

SonoBlaster![®]

Work Zone Intrusion Alarm

Operation Manual

Model SBII



A New Concept in Work Zone Intrusion Protection

The SonoBlaster![®] Work Zone Intrusion Alarm is an impact activated safety alarm that alerts both roadway workers and errant vehicle drivers at the same time to help reduce crashes and injuries in our nation's highway work zones.

The SonoBlaster mounts on standard work zone barricades such as traffic cones, drums, and delineators. Upon impact by an errant vehicle, the SonoBlaster's built-in CO₂-powered horn blasts at 125 decibels (dB) to signal workers that their protective zone has been violated allowing them critical reaction time to move out of harm's way.

The SonoBlaster's loud alarm sound can also alert distracted or drowsing drivers allowing them to steer out of the work zone or brake prior to reaching workers or construction equipment, addressing a major cause of work zone crashes.

Warranty

The following warranty is made in lieu of all other warranties, either expressed or implied. This product is manufactured of selected materials by skilled technicians. Neither seller nor manufacturer has any knowledge or control concerning the purchaser's use of either product and no warranty is made as to the results of any use. The only obligation of either seller or manufacturer shall be to replace any quantity of this product that proves to be defective. Neither seller nor manufacturer assumes any liability for injury, loss or damage resulting from the use of this product.

SonoBlaster![®] is protected by Patents 6,075,450 & 6,357,382

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SonoBlaster![®]

FHWA NCHRP-350 Accepted
Category II Safety Device
HSA-10 / WZ-131

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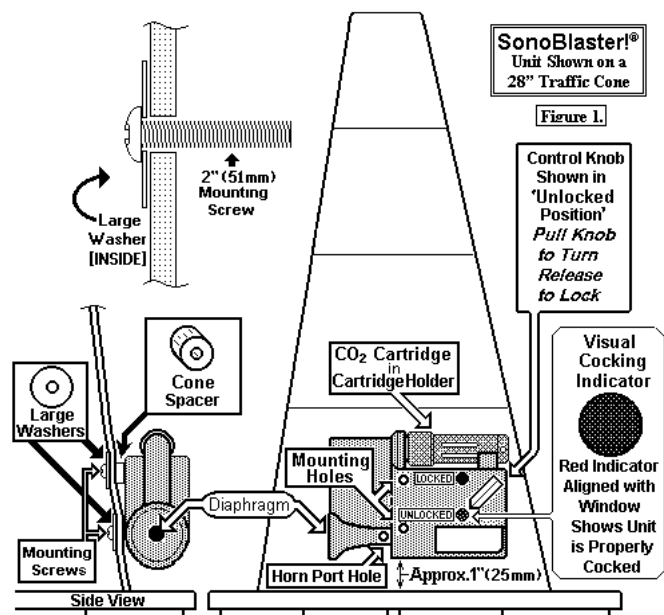


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SonoBlaster!® Mounting Instructions – Standard 28" Traffic Cone:

→IMPORTANT – Do Not Over-Tighten Mounting Hardware ←

1. Use the CARTRIDGE HOLDER to space the bottom of the SonoBlaster unit approximately 1 inch (25 mm) above the base of the traffic cone.
2. Align the SonoBlaster vertically on the cone. Mark upper mounting hole location through the unit's upper MOUNTING HOLE. Drill 1/4" upper hole.
3. Attach the device to the cone inserting one of the 2"x 1/4" MOUNTING SCREWS provided through from the inside of the cone using a LARGE WASHER on the inside of the cone. Install the CONE SPACER on the SCREW. Insert the SCREW into the SonoBlaster's upper MOUNTING HOLE as shown in Fig. 1 below.
4. Hang the device from the top MOUNTING SCREW and align the device vertically. Tighten the upper SCREW firmly but not completely tight.
5. With the device in proper vertical alignment, mark the lower hole through the SonoBlaster. Rotate the SonoBlaster 180° to allow access to drill the lower MOUNTING HOLE. Hold the SonoBlaster in vertical alignment while drilling.
6. Return the unit to its proper vertical position. Insert the lower MOUNTING SCREW thru from inside the cone with a LARGE WASHER. Tighten both MOUNTING SCREWS firmly. Do not over tighten.



Caution:

The SonoBlaster can produce sound in excess of 125 dB. Hearing protection meeting minimum NRR 33 must be worn while activating or handling an activated unit.

SonoBlaster!® Specifications

Technical Specifications:

- Unit Weight_[Without Cartridge]____1.5 lbs. (0.66 kg)
- Alarm Duration_____5 to 15 Seconds
- Sound Level in Decibels_[Peak]____125 dB (Measured at 6 feet)
- CO₂ Cartridge_____16 g Approved (.13 lbs. / 60 g)
- Unit Operating Temperature Range_0° to +110° F (-18° TO +43° C)
- Cartridge Temperature Range _____-22° to +120° F (-30° TO +49° C)
- Angle of Tilt to Actuate Unit _____70° to 90° from Vertical

Specifications are approximate and are determined at 60° F (16°C). Specifications at other temperatures and conditions will vary. Specifications Subject to Change Without Notice.

SonoBlaster!® Troubleshooting

Allow recently fired SonoBlaster units to warm-up 10 to 30 minutes after use prior to retesting.

Unit Can't be Cocked

- Make sure the CONTROL KNOB is in the UNLOCKED POSITION. Try again. [*Pull Knob Out to Turn – Release to Lock Knob in Place*]
- Check unit for damage or blockage—replace unit if not in perfect condition.

Unit Won't Test Fire

- Make sure the unit has been properly cocked. Insert the COCKING ROD into the COCKING ROD HOLE to re-cock the unit. Check the VISUAL COCKING INDICATOR.
- Inspect the unit for damage. If damaged, discard and use another unit.

Poor Sound Quality

- Make sure the HORN OPENING AND HORN PORT HOLES are not blocked.
- Check that SonoBlaster Approved cartridges are being used.
- Make sure that cartridges are fully inserted and cartridge holder is tight.
- Allow unit to warm-up 10 to 30 minutes after use before retesting.

Impacted SonoBlaster!® Units

SonoBlaster units involved in any vehicle impact or crash are NOT TO BE REUSED for worker protection and must be destroyed and replaced with a new unit.

SonoBlaster!® Fitness for Use

- Purchasers and users of this device shall each determine on their own, the fitness and suitability of this device for their particular use or application. Neither the seller, distributor, manufacturer, nor licensor of this device make any claim regarding its suitability or fitness for use in any particular application.
- The use of multiple SonoBlaster units in the same area is recommended to provide the maximum possible level of work zone safety protection.

5.

→ **Wear Personal Hearing Protection !!!** ←

SonoBlaster!® Care and Maintenance

- The SonoBlaster is a precision instrument. Handle with care at all times.
- Keep the unit clean and store in a protected environment. Do not store with objects that could penetrate the horn, damage the diaphragm, or harm the unit.
- Keep a cartridge installed on the unit at all times to keep dirt out of the unit.
- Keep unit out of mud and freezing rain.
- Make sure the **HORN OPENING AND HORN PORT HOLES** are not blocked.
- The unit is lubricated for life. Do not disassemble or attempt maintenance.
- Do not leave units unattended where they can be tampered with.
- Use only **SONOBLASTER APPROVED** 16-gram unthreaded CO₂ Cartridges.

Temperature Equalization

Upon firing, the SonoBlaster becomes extremely cold, due to the internal high-pressure discharge from the unit's CO₂ Cartridge. This is a normal condition. After firing, allow the unit to completely adjust to ambient temperature conditions by letting it rest for 10 to 30 minutes prior to re-use.

Moisture

Moisture must not be allowed to collect inside the unit. It can be blown out by firing the unit with a live cartridge. If there is any question about the condition of the unit or its ability to operate properly, test fire the unit with a live cartridge to confirm proper operation. **Wear Hearing Protection** (See 'Test Firing' – Page 3)

CO₂ Cartridge Safe Handling

- CO₂ cartridges can become extremely cold after discharging. Wear gloves or allow discharged cartridges to warm-up prior to handling.
- Do not use cartridges that have become rusted, dented, damaged, dirty, mis-fired, or have been abused in any way.
- Store CO₂ cartridges safely in a cool, dry, protected environment. Keep out of direct sunlight.
- Do not store cartridges in areas subject to high temperature extremes. Do not store in vehicles or closed containers that can become extremely warm, i.e., vehicle dashboards, toolboxes left in the sun.
- Use only new, clean, SonoBlaster Certified CO₂ cartridges.

Sound Muffling

The sound of a discharging SonoBlaster can be safely muffled, as needed, by cupping a gloved hand over the end of the unit to prevent excessive noise from affecting nearby personnel during a test firing or an unplanned unit activation.

Ear protection should be worn while muffling the horn.

SonoBlaster!® Operating Procedures

2.

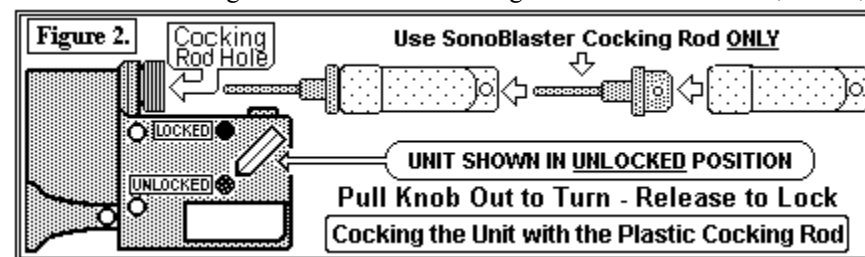
Visual Inspection → Make sure all components are in proper working order.

1. Examine the **DIAPHRAGM** looking into the **HORN** to assure it is clean and not damaged and the **HORN OPENING** and **HORN PORT HOLES** are unobstructed.
2. Check that the **CO₂ CARTRIDGE INSERTION HOLE** is clean and unobstructed. Do not use the unit if any doubt about its condition or ability to operate properly.

Cocking the Unit → Use Only the Plastic SonoBlaster Cocking Rod

Provided – Using another object to cock the unit can cause severe damage and operating failure. **Do not attempt to cock the unit in 'Locked Position'.**

3. Make sure the unit is standing in a vertical position as shown in Fig. 1.
4. Remove the CO₂ Cartridge Holder and Cartridge from the SonoBlaster unit.
5. **Rotate the CONTROL KNOB to UNLOCKED POSITION.** Pull Knob Out to Turn.
6. Make sure the SonoBlaster Plastic Cocking Rod is CLEAN and undamaged.
7. Place the Cartridge Holder onto the Cocking Rod to create a Handle (See Below).



8. Insert the Cocking Rod into the Cocking Rod Hole.
9. Push the Cocking Rod in firmly until it clicks, cocking the firing mechanism.
10. Rotate the Control Knob to **LOCKED POSITION**. [Pull Knob Out to Turn]

Testing the Unit Without a CO₂ Power Cartridge Installed

11. Before inserting CO₂ cartridge, test fire with empty **CARTRIDGE HOLDER** in place. Rotate **CONTROL KNOB** to **UNLOCKED POSITION**. Tilt unit 90° to fire. (If it fails to fire, do not use the unit. See Troubleshooting.)
12. After test firing, Repeat Cocking Steps to **Re-Cock** the firing mechanism.
13. **TURN CONTROL KNOB to LOCKED POSITION** deactivating the firing mechanism. (See Figure 1.) [Pull Knob Out to Turn – Release to Lock Knob in Place]
14. **VISUAL COCKING INDICATOR:** Red Indicator shows that its properly cocked.

Installing the CO₂ Cartridge **Hearing Protection Must Be Worn**

With the unit **Cocked** and the **CONTROL KNOB** in **LOCKED POSITION**:

15. Make sure the CO₂ cartridge end and Cartridge Holder are completely clean.
16. Insert a new SonoBlaster Approved 16-gram CO₂ Cartridge in the Cartridge Holder. (Note: Threaded CO₂ cartridges will not function in the SonoBlaster)
17. Screw the CO₂ Cartridge Holder onto the unit. Make sure the threads are aligned - Do not force - Hand tighten firmly without over-tightening.

→ **The unit is now ready to operate upon rotating the**

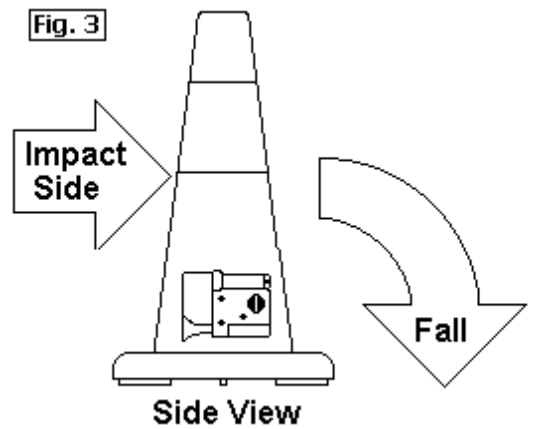
CONTROL KNOB to UNLOCKED POSITION [Pull Knob Out to Turn]

Keep the CONTROL KNOB in LOCKED POSITION until unit has been placed in the desired operating location and is securely in a stable upright position.

Deploying the SonoBlaster!®

- With Personal Hearing Protection In Place -

1. Place the SonoBlaster in a vertical position on a flat, **level** surface such as a paved or stable unpaved roadway or shoulder surface. Do not place on unstable dirt, gravel, rocks or snow that could allow the unit to tilt and cause an unwanted activation.
2. Align the unit on the roadway with the SonoBlaster unit facing **away** from oncoming traffic lane (as shown Figure 3 below.) Position units so that the cone will cushion the impact and the device will fall forward as pictured.



3. With the unit in a stable, stationary, vertical position, turn the CONTROL KNOB to UNLOCKED POSITION without tilting or jarring the unit. [Pull Knob Out to Turn]

→ The unit is now **ARMED** ←
and will **ACTIVATE** upon **TILT** or **IMPACT**

Test Firing

IMPORTANT → IF THERE IS ANY QUESTION ABOUT THE CONDITION OF THE UNIT OR ITS ABILITY TO OPERATE PROPERLY, **TEST FIRE** THE UNIT SAFELY AWAY FROM OTHERS (**WEARING HEARING PROTECTION**) USING A LIVE CO₂ CARTRIDGE TO CONFIRM PROPER OPERATION.

CAUTION:

Placing the unit on hot, freshly paved asphalt may exceed the operating temperature range of the unit causing cartridge overheating and unit failure.

Multiple Units – Using multiple SonoBlasters in the same area is recommended to provide the maximum possible level of work zone safety protection.

Windy Area Operation – Attach readily available cone weights prior to mounting SonoBlaster units on cones. As an option, double cones may be used to provide addition weight for stability.

Double-Checking the Readiness of SonoBlaster!®

- With Personal Hearing Protection In Place -

CO₂ Cartridge

- It takes less than 30-seconds to remove, check, and replace a CO₂ cartridge to make sure that the cartridge is new and has not been discharged.
- Making sure that cartridges are unused and securely fastened in place can help prevent injuries and save lives.

Cocking Indicator

- Visually examine the cocking indicator to make sure that it shows the unit to be cocked and ready for activation. If there is any doubt about whether the unit is cocked, remove the CO₂ cartridge and manually re-cock the unit.

Positioning

- Check that the unit is positioned to oncoming traffic as shown in Figure 3.
- Make sure the unit is stable, standing upright and level on the roadway.

Control Knob [Pull Knob Out to Turn – Release to Lock Knob in Place]

- Make sure that the CONTROL KNOB is turned to the desired operating position.

Deactivating the SonoBlaster!®

- With Personal Hearing Protection In Place -

- Turn the CONTROL KNOB to the LOCKED POSITION without tilting or jarring the unit. [Pull Knob Out to Turn – Release to Lock Knob in Place]
- The unit is now disarmed and will not fire if tilted or moved.

SonoBlaster!® Storage

Storing Units and Securing for Travel – Avoiding Unwanted Activation

- With Personal Hearing Protection In Place -

- Make sure that the unit's CONTROL KNOB is in the "LOCKED POSITION" and cannot move to the "UNLOCKED POSITION".
- Store all SonoBlaster units in a clean, dry, well-protected place.

Long Term Storage or Shipping

- With Personal Hearing Protection In Place -

- With the CONTROL KNOB in LOCKED POSITION, remove the CO₂ Cartridge.
- With no cartridge in the unit, turn the CONTROL KNOB to the UNLOCKED POSITION and tilt the unit to fire the mechanism.
- Replace the CO₂ cartridge onto the UNCOCKED UNIT to prevent contaminants from entering the unit through the cartridge hole.
- Seal in a clean, dry, storage container with moisture absorbing desiccant.