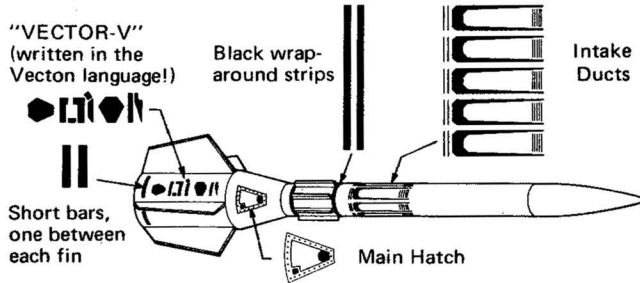




- 22 Apply the decals, one at a time, according to the instructions printed on the decal backing paper. Below is a suggested decal placement. Miscellaneous hatches and other goodies may be placed wherever you think they look best.



ENGINES

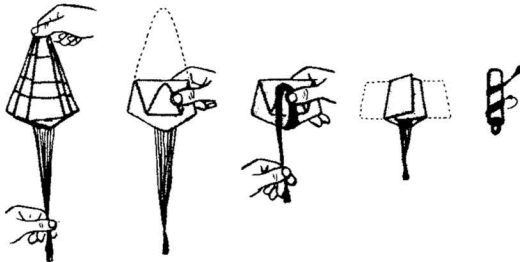
Igniters and complete engine installation instructions are included in "Engine Operating Instructions" which accompany all Centuri engines.

The VECTOR-V can be launched with the following engines:

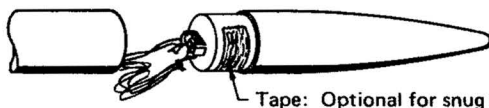
- ½A6-2 LOW ALTITUDE — for first test flights and small launch areas.
- B4-4, MEDIUM ALTITUDE — for general flying and medium size launch areas.
- B6-4
- C6-5 HIGH ALTITUDE — for extremely high flights and large launch areas.

FLIGHT PREPARATION

1. Inspect shock cord and fastener for firm bond.
2. Insert Flameproof Parachute Wadding according to its directions.
3. Tuck in shock cord.
4. Roll chute tightly as shown, and insert. Chute should be able to slide out of the narrow tube easily.



5. Socket nose cone in place. Fit should be snug, but not tight.



Carefully prepare and check all parts of your rocket before each flight.

Launch the Vector-V from any standard model rocket launcher having a 1/8" diameter x 36" long steel launch rod.

Do not leave the rocket sitting in the sun for long periods as this may soften the adhesives.

Referring to the specific instructions which accompany Centuri launchers and firing panels, mount the rocket on the launcher and prepare for ignition. Avoid eye injury by capping exposed tip of launch rod when not actually launching! Follow instructions and the Safety Code, and have many happy hours with Model Rocketry!



VECTOR-V



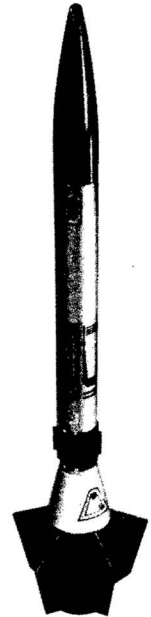
Catalog No. KB-2

The VECTOR-V is the first model rocket kit of its kind! The use of five special die-cut fibre-fins enables you to assemble it with any one of five different fin configurations. Different placement of "coolant vane" strips and decals gives even more possible design configurations.

A club, or other group of rocketeers, could build a whole fleet of VECTOR-V rockets with no two alike!

Following instructions and using your own imagination should produce a "bird" you'll be proud to display and fly.

This rocket is designed to be launched only from standard remote controlled electrical launch systems. Always use the recommended engines and recovery wadding. Comply with all Federal, State and local laws concerning Model Rocketry.



MODEL ROCKETEER'S SAFETY CODE

CONSTRUCTION

My model rockets will be made of only lightweight materials such as paper, wood, plastic, and thin metallic foils, with the exception of payloads and engine holders made of wirelike material.

ENGINES

I will use only pre-loaded factory made model rocket engines in the manner recommended by the manufacturer. I will not change in any way nor attempt to reload these engines.

RECOVERY

I will always use a recovery system in my model rocket that will return them safely to the ground so that they may be flown again.

WEIGHT LIMITS

My model rocket will weigh no more than 453 grams (16 oz.) at liftoff, and the engines will contain no more than 113 (4 oz.) of propellant, as prescribed by Federal Regulations.

STABILITY

I will check the stability of my model rockets before their first flight except when launching models of already proven stability.

LAUNCHING SYSTEM

The system I use to launch my rockets will be remotely controlled and electrically operated, and will contain a switch that will return to "off" when released. I will remain at least 10 feet away from any rocket that is being launched.

LAUNCH SAFETY

I will not let anyone approach a model rocket on a launcher until I have made sure that either the safety interlock key has been removed or the battery has been disconnected from my launcher.

LAUNCH AREA

My model rockets will always be launched from a cleared area, free of any easy-to-burn materials, and I will only use non-flammable recovery wadding in my rockets.

BLAST DEFLECTOR

My launcher will have a blast deflector device to prevent the engine exhaust from hitting the ground directly.

LAUNCH ROD

To prevent accidental eye injury I will always place the launcher so the end of the rod is above eye level or cap the end of the rod with my hand when approaching it. I will never place my head or body over the launching rod. When my launcher is not in use I will always store it so that the launch rod is not in an upright position.

POWER LINES

I will never attempt to recover my rocket from a power line or other dangerous places.

LAUNCH TARGETS AND ANGLE

I will not launch rockets so their flight path will carry them against targets on the ground, and will never use an explosive warhead nor a payload that is intended to be flammable. My launching device will always be pointed within 30 degrees of vertical.

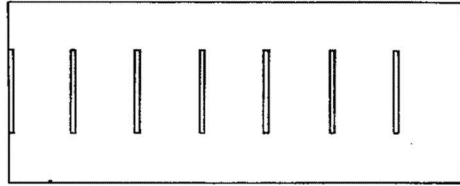
PRE-LAUNCH TEST

When conducting research activities with unproven designs or methods, I will, when possible, determine their reliability through pre-launch tests. I will conduct launchings of unproven designs in complete isolation from persons not participating in the actual launching.

FLYING CONDITIONS

I will not launch my model rocket in high winds, near buildings, power lines, tall trees, low flying aircraft or under any conditions which might be dangerous to people or property.

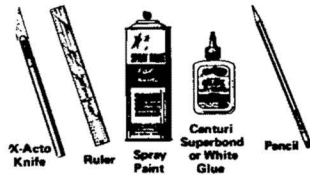
COOLANT VANE PATTERN
(Used in step 16.)



ASSEMBLY INSTRUCTIONS

READ BEFORE STARTING ASSEMBLY!

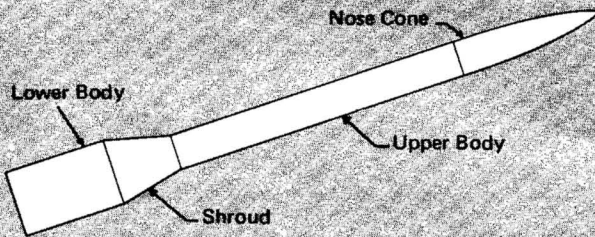
TOOLS: You will need the following standard model rocket tools to assemble and finish this kit. **DO NOT** use model airplane glue for building flying model rockets.



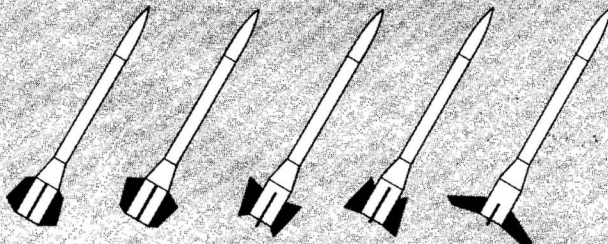
INTRODUCTION

Let's talk about customizing, before you actually start assembly.

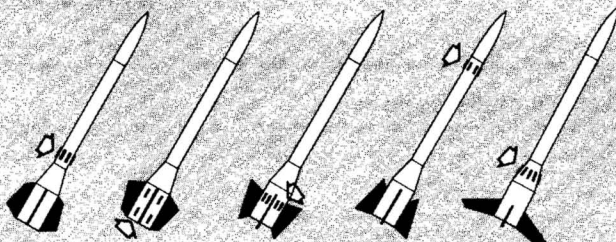
The Vector-V has this basic fuselage shape:



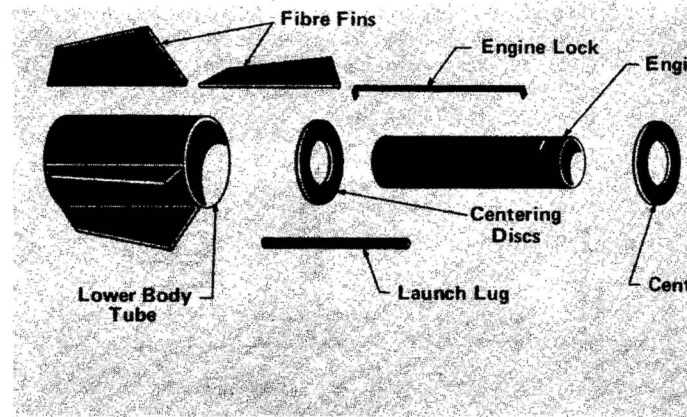
The fibre-fins may be glued on in any one of at least five different ways. (Balsa fins have a grain, which must be parallel to their leading edges, but this isn't a problem here.)



When the long strip is cut into short lengths for "coolant vanes", these may be applied around the basic model in at least five different places and ways.

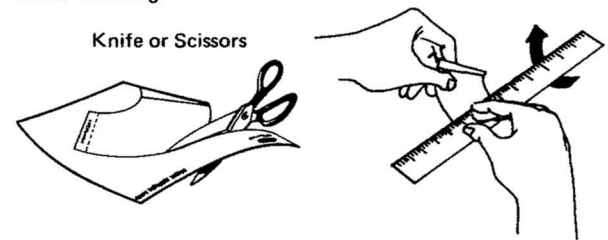


The combination of fin, coolant vane, and decal placement (towards the end of instruction sheet) will give your Vector-V "personality". For simplicity's sake, this instruction sheet is based on the configuration shown on the package.



ASSEMBLY

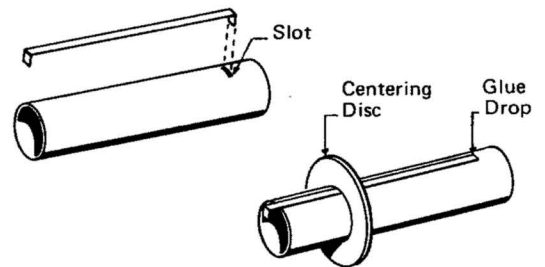
- 1 Cut out the paper shroud carefully. Pre-curl the paper (with shiny surface outside) by running it under a straight edge on a clean, flat surface. Curl paper carefully and gradually so as to prevent creases from forming.



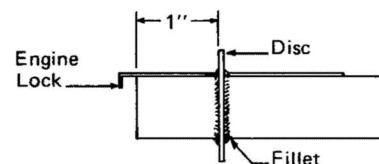
- 2 Form the paper into a cone and apply thin film of glue to the overlap area marked on the shroud. Be careful not to smear glue on the exposed part of the paper. Line up the edge of the paper with the dotted line and press together on a flat surface. Set the shroud aside to dry.



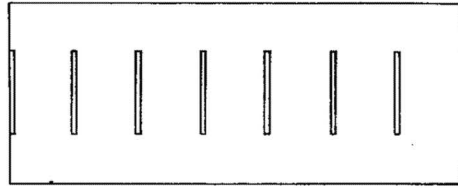
- 3 Place one end of the engine lock in the pre-cut slot of the 3" engine tube. Slide one of the centering discs carefully over the tube and engine lock to hold the lock in place for the next step. Apply a glue drop where the lock enters the tube.



- 4 Position the centering disc exactly 1" from the rear end of the engine tube. Apply a bead of glue around the joint on each side, and smooth into neat fillets with your finger. Be sure engine lock is lined up straight with the engine tube. Set aside to dry.



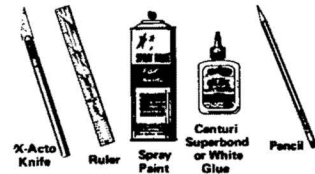
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ASSEMBLY INSTRUCTIONS

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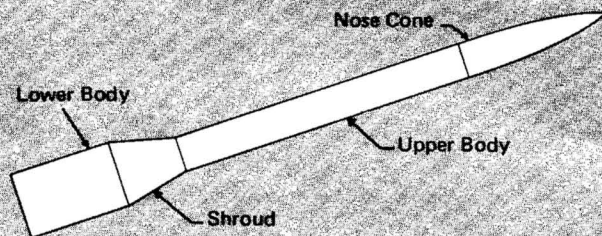
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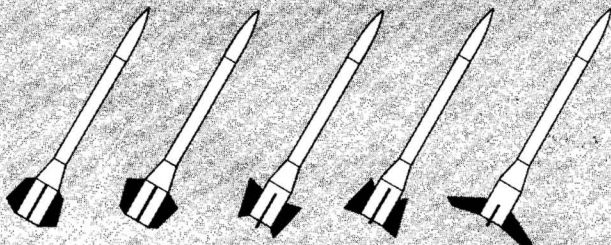
INTRODUCTION

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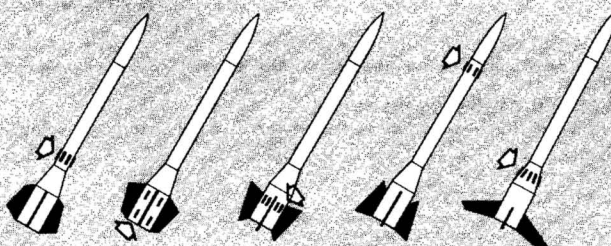
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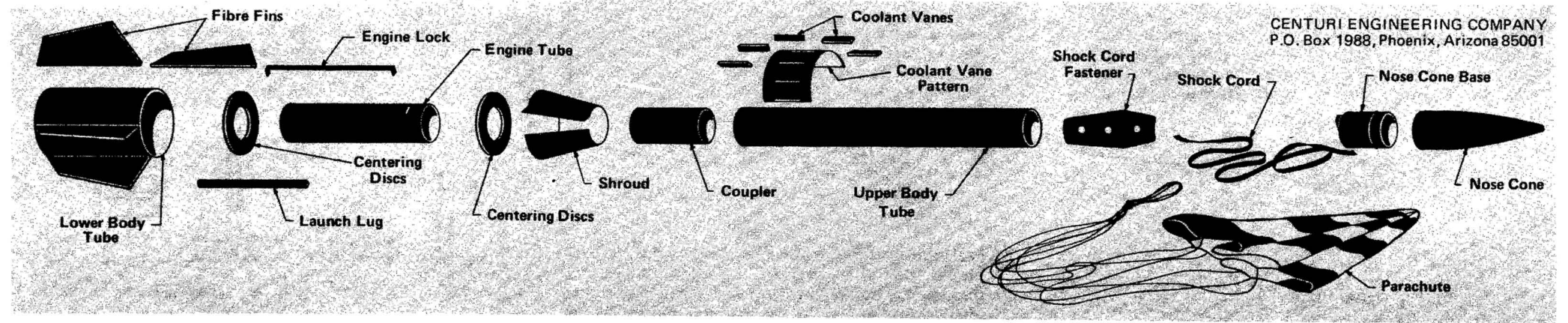
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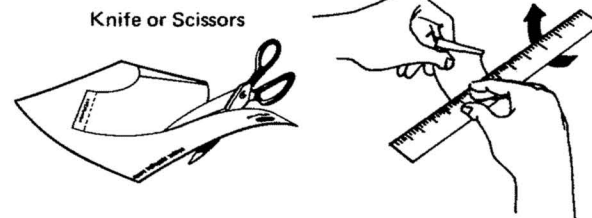
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CENTURI ENGINEERING COMPANY
P.O. Box 1988, Phoenix, Arizona 85001

ASSEMBLY

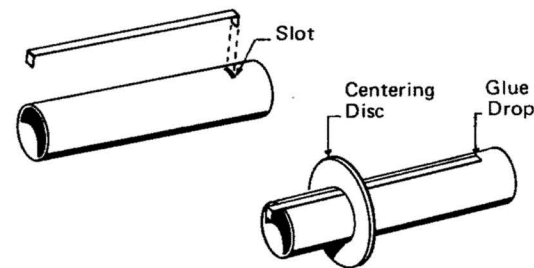
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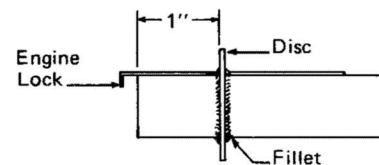
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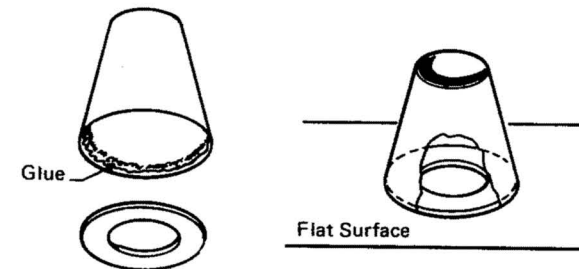
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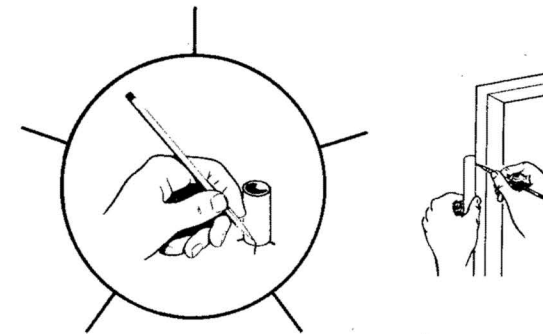
4 Position the centering disc exactly 1" from the rear end of the engine tube. Apply a bead of glue around the joint on each side, and smooth into neat fillets with your finger. Be sure engine lock is lined up straight with the engine tube. Set aside to dry.



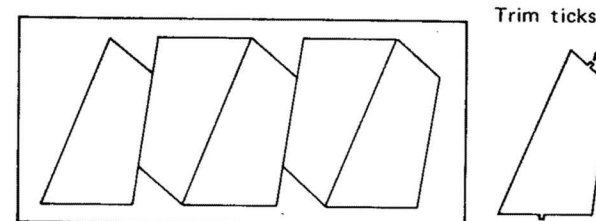
5 By now the paper shroud should be dry enough to handle. Run a thin bead of glue around the inside edge of the larger end. Lay the remaining centering disc on the table and gently press the shroud down over it, until the ring nestles in place. Set aside to dry.



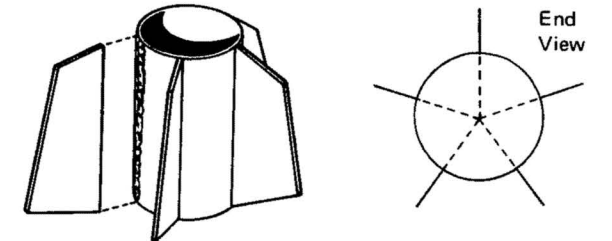
6 Stand lower body tube on the fin guide to mark fin locations. Find a convenient channel or groove, such as a door jamb, partially open drawer, or molding. Extend the marks the full length of the tube. **NOTE:** All five fins must be used for proper flight stability.



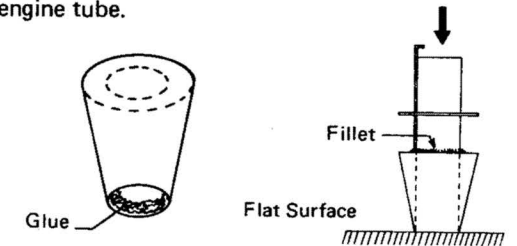
7 Carefully press the five fins from their die-cut sheet, and trim away any little "ticks" from the edges if necessary. These fins will be easier to paint than balsa wood, due to the smooth paper surfaces.



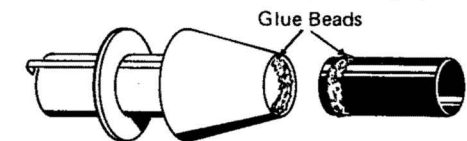
8 Decide which fin configuration you want. Apply a bead of glue to one fin's root edge and press onto the lower body tube along a drawn line. Remove, allow it to become tacky. Add fresh glue to fin, and reposition. Repeat with remaining fins. Check alignment visually, and allow assembly to dry standing upright.



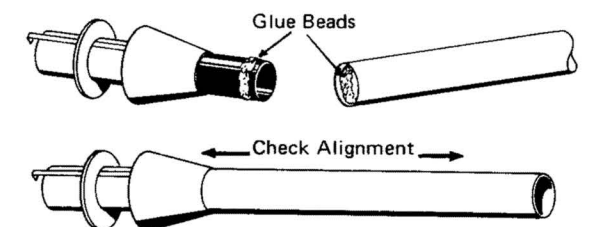
9 Pick up the shroud assembly and run a thin bead of glue around the inside of the narrow end. Set the shroud upside-down on the table, and press the engine tube assembly gently down through the shroud's centering disc until shroud and tube are flush. Run a glue fillet around the shroud's disc to hold it onto the engine tube.

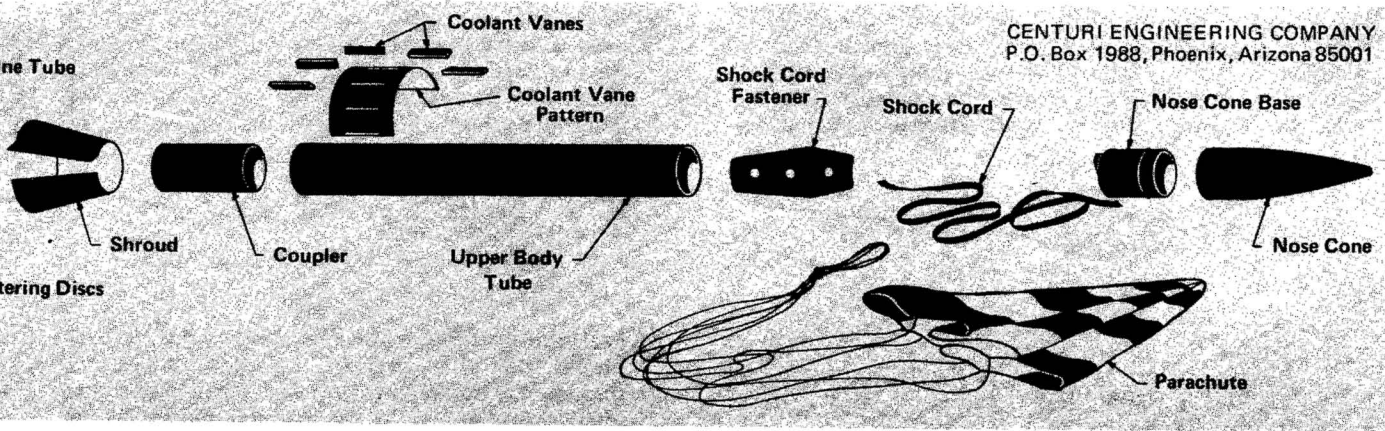


10 Run a thin bead of glue around the inside forward end of the engine tube, and around one end of the coupler. Insert coupler with a turning motion, until it butts against the engine lock. Wipe away excess glue.

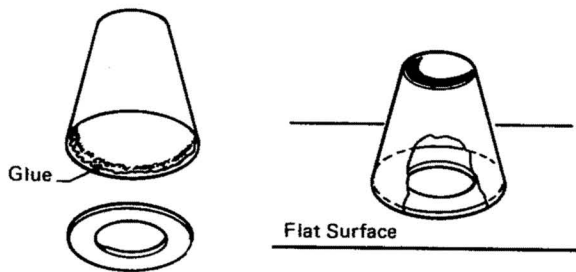


11 Repeat this gluing procedure to join the assembly with the upper body tube. Wipe away any excess glue before it dries. Check for neat alignment by rolling the body assembly along a flat surface.

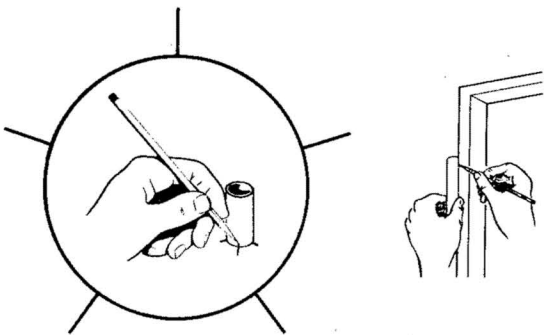




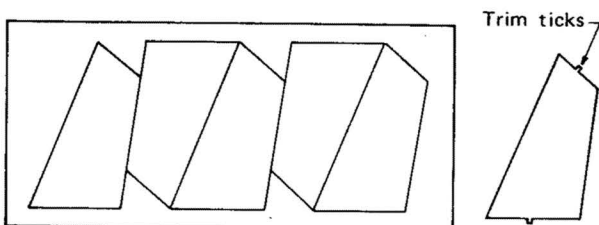
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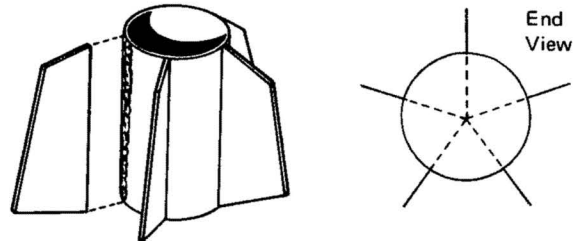
- 6** Stand lower body tube on the fin guide to mark fin locations. Find a convenient channel or groove, such as a door jamb, partially open drawer, or molding. Extend the marks the full length of the tube. **NOTE:** All five fins must be used for proper flight stability.



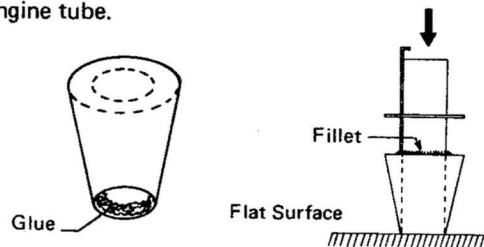
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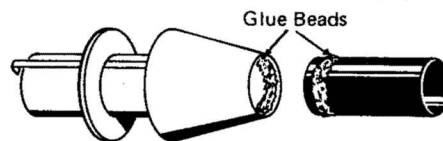
- 8** Decide which fin configuration you want. Apply a bead of glue to one fin's root edge and press onto the lower body tube along a drawn line. Remove, allow it to become tacky. Add fresh glue to fin, and reposition. Repeat with remaining fins. Check alignment visually, and allow assembly to dry standing upright.



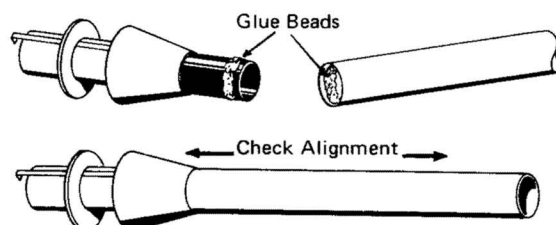
- 9** Pick up the shroud assembly and run a thin bead of glue around the inside of the narrow end. Set the shroud upside-down on the table, and press the engine tube assembly gently down through the shroud's centering disc until shroud and tube are flush. Run a glue fillet around the shroud's disc to hold it onto the engine tube.



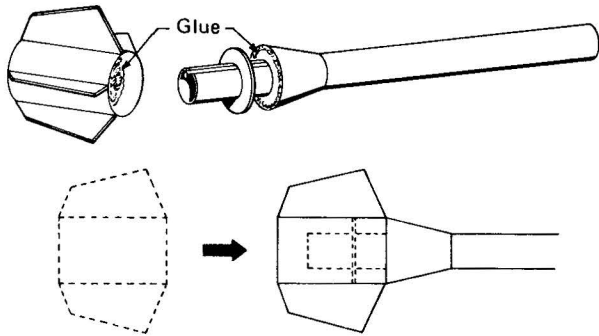
- 10** Run a thin bead of glue around the inside forward end of the engine tube, and around one end of the coupler. Insert coupler with a turning motion, until it butts against the engine lock. Wipe away excess glue.



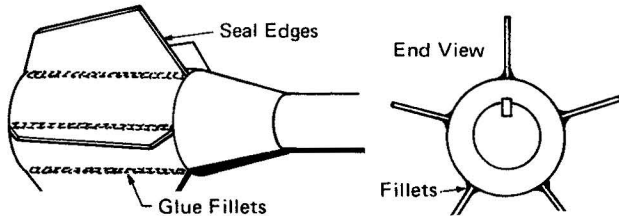
- 11** Repeat this gluing procedure to join the assembly with the upper body tube. Wipe away any excess glue before it dries. Check for neat alignment by rolling the body assembly along a flat surface.



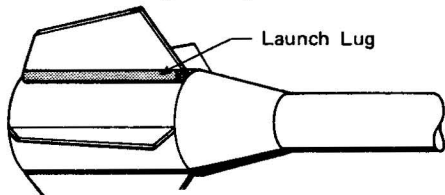
- 12** Run a glue bead about 1/2" down around the inside of fin assembly's forward end. Run another bead around inside lip of paper shroud. Before glue sets, slide fin assembly over engine mount assembly. Line up fin assembly neatly where it meets shroud.



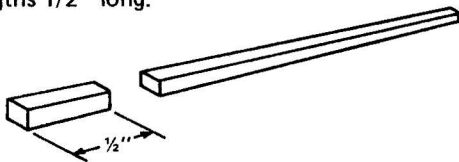
- 13** The paper-surfaced fins will take paint nicely, but the edges need to be sealed for best appearance. Apply a thin coat of glue, on edges only, using a small dab on your finger. Wipe excess glue away. NOTE: Run a thin bead of glue along each fin's base (root edge) and smooth into neat fillets with your finger. Check alignment again to be sure fins are on straight.



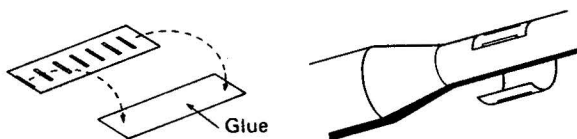
- 14** Apply a bead of glue to one side of the launch lug. Place the lug against one of the fins along the body tube. Reinforce lug with glue fillets on each side.



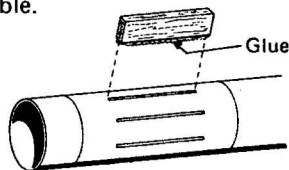
- 15** Now its time to apply the decorative "coolant vanes". Cut the wood strip supplied into short lengths 1/2" long.



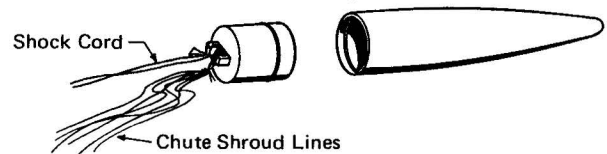
- 16** If you choose to arrange the strips around the upper body tube, you may use the Coolant Vane Guide printed on upper left corner of reverse side. Simply cut out, smear thin film on reverse, and wrap neatly around preferred part of tube.



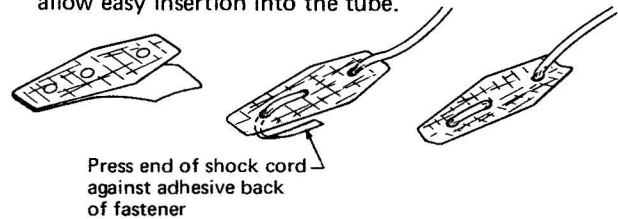
- 17** Strips will look best if glue is applied to thin edge. Use same technique as with fin-gluing. Apply glue fillets if possible.



- 18** Push the plastic insert base into the plastic nose cone until it snaps in place. (Be careful not to break the cone.) Pass one end of the shock cord through the eyelet and tie with a firm knot. Tie the assembled parachute's shroud lines through the eyelet.



- 19** Peel the backing from the shock cord fastener. Thread the other end of the elastic shock cord through the fastener as shown. Take care not to touch the adhesive backing any more than absolutely necessary. Slightly crease the fastener lengthwise to allow easy insertion into the tube.



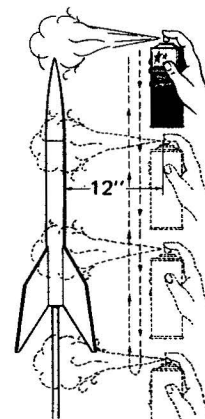
- 20** Insert the fastener 1" past the top of the body tube. Press firmly against the inside wall of the tube with eraser end of a pencil. NOTE: All edges of the fastener must be firmly contacted to the tube to insure a permanent bond, and allow room for the parachute to slip past.



- 21** Spray painting your finished model with a fast-drying enamel will produce the best results . . . IF IT IS DONE PROPERLY!!! Most important is the number of coats of paint. DO NOT try to paint your model with one heavy coat! Instead, give it a couple of quick, light coats first and THEN a finish coat. Let each coat dry before applying the next.

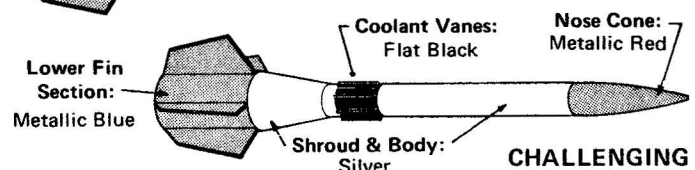
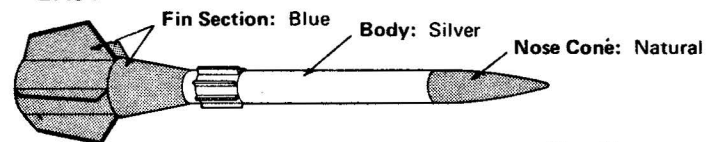
SPRAYING A TYPICAL MODEL ROCKET

NEVER USE DOPE OR LACQUER ON PLASTIC PARTS



SUGGESTED COLOR SCHEMES

EASY



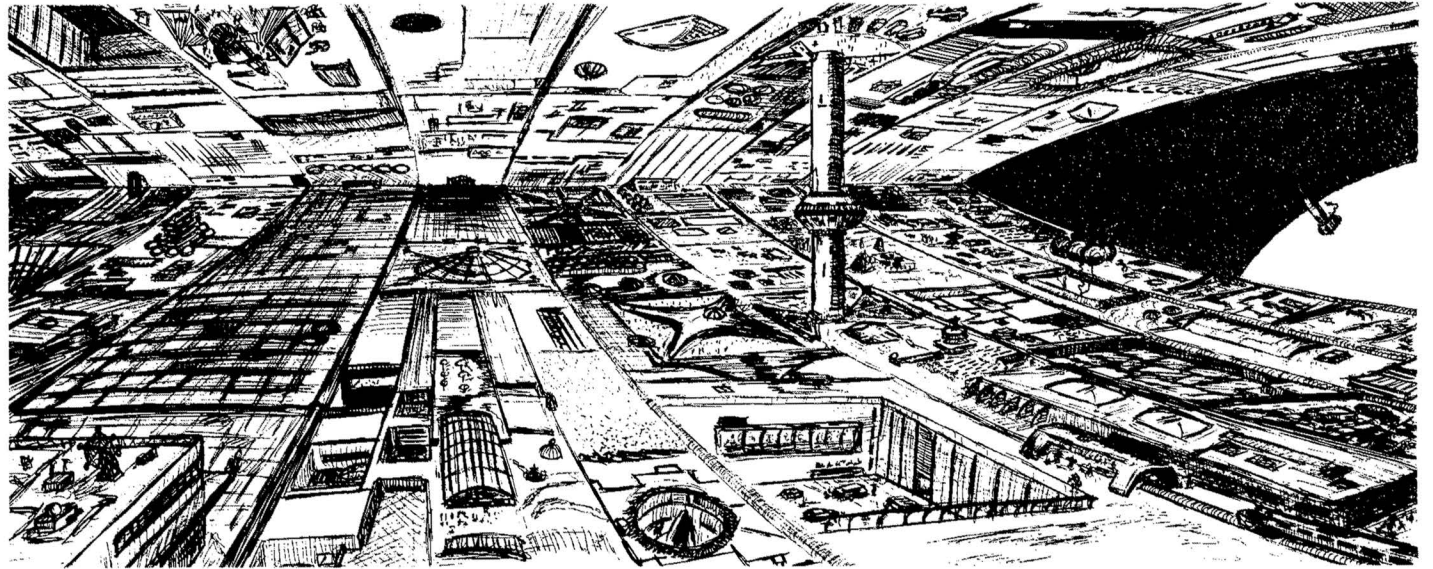
But now we come to the most fascinating aspects of Vector-V . . . the lifespan of the Vectainians. After a short stay in Vector-V you will realize that the Vectainians have not been around for several hundred years, yet the robots act as if they will return any day. The Vectainians have been gone on a scouting expedition in this arm of the galaxy, which will take several hundred more years. But to them, it is only a "week-end jaunt", for the Vectainians have a lifespan of several thousand years!

In short, you will find life in Vector-V completely different from anything you have experienced before.

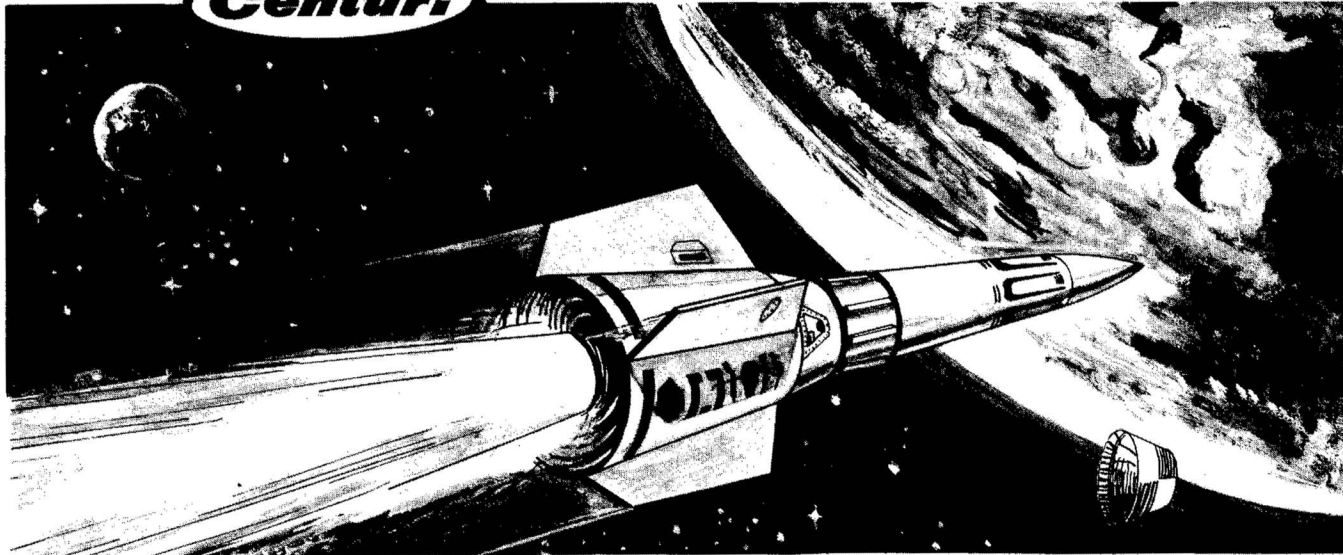
Happy Landing!

Centuri

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Centuri

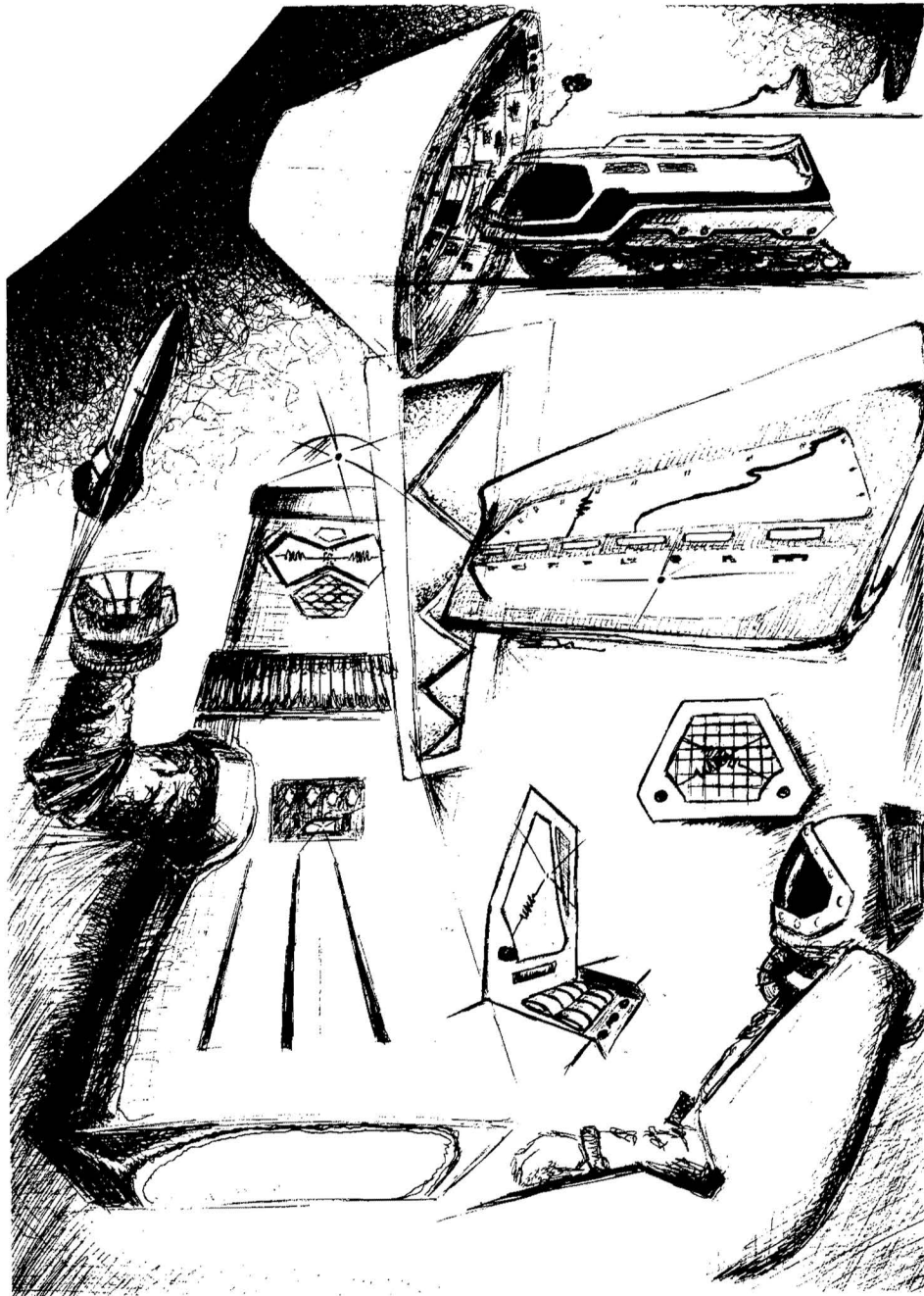


Life on **VECTOR-V**

Welcome to the world of Vector-V! We are about to land and explore it. This briefing may help you, as a tourist, to understand why life in Vector-V is so different from life on Earth . . .

Outside the portholes you can now probably see a Vector-V spaceship, rocketing off towards its massive home base, gleaming in the distance.

The all metal, artificial space-city of Vector-V has a fascinating history . . . Long ago, even before the Age of Dinosaurs on Earth, the advanced Vectainian civilization thrived on the distance planet Vecton. No one knows for sure what these people looked like, for we have never seen them.



Apparently the Vectainians once lived very much as we do now on Earth, until they invented truly efficient robots. The robots took over most of the manual work required to maintain the complex Vectainian lifestyle. As the centuries turned into millenia, more sophisticated robots were developed. Eventually the robots became mobile, learned to talk, and even to think creatively. They became so advanced they could even design and build more advanced robots to replace themselves.

As the robot's abilities increased, the Vectainians had less and less work to perform. To keep from being idle and lazy, they became adventurers and explorers. Like you or I might go to a national park over a long weekend, they went to the stars.

Great rocket-powered cities were built in orbit, each being a complete self-contained "world". These cities, like the one we are about to land in, are several miles long and wide. Each can hold over a hundred thousand Vectainians, along with the robots, hydroponic food gardens, space ship docks, and living areas.

Vector-V is our rough translation of this space city's name — "The fifth Vectainian Ship". So we know at least five were built. But this is the only one we've discovered. The space cities were launched on separate missions many thousands of years ago, and now are forever separated by the vast gulfs of space. Even the home-world of Vecton cannot be found . . . perhaps it is in another galaxy . . . maybe it no longer exists.

You will be well cared for by the Vectainians' robots. Their electronic minds are conditioned to the idea of service. In the absence of their Vectainian masters, the robots will feel obligated to help you and make your stay comfortable.

Perhaps you'll luck out, and be treated to a ride in one of the Vector-V space ships. These efficient craft have been refined and modified over the centuries, until now when they are the most remarkable space ships in the known universe. For instance, the Vector-V ships are de-fueled, rather than re-fueled. Engine and life support system power is derived from a laser-type of light refracted through a talanium crystal. This light releases energy from a sub-atomic level not yet understood by Earth scientists. The crystal grows in size, probably drawing material from another unknown dimension . . . we don't really know.

Eventually the crystal grows too large and powerful. Every 10,000 operating hours the crystal is removed and split into four pieces. These are destroyed, while the fourth is re-inserted in the engine, ready to be used again. So, to our way of thinking, the Vector-V ships must have fuel removed, rather than added, in order to function.

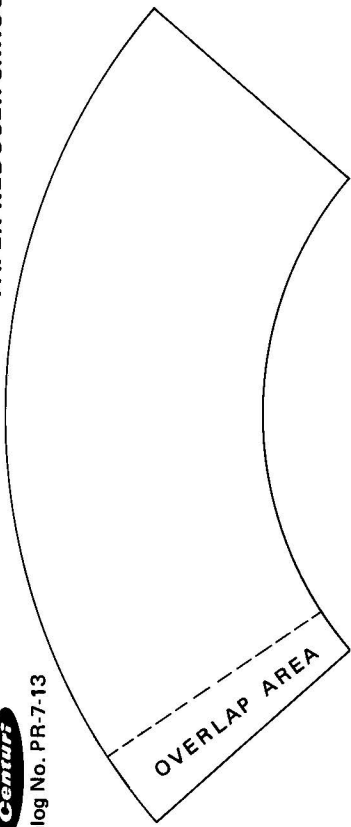
The Vector-V ships are designed to be multi-purpose, able to land on a variety of planets. Their fins and engine coolant vanes may be rearranged to adapt the ships for flying through any type of atmosphere, be it gas, liquid, foam or whatever.

Though there are no living Vectainians aboard the space city, we can guess how they must look. You will notice that doors and hatches are roughly triangular. This gives us a clue to the probable Vectainian shape. Most of the robots are also triangular or cone shaped; massive at the bottom and tapering towards their "heads". Probably the Vectainians patterned their robots' shapes after themselves, very much as our robots on Earth look somewhat like humans.

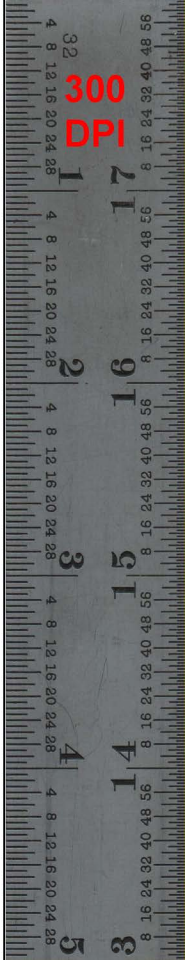
PAPER REDUCER SHROUD



Catalog No. PR-7-13



OVERLAP AREA

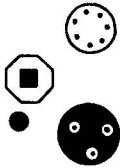
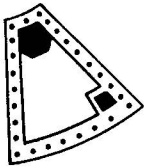


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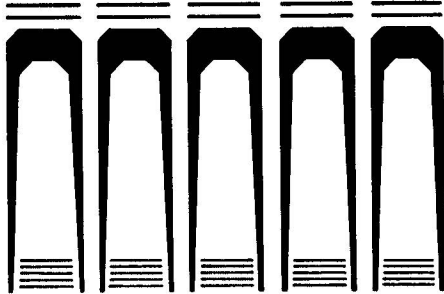
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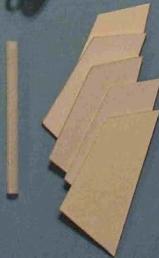
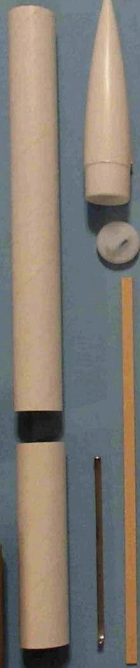
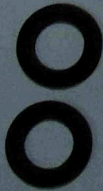
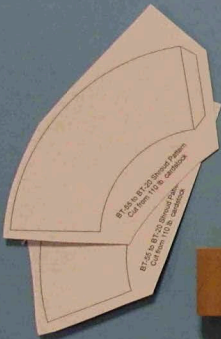


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VECTOR-V
Centuri





VECTOR-V

Centuri
Catalog No. V-2

The VECTOR-V is the first model rocket kit of its kind. The use of free space cut-out flare fins makes its assembly configuration a matter of free difference for "standard" users. Different gliders can even more possible design configurations.

A single or other group of rocketers could build a whole fleet of VECTOR-V rockets with no two alike!

Following instructions and using your own imagination should produce a "flew" only rocket is designed to be launched without standard remote controlled electronic launch systems. Always use the recommended engines and recovery landing. Comply with all safety state and local law concerning Model Rocketry.

MODEL ROCKETEER'S SAFETY CODE

CONSTRUCTION
No model rockets will be made of any lightweight materials such as paper, wood, plastic, or other material, with the exception of struts and engine mounts, of standard material.

ENGINES
I will use only propellant for rockets that is the manufacturer's recommended grain.

RECOVERY
I will use only a recovery system in the form of a parachute or streamer.

WEIGHT LIMITS
I will not make any weight or thrust record attempts, no record attempts.

STABILITY
I will check the stability of my launching model of model.

LAUNCHING SYSTEM
The rocket I will launch will be launched from the manufacturer's recommended launch system.

LAUNCH SAFETY
I will not use any launch system that is not recommended by the manufacturer.

LAUNCH AREA
My model rockets will clear the launch materials, and I will not.

BLAST DEFLECTOR
My launch will have a blast deflector ground device.

LAUNCH ROD
I will use standard size of launch rod in my launch system.

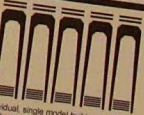
POWER LINES
I will use standard size of power lines in my launch system.

LAUNCH TARGETS AN
I will use standard size of launch targets in my launch system.

PRE-LAUNCH TEST
When conducting a pre-launch test, I will use standard knowledge of my launch system.

FLYING CONDITIONS
I will not launch my model rocket in any conditions that are unsafe to people or property.

CENTURI VECTOR V
Decal Draw March 13, 2020
by Hans C. Muehlenstein



Individual, single model build use only
Not for commercial kit production!

www.modelrocketryusa.blogspot.com
www.oddrockets.blogspot.com

VECTOR-V

FLYING MODEL ROCKET

- Excitement to Travel
- The Cool Flame Color
- Fast Assembly
- Super Thrusting Engine

Centuri

WARNING: THIS PRODUCT
CONTAINS A FLAMMABLE
LIQUID. READ INSTRUCTIONS
BEFORE USE.

WARNING

VECTOR-V

PLEASE READ ALL INSTRUCTIONS
BEFORE USE.

WARNING

WARNING

WARNING

VECTOR-V

THE INSTRUCTIONS

Centuri Vector-V #KB-2

Q	Desc	Stk	Num	Size	Other
1	Plastic Nose Cone	PNC-76	3"		2 Parts
1	Shock Cord	SC-18	1/8"W	16"L	
1	Parachute Kit	CP-12	12"		Red/Wht
1	Shock Cord Fastener	SCF-1			Self Stick
1	Body Tube (Upper)	ST-7	6"L		
1	Pattern Sheet	Coolant Vane			On Inst.
1	Balsa Strip	1/16"Wx6"Lx1/16"T			
1	Coupler	HTC-7	1.5"L		
1	Paper Shroud	PR-7-13	Card	Stock	
2	Centering Disks	CD-7-13			
1	Engine Tube	ST-7	3"L		
1	Engine Lock	EL-1			
1	Launch Lug	LL-2	2.25"L		
1	Body Tube (Lower)	ST-13	2.25"L		
5	Fiber Fins	See Note			
1	Decal	3" x 4"			Blk

fins: fibre board (note this fin unit lives on in the Estes Viking. A Viking can be used as a starting point for Vectov V recreation.)

Beginner 1 Intermediate 2 3 4 5 Advanced

SKILL LEVEL

A	280	C	900
1/2 A	160	B	500

Engine Feet Engine Feet

Altitudes depend greatly on the quality of assembly and finishing.

TYPICAL ALTITUDES

TOOLS YOU WILL NEED:
REQUIRED
White Glue
Plastic Glue
Modeling Knife
OPTIONAL
Spray Paint



VECTOR-V

FLYING MODEL ROCKET

- Customize It Yourself
- Die-Cut Fibre Fins
- Fast Assembly
- Super Detailing Decals



SPECIFICATIONS

Designation	VECTOR V	
Length	12.5"	Net. Wt. 0.9 oz.
Recom. Engines	1/2 A6-2 AB-3 B4-4 B6-4 C6-5	

Parachute Recovery

IP 649

BONUS
METALLIC
SPEC-PLATE

SIMPLY CUT ON DOTTED LINE, PEEL OFF BACKING, AND RUB ONTO ROCKET!

Centuri

KB-2
(#2111)

Engines not incl.

Mfg. by Centuri Engineering Co. Phoenix, Arizona