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Masters™ SERIES

# 30th Anniversary Apollo 11 Saturn V

SKILL LEVEL 4

***FLYING MODEL ROCKET KIT***

On May 25th, 1961 President John F. Kennedy issued a challenge to Congress that he felt would "... hold the key to our future on Earth." The call to put a man on the moon was sounded, and the answer still resounds throughout the world today. It is hard to imagine the incredible effort it took to make "... one small step for man, one giant leap for mankind." At the time the decision was made to undertake a manned lunar landing, nothing even close to a rocket with the necessary capabilities existed. After an intensive evaluation and development process, the Saturn V was ultimately chosen as the best course of action.

On July 16th, 1969 the Saturn V launched Apollo 11 into space and history. It is truly mind boggling to attempt to conceive the influences still apparent in everyday life thanks to that mission, and even harder to believe that it was 30 years ago. Here at Estes Industries we have decided to take a look back in order to imagine the future. The Saturn V has remained a much sought after kit throughout the years. We believe this is because the Saturn V ignites the imagination. Having accomplished putting a man on the moon reminds us all that the possibilities are endless. Enjoy building your 30th Anniversary Apollo 11 Saturn V, and all the dreams it may inspire.

## MATERIALS REQUIRED:

#320 & #400 SANDPAPER, PENCIL,TWEEZERS, HOBBY KNIFE (SEVERAL SHARP BLADES), YELLOW GLUE, TUBE-TYPE PLASTIC CEMENT, LIQUID PLASTIC CEMENT, PERMANENT SPRAY ADHESIVE (NOT ARTIST'S OR REPOSITIONABLE), CA, and CA for PLASTICS, CA ACCELERATOR, CA ACCELERATOR FOR PLASTICS, SANDING SEALER OR SANDABLE AUTO PRIMER, SQUADRON GREEN OR WHITE PUTTY, MASKING TAPE, SMALL PAINT BRUSH, FLAT BLACK ENAMEL BOTTLE PAINT AND SPRAY PAINT, FLAT WHITE ENAMEL BOTTLE PAINT AND SPRAY PAINT, ENAMEL SILVER SPRAY PAINT (OPTION: YOU MAY ALSO WANT BOTTLE SILVER),OR ENAMEL GUNMETAL SPRAY PAINT INSTEAD OF SILVER, "DULLCOTE" SPRAY PAINT (BE SURE TO FOLLOW INSTRUCTIONS AND CAUTIONS), DO NOT USE LACQUER BASED PAINTS! THEY CAN "CRAZE" THE SURFACE OF THE PLASTIC PARTS. 1/4" (6 mm) LAUNCH ROD (WE RECOMMEND THAT YOU USE THE NORTH COAST ROCKETRY® MODULAR™ LAUNCH PAD AND ROD.)

Please be extremely careful using cyanoacrylate adhesive (CA). Avoid getting in your eyes or on your skin. Safety glasses are recommended. Use adhesives and paint only in areas with adequate ventilation.

Be sure to read all instructions, test fit all parts, and sand if necessary before gluing.

**Note:** Before beginning to build with vac-formed plastic parts, read the following sections carefully.

**Cutting Vac-Formed Parts**

Cutting vac-formed plastic parts requires patience. Applying light pressure, make repeated passes with the blade to cut through the plastic. Be sure to keep the blade in the same cut line each time; too much pressure will cause the blade to move and not cut cleanly.

**Sanding and Trimming Vac-Formed Parts**

Once the part is free of excess plastic, sand the edges to remove any flash and to provide a smooth, flat bonding surface. Secure a sheet of #220 or #320 grit sandpaper to a flat surface. (You may want to use wet-or-dry sandpaper with a little water to avoid clogging or loading the sandpaper with plastic dust.) Move each part in a circle against the sandpaper with pressure evenly distributed to avoid uneven sanding. Applying too much pressure can cause uneven edges. When working with thin edges, be careful not to remove too much plastic or generate too much heat that may warp and destroy the part. NOTE: Double sided tape may be used to hold small parts. Use a file to remove excess plastic on hard to hold small parts.

**Adhesives for Vac-Formed Parts**

Because vac-formed parts are thinner than injection molded parts, different adhesives should be used. Two basic types give good results and you should have both on hand when building this model.

First is liquid plastic cement. Our preferred brands are Plastic Weld Cement (Plastruct), Testor's Plastic Cement #3502, Microweld (Kassel Industries), Tenax TR-7, and Testor's or Tamiya glue pens. Liquid cements work on styrene by dissolving the plastic and creating a chemically welded bond. As a result, a little bit goes a long way! Liquid cements are usually applied with an artists brush. The trick to using plastic cement is to take advantage of the liquid flowing out from the brush by allowing cement to bleed into close fitting parts and then squeezing the parts together to bond. Work on a small area at one time as plastic cement sets quickly.

The second adhesive to have on hand is a super glue or cyanoacrylate for plastics. We recommend Pic Plasti-Stic or Plasti-Zap. You'll also want to use CA accelerators for plastics for these, but use a toothpick or a pipette to apply accelerator one drop at a time. When sprayed from their normal applicators, most regular CA accelerators will soften and stain plastic surfaces.

**Filling the Seams**

This is a necessary step in constructing vac-formed models. Because these models have seams, they need to be filled and smoothed. The putties we recommend are 3M Accyl-Blue (Usually found at auto body supply shops - one tube will last a long time!) and Squadron Green or White Putty (usually found in hobby shops.)

When working with putty or filler use as little as possible. Excess putty in a seam creates extra work in sanding it away, as well as the possibility of a "sinkhole" (where the putty collapses the skin of the plastic and eats it away.) Use masking tape along seams to minimize excess putty from adhering to the work area. Use multiple layers when building up low areas, rather than one thick layer of putty. Doing so will reduce shrinkage, cracking, and the risk of sinkholes. Let the putty dry overnight before attempting to sand it away. Wet-or-dry sandpaper, used wet, works best. Start with #220 grit and work your way through #320 to #400. Then polish the area with #600.

# PARTS LAYOUT