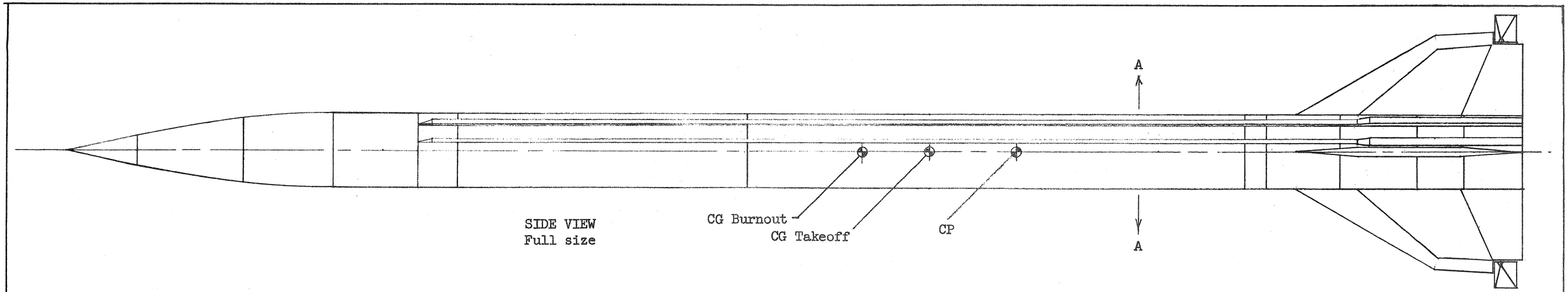
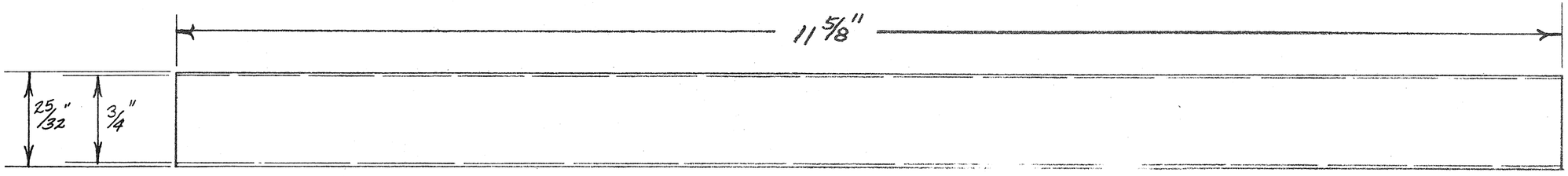
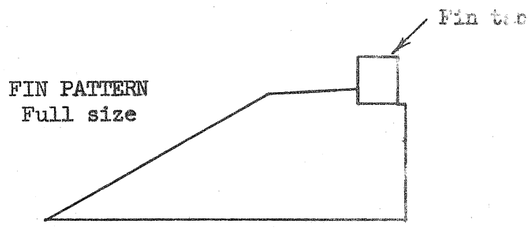


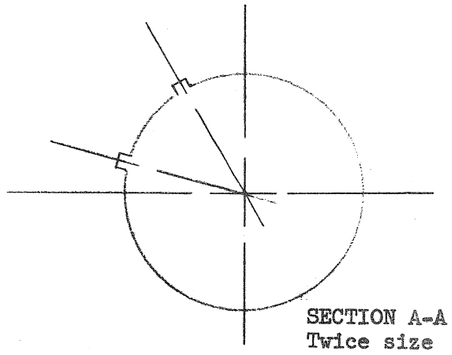

SIDE VIEW
Full size



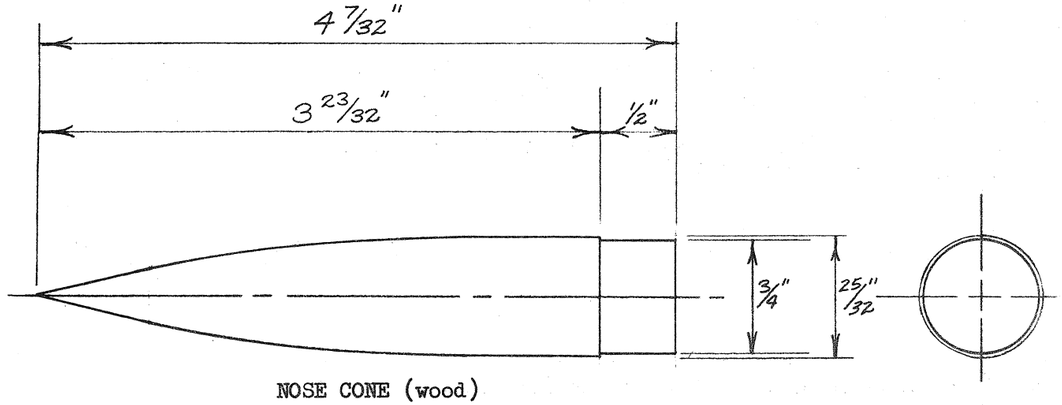

BODY TUBE (paper)
Full size



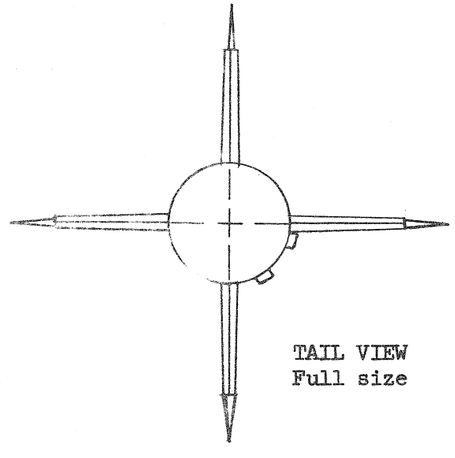

FIN PATTERN
Full size



SECTION A-A
Twice size




NOSE CONE (wood)
Full size



TAIL VIEW
Full size

FOR NON COMMERCIAL USE ONLY

NATIONAL ASSOCIATION OF ROCKETRY

# PLAN PROGRAM

## VIKING RTV-N-12

| | |
|---|---|
| MODEL SCALE: 1 to 41 | DRAWING SCALE: As noted |
| SCA SOURCE: Martin Document #ER-5551 | |
| DESIGN BY: G. Harry Stine | DRAWN BY: GHS |
| CHECKED BY: WSR | RELEASED: April 1960 |

DRAWING NUMBER: NAR- 106

# National Association of Rocketry

Plan No. 106

## PLAN PROGRAM FACT SHEET

Model Name Viking #7

Prototype Data: NAR Plan #106 shows the U.S. Navy's "Viking" RTV-N-12 sounding rocket in the configuration of Viking #7. The initial work on the rocket was started by the Glenn L. Martin Company in 1946 under contract number N6-onr-171 from the Office of Naval Research and the Naval Research Laboratory. Viking #1 was flown at White Sands Proving Ground, New Mexico, on 3 March 1949. Viking #7 was flown from White Sands on 7 August 1951, reaching a record altitude of 136 miles; this was the first time an American rocket had broken the altitude record of 116 miles held by the German V-2.

Viking #7 weighed 2182 lb. empty and carried 457 lb. of payload. It was fuelled with 3693 lb. of alcohol, 4162 lb. of liquid oxygen, 255 lb. of concentrated hydrogen peroxide to drive the propellant pumps, and 52 lb. of compressed nitrogen. At takeoff, it weighed 10,801 lb. It reached a speed of 5864 feet per second 71.9 seconds after takeoff. It was powered by a 20,000-lb.-thrust rocket engine developed by Reaction Motors, Inc.

The Viking rocket is the direct ancestor of modern American ballistic missiles and satellite vehicles, including the Vanguard. It was the first rocket to use aluminum aircraft-type construction and the first to use a swivelling rocket engine to provide control of the flight path. Vikings #1 through #7 were of almost identical appearance, although there were thousands of minor changes from rocket to rocket.

Further history appears in Milton Rosen's "The Viking Rocket Story," published by Harpers.

Model Data: Standard model rocket construction techniques are used throughout. The body tube is a thin-walled paper tube. The nose cone is turned from hardwood. The fins are cut from 3/32" sheet balsa and sanded to shape. The fin tabs are cut separately and glued to their proper positions on the fins after shaping; the tabs should be carefully aligned with the fins. The model is designed for use with NAR Type A and Type B engines.

Color scheme is as follows: Nose cone: silver; Body: white with black ring forward of fins and black tail quadrant next to black fin; Fins: one fin black, opposite fin black on top half, remaining fins white; Numbers: Number "7" in white on black and half-black fins, both sides.