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Discovery Kids 0843479113631

Discovery Mindblown STEM Model Motor Engine Kit

Model: 0843479113631

Brand: Discovery Kids

INTRODUCTION

The Discovery Mindblown STEM Model Motor Engine Kit is an educational toy designed to introduce users to the fundamental principles of internal combustion engines. This kit allows for hands-on assembly of a functional model engine, demonstrating concepts such as valve operation, crankshaft movement, and spark plug ignition through illuminated components. It is intended for educational purposes and provides a visual and interactive learning experience about mechanical engineering.

SETUP AND ASSEMBLY

Before beginning assembly, ensure all components are present and undamaged. Refer to the included assembly guide for detailed, step-by-step instructions. It is recommended to work on a clean, flat surface to prevent loss of small parts.

Component Identification

Carefully unbox the kit and identify all parts. The kit includes various mechanical components, wiring, and a transparent casing to observe the internal workings.



Image: The product packaging, displaying the assembled model engine and its key components like the crankshaft, valves, and spark plugs. The box highlights the STEM focus and the 'You-Build-It' aspect with 100 pieces.



Image: A close-up view of the assembled model engine, showcasing the transparent casing that allows visibility of the internal crankshaft, pistons, and wiring for the spark plugs. A blue fan is visible at the front, and the exhaust manifold is on the side.

Assembly Steps

1. Begin by assembling the crankshaft and piston components as indicated in the manual.
2. Integrate the valve mechanisms and connect the necessary wiring for the spark plug lights.
3. Secure the engine block halves, ensuring all internal components are correctly aligned and wires are not pinched.
4. Attach the fan and any external accessories.
5. Install the required batteries (not included) into the designated battery compartment, observing correct polarity.

Ensure all connections are secure before proceeding to operation.

OPERATING INSTRUCTIONS

Once assembled and batteries are installed, the model engine is ready for operation. Locate the power switch, typically found on the base or side of the engine model.

Powering On

Flip the power switch to the 'ON' position. The engine's internal components, such as the crankshaft and pistons, should begin to move. The LED lights representing the spark plugs will illuminate in sequence, simulating the firing order of a real engine. The fan at the front will also rotate.

Observation

Observe the synchronized movement of the pistons, crankshaft, and valves. The transparent casing allows for a clear view of these mechanical actions, illustrating how an engine converts linear motion into rotational motion and the role of each component in the combustion cycle.

Powering Off

To turn off the model engine, flip the power switch to the 'OFF' position. It is recommended to turn off the engine when not in use to conserve battery life.

Note: No official product videos from the seller were available for embedding. Customer-uploaded videos are not included as per instructions.

MAINTENANCE

Proper maintenance ensures the longevity and continued functionality of your model engine kit.

Cleaning

To clean the model, gently wipe the exterior surfaces with a soft, dry cloth. Avoid using abrasive cleaners or solvents, as these may damage the plastic components or internal electronics. Do not immerse the model in water.

Storage

When not in use, store the model engine in a cool, dry place, away from direct sunlight and extreme temperatures. If storing for an extended period, remove the batteries to prevent leakage and potential damage to the electronic components.

Battery Replacement

If the engine's movements become sluggish or the lights dim, it is likely time to replace the batteries. Open the battery compartment, remove the old batteries, and insert new ones, ensuring correct polarity (+/-). Dispose of old batteries responsibly.

TROUBLESHOOTING

If you encounter issues with your model engine kit, refer to the following common problems and solutions:

- **Engine does not turn on:**
 - Ensure the power switch is in the 'ON' position.
 - Check that batteries are correctly installed with the proper polarity.
 - Replace old or depleted batteries with new ones.
 - Verify all electrical connections are secure and wires are not loose or disconnected.
- **Parts are not moving smoothly or are stuck:**
 - Inspect for any misaligned or improperly assembled components. Refer to the assembly guide.
 - Check for any foreign objects obstructing the moving parts.
 - Ensure all screws are tightened appropriately, but not overtightened, which could cause binding.
- **Spark plug lights are not illuminating:**
 - Verify battery power.
 - Check the wiring connections to each LED light.
 - Ensure the LEDs are inserted correctly into their sockets.

If problems persist after attempting these solutions, consult the original product packaging for manufacturer contact information or visit the Discovery Kids official website for further support.

SPECIFICATIONS

Feature	Detail
Manufacturer	Discovery Kids
Brand	Discovery Kids
Item Weight	2.9 pounds
Package Dimensions	15.07 x 12.2 x 3.74 inches
Model Number	0843479113631
ASIN	B07JMB6VMR
Date First Available	October 23, 2018

WARRANTY AND SUPPORT

Specific warranty details and direct support contact information are not provided within the available product data. For information regarding product warranty, returns, or technical support, please refer to the documentation included with your purchase or visit the official Discovery Kids website. You may also contact the retailer from whom the product was purchased for assistance.