

# Estes Industries Rocket Plan No. 35

## VERTEX

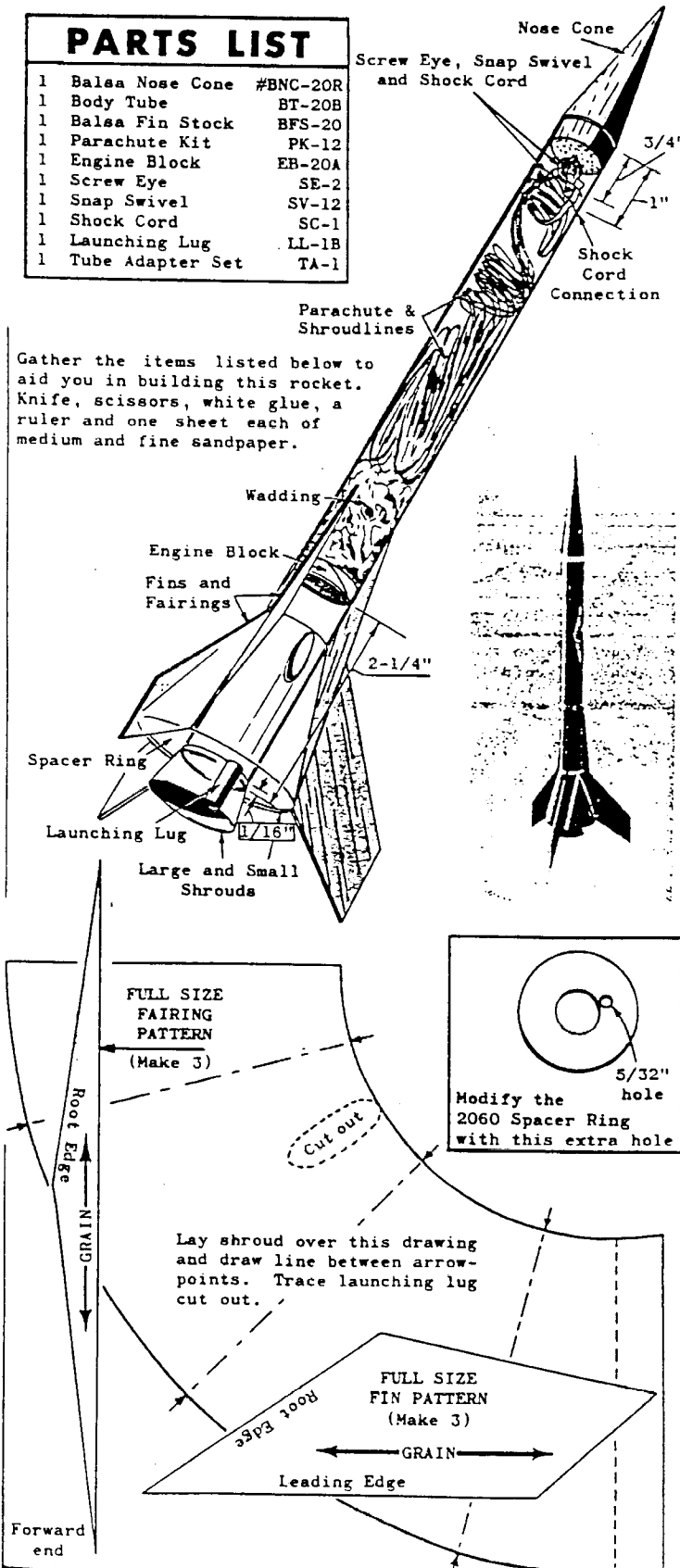
## SPORT ROCKET

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### PARTS LIST

1	Balsa Nose Cone	#BNC-20R
1	Body Tube	BT-20B
1	Balsa Fin Stock	BFS-20
1	Parachute Kit	PK-12
1	Engine Block	EB-20A
1	Screw Eye	SE-2
1	Snap Swivel	SV-12
1	Shock Cord	SC-1
1	Launching Lug	LL-1B
1	Tube Adapter Set	TA-1

Gather the items listed below to aid you in building this rocket. Knife, scissors, white glue, a ruler and one sheet each of medium and fine sandpaper.



### BUILDING...

1. Spread glue 2-1/4" inside one end of the body tube and install the engine block using a marked engine casing to push it forward.
2. Select a 2060 spacer ring from the TA-1 set and cut a 5/32" hole next to the center hole. Slide the ring onto the rear of the body tube 1/16" from the end and glue.
3. Cut out the large shroud on the BT-20 and BT-60 lines and lay it over the shroud drawing. Draw a line at each point shown. Draw the launching lug cut out. Form the shroud and cut away the portion needed to allow launching lug space. For the small shroud cut on the BT-20 and BT-30 lines and form the shroud. A small cut-out must be made in this one too, but will be done as the shroud is fitted into place.
4. Slide the large shroud onto the body tube and position it against the ring. Mark the tube at the front of the shroud and slide the shroud ahead far enough to expose this mark. Apply a line of glue around the body tube at this point. Align the launching lug cut out and the 5/32" hole and slide the shroud into place. Apply a line of glue around the joint between the ring and the shroud.
5. Push the launching lug through the 5/32" hole until the end just emerges from the shroud. Trim away the lug as shown and apply glue around the shroud-lug joint. Fit the small shroud and mark the area to cut away to admit the launching lug. Cut out that area and if the fit is satisfactory, glue the small shroud in place. Trim the launching lug flush with the rear of the small shroud.
6. Trace the fin and fairing patterns onto stiff paper and cut out. Lay the templates on the fin material, align the grain arrows with the wood grain and trace out 3/8" of each item. Cut out all pieces. Sand all but the root edges of the fins round. Do not round the fairings. Glue the fairings onto the body tube and large shroud along the guide lines. Glue the fins in place with trailing edges flush with the trailing edge of the shroud and sticking straight out from the center of the body tube. (See rear view.)
7. Install the shock cord by cutting small slots 3/4" and 1" back from the front of the body tube. Thread one end of the shock cord through as shown in the overall view and cover both sides of the connection with a layer of glue. Assemble the parachute and tie the shroud lines to the snap-swivel while the shock cord connection dries.
8. To secure the screw eye in the nose cone, insert the screw eye into place and remove. Squirt glue into the hole and reinsert the screw eye. Wipe away any excess glue from around the eye and tie on the free end of the shock cord. Clip the snap-swivel in place and your VERTEX is ready for the paint job of your choice.

### FLYING...

9. Prep the VERTEX using any one of the Series I or II single stage engines. The 1/2A.8-2 is recommended for the first flight. Insert flameproof wadding, parachute and nose cone and your model is ready to put on the pad, connect, countdown and launch.

