

# SANDPIPER

## ASSEMBLY INSTRUCTIONS

The Sandpiper is a high speed target missile under development by Beech Aircraft Corporation. The dramatic appearance of this semi-scale model will be a credit to your rocket fleet.

Due to the large fin area and the use of canards, the Sandpiper model requires special care in construction. Follow directions very carefully; read through them completely first. Then proceed to assemble your rocket step by step.

## REPLACEMENT PARTS

5075	V-1 Engine	\$ 3.95
	With trade-in*	1.50
5002	Separator	2.95
	With trade-in*	1.00
5131	Payload Compartment Kit (Aluminum adapter tube, screw eye washer, parachute tube, nose cone, tape)	.60
5120	Fin Rail and Launch Guide (Rails, guides, and glue)	.50
5119	Parachute Kit (Parachute, shroud thread, shock cord, tape disks, snap swivel)	.50
5027	Loading Valve and Hose	.50
5055	Manual Firing Unit	.75
5058	Small Parts Kit (Coupling, timer disks, safety pins, nozzle extension)	.50
3301	Decal Card	.15
3092	Printed Fin Stock	.15

## ACCESSORIES

### Load-"n"-Launch Equipment

5095	36" Tripod Launcher	1.29
5039	RP-100 Propellant, 15 oz.	1.95
5094	RP-100 Propellant, 7 1/2 oz.	1.25
5113	Remote Electrical Firing Unit (with ignitor wire)	1.95
5057	Ignitor Wire, 6" piece	.25

\*Trade-ins accepted ONLY at the factory. Engines and separators are repaired or replaced at nominal trade-in cost, regardless of cause of damage. Defective parts are replaced at no cost.

See your dealer for parts and accessories. If he doesn't have them, you may order direct from the factory. Please use part numbers when ordering and send remittance with order. No C.O.D.'s are accepted. Washington residents add 5% sales tax.

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## SANDPIPER ROCKET

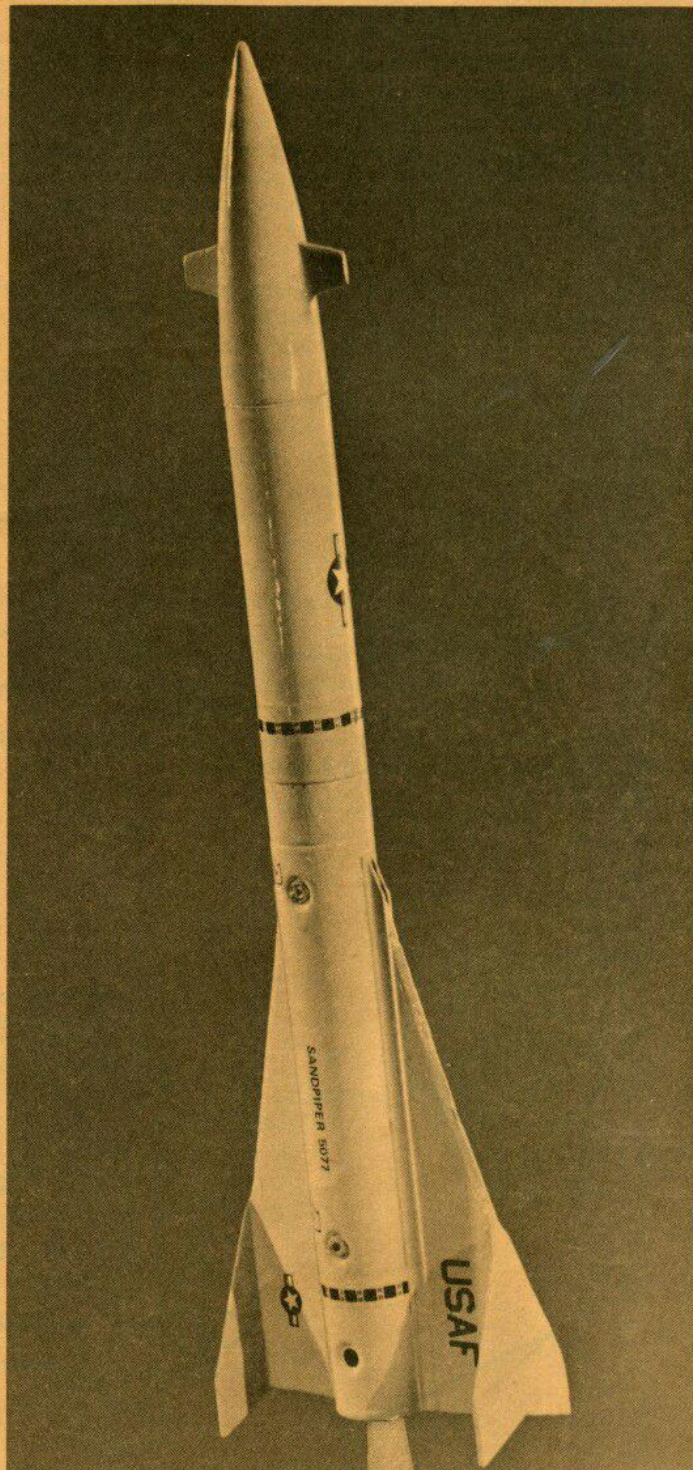


Figure 1

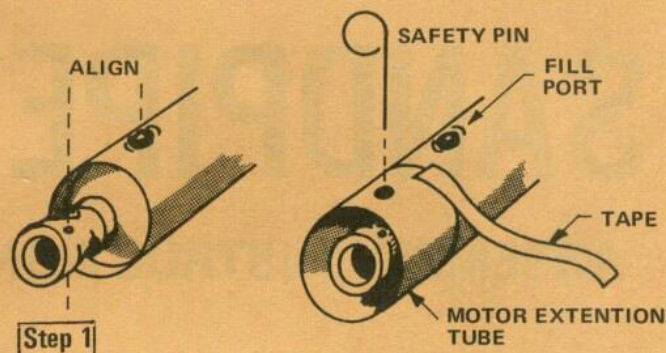
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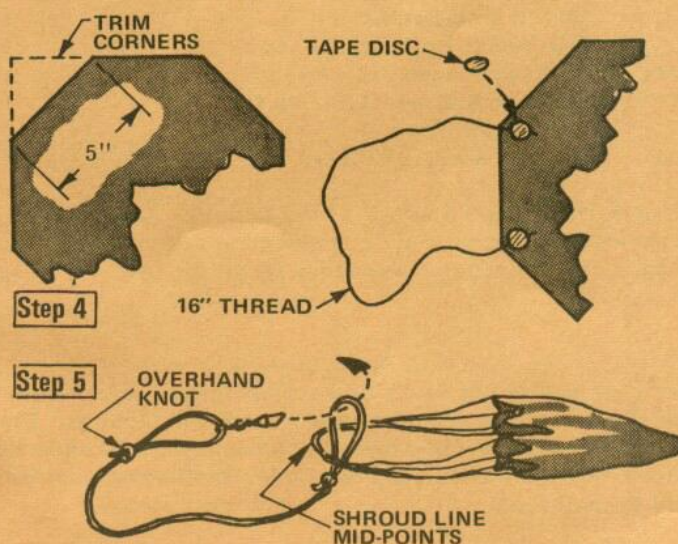
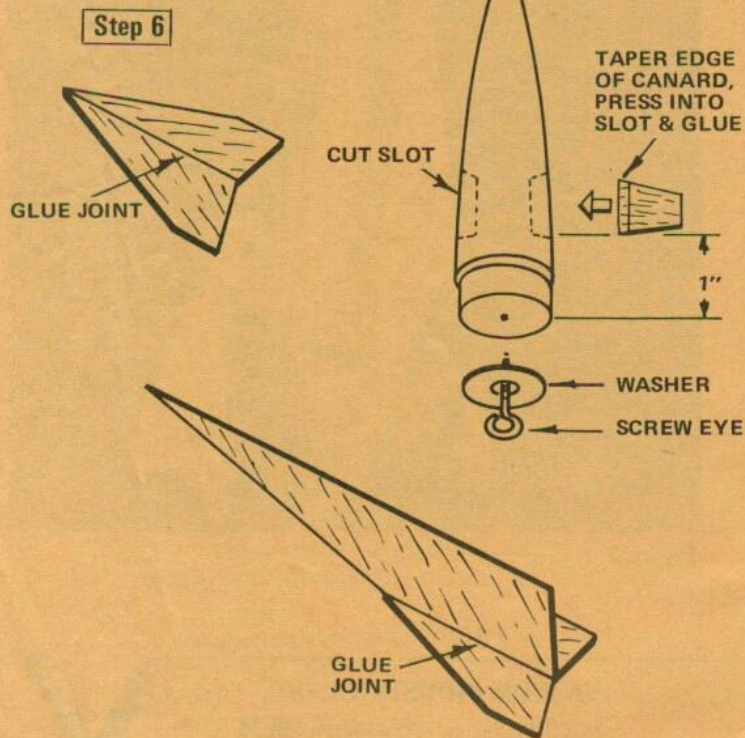
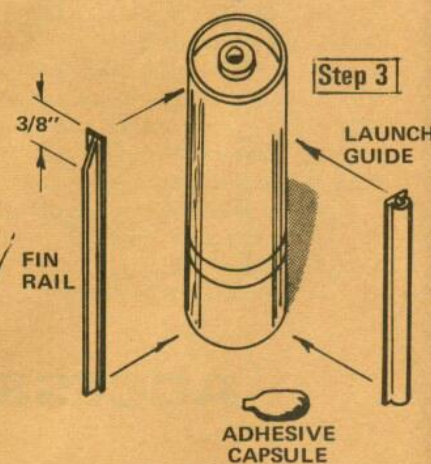
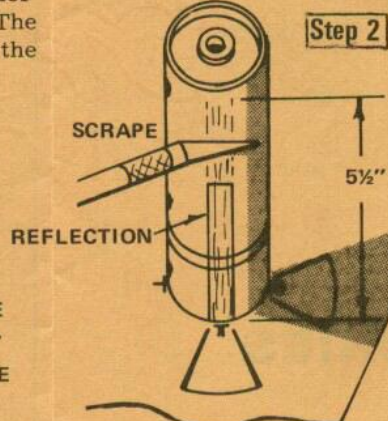
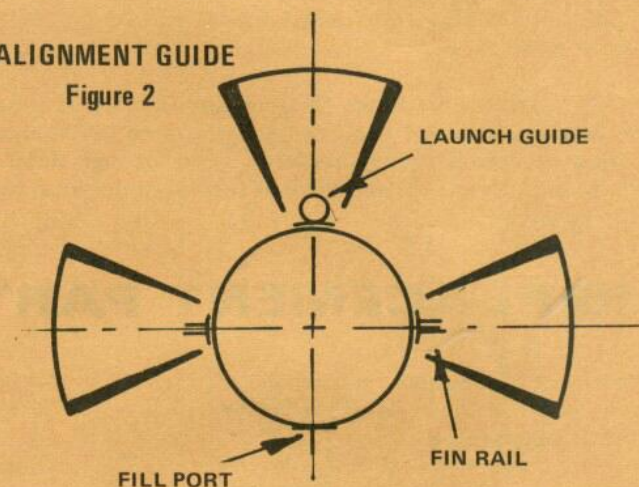
## ROCKET ASSEMBLY

- Step 1** Align the hole in the plastic nozzle extension with the fill valve, press on firmly, then align and tape on the motor extension tube. Make sure safety pin slides in freely, remove any burr from end of pin.
- Step 2** Place engine nozzle down in the center of the alignment guide (Figure 2). Locate rubber fill valve in the position shown. Reflection on the wall of the tube shows location and width of the glue joint areas. Scrape these areas thoroughly. Scrape a 4 inch long area for the launch guide tube.
- Step 3** Cut two 5 1/2 inch pieces of rail, slope front ends as shown and chamfer the inside of the back ends (so the fins will slide in easily). Apply contact adhesive to all scraped areas on the engine, to rails, and to the 4" launch guide tube. Allow to dry until tacky (about 5 min.), then press each item firmly in place.
- Step 4** Trim corners off parachute material. Cut four 16 inch pieces of thread for shroud lines, attach ends to corners with tape disks. Press disks down firmly, and rub with back of thumbnail and alongside thread to assure attachment.
- Step 5** Put snap swivel on the elastic shock cord and tie loops in ends. Pick up the four shrouds at their mid points, even up the corners of the chute, and attach the shock cord as shown.
- Step 6** Cut out rocket fins and canards and assemble as shown. Be very careful when mounting the canards, a slight amount of twist or tilt of the canard will cause the rocket to fly improperly. Attach washer to the nose cone with the screw eye as shown. The washer and screw eye are necessary to provide the proper balance for stable flight.



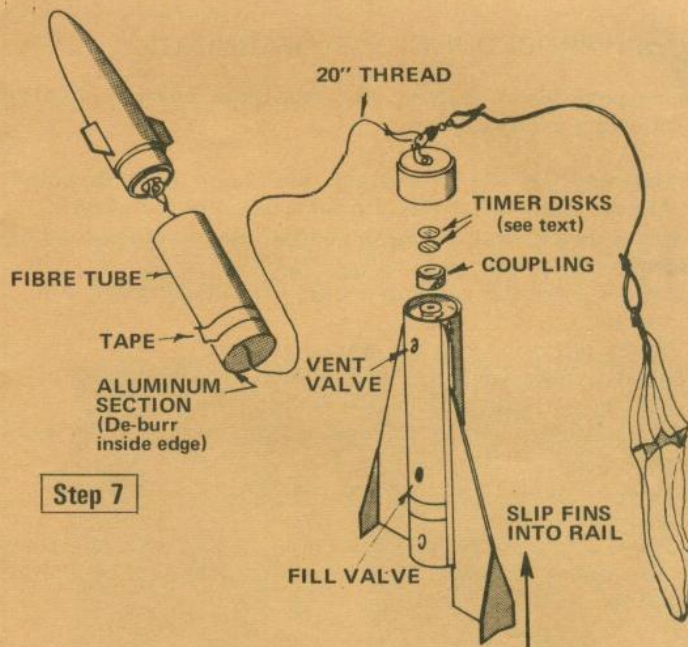
### ALIGNMENT GUIDE

Figure 2



**Step 7** Assemble the rocket as shown. Use two paper timer disks. Lightly sand or compress root edges of the fins so that they slide freely into fin rails on the rocket. Tape the aluminum section to the fibre tube, remove any roughness from the inside edge of the aluminum section with a sharp knife or sandpaper.

If you wish to paint the aluminum surfaces of the rocket, sand them to a dull finish before painting. Do not allow paint to soak into the fill valve or vent valve. If your kit has a styrofoam nose cone, lightly sand to a dull finish and paint with Pactra'Namel, polyurethane, or epoxy enamel. Avoid using any type of spray paint unless you have tested it first on a styrofoam surface. Testor's contour putty (or paste wood filler) can be applied to nicks and dents for a better finish. Sand and seal all balsa wood surfaces prior to painting. Apply decals as shown in Figure 1.



**Step 7**

## PRE-FLIGHT CHECK OUT

**Step 8** Assemble the firing assembly and loading valve and hose. (When not in use, always remove loading valve from the propellant can.)

**Step 9** Grasp the parachute canopy in the center, gather, fold, and roll snugly but not tightly. Roll the shrouds around the chute, and lightly wrap the shock cord around the chute up to the snap swivel. The thread to the nose cone must not be wrapped around the chute. Insert the nose cone thread into the parachute tube first, then the rolled up parachute (parachute should be loose and free to fall out) and set the tube on the separator. Line-up the canards on the nose cone with the fins on the rocket.

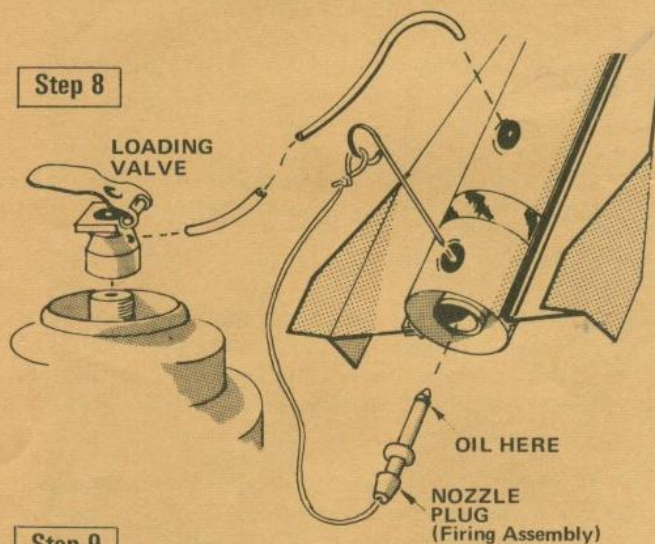
**Step 10** While holding the parachute tube in place and aligned, insert the fueling hose and press the loading valve briefly (1/2 second) to pressurize the engine. The parachute tube should lock into place.

**TROUBLE?** Parachute tube must be held squarely to latch in place, and will not latch after engine is pressurized. Release plug to vent engine, and try again. A leak at the timer discs may also prevent latching. Screw separator on more firmly.

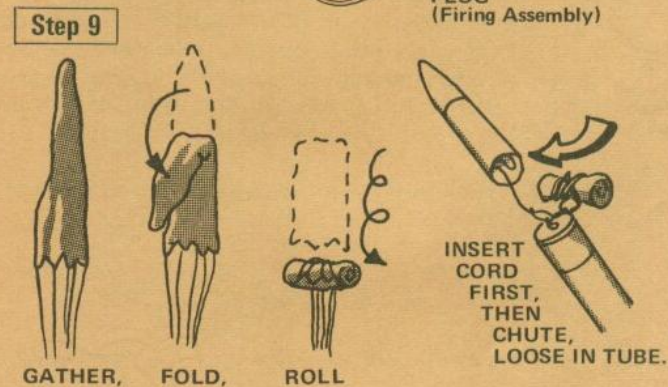
**TO TEST:** Hold engine tightly and pull the safety pin. About 3 to 5 seconds after the engine is vented, nose cone should drop off.

**TROUBLE?** If nose cone drops off too soon, check for leaks, or add another timer disk. If nose cone drops off too late, remove one timer disk, or pierce one disk with a pin: also scrape off any catch points or burrs inside aft end of parachute tube so it will release freely.

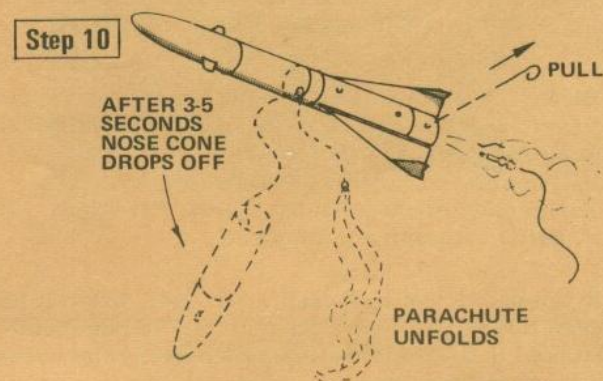
**NOTE:** The user must exercise care in the use of Vashon Industries products and strictly comply with the precautions stated above and the instructions provided. The user assumes all risk of use or handling. Vashon Industries makes no warranty of any kind, express or implied, and assumes no liability beyond the replacement of parts which, in the judgment of Vashon Industries, are defective.



**Step 8**



**Step 9**



**Step 10**

## LAUNCH PROCEDURE — — WARNING!

As a responsible rocketeer, you must take care to observe the following precautions:

1. Use only RP-100 Propellant, and use only as directed.
2. Always have the safety pin installed and the plastic nozzle extension firmly pushed in place before loading the rocket.
3. Do not point the nose or nozzle of a loaded rocket at anyone.
4. Never carry or store a loaded rocket.
5. Always use a launcher and launch the rocket within 30° of vertical.
6. Complete a pre-flight check out before launching your rocket.
7. Have an adult present when you load or launch your rocket.
8. When not in use, remove loading valve from the propellant can, and store your launcher so that the launch rod is not in an upright position.

### COUNTDOWN

- T-7 Set up launcher in middle of field. Allow 100 yards in all directions for recovery. Make sure launcher is stable.
- T-6 Oil and install the firing assembly plug and safety pin and slide the engine onto the launcher.
- T-5 Fold and pack the parachute into the parachute tube.
- T-4 While holding the parachute tube in place, with canards aligned with fins, insert the loading hose and pressurize the engine. Verify that the tube is latched in place. If tube is latched the engine is ready to load.
- T-3 Fueling: Insert a safety pin in the vent valve at the top of the engine, and while holding the loading hose vent SLIGHTLY by pushing down on the vent valve pin. Vent only enough to allow propellant to flow into the engine. Repeat venting until engine is full (white mist sprays out of vent valve). Carefully remove hose.

NOTE: If engine grows cold you are venting too fast. VENT SLOWLY.

CAUTION: Do not lean over launcher while fueling--keep yourself and others to one side.

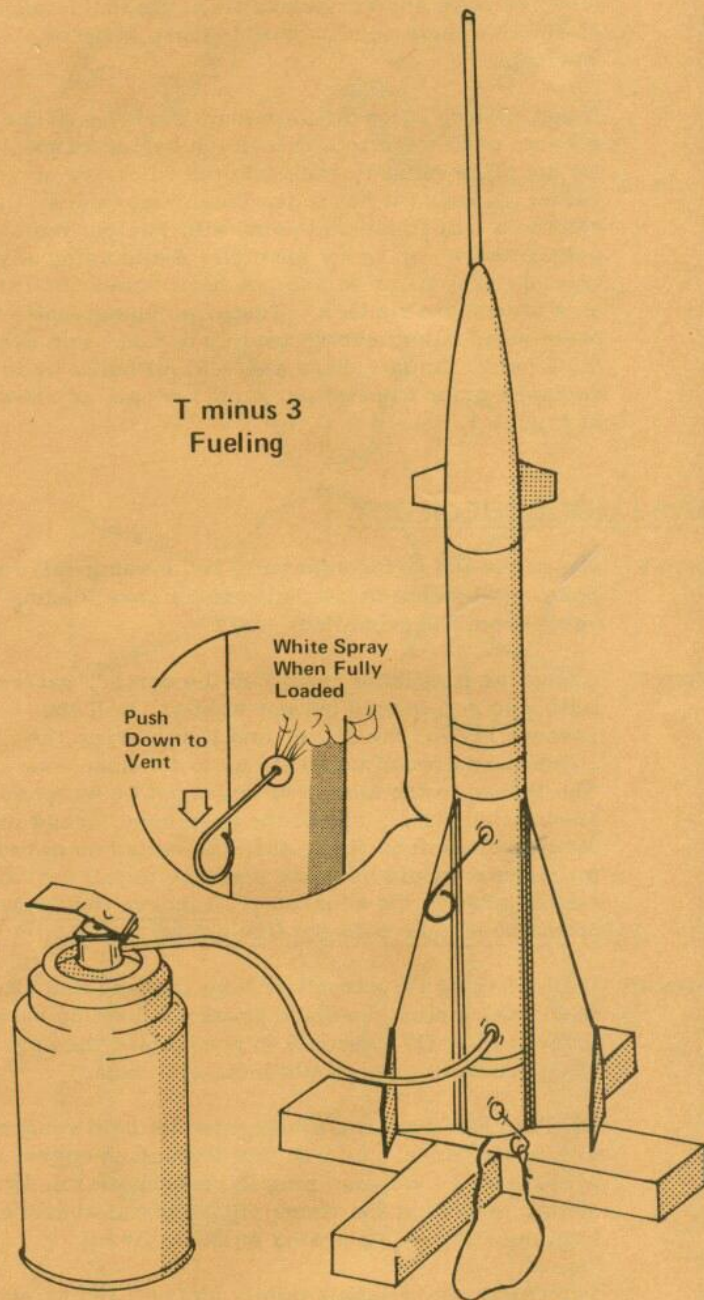
- T-2 Alert everyone within range that you are ready to launch.
- T-1 Make sure that airspace above launching area is clear and no airplanes are near.

**ZERO: BLAST OFF!** While bracing the nozzle with your finger, pull the safety pin quickly from the nozzle extension to launch the rocket.

For remote electric launch follow directions supplied with this accessory.

If you decide not to launch the rocket, after it has been fueled, hold the rocket firmly in hand (and pointed in a safe direction) and release the nozzle plug as in launching.

T minus 3  
Fueling

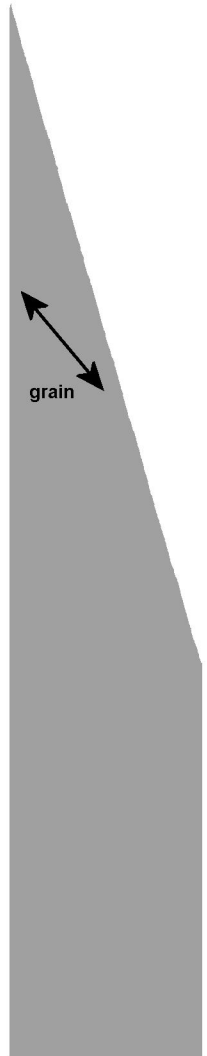
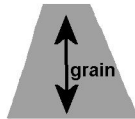
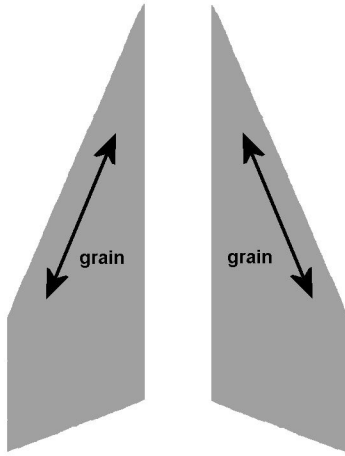
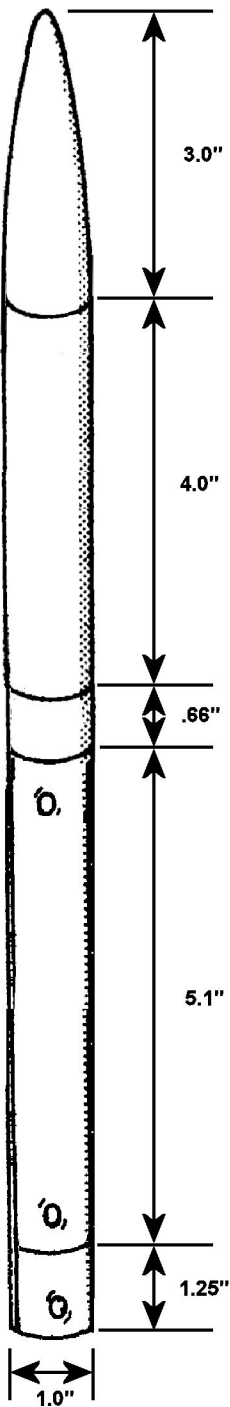


### IMPORTANT NOTICE!

Rocket performance depends upon your skill in fueling.

1. Keep your propellant at room temperature prior to use.
2. Vent very slightly while loading to avoid chilling the propellant.
3. On cold days keep the propellant inside until the last minute, and warm the rocket with your hands before launching.

# VASHON SANDPIPER





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