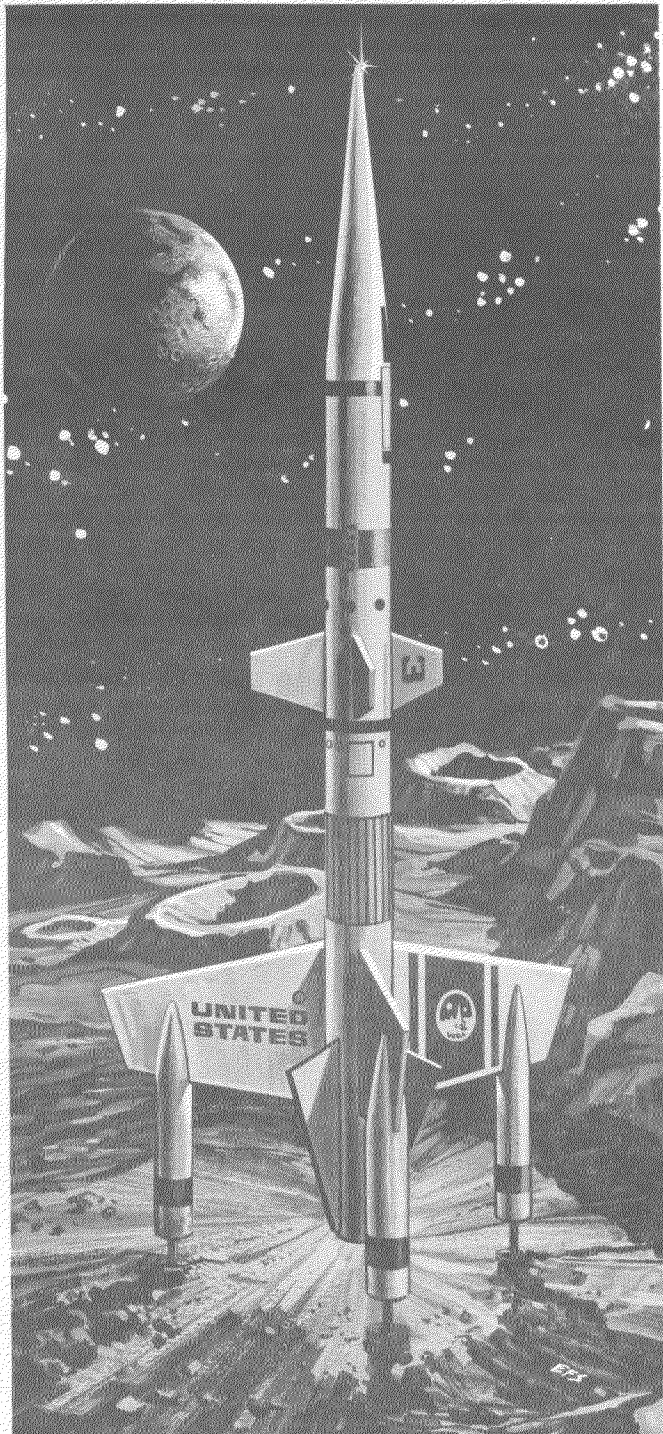






CITATION

KC 4



STARSHIP VEGA

The year is 2050 A.D. A sleek white craft hurtles silently toward a growing red disc. Suddenly a blinding flash pierces the frigid blackness as the retro-engines spring to life. The ship's rapid descent begins to slow as it charges toward the eerie, lifeless planetoid below. Main retro cutoff! Attitude vernier and thruster units blink brightly through the thickening orange cloud which now engulfs the craft. Touchdown!

Moments later, three silvery figures glistening in the scorching solar light emerge from the airlock. Struggling against the intense gravity, they make their way steadily towards a nearby robot navigation station."

Estes Industries looks at tomorrow when spacecraft ply the space lanes and uncharted voids of the universe. Your STARSHIP VEGA is part of that era. The model features futuristic design, realistic landing pods, bright foil reactor trim, die-cut balsa fins, and Star League decal markings. Truly an impressive model for sport flying or display.

In addition to the parts included in this kit, you will also need: A modeling knife, pen or pencil, white glue, ruler, fine and extra fine grit sandpaper, sanding sealer, paints as specified and the Citation "STAR PORT" launch system.

Recommended Engines:

B-2, B-4, or C-5. (Use B-2 for first flight)

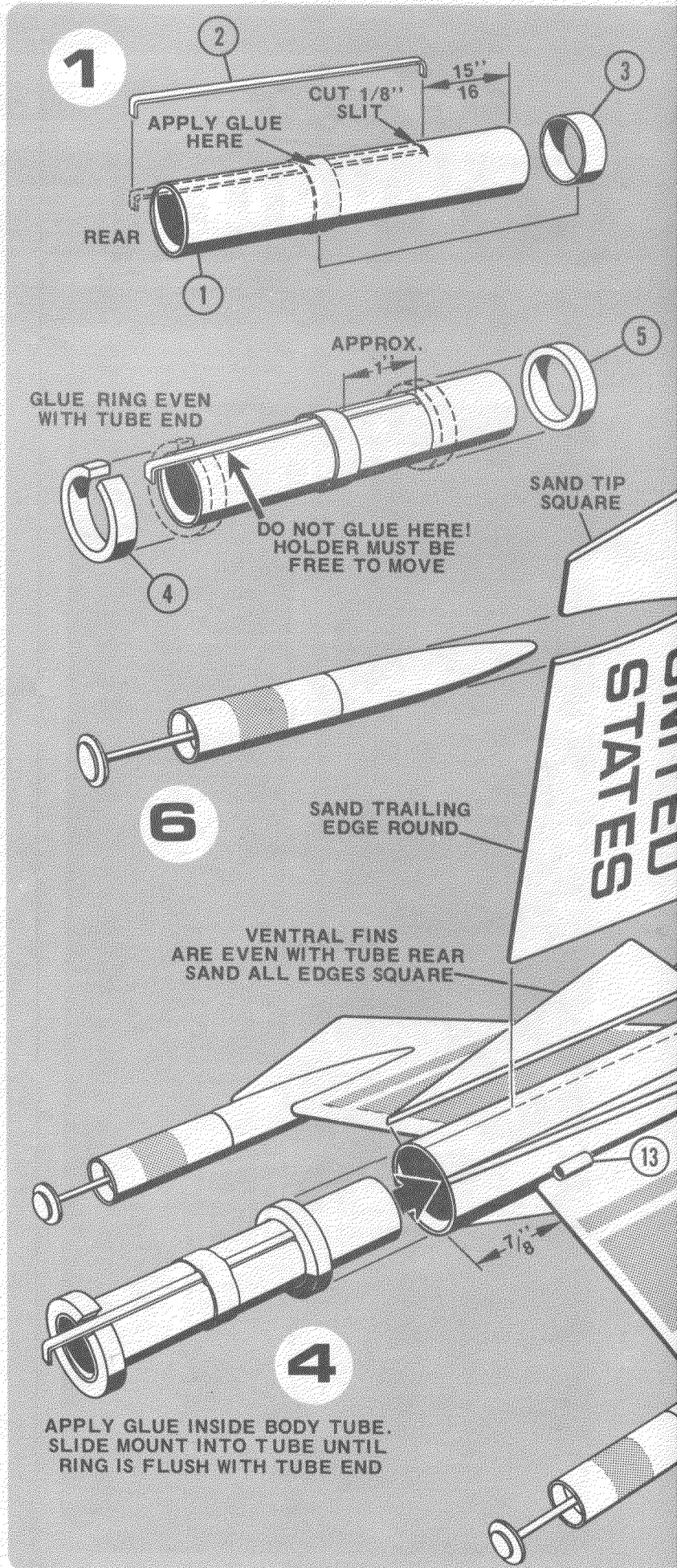
READ THE INSTRUCTIONS CAREFULLY BEFORE BEGINNING CONSTRUCTION.

ASSEMBLY INSTRUCTIONS

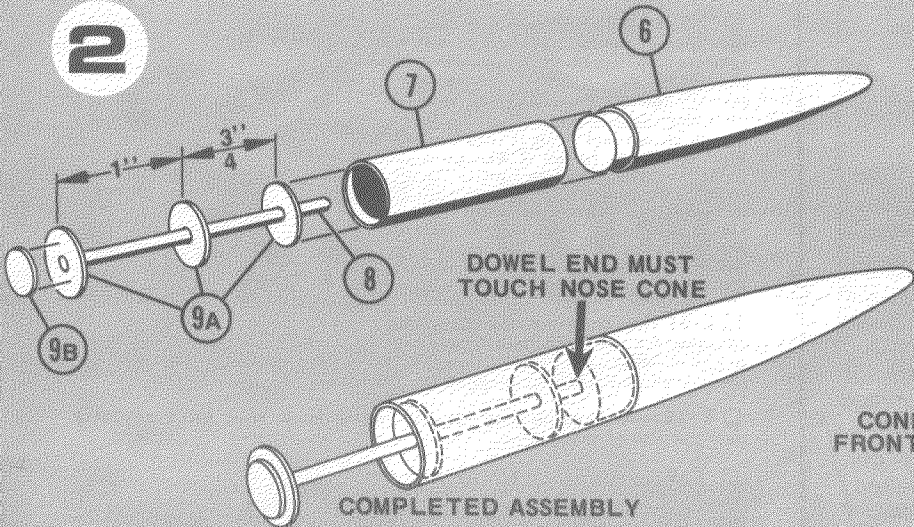
PART NUMBER	PART LIST
1	(1) ENGINE MOUNT TUBE
2	(1) ENGINE HOLDER
3	(1) MYLAR RETAINER RING
4	(1) SPLIT ADAPTER RING
5	(1) ADAPTER RING
6	(3) POD NOSE CONES
7	(3) LANDING POD TUBES
8	(1) LANDING LEG DOWEL
9A	(9) LEG SPACER RINGS
9B	(3) LANDING PAD DISCS
9C	(1) SET, MARKING GUIDES
10	(1) ROCKET BODY TUBE
11	(1) Balsa SHEET, MAIN FINS
12A	(3) Balsa VENTRAL FINS
12B	(3) Balsa FORWARD CONTROL FINS
13	(2) LAUNCH LUGS
14	(1) SHOCK CORD MOUNT
15	(1) SHOCK CORD
16	(1) SCREW EYE
17	(2) NOSE CONE WEIGHTS
18	(1) Balsa NOSE CONE
19	(1) 12" PLASTIC PARACHUTE
20	(1) PARACHUTE SHROUD LINE (72")
21	(6) PARACHUTE TAPE DISCS
22	(1) REACTOR FOIL TRIM
23	(1) DECAL SHEET

ALSO COUNTDOWN CHECKLIST CARD

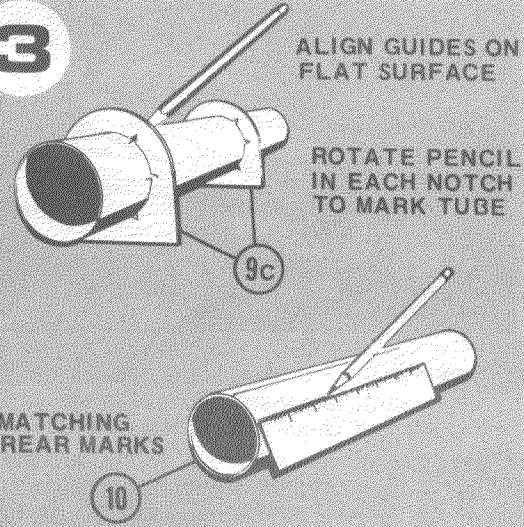
- 1** Slit the engine mount tube (1) as shown in Figure 1. Insert the metal engine holder (2) and slide the mylar retainer ring (3) into position. Glue the split adapter ring (4) onto the tube rear. Glue the remaining adapter ring (5) onto the front end of the tube, even with the engine holder end. Allow to dry completely.
- 2** Glue the balsa pod cones (6) into the landing pod tubes (7). Cut the landing leg dowel (8) into three (2") lengths. Glue the landing leg spacer rings (9A) and landing pad discs (9B) to the leg dowels as in Figure 2. When leg assemblies are dry, glue into pod tubes. (Dowel end must touch pod nose cone.)
- 3** Slip the marking guides (9C) onto the rocket body tube (10) and mark for fin alignment lines.
- 4** Apply a 1/4" wide band of glue around the inside of the rocket body tube approximately 2" from the rear. (This may be done easily with a dowel, Q-Tip, or paint brush.) Slide the engine mount into the body tube until the split adapter ring is flush with the tube end.
- 5** Sand all fin sides smooth. (NOTE: you may wish to do this before removing them from the die cut sheets.) Sand the main fins' (11) leading and trailing edges round. Rub a small amount of glue into the root edge (body edge) of each main fin. Allow glue to set. Then glue (one at a time) to the body tube directly upon the alignment lines as shown in Figure 5. (See also Rear View.) BE SURE that all fins project straight away from the body tube. (Support the rocket vertically while drying.)
- 6** Glue the landing pods into the main fin notches. ALIGN CAREFULLY so that they are parallel to the body tube. BE SURE that the main fin trailing edge remains perfectly straight.
Sand the ventral fin (12A) and forward control fin (12B) edges as indicated. Glue to body tube EXACTLY as shown.
Glue the two launch lugs (13) into place at matching fin joints as shown.
- 7** Cut out the shock cord mount (14) and pre-fold along dotted lines. Glue the shock cord end (15) into place as in Figure 7. Glue completed mount into the rocket body tube. (Hold mount in place until glue sets.)
- 8** Turn the screw eye (16) into the two nose cone weights (17). Smear glue over the nose cone base (18) and turn the screw eye into the nose cone.



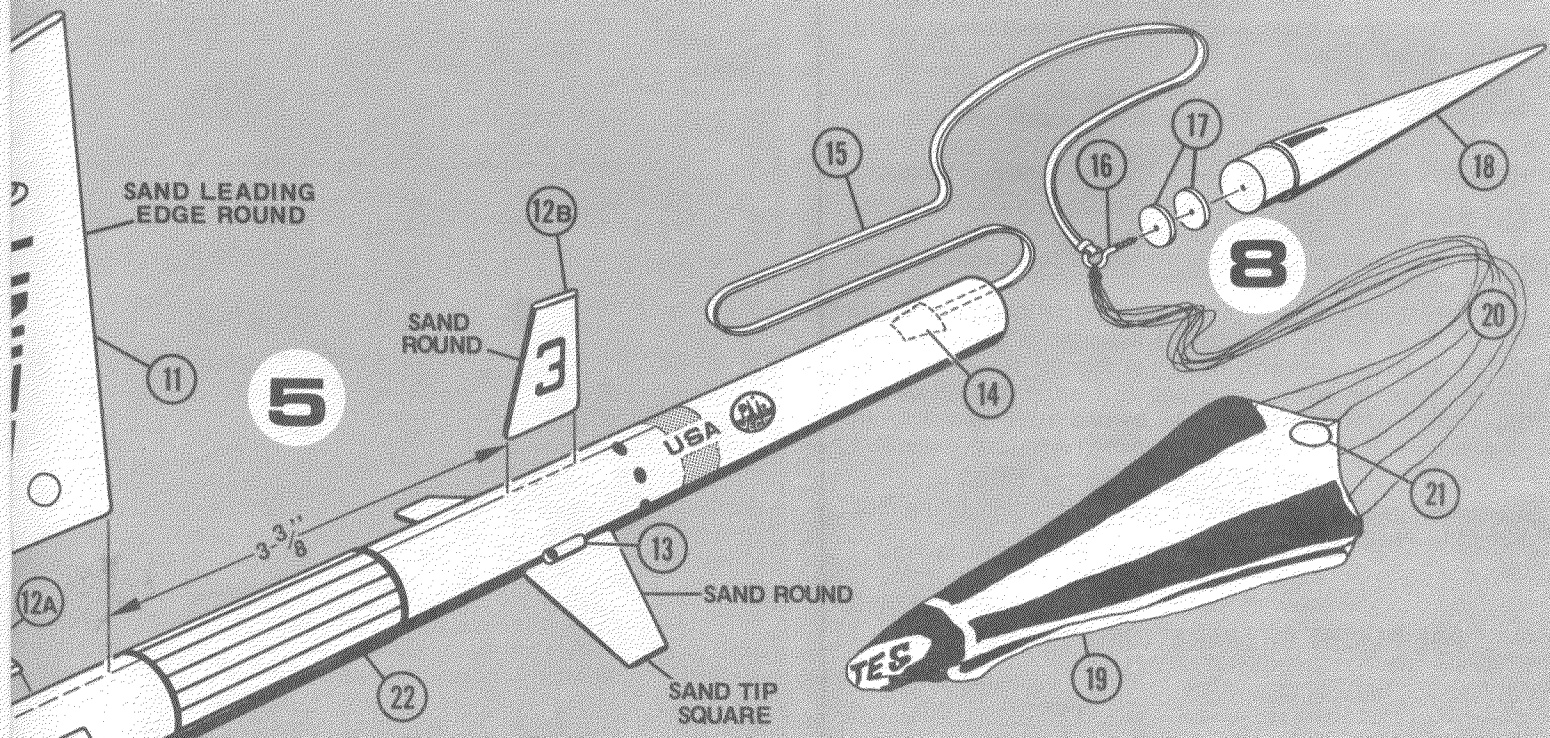
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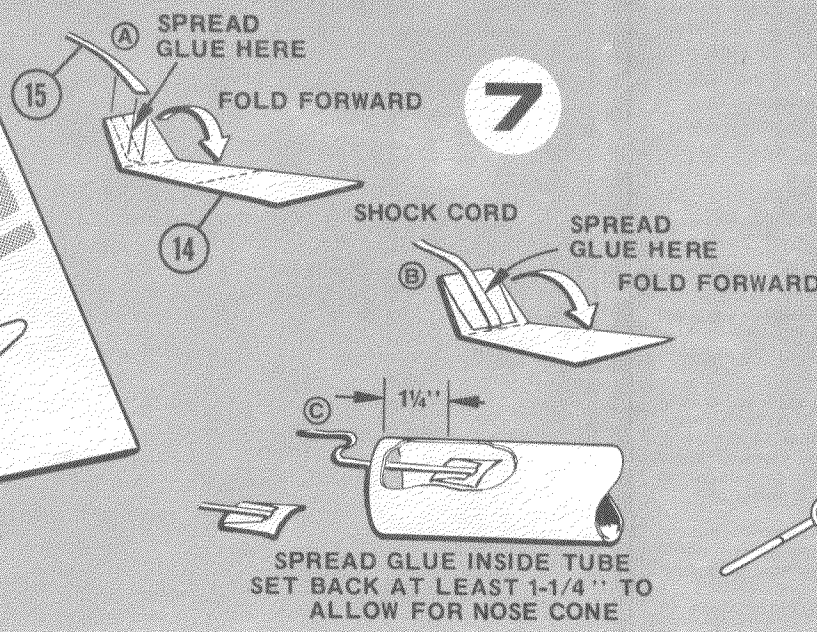


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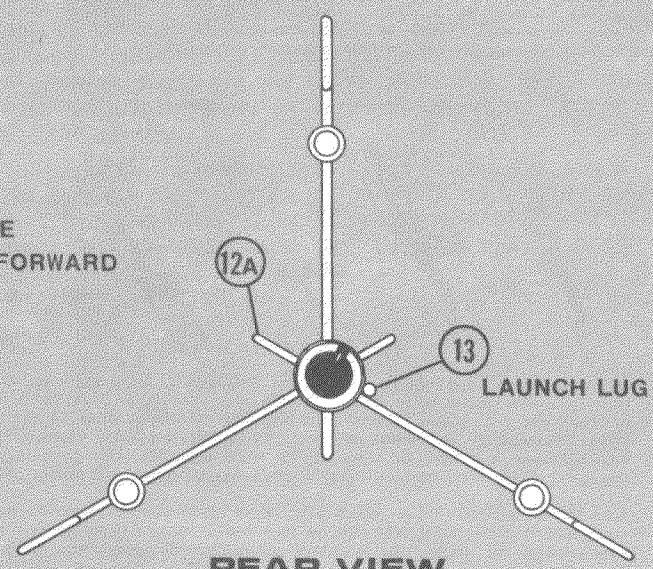


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7



REAR VIEW



A FILLET IS ...

A smooth joint - built up between body and fin by applying glue along the joint and smoothing the glue with a finger.

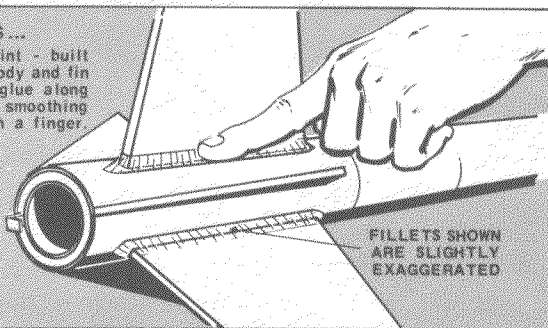


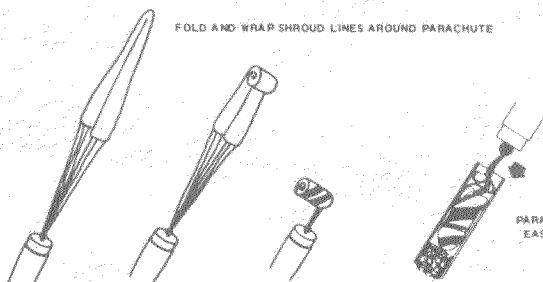
Fig. 10

- 9** Assemble parachute (19) as directed in the parachute instructions. Tie the parachute shroud lines (20) and shock cord to screw-eye.
- 10** When the main fin joints are completely dry, apply a glue fillet to each side of the fin-body tube joint. Run a narrow bead of glue along the joint and smooth with finger as in Figure 10. Allow glue to set and repeat for next fin. (Support rocket horizontally while drying.)
- 11** Allow all glue joints to dry completely. Fillet the landing pod-fin joints with body putty filler, if necessary. Sand smooth. Apply sanding sealer to balsa surfaces, fine sand and repeat until smooth.
- 12** Give the rocket a light base coat of white spray paint. Follow with a second light coat, allow to dry and sand very lightly. Finish with a final coat of gloss white paint.
- 13** Draw a line with light pencil, EXACTLY parallel to the body tube, between a main fin and matching forward control fin. Peel reactor foil trim backing (22) partly away and place foil edge exactly along line. Wrap foil trim carefully around tube and smooth into place.

Apply decals (23) as directed on the decal backing. Refer to photographs and decal reference photo for accurate decal positioning.

PRE-FLIGHT PREPARATION AND LAUNCH

- T-15** Pack five (5) squares of crumpled recovery wadding loosely into rocket body tube.
- T-14** Fold the parachute into a triangular shape. Roll chute tightly as shown and wrap shroud lines around it. If chute is too large, unroll and repack until it slides easily into the rocket. A very tight fit may prevent parachute from ejecting properly.

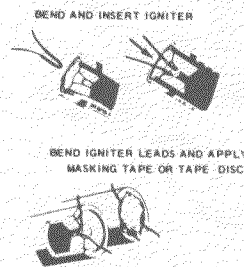


Pack shock cord neatly into rocket. NOTE: DO NOT pack parachute until you are actually ready to launch. For maximum parachute reliability, lightly dust the chute with ordinary talcum powder before each flight, especially in colder weather. NOTE: Flying your rocket when temperatures are 35° or less is not recommended. The plastic parachute becomes stiff and will not always open properly at ejection.

- T-13** Slide nose cone into place. Nose cone should separate easily from rocket body tube, but not be extremely loose. If fit is too tight, sand inside of body tube end and shoulder of nose cone with fine sandpaper. If nose cone is too loose, add a wrapping of transparent tape to the shoulder of the nose cone.

- T-12** Select an engine and install an igniter. Estes standard NWI-1 igniters are supplied in strips and should be cut apart (scissors will work) midway between the coated sections. Bend the igniter at the middle as shown and push it into the engine nozzle as far as it will go.

To operate properly igniter must touch the propellant grain. Spread the leads and apply a square of masking tape or tape disc to the nozzle and leads as shown. The eraser on the end of a pencil is good for pressing the tape securely into place.

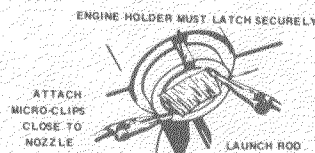


- T-11** The recommended Citation engines for use with this rocket are B-2, B-4, and C-5. Use B-2 engine for first flight. You may also use Estes standard B4-2, B6-2, B6-4 and C6-5 model rocket engines.

- T-10** Insert engine into rocket. Engine hook must latch securely over the end of the engine.

- T-9** Disarm the launch panel - remove safety key.

- T-8** Place rocket on launch pad making sure rocket slides freely on launch rod. Clean the micro-clips, then clip one to each lead of the igniter. The clips must not touch each other and the igniter leads must not cross. The rocket may be supported with a scrap of wood or an empty engine casing to make it easier to attach the clips and to keep the clips from touching the blast deflector plate and short-circuiting.



- 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.

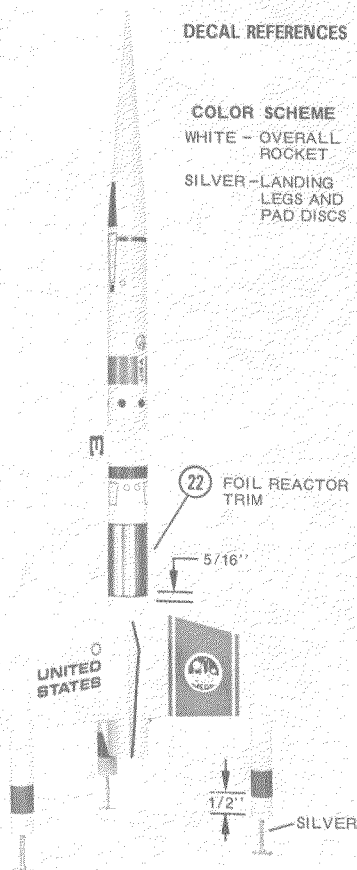
5 4 3 2 1 LAUNCH!!

Important: Mistfire Procedure

Occasionally the igniter will heat and burn in two without igniting the engine. This is almost always caused by a failure to install it correctly. Disarm the launch panel, remove the model, clean the igniter residue from the nozzle and install a new igniter. Follow the launching procedure again.

DECAL REFERENCES

- COLOR SCHEME**
- WHITE - OVERALL ROCKET
- SILVER - LANDING LEGS AND PAD DISCS



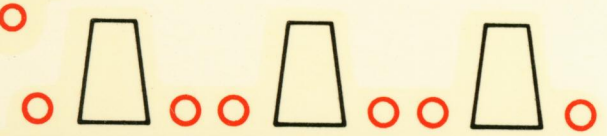
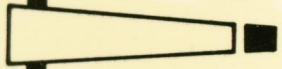


USA

USA

3

3



STARSHIP
3



STARSHIP
3



Starship Vega

3

UNITED STATES

UNITED STATES

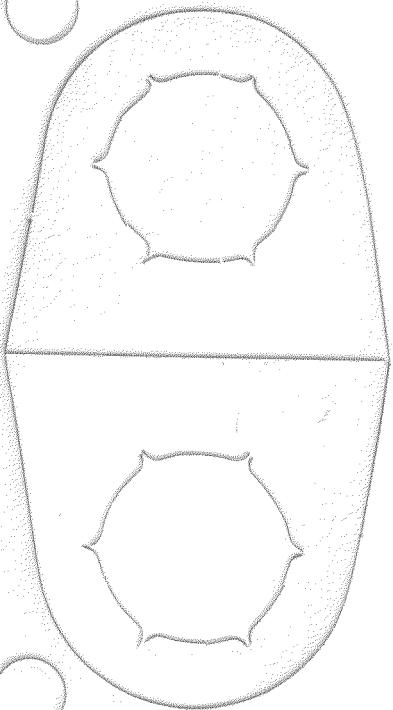
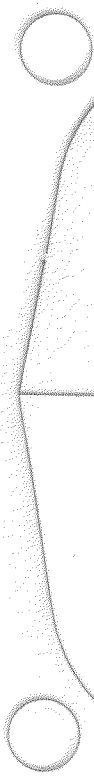
37205
KD-M4A

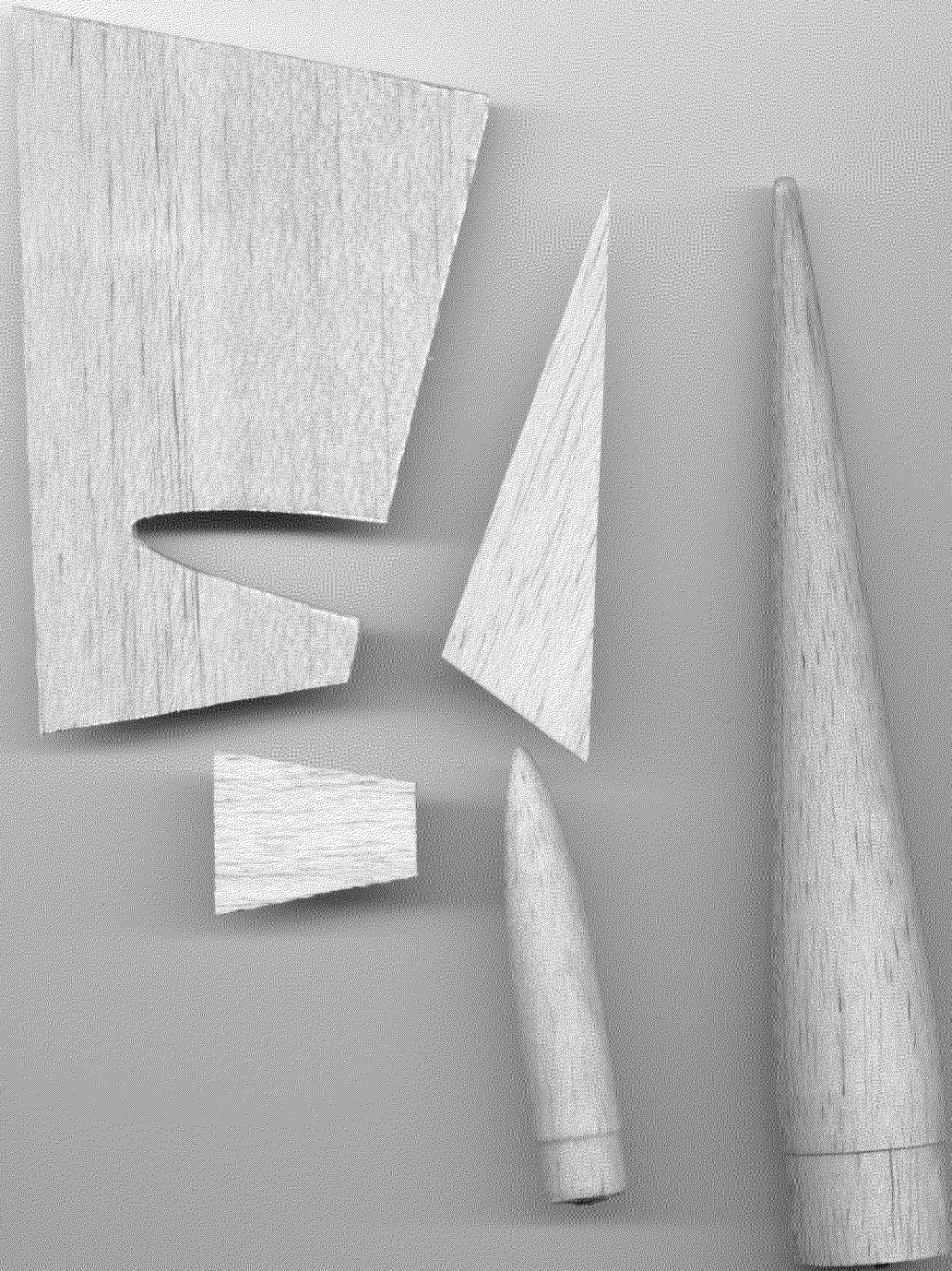
APPLY THIS EDGE FIRST

KD-M4B



NAME _____





Ested Citation series Starship Vega Kit #KC-4

Parts List

- 1) Engine mount tube BT-20G 3.5" long
- 2) Engine Holder EH-2
- 3) Mylar retaining ring HR-20
- 4) split adapter ring AR-2050S
- 5) adapter ring AR-2050
- 6) 3 pod nose cones BNC-5AW
- 7) 3 Landing pod tubes BT-5T 1.5" long
- 8) Landing leg dowel 1/8" dowel 6" long
- 9a) Leg spacer rings 1/16" thick pressed cardboard
- 9b) landing pad discs 1/16" thick pressed cardboard
- 9c) Body marking guides 1/16" thick pressed cardboard
- 10) Rocket body tube BT-50L 12.7" long
- 11) Balsa sheet, main fins BF-M4A 1/8" x 3" x 12"
- 12a) Balsa ventral fins BF-M4B 3/32" x 3" x 4"
- 13) 2 launch lugs 1/8" lugs by 3/8" long
- 14) shock cord mount SCM-50
- 15) 1 shock cord
- 16) 1 Screw eye SE-2
- 17) 2 nose cone weights NCW-1
- 18) Balsa nose cone BNC-50AR 5 1/2" long
- 19) 12" plastic parachute
- 20) parachute shroud line 72"
- 21) parachute tape discs
- 22) reactor foil stick on decal
- 23) color decal sheet

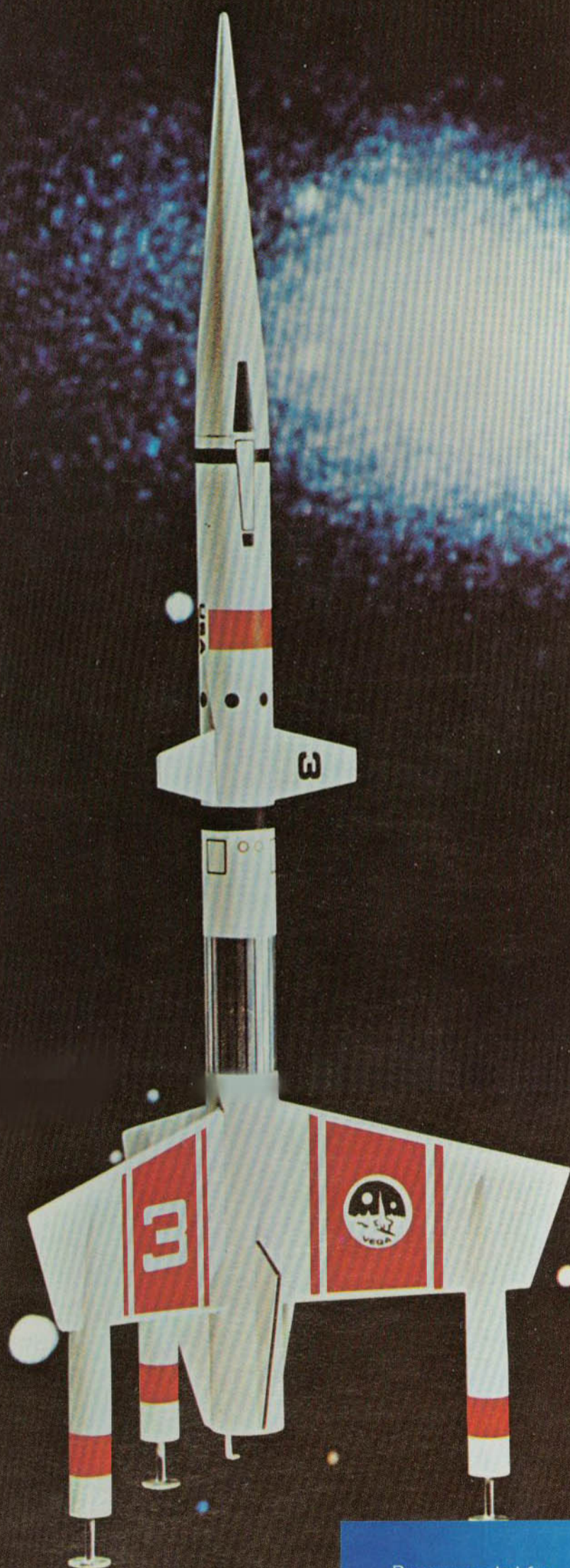
CITATION



A SUBSIDIARY OF DAMON

Recommended for ages 10 to adult.

• STARSHIP VEGA



Recommended for
Ages 10 to Adult

FLYING MODEL ROCKET

DEGREE OF CHALLENGE: 3

(See side of box for explanation.)