Machine SC1 1-Channel & MC5 5-Channel Kits



BB-75

Capacitive Discharge Blasting Machine w/ Integral Haptic Continuity Tester

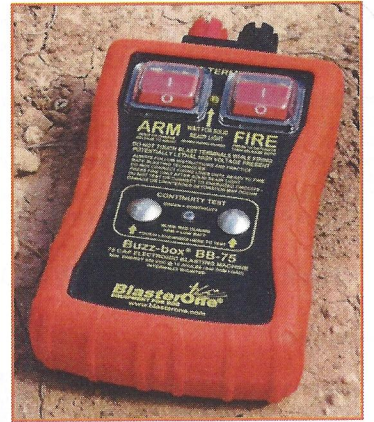
- EOD/IEDD • Demolition • Blasting
- Special Effects • Pyrotechnics • Fireworks

Thank you for your purchase! We know you have a choice, and appreciate that you chose BlasterONE.

The **BB-75** is a compact, high-energy, capacitive-discharge blasting machine capable of initiating a minimum firing line continuity is testable through the integrated haptic (tactile feedback) circuit tester with redundant LED. Intrinsic safeties include automatic abort, internal shunt, boot-protected switches, touch-proof output terminals with downward facing inputs, and fuse protected testing circuit.

FEATURES & SPECS

- Manufactured in the USA
- 8.5 joules @ 335 VDC average firing energy
 - ✓ capable of firing a minimum of 75 EBCs connected via 3000' of two-conductor 18 ga. copper firing line (tested through 340 ohms)
 - ✓ Uses standard 9-Volt battery
- Built-in bridgewire testing circuit
 - ✓ less than 800 µA (micro amps) maximum current draw, barely 1/60th the maximum allowable safe testing current of 50 mA, as established by MSHA.
 - ✓ testing circuit protected by 50mA fuse
 - ✓ the ONLY blasting box featuring a built-in haptic (tactile feedback) BCT-style bridgewire continuity tester
 - ✓ strong vibrating response provides positive indication, even in direct sunlight and noisy environments
 - ✓ Bi-Color LED visually confirms continuity and indicates a low-battery
- Small and lightweight
 - ✓ 3.5" wide x 6.5" long x 1.2" thick; 11.5 ounces (8.9 cm x 16.5 cm x 3 cm; 326g)
- Easy to use
 - ✓ connect firing line to high-voltage binding posts
 - ✓ hold down ARM switch to charge blasting circuit
 - ✓ once the Super-Bright "Ready" LED lights solid (flashes during charge), press FIRE button to send high-energy pulse down firing line
- Intrinsically safe design
 - ✓ Internally shunted output terminals help protect EBCs from stray EMI - remain shunted until instant of firing
 - ✓ auto abort discharges the capacitor upon release of ARM button (prior to firing)
 - ✓ bridgewire testing circuit current is less than 1 mA (795 microamps average)
 - ✓ fuse protected testing circuit cannot provide more than 50 mA (serial numbers 100+)
 - ✓ touch-proof output terminals with downward facing inputs reduce risk of shock
- Rugged enclosure
 - ✓ black ABS case with bright-red/orange rubber boot and sealed switches
 - ✓ shock and weather resistant (not designed for wet use due to high-voltage output)



INSTRUCTIONS & TECHNICAL INFORMATION

Rev 3.0 – visit www.BlastOne.com for updates

IMPORTANT: READ AND FOLLOW COMPLETE INSTRUCTIONS BEFORE USE, then connect 9-volt battery (see “Removing Rubber Boot” on page 5). This device is intended to detonate electrically initiated explosives when they are connected to the blast terminals. Always follow safe blasting techniques and never connect firing lines to blast terminals until the blasting area is safe, and you are ready to detonate.

It is unlawful to operate the BB-75 in any way other than defined in these instructions. Doing so indemnifies the manufacturer, voids the warranty, may cause damage, and/or serious injury or death.

NEVER PRESS FIRE WITHOUT INTENT TO DETONATE

OVERVIEW



CONTINUITY TEST - Quick Reference on back of BB-75

READ RESTRICTIONS AND GUIDELINES ON BACK (PAGE 4) FIRST. The internal haptic continuity tester is precisely engineered to safely indicate a complete bridgewire circuit in commercial electrically-fired initiators, detonators, matches, and pyrotechnic devices manufactured following I.M.E. guidelines. This tester operates independently from the blasting circuit, and can be used safely even when unloaded lead lines are connected to blasting terminals (never connect loaded lead lines or firing lines to blasting terminals until ready to fire shot).

The Institute of Makers of Explosives (I.M.E.) recommends that the minimum ignition current of an electric detonator manufactured by its member companies be not less than 250 mA. The lowest ignition current documented by the U.S. Bureau of Mines was 170 mA (USBM Contract #H0210068).

It is your responsibility to verify that the device you are about to test complies with this standard before you begin.

The testing circuit is sensitive - only touch bare leadwire ends to contacts. A false positive may be indicated if you touch your fingers to the contacts, or to the bare leadwires, while testing - particularly if your fingers or gloves are wet. Also note that broken wire ends in close proximity to each other and surrounded by water, mud, or ice may conduct enough to show as good.

- 1) Verify functionality by testing with a known good conductor (paper clip, wire, etc.) - hold for a few seconds if necessary.
- 2) Ground yourself to discharge any static electrical current before handling any EBC (electric blasting cap)
- 3) Unshunt and unfold the leadwires of the EBC to be tested (ends should already be stripped)
- 4) Place the EBC as far away from you as the leadwires will permit
- 5) Where practical, place EBC under a sandbag, in the ground, or otherwise orient it so that an accidental detonation would be deflected away from you
- 6) Touch one leadwire to one **TEST CONTACT**, and the other leadwire to the other **TEST CONTACT**
- 7) If the two wires form a complete circuit, the BB-75 will vibrate, and the **TEST LED** will light solid (color of LED is not important) - these indicate the bridgewire of the EBC has electrical continuity
- 8) If the EBC is questionable (no vibration or LED), dispose of it according to its MSDS - otherwise;
- 9) Immediately re-shunt the leadwires of the EBC, or connect it to a shunted system
- 10) Test individual EBCs before connecting in parallel, otherwise any good bridgewire in the group will produce a positive test result even if some are bad.
- 11) Test completed compound devices (EBC plus primary charge, etc.) from a safe distance only.

Test EBC by touching leads to test contacts (EBC should be a safe distance away during test)



VERIFICATION OF SAFE TESTING CURRENT

Performed at 75° F

Each BB-75 continuity testing circuit is verified to operate well below the 50 mA testing limit.

- 1) Use a multi-meter (not included) capable of testing at least 1mA, turn on and set to mA mode
- 2) Touch one test probe to one **TEST CONTACT** and the other test probe to the other **TEST CONTACT**
- 3) The BB-75 will vibrate, the **TEST LED** will light solid, and the multi-meter will display the current draw - the reading should be below 1mA (0.75 mA average)
- 4) The current is limited electrically by the power regulator for this circuit, and physically, by an inline 50mA micro-fuse.

BLASTING - Quick Reference on back of BB-75

READ RESTRICTIONS AND GUIDELINES ON BACK (PAGE 4) FIRST. The internal blasting circuit utilizes electronic capacitive discharge technology to produce an extremely high voltage discharge from a lightweight, compact design. The average output is 10.49 joules @ 325 VDC, enough to cause serious injury or death if you touch the output terminals during firing. Touch-proof blasting terminals with downward facing wire inputs help to prevent touching. **DO NOT touch, or cause another living being to touch blasting terminals or bare lead wires during firing.** The output energy created by the BB-75 is enough to detonate more than 150 EBCs wired in parallel (340 ohms test load, including firing line load).

For safety, the blasting terminals are internally shunted when the FIRE switch is in its normal position. The circuit does not unshunt until the exact moment the FIRE switch is pressed. There is also an Auto Abort feature that instantly drains the capacitor internally when the ARM switch is released to its normal position PRIOR to pressing the FIRE switch. If the ARM switch is not pressed, pressing the FIRE switch will do nothing except unshunt the blasting circuit. The switches are protected from weather, and accidental activation by a clear boot. Firm pressure towards the top of the boot is required to operate the rocker switches.

- 2) For optimum performance always use a fresh 9-volt battery (see “Batteries...” on page 5)
- 3) Do not connect lead wires to **BLAST TERMINALS** until ready to detonate
 - a. make certain you and all personnel are a safe distance outside the blast radius
 - b. follow safe protocol for announcing your intention to detonate an explosive and clear the area
- 4) When, and only when ready to detonate, connect the firing lines to the **BLAST TERMINALS**
 - a. firing line leadwires feed into terminal block from underneath
 - b. leadwire ends should be stripped a minimum of 1/2" - use knob as gauge
 - c. unscrew both knobs counterclockwise all the way
 - d. insert one firing line lead into each terminal and tighten knobs clockwise finger tight - leads can be grouped in series or parallel
- 5) Press and hold **ARM** switch
 - a. to abort, release **ARM** switch before pressing **FIRE** switch
 - b. **Press the top of the switch firmly to overcome resistance of safety boot - this is deliberate** (see thumb position in illustration)
- 6) During the charge cycle the **READY LED** will:
 - a. slow flash while charging; then
 - b. light solid (may appear as very fast flash) once fully charged and ready to fire; or
 - c. if the **READY LED** does not stop flashing and the **TEST LED** is also flashing, replace the battery
- 7) Once **READY LED** is solidly lit (less than 5 seconds with a new battery), press **FIRE** switch to detonate
 - a. **note: press the top of the switch firmly to overcome resistance of safety boot - this is deliberate** (see thumb position in illustration)
 - b. if detonation does not occur, immediately repeat once from step 3 (providing your protocol allows for this)
 - c. if detonation still does not occur follow your safety protocol to handle a failed detonation
 - d. it is your responsibility to account for all explosives connected to the firing line
- 8) Release both switches

