CARE AND STORAGE

You may wish to keep your launch system assembled with the solution remaining in the Fuel Generator for future launches. If so, be sure that the Power Switch is "OFF" and the rocket is removed from the Launch Tube. If you do plan on launching for a couple of days, we recommend that you disassemble and store your Hydrogen Fuel Rocket System as follows:

1. Turn the Power Switch "OFF".
2. Slide the Rocket off the Launch Tube.
3. Twist, unlock and remove the Launch Tube.
4. Twist, unlock and remove the Fuel Generator, being careful not to spill the solution.

5. Carefully pour the solution back into the plastic storage bottle and then cap the bottle. Remember, the solution may have a brown color but it is still good to use. Do Not Discard Solution.
6. Rinse Fuel Generation Assembly out with tap water, let air dry.
7. For extended storage, remove the batteries from the Launch Base.

MISFIRES

- Check that the Power Switch is turned "ON" and Red LED is lit.
- Check that the Launch Base is level on the ground and not tilted.
- Make sure that the Launch Cable is pulled straight and away from the Launch Base.
- Make sure igniter in Fuel Generator is dry and not soaked with solution.
- Make sure new D batteries are installed.

TROUBLESHOOTING

No fuel being generated (can’t see any bubbles):
- Generator not twisted far enough when assembled. See IMPORTANT on Page 2:
- Power switch not "ON".
- Batteries low and need replacement.
- No solution in Fuel Generator.
- Generator not reset after launch.
- Launch cap sat idle for 6 minutes or longer and shut down.

Rocket will not launch:
- Power Switch not "ON".
- Fuel Generator time not long enough.
- Solution not allowed to soak into generator ring enough.
- Launch Cable not held taut enough to activate Safety Switch.
- Launch Button not held down long enough.
- Igniter in Fuel Generator wet with solution.
- Rocket not all the way down on Launch Tube.
- Small O-Ring on top of Launch Tube missing or not seated properly.
- Rocket body and/or Fuel Generator cracked or broken.
- Rocket not launched before "Launch Tone" stops.

To prevent the possibility of severe injury to you and others or damage to your HF launcher and rocket:

1. Never place or allow anyone else to place any part of his/her body over the launch tube.
2. Never launch when anyone is within 15 feet (5 m) of the launcher.
3. Never launch your rocket so that people or animals are in its flight path.
4. Always launch outside in a large open space like a sports field or playground away from power lines, trees, buildings and busy roads.

HYDROGEN ROCKET SAFETY CODE

- Never launch when there is little or no wind and good visibility.
- Never launch any item or rocket except rockets designed specifically for the HF launch system. An HF rocket must have a special recovery system designed to return the rocket safely so it may be used in the future.
- Never attempt to catch a descending rocket. Keep everyone clear of the rocket's descent path.
- Never attempt to retrieve a rocket that is in the water or has landed in water. This can be dangerous.
- Never attempt to alter the HF launch of rocket or rocket in any way.
- Never use the launching machinery or liquid hydrogen in the water or on, near, in or around any person.
- In the case of misfire stop pressing the launch button, release tension on the launch cable and wait 60 seconds before allowing anyone to approach the rocket. Flip the power switch to "OFF", while examining your rocket and launcher. Never place or allow anyone to place any part of his/her body over the launch tube.

HYDROGEN FUEL ROCKET WITH LIGHTS AND SOUND

RECOMMENDED FOR AGES 10 AND UP WITH ADULT SUPERVISION FOR THOSE UNDER 12

Estes Industries • 1295 H Street • Penrose, CO 81240
Printed in China. #1663

PARTS

Launch Base with Launch Button (1) (60263)
Launch Tube Cap (1) (60732)
Circuit Board (1) (60724)
Cables with Caps (1) (60723)
Fuel Generator (1) (61544)
Launch Tube Cap (1) (61543)
Launch Tube Cap (1) (60264)
Hydrogen Rocket (1) (60264)

Replacement Parts

Order 2 ways:
1. On line at: www.estescrockets.com
2. Call Toll Free: 1-800-525-7651 Mon-Fri 8:00am-4:00pm Mountain Time

BATTERY SAFETY

- Insert batteries into unit in the correct polarity.
- Do not use rechargeable batteries in the unit.
- Do not mix new and used batteries.
- Remove old or dead batteries from unit.
- Batteries will be discarded after long periods, remove batteries.
- Do not mix new and rechargeable batteries.
- Only batteries of the same type or equivalent types recommended are to be used.

CAUTION

This product contains acids that may be harmful if ingested. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

SUPPLIES

In addition to the parts above shown, you will also need the following items (not supplied):

6 D-Size alkaline batteries
8 Ounces (240 ml) tap water
1 Measuring Cup
1 Spoon
1 Paper Towel or Rag

HOW IT WORKS

When you turn the Launch Base switch ‘ON’, electric current energizes the water solution in the Fuel Generator, breaking up the solution into Hydrogen and Oxygen gases. This process is called electrolysis and the gases collect in the upper part of the Fuel Generator. At the same time, the lights around the Launch Base begin to sequence with generation time, a few lights at a time. This sequence continues until the fuel generation is complete. You will also hear interesting facts about Hydrogen during fuel generation.

When hydrogen fuel generation is complete, the Launch Base will then tell you that it is time to launch. Launches are done by simply pressing the Launch Button which ignites the Hydrogen gas in the Fuel Generator, thrusting the rocket into orbit! Upon ignition, the hydrogen gas combines with the Oxygen gas in the generator and turns back into water.

WARNING

This set contains chemicals that may be harmful if ingested. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

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READ AND FOLLOW THE INSTRUCTIONS AND HYDROGEN ROCKET SAFETY CODE BEFORE USING.

PREPARING THE FUEL GENERATION SOLUTION

1. Pour 8 oz. (240 ml) of tap water into a measuring cup.
2. Pour one (1) packet of citric acid crystals into the measuring cup.
3. Stir solution with spoon until crystals dissolve.
4. Carefully, pour solution into the plastic bottle, then cap bottle.

CAUTION

If you come in contact with the solution, rinse immediately with water.

NOTE:

After a while, the solution will change to a light brown color. This is normal and
the solution can be used over again to generate 100’s of launches! When not in
use, pour solution back in bottle and save.

LAUNCHER ASSEMBLY

1. Unscrew the two Battery Compartment Caps. Pull out the battery trays. Insert
three D’ alkaline batteries into each tray following the polarity markings (+ & -
signs) in the trays. Then slide each tray back into the Launch Base and screw on
the caps.

2. Tilt the Fuel Generator to the side, slowly add plain tap water to fill
the generator half full. Swirl the water inside the generator for 2-3 minutes to wet
the generator material in the Fuel Generator. Pour out the water and replace it with
the Fuel Generating Solution as outlined in Step 3.

3. Tilt the generator to the side, slowly pour solution from the bottle into the Fuel
Generator. Avoid pouring it on the Igniter (thin wire coil) inside the generator. Fill
to the Center Ring of generator. DO NOT overfill and cover the Igniter. Wipe off any
spilled solution with a paper towel or rag.

NOTE: If Igniter gets wet, allow and to sit for 15 minutes to allow Igniter to dry.

IMPORTANT:

In order for the Hydrogen Fuel Generator to perform properly, it must be securely
attached to the Electronic Command Center base. To accomplish this, make sure that after inserting the Fuel Generator into the Electronic
Command Center base you twist the Fuel Generation module until the arrows on the Fuel
Generator and Electronic Command Center are exactly lined up. It is possible to think
that complete contact is made due to the rotational contacts that are molded into the
Electronic Command Center base. Failure to align the arrows will result in the Fuel Generator not making adequate contact with the Electronic Command Center and an inoperative Fuel Generator.

4. Insert the Fuel Generator into the Launch Base aligning the tabs of the generator
with the slots in the base and twist clockwise until the points of the
arrowheads align and the generator ‘clicks’ in place.

5. Attach the Launch Tube to the top of the generator, then aligning the tabs in the
Launch Tube with the slots in the generator and twist clockwise 90° to lock in place.

IMPORTANT NOTE:
The Fuel Generation Solution needs time to fully penetrate the generator for maximum
hydrogen fuel generation. Allow the unit to sit for 15 minutes before using!
Not doing so will greatly affect the amount of hydrogen produced resulting in
poor rocket performance.

LAUNCHING YOUR ROCKET

1. Fold the rotor blades down along the rocket body and slide
rocket over the launch tube. Align the rocket so the rotor
blades are held closed by the ‘tabs’ at the launch tube base
as shown below.

2. Turn switch ‘ON’ to begin fuel generation (red LED will light).
A “Launch Tone” will sound when fuel generation is
complete (approx. 3-4 minutes).

Notes:
1. You can launch before generation is complete, however
performance will be reduced.
2. Reset switch to “OFF” then “ON” after each launch.

3. When fold, pull Launch Cable taut to activate Launch Base Safety Switch. Keep cord taut until rocket launches.

4. Press and hold Ignition Button down until rocket blasts off.

Notes:
1. Reset switch to “OFF” then “ON” after each launch.
2. If Igniter is wet or batteries are old you may need to hold the
Ignition Button down longer until rocket blasts off.

IMPORTANT

1. Be sure the small O-Ring is in place at the top of the Launch Tube before using.
2. The system will completely shut off when the “Launch Tone” stops. If you have not launched
the rocket before “Launch Tone” stops, follow these steps:
1. Turn switch off.
2. Remove rocket and launch tube to allow hydrogen gas to escape from fuel generator.
3. Replace launch tube and rocket.
4. Turn switch “ON” to restart fuel generation.
5. Follow remaining launch steps.

CAUTION

To prevent damage to the Fuel Generator, only operate the unit between temperatures of
50° F (10° C) and 100° F (38° C).

WARNING

To prevent the possibility of severe injury, never place or allow anyone else to place any part of their body over the launch tube.

IMPORTANT

Keep everyone 15 FEET (6m) from LAUNCHER.

Launch Base Safety Switch

Power ‘ON’ LED

Safety Switch ‘OFF’

Safety Switch ‘ON’