FLYING MODEL

# ROCKET

# SIZZLER®

BETA SERIES Skill Level 1

- Blazes to over 400 ft. (over 120 meters)!
- Through-the-wall fins for added strength!
- Flies over & over again!

**Unique Rear Deployed Parachute !**

Length: 27.8" (70.6 cm)
Diameter: 1.64" (41.7 mm)
Weight: 3.9 oz. (110 grams)
Recommended Engines:
B6-2 (First Flight), B4-2, C5-3, C6-3, C6-5

Made in USA

ESTES®

EST 2127



(6/98) PN 82131

ESTES INDUSTRIES (11-96) 82100
1295 H Street
Penrose, CO 81240 EST 2127

# SIZZLER® FLYING MODEL ROCKET KIT INSTRUCTIONS

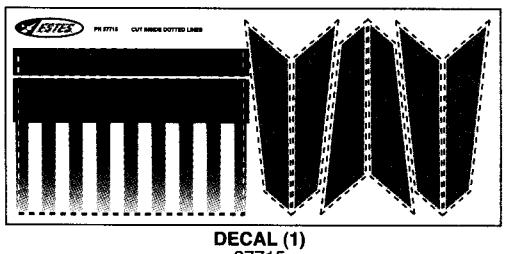
BETA SERIES
SKILL LEVEL 1

## TOOLS REQUIRED:

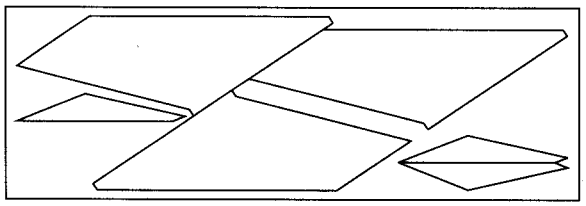
**WHITE OR YELLOW GLUE, TUBE-TYPE PLASTIC CEMENT, RULER, PENCIL, HOBBY KNIFE, 400-600 GRIT SANDPAPER, WAXED PAPER, MASKING TAPE, WHITE & YELLOW SPRAY PAINT**

## ALL GLUED AREAS ARE SHADED IN GRAY

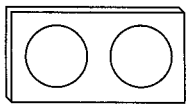
## PARTS LAYOUT



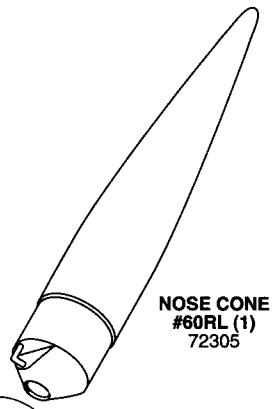
DECAL (1)
37715



DIE CUT BALSA FIN SHEET (1)
32252

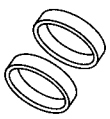


DIE CUT CARD (1)
32477



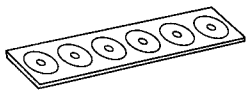
NOSE CONE #60RL (1)
72305

SLOTTED BODY TUBE #60WH (1)
31175



LARGE ADAPTER RINGS #5560 (2)
30001

LAUNCH LUGS #LL2A
38175



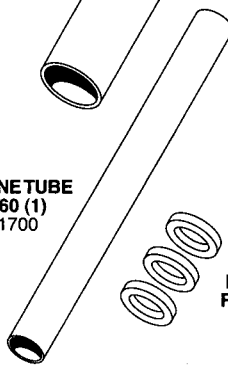
TAPE RINGS (1)
38407



INNER TUBE #55G (1)
30386

SHROUD LINES #108 (1)
38239

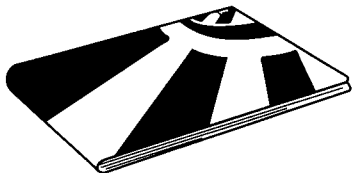
SHOCK CORD - 1/4 x 24 (1)
38383



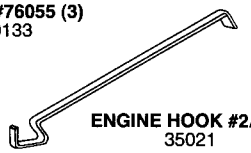
ENGINE TUBE #760 (1)
31700



ENGINE MOUNT RINGS #76055 (3)
30133

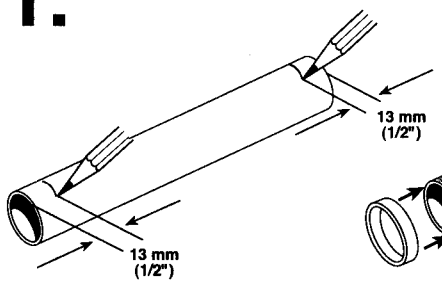


PARACHUTE - 18 (1)
35821



ENGINE HOOK #2A (1)
35021

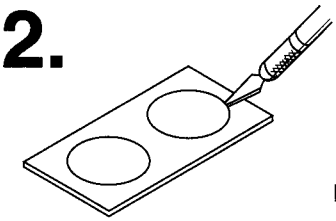
## 1. INNER TUBE ASSEMBLY



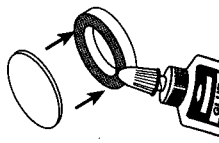

**A.** Use a ruler to mark inner tube at 13mm (1/2") from each end.

**B.** Apply a band of glu
end and slide one
adapter ring through
up to mark.

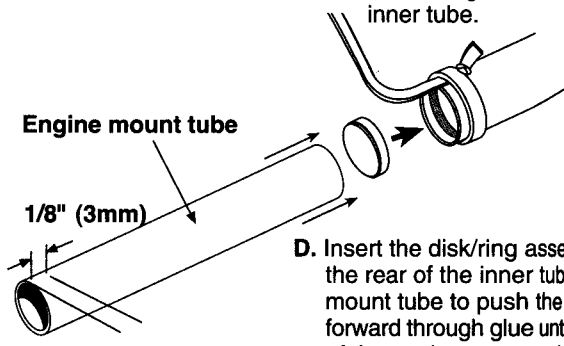
## 2.



**A.** Carefully remove one die cut disk from card.

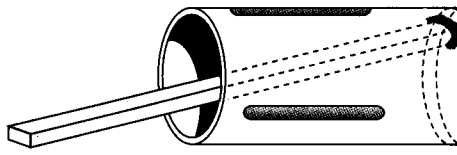


**B.** Glue one engine m
disk. (Be sure to ce
and ring.) Let glue
fit disk/ring assembl
inner tube.




**D.** Insert the disk/ring asse
the rear of the inner tub
mount tube to push the
forward through glue unt
of the engine mount tub
**Immediately remove t
tube.**

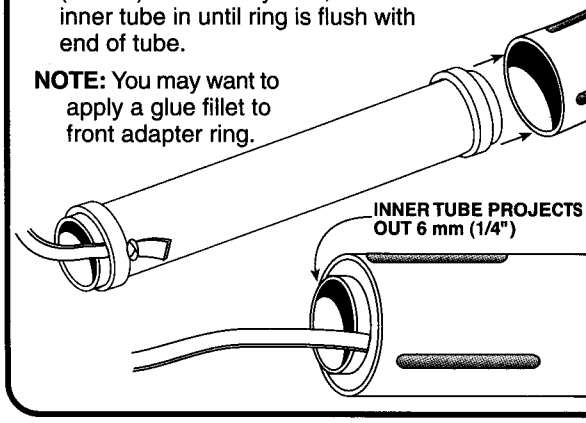
## 4.

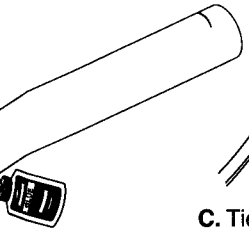


**A.** Using the balsa stick, apply glue inside the body tube just in front of the slots as shown.

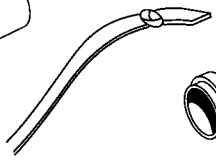
**B.** Insert front end of inner tube into rear (slotted) end of body tube, then slide inner tube in until ring is flush with end of tube.

**NOTE:** You may want to apply a glue fillet to front adapter ring.

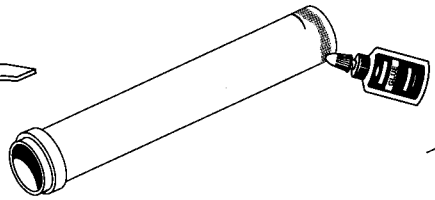




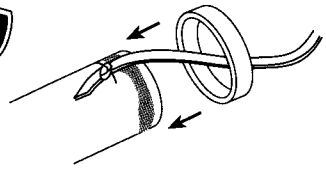
d of glue to one
de one large
through glue and



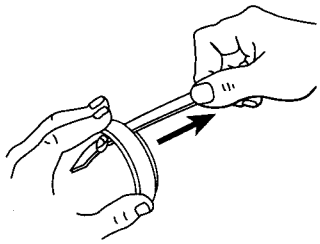
**C.** Tie a double knot in both ends of shock cord.



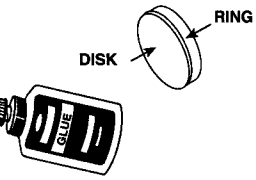
**D.** Apply glue to other end of tube.



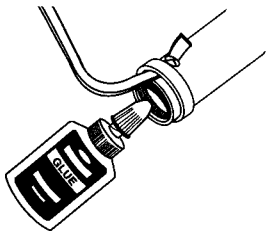
**E.** Lay one knotted end of shock cord in glue. Put other end of shock cord through a large adapter ring and slide ring up to the other 13mm (1/2") mark. (This is now the **rear** of the inner tube assembly.)



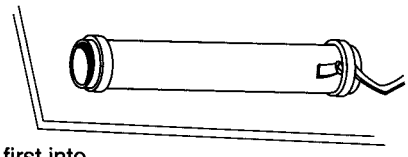
**F.** While holding adapter ring in place, pull cord so knot rests up against adapter ring tightly. Let glue dry.




gine mount ring to
re to center the disk
et glue set and test
ssembly into rear of



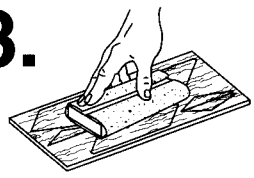

**C.** Apply a band of glue inside the rear (end with shock cord) of the inner tube.

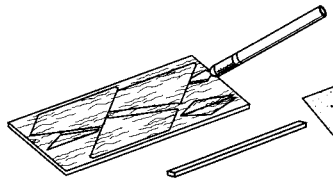


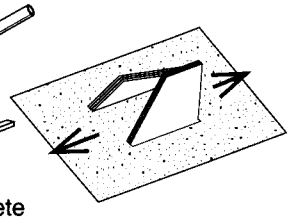
ng assembly, ring first into
nner tube. Use the engine
ush the disk/ring assembly
glue until about 1/8" (33mm)
ount tube is visible.
**move the engine mount**

**E.** Set tube on its side to dry completely.

## 3.





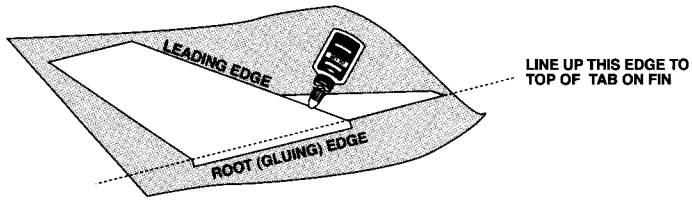


**A.** Fine sand balsa fin sheet.

**B.** Use a hobby knife to carefully complete cuts in balsa fin sheet. Cut away from adjacent fins so you won't damage them. (Be sure cuts go completely through balsa.)

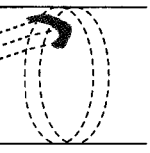
**C.** Carefully remove fins. ( Save a stick of balsa to use later as a glue applicator.)

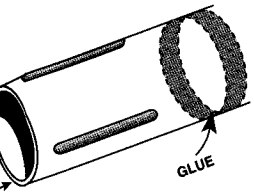
**D.** Stack fins together and sand all edges smooth.




**E.** Lay fin pieces on a sheet of waxed paper. Glue together. (Be sure to glue the small fin piece set back from the large piece fin tab.)

**F.** Set each fin assembly aside to dry.

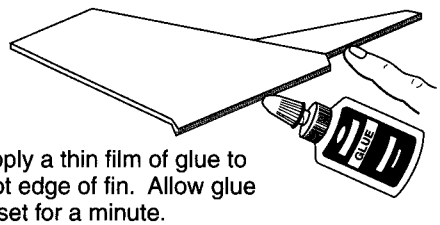





OJECTS

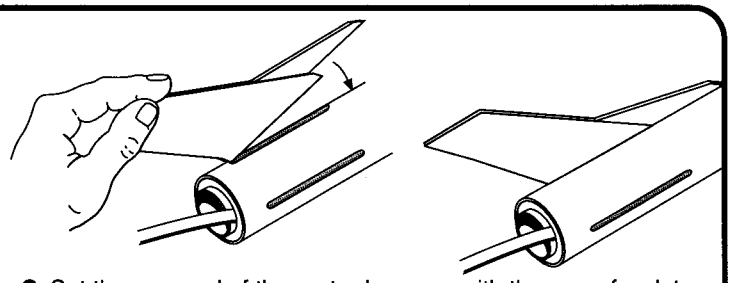
## 5.

NOTE: Before gluing, test fit fins into slotted body tube. Sand tabs as necessary.

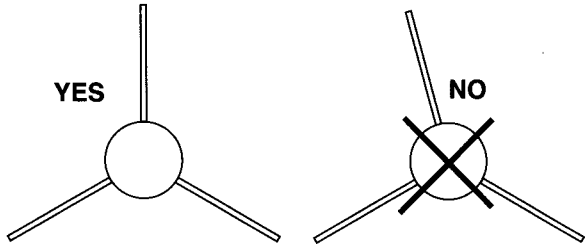



**A.** Apply a thin film of glue to root edge of fin. Allow glue to set for a minute.

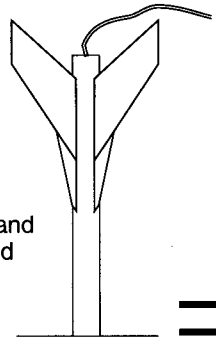
**B.** Apply another, thicker layer of glue to same fin.



**C.** Set the rear end of the root edge even with the rear of a slot in body tube and gently press the root edge into slot. (The small section of the fin will sit outside the slot on the body tube.) Apply remaining fins in same manner.

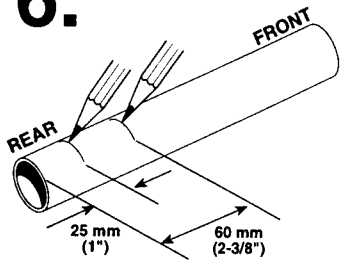



**D.** After fins are attached, check for proper alignment.

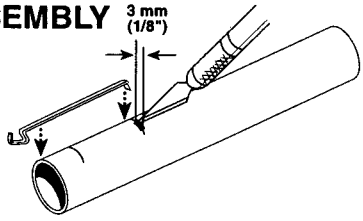


**E.** IMPORTANT: Stand rocket on front end until glue is completely dry.

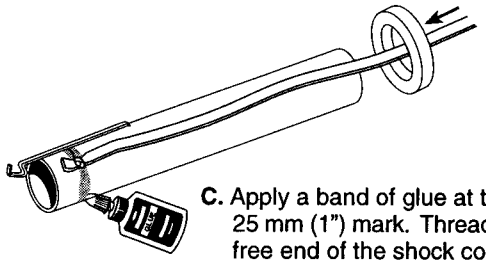
# 6. ENGINE MOUNT ASSEMBLY



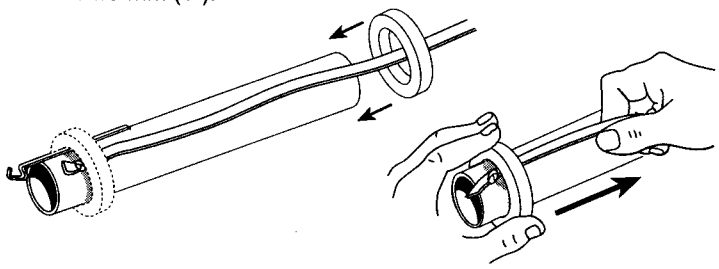

**A.** Mark the engine mount tube at 60 mm (2-3/8") and 25 mm (1").



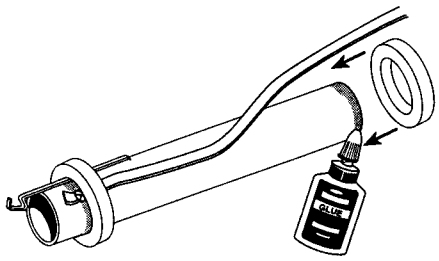

**B.** Cut a 3 mm (1/8") wide slit at the 60 mm (2-3/8") mark only and insert engine hook as shown. This is now the rear of the engine mount.



**C.** Apply a band of glue at the 25 mm (1") mark. Thread the free end of the shock cord through an engine mount ring with knot toward rear of tube. Lay cord onto glue.



**D.** Slide the engine mount ring down the tube, over shock cord to 25 mm (1") mark. Hold the ring in place and pull knot tight against engine mount ring.

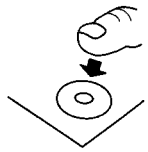



**E.** Apply a band of glue around the front end of the engine mount tube. Move shock cord out of the way and slide remaining engine mount ring onto front end of tube until edges are even. Set assembly aside to dry.

# 7.

**A.** Cut out p
on dotte

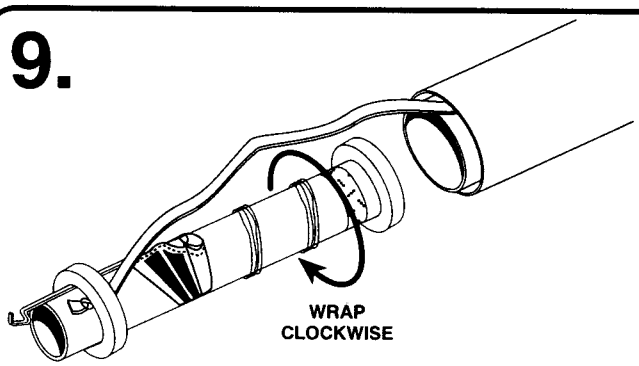
**B.** Find shroud line
the shroud line,



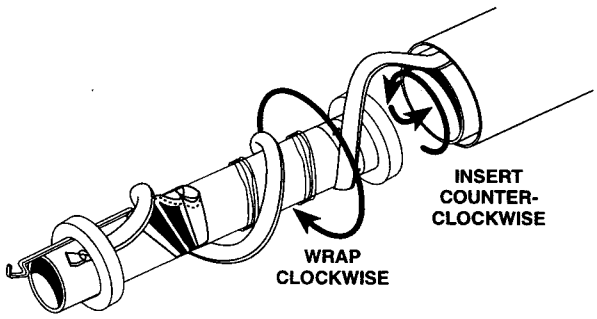
**C.** Press tape rings onto marks on corners.

COMP
PARA

# 9.

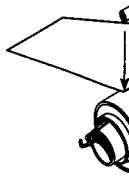



**E.** Move shock cord out of way and spiral wrap lines and parachute down engine mount tube between two rings.



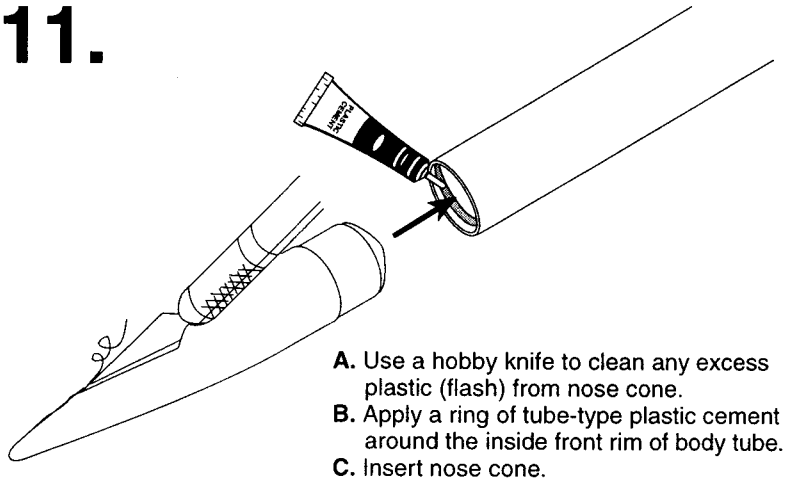

**F.** Again move the shock cord out of the way and insert front of engine mount into body tube. Wrap any excess shock cord around engine mount tube between rings and insert rest of engine mount into body tube. (It may be helpful to use a twisting motion while inserting mount in order to keep chute wrapped around engine mount.)

# 10.



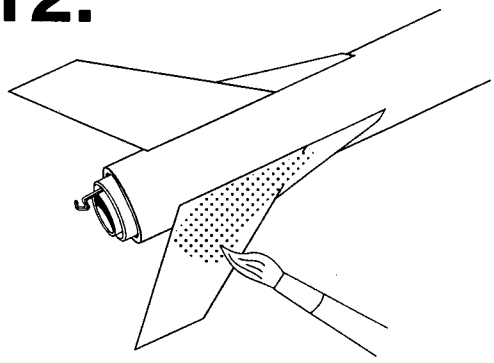
**A.** Apply a thin l
lug. Align lug
glue into a fi

# 11.



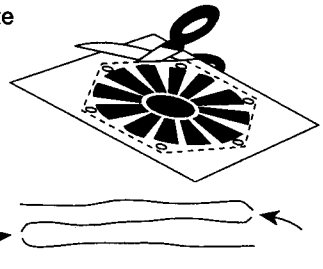
**A.** Use a hobby knife to clean any excess plastic (flash) from nose cone.
**B.** Apply a ring of tube-type plastic cement around the inside front rim of body tube.
**C.** Insert nose cone.

# 12.



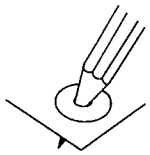
**A.** Use sanding sealer to fill and smooth balsa fins. (You may want to sand with 400-600 grit sandpaper and re-apply sealer until you are satisfied with finish.)

t out parachute
dotted line.

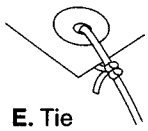




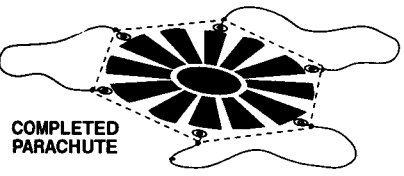
ud line material. Remove tape. Using all of
d line, fold and cut into three equal lengths.



**D.** Punch holes with sharp pencil.

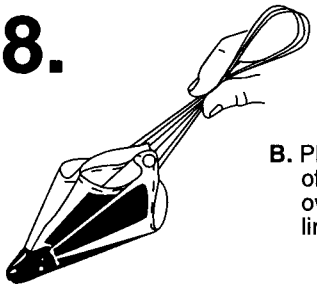


**E.** Tie lines off.

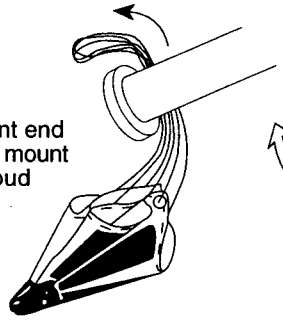


COMPLETED PARACHUTE

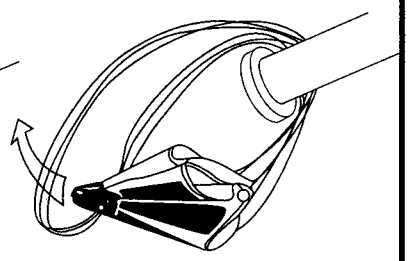
## 8.



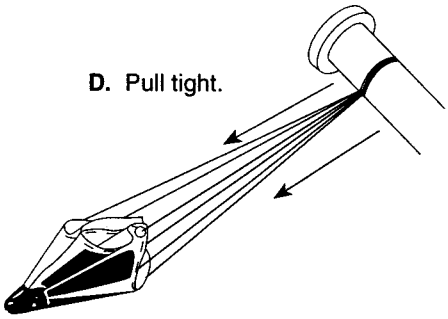
**A.** Form loop with shroud lines.



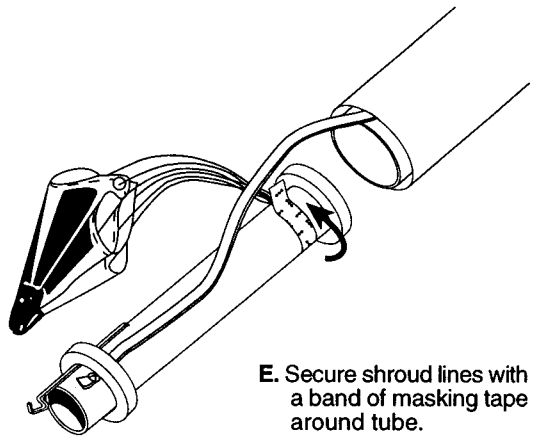
**B.** Place front end of engine mount over shroud lines.



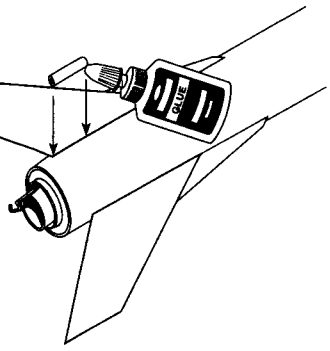
**C.** Pass parachute through loop.



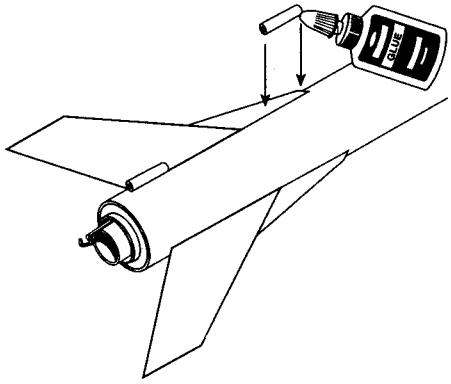
**D.** Pull tight.



**E.** Secure shroud lines with a band of masking tape around tube.

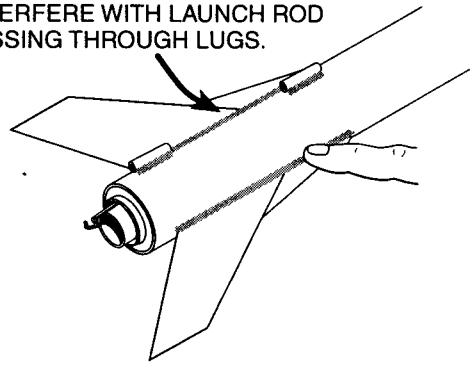



a thin layer of glue to side of launch
gn lug with rear edge of one fin and
to a fin body joint.



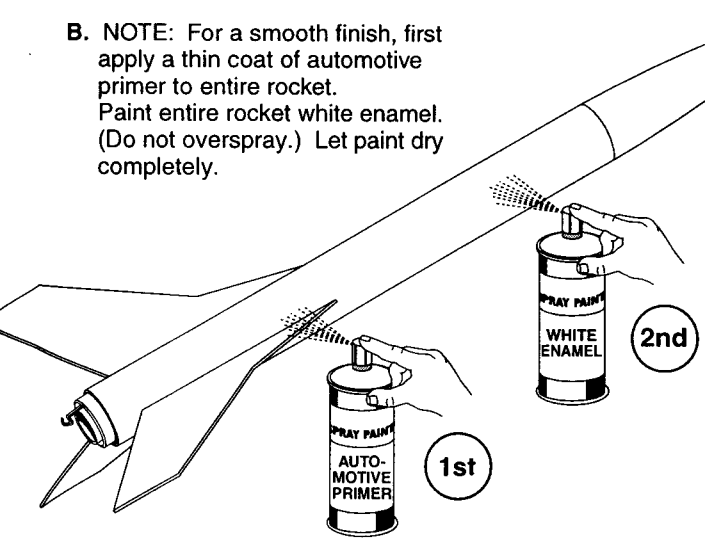

**B.** Apply a thin layer of glue to side of other launch lug. Align front end of lug with top of same fin and apply.

NOTE: BE SURE FILLET DOES NOT INTERFERE WITH LAUNCH ROD PASSING THROUGH LUGS.

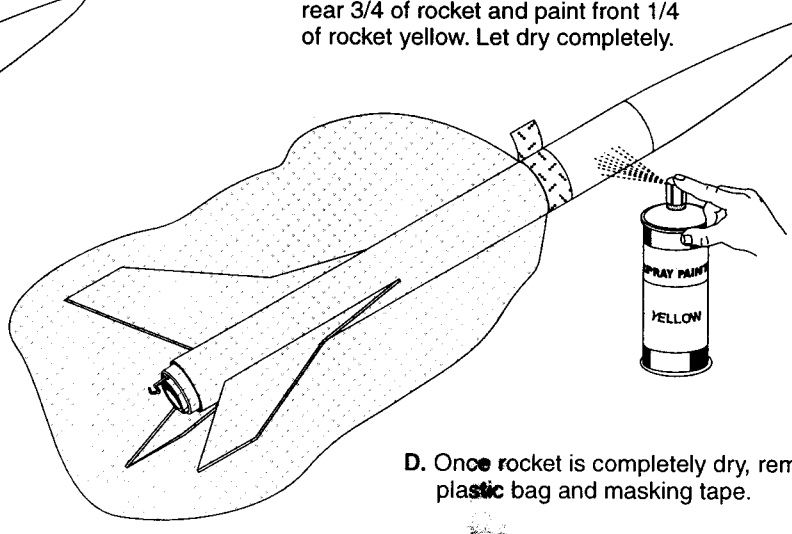


**C.** Apply a glue reinforcement (fillet) to lugs and fin joints. Let dry.

**B.** NOTE: For a smooth finish, first apply a thin coat of automotive primer to entire rocket. Paint entire rocket white enamel. (Do not overspray.) Let paint dry completely.

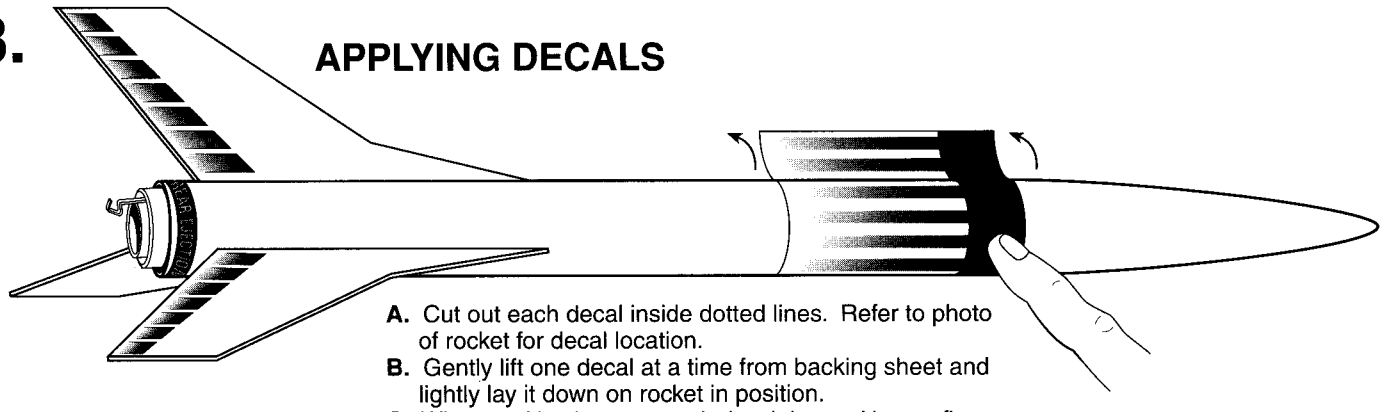



**C.** Mask and tape a plastic bag around rear 3/4 of rocket and paint front 1/4 of rocket yellow. Let dry completely.




**D.** Once rocket is completely dry, remove plastic bag and masking tape.

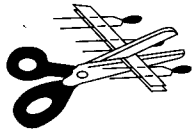
## 13. APPLYING DECALS



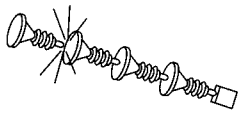
**A.** Cut out each decal inside dotted lines. Refer to photo of rocket for decal location.
**B.** Gently lift one decal at a time from backing sheet and lightly lay it down on rocket in position.
**C.** When position is correct, rub decal down with your finger to remove bubbles and to secure decal to rocket.

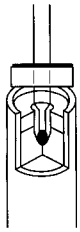
## 14. FLYING YOUR ROCKET

### ENGINE PREPARATION

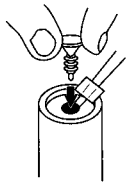


**Separate igniter and igniter plug.**

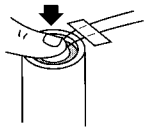




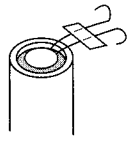
**Hold engine upright, drop in igniter. Igniter must touch propellant.**



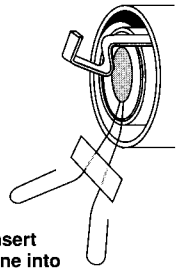
**Insert igniter plug.**



**Firmly push all the way in.**



**Bend igniter wires back.**



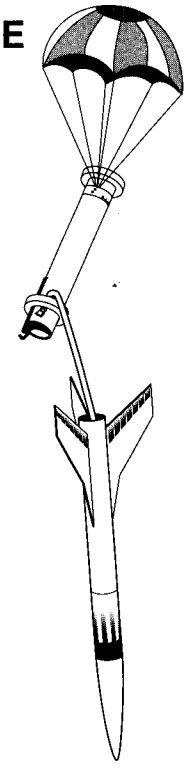
**Insert engine into rocket.**

## 15. FLIGHT PROFILE

1. The Sizzler® rocket features rear ejection of the recovery system. The power pod is also ejected but returns with the rocket as one assembly.

2. Recovery wadding is not required for this rocket. See steps 8 and 9 for recovery system preparation.

NOTE: When flying your Sizzler®, be sure the shock cord is inserted and protected by the power pod.



## LAUNCH SUPPLIES

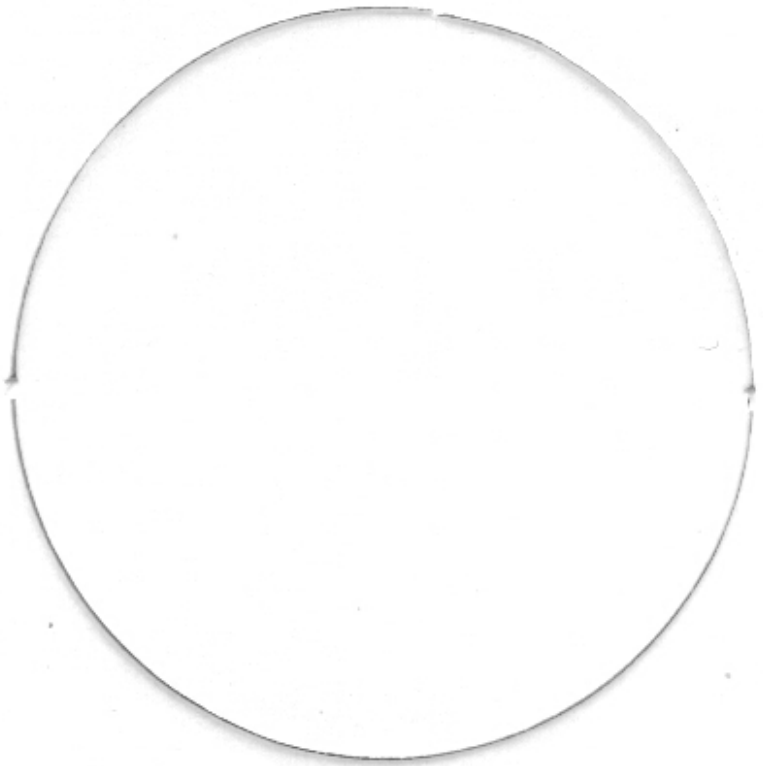
To launch your rocket, you will need the following:
- Launch Pad (Estes Porta-Pad® II)
- Launch Controller (Estes Electron Beam®)
- Recommended Estes Engines: B4-2, B6-2, C5-3, C6-3 or C6-5. Use the B4-2 for your first flight to become familiar with your rocket's flight pattern.
- Igniters and Igniter Plugs (included with Estes engines)

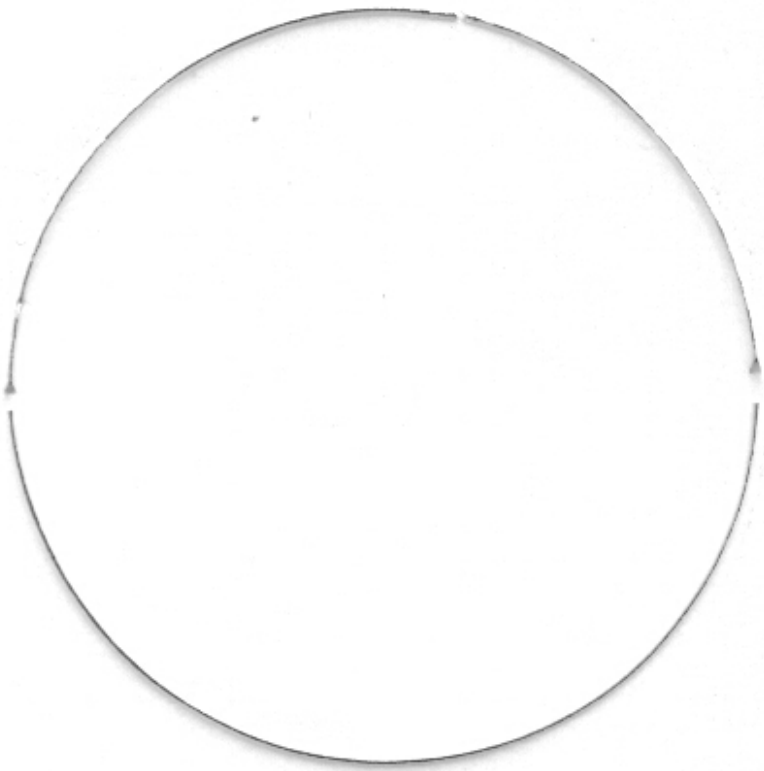
Use only Estes products to launch this rocket.

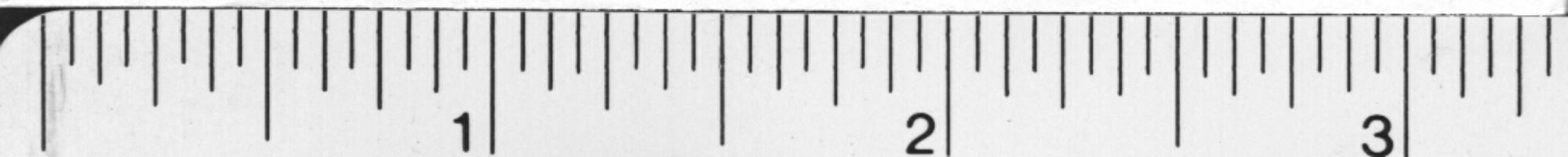
| ENGINE | PROJECTED ALTITUDE | |
|---|---|---|
| | Feet | Meters |
| B4-2 | 120 | 37 |
| B6-2 | 135 | 41 |
| C5-3 | 390 | 119 |
| C6-3/C6-5 | 366 | 112 |

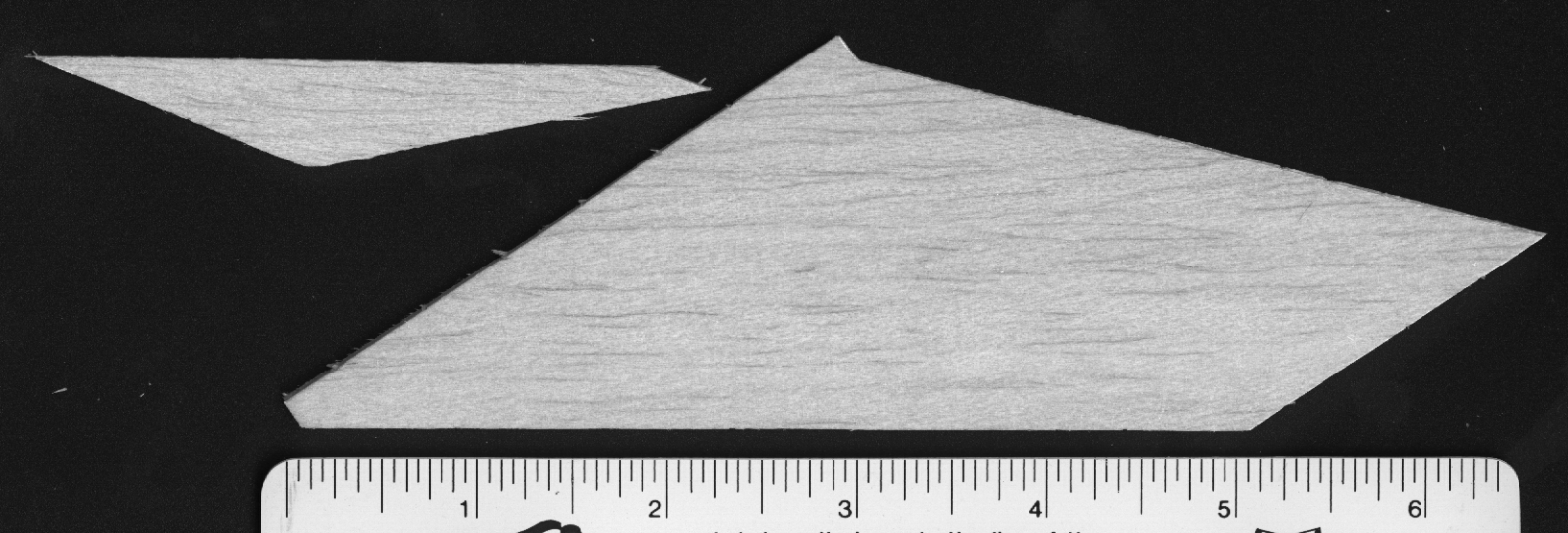
## TIPS FOR FLYING YOUR ROCKET

- Choose a large field away from power lines, buildings, tall trees, and low flying aircraft. Try to find a field at least 76 meters (250 feet) 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 (wind speed less than 30 kph - 20 mph) and good visibility.
- Don't leave parachute packed more than a minute or so before launch during cold weather (colder than 4° Celsius [40° Fahrenheit]). Parachute may be dusted with talcum or baby powder to avoid sticking.
- 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.






1
2
3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6

ESTES

PN 37715

CUT INSIDE DOTTED LINES

REAR EJECTION REAR EJECTION