

REAR-EJECTION SPRINT FOR ULTIMATE PERFORMANCE

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Simple modifications include body cut, heavier nose cone

In contest altitude flying, it is well known that rear ejection systems reduce drag. By eliminating the break between the nose cone and body tube, flow is smoother and more likely to remain laminar along the body tube.

Design Development at Estes R & D Division has removed the nose joint while retaining the total reliability expected of Estes products. The recovery system from Estes Industries Free Plan #40 "Mitosis" proved to be ideal for use on the Astron Sprint.

The article details the modifications necessary to get the ultimate out of your Sprint. The only additional materials required are:

1 nose cone weight (701-NCW-1)

1 tube body putty (651-FM-1)

1 stage coupler (651-JT-50C)

Modifications are as follows:

(1) Proceed with steps 1 through 5 in the instructions.

(2) Do step 7 in the instructions, then cut the body tube into two lengths (as shown on page 64 of the Technical Manual in the Estes catalog), making the rear section 2-1/4". The front section will be 7-1/4".

(3) Install the engine holder into the short rear tube, as per step 6 in the instructions.

(3a) Cut the launch lug (Part #LL-2A) into two 1/4" lengths, as illustrated in step 8 of the instructions. Glue one launch lug 4-1/4" forward from the body break and the other one immediately ahead of the body break.

(4) Smear glue inside the rear body tube ahead of the engine holder. Slide the stage coupler down flush with the top of the engine holder.

(5) Perform step 9 of the instructions, except that the shock cord mount should be glued inside the stage coupler instead of inside the body tube.

(6) Proceed with steps 10 and 11 of the instructions.

(7) In step 12 of the instructions, install the nose weight under the screw eye.

(8) Perform step 13 of the instructions.

(9) Run the shock cord through the body tube, tie it to the screw eye, and then glue the nose cone into the front of the body tube.

(10) Using body putty, fill and smooth out the nose cone and shroud joints until they are completely gone. Body putty is useful for smooth fin fillets, too.

(11) Proceed with steps 14 through 16 of the instructions. For streamer recovery, attach the streamer in the manner specified, but about 3" from the rear body section. If a parachute is to be used, attach it as follows: Fold a tape disc double over the shock cord about 3" from the lower body section. Poke a hole through the disc just beside the cord. Clip the snap swivel around the cord through the hole. (To get reliable chute deployment, pass the last wrap of the shroud lines over the top of the chute as it is inserted in the upper body section).

(12) Setup for launching:

(a) Load streamer or chute into forward section.

(b) Load engine per #12 of the Countdown instructions.

(c) Pack three squares of wadding into the lower body section.

(d) Slide the two body sections together.

