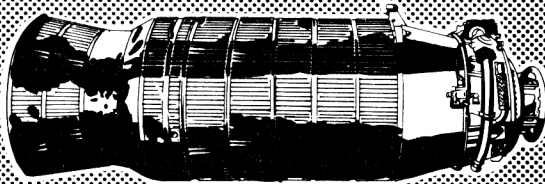


*D2 Wright Aero*

## Aircraft Engine Characteristics Summary

RAM-JET . . . . . XRJ47-W-5

None



Wright Aero  
Spec. 901-C  
24 Oct 55  
(Approved)

### FEATURES

A supersonic fixed geometry internally mounted Ram-jet with turbine-driven fuel pump, power controls, and ignition system located externally around the inlet bell mouth. (SEE NOTE 1).

### AVAILABILITY

Experimental Engine . . . . . Sep 1951\*  
 Prototype Flight Engine . . . . . May 1954  
 Installation Engine . . . . . Sep 1955  
 Prel. Flight Rating Test . . . . . Jul 1956  
 Qualification Test . . . . . None  
 \*Burner only

### PROCUREMENT

NUMBER TO BE DELIVERED DURING  
FISCAL YEAR


### CONTRACTUAL

Contract	Funds	FY
AF-9000	\$1,184,831	1951
AF-8733	4,864,999	1952
AF-22980	3,919,007**	1953
AF-22980	2,192,600**	1954
AF-22980	420,480**	1955
AF-30241*	2,623,185**	1955
AF-33068	12,200,000	1956
AF-33818	1,791,000	1957
AF-35187	2,680,000	1957

\*Includes both -5, -7 and -9 engines  
 \*\* (SEE NOTE 2)

### STATUS

All engines have been delivered to North American for installation and flight testing. Basic requirement for the Navaho program was cancelled in 1957. Wright is presently conducting testing and minor modification under subcontract from North American relative to the project "RISE" program.

### GENERAL

Diffuser . . . . . Side entry,  
single oblique shock (SEE NOTE 1)  
 Area Variable . . . . . No  
 D.P. Total Pressure Recovery . . . . . 53%  
 Combustion Chamber . . . . . Single-pilot gutters  
 Inside Dia at Combustion Chamber  
 Entrance . . . . . (max) 48 in.  
 Ignition Limits . . . . . ---  
 D.P. Combustion Efficiency . . . . . 85%  
 Exhaust Nozzle . . . . . Fixed,  
throat area = 7.6 sq ft

D.P. Nozzle Efficiency . . . . . 96%  
 Ignition . . . . . Special fuel\*  
 Fuel Injection . . . . . Variable area nozzles  
 Thrust Control . . . . . Variable F/A  
 Fuel . . . . . JP-5  
 Accessory Drive Provisions . . . . . Fuel Pump

\*Aluminum Trimethyl/Aluminum Triethyl  
(80/20%)

OCT 5 1958

### SIZE & WEIGHT

Length (Ram-jet plus ducting  
and diffuser) . . . . . 390.0 in.  
 Length (Removable portion) . . . . . 132.0 in.  
 Diameter (outside) . . . . . 50.8 in.  
 Weight (with access. and  
special fuel cartridge) . . . . . 1011 lb

### UTILIZATION

XSM-64 "NAVAHO" Missile and Project  
"RISE" of the B-70 (WS-110A) program.

*5th Ed. 4-5-58*

Classification cancelled  
 or changed to *Unclassified*  
 AUTH: *DoD Dir 5 Feb 10*  
 By *Shirley M White*  
 Signature and Grade *13/30/70*

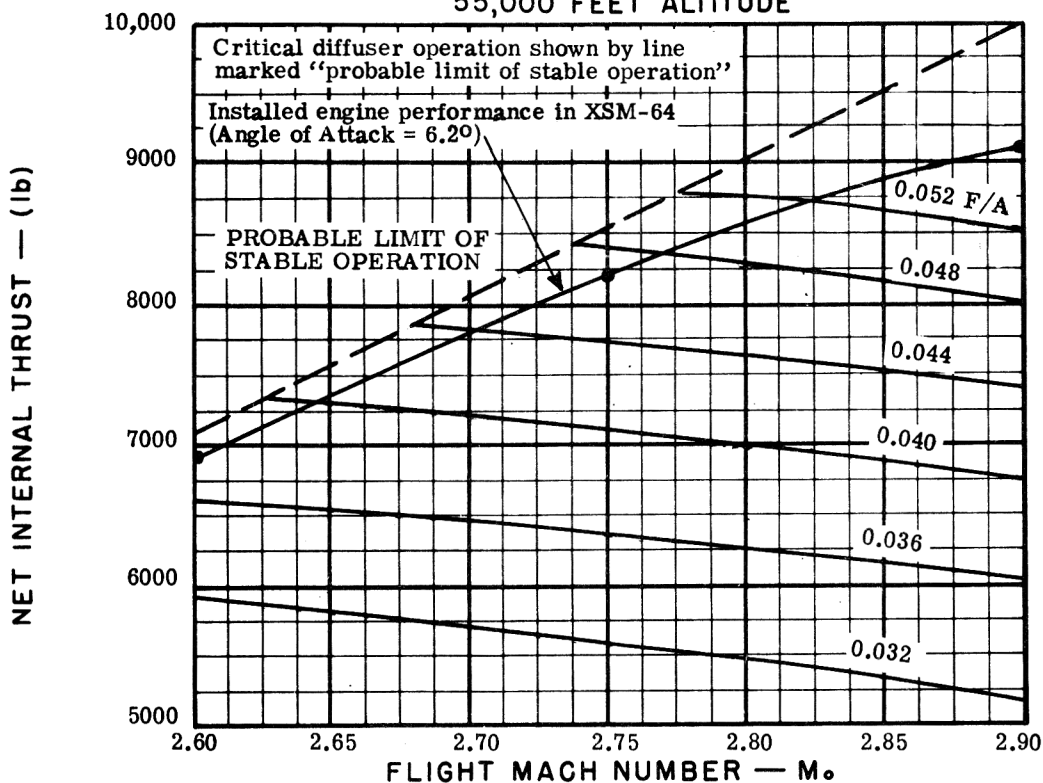
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 Signature and Grade *13/30/70*

# Performance

## ESTIMATED DESIGN POINT PERFORMANCE

Mach number . . . . . 2.75  
 Altitude . . . . . 55,000 ft.  
 Net internal thrust . . . . . 7750/8150 lb.  
 Specific fuel consumption . . . . . 2.65/2.52 lb/hr/lb.

## NACA STANDARD TEMPERATURE & PRESSURE 55,000 FEET ALTITUDE



## NOTES

NOTE 1: The supersonic diffuser is an integral part of the missile, therefore, weights and dimensions refer to the removable portion of the ram-jet, and include burner, combustion chamber, nozzle, engine accessories and controls. Responsibility for design and fabrication of the diffuser and inlet ducting lies with the airframe contractor. The engine contractor, however, will coordinate diffuser and ducting changes with the airframe contractor.

NOTE 2: These funds include procurement of outside test time at test facilities operated by the Army and Navy.