
TECHNICAL INFORMATION

SearchBaton™ Metal Detectors

Catalog Nos. MI55, MI55RE

INTRODUCTION

This baton is the ultimate in personal metal detection offering unparalleled performance and dependability in an attractive, easy-to-use, billy-club configuration. Ideal for use in courthouses, prison systems, schools, or corporate complexes, the SearchBaton™'s 360-degree search capability allows for rapid and effective searches without having to be held at specific angles like conventional metal detectors require. The internal ferromagnetic transceiver module detects metal equally in a 360-degree field perpendicular to the unit and requires no tuning or operator adjustment as it is completely self-tuning. Momentary or sustained operation is available by use of the dual-action power switch. Metal detection is clearly indicated both visually and audibly by the red LED indicator and



the internal audible alarm. It is extremely sensitive and commands respect by its very appearance. Housed in a machined, weatherproof ABS extruded plastic barrel with comfortable knurled hand grip and wrist strap, the SearchBaton™ provides service for the most demanding environments. Rechargeable model is offered with No. MI55RE.

BATTERY

Installing The Battery for No. MI55

To access the battery compartment, unscrew the end cap on the bottom of the unit near the carrying strap as shown in Figure 1. Inside the barrel are two battery terminals designed to mate with a 9-volt alkaline battery (provided).

1. With the end cap removed, match the orientation of the battery contacts on both the barrel and the battery. Carefully press the battery contacts together when seated properly.
2. Screw the end cap back onto the barrel and hand tighten. Make sure the hand strap retainer ring is in place under the end cap before screwing it back together.

Charging The Battery for No. MI55RE

The MI55RE uses a rechargeable NiCad battery. We recommend charging the unit for at least 12 hours prior to initial use. First, locate the charging

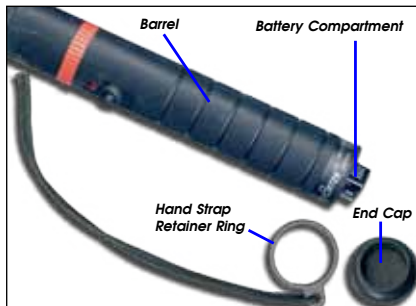


FIGURE 1—MI55 Battery Replacement

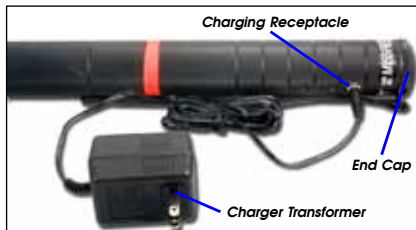


FIGURE 2—MI55RE Battery Charging

receptacle near the end cap and plug the charger transformer into it (Fig. 2). Then, plug the charger into any convenient wall outlet. If the unit is to be used on a daily basis, it should be charge nightly.

Replacing The NiCad Battery for No. MI55RE

To access the battery compartment, unscrew the end cap on the bottom of the unit near the carrying strap. Inside the barrel are two battery terminals designed to mate with the NiCad battery. *NOTE: The NiCad battery should not normally need replacing for a period of several years.*

1. With the end cap removed, grasp the battery and pull it straight out. You may notice a slight resistance. However, DO NOT twist it—continue to pull in a straight motion until it is unseated.
2. Look inside the barrel to find the two battery terminals. Visually match the orientation of the new NiCad battery to these two terminals and lightly insert the battery. DO NOT force it. Carefully press the battery contacts together when seated properly.
3. Screw the end cap back onto the barrel and hand tighten. Make sure the hand strap retainer ring is in place under the end cap before screwing it back together. The unit is ready to be recharged.

PROCEDURE

Preliminary Set-Up

Press the push-button switch located beside the red indicator lamp until a “click” is heard. You may hear a short “beep” or two lasting about a second. The red indicator lamp should light—the unit is now in Continuous Operation Mode and ready for use.

The two marker bands etched into the circumference of the unit designate the Field of Sensitivity—area most sensitive to metal objects (Fig. 3). When searching a subject, this section should be passed near the areas being searched. Pass this sensitive area near a metal object—a “beep” should be heard whenever the unit passes near the metal object.

Using The MI55 or MI55RE

The SearchBaton™ can be used in the Continuous Operation Mode or Momentary ON for conducting quick searches without having to leave the unit on. To put the unit in Momentary ON Mode, press the push-button switch until a short “beep” is heard and hold it there while conducting a quick search. The unit will turn OFF when the switch is released. For Continuous Operation, press the push-button switch until a “click” is heard—multiple searches in succession can now be performed. The unit will stay ON until the switch is pressed again.

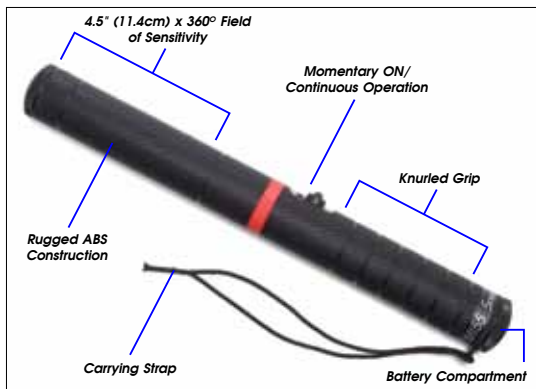


FIGURE 3

You should always use a sweeping motion parallel to the surface being searched at a distance of one inch (25mm). *NOTE: Sensitivity will be lost or nonexistent if attempts are made to detect metal objects while the unit is held stationary.* When conducting a search of a person, move the SearchBaton™ all along the person’s body—front and back. Pay close attention to where the unit’s Field of Sensitivity (refer to Fig. 3) is in relation to the areas being searched. To completely cover a subject, this sensitive area must be passed near any and all potential hiding places on the person’s body or clothing.

A short “beep” during the search usually indicates that the SearchBaton™ is either close to a small metal object or farther away from a large metal object. When the unit is brought close to a large metal object such

as a gun, a longer-lasting tone or several short tones in succession will generally be heard.

If searches are to be conducted in very noisy areas where the alarm tones may not be easily heard, the red indicator lamp lets you know when metal objects are detected by flashing off and then on again.

Sensitivity Adjustment for The MI55 and MI55RE

The SearchBaton™ is factory-adjusted for best overall performance and reliability. Any attempts to change this setting may create undesirable side effects. However, if the unit's performance changes noticeably or more sensitivity is required, use the following procedure:

1. Locate the red rubber ring around the center of the baton and pull it back until you see the sensitivity adjustment hole on the bottom-side of the unit (Fig. 4).
2. Using a small slotted screwdriver, turn the adjustment clockwise to lower the sensitivity or counterclockwise to raise it.
3. When raising the sensitivity, you will reach a point when the alarm will sound continuously. Backing off the control will quiet the alarm



Continuous sweeping motion of the MI55 is used to search visitor to a corporate complex.

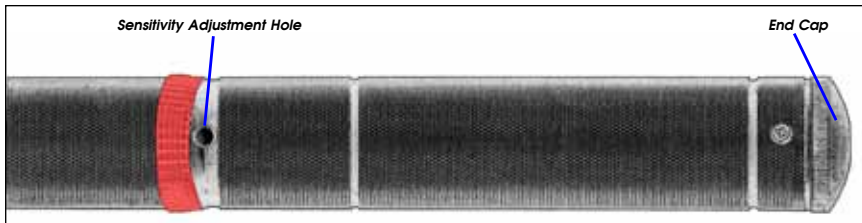


FIGURE 4—Sensitivity Adjustment

again. *NOTE: Raising the sensitivity in this manner may make the unit extremely sensitive to sudden movement or change in direction. The sensitivity can be raised appreciably if you are willing to put up with this inconvenience.*

MAINTENANCE

Because of the extreme simplicity of operation of the SearchBaton™, maintenance consists largely of battery and appearance maintenance. We recommend cleaning the unit with standard household furniture polish. DO NOT clean the unit with solvents or solvent-based cleaners as they may damage the surface.

When storing the SearchBaton™ in your automobile, we recommend that it be placed under the seat. Temperatures in closed automobiles can exceed 200°F (93°C) and although this unit is very rugged, we DO NOT recommend leaving it on dashboards or rear decks—this constitutes abuse of the SearchBaton™.

HELPFUL TIPS

- Search in continuous, full sweeping motions. The SearchBaton™ is more sensitive when it is passing a metal object than when you slowly approach a known metal object. This is due in fact to the advanced

“self-tuning” nature of the electronic circuitry.

- Always turn the unit OFF when not in use to conserve battery and/or charge life.
- Use the Momentary ON Mode when conducting quick, occasional searches.
- When conducting a full body search, pass the unit closely over the entire body surface—between the legs, etc.
- A change in the operating performance of the SearchBaton™ to the point it seems unstable or sensitivity seems lessened is indicative of a weakened battery. If using No. MI55, replace the battery with another alkaline battery—standard zinc-carbon based batteries will not provide satisfactory service life. If using the MI55RE, recharge the NiCad battery as previously described.
- The SearchBaton™ may be used as a minimal self-defense protection device due to its billy-club configuration.
- No particular plane in relation to the areas being searched is required to achieve adequate detection because the transceiver module detects metal equally in a 360° field perpendicular to the unit.
- Position the unit so the Red Indicator Lamp can be easily seen for visual metal detection in noisy areas.

LEADING PARTICULARS:

- **Ferromagnetic Transceiver Module:** Provides a full 360° search area
- **Construction:** High-impact, knurled ABS thermoplastic
- **Power Source:** Single, standard 9V alkaline battery (No. MI55) or single, 9V nickel-cadmium (No. MI55RE)
- **Dimensions:** 15.5" x 1.75" dia. (39.4cm x 4.4cm)
- **Weight:** Approximately 1 lb. (453g)
- **Circuitry:** Integrated circuit technology; transmit/receive, self-balancing, internally shielded
- **Detection Sensitivity:** Minimum of 0.09g
- **Alarm Indicators:** Audible—3.3 kHz, fixed, internal visual—external red LED
- **Standby Current:** 13 millamps typical
- **Momentary ON or Continuous operation**
- **Comfortable hand grip and weight distribution**
- **Battery Life:** 27 hours (MI55); 5 hours (MI55RE) rechargeable

