





# RICOCHET™

## FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

#3208

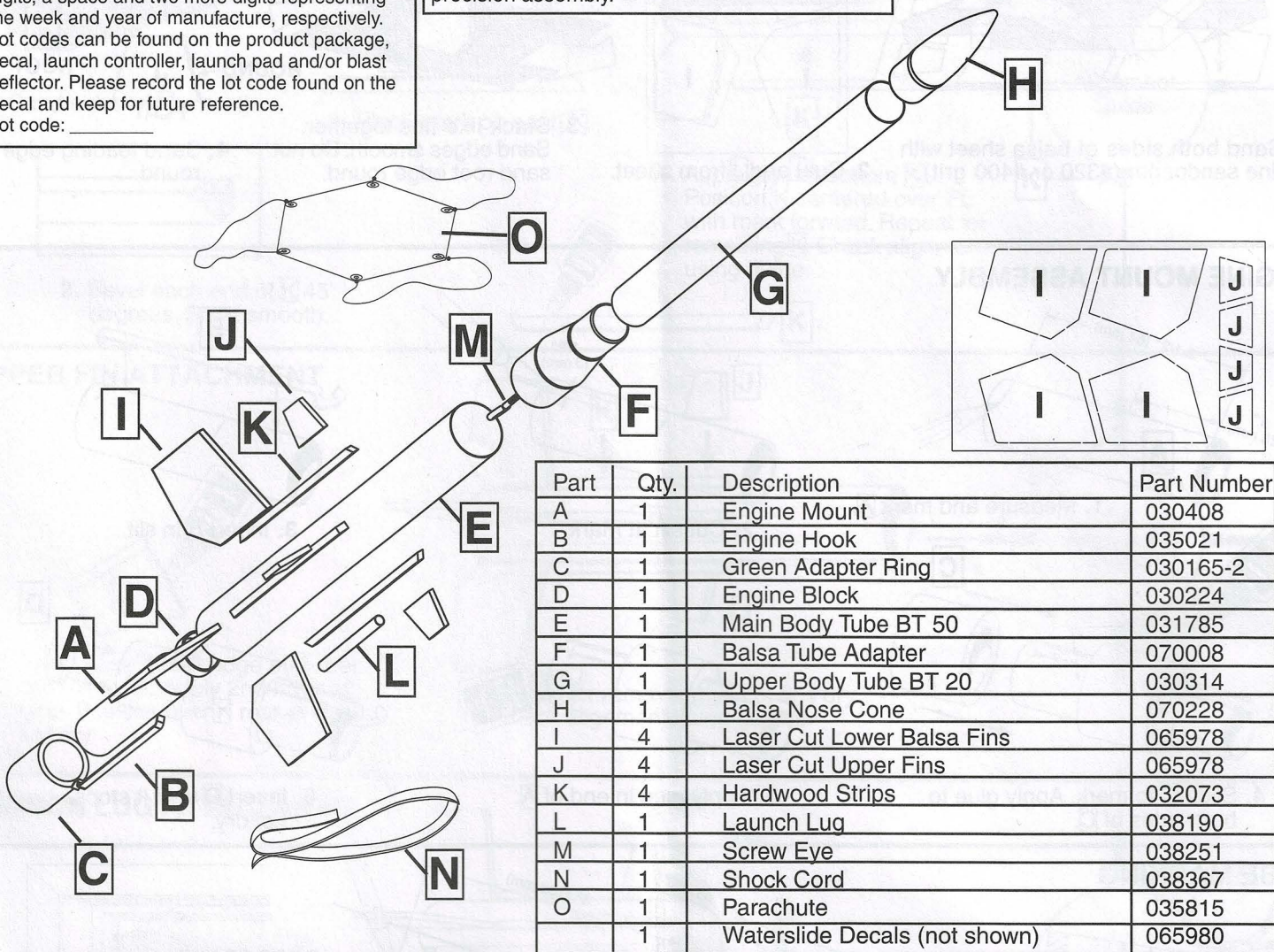
Estes-Cox Corp.  
1295 H Street, PO Box 227  
Penrose, CO 81240-0227  
Printed in Guangdong, China



**ASSEMBLY TIP:** Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

**IMPORTANT:** Your Estes product is marked with a four digit lot code or codes. The code is two digits, a space and two more digits representing the week and year of manufacture, respectively. Lot codes can be found on the product package, decal, launch controller, launch pad and/or blast deflector. Please record the lot code found on the decal and keep for future reference.  
Lot code: \_\_\_\_\_

**NOTE:** Test fit all parts together before applying glue. If parts don't fit properly, sand as required for precision assembly.



Part	Qty.	Description	Part Number
A	1	Engine Mount	030408
B	1	Engine Hook	035021
C	1	Green Adapter Ring	030165-2
D	1	Engine Block	030224
E	1	Main Body Tube BT 50	031785
F	1	Balsa Tube Adapter	070008
G	1	Upper Body Tube BT 20	030314
H	1	Balsa Nose Cone	070228
I	4	Laser Cut Lower Balsa Fins	065978
J	4	Laser Cut Upper Fins	065978
K	4	Hardwood Strips	032073
L	1	Launch Lug	038190
M	1	Screw Eye	038251
N	1	Shock Cord	038367
O	1	Parachute	035815
	1	Waterslide Decals (not shown)	065980

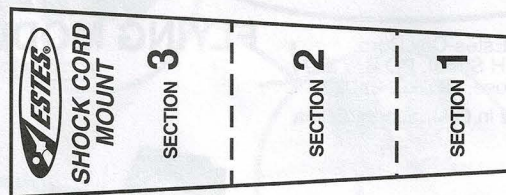
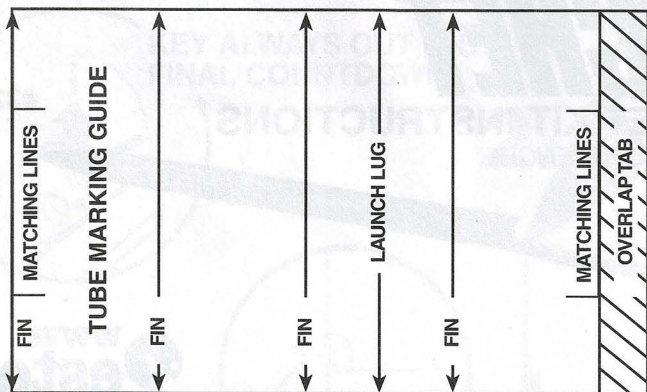
**SUPPLIES** In addition to the parts included in the kit you will also need:



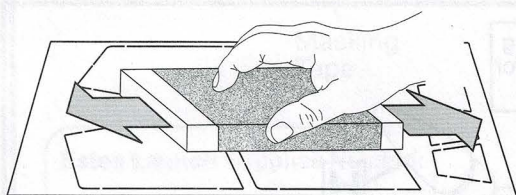
SCISSORS PENCIL RULER FINE SAND PAPER (#320-#400 GRIT) CARPENTER'S GLUE MODELING KNIFE MASKING TAPE SPRAY PRIMER (WHITE) SPRAY PAINT CLEAR COAT (OPTIONAL) SPRAY PAINT GLOSS WHITE SPRAY PAINT GLOSS BLUE SPRAY PAINT GLOSS BLACK

# TUBE MARKING GUIDE AND SHOCK CORD MOUNT

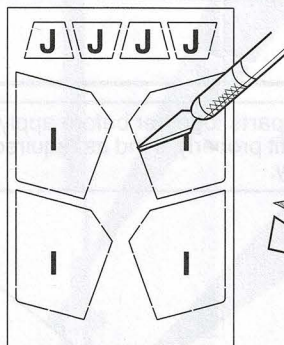
(Make a copy if you want to keep instructions.)



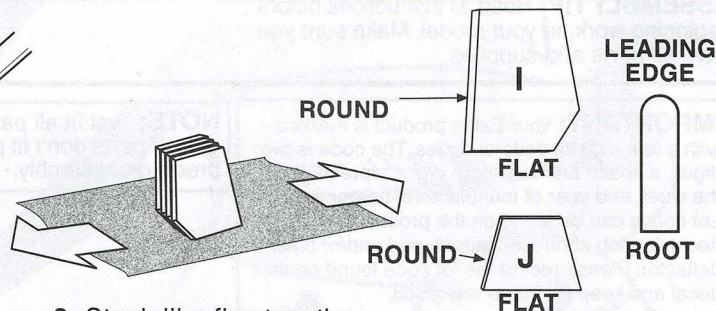
## FIN PREPARATION



1. Sand both sides of balsa sheet with fine sandpaper (#320 or #400 grit).



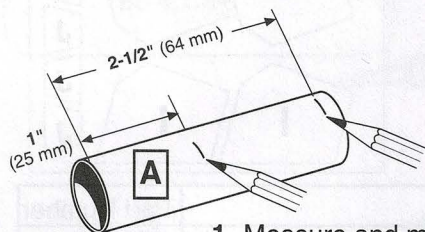
2. Cut I and J from sheet.



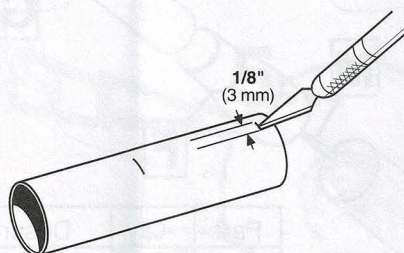
3. Stack like fins together. Sand edges smooth. Do not sand root edge round.

4. Sand leading edge round.

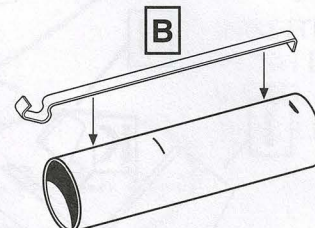
## ENGINE MOUNT ASSEMBLY



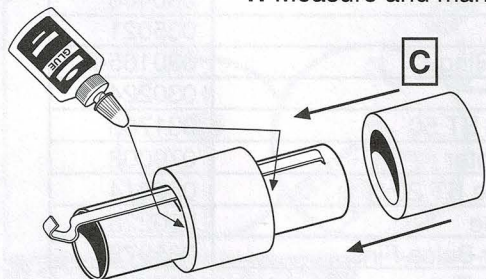
1. Measure and mark A.



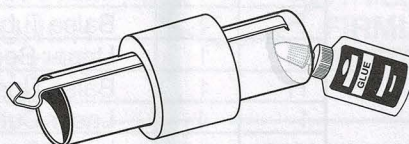
2. Cut slit at mark.



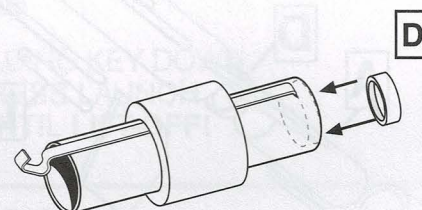
3. Insert B in slit.



4. Slide C to mark. Apply glue to both sides of C.

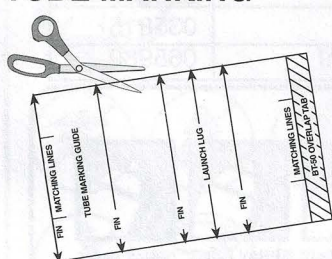


5. Apply glue in end of A.

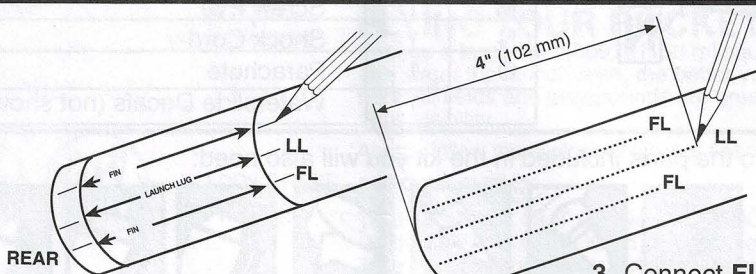


6. Insert D until it stops. Let dry.

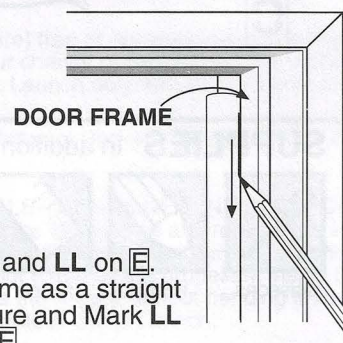
## TUBE MARKING



1. Cut tube marking guide from instructions.

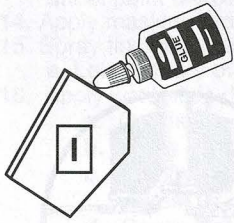


2. Tape guide around E. Mark launch lug LL and fin lines FL. Remove guide.

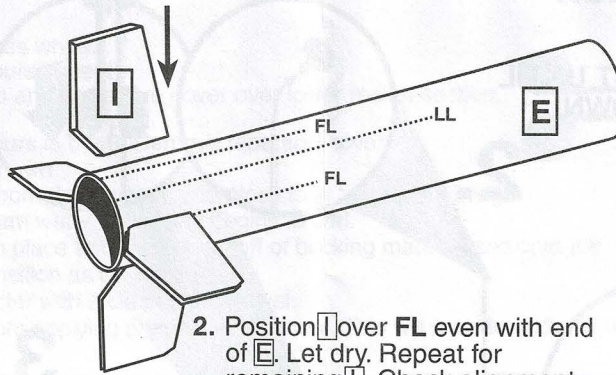


3. Connect FL and LL on E. Use door frame as a straight edge. Measure and Mark LL from end of E.

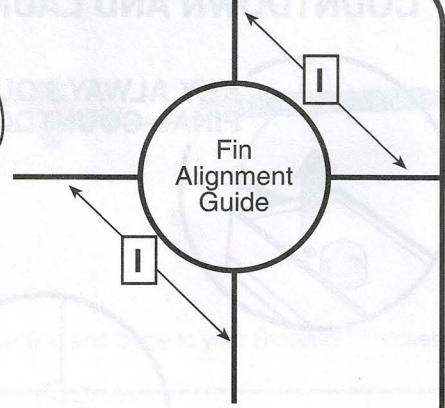
## LOWER FIN ATTACHMENT



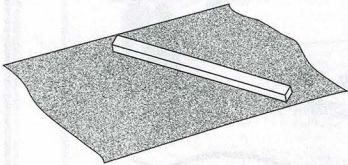
1. Apply glue to root edge of **I**. Let dry 1 minute. Apply 2nd layer of glue.



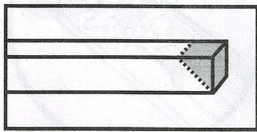
2. Position **I** over **FL** even with end of **E**. Let dry. Repeat for remaining **I**. Check alignment using guide.



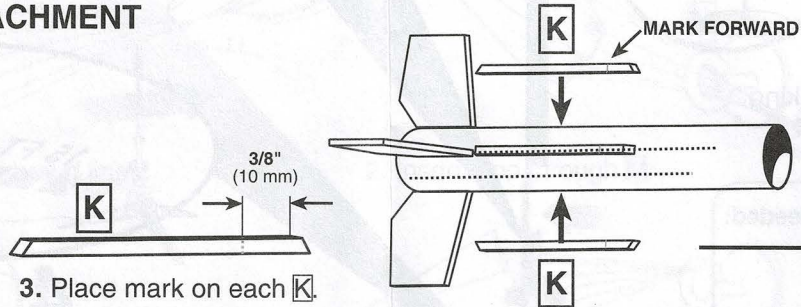
## HARDWOOD STRIP ATTACHMENT



1. Sand sides of **K** smooth.

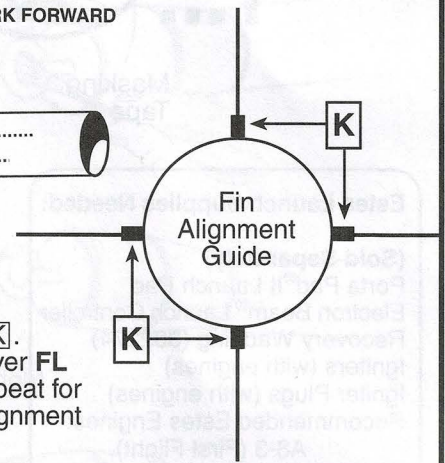
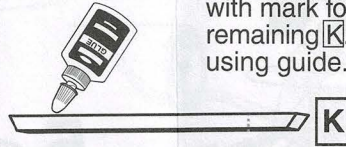


2. Bevel each end of **K** 45 degrees. Sand smooth.

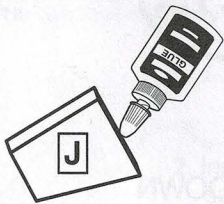


3. Place mark on each **K**.

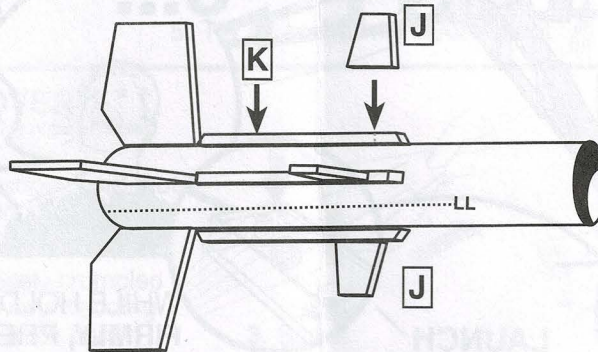
4. Apply glue to bottom **K**. Position **K** centered over **FL** with mark forward. Repeat for remaining **K**. Check alignment using guide.



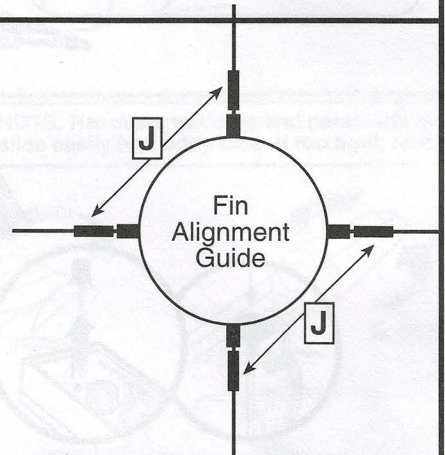
## UPPER FIN ATTACHMENT



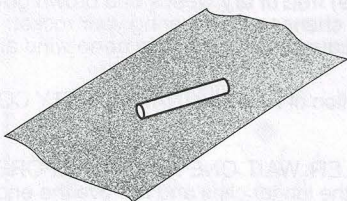
1. Apply glue to root edge of **J**. Let dry 1 minute. Apply 2nd layer of glue. Position over **K** rear of mark. Let dry.



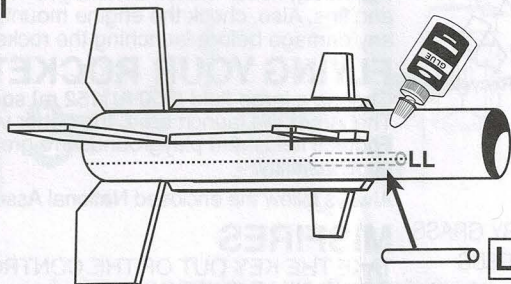
2. Repeat for remaining **J**. Let fins dry. Check alignment using guide.



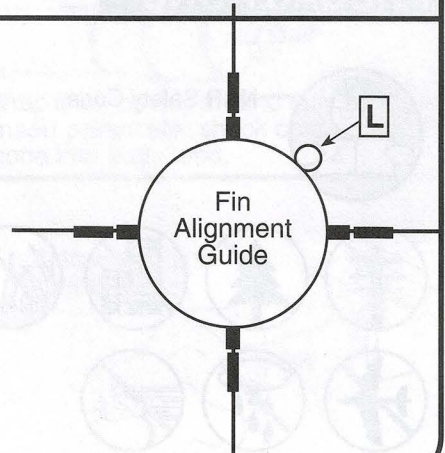
## LAUNCH LUG ATTACHMENT



1. Sand **L** with fine sandpaper.

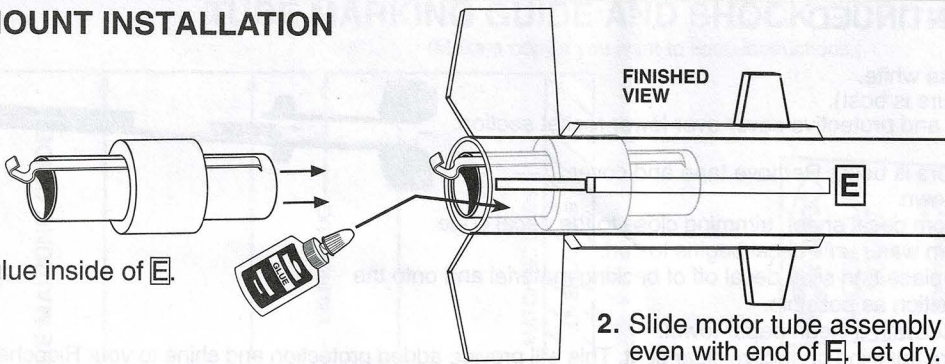


2. Apply glue to **LL** forward of mark. Position **L** in place. Let dry.

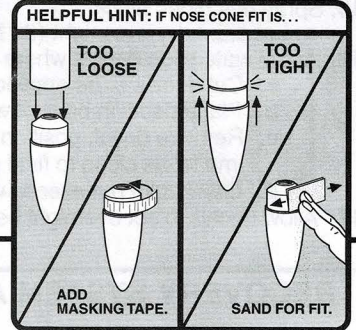


## ENGINE MOUNT INSTALLATION

1. Apply glue inside of **E**.

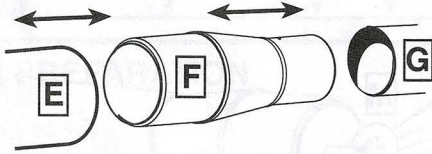


2. Slide motor tube assembly even with end of **E**. Let dry.

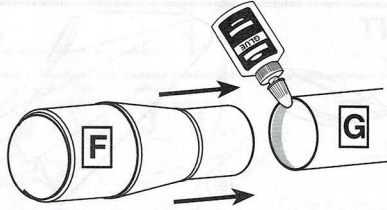


## UPPER BODY TUBE ASSEMBLY

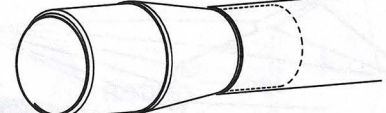
1. Check fit of **F** in **E** and **G**. Sand as required for fit.



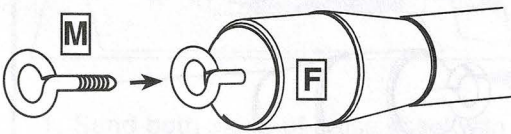
2. Apply ring of glue in **G**. Slide **F** into **G**.



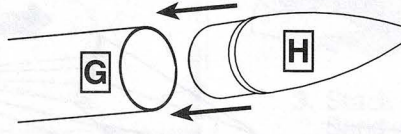
3. Wipe excess glue. Let dry.



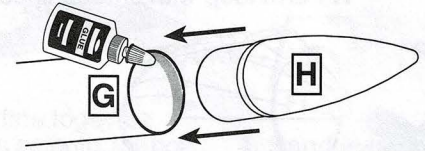
4. Screw **M** into **F**.



5. Test fit **H** in **G**. Sand as required for fit.

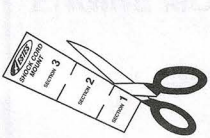


6. Apply ring of glue in **G**. Slide **H** into **G**. Let dry.

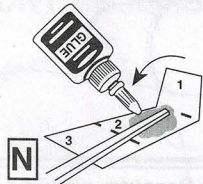


## SHOCK CORD MOUNT INSTALLATION

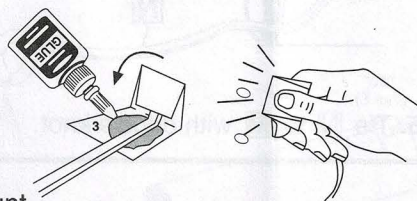
1. Cut shock cord mount from instructions.



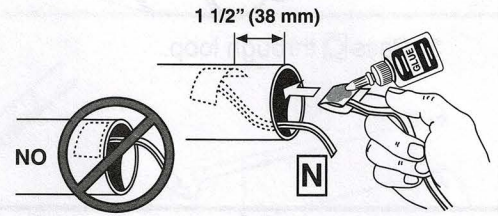
2. Apply glue to mount. Place **N** on Section 2. Fold forward.



3. Apply glue and fold forward. Squeeze tight!



4. Apply glue to shock cord mount and insert in **E**. Hold until glue sets. Let dry.



## ROCKET FINISHING

NOTE: We have found Testors One Coat Lacquer, Testors Model Master spray paints and Testors Gloss Lacquer (#1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.

Steps for a Quality Finish:

1. Insert shock cord into body tube and hold in place with paper.
2. Lightly sand entire rocket with fine sandpaper (#320 or #400 grit).
3. Apply glue fillets to fins and launch lug.
  - a. Allow glue to dry overnight.
4. Paint the main rocket body and upper rocket tube separately. Assemble after painting is complete.
5. Use a stick inserted into the engine tube end of the rocket body for painting.
6. Hold the upper rocket section by the screw eye with a clip or pliers for painting.
7. Apply 2 light coats of white primer to upper and lower rocket sections.
  - a. Lightly sand with fine sandpaper between coats.
  - b. Allow to dry between each coat.
8. Spray paint tube adapter gloss white.
  - a. Let paint dry overnight (24 hours is best).
9. Apply masking tape and protective cover around tube adapter.
10. Spray paint upper rocket section gloss blue.
  - a. Let paint dry overnight (24 hours is best). Remove tape.
11. Apply masking tape and protective cover around nose cone and upper rocket section.
12. Spray paint nose cone gloss black.
  - a. Let paint dry overnight (24 hours is best). Remove tape.

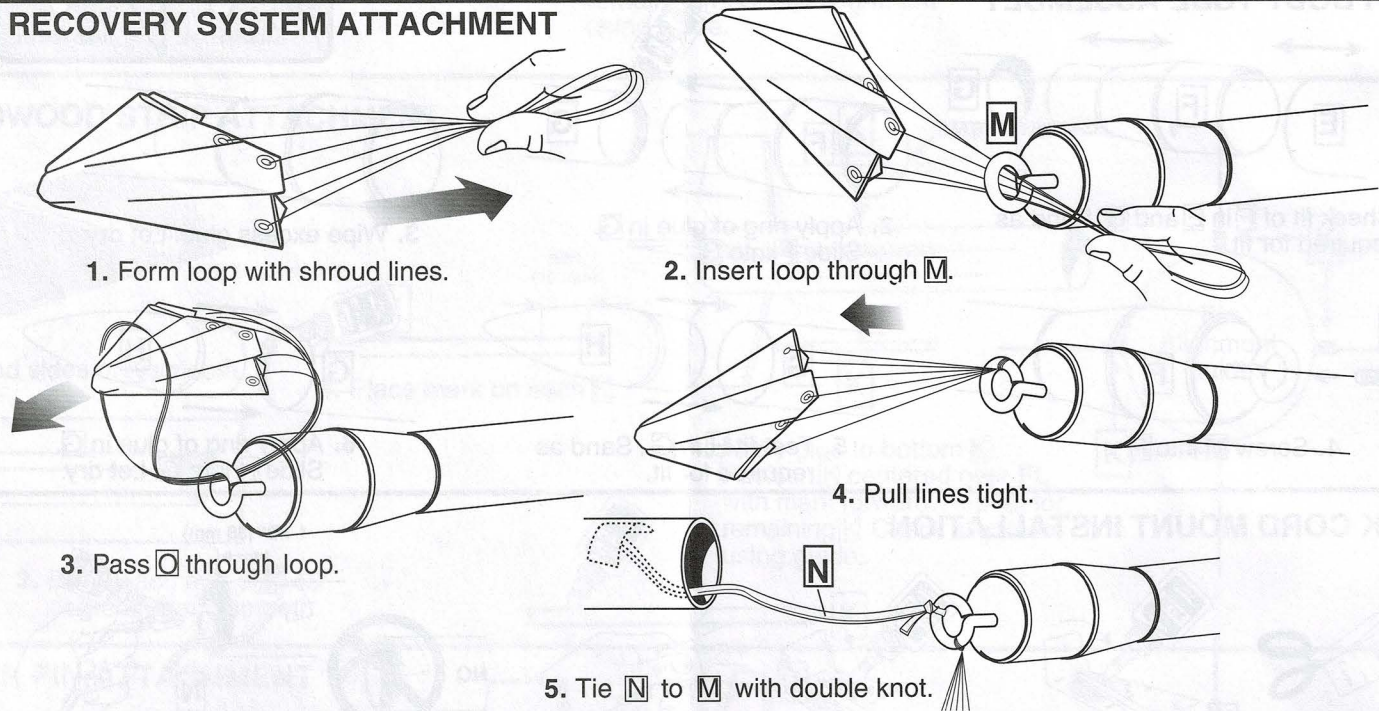
CONTINUED NEXT PAGE

## ROCKET FINISHING CONTINUED

13. Spray paint main rocket body gloss white.
  - a. Let paint dry overnight (24 hours is best).
14. Apply masking tape between fins and protective cover over lower rocket section.
15. Spray fins gloss black.
  - a. Let paint dry overnight (24 hours is best). Remove tape and cover.
16. Apply waterslide decals where shown.
  - a. Cut decals to be applied from decal sheet, trimming close to the decal edge.
  - b. Place decal in bowl of warm water until decal begins to curl.
  - c. Remove decal, position in place and slide decal off of backing material and onto the model as close to final position as possible.
  - d. Gently blot out excess water with a clean paper towel.
17. Allow decals to set overnight before applying protective clear coat. This will provide added protection and shine to your Ricochet™ rocket!

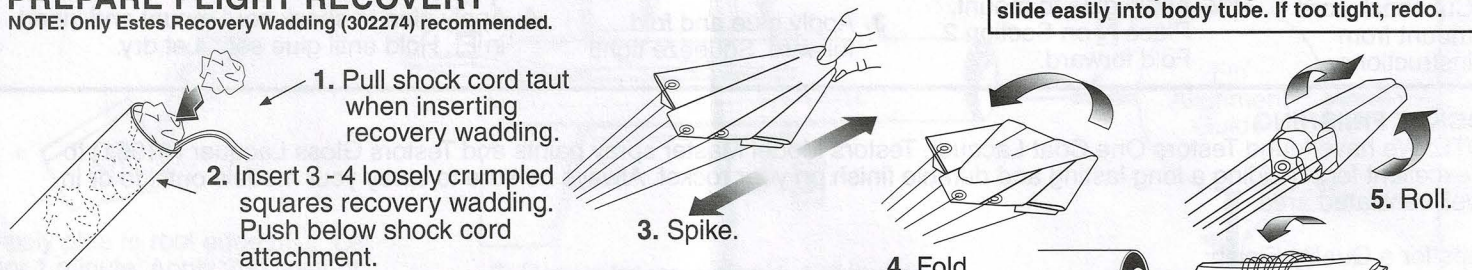


## RECOVERY SYSTEM ATTACHMENT



## PREPARE FLIGHT RECOVERY

NOTE: Only Estes Recovery Wadding (302274) recommended.



NOTE: Recovery wadding and parachute must slide easily into body tube. If too tight, redo.

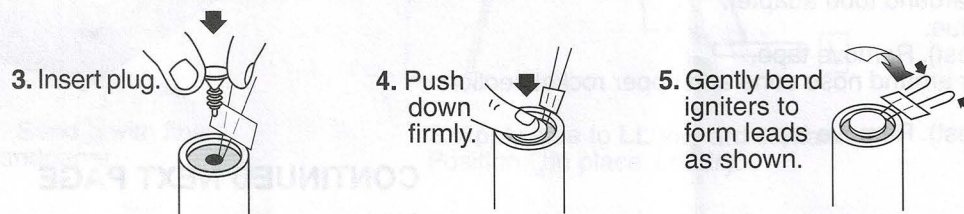
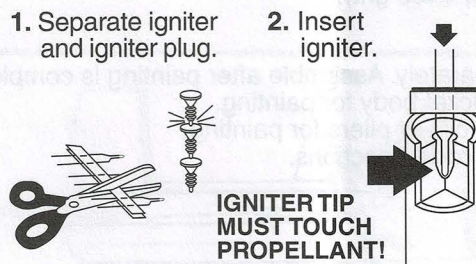
## PREPARE ENGINE

### ⚠ WARNING: FLAMMABLE

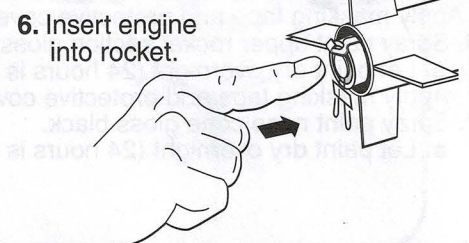
To avoid serious injury, read instructions & NAR Safety Code included with engines.

**PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!**

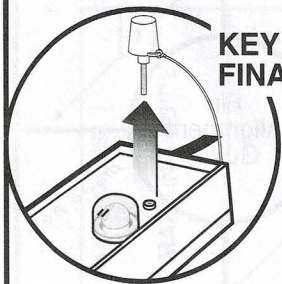
If you do not use your prepared engine, remove the igniter before storing engine.



6. Wrap lines loosely around the parachute. Insert parachute, shock cord and nose cone into body tube.

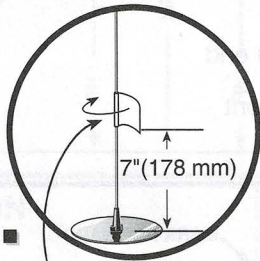


# COUNTDOWN AND LAUNCH



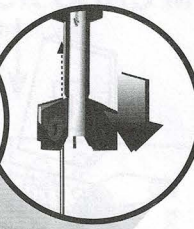
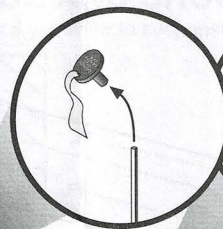
**KEY ALWAYS OUT UNTIL FINAL COUNTDOWN!**

**1...**

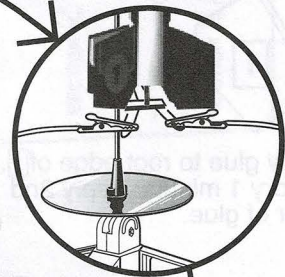


Masking Tape

**2...**

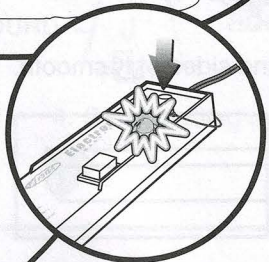


**3...**



15 FT. (4.6 M)

**4...**



INSERT KEY. PUSH DOWN HARD. BULB WILL LIGHT.

**5...**



4... 3... 2... 1...

WHILE HOLDING KEY DOWN FIRMLY, PRESS LAUNCH BUTTON UNTIL LIFT-OFF!

**LAUNCH BUTTON**

## Estes Launch Supplies Needed:

**(Sold Separately)**

- Porta Pad® II Launch Pad
- Electron Beam® Launch Controller
- Recovery Wadding (302274)
- Igniters (with engines)
- Igniter Plugs (with engines)
- Recommended Estes Engines:  
A8-3 (First Flight),  
B6-4, C6-5

## PRECAUTIONS



NAR Safety Code

This Paper



Can Be Recycled

## PRE-LAUNCH CHECK

For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug. Repair any damage before launching the rocket.

## FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

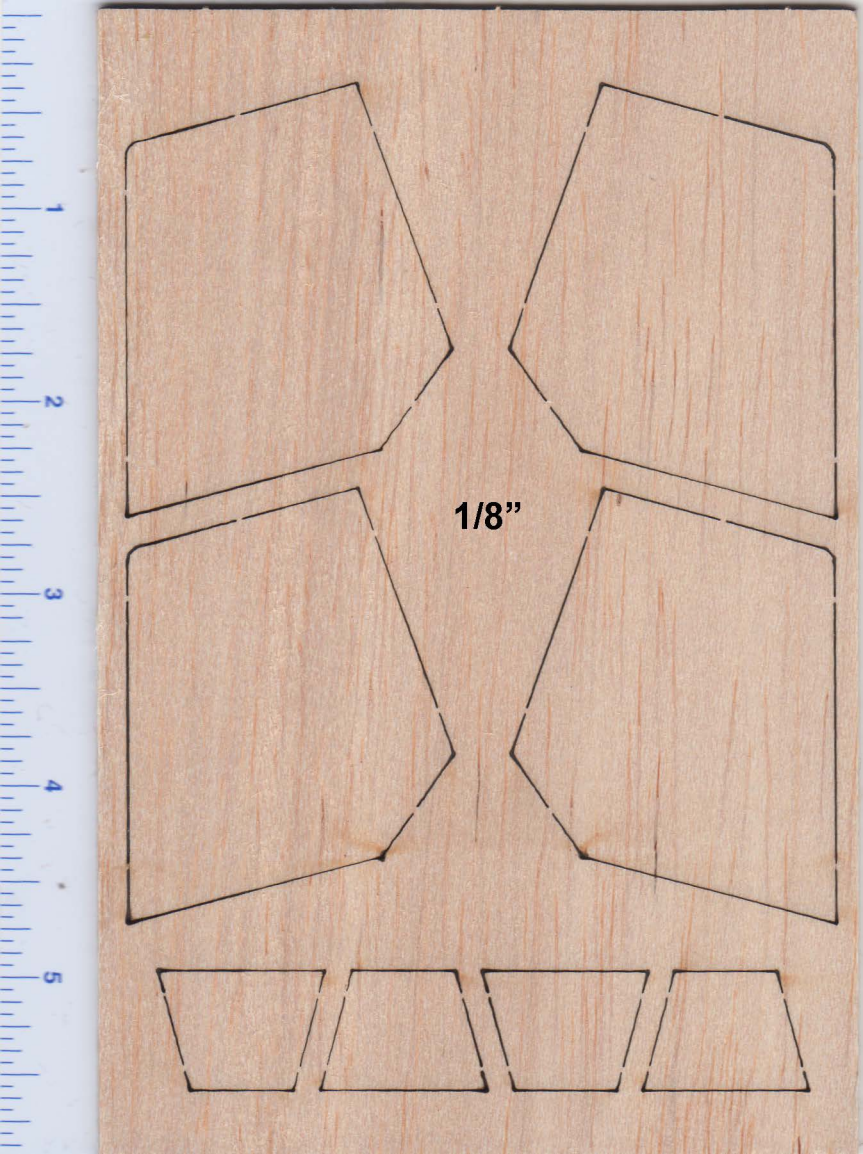
## MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.



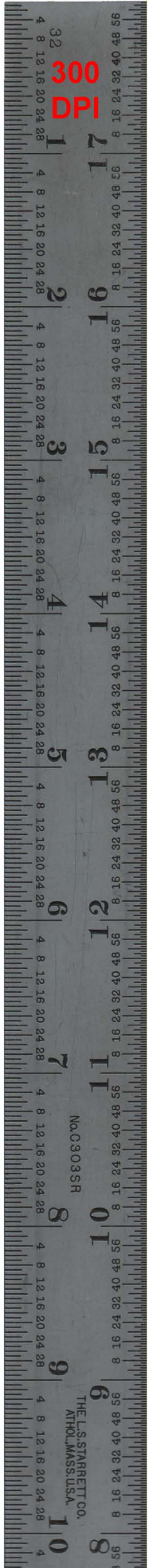
NO DRY GRASS OR WEEDS





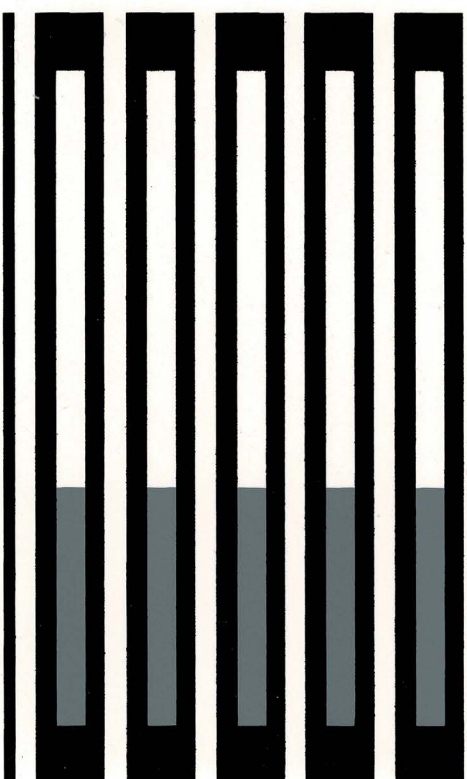
1/8"





# **BEECHNET**™

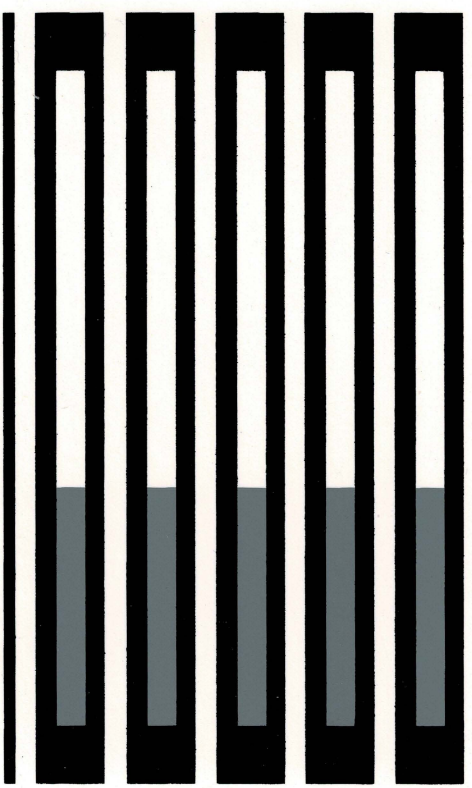
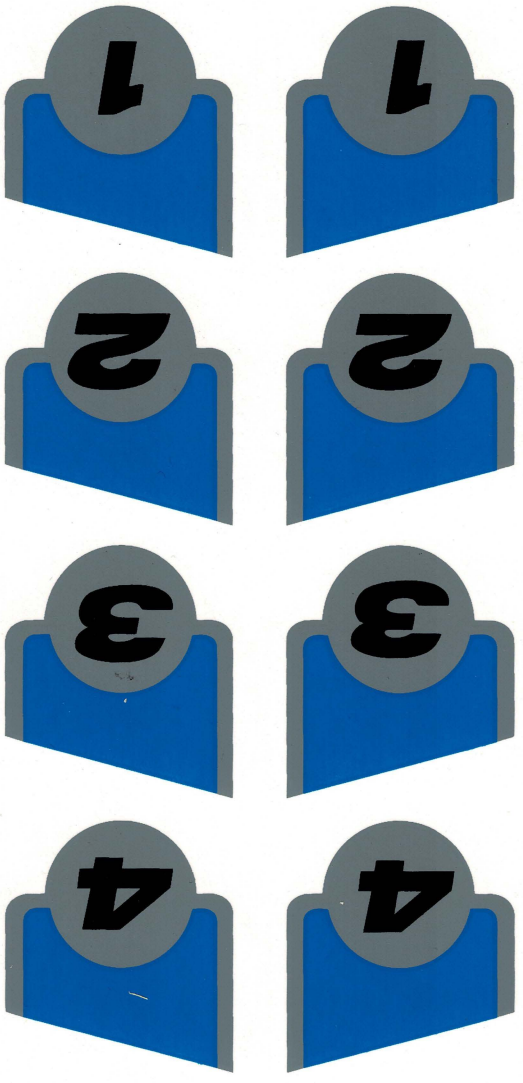
Recommended Engines: A8-3 (First Flight); B6-4; C6-5





**ESTES**  
**BLISSCHET™**

Recommended Engines: A8-3 (First Flight); B6-4; C6-5





PN36901 (2-11)

11/28/13



© 2010-2011 Estes-Cox Corp.  
Alle Rechte vorbehalten. Hergestellt  
in Guangdong, China

© 2010-2011 Estes-Cox Corp.  
All rights reserved. Made in  
Guangdong, China

© 2010-2011 Estes-Cox Corp.  
Todos los derechos están  
reservados. Hecho en  
Guangdong, China

© 2010-2011 Estes-Cox Corp.  
Tous droits réservés. Fabriqué  
à Guangdong, Chine

PARTS LIST KIT NO. 3208 - Ricochet								
Quantity	Description	Type	Number	Detail1	Detail2	Detail3	Detail4	Comment
1	PAPER BODY TUBE	BT-20?	30408	2.75" long	0.710" ID	0.736" OD	0.013" wall	White
1	ENGINE HOLDER	EH-2	35021	2.8" long	.100" wide	.025" thick		Thumb Saver
1	CENTERING RING	AR-2050L	30165-2	1.125" long	.737" ID	.949" OD	0.106" wall	Green
1	ENGINE BLOCK	EB-20A	30224	.708" OD	.63" ID	.025" thick	fits BT-20	Black
1	PAPER BODY TUBE	BT-50?	31785	9" long	0.950" ID	0.976" OD	0.013" wall	White
1	BALSA ADAPTER	TA-2050A	70008	2.0" long	1.0" taper	.5" front	.5" back	BT-20 to BT-50
1	PAPER BODY TUBE	BT-20?	30314	9" long	0.710" ID	0.736" OD	0.013" wall	White
1	BALSA NOSE CONE	BNC-20AZ	70228	2.5" long	.736" dia.	.5" shoulder		
1	BALSA FIN STOCK	BFS-40?	*65978	1/8" thick	4" wide	6" long	0.125	Lasercut
4	WOOD STRIPS		32073	1/8" square	4" long			Balsa
1	LAUNCH LUG	LL-2	38190	5/32" ID	1/8" rod	2" long		
1	Screw Eye (Large)	SE-1	38251	1" long				
1	Shock Cord	SC-1	38367	25" long	1/8" wide			Rubber
1	Parachute	PK-12	*35801	12" dia.	6 x 12" Shrouds		Org/Wht	Preassembled
1	Decal		65980	2.25" wide	6" long	Multicolor	Waterslide	Scan
* Diecut part number								
*Part number 35815 listed in the plan indicates an 18" parachute however catalog specs and sister kit indicate 35801 which is a 12" patachute. I am considering 35815 as a typo since 18" is way too large for this size rocket.								





# RICOCHET

FLYING MODEL ROCKET KIT

- High Quality Balsa Nose Cone!
- Waterslide Decals!
- Laser Cut Balsa Fins!

FLIES  
UP TO  
**1125**  
FEET

**22** DAYS  
OF FUN  
**TAN!**

Great  
Outdoor  
rocket  
kit!



© 2008 Estes Industries, Inc.  
All rights reserved.  
Color of product may vary.

1/2008 2008

