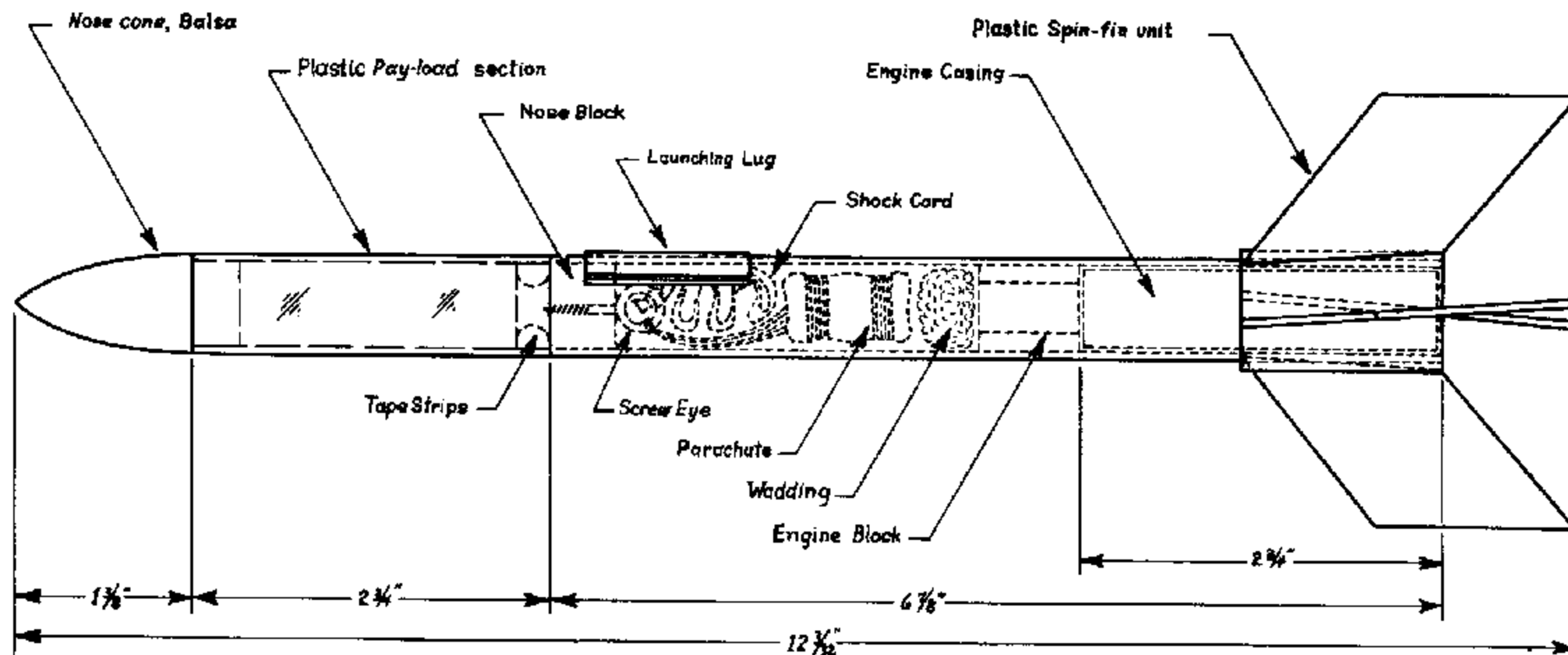


Estes Industries Rocket Plan No. 4

BUG-A-BYE

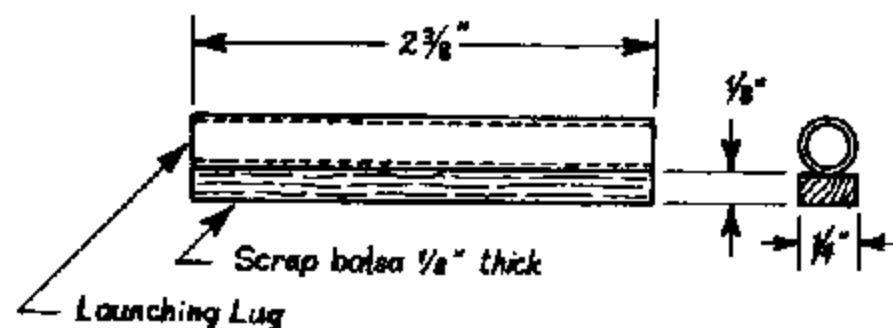
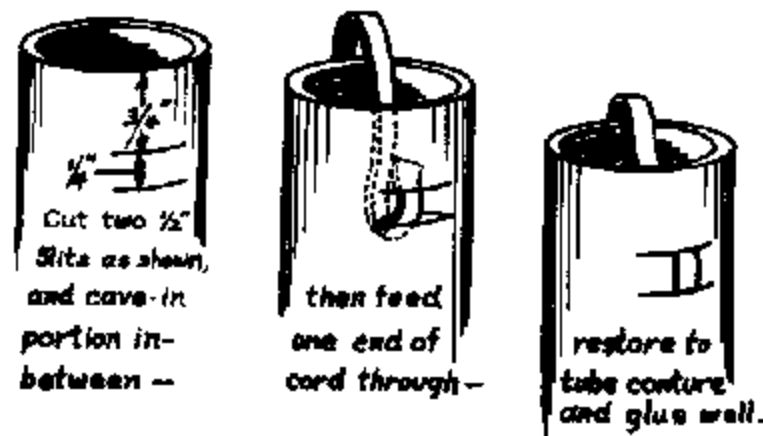
Payload Rocket



PARTS LIST

1-Payload section kit	#PS-40A
1-Launching lug	#LL-1B
1-Shock cord	#SC-1
1-Parachute material	#PM-1
1-Body tube (Cut to length.)	#BT-40
1-Engine block	#EB-40
1-Fin set	#PF-40B

SHOCK CORD INSTALLATION



Assembly Instructions

Every commercial or military rocket is designed for a purpose--to carry a payload. The payload may be a camera, hydrogen bomb, mail sack, radio transmitter, animal or man. Regardless of the payload requirements, however, a rocket can be designed to do the job.

The BUG-A-BYE rocket has been designed for its special purpose, the study of the effects of acceleration on small objects, including biological specimens. When the BUG-A-BYE is launched with a Series II engine the acceleration can exceed 100 G's. If the average man were to be subjected to G forces of this nature he would weigh about 17,000 pounds. What effect would this have on other objects? You can do your own experimenting and find out.

The BUG-A-BYE rocket is easy to build. The complete rocket can be built from standard parts listed in our current catalog. For constructing the rocket it has been found that white glue is best.

First spread glue around the inside of one end of the body tube as far in as you can reach with your little finger. Then push the engine block into the end of the tube and push it forward until it is 2-3/4" from the end. (An engine may be used to push the block into place. Push in until the end of the engine is even with the end of the tube, then remove the engine immediately.) Do not pause during this operation or the engine block may become stuck in the wrong position.

Glue the launching lug in place as shown in the drawing. Assemble the payload section according to the directions that accompanied it. Attach the shock cord and recovery system as shown in the drawing. The fin unit should be attached as shown in our catalog. If you are using a Series II engine be sure the fins are secured very tightly. Under acceleration of 100 G's they will have 100 times their normal weight. If they should come off your rocket could be damaged, and someone could be hurt if it hit him. The nose cone should fit tightly. If it is too loose wrap its shoulder with tape to increase the diameter. The maximum payload weight for this rocket is one ounce.

