

Estes Industries Rocket Plan No. 24

The Clipper

Try your own fin design!

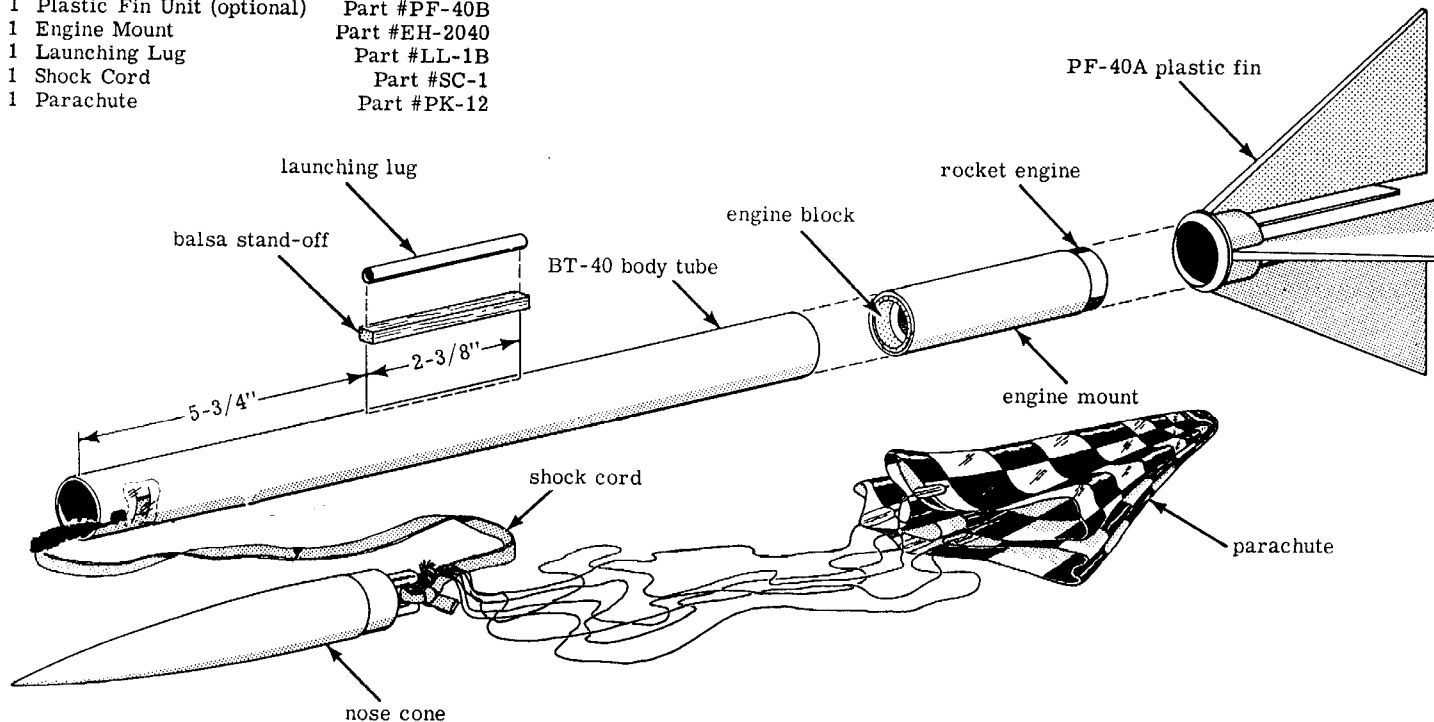
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Parts List

1 Nose Cone	Part #PNC-40G
1 Body Tube	Part #BT-40
1 Plastic Fin Unit	Part #PF-40A
1 Plastic Fin Unit (optional)	Part #PF-40B
1 Engine Mount	Part #EH-2040
1 Launching Lug	Part #LL-1B
1 Shock Cord	Part #SC-1
1 Parachute	Part #PK-12

Put your imagination to work with this rocket. You may use the fin unit just as it is, or follow the simple cutting steps and try a fin design of your own. It's easy to change fin units and test lots of designs on the same basic bird.



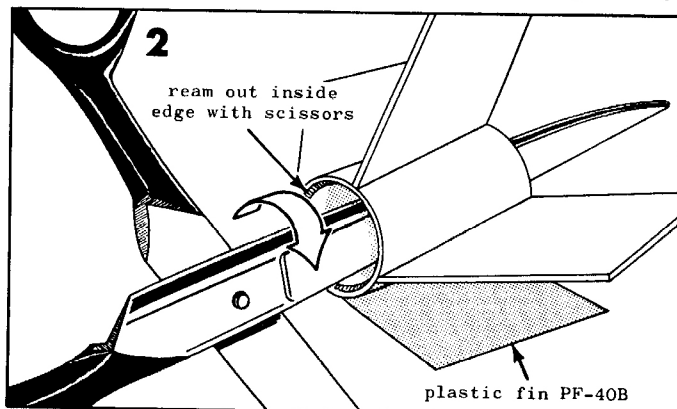
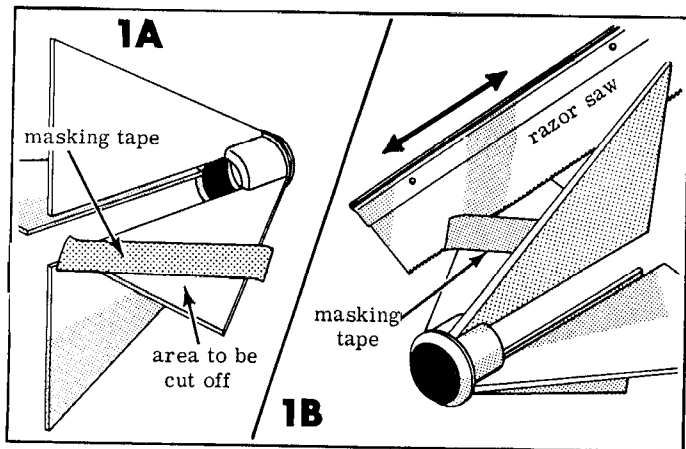
Cutting Methods

1. Razor Saw.
2. Scribe deeply with knife, then break
3. Scissors--this method is ragged--hard on scissors, too. There's liable to be mayhem if your mother catches you using her's. Better forget it.

Cutting Procedure

Place a strip of masking tape along the line which you wish to cut as shown in Fig. 1A. This will serve as a guide for cutting and will also leave a cleaner edge. Next cut through the plastic with a razor saw, or scribe deeply with a sharp knife and then break. (See Fig. 1B.) After cutting, touch up the edges with a sharp knife, an emery board or some extra fine sandpaper (#SP-320). Repeat this procedure with each fin.

The plastic spin fin unit #PF-40B must be reamed out slightly on the inside at the forward end as in Fig. 2. This will allow it to slide easily onto the rocket body tube without slitting the body.

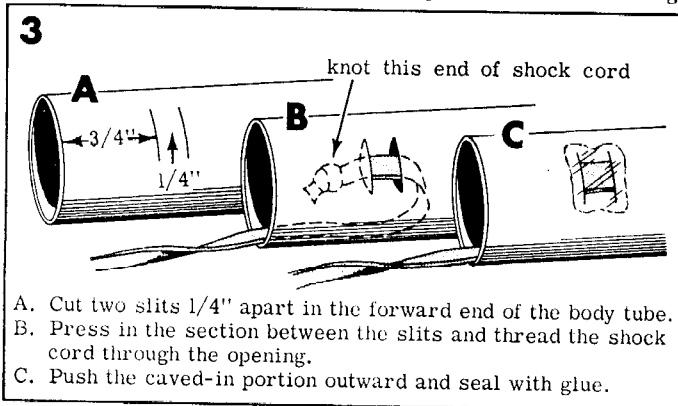


Assembly Instructions

Apply glue to the last 1/4" of the inside of the 2-3/4" long engine holder tube. Insert an engine block and push it forward until the end of the engine block is even with the end of the body tube. Set this assembly aside to dry.

When the engine mount has dried completely slide a rocket engine into the mount's body tube. Next smear glue around the inside of one end of the BT-40 rocket body tube. Insert the engine mount, engine block end first, into the rocket body and push it forward until the end of the rocket engine is even with the end of the body tube. Remove the rocket engine immediately.

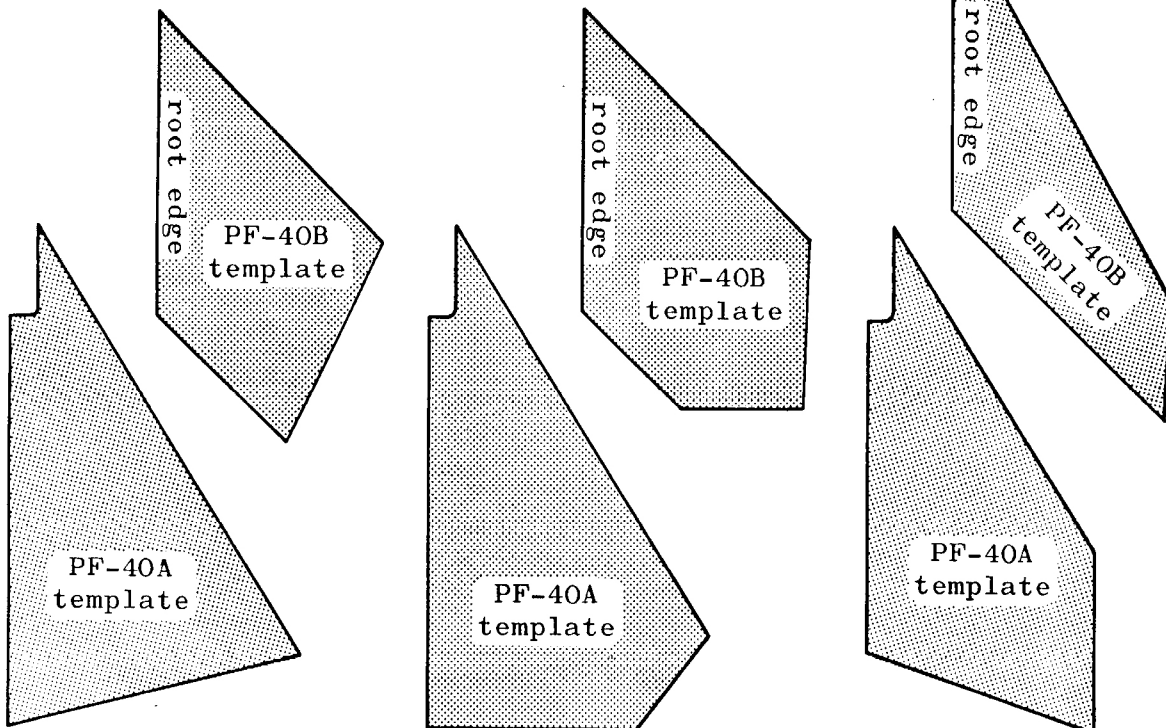
Install the shock cord as shown in Fig. 3. Glue the launching



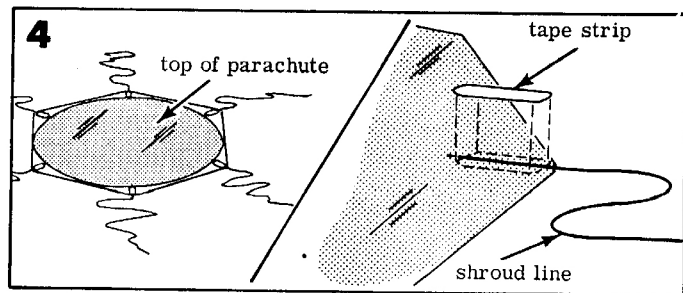
lug to a piece of scrap balsa 1/8" square and 2-3/8" long. Glue the launching lug and balsa stand-off to the rocket body 5-3/4" from the front of the body tube. Sight along the body and align the lug until it is perfectly straight. When the glue has dried run a fillet of glue along the launching lug and the balsa stand-off.

Cut out the parachute on the lines indicated on the plastic. Cut six 12" lengths of shroud line cord and attach one shroud

Below are several fin pattern examples for the PF-40A and the PF-40B plastic fin units. Trace them onto a separate sheet of paper in order to preserve the plans.



line to each point of the 'chute with a tape strip as shown in Fig. 4. Tie the free ends of the shroud lines to the plastic nose cone. Tie the free end of the shock cord to the nose cone.



Paint the rocket and apply decals. The #PNC-40G nose cone should be left its natural color, as the plastic will not accept normal paints. The fin units, however, will give a very nice finish with enamel paint.

Flying the Clipper

Select a rocket engine. Wrap it with masking tape so it makes a tight friction fit in the engine holder tube. Install a nichrome igniter. Slide the plastic fin unit onto the rocket body. When using the #PF-40A plastic fin it may be necessary to first wrap the end of the body tube with masking tape to insure a tight fit.

Recommended Engines

A.8-3 B.8- B.3-5

The A.8-3 is fine if you have a limited flying area or do not wish to fly the rocket to higher altitudes. Make sure the fins fit very tightly when you use the B.3-5 engine.

