DESCRIPTION

A two-stage vertically launched surface-to-surface missile of 150,000 lb gross weight. Booster consists of two "halffshells" which completely surround the cigar-shaped final stage, and contain fuel tanks and four booster rocket engines. The stabilizing fins attach to the halffshells. During the first stage of operation the four booster engines plus the second stage engine all operate from fuel carried in the halffshells. When this fuel is exhausted the shells are dropped and the final stage "cigar" continues burning for an additional 75 seconds from internal tankage. This missile operates on a high altitude curved trajectory. Military requirements specify 50% hits within 5000' of the target at 4392 (nautical) miles range. Range with oxygen-alcohol propellant is 1040 nautical miles. Range with 425 lb-sec/lb impulse propellant is 4392 nautical miles.

STATUS

Ten single stage test missiles under construction. First one to be completed in June 1947.

POWER PLANT

(No. & Type)

BOOSTER .......... 4 liquid rockets
FINAL STAGE .... 4 liquid rockets
(All rockets swivel)

THURST

(lb./duration)

4 BOOSTERS .. 60,000# ea./75 sec.
4 FINAL STAGE 10,000# ea./150 sec.

FUEL

(Type & weight)

ALCH., OXY. .......... 120400

AUXILIARY POWER

(Type)

TURBINE

WEIGHTS

(lb.)

BOOSTER (Dry) ............ 19,000
FINAL STAGE (Dry) ........ 10,600
GROSS (incl. booster) .... 150,000
GROSS (final stage) ...... 36,000

GUIDANCE

(Type)

ELECTRONIC
(During powered flight only)

WAR HEAD

(lb.)

5000
(Separates from missile for re-entry into atmosphere)

CONTROL

(Type)

AERODYNAMIC SURFACES AND SERVO-CONTROLLED SWIVELING ROCKET ENGINES

LAUNCHING

(Method)

VERTICALLY BY 4 BOOSTER ENGINES PLUS 4 FINAL STAGE ENGINES BURNING SIMULTANEOUSLY. NO GUIDE RAILS.

SPEED

(knots)

END BOOST .......... 6080
END MISSILE FUEL 13020
"RE-ENTRY " 11280
"AT 9.7 M.MI. ALTITUDE 12780°F/27°ANGLE.

RANGE

(Nautical Miles)

MAXIMUM .......... 4390
ALT. ATTAINED ...... 695
ALT./END OF BOOSTER FUEL ...... 87

ACCELERATION

(‘s)

LONGITUDINAL ...... 5
NORMAL ............ 5

1 APRIL 1947