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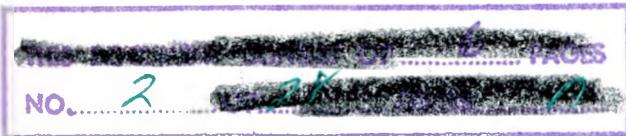
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Hugh Kinner
Authorizing Official
Date: 12-19-2018

CNLM-1988
October 9, 1959

NUCLEAR J-58 TURBOJET POWERED LOW ALTITUDE MISSILE



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- R. D.
Classification

O.W. Miller
Authorized Classifier

10-9-59
Date

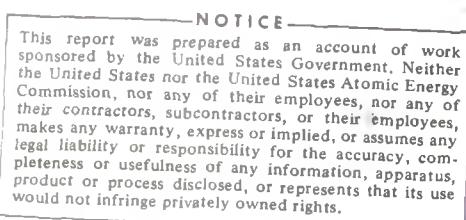
A preliminary characteristics summary is presented for a low altitude, supersonic missile powered by the solid fuel element, 2000F lithium-cooled PWAR-11 reactor and a Pratt & Whitney Aircraft J-58 turbojet engine modified to incorporate a lithium-to-air heat exchanger. The powerplant and missile are designed for operation at Mach 2.0 at sea level, but the performance at the design point has been compromised somewhat to improve the operating characteristics at lower speeds and higher altitudes.

The general configuration of the missile is shown on Fig 1, and its geometrical characteristics are tabulated in Table 1. The estimated weight breakdown of the missile, which has a gross weight of 40,000 pounds, is presented in Table 2. An estimate of the missile thrust and drag is shown on Fig 2, and the operating speed-altitude envelope of the missile on a standard day is presented on Fig 3.

WOG:mp

Classification cancelled (or changed to
by authority of
by H.T.C. TIC, date SEP 18 1973

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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW

1st review date	DC	DD	Determination (circle numbers)
Authority	CCRP		1. Classification retained
Name			2. Classification changed to
Title			3. Contains no DOE classified info
2nd review date	12-19-2018		4. Coordinate with
Authority	DD		5. Declassified
Name	H. Kinner		Declassified On: 12-19-18
Title	DOE/OSTI Classification Consultant		6. Classified info bracketed
Derived from:	RDD-8		7. Other(specify)
			Issue date 1-1-02 DOE OC

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TABLE I
MISSILE GEOMETRY

Wing

Area (gross), ft ²	320
Span, ft	22.5
Aspect ratio	1.59
Thickness ratio	0.025
Sweep (1/4 chord), degrees	47
Taper ratio	0.143

Canards

Area, ft ²	15
Aspect ratio	1.59
Thickness ratio	0.025
Sweep (1/4 chord), degrees	47
Taper ratio	0.143

Tail

Area, ft ²	25
Thickness ratio	0.025
Sweep (1/4 chord, degrees)	55
Taper ratio	0.143

Fuselage

Length, ft	57
Fineness ratio	18

Inlet

Type	Fixed, circular external compression
Capture area, ft ²	6.3

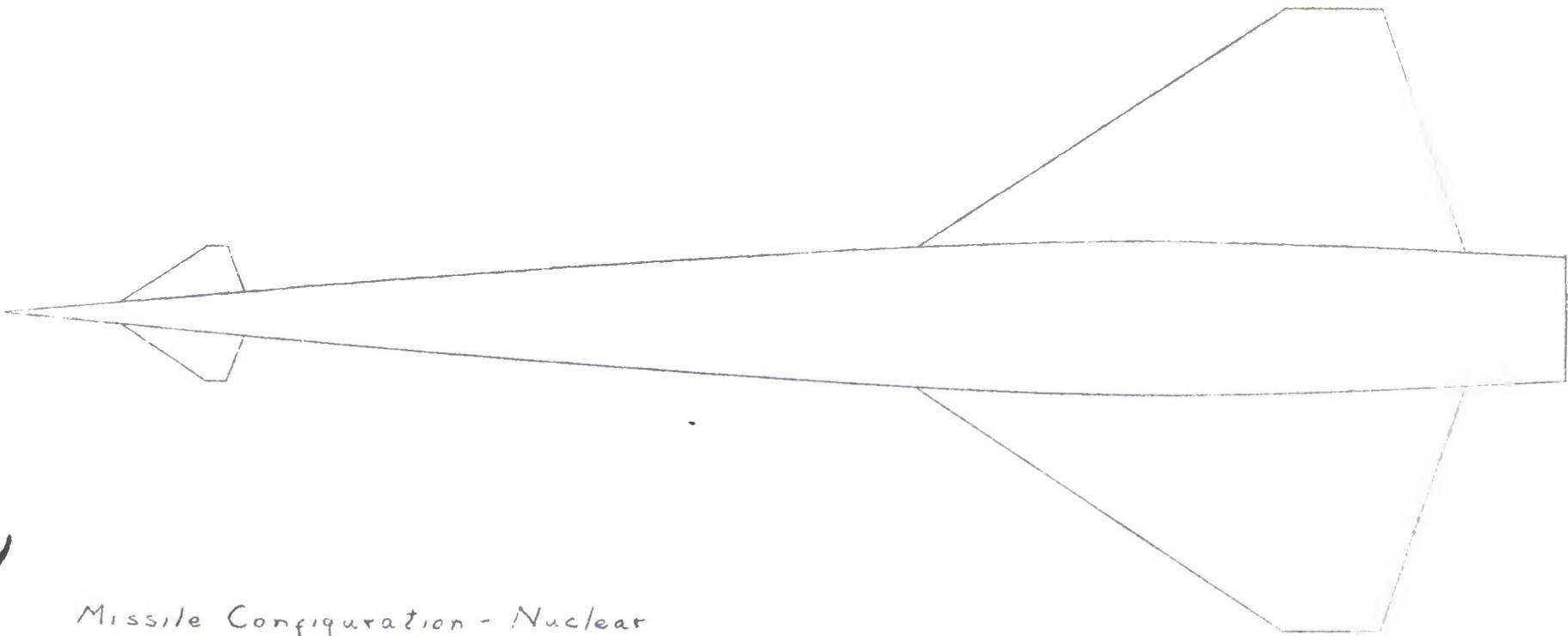
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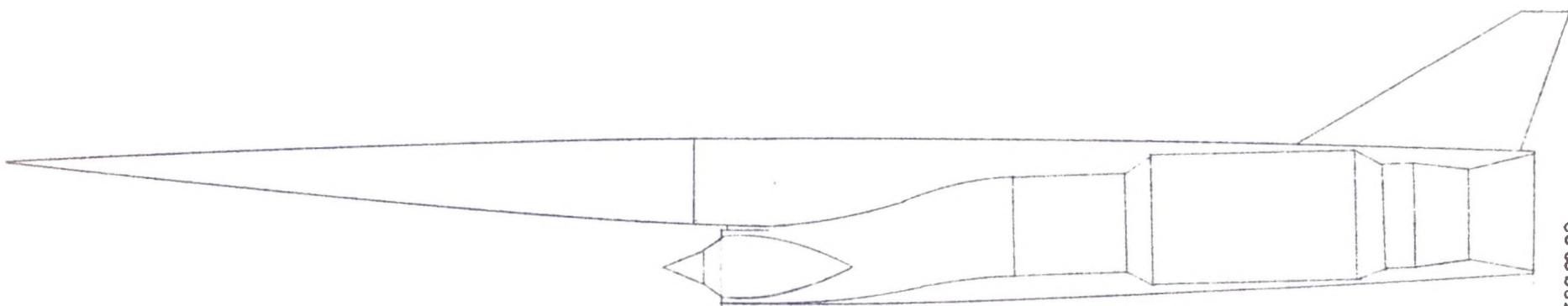
TABLE 2

WEIGHT BREAKDOWN

	<u>Weight, lb</u>
Wing	2,000
Canards	150
Vertical tail	250
Body	1,900
Powerplant	24,000
Reactor	6900
Engine	5300
Radiator	5700
Engine inlet	1500
Liquid metal system	2600
Miscellaneous	2000
Cooling system	600
Insulation	100
Airframe equipment	1,600
Guidance system	1,000
Payload and shielding	8,400
Total	40,000



Missile Configuration - Nuclear
J58 Turbojet Powerplant
Scale: 1 in. = 6 ft.



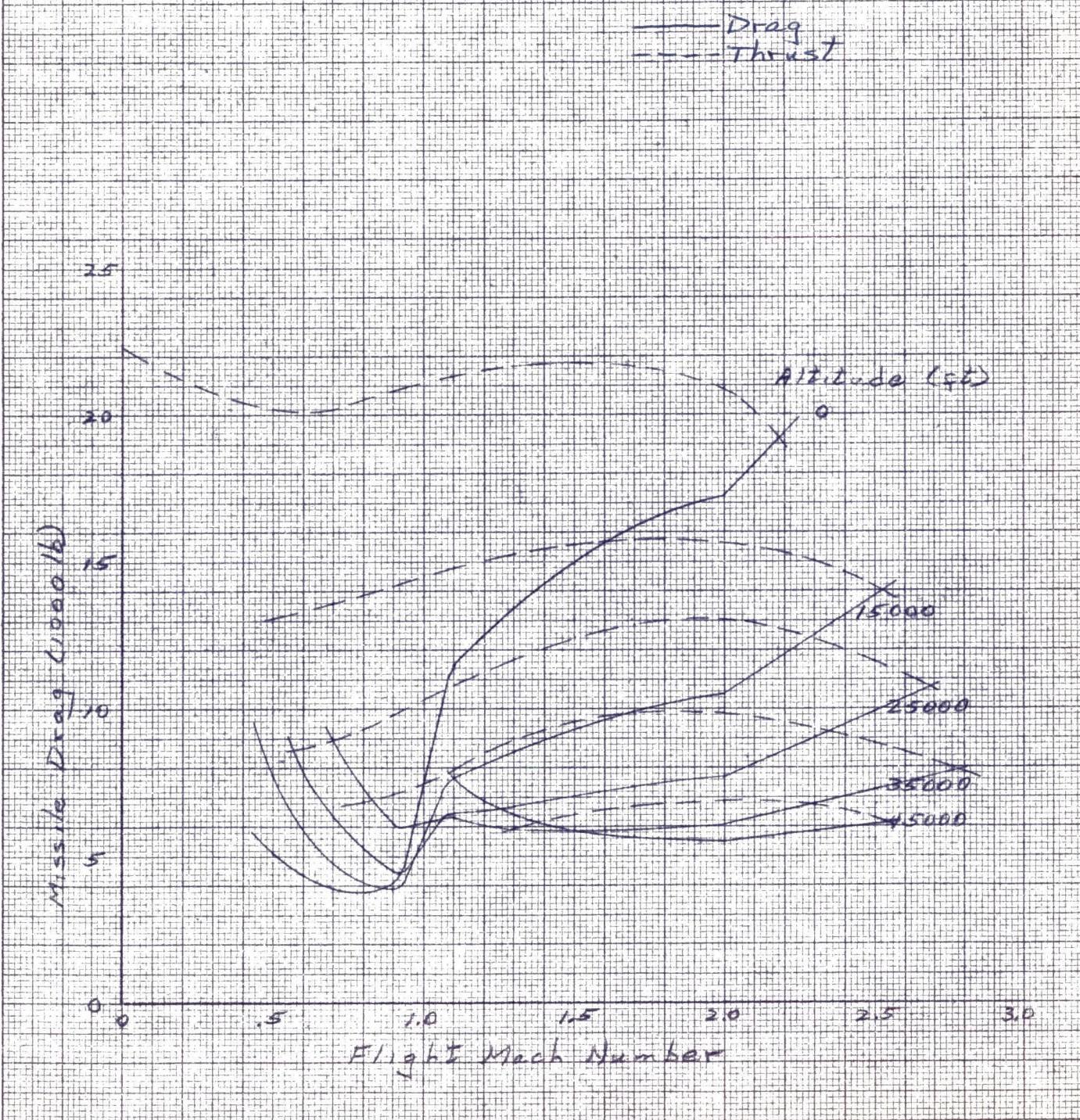
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October 9, 1959Missile Drag and ThrustNuclear J58 Turbojet Powered
Low Altitude Missile

Gross Weight = 40,000 lb
 Pay load + Shielding = 8400 lb
 Design Reactor Power = 200 MW
 ICAO Standard Atmosphere

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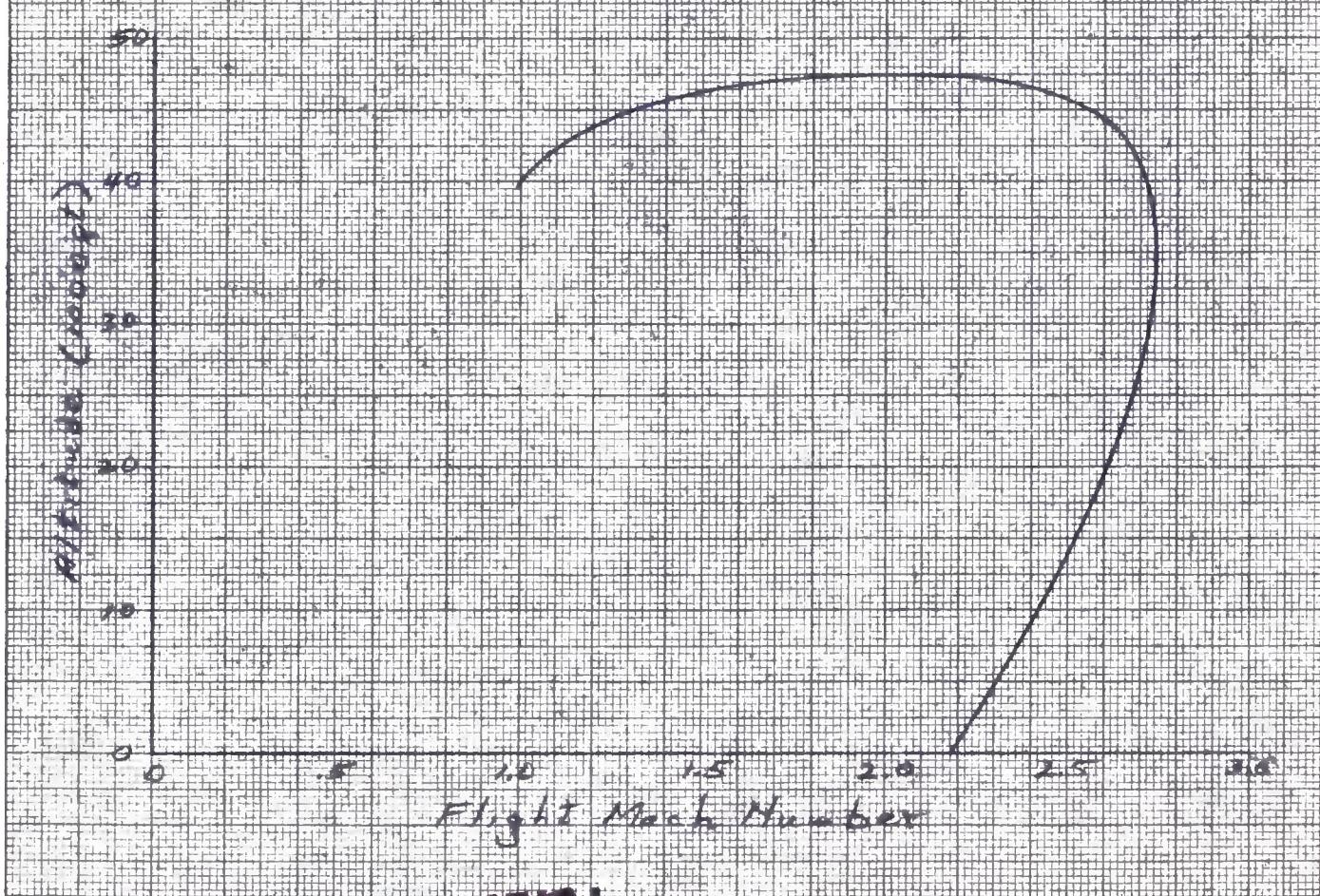
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October 9, 1959Speed-Altitude EnvelopeNuclear J58 Turbojet Powered
Low Altitude Missile

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Payload + Shielding = 8400 lb

Design Reactor Power = 200 MW

ICAO Standard Atmosphere

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