

EXCALIBUR II

FLYING MODEL ROCKET

*Easy to
Assemble*

21.5" Long

Excalibur is an advanced skill level rocket. It features a rear ejection parachute recovery system.

Skill Level 3

Specifications:
Length—21.5"
Body Dia.—1.130"
Takeoff weight without
engines: 2.5 oz. (60 g)*

Recommended F.S.I. Engines:
A6-3, B6-3, C6-3

This kit requires assembly. Launch systems, engines, glue, and finishing supplies are not included.

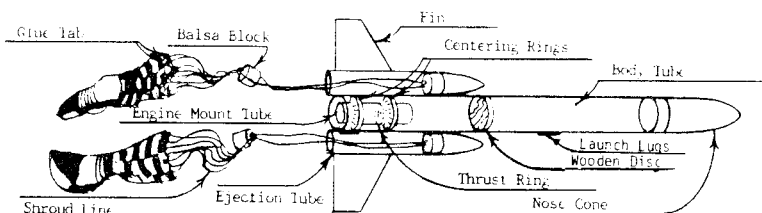
ADULT SUPERVISION RECOMMENDED

1027



EXCALIBUR II

This exotic new interceptor makes a fine addition to any rocket collection. It features a rear ejection recovery system. It is sure to be a real crowd pleaser.



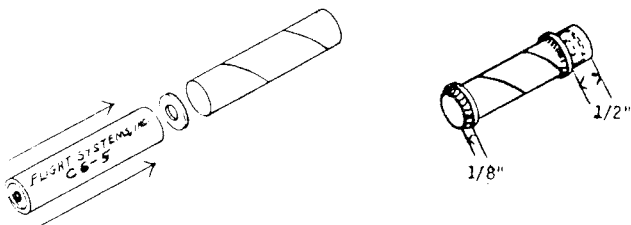
PARTS LIST:

- | | |
|----------------------------------|--------------------------|
| 1 Nose Cone (NC-101) | 4 Eyescrews |
| 2 Nose Cone (NC-71) | 2 Snap Swivels |
| 1 Body Tube (18" X 1.13") | 2 Shock Cords (20") |
| 2 Body Tube (6" X .718") | 2 Parachute Canopy |
| 4 Fins | 16 Parachute Glue Tab |
| 2 BB-6 Balsa Blocks | 16 Parachute Shroud line |
| 1 Wood Disc | 1 Thrust Ring TR-3 |
| 1 Engine Mount Tube (3" X .718") | 2 Launch Lug (1/4, 1/8) |
| 2 Centering Rings (CR-610) | 1 Wadding |
| | 1 Decal |

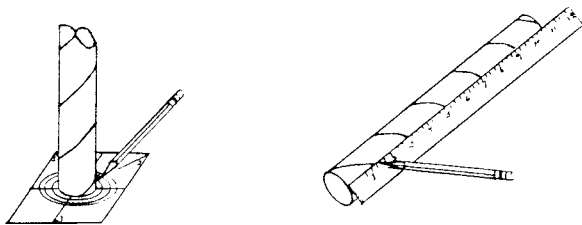
ASSEMBLY INSTRUCTIONS:

Important:

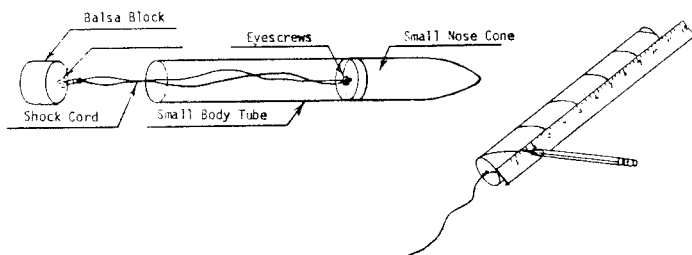
Read through entire instructions before starting assembly. Check to be sure all parts are present. Familiarize yourself with the parts and test fit the parts together before applying any glue. If a part doesn't fit properly, sand or build up for a precision fit. Please read each step before starting that step. Check off each completed step.



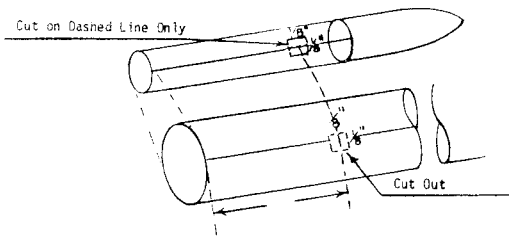
- Place a ring of glue inside the engine mount tube (3" X .718"). Using a F.S.I. 18mm engine push thrust ring into tube until engine protrudes 3/8". Remove engine. Place centering rings on the engine mount tube. Position as shown. Put a glue fillet on each side of each ring. Set aside to dry.



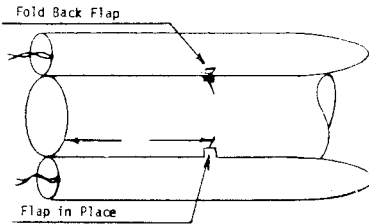
- Mark body tube for fin placement as shown. Extend parallel lines up the body tube 6".



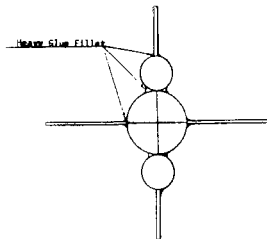
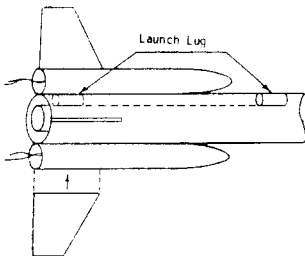
- Twist 2 eyescrews into the center rear of the small NC-71 nose cones. Attach shock cords to eyescrews. Thread each cord through a 6" X .718 body tube. Glue nose cones into small body tubes. Mark two opposing fin placement marks. Make parallel lines the length of these tubes with a straight edge. Twist 1 eyescrew into each balsa block. Tie free end of shock cord to eyescrew.



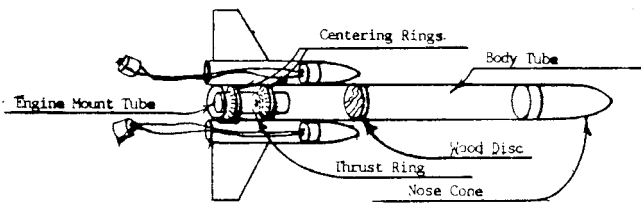
4. Make perpendicular lines 4" from the bottom of each of the small body tube assemblies. Also make perpendicular lines on 2 opposing fin alignment marks of large body tube 4" from bottom. Using modelers knife cut tubes as shown and fold back flaps. Cut flaps off of large body tube.



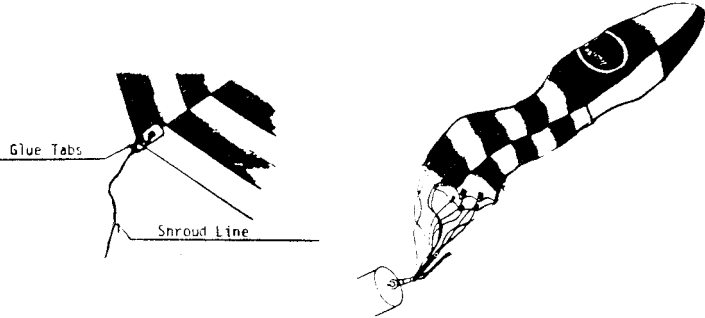
5. Apply a line of glue to each of small body tubes on the parallel lines cut in step 4. Attach small body tubes to large body tube so that they align with fin placement marks and that the holes of the small and large body tube correspond. After dry run 2 or 3 heavy glue fillets at connection point of small and large tubes.



6. Sand and round edges of all fins except red edge fins to the large and small body tube. Be sure that fins are carefully aligned with fin placement marks and that they stick straight out from the body. After dry run 2 of 3 heavy glue fillets on each side of each fins. Attach a launch lug to large body tube next to one of small body and parallel to large body tube. Extend a line from lower lug to a point 9" up large body tube. Attach upper lug at this point.



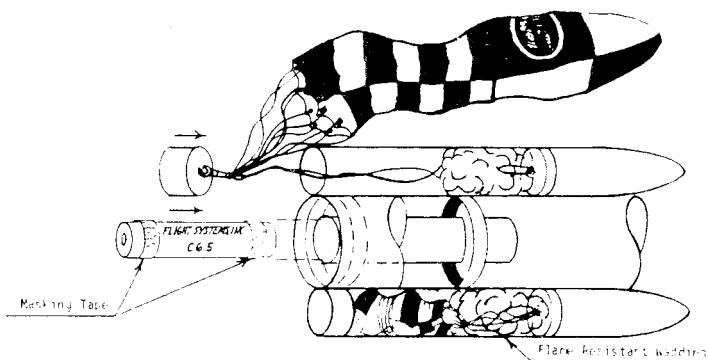
7. Run a ring of glue inside large body tube. Use a dowel rod or other round object to push wood disc into large body tube until it is 6" from bottom of tube. Run another ring of glue inside bottom of large body tube. Push engine mount assembly from step 1 into large body tube in one smooth motion until it is flush with back of tube. Glue large nose cone into other end of large body tube.



8. Cut out parachutes to 12". Assemble parachutes by attaching a glue tab to each corner, punching a hole through the center of each, and tying one shroud line through each hole. Tie the shroud lines to the snap swivel and attach them to the eyescrews in balsa blocks.
9. The rocket is now ready to paint and add decals. It is recommended that a light coat of paint be sprayed on and let dry. Add a couple more mist coats lightly sanding between them. Then apply a wet coat (gloss just appears) and set aside to dry. After model is completely dry, apply decals. Cut one decal at a time from the sheet and submerge in lukewarm water until decal will slide off of the paper (usually about 20 seconds). Gently slide decal onto rocket and carefully align and smooth out any wrinkles.

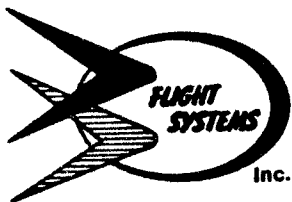
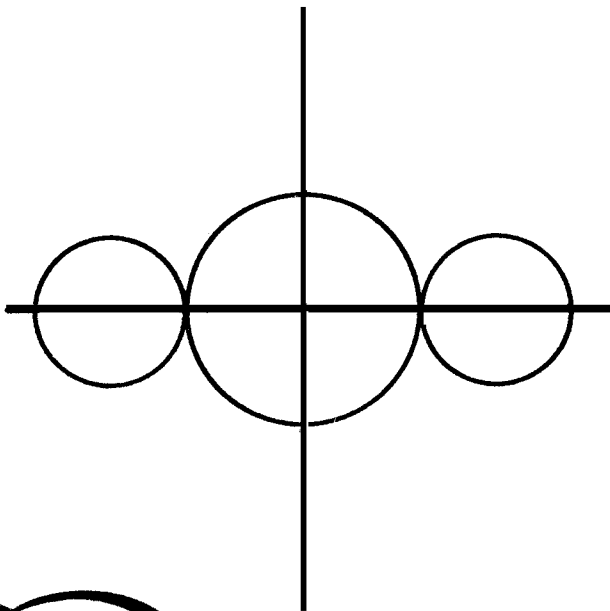
FLIGHT PREPARATION

1. Install flameproof wadding as shown in cutaway view of rocket.
2. Fold and install parachutes. Slide the balsa blocks into tubes until they are flush with back of tubes. It is a good idea to dust parachute with ordinary talcum powder before each flight.
3. Install engine using Friction Fit. Several wraps of masking tape are placed around the engine as shown to hold the engine in place.
4. Insert F.S.I. engine until contact is made with the thrust ring. Be sure to use enough masking tape to assure a snug fit in the body tube. It should require a firm push. If the engine doesn't fit firmly it will be ejected instead of the parachute and the rocket will free fall.
5. Place the rocket on the launcher insert the F.S.I. ignitor and attach the firing clips as shown.
6. Go back to launch control and clear the area. Arm the launch control by inserting the phone jack attached to the firing line.
7. Give count down, 5-4-3-2-1, ignition!!



EXCALIBUR II

FIN PLACEMENT GUIDE





FSI 1027 Excalibur II Fin Pattern

Make 4 Fins From 1/8" Balsa

Fin Dimensions:

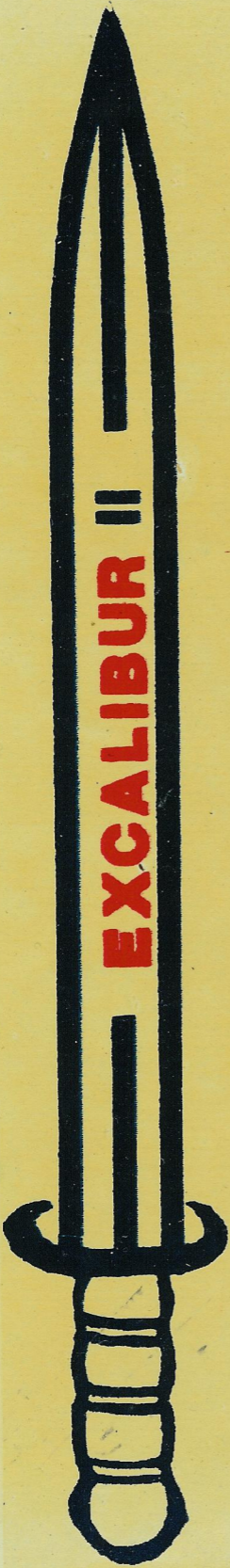
Root Edge: 3.0"

Trailing Edge: 3.5"

Tip Edge: 1.25"

R
o
o
t

E
d
g
e



EXCALIBUR II

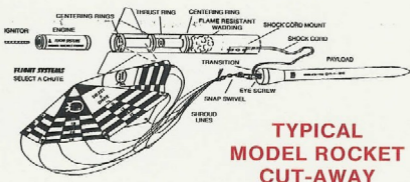
24 FSI



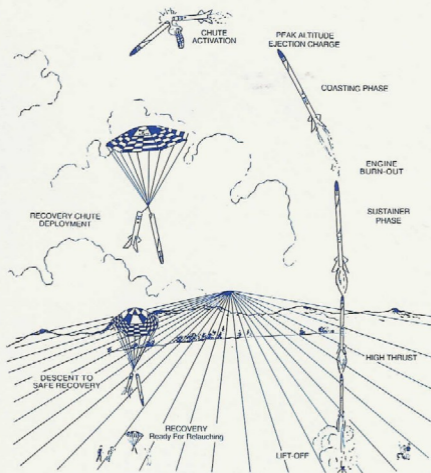


FLIGHT SYSTEMS, INC.

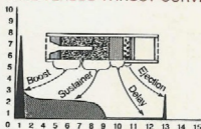
HIGH PERFORMANCE FLYING MODEL ROCKETS



Flight Sequence – Lift-Off, High Thrust and Recovery



MODEL ROCKET ENGINE TIME VERSUS THRUST CURVE



MODEL ROCKET KIT SKILL LEVEL

The skill level numbers given with each kit description recommend the skills and experience necessary to successfully build the model kit.

SKILL LEVEL NO.	DESCRIPTION	
1	Very Simple	Beginner
2	Fairly Easy	
3	Average	Intermediate
4	Challenging	
5	Extremely Challenging	Advanced



9300 EAST 68TH. STREET
RAYTOWN, MISSOURI 64133
816-566-2011