UNCLASSIFIED

Harpers

CONTROLLED COPY

EW-864

G2A

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

This document is
PUBLICLY RELEASABLE

James Keyser
Authorizing Official
Date: 10-27-60

CLASSIFICATION CANCELED
OR CHANGED TO
BY AUTHORITY
BY *12/1/76*

NOTICE

This report was prepared as an account of work sponsored by the United States Government. Neither the United States nor the United States Energy Research and Development Administration, nor any of their employees, nor any of their contractors, subcontractors, or their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness or usefulness of any information, apparatus, product or process disclosed, or represents that its use would not infringe privately owned rights.

P R A T T & W H I T N E Y A I R C R A F T
D I V I S I O N O F U N I T E D A I R C R A F T C O R P O R A T I O N

M I D D L E T O W N • C O N N E C T I C U T
C A N E L

UNCLASSIFIED

UNCLASSIFIED

Mr. J. E. Ahern

J. W. Larson

Request for Nuclear-Ramjet Radiator Weight Data

DATE 5/6/61

Chief, Declassification Branch

June 23, 1958

cc: C. D. Lingenfelter
A. R. Daddario

CNLM-864

THIS DOCUMENT CONTAINS [REDACTED] PAGES
NO. 2 OF [REDACTED]

Weight data on the following liquid metal to air radiators is requested. This information is to be used in a comparison of the performance attainable with different nuclear reactors and liquid metal systems in a ramjet powered airplane. The radiator dimensions are based on estimates using the performance curves presented in CNLM-338.

	I	II	III	IV	V
Intermediate Heat Exchanger	No	Yes	Yes	Yes	No
Reactor					
Coolant	Lithium	Lithium	Lithium	Sodium	Sodium
Inlet Temp. F	1600	1600	1400	1250	1200
Outlet Temp., F	2000	2000	1800	1650	1600
Radiator					
Coolant	Lithium	Lithium	NaK	NaK	Sodium
Inlet Temp., F	2000	1900	1600	1550	1600
Outlet Temp., F	1600	1500	1200	1150	1200
Flight Condition					
Mach Number	3.5	3.5	3.5	3.5	3.5
Altitude, Ft.	75,000	75,000	75,000	75,000	75,000
Radiator In. Air Cond.					
Temp., F	862.9	862.9	862.9	862.9	862.9
Press., PSFA	3967.1	3967.1	3967.1	3967.1	3967.1
Flow, lbs/sec	1530.3	1661.6	2366.6	2556.4	2366.6
Radiator Out. Air Cond.					
Temp., F	1665.5	1604.2	1388.9	1350.8	1388.9
Press., PSFA	3510.7	3499.6	3464.4	3453.2	3464.4
Radiator Dimensions					
Depth, Ft.	.7594	.8085	.9824	1.0315	.9824
Face Area, Sq. Ft.	285.05	309.51	440.84	476.20	440.84
Frontal Area, Sq. Ft.	128.95	140.02	199.43	215.42	199.43
Height, Ft.	4.42	4.71	6.07	6.39	6.07
Width, Ft.	29.17	29.73	32.86	33.81	32.86

UNCLASSIFIED

SPECIAL REREVIEW
FINAL
DETERMINATION

Class: u

Reviewers Class. Date
JRP u 3-11-82

J. W. Larson

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency Thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.