SKYWINDER™
FLYING MODEL ROCKET KIT INSTRUCTIONS

MATERIALS REQUIRED:
PENCIL, RULER, PAPER TOWEL OR RAG, WHITE OR YELLOW GLUE, SANDPAPER,
TUBE-TYPE PLASTIC CEMENT, SCISSORS, HOBBY KNIFE

ALL GLUED AREAS ARE SHADED IN GRAY

BE SURE TO READ ALL INSTRUCTIONS, TEST FIT ALL PARTS, AND SAND IF NECESSARY BEFORE GLUING.

PARTS LAYOUT

1.
A. Test fit the plastic engine mount halves together. Use a hobby knife to carefully remove any excess plastic (flash) that may interfere with a good fit.

B. Cement the two plastic engine mount halves together.

C. Snap the launch area of the engine onto the engine mount.

2.
A. Test fit the rotor base of the rotor spool onto the shoulder of the rotor. Apply plastic cement around the inner ring and slide back onto fin assembly shown.

3.
A. Slide the right side pin of a rotor mount into the right side of one of the mount slots on the rotor hub. Gently push the mount to the right and slip the left pin into its slot. DO NOT FORCE THE MOUNTS INTO POSITION! If the mount is upside down, it will not fit.

B. Repeat step “A” to apply the other two mounts.
1. Test fit all four fins into the four slots in the engine mount. You may need to scrape excess plastic from the fin tabs and fin slots to achieve a good fit.

2. Apply plastic cement to the fin tabs as shown and reinsert. Let dry.

3. Remove the ring from the card. Test fit the cardboard ring into the rear of the rotor base; note that the notch in the ring fits over the "key" inside the rotor base. Remove the ring, apply plastic cement inside the rotor base, and reinsert the cardboard ring.

4. Test fit, then apply a band of plastic cement inside the rotor base tube and slide the blue engine mount tube into the rear of the base until the front edges are even. Let dry completely.

5. Apply plastic cement just inside one end of the body tube and insert the slide stop as shown. Let dry.

6. Apply a ring of plastic cement around the inside of the black support ring and slide the ring onto the tongs of the external slide until the edge of the ring is even with the end of the tongs. Let dry completely.

7. Check that the cement around the slide stop is completely dry, and slide the external slide up the body tube as shown until it hits the slide stop. DO NOT GLUE!

8. Test fit the free end of the body tube onto the red tube coupler. (You may need to sand the inside of the white tube to achieve a good fit.)

9. Remove tube, apply a ring of white or yellow glue just inside the free end of the body tube, and in one continuous motion slide the body tube over the coupler until their edges are even. Be careful not to slide the body tube too far - THE HUB MUST SPIN FREELY! Let dry.
7. Roll all of the clay weight into "snakes" and insert them into the nose cone. Use a pencil to firmly press the clay into the tip of the nose cone.

B. Use a hobby knife to cut the plastic loop off the shoulder of the nose cone.

C. Apply plastic cement to the shoulder of the nose cone insert it into the front of the external slide as shown. IMMEDIATELY WIPE ANY EXCESS CEMENT!

D. Snap the slots in the rotor blades over the tops of the rotor mounts as shown.

E. Attach the three rubber bands to the rotor mounts as shown.

8. DECAL APPLICATION

A. Remove one decal at a time from the backing sheet and position on the rocket where shown. Once decal is in place, rub with finger to remove air bubbles and secure to rocket body.

9. FLIGHT PREPARATION

A. Slide nose forward.

B. Fold blades against body tube.

C. Slide nose back so blade tips are trapped under external slide.

10. ENGINE PREPARATION

A. Slide engine into engine mount.

B. Twist the engine lock ring onto engine mount.

C. Separate igniter and plug.

D. Hold rocket upright and drop in igniter. Igniter must touch propellant.

E. Insert igniter plug.

F. Firmly push all the way in.

G. Bend igniter wires back.
LAUNCH SUPPLIES
To launch your rocket, you will need the following:
• Launch Pad (Estes Porta-Pad® II)
• Launch Controller (Estes Electron Beam®)
• Recommended Estes Engines: B4-2 (first flight), B6-2, C5-3, C6-3
Use a B4-2 for your first flight to become familiar with your rocket's flight pattern.
Use only Estes products to launch this rocket.

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COUNTDOWN AND LAUNCH
10... Safety key must not be in launch controller.
The safety cap with safety key attached should already be on the launch rod.

9... Remove safety cap from launch rod, slide launch lugs over rod. Make sure rocket slides freely and micro-clips are clean for good electrical contact.

8... Attach micro-clips to the igniter wires. Arrange the micro-clips so they do not touch each other or the metal blast deflector. Attach micro-clips as close to protective tape on igniter as possible.

7... Move everyone back from your rocket as far as launch wire will permit (at least 15 feet - 5 meters).

6... Insert safety key to arm the launch controller.

5... Start audible countdown.
4...3...2...1......

LAUNCH!
Push and hold button until engine ignites.
For safety, immediately remove safety key from launch controller and replace safety cap on launch rod.

TIPS FOR FLYING YOUR ROCKET
• Choose a large field away from power lines, buildings, tall trees, and low flying aircraft. Try to find a field at least 250 feet (76 meters) square. The larger the launch area, the better your chance of recovering your rocket.
• Launch area must be free of dry weeds and brown grass.
• Launch only during calm weather with little or no wind and good visibility. The SkyWinder™ blades extend at apogee and the rocket will helicopter to the ground. Be prepared! The SkyWinder™ may travel long distances.
• Always follow the National Association of Rocketry (NAR) MODEL ROCKETRY SAFETY CODE while participating in any model rocketry activities. The safety code is enclosed with this kit.

MISFIRES
When an ignition failure occurs, remove the safety key from the launch control system and wait one minute before approaching the rocket. Remove the expended igniter from the engine and install a new one. Be certain the coated tip is in direct contact with the engine propellant. Broken or chipped coating will not affect the performance of the igniter. Reinstall the igniter plug as illustrated previously. Repeat the countdown and launch procedure.

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