



Centuri

ZEBRA II

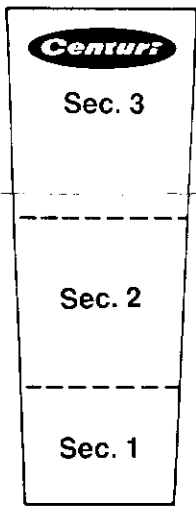
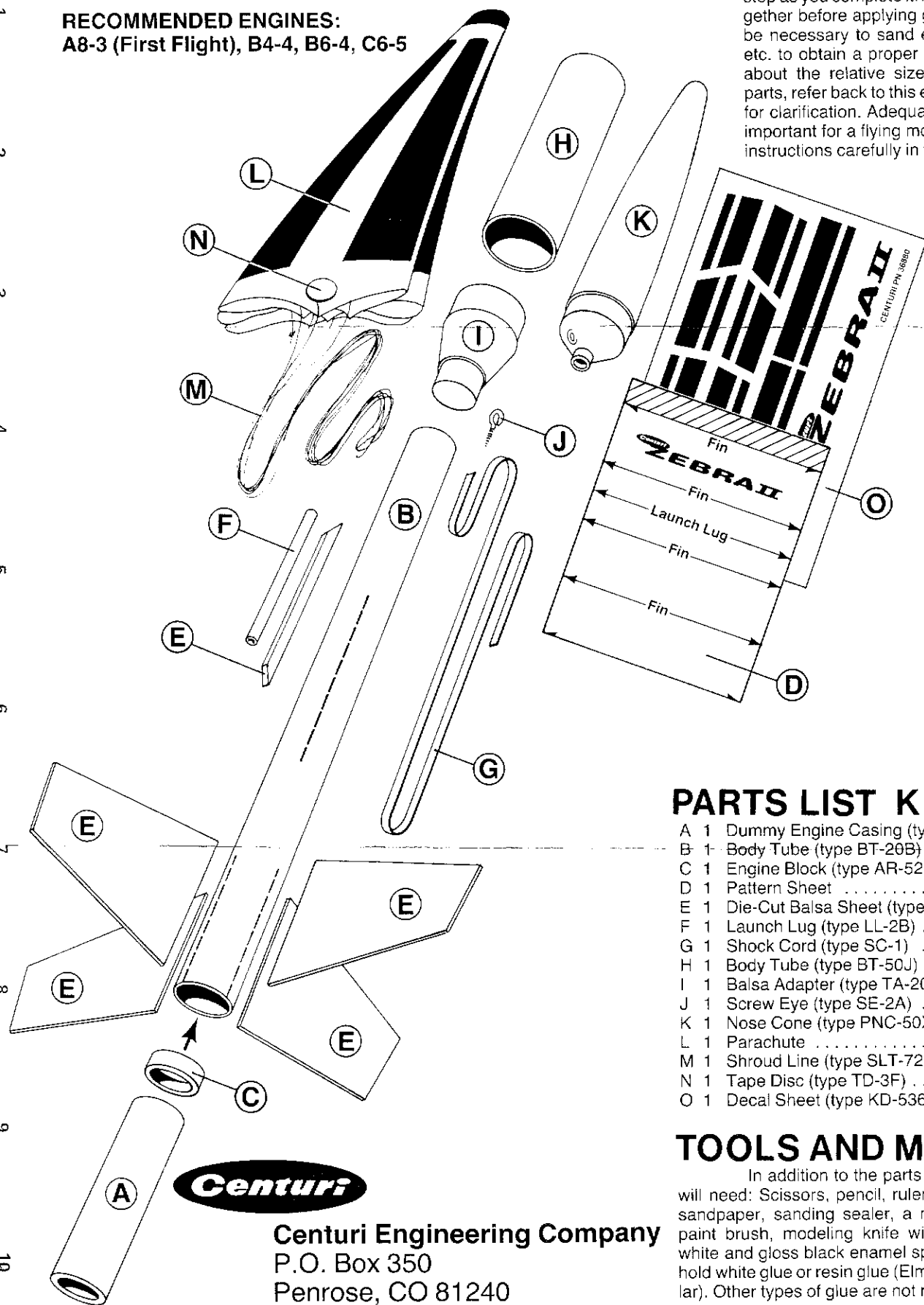
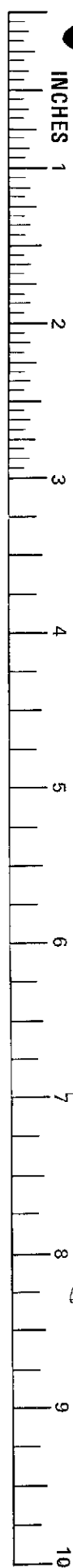
SKILL LEVEL 1 - Recommended for Beginning Rocketeers

RECOMMENDED ENGINES:

A8-3 (First Flight), B4-4, B6-4, C6-5

BEFORE YOU START

Read each step and study the accompanying drawings before doing any of the work called for in that step. Make sure you have all parts and materials. Check off each step as you complete it. Always test-fit parts together before applying glue. It will sometimes be necessary to sand edges of rings, tubes, etc. to obtain a proper fit. If you are in doubt about the relative size or location of some parts, refer back to this exploded view drawing for clarification. Adequate glue joints are very important for a flying model rocket. Follow the instructions carefully in this regard.



SHOCK CORD MOUNT
(to be cut out here)

PARTS LIST KIT NO. 5361

A	1	Dummy Engine Casing (type EC-2)	35006
B	1	Body Tube (type BT-20B)	30320
C	1	Engine Block (type AR-520)	30162
D	1	Pattern Sheet	81812
E	1	Die-Cut Balsa Sheet (type BF-5361)	32802
F	1	Launch Lug (type LL-2B)	38178
G	1	Shock Cord (type SC-1)	85730
H	1	Body Tube (type BT-50J)	30362
I	1	Balsa Adapter (type TA-2050A)	70008
J	1	Screw Eye (type SE-2A)	38252
K	1	Nose Cone (type PNC-50X)	71010
L	1	Parachute	85669
M	1	Shroud Line (type SLT-72)	38237
N	1	Tape Disc (type TD-3F)	38406
O	1	Decal Sheet (type KD-5361)	36880

TOOLS AND MATERIALS

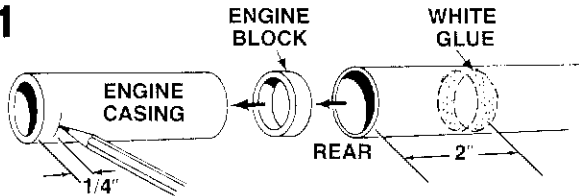
In addition to the parts included in this kit you will need: Scissors, pencil, ruler, fine or extra-fine grit sandpaper, sanding sealer, a medium-size modeling paint brush, modeling knife with sharp blade, gloss white and gloss black enamel spray paints and household white glue or resin glue (Elmer's, Titebond, or similar). Other types of glue are not recommended.

Centuri

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ASSEMBLY INSTRUCTIONS

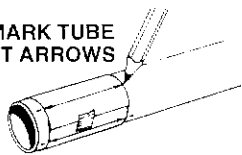
1



Mark the dummy engine casing (part A) 1/4" from one end. Spread a 1/2" wide band of glue around the inside of the body tube (part B) about 2" in from one end. Insert the engine block (part C) into this end. Push the engine block into place with the dummy engine casing until the mark on the casing is even with the end of the body tube. CAUTION: Once you have started to push the block forward, DO NOT STOP until it is in place, and then remove casing immediately!

2

MARK TUBE AT ARROWS

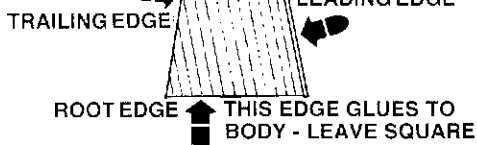
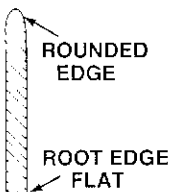
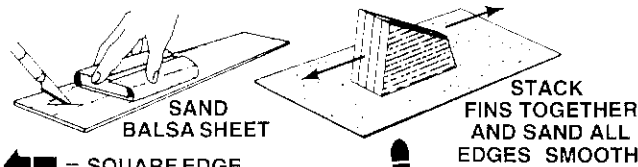


DOOR FRAME



Cut out the tube marking guide from the pattern sheet (part D) and wrap it around the body tube end with the engine block installed in Step 1. Mark the body tube at each of the arrow points. Draw straight lines connecting each pair of marks. A door frame inside edge can be used as a guide as shown. Extend the lines about 6" forward from the rear of the tube.

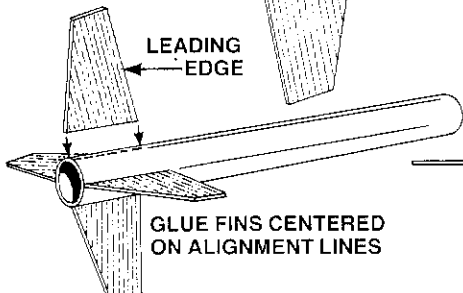
3



Fine-sand the balsa die-cut sheet (part E). Free the fin edges with a sharp knife, then carefully remove the die-cut fins from the sheet. Stack fins together as shown and sand all four sides as illustrated. Lightly sand both sides of each fin. Sand the leading edge, tip edge, and trailing edge of each fin to make them round. Leave the root (body) edge sanded "flat". The root edge may be identified by careful comparison with the drawings.

4

GLUE RUB GLUE INTO ROOT EDGE OF EACH FIN

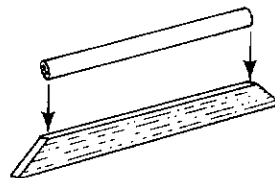


MAKE SURE FINS ARE STRAIGHT

REAR VIEW

Rub glue into the root edge of each fin and allow to dry. Apply glue to the fins again and position fins on the alignment lines in positions shown. Adjust the fins so they project straight away from the body tube. DO NOT set the rocket on its fins while the glue is wet.

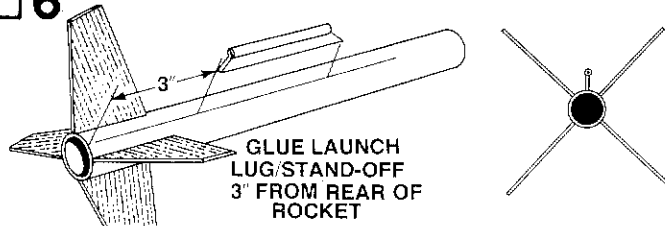
5



GLUE LAUNCH LUG TO LAUNCH LUG STAND-OFF

Locate launch lug stand-off on balsa die-cut sheet. Sand all edges square. Apply glue to one edge of launch lug stand-off and position the launch lug (part F) on it. Make sure launch lug is straight with the stand-off.

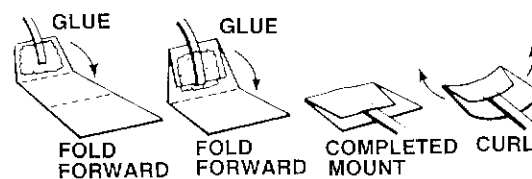
6



GLUE LAUNCH LUG/STAND-OFF 3" FROM REAR OF ROCKET

Glue launch lug/stand-off to rocket body tube on the launch lug line. The rear of the stand-off should be 3" from the rear of the rocket. Align the stand-off straight along the body, and so it projects straight away from the body.

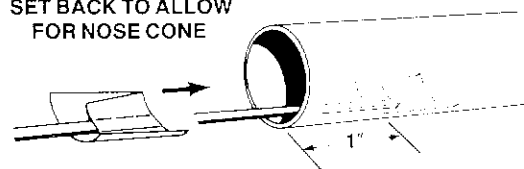
7



Cut out the shock cord mount found on front page. Fold on dotted lines, then unfold and apply glue to Section 1. Lay the end of the shock cord (part G) into the glue. Fold over and apply glue to the back of Section 1 and the exposed portion of Section 2. Fold again to complete mount. Curl the edges of the mount up so it will match the contour of the body tube and hold with your fingers until the glue sets.

8

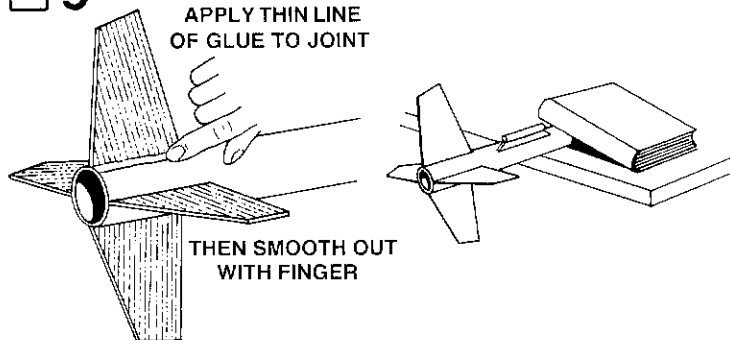
SET BACK TO ALLOW FOR NOSE CONE



Use a finger or stick to apply glue to the inside of the front of the body tube 1" to 2" from the front of the tube. Press the shock cord mount firmly into position in glue far enough from the front edge of the tube to allow clearance for the nose cone to fit into place. To insure a good bond use a stick or your finger and smear a film of glue over the mount and surrounding area in the body tube.

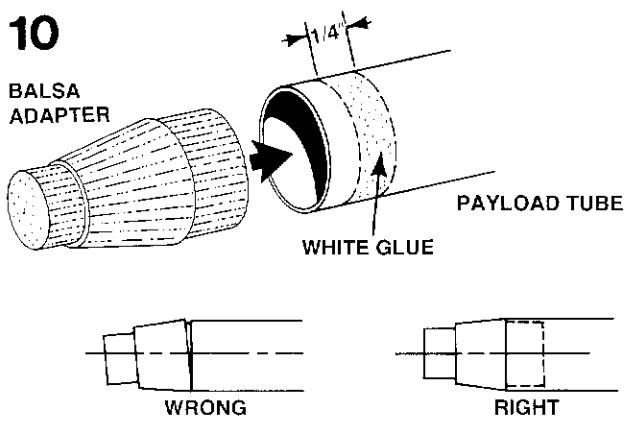
9

APPLY THIN LINE OF GLUE TO JOINT



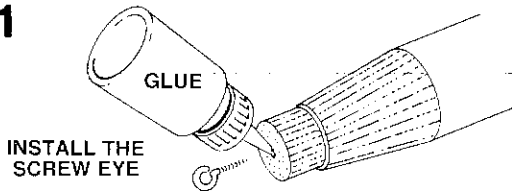
When the glue on the fin joints has dried, apply a glue reinforcement to each fin/body tube joint. Holding the model level, apply a line of glue to both sides of each fin joint and on both sides of the launch lug/stand-off. Smooth out the glue with your finger. IMPORTANT: Support rocket on table edge as shown until the glue dries.

□ 10



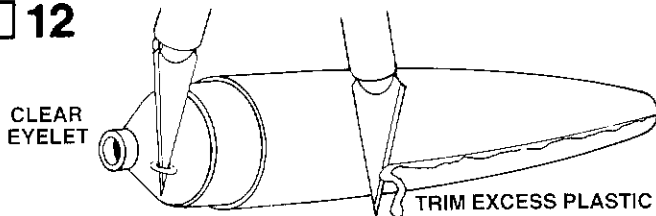
Apply a line of glue to the inside of one end of the payload tube (part H), 1/4" from the end of the tube. Insert the balsa adapter (part I) until it stops as shown. Check to be sure the adapter is straight in the tube before the glue has a chance to set.

□ 11



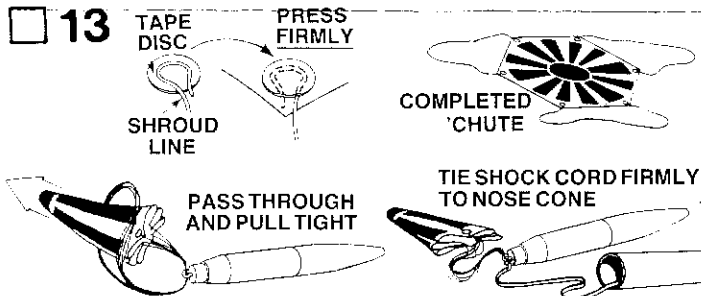
Twist the screw eye (part J) into the base of the adapter, and remove it. Squirt a bit of glue into the hole and reinsert the screw eye. Wipe away excess glue. Make certain adapter does not fit tightly in the finned body tube. The adapter should fit loosely enough to be easily removed from the body tube but not so loosely that it tends to fall out if the rocket is turned upside down and shaken with the adapter in place. If fit is too tight, sand shoulder of the adapter to achieve proper fit. If fit is too loose build up shoulder of the adapter with masking tape as needed.

□ 12



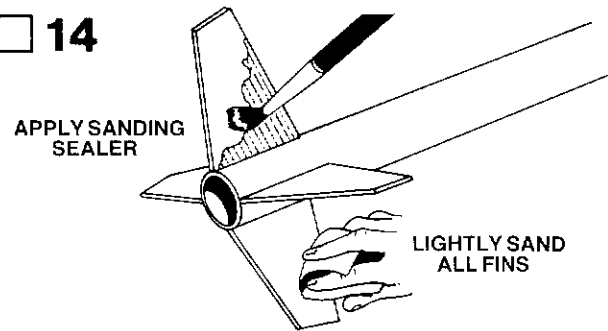
Trim or sand any excess plastic from around the sides of the nose cone (part K). Use a sharp knife to remove any excess plastic from the inside of the molded eyelet at the rear of the nose cone. Wash the nose cone with lukewarm soapy water, rinse well, and dry.

□ 13



Cut out the parachute (part L) on its edge lines. Cut three equal lengths of shroud line (part M). Attach line ends to the top of the parachute with tape discs (part N) as shown. Form a small loop in the end of a shroud line. Holding loop, gently center loop inside tape disc on the sticky side. Then carefully press tape disc onto its proper place on the top of the parachute. Firmly press the tape disc into place until both tape disc and parachute material are molded around the shroud line loop. Repeat for other shroud line ends and tape discs. Pass the shroud line loops through the screw eye. Pass the parachute through the loop ends and pull the lines tight against the screw eye. Tie the free end of the shock cord firmly to the screw eye. A square knot or strong double knot should be used.

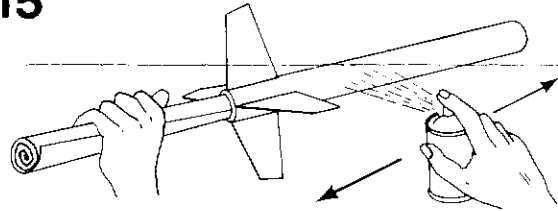
□ 14



Proper application of sanding sealer makes the rocket look better and reduces drag so that the rocket will fly higher. However, this step is not essential to make a safe attractive rocket. Apply a coat of sanding sealer to each fin. When sealer is dry, lightly sand all the sealed surfaces. Repeat sealing and sanding process until balsa grain is filled and smooth.

PAINTING AND DETAILING

□ 15

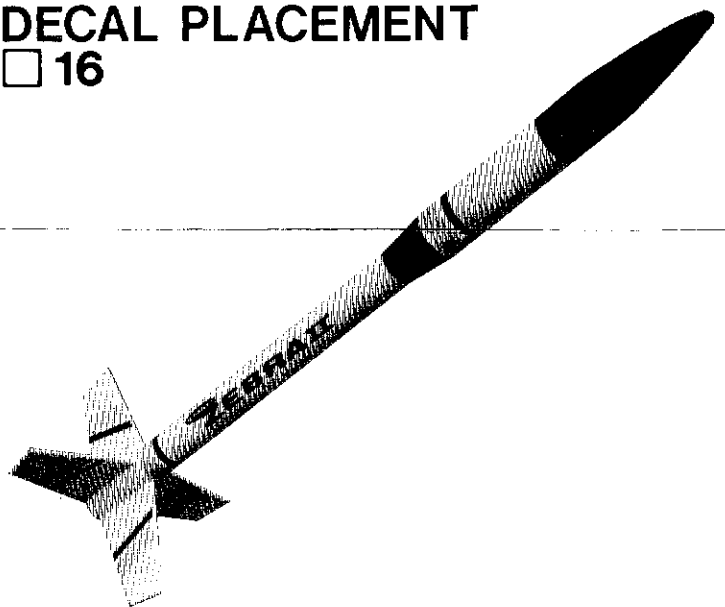


USE ROLLED PAPER FOR ROCKET HOLDER

After the sanding sealer is completely dry, paint the entire rocket body and fins with gloss white spray enamel. Follow instructions on the spray can for best results. We recommend spray enamel. Do not paint the model with lacquer paint. Shake can before spraying. Hold the can straight up and spray in long, smooth "strokes". Spray the model with several light, dry mist coats of paint to avoid "runs". Shake can periodically. To obtain a gloss, final coat should be applied slightly heavier. Let this coat dry overnight. When the white paint has dried, paint the nose cone and tube adapter gloss black. Use the decal placement photo as a guide when painting.

DECAL PLACEMENT

□ 16



When all paint is dry, apply the decals (part O) in the positions shown. (A) Cut only one decal at a time from sheet. (B) Submerge decal in lukewarm water until decal slides on backing paper (usually 15 to 30 seconds). (C) Gently slide decal from backing paper onto model. (D) Move decal into exact position and carefully blot away excess water with a soft cloth. (E) If the decal "sticks" before you have it in position, apply water over the decal with a brush. This will permit the decal to be moved. (F) Smooth out all wrinkles and air bubbles before the decal dries.

LAUNCHING COMPONENTS

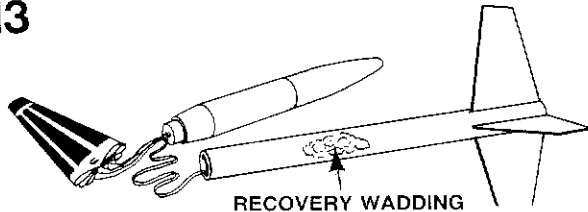
To launch your rocket you will need the following items:

- A Centuri model rocket launching system
- Flameproof recovery wadding (Centuri Cat. No. 5846)
- A8-3, B4-4, B6-4, C6-5, model rocket engines. Use an A8-3 engine for your first flight.

Be sure to follow the HIAA-NAR* Model Rocket Safety Code when carrying out your model rocket activities.
 *HIAA—Hobby Industry of America
 *NAR—National Association of Rocketry

COUNTDOWN CHECKLIST

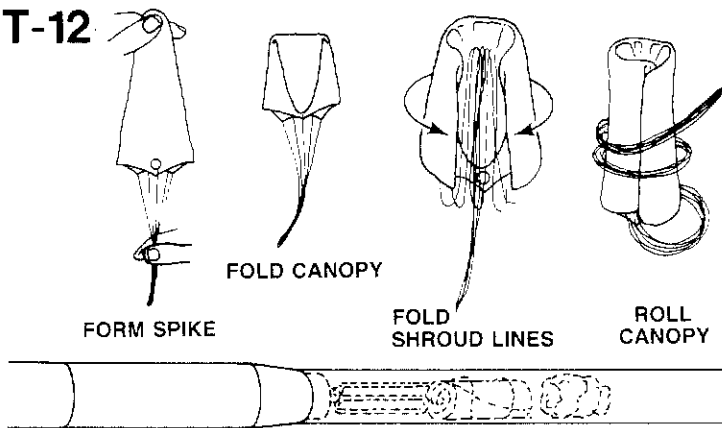
T-13



RECOVERY WADDING

Pack 2 or 3 squares of loosely crumpled recovery wadding into the body tube. Usually this will fill the body tube for a distance equal to about 1-1/2 times its diameter.

T-12



FORM SPIKE

FOLD CANOPY

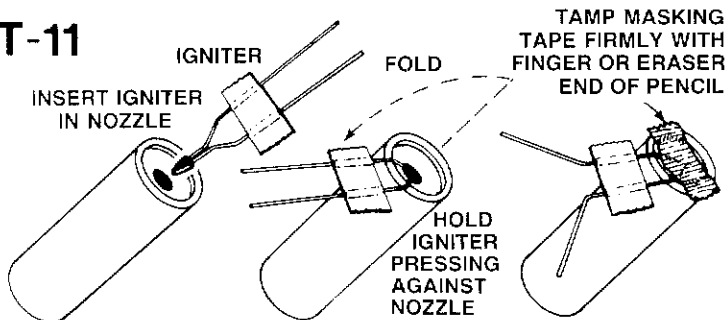
FOLD SHROUD LINES

ROLL CANOPY

Hold the parachute at its center and pass the other hand down it to form a "spike" shape. Fold this spike in half. Fold shroud lines back along parachute and then back down to lower edge of parachute to reduce length of shroud line "left over". Roll parachute into tube shape to fit easily into body. Any remaining shroud line should be loosely wrapped around parachute. Pack chute into the body tube on top of the wadding. Pack the shroud lines and shock cord in on top of the parachute and slip the nose cone into place.

NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the chute with ordinary talcum powder before each flight, especially in cold weather.

T-11



INSERT IGNITER IN NOZZLE

FOLD

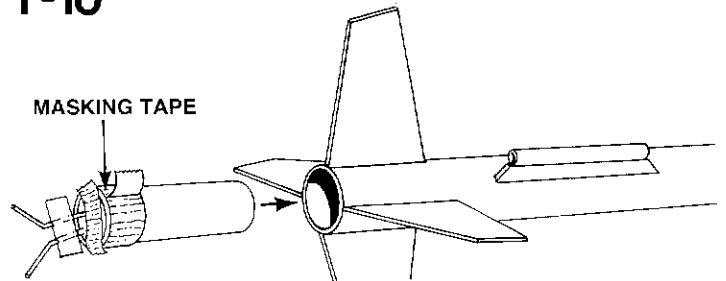
TAMP MASKING TAPE FIRMLY WITH FINGER OR ERASER END OF PENCIL

HOLD IGNITER PRESSING AGAINST NOZZLE

Select an engine and install an igniter as directed in the engine instructions. The engines recommended for use with this rocket are the A8-3, B4-4, B6-4, B8-5, and C6-5.

Use an A8-3 engine for your first flight.

T-10



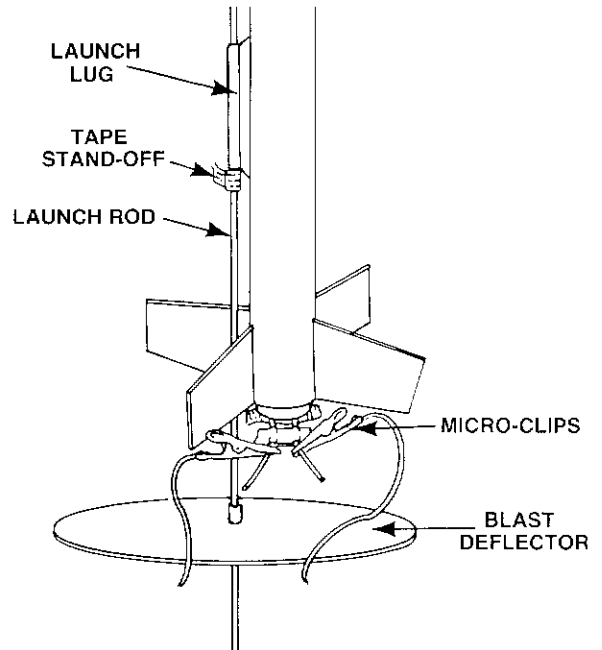
MASKING TAPE

Wrap the rear of the engine with enough masking tape so that it makes a tight fit in the body tube. This fit must be tight to obtain proper parachute deployment. Insert the engine into the rocket so the rear of the engine projects 1/4" from the rear of the body tube.

T-9

Disarm the launch panel—REMOVE SAFETY KEY!

T-8



LAUNCH LUG

TAPE STAND-OFF

LAUNCH ROD

MICRO-CLIPS

BLAST DEFLECTOR

Slide launch rod through rocket launch lug and place rocket on launch pad. Make sure the rocket slides freely on the launch rod. Clean the micro-clips and attach them to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.

T-7

Clear the launch area. Alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

T-6

Arm the launch panel—INSERT SAFETY KEY!

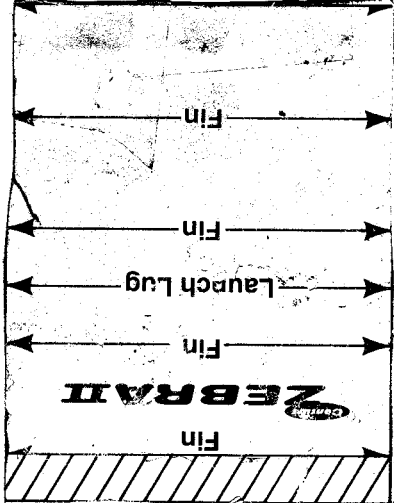
5-4-3-2-1-LAUNCH!!

Repeat Countdown Checklist for each flight.

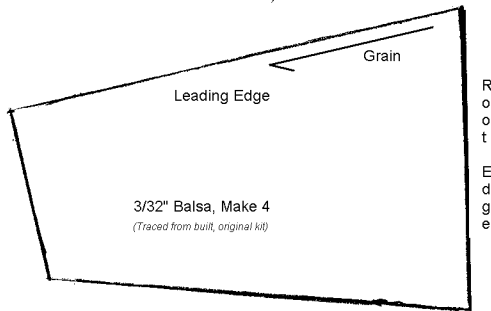
MISFIRE PROCEDURE

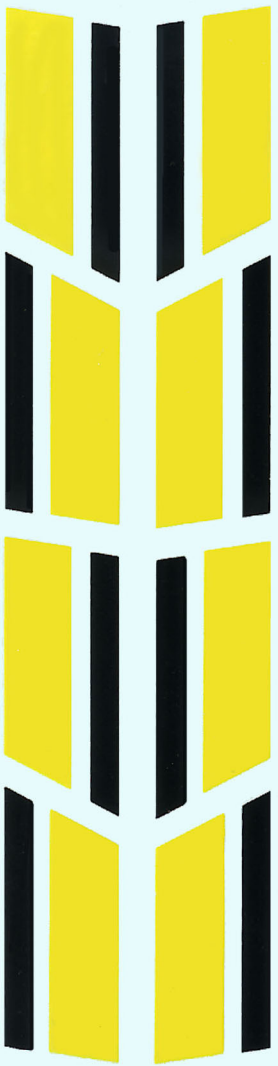
Disarm the launch panel. Wait one minute before approaching the rocket on the launch pad. Remove the rocket, clean the igniter residue from the nozzle of the engine, and carefully install a new igniter. Repeat the Countdown Checklist.

Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.



Centuri #5362, Zebra II





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ZEBRA II

CENTURI PN 36880