

TITAN III-C

Your TITAN III-C model rocket may be built in more than one way. You can build it as a static display model or as a flying model. Both versions assemble basically the same way. Watch for note indicating flying model options. Use styrene cement on all plastic parts (unless otherwise noted) and use white glue on all paper parts (unless otherwise noted). Chrome parts and clear parts are indicated.

This model rocket has been designed and developed to give you a straight high flight if the instructions are followed carefully. The exciting and educational sport of model rocketry has grown into a full scale national activity, and will continue to grow every time you fly your rocket safely. Formation of a rocket club in your area will provide you with hours of enjoyment even when you're not flying rockets. Look for our new models appearing on your dealer's shelves soon.

Before you begin building, look over the instructions carefully. Following the procedure given test fit the parts without gluing. This way you will be more familiar with the location of parts when it becomes time to use glue. The parts list will acquaint you with the pieces in the kit.

For removing small parts from the "runners" it is best to use a modeler's knife, do not attempt to "twist" them off.

The highest quality styrene plastic goes into the making of each MPC model. Only paint made for styrene should be used. Before joining parts, trim off excess plastic or "flash." Scrape plating from chromed parts where they are to be joined with other parts. Be careful not to get glue on exposed areas. To join parts, use glue sparingly. Apply cement to very small parts with a toothpick.

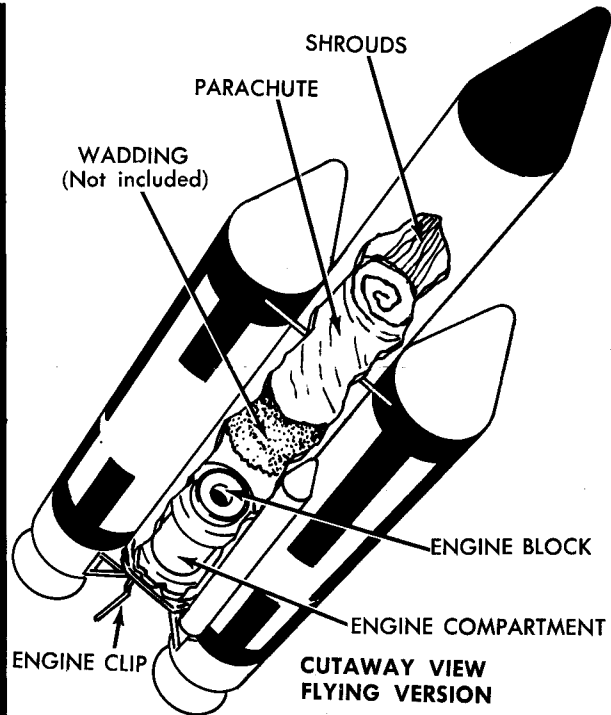
When painting your model it is best to glue all non-chromed accessories to the rocket and paint the whole unit at one time.

WARNING!

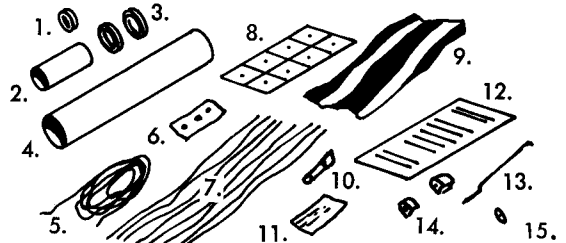
A flying model rocket is a scientifically designed educational model . . . NOT A TOY! If misused it can be dangerous. It is capable of attaining speeds up to 300 mph. It should be used only as instructed, and treated with care and respect.

Do not attempt to alter the design in any way. Each kit was designed to give maximum stability, and any alteration or variation of the rocket design could make it unsafe.

Solid propellant Rocket Reaction Engines are specifically designed for the sole purpose of propelling model rocket vehicles. They are scientifically designed, produced on automatic machinery, and subjected to statistical quality control tests. It is very important, however, that caution be exercised in their use. All instructions must be read thoroughly first and followed completely. Model rocket engines are designed for one purpose only. They are not toys—and their misuse must be absolutely avoided. Model rocketry has proven itself to be as safe as any other hobby, when common sense codes are used.



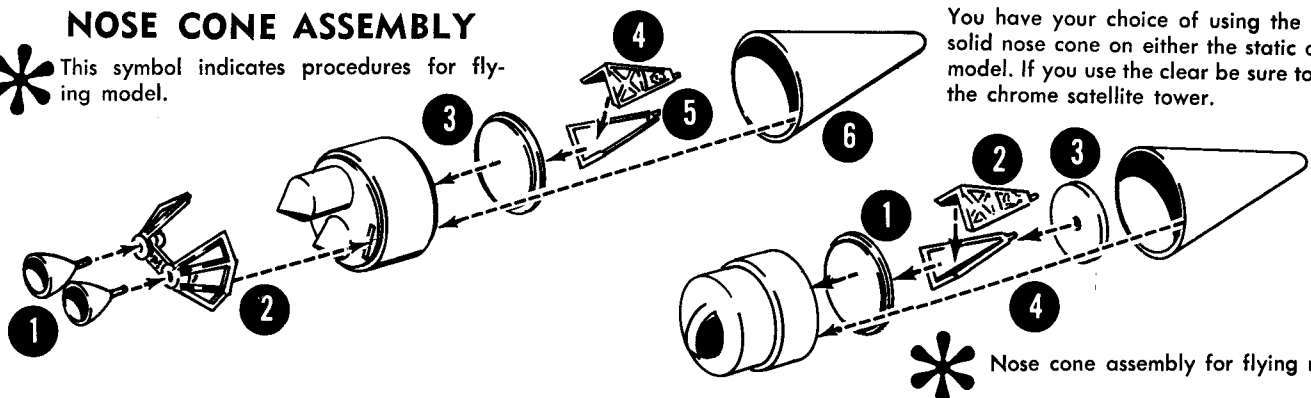
FLYING MODEL PARTS LIST



- | | |
|-----------------------|----------------------|
| 1. ENGINE BLOCK | 8. SHROUD TABS |
| 2. ENGINE COMPARTMENT | 9. PARACHUTE |
| 3. CENTERING RINGS | 10. SNAP SWIVEL |
| 4. BODY TUBE | 11. ADDRESS LABEL |
| 5. SHOCK CORD | 12. COUNT DOWN CARD |
| 6. SHOCK MOUNT | 13. ENGINE CLIP |
| 7. SHROUDS | 14. LAUNCH LUGS |
| | 15. NOSE CONE WEIGHT |

NOSE CONE ASSEMBLY

* This symbol indicates procedures for flying model.



You have your choice of using the clear or solid nose cone on either the static or flying model. If you use the clear be sure to include the chrome satellite tower.

* Nose cone assembly for flying model.

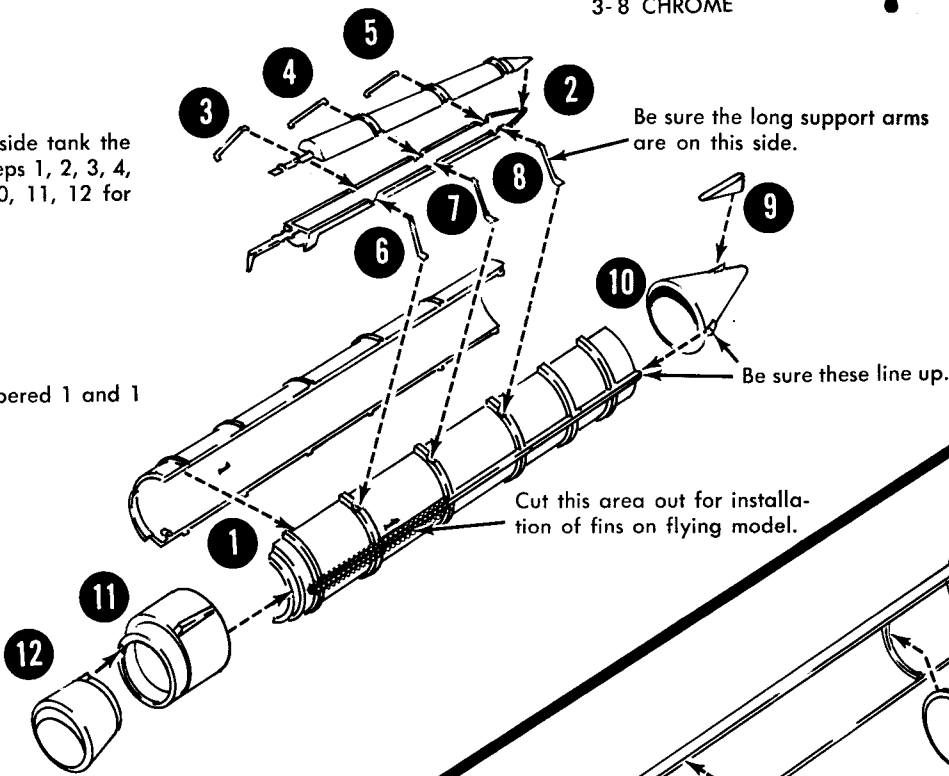
SIDE TANK ASSEMBLY (STATIC AND FLYING MODEL)

 Double check all cement joints.

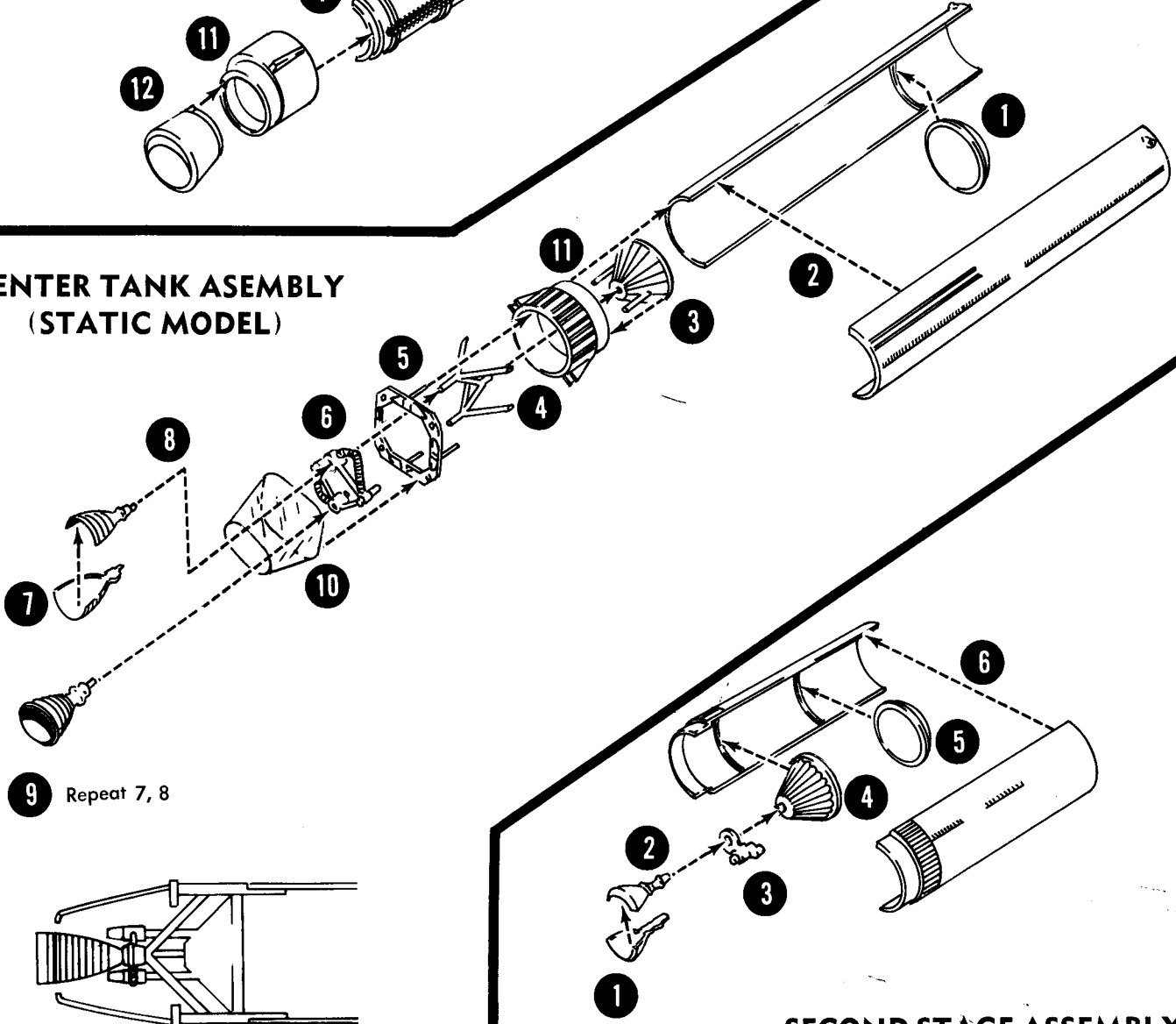
3-8 CHROME

13
Assemble other side tank the same. Repeat steps 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12 for other side tank.

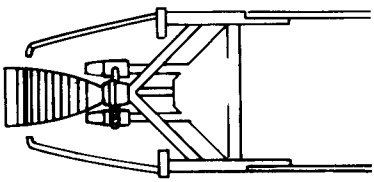
Tanks are numbered 1 and 1 and 2 and 2.



CENTER TANK ASSEMBLY (STATIC MODEL)

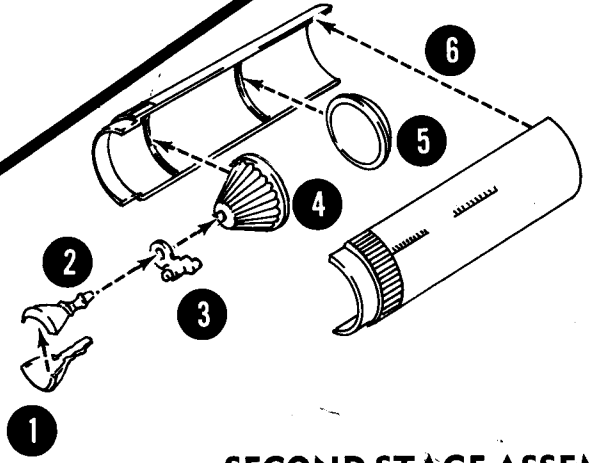


9 Repeat 7, 8

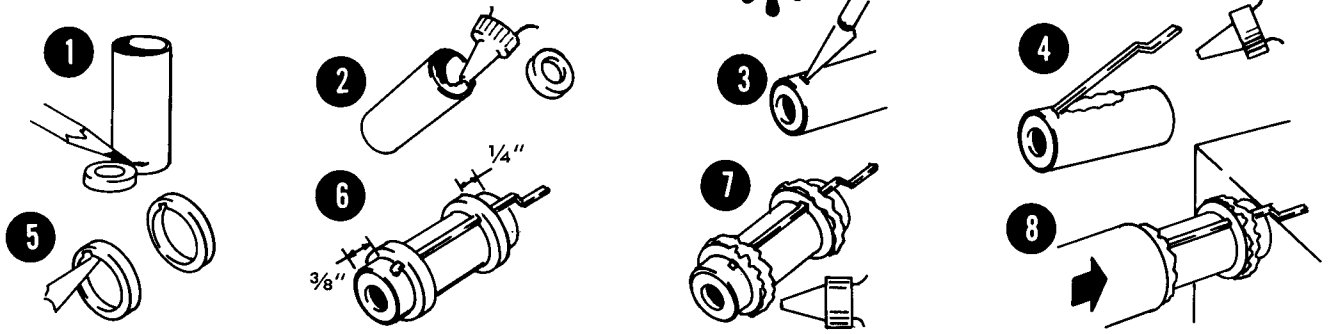


Cutaway view of center tank engine assembly.

SECOND STAGE ASSEMBLY (STATIC MODEL)



ENGINE COMPARTMENT (FLYING MODEL) *

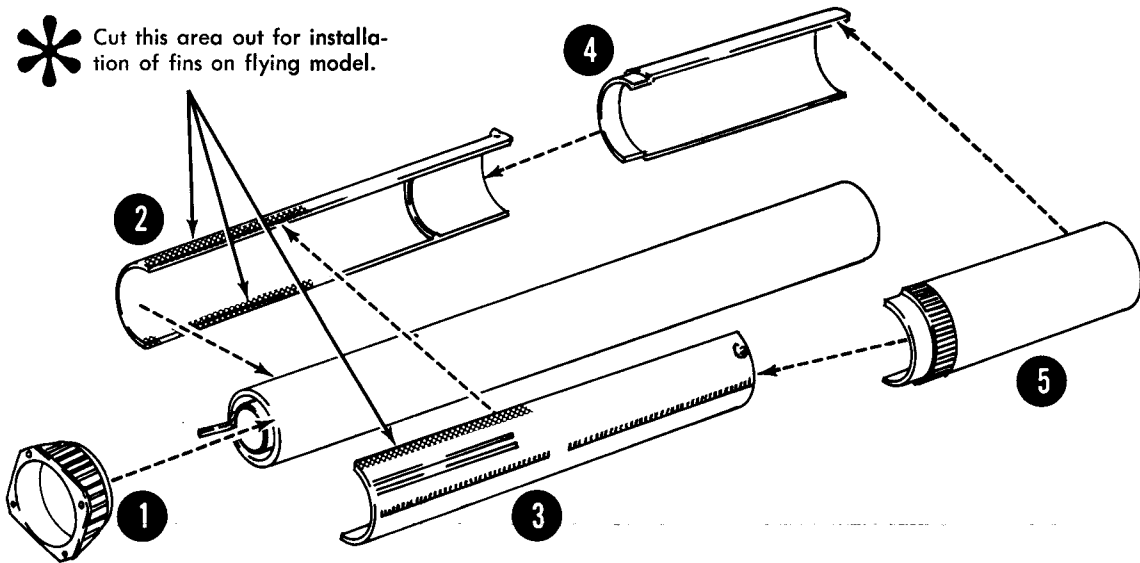


Place an engine block against the engine compartment and mark with a pencil, as shown (1). Apply glue inside this end of the engine compartment and insert the engine block so that the ends are flush (2). Cut a slit on the pencil mark (3). Insert engine clip into the slit in the engine compartment. Apply glue in a straight line about half the length of the engine clip (4). Press the engine clip into this glue. Cut a notch in each centering ring, as shown, to clear the engine clip (5). Apply glue to the inside of each centering ring, and

slide one onto the engine compartment $\frac{3}{8}$ " from the end with the engine block, and one $\frac{1}{4}$ " from the open end (6). Allow to dry. Next apply glue around the outside of the centering rings (7). Slide this assembly into the body tube by putting the end of the engine compartment against a solid object, such as a table. With constant pressure push until the ends of the engine compartment and body tube are even (8).

CENTER TANK AND SECOND STAGE ASSEMBLY (FLYING MODEL) *

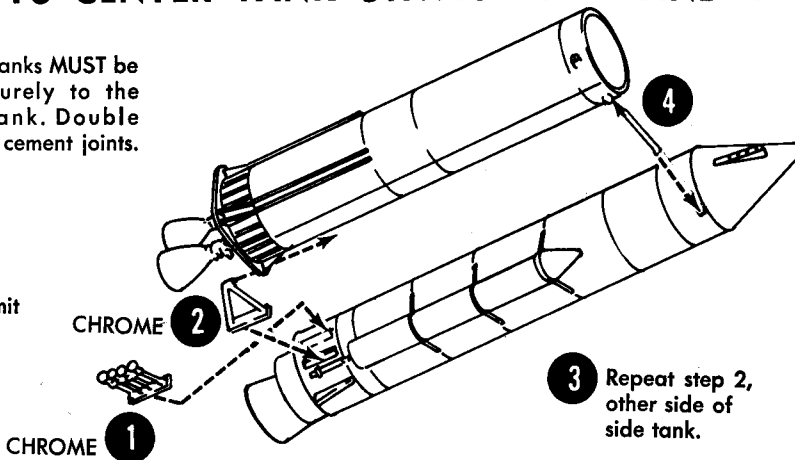
* Cut this area out for installation of fins on flying model.



SIDE TANK TO CENTER TANK STATIC MODEL AND FLYING MODEL

* The side tanks **MUST** be held securely to the center tank. Double check all cement joints.

Assemble other side tank to center tank the same. Repeat steps 1, 2, 3, 4

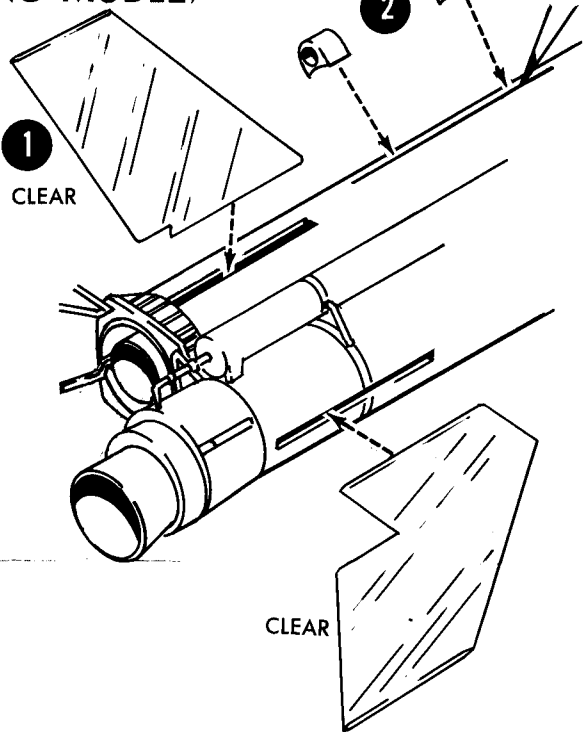


* For flying model omit step 1

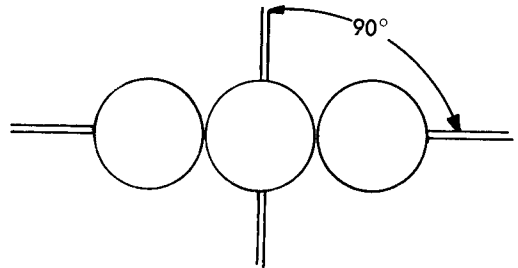
3 Repeat step 2, other side of side tank.

FINAL ASSEMBLY (FLYING MODEL) *

1
CLEAR

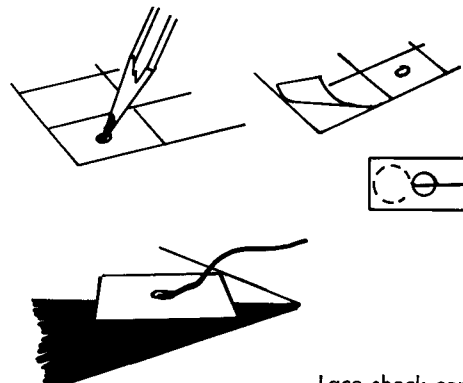


1 Cement fins into place making sure they are at 90° to each other. The fins must be cemented firmly in place.

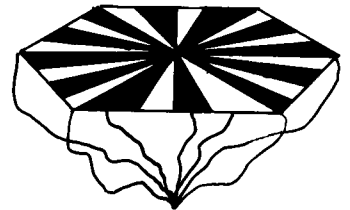


2 Draw a line parallel to the centerline of the center tube, and cement the launch lugs on this line. The bottom lug should be about 3" from the bottom and 3" from the top lug. Make sure they do not line up with any fins. **THESE LAUNCH LUGS MUST BE IN A PERFECTLY STRAIGHT LINE!**

PARACHUTE AND SHOCK CORD *



Cut parachute to shape. Punch out center of shroud tab. Peel shroud tab from paper backing and thread shroud through hole. Curl shroud under shroud tab as shown, and stick to corner of chute. Repeat this for all corners. Knot the loose ends of shrouds together. Punch several pin holes in top of chute to let trapped air escape when packing chute.

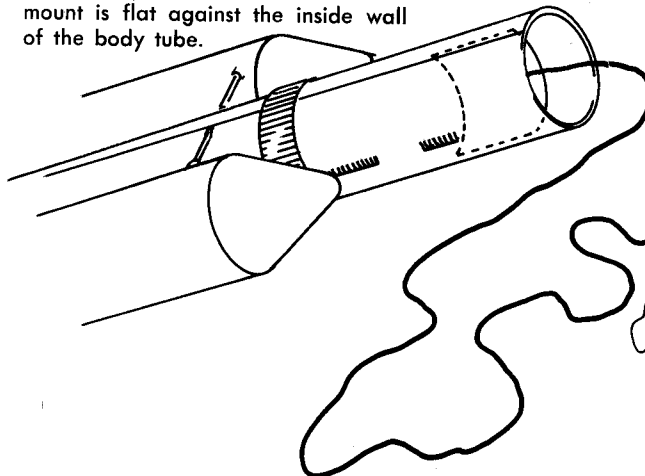


Parachute shown completed.

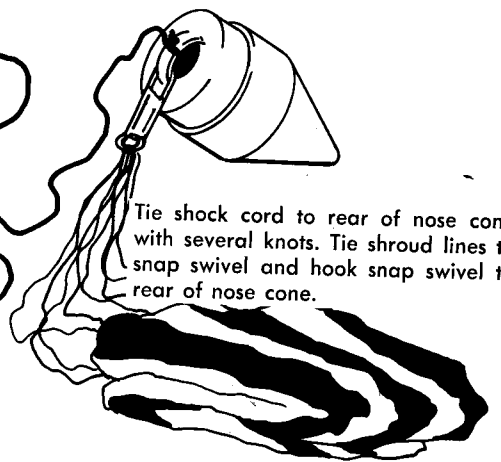
Lace shock cord through shock mount, as shown, and glue this assembly to the inside of the body tube about 1" from the open end. Be sure the shock mount is flat against the inside wall of the body tube.



Patent Pending

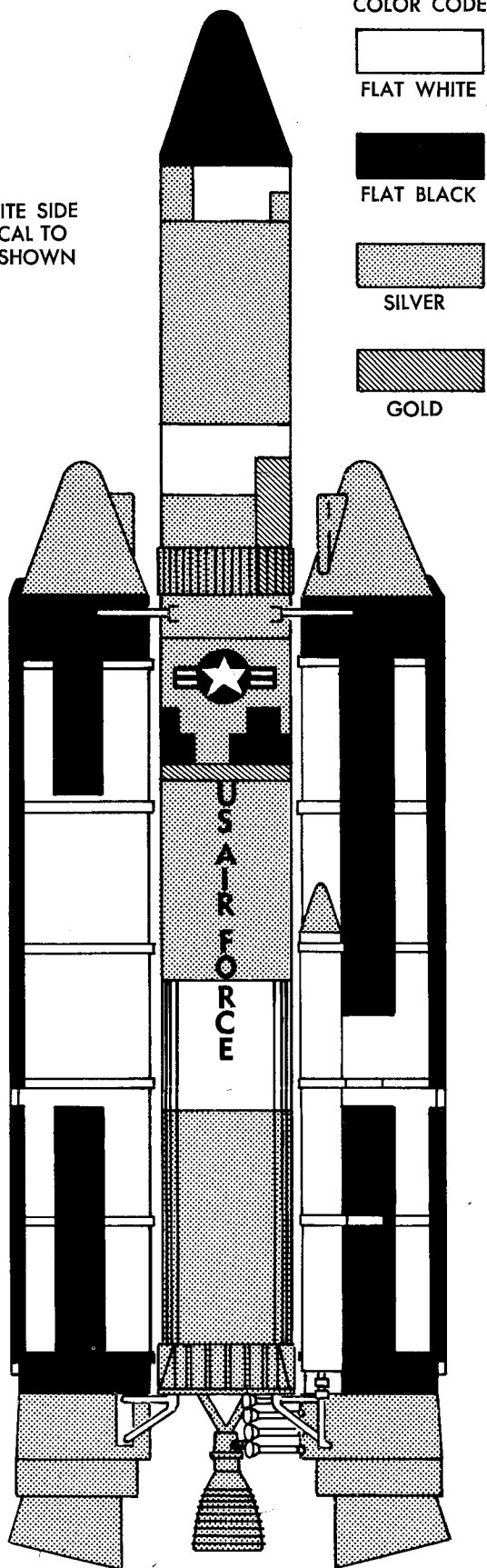


Tie the shock cord to rear of nose cone with several knots. Tie the shroud lines to snap swivel and hook snap swivel to rear of nose cone.



PAINING & DECAL LOCATION

OPPOSITE SIDE
IDENTICAL TO
SIDES SHOWN



DECAL APPLICATION

To apply decals, cut them apart individually, cut close to the designs, then dip in water for a few minutes. Next slide it off the paper as you apply it to your rocket. Before the decals dry, smooth out any bubbles with a damp cloth.

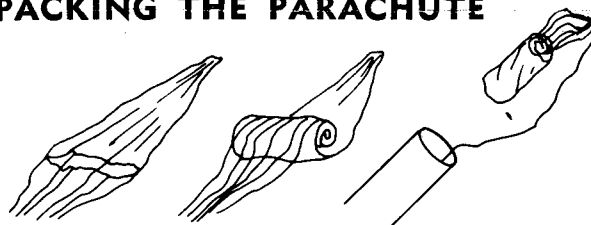
Peel paper backing from address label and apply anywhere on the rocket.

ENGINE SELECTION

For your flights with the TITAN-III C we recommend the C6-4 engine. Use all engines with extreme caution and be sure engine is held securely in place with the engine clip.

In the event that engines are not available in your area, take advantage of our three engine package by sending \$1.25 to MODEL PRODUCTS CORP. 126 Groesbeck, Mt. Clemens, Mich. 48043. If you are a minor your order must be accompanied with a note from parent or guardian.

PACKING THE PARACHUTE



Insert the yellow flame proof wadding (included in the MPC engine pack) into the center tube, pushing it down toward the engine block. Roll the parachute by laying it on a flat surface as shown. Roll it from the end with the shrouds toward the center. Insert the rolled chute into the body tube and join two sections of the rocket.

SELECTING A LAUNCH SITE

To begin your plans for launching your model rocket you must first select a launch site. A quick trip around your local area will give you many choices for a launch site. The local school athletic field is usually the largest open field available in many communities. Choose a field that has few trees. Like Charlie Brown's kite, trees also like to eat model rockets. The field should be free of high buildings, and power lines.

NEVER ATTEMPT TO RECOVER A MODEL ROCKET FROM A POWER LINE. Shopping center parking lots cannot be used, unless authorization has been obtained. Do not choose a launch site near an airport.

Choose a level area as your launch site. Clear the area under the launch pad of dry grass, and other flammable materials. An area 500' by 500' minimum is recommended for safe flight and recovery.

WEATHER CONDITIONS:

The best weather for flying model rockets successfully is clear, cloudless days with no wind blowing. Don't try to fly your model rocket if the wind is blowing more than 20 miles per hour. This is called a "moderate breeze" and raises dust and loose paper from the ground, setting small tree branches in motion as well. If you fly in a high wind, your model rocket will "weathercock" into the wind as it leaves the launcher, will fly far up-wind during its climbs, and will float far away down-wind after the recovery device deploys. You will lose your model rocket if you fly it in high winds.

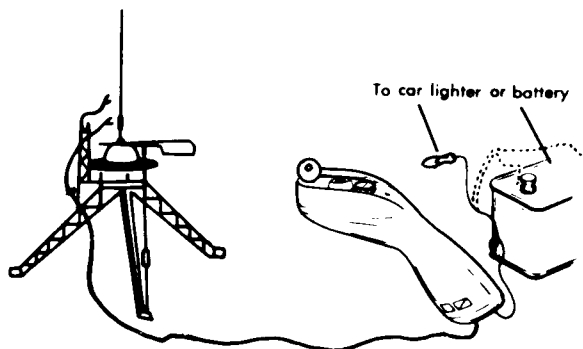
You are also likely to lose your model rocket if you fly it in fog or when the clouds are low. If your model rocket flies into a cloud, you will lose it. And it has happened!

If you try to fly a white model rocket in a snow storm, you deserve to lose it!

LAUNCH INSTRUCTIONS

All model rockets must be launched electrically, using the MPC LUNAR-LECTRIC or similar launching system. Check with your hobby dealer.

IMPORTANT: All model rockets must be launched from a launch rod at least 36 inches long.

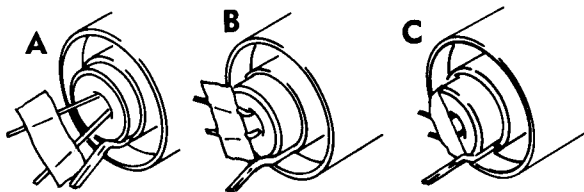


RECOMMENDED BATTERIES

Eveready #732 Lantern
Eveready #1463 Hot Shot
Marathon #926 or 904
Ray-O-Vac #904 or 922

Mallory M904
Bright Star #146 or #187
Burgess TW2 or S461
Burgess 4F6H or 2G8H

Before approaching launch pad, remove safety key from launch control handle, and disconnect leads from power source.



Approach launch pad with model, engine, and Ignitor. Peel paper backing from taped Ignitor, and insert into nozzle as far as it will go (A). Bend Ignitor over against engine (B). Press tape down onto engine to hold Ignitor in place (C). Insert engine into engine compartment (with nozzle outward) until engine is locked in place, with engine clip.

DO NOT USE A FUSE OF ANY KIND, AS IT IS ILLEGAL, AND EXTREMELY DANGEROUS.

Lower rocket onto the launch rod by sliding the launch lug over rod. Attach one micro clip to each of the Ignitor leads extending from the engine. Retreat to launch control and give an audible warning to persons in the area that a countdown is about to begin. Connect leads to power source, insert safety key in the LUNAR-LECTRIC launch control, or whatever launch control you're using. Begin countdown procedure from countdown card, included in every MPC model rocket kit.

MAKE SURE WHEN IGNITER IS INSTALLED THAT THE NICHROME WIRES ARE NOT MAKING CONTACT WITH EACH OTHER, IN THE ENGINE. THE TWO MICRO CLIPS CANNOT BE TOUCHING EACH OTHER, OR THE LAUNCH ROD. ANY OF THESE FACTORS WILL CAUSE A SHORT CIRCUIT.

GENERAL INFORMATION

WHAT IS MODEL ROCKETRY?

Model Rocketry is an international aerospace sport, a space age educational tool, a technological recreation, a hobby. It is recognized as such by many organizations: NASA, U.S. Air Force, the National Fire Protection Association, National Science Teacher's Association, American Institute of Aeronautics and Astronautics, National Aeronautic Association, the 51-Nation Federal Aeronautique Internationale, and various U.S. Government agencies.

WHEN DID MODEL ROCKETRY START?

Model Rocketry was born with the space age in 1957. Since that time, nearly 15,000,000 model rockets have been flown in the United States. 1957 also saw the start of the National Association of Rocketry (NAR), a non-profit organization formed for the purpose of guiding and encouraging the healthy growth of model rocketry as a hobby-sport throughout the United States.

WHAT IS A MODEL ROCKET?

Model Rockets are made of paper, balsa wood, plastic and other materials having high strength and low weight. Most model rockets weigh only a very few ounces. They use a factory-loaded, pre-packaged solid propellant rocket engine of high reliability. There is no handling or mixing of chemicals or explosives.

HOW DO ENGINES OPERATE?

The rocket engine is ignited electrically. An electrical current passes through the igniter, igniting the solid propellant, creating gas pressure inside the engine. These gases, passing through the rocket nozzle, lift the rocket off the launch pad propelling it upward into a flight path. After the propellant has been expended, a delay charge is ignited, allowing the rocket to coast to its highest point. Following this, an ejection charge is ignited, forcing pressure forward. This pressure blows off the nose cone and deploys the recovery device.

FLIGHT

The engine of a model rocket is only the propulsion unit, and although it plays a small part in the stability of a rocket, it is not the main factor. Flight stability must be achieved for proper performance of your rocket.

The launch rod and launch lug are two extremely important parts needed for stable flight. The launch rod guides the rocket during the first few moments of flight and is the rockets guidance system until sufficient speed has been obtained for the fins to come into effect. By the time the rocket has left the launch rod it has reached enough speed for the fins to take over guidance. The launch lug must be fastened securely to the rocket for this to be accomplished.

The length of the rocket in relation to the weight and size of the fins, are factors that determine stable flight. All MPC model rockets have been designed with this in mind, so you will always have a good, straight flight.

HOW SAFE IS MODEL ROCKETRY?

When common sense codes are followed, model rocketry has proven itself to be as safe as any other hobby and actually safer than Little League Baseball, model airplanes and swimming. It is so safe that the Insurance Company of North America provides public liability and property damage insurance in the amount of \$3,000,000 to all members of the National Association of Rocketry (NAR) including minors. Since the insurance program started in 1964, there have been no claims paid against this INA insurance policy.

For a good flight each and every time, use an MPC LUNAR ELECTRIC LAUNCH PAD and LAUNCH CONTROLLER to fly your model rocket.