

Blue Marble NGSTARTDET

National Geographic Starter Metal Detector Kit

Instruction Manual for Model NGSTARTDET

Brand: Blue Marble

INTRODUCTION

Congratulations on your purchase of the National Geographic Starter Metal Detector Kit! This kit is designed to provide young explorers with an exciting and educational introduction to the world of metal detecting. Lightweight, easy to use, and durable, it's perfect for discovering hidden treasures in various environments, from your backyard to the beach.

Please read this manual carefully before using your metal detector to ensure proper setup, operation, and maintenance for a safe and enjoyable experience.

WHAT'S INCLUDED

Your National Geographic Starter Metal Detector Kit includes the following components:

- 1 x National Geographic Starter Metal Detector
- 1 x Heavy-Duty Trowel
- 1 x Detailed, Full-Color Learning Guide

NATIONAL
GEOGRAPHIC

STEM

METAL DETECTOR STARTER KIT

DISCOVER
HIDDEN
TREASURE!

HEAVY-DUTY
TROWEL
INCLUDED!



LIGHTWEIGHT
(1.43 LB / 0.65 KG)



EXTENDABLE
(33.5 - 40.5 IN /
85.09 - 102.87 CM)



DEEP
DETECTION

COLLAPSIBLE
FOR EASY
TRAVEL!

1 METAL DETECTOR

ASSEMBLY REQUIRED / REQUIRES 1 X 9V ALKALINE BATTERY (NOT INCLUDED)

Image: The complete National Geographic Starter Metal Detector Kit, including the detector, trowel, and learning guide.

SETUP INSTRUCTIONS

- Battery Installation:** The metal detector requires 1 x 9V alkaline battery (not included). Locate the battery compartment, typically on the handle or control box. Open the compartment, insert the 9V battery, ensuring correct polarity (+/-), and close the cover securely.
- Assemble the Detector:**
 - Connect the search coil to the lower stem.
 - Attach the lower stem to the middle stem.
 - Connect the middle stem to the upper stem, which contains the control unit and handle. Ensure all connections are secure.
- Adjust Arm Length:** The detector features an adjustable arm length for comfortable use by various heights. Loosen the locking collar on the shaft, extend or retract the shaft to a comfortable length, and then tighten the collar to secure it. The adjustable range is approximately 33.5 to 40.5 inches.
- Adjust Coil Angle:** The search coil can be angled for optimal scanning. Loosen the knob near the coil, adjust the

coil to be parallel with the ground when held comfortably, and tighten the knob.



Image: Illustration demonstrating the adjustable length and collapsible design of the metal detector.

OPERATING INSTRUCTIONS

The National Geographic Starter Metal Detector is designed for simple, screen-free operation, making it ideal for young treasure hunters.

1. **Power On:** Turn the power knob (usually combined with volume control) to the ON position. You should hear a slight hum or a single beep indicating it's powered on.
2. **Adjust Volume:** Rotate the volume knob to a comfortable listening level.
3. **Start Searching:** Hold the metal detector with the search coil parallel to the ground, about 1-2 inches above the surface. Sweep the coil slowly from side to side in overlapping motions.
4. **Detecting a Target:** When the detector passes over a metal object, you will hear an audio alert (a beep) and see a corresponding LED light up. This indicates a potential find.

5. **Pinpointing:** Once a signal is detected, narrow down the location by making smaller, slower sweeps over the area. The signal will be strongest directly over the object.
6. **Digging:** Use the included heavy-duty trowel to carefully dig up the detected object. Remember to refill any holes you dig.

Important Operating Tips:

- **Waterproof Coil:** The 7.4-inch dual coil is waterproof up to 4 inches (10 cm), making it suitable for shallow water detection, such as at the beach or along stream banks. Avoid submerging the control unit or handle.
- **Depth Detection:** The detector can typically detect objects up to 4 inches deep, depending on the size and type of metal.
- **Environmental Factors:** Performance may vary based on soil conditions, mineral content, and the presence of other metallic objects.
- **Learning Guide:** Refer to the detailed, full-color Learning Guide for more information on the history of metal detecting and tips for finding treasures.



Image: The metal detector's coil demonstrating its water-resistant feature in shallow water.

LEARN THE SCIENCE BEHIND METAL DETECTORS!

Don't try this with our metal detector! It's meant for use on land only.

These instruments proved their worth when Admiral Byrd used them in Antarctica to locate materials left behind by earlier expeditions. Over the next several decades technological improvements turned the metal detector into a practical device for hobbyists. Batteries got smaller, circuits got better, and the whole machine got lighter and smaller as transistors replaced clunky vacuum tubes. Additional refinements enabled metal detectors to work underwater and to distinguish between different metals. Some detectors can be immersed as deep as 200 feet (61 meters) underwater for detecting the sea bed, and some even have built-in GPS.

ARCHAEOLOGY + METAL DETECTING

Archaeologists study cultures of earlier times and they dig carefully to avoid damaging any relics. For scientific research, it is important to study not just the artifacts, but how they are dispersed and where they are located. Archaeology and metal-detecting can and should work together. Hobbyists commonly locate sites where scholars can recover valuable information. In 2011, a man exploring a field in Northern England on his lunch break found a lead box filled with silver coins and jewelry. Scholars determined that the items were more than 1,000 years old and dated from the Viking era. The British Museum declared that the discovery was one of the most important archaeological finds of the century.

HOW IT WORKS

A simple metal detector consists of two electrically balanced coils of wire that produce magnetic fields. The first coil is the "transmitter coil." It is at the bottom of the detector and is connected to a battery that supplies electricity. The second coil is the "receiver coil" which connects to a loudspeaker or other signaling mechanism.

When the electrical current runs through the first coil, it creates a magnetic field. When that field moves over a metallic object, it induces electrical activity in the metal. That electrical activity interrupts the electrical current from the coil and triggers the signal—a click or beep—that lets you know you have found something.

HEAVY-DUTY TROWEL INCLUDED!

Image: An excerpt from the included Learning Guide, illustrating the principles of metal detection.

MAINTENANCE

- **Cleaning:** After each use, especially in sandy or dirty environments, wipe down the search coil and shaft with a damp cloth. Avoid using harsh chemicals or abrasive cleaners.
- **Battery Care:** Always remove the 9V battery if the detector will not be used for an extended period to prevent battery leakage and damage to the electronics.
- **Storage:** Store the metal detector in a cool, dry place, away from direct sunlight and extreme temperatures. The collapsible design allows for compact storage.
- **Coil Protection:** While the coil is water-resistant, avoid unnecessary impacts or dropping the detector, which could damage the coil or internal components.

**ADJUSTABLE SIZE
FOR COMFORTABLE,
ALL-DAY USE!**

**33.5" -
40.5"**

**FOLDS
DOWN
TO 13"**

Image: The metal detector in its collapsed state, fitting easily into a backpack for transport and storage.

TROUBLESHOOTING

Problem	Possible Cause	Solution
No power/No sound	Battery not installed or dead. Power knob is off.	Check battery installation and replace if necessary. Turn the power knob to the ON position.
False signals/Constant beeping	Interference from other electronic devices. High mineral content in soil. Coil touching ground or water too frequently.	Move away from power lines, cell phones, or other detectors. Try a different search area. Ensure the coil is swept smoothly 1-2 inches above the ground.

Problem	Possible Cause	Solution
Poor detection depth	Small object size. Deeply buried object. Battery low.	This model is designed for shallow detection (up to 4 inches). Ensure battery is fresh.

SPECIFICATIONS

Feature	Detail
Brand	Blue Marble (National Geographic)
Model Number	NGSTARTDET
Item Weight	1.26 Kilograms (2.77 pounds)
Product Dimensions (Extended)	14.69"L x 4.61"W x 12.2"H (approximate, adjustable length)
Power Source	Battery Powered
Batteries Required	1 x 9V (not included)
Search Coil Size	7.4 Inches
Waterproof Rating (Coil)	Waterproof up to 4 inches (10 cm)
Display Type	LED (for alerts)

WARRANTY AND SUPPORT

Blue Marble, the brand behind National Geographic educational toys, is committed to providing high-quality products and exceptional customer service. While specific warranty details are not provided in this manual, your purchase is backed by our commitment to your satisfaction.

If your experience with this product is less than stellar, or if you encounter any issues not covered in this manual, please do not hesitate to contact us. We are dedicated to making things right.

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