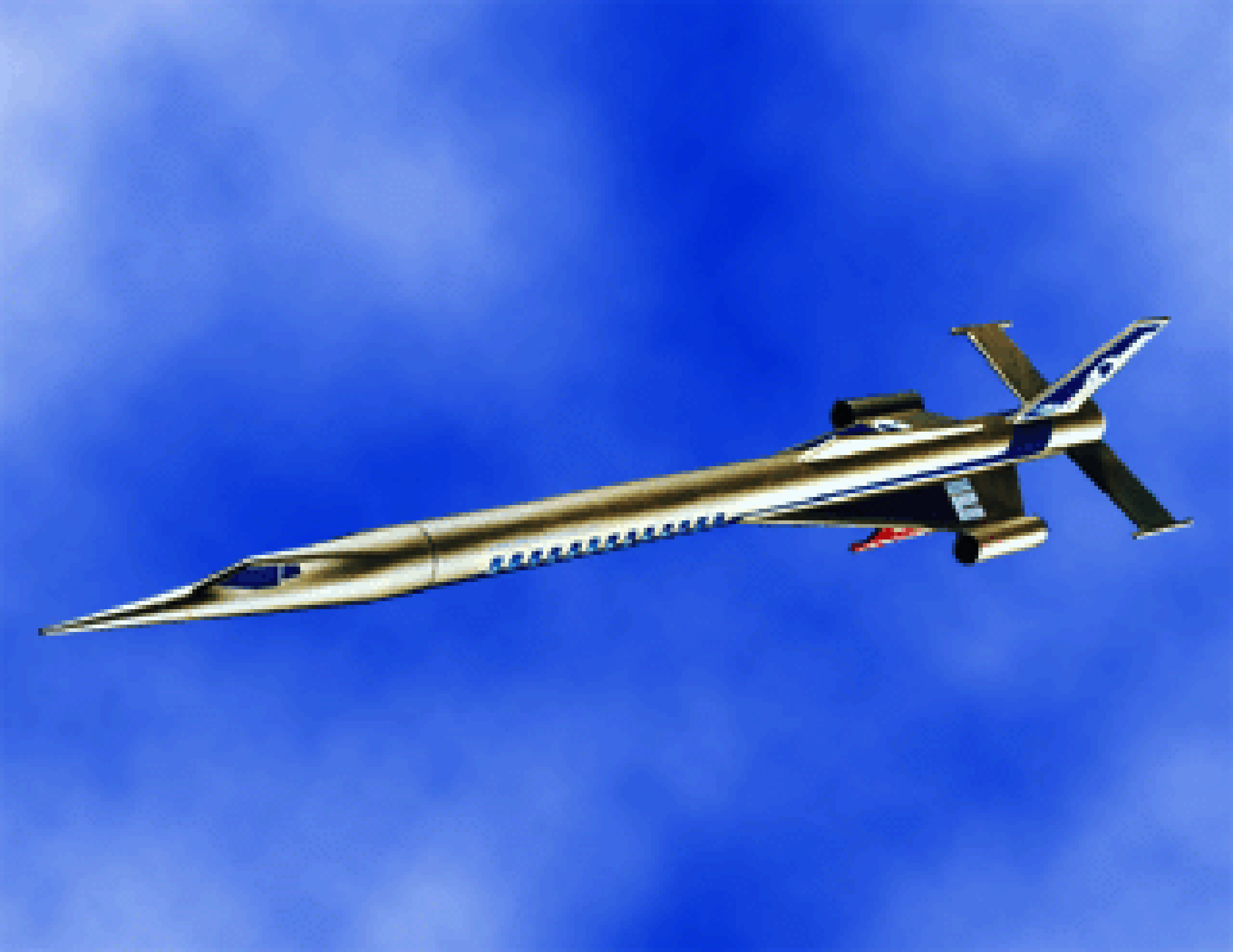


Centuri 'Spacemaster' #5348

NOTE: All parts except the parachute and decals are Estes parts.

Q	Desc	Stk Num	Size	Other
1	Plastic nose cone	PNC-50SP		See Note 1.
1	Body Tube	BT-50V	16.5" L	
2	Wing Tip Tube	BT-5BJ	2" L	
1	Engine Mount Tube	BT-20J	2.75" L	
2	Centering Rings	AR-2050		
1	Engine Lock	EH-2		
1	Launch Lug	LL-2B	2 3/8" L	
1	Dowel	WD-1S	1/8" x ??	At least 7" long
1	Balsa sheet	BF-96	3/32" x 12"	See Note 2.
1	Shock Cord	SC-1	1/8" x 18"	Rubber
1	Shock Cord Fastener	32933	??	??
1	Parachute	CP-12	12"	Red/White
1	Decal	36870		Blue/White

NOTES:

1) This nose cone is still used on the Venom kit.

2) Most parts in this kits are identical to those in the Estes Satellite Interceptor (#1296).

FLYING INSTRUCTIONS

ENGINES

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

Your SPACEMASTER can be launched with the following engines:

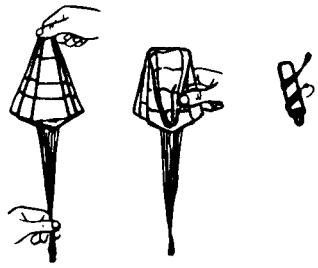
ENGINE	APPROXIMATE ALTITUDE	PURPOSE
½A6-2 A8-3	150–300 feet	LOW ALTITUDE–for first test flight and small fields.
B4-4 B6-4 B8-5	300–500 feet	MEDIUM ALTITUDES–for general flying and medium sized fields.
C6-5 C6-7	500–800 feet	HIGH ALTITUDES–for extremely high altitudes and large launch fields.

FLIGHT PREPPING

1. Inspect entire recovery system for good condition before each flight. If the recovery system is tangled from the last flight, cut it apart to untangle and repair.

2. Insert flameproof chute wadding to protect your parachute from being melted by the engine's ejection charge. We recommend using 3 sheets of Centuri crepe wadding (#5846 SPW-19).

3. Fold parachute as shown and tuck neatly into rocket . . . try to avoid tangles. Chute should be packed just before flight to avoid the possibility of it sticking together.

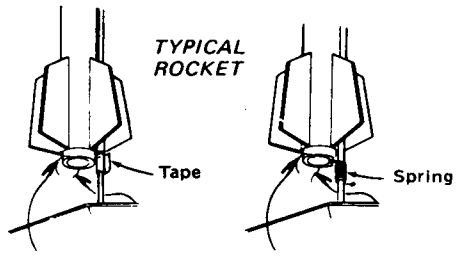


4. Tuck in shock cord and insert nose cone. The cone should fit snugly, yet be loose enough to eject.

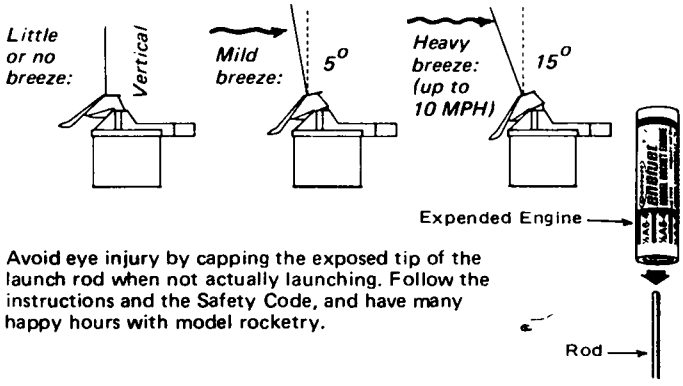
5. Install igniter into engine, following instructions enclosed with engines.

6. Insert engine into its mount, securing with engine lock.

7. Mount the rocket on launcher and prepare for ignition. The rocket must be raised slightly off the launcher's deflector to avoid a short-circuit which might prevent ignition. If your launcher has a "positioning spring" use it as shown. Otherwise just wrap a little tape around the launch rod to support the rocket and the launch lug.



8. If your launcher has a rod-tilting feature, use it only for launching in breezes . . . normally model rockets are launched straight up. For reliable, impressive flights, never tilt the rod more than 15 degrees when flying your rocket kit . . . do not tilt the rod to its maximum angle.



Avoid eye injury by capping the exposed tip of the launch rod when not actually launching. Follow the instructions and the Safety Code, and have many happy hours with model rocketry.

Centuri

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SPACEMASTER

STRATEGIC TROOP CARRIER

The Spacemaster is the workhorse of space transports in the near future. An updated version of the smaller and earlier "Galaxy", the Spacemaster can transport up to 100 men and equipment to distances in excess of 4 million miles without stopping for refueling. Centuri's model is nearly two feet long, and features balsa fins, plastic nose cone, quick-release engine mount and big two-color decals. Flights over 600 feet with 12" parachute recovery.

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 rockets 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 15 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.

CENTURI Engineering Co., Phoenix, AZ 85001
Printed in U.S.A. 3/81 81663

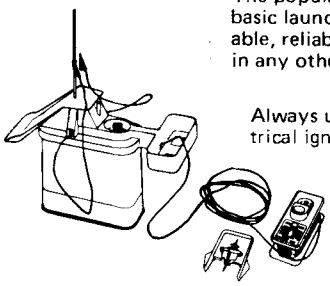
HOW IT WORKS

Your "Spacemaster" model rocket is designed to fly in the same manner as most model rocket kits. The electrically ignited engine boosts the rocket off the launch pad, guiding it into proper flight by the launch rod. The rocket continues coasting to peak altitude while the engine's delay charge operates. Then the ejection charge ignites, pushing out the nose cone and parachute system. Your rocket drifts to earth ready to be prepared for another flight.

WHAT IT TAKES TO FLY

You will need engines, igniters, an electrical launch system and parachute wadding to fly your rocket. These supplies are NOT included in individual rocket kits, but are available separately and ARE included in every Centuri Starter Set or Rocket Outfit.

We recommend using Centuri Enerjet engines; each package includes the famous "Sure-Shot II" igniters, acclaimed as the world's most reliable model rocket igniter.



The popular Centuri "powr Pad" is an ideal basic launch system; compact, highly portable, reliable, and offering features not found in any other launch system.

Always use standard remote-control electrical ignition and follow the engine recommendations. Be sure to comply with any laws that may apply in your area, for the good of model rocketry and your own enjoyment.

RIGHT MATERIALS FOR THE JOB

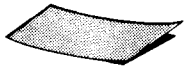
Different model rocket kits are made out of a variety of materials, depending on the needs of each kit. The chart below explains why this particular kit is designed using certain materials.

PART	REQUIREMENTS	MATERIAL
Body & Fins	• Light Weight • Strength	Balsa & Paper
Nose Cone	• No finishing • Strength	Plastic

TOOLS YOU WILL NEED

In addition to the parts supplied, you will need the following tools to assemble and finish this kit (DO NOT use model airplane glue for building model rockets).

White glue, or "Willhold" type glue, (for gluing all fibre and balsa parts).



Fine Sandpaper

Masking Tape

Brush

Modeling Knife

Pencil

Ruler

Spray Paint

Balsa Filler coat

BEFORE YOU START

If you are new to model rocketry, here are some general tips to get you off to a good start.

- Choose a practical assembly area: well lighted, big enough to work in, and out of the way of relatives or pets who might accidentally mess up your work.
- Cover your worktable with plywood or heavy cardboard to protect the table from glue, paint, cuts, etc.
- Remove the entire contents of your kit package carefully to avoid losing or damaging small parts. Lay them out neatly and identify each by referring to the "exploded view" drawing on this instruction.
- NOTE: Sometimes certain parts are packed INSIDE of other parts, such as tape discs inside parachutes, decals or couplers inside body tubes, etc.

Centuri Spacemaster

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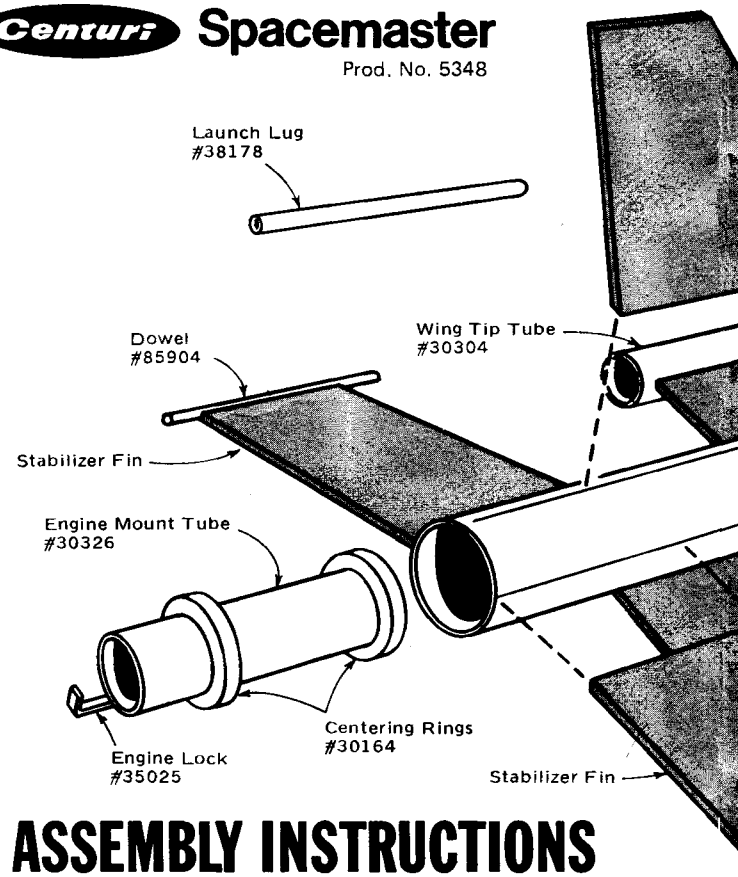
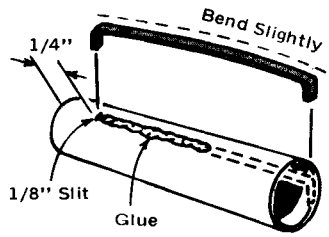


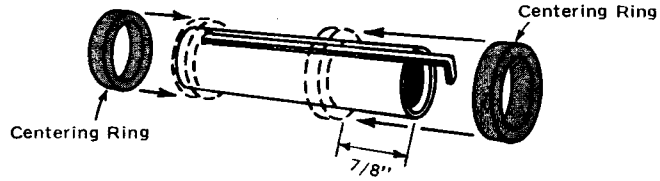
ASSEMBLY INSTRUCTIONS

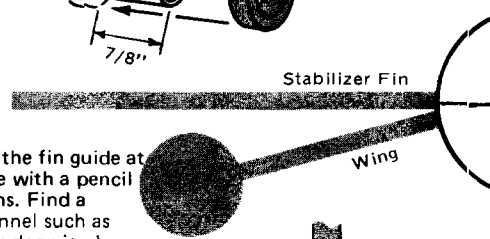
You MUST follow these instructions for satisfactory flights. The shape and placement of the model's parts has been carefully engineered for safe flights. DO NOT try to change the design, "customize" it, or leave off any parts.

1 Cut a 1/8" slit in the engine mount tube 1/4" from one end as shown. Apply a 3/4" long line of glue to the tube as shown. Bend the engine lock slightly then push one end into the slit and press the main part of the lock into the glue.

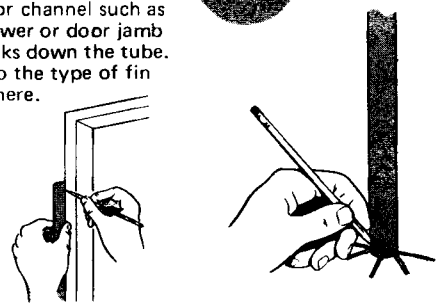


2 Glue one of the centering rings to the front of the engine mount against the end of the engine lock as shown. Slip the remaining centering ring onto the opposite end of the engine mount tube and over the lock. Slide the ring 7/8" from the rear of the tube and apply glue along both sides where it touches the tube.

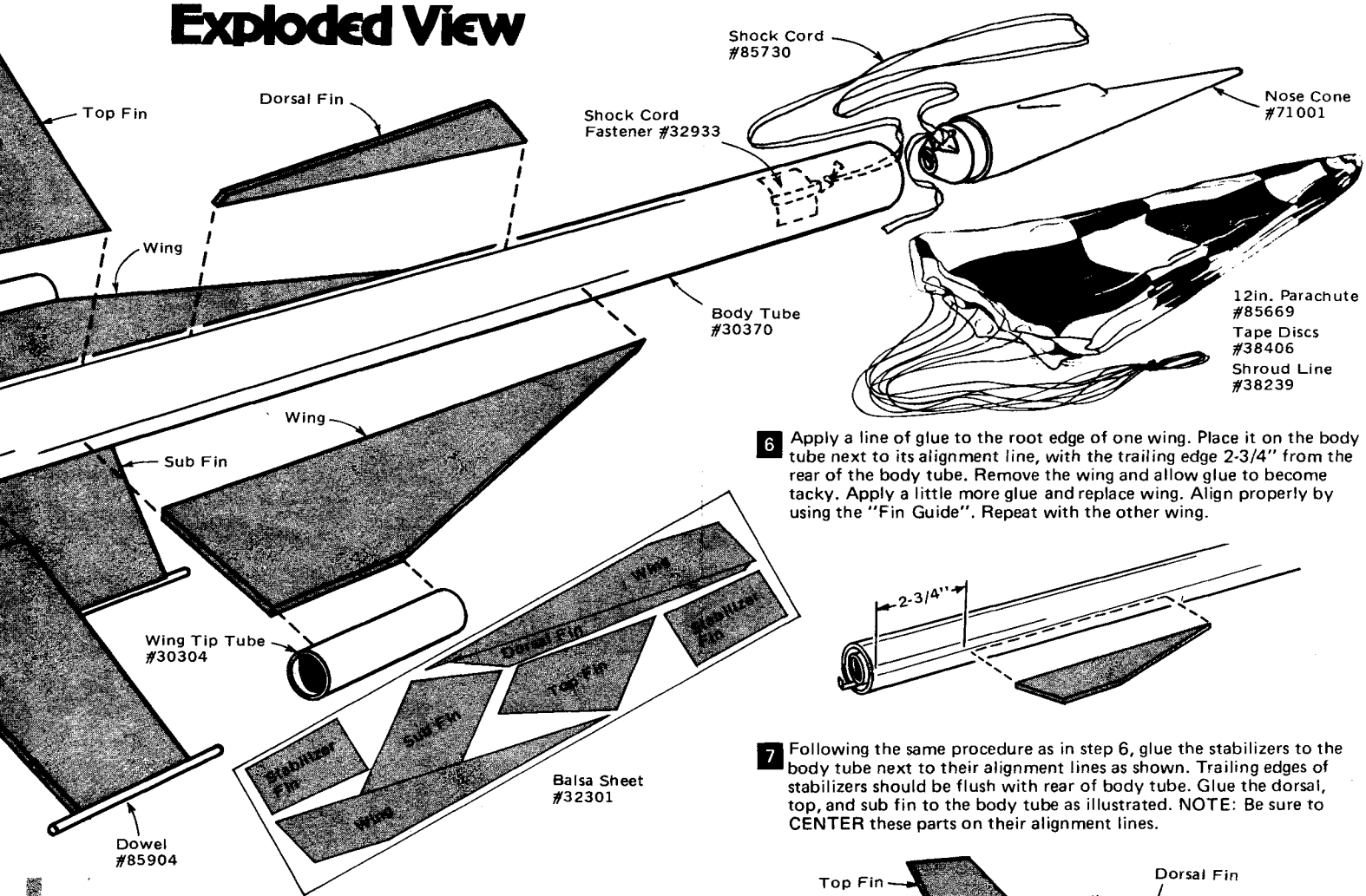




3 Place the body tube over the fin guide at right. Mark the body tube with a pencil at each location of the fins. Find a convenient groove or channel such as a partially open drawer or door jamb and extend the marks down the tube. Label each line as to the type of fin that will be glued there.

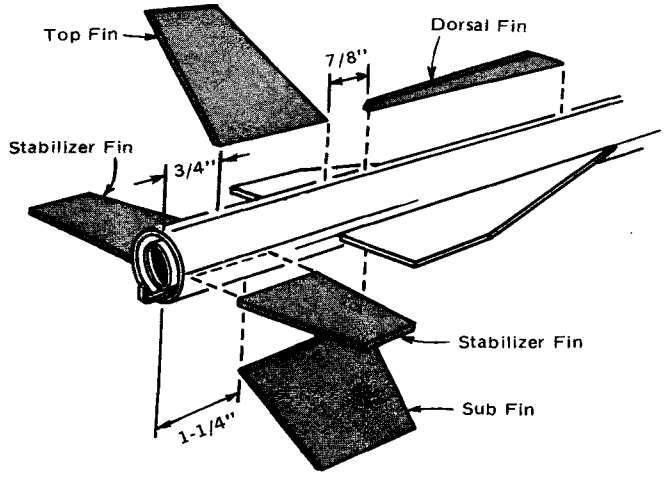


Exploded View

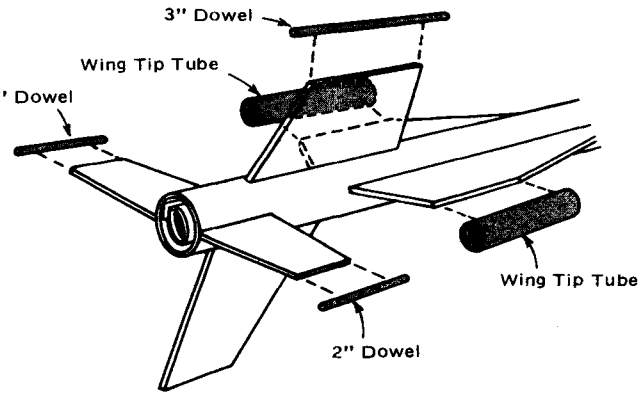


6 Apply a line of glue to the root edge of one wing. Place it on the body tube next to its alignment line, with the trailing edge 2-3/4" from the rear of the body tube. Remove the wing and allow glue to become tacky. Apply a little more glue and replace wing. Align properly by using the "Fin Guide". Repeat with the other wing.

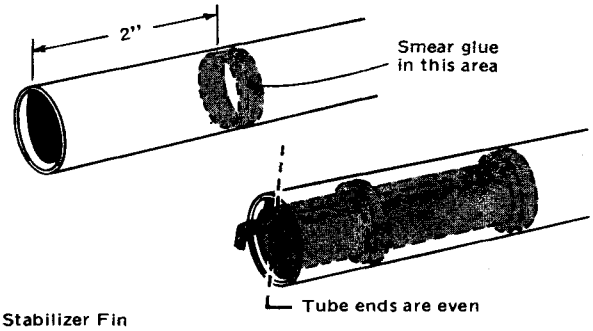
7 Following the same procedure as in step 6, glue the stabilizers to the body tube next to their alignment lines as shown. Trailing edges of stabilizers should be flush with rear of body tube. Glue the dorsal, top, and sub fin to the body tube as illustrated. NOTE: Be sure to CENTER these parts on their alignment lines.



8 Cut fin tip dowel into two 2" lengths and one 3" length. Round the leading edge of each piece. Glue the 3" length to the tip of the sub fin and the two 2" lengths to the stabilizer tips. Wing tip tubes can now be glued to the wing tips. Center these on each tip.

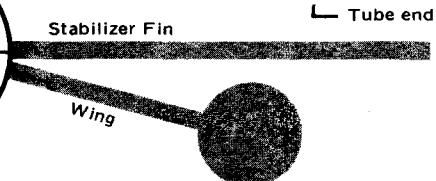


4 Use a stick or wood dowel to smear glue around the inside of the end of the body tube to cover an area about 2" to 2-1/2" from the end of the tube. Immediately insert the engine mount unit, positioning the engine lock in line with the sub fin line. This puts the lock in the down position. Push the engine mount in with one smooth motion until the end of the engine mount tube is even with the end of the body tube.



Top Fin

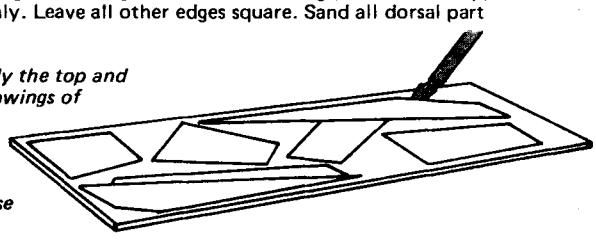
FIN GUIDE



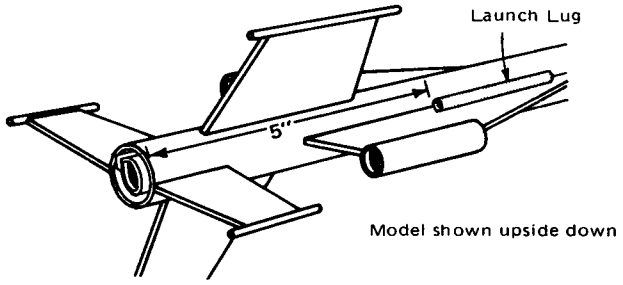
Sub Fin

5 Using a sharp model knife (or single edge razor blade) and a metal ruler, carefully cut out all balsa parts from the printed balsa sheet. Sand the leading (front) edges round on the wings, stabilizers, top, and sub fin only. Leave all other edges square. Sand all dorsal part edges square.

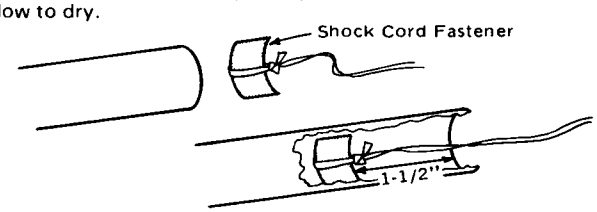
NOTE: Study the top and side view drawings of step 15 to determine the leading and trailing edges of these parts.



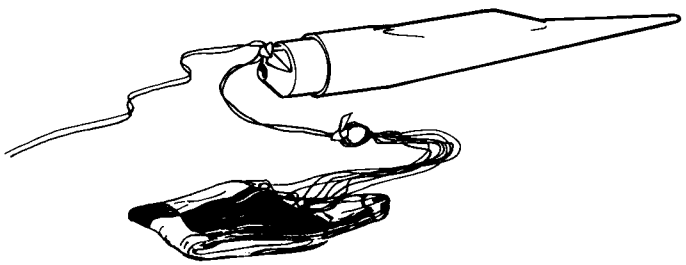
9 Glue launch lug to body tube under left wing where the wing joins the body tube. Position rear of launch lug 5" from the rear of the body tube.



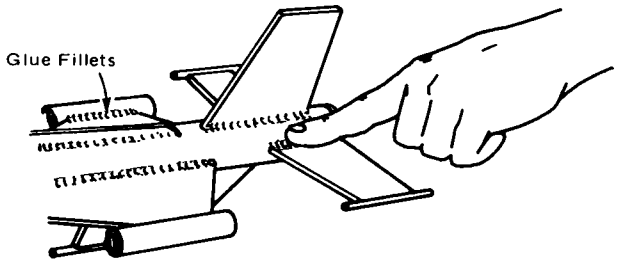
10 Locate the shock cord and shock cord fastener. Bend the shock cord fastener slightly so it can be glued to the inside wall of the body tube. Tie the shock cord around the fastener and apply glue to the fastener. Glue it in place inside the body tube, making sure it is at least 1-1/2" below the forward end of the tube. Use your finger to tamp the fastener firmly in place against the wall of the tube. Allow to dry.



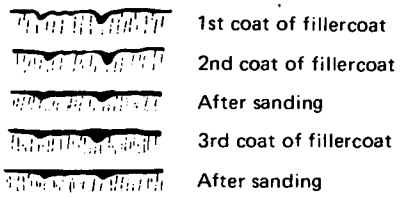
11 Tie the free end of the shock cord to the nose cone eyelet, leaving approximately two inches of shock cord beyond the eyelet. Assemble the parachute according to the instructions printed on it. Tie the 2" free end of the shock cord to the loop at the end of the shroud lines.



12 Apply a glue fillet to each balsa part joint. Holding the rocket horizontally, apply a line of glue to both sides of each joint. Smooth out the glue with your finger. Repeat this with all body tube joints. Keep the rocket level until the glue dries.

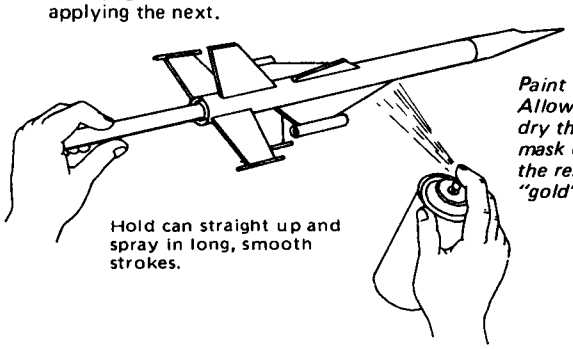


13 Paint all the wood surfaces with balsa fillercoat or sanding sealer and allow to dry. Sand lightly with fine sandpaper. Paint and sand again, repeating the process until all the grain is filled.



14 When painting plastic parts, never use dope or lacquer! Use enamel only! Dope or lacquer will melt the plastic.

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 dry before applying the next.



Paint the sub fin "red". Allow the sub fin to dry thoroughly then mask off and paint the rest of the model "gold".

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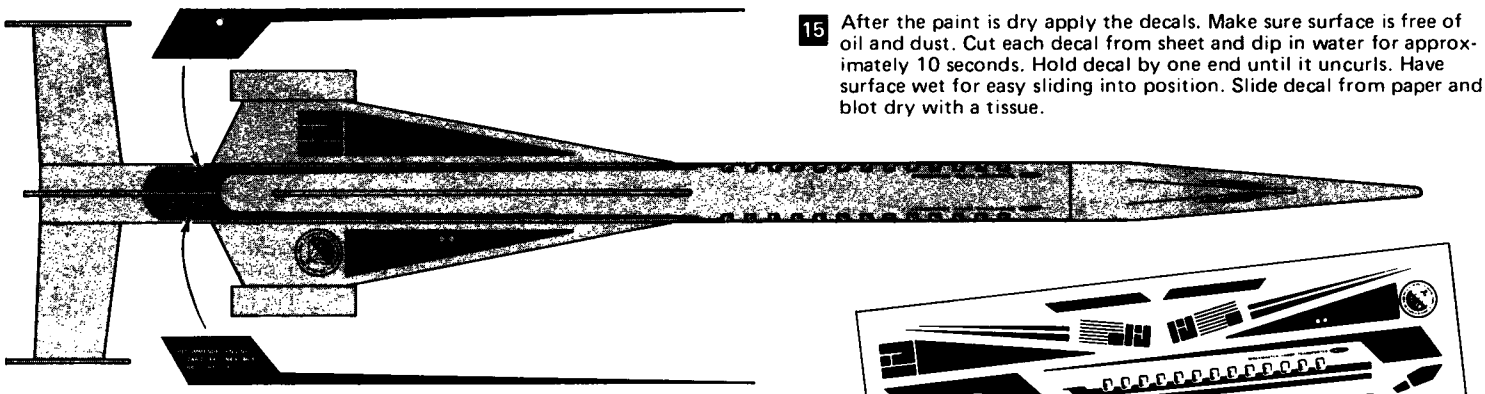
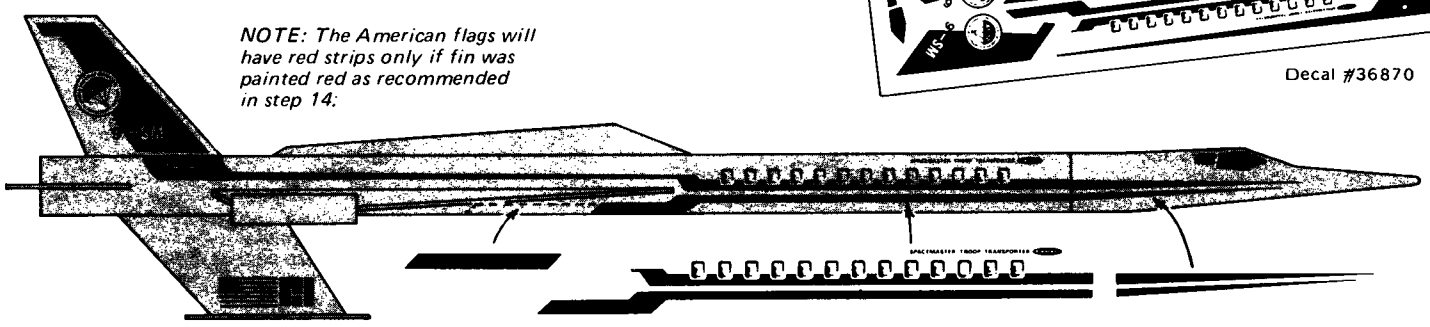
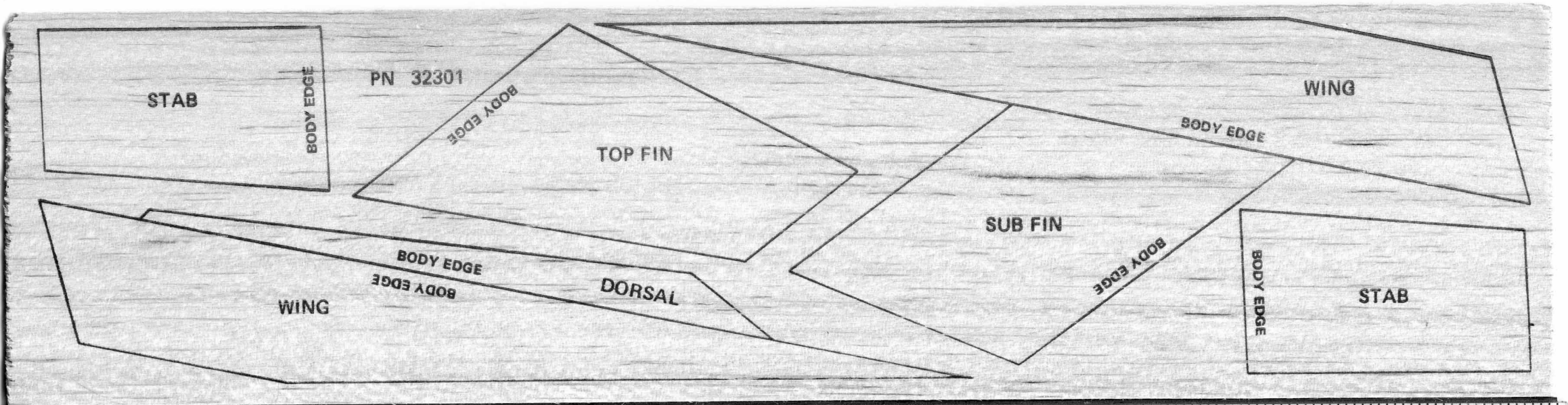
15 After the paint is dry apply the decals. Make sure surface is free of oil and dust. Cut each decal from sheet and dip in water for approximately 10 seconds. Hold decal by one end until it uncurls. Have surface wet for easy sliding into position. Slide decal from paper and blot dry with a tissue.

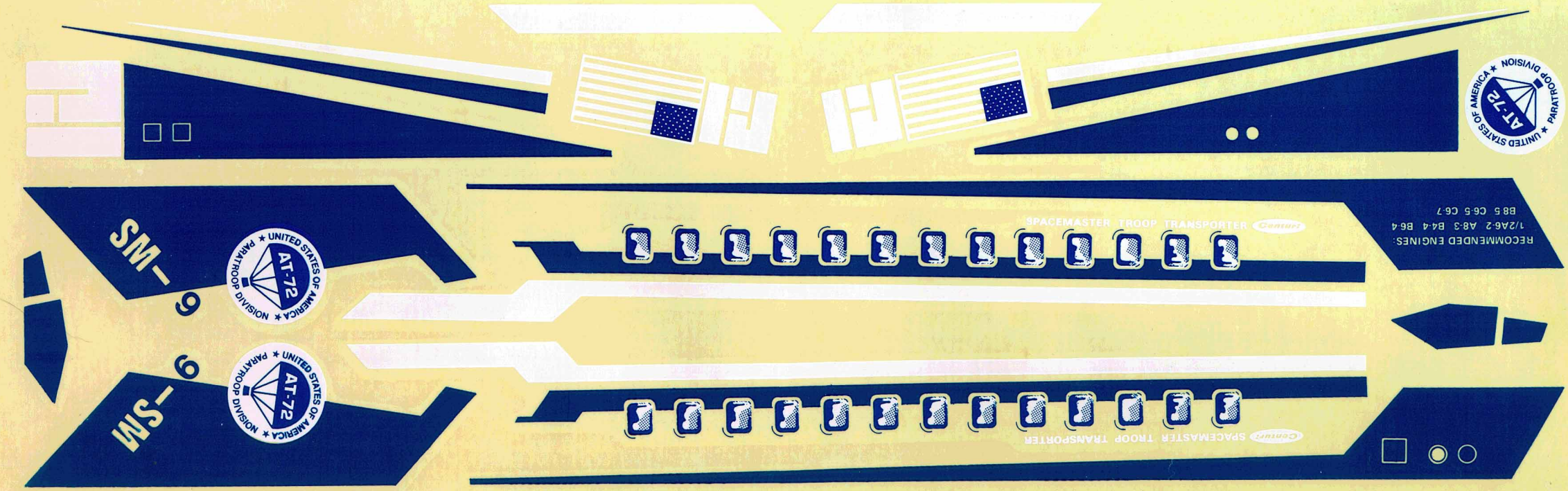


Decal #36870

NOTE: The American flags will have red strips only if fin was painted red as recommended in step 14.




STAB
BODY EDGE
PN 32301
BODY EDGE
TOP FIN
WING
BODY EDGE
SUB FIN
BODY EDGE
BODY EDGE
STAB
BODY EDGE
BODY EDGE
WING
DORSAL
MADE IN U.S.A.



NOTE: EVERY DECAL PIECE HAS A "MIRROR-IMAGE"; FOR THE RIGHT AND LEFT SIDE OF MODEL. STUDY THE INSTRUCTION'S DECAL DIAGRAMS BEFORE APPLYING.

Decal #36870


BONUS
SPACEMASTER
FLYING MODEL ROCKET KIT