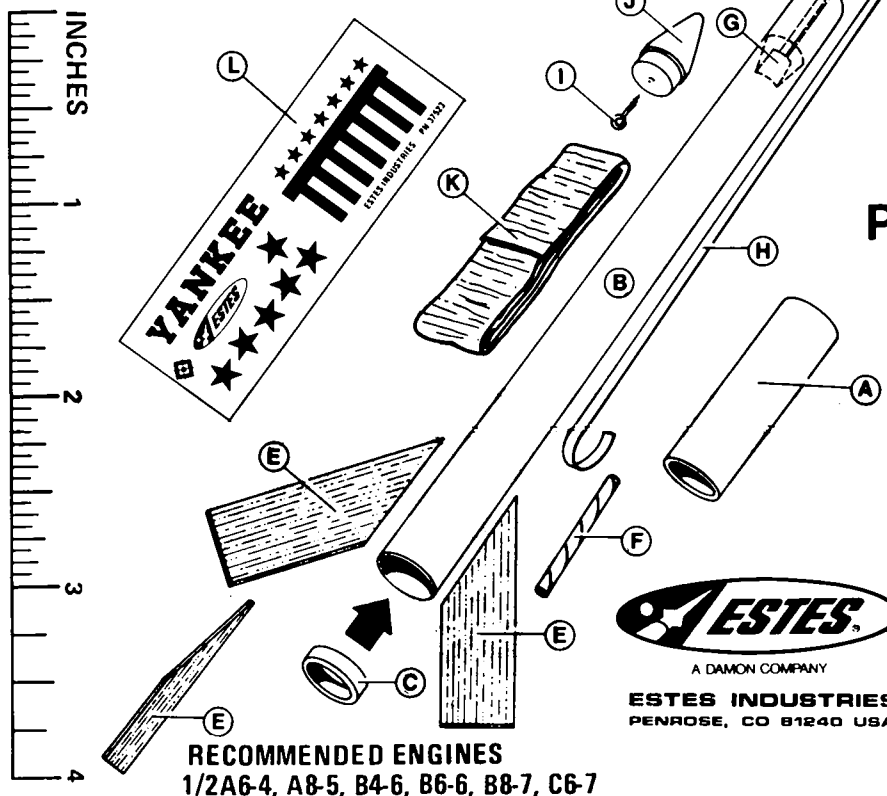




# YANKEE

SKILL LEVEL 1 - Recommended for Intermediate Rocketeers.

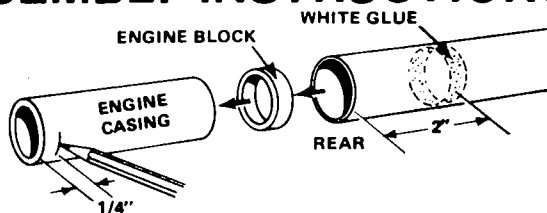


## RECOMMENDED ENGINES

1/2A6-4, A8-5, B4-6, B6-6, B8-7, C6-7

## ASSEMBLY INSTRUCTIONS

1



Mark the dummy engine casing (part A) 1/4" from one end. Spread a 1/2" wide band of glue around the inside of the body tube (part B) about 2" in from one end. Insert the engine block (part C) into this end. Push the engine block into place with the dummy engine casing until the mark on the casing is even with the end of the body tube. CAUTION: Once you have started to push the block forward, DO NOT STOP until it is in place, and then remove casing immediately!

## BEFORE YOU START

Read each step and study the accompanying drawings before doing any of the work called for in that step. Make sure you have all parts and materials. Check off each step as you complete it. Always test-fit parts together before applying glue. It will sometimes be necessary to sand edges of rings, tubes, etc. to obtain a proper fit. If you are in doubt about the relative size or location of some parts, refer back to this exploded view drawing for clarification. Adequate glue joints are very important for a flying model rocket. Follow the instructions carefully in this respect.

## PARTS LIST KIT NO. 1381

A	1 Dummy Engine Casing (Type EC-2) . . . . .	35010
B	1 Body Tube (Type BT-20B) . . . . .	30320
C	1 Engine Block (Type AR-520) . . . . .	30162
D	1 Pattern Sheet (Back of Panel) . . . . .	83410
E	1 Balsa Fin Stock . . . . .	32391
F	1 Launch Lug (Type LL-2A) . . . . .	38175
G	1 Shock Cord Mount (Type SCM-30) . . . . .	84442
H	1 Shock Cord (Type SC-1B) . . . . .	85734
I	1 Screw Eye (Type SE-2A) . . . . .	38252
J	1 Nose Cone (Type BNC-20Y) . . . . .	70241
K	1 Streamer (Type RS-20) . . . . .	38278
L	1 Decal (Type KD-1381) . . . . .	37523

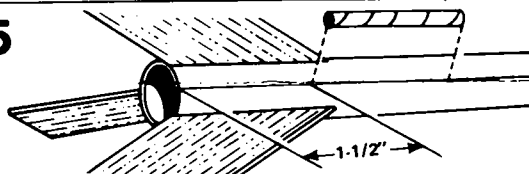
## TOOLS AND MATERIALS

In addition to the parts included in this kit you will need: Scissors, pencil, ruler, fine or extra-fine grit sandpaper, sanding sealer, a medium-size modeling paint brush, modeling knife with sharp blade, gloss blue and red enamel spray paints, and household white glue or resin glue (Elmer's, Titebond, or similar). Other types of glue are not recommended.

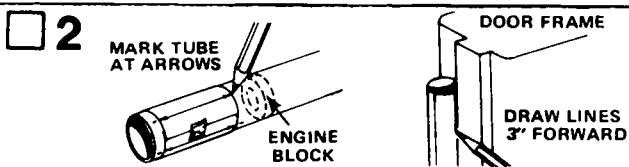
For easy and positive alignment of the fins on your model, we recommend the use of Estes' Fin Alignment Guide, Part No. 2231.

positions shown. Adjust the fins so they project straight away from the body tube. DO NOT set the rocket on its fins while the glue is wet.

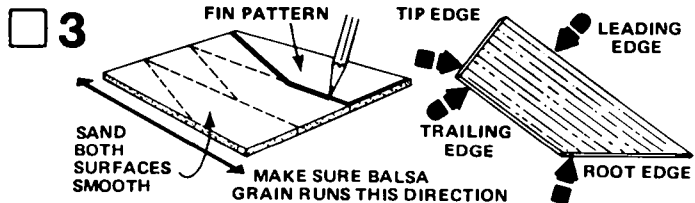
5



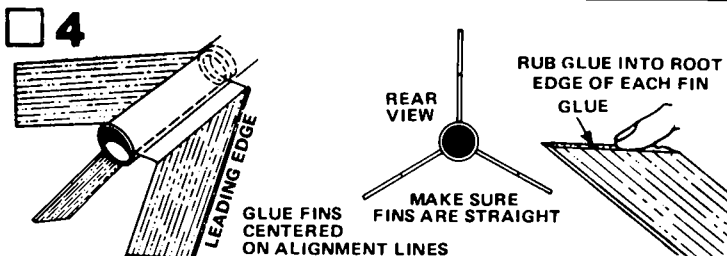
Glue launch lug (part F) to rocket body tube on the launch lug line. The rear of the launch lug should be 1-1/2" from the rear of the rocket body tube. Align the launch lug straight along the body.



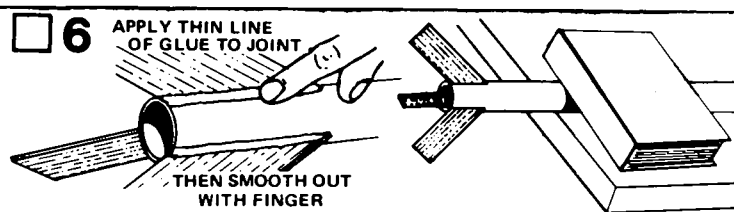
Cut out the tube marking guide from the pattern sheet (part D) and wrap it around the body tube. Make sure the guide is on the same end of the body tube as the engine block. Mark the body tube at each of the arrow points. Draw straight lines connecting each pair of marks. A door frame inside edge can be used as a guide as shown. Extend the lines about 3" forward from the rear of the body tube.



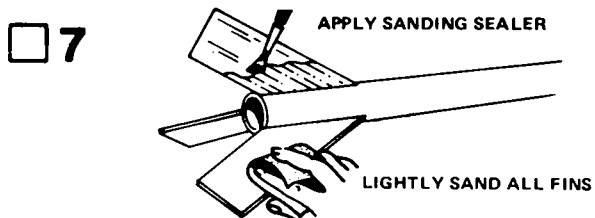
Cut out the fin pattern from the pattern sheet. Lay the pattern on the balsa fin stock (part E) with the grain of the wood and the grain shown on the pattern matched perfectly. Trace out 3 copies of the fin. Cut out the fins carefully with a modeling knife. Be especially careful to make straight, clean cuts. Sand the sides of the fins so they are flat and smooth. Round the leading and trailing edges of each fin with sandpaper. Sand the root edges and tip edges so they are flat and square with the sides of the fins.



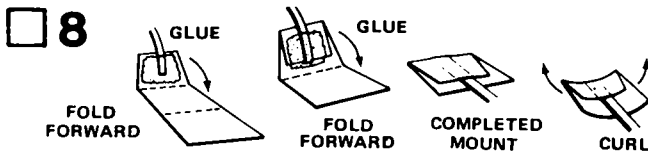
Rub glue into the root edge of each fin and allow to dry. Apply glue to the fins again and position fins on the alignment lines in



When the glue on the fin joints has dried, apply a glue reinforcement to each fin/body tube joint. Holding the model level, apply a line of glue to both sides of each fin joint and on both sides of the launch lug. Smooth out the glue with your finger. **IMPORTANT** - Support rocket on table edge as shown until the glue dries.

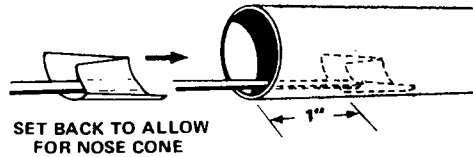


Proper application of sanding sealer makes the rocket look better and reduces drag so that the rocket will fly higher. However, this step is not essential to make a safe, attractive rocket. Apply a coat of sanding sealer to each fin. When sealer is dry, lightly sand all the sealed surfaces. Repeat sealing and sanding process until balsa grain is filled and smooth.



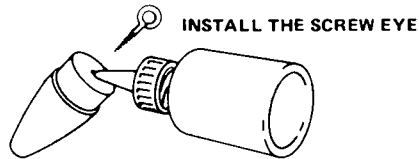
Cut out the shock cord mount (part G). Fold on dotted lines, then unfold and apply glue to Section 1. Lay the end of the shock cord (part H) into the glue. Fold over and apply glue to the back of Section 1 and the exposed portion of Section 2. Fold again to complete mount. Curl the edges of the mount up so it will match the contour of the body tube and hold with your fingers until the glue sets.

□ 9



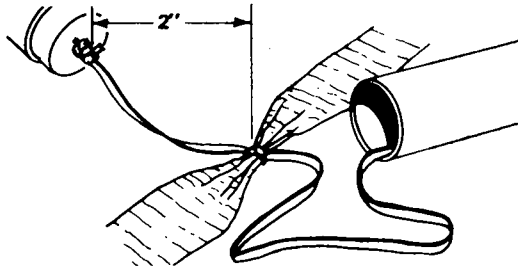
Use a finger or stick to apply glue to the inside of the front of the body tube, 1" to 2" from the front of the tube. Press the shock cord mount firmly into position in glue far enough from the front edge of the tube to allow clearance for the nose cone to fit into place. To insure a good bond use a stick or your finger to smear a film of glue over the mount and surrounding area in the body tube.

□ 10



Twist the screw eye (part I) into the base of the nose cone (part J), and remove it. Squirt a bit of glue into the hole and reinsert the screw eye. Wipe away excess glue. Make certain nose cone does not fit tightly in body tube. The nose cone should fit loosely enough to be easily removed from the body tube but not so loosely that the nose cone tends to fall out if the rocket is turned upside down and shaken with the nose cone in place. If fit is too tight, sand shoulder of nose cone to achieve proper fit. If fit is too loose, build up shoulder of nose cone with masking tape as needed.

□ 11



## LAUNCHING COMPONENTS

To launch your rocket you will need the following items:

An Estes model rocket launching system

Flameproof recovery wadding (Estes Cat. No. 2274)

Estes 1/2A6-4, A8-5, B4-6, B6-6, B8-7 or C6-7 model rocket engines. Use an A8-5 engine for your first flight.

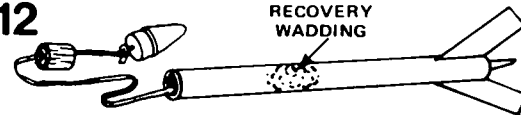
Be sure to follow the HIAA-NAR\* Model Rocket Safety Code when carrying out your model rocket activities.

\*HIAA – Hobby Industry Association of America

NAR – National Association of Rocketry

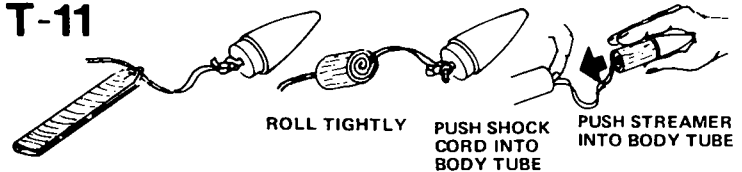
## COUNTDOWN CHECKLIST

T-12



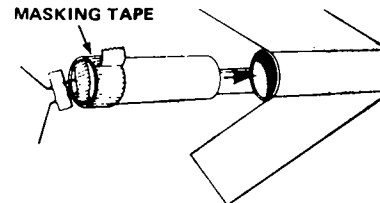
Pack 2 or 3 squares of loosely crumpled recovery wadding into the body tube. Usually this will fill the body tube for a distance equal to about 1-1/2 times its diameter.

T-11

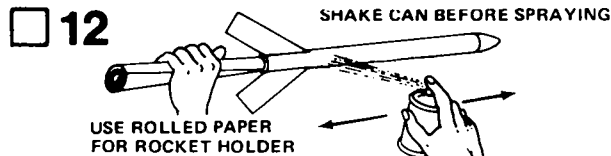


Fold the streamer and roll tightly. Pack the shock cord and streamer into the body and socket nose cone in place. NOTE: If the streamer fits too tightly into the body, remove and re-roll. A too-tight fit could cause an ejection malfunction during flight.

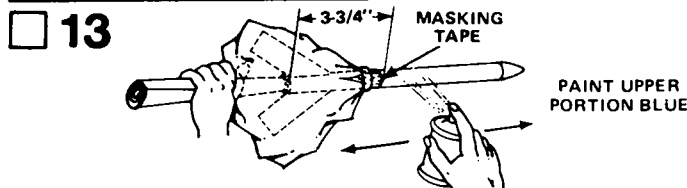
T-10



Using a double knot, tie the shock cord around the middle of the plastic streamer (part K) about 2" from the end of the shock cord. Attach the free end of the shock cord to the nose cone with a firm knot.

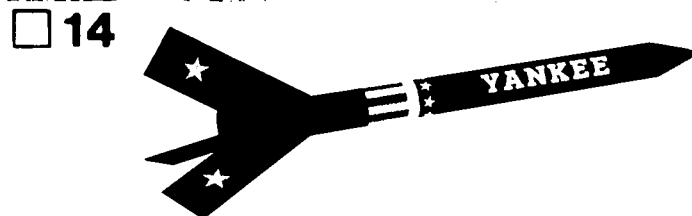


After the sanding sealer is completely dry, paint the lower half of the model red. Let this coat dry overnight. Follow instructions on spray can for best results. We recommend spray enamel. Spray the model with several light coats of paint to avoid "runs".



After the red paint has dried overnight, the blue color may be applied. Wrap a piece of masking tape around the body with the top edge of the tape 3-3/4" from the rear of the body tube. Wrap paper around the lower portion of the body and tape in place. Use pieces of tape to seal any openings in the paper "shroud". Paint the upper portion of the body blue. Allow the paint to dry for several hours before removing the paper and masking tape.

## PAINTING AND DETAILING

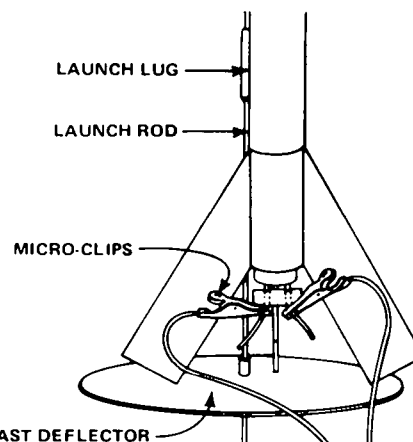


When all paint is dry, apply the decals (part L) in the positions shown. (A) Cut only one decal at a time from sheet. (B) Submerge decal in lukewarm water until decal slides on backing paper (usually 15 to 30 seconds). (C) Gently slide decal from backing paper onto model. (D) Move decal into exact position and carefully blot away excess water with a soft cloth. (E) If the decal "sticks" before you have it in position, apply water over the decal with a brush. This will permit the decal to be moved. (F) Smooth out all wrinkles and air bubbles before the decal dries. Apply the roll pattern decal first. The bottom edge of the decal should be positioned at the top of the launch lug. The solid white upper portion of the decal will cover the paint separation line. Next apply the name to the side opposite the launch lug. Finally, apply the large stars to both sides of each fin.

wrap the rear of the engine with enough masking tape so that it makes a tight fit in the body tube. This fit must be tight to obtain proper streamer deployment. Insert the engine into the rocket so the rear of the engine projects 1/4" from the rear of the body tube.

**T-9** Disarm the launch panel – REMOVE SAFETY KEY!

**T-8**



Slide launch rod through rocket launch lug and place rocket on launch pad. Make sure the rocket slides freely on the launch rod. Clean the micro-clips and attach them to the igniter wires. Arrange the clips so they do not touch each other or the metal blast deflector. Attach clips as close to protective tape on igniter as possible.

**T-7** Clear the launch area. Alert recovery crew and trackers. Check for low flying aircraft and unauthorized persons in the recovery area.

**T-6** Arm the launch panel – INSERT SAFETY KEY!

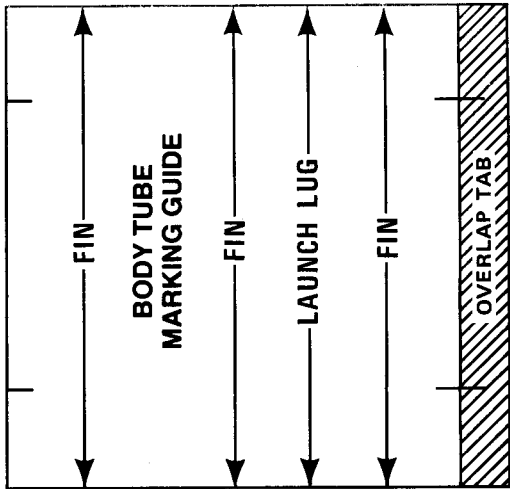
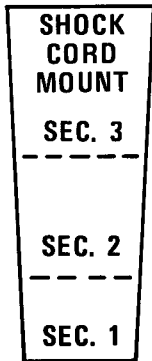
**-5-4-3-2-1-LAUNCH!!**

Repeat Countdown Checklist for each flight.

## MISFIRE PROCEDURE

Disarm the launch panel. Wait one minute before approaching the rocket on the launch pad. Remove the rocket, clean the igniter residue from the nozzle of the engine, and carefully install a new igniter. Repeat the Countdown Checklist.

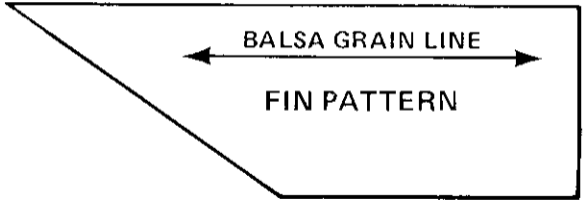
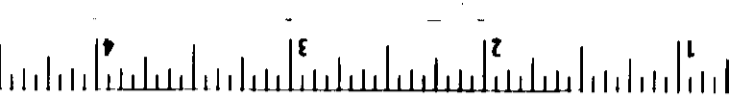
Failure of the rocket engine to function properly is nearly always caused by a failure to install the igniter correctly. This failure permits the igniter to heat and burn into two pieces without igniting the engine.



**ESTES INDUSTRIES**

SP BT-20

83242



BALSA GRAIN LINE

FIN PATTERN





Yankee Estes #1381 Parts Measurements List

Quantity	Part Description	Length
1	Main Body Tube	8 5/8"
1	Engine Mount Tube	2 3/4"
1	Balsa Fin Stock	3"x 3"
1	1/8" Launch Lug	1 1/4"
1	Rubber Shock Cord	14"
1	1 1/4" Wide Streamer	29"
1	1/8" Eye Screw	3/4"

\*Note: Balsa Thickness is 1/16"

# YANKEE

## FLYING MODEL ROCKET

SKILL LEVEL 1

1 - Beginner 2 - Intermediate 3 - Expert  
4 - Advanced 5 - Expert

- Easy-to-Assemble
- High Performance Design
- Flights Over 2,000 Feet
- Patriotic Kit Decal
- Streamer Recovery

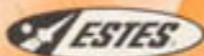
Length:  
11" (27.9cm)

Diameter:  
.730" (18.7mm)

Weight:  
.82 oz. (12g)

Engine Types:  
1/2A6-2, 1/2A6-4, A6-2,  
A6-5 (First Flight),  
B4-4, B4-6, B6-4, B6-6,  
B6-8, B6-7, C6-5, C6-7

This is a hobby kit requiring assembly. Recommended for ages 10 to adult. Engines, launch system, glue and finishing supplies are not included. Adult supervision is suggested for those under 12 years of age when flying model rockets.



ESTES INDUSTRIES  
PENNINGTON, NJ 08650 USA

# 1381