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NA-56-7

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4D 159109

PROPOSAL



MAY 23 1958

Standard Aircraft Characteristics

U.S.M.C.

SYSTEM NO. 118P

HIGH-ALTITUDE RECONNAISSANCE

North American

FOUR GE X275A
135% SIZE

GENERAL ELECTRIC

SYSTEM NO. 118P

25 MAY 1955

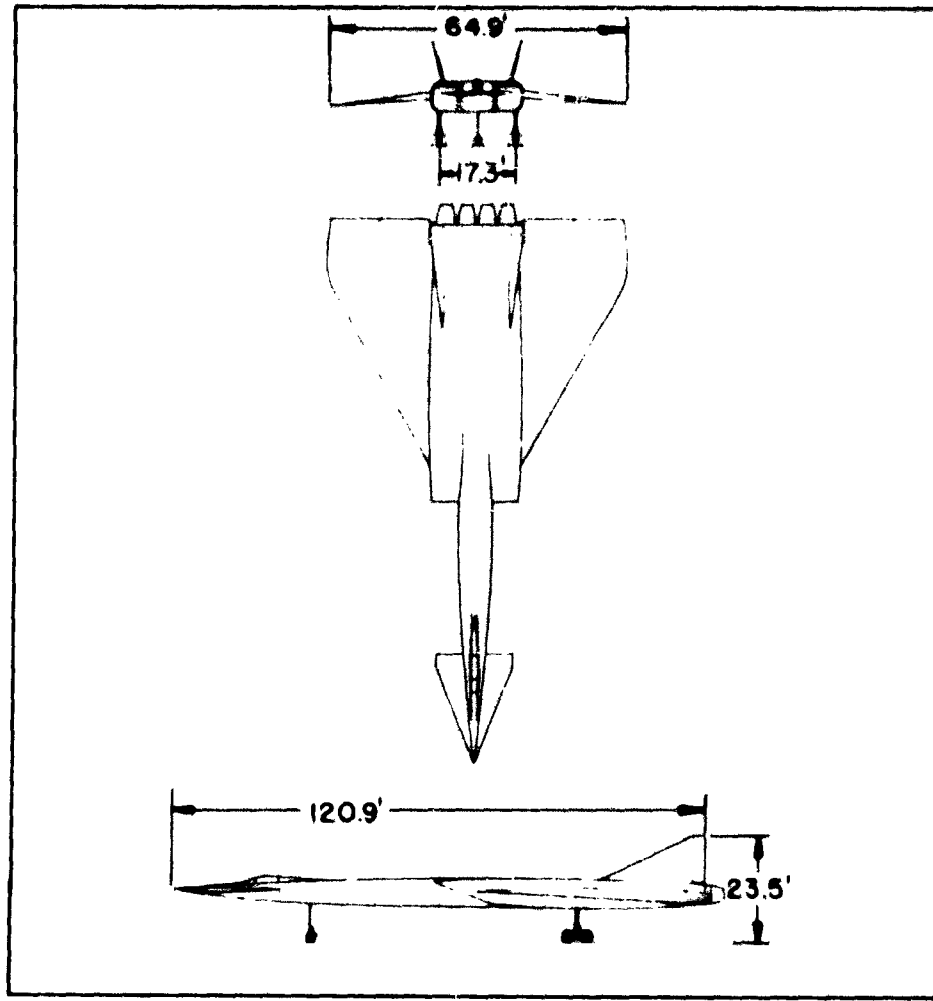
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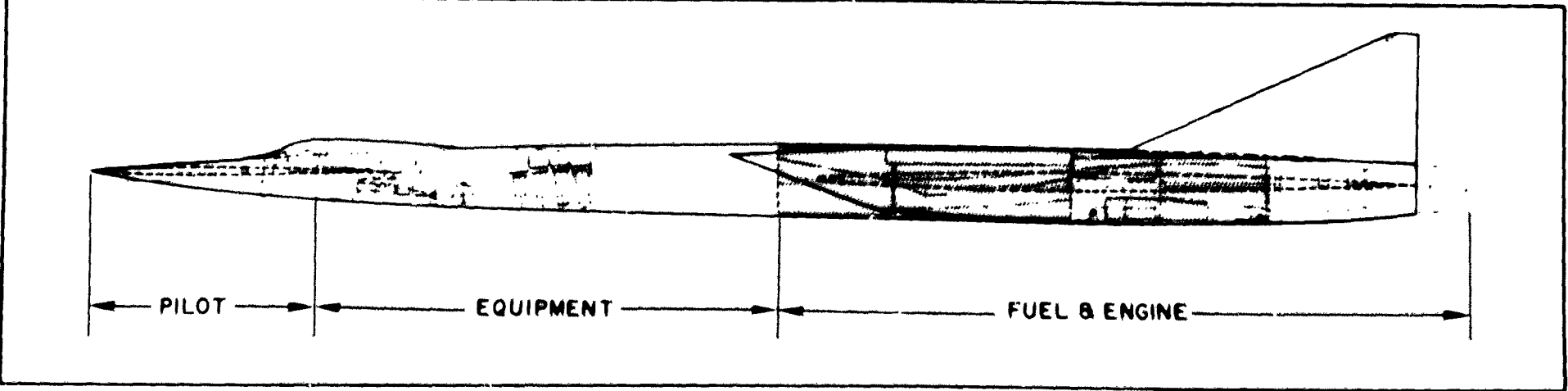
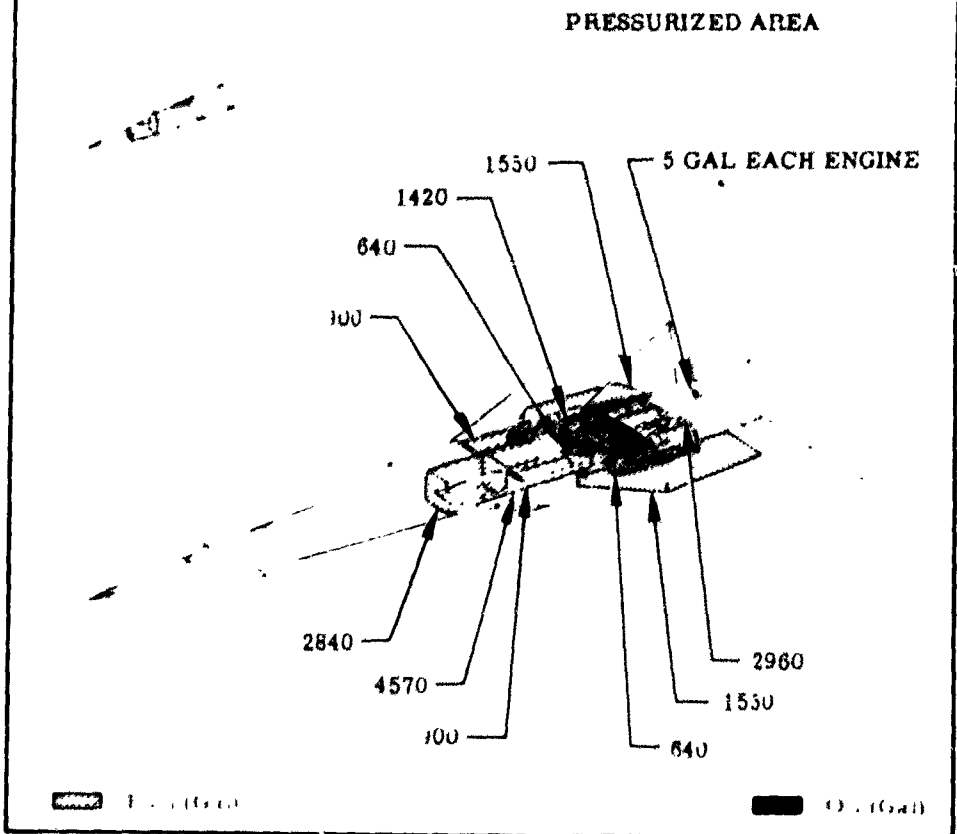
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Wing Area 2757 sq ft
 Aspect Ratio 1.53

Wing Section . NACA 66003 (E10d)
 M. A. C. 583.03 in



56 RDZ-6561

SYSTEM NO 118P

SECRET

25 MAY 1956

POWER PLANT

No. & Model: () A-5A-55 Star
 MFR: General Electric
 Engine Type: No. P56GT-0, REACTOR
 Thrust: 10,800 lb
 L/D: 10.8
 Diameter: 38.8"
 Weight: 1,800 lb
 Type: Turbojet
 Airframe: Steel and titanium

Mission and Description

Navy Designation: None Mfr's Model: None

The primary mission of this aircraft is the high altitude reconnaissance of hostile ground installations.

Special features of this airplane are a mechanically controlled convergent-divergent nozzle, interchangeable reconnaissance equipment packages, a canard configuration, and airframe construction of steel and titanium.

The crew of one consists of the pilot.

The pilot is provided with automatic flight control and navigation systems.

WEIGHTS

Loading	Lb	L.F.
Empty	22,004 (E)	
Basic	29,038 (E)	
Design	207,000	1.6
Combat	22,733	1.6
Max T.O.	+107,000	1.6
Max in Flt	+107,300	1.6
Max Land	+107,800	1.6

(E) Estimate:
 * For Design Mission
 + Limited by Mission
 ++ By Fueling

ENGINE RATINGS

S.L. Static	Lb	RPM
Max reheat:	23,540	7283
Partial reheat:	11,826	7283
MIL:	21,288	7283
Nor:	19,710	7195

*With afterburner operating
 ** Maximum non-reheat

Development

Design initiated. Oct 55

FUEL

Location	No. Tanks	Gal
Fuselage	8	14,870
Wing	2	1,100
	Total	15,970

Grade: Land based
 Supersonic fuel
 Specification: Unclassified

OIL

Fuselage: 20
 Specification: Unclassified

DIMENSIONS

Wing span	34.9'
Incidence (root)	0°
(tip)	5°
Dihedral	5°
Sweepback (24° chord)	2.4°
Length	29.9'
Height	12.5'
Tread	15.4'

BOMBS**GUNS****ROCKETS**

NOT APPLICABLE

PACKAGES

No.	Type
1	Search Photo System
1	Detail Photo System
1	Mapping Radar APQ-56
1	Ferret System
1	Azimuth Radar

ELECTRONICS

UHF Command	ARC-52
UHF D/F	ARA-37 (XM-1)
Recorder	ANR-5
A/G IFF (XP)	APX-19
A/A IFF (XP)	APX-27
Crash Locator Beacon	ART-27
Autonavicator	N5C
Standby Platform	
Auto Flt Control System	

56NDZ-6561

Loading and Performance - Typical Mission

C O N D I T I O N S	DESIGN MISSION I	DESIGN FERRY MISSION II
TAKE-OFF WEIGHT (lb)	207,800	207,800
Fuel at 6.7 lb/gal (grade unclassified) (lb)	120,399	120,399
Payload (ammunition) (lb)	none	none
Payload (bombs) (lb)	none	none
Wing loading (psf)	75.4	75.4
Stall speed (power off) (kn) ⑤	178.5	178.5
Take-off ground run at SL (ft) ⑤	3400	3400
Take-off to clear 50 ft (ft) ⑤	5150	5150
Rate of climb at SL (fpm) ⑤	6850	6850
Time: SL to 20,000 ft (min) ⑤	3.4	3.4
Time: SL to 30,000 ft (min) ⑤	5.7	5.7
Service ceiling (100 fpm) (ft) ⑤	40,000	40,000
COMBAT RANGE (n mi) ⑤	3032	3032
COMBAT RADIUS (n mi) ⑤	1835	1835
Average speed (kn)	1835	1835
Initial cruising altitude (ft)	75,000	75,000
Total mission time (hr)	2.07	2.07
MISSION WEIGHT (lb) ⑤	133,733	99,441
Mission altitude (ft) ⑤	75,000	79,000
Mission speed (kn) ⑤	1835	1835
Mission climb (fpm) ⑤	15,000	18,000
Mission ceiling (500 fpm) (ft) ⑤	83,000	88,150
Service ceiling (100 fpm) (ft) ⑤	47,900	52,500
Max rate of climb at SL (fpm) ⑤	19,700	21,800
Basic speed at 35,000 ft (kn) ⑤	1200	1200
Max speed at optimum altitude (kn/ft) ⑤	1835/83,500	1835/83,500
LANDING WEIGHT (lb)	99,441	99,441
Ground roll at SL (ft)	4630	4630
Total from 50 ft (ft)	6690	6690

NOTES

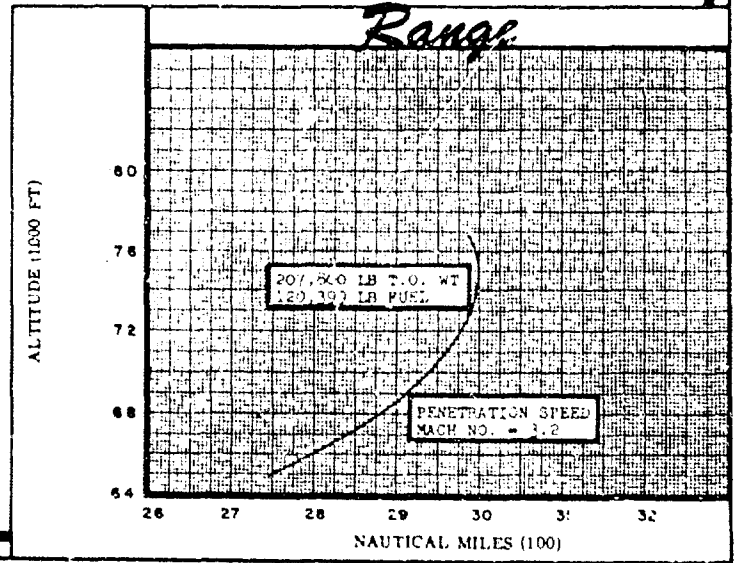
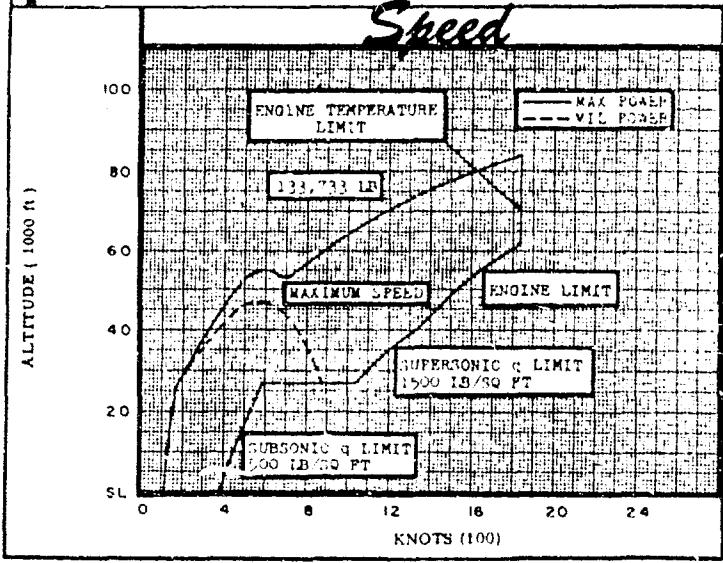
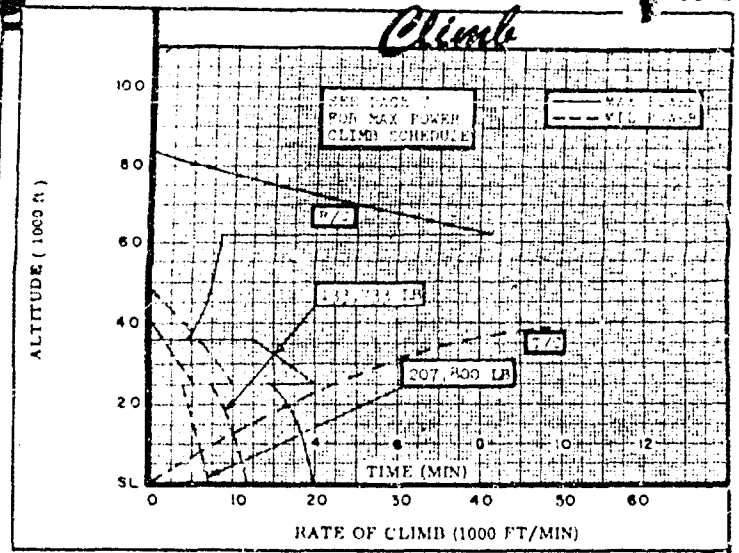
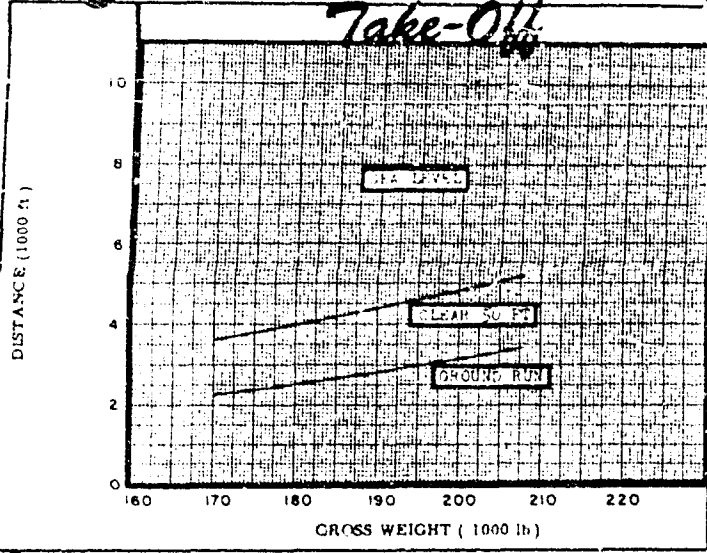
⑤ Maximum payload
Military (or non-military) payload
is based on maximum mission duration
of 2.07 hours. The maximum payload
is based on the maximum mission duration
of 2.07 hours. The maximum payload
is based on the maximum mission duration
of 2.07 hours.

⑤ Mission weight includes combat weight
and is arbitrarily the weight at a
point 1500 n.mi. from base.
See note "b" page 6.

PERFORMANCE BASIS:

(a) Data source: Estimate 1.
(b) Performance is based on powers
shown on page 4.
(c) The climb data used in computing
RANGE and RANGE are increased 1.5%.

567.DZ.0507



25 MAY 1956

SECRET

SYSTEM NO. 118P

N O T E S

FORMULA: RANGE MISSION I

Take-off and accelerate to climb speed with maximum power, climb on course to the isothermal level with military (maximum non-reheat) power, accelerate and climb to cruise altitude with maximum power, cruise out at penetration speed, cruise to maximum penetration complete mission, cruise to base at penetration speed. Range free allowances include 5 minutes of normal power at sea level for starting engines and take-off and a reserve of 10% of initial fuel.

FORMULA: RANGE MISSION II

Take-off and accelerate to best climb speed with maximum power, climb on course to the isothermal level with military (maximum non-reheat) power, accelerate and climb to best cruise altitude with maximum power, cruise out at long range speed. Range free allowances include 5 minutes of normal power at sea level for starting engines and take-off and a reserve of 10% of initial fuel.

GENERAL DATA

(a) Engine ratings shown on page 3 are guaranteed values. Installed values used in performance calculations are as follows:

(4) X275A 135% Size		
S.L. STATIC	LB	RPM
Max:	*22,500	7283
Mil:	**17,000	7283
Nor:	15,800	7195

* With afterburner operating
** Maximum non-reheat

(b) Stall speed limited by 13° tail down ground angle in presence of ground.

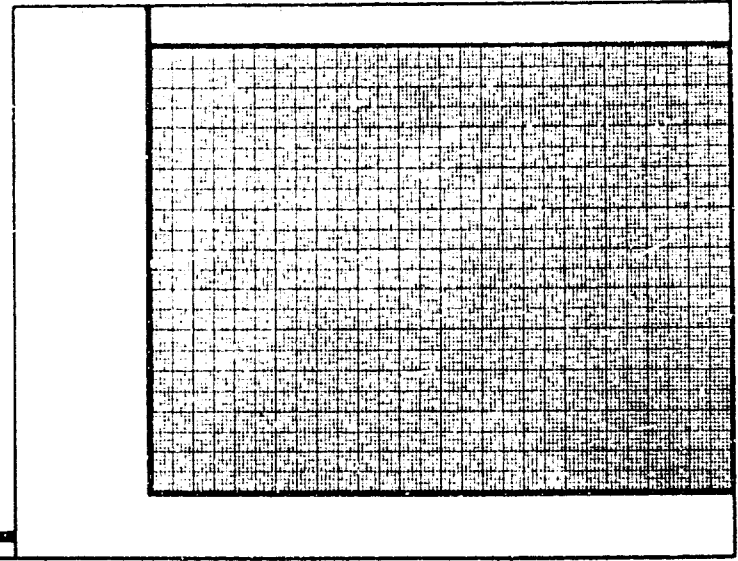
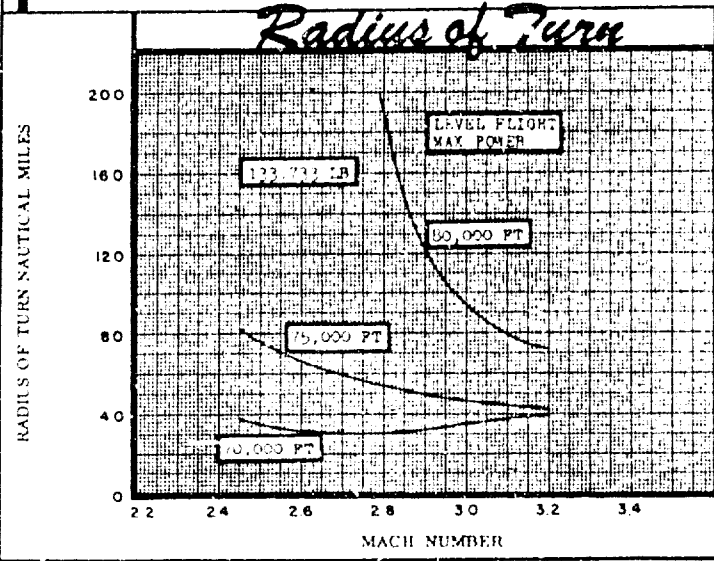
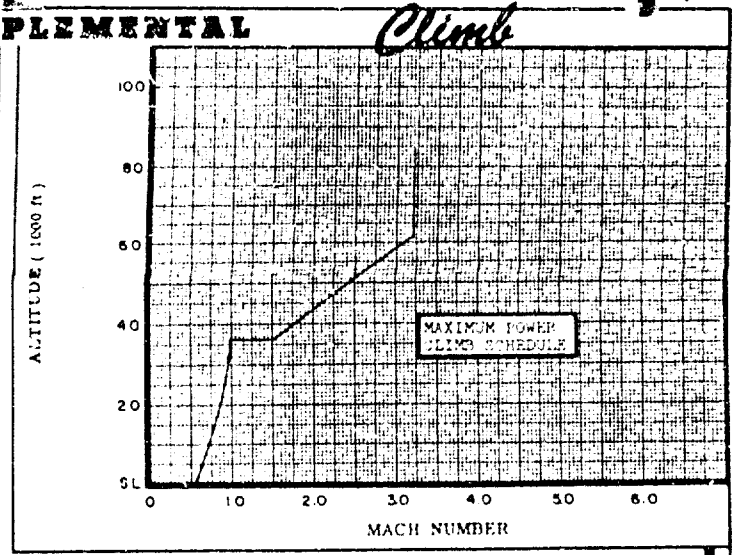
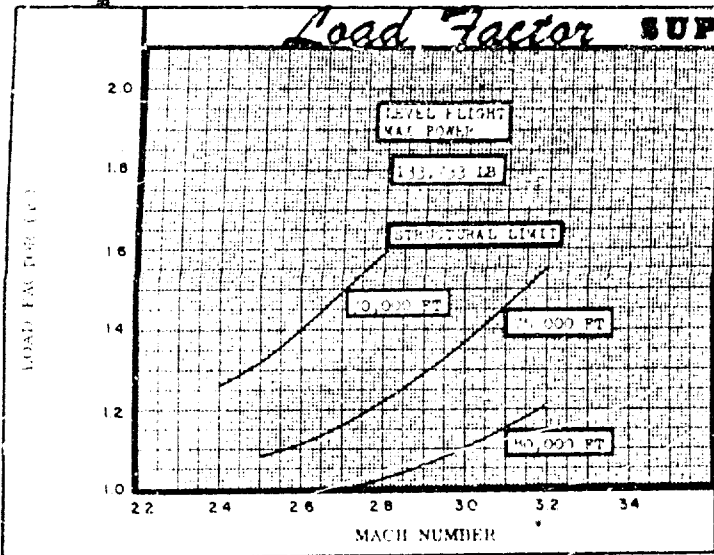
PERFORMANCE BASIS:

Performance data are based on North American Report No. NA-56-566, dated 31 May 1956, "Aerodynamic Characteristics System 118P - Phase II 1/2".

REVISION BASIS:

Initial Issue.

Load Factor SUPPLEMENTAL Climb





DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 88TH AIR BASE WING (AFMC)
WRIGHT-PATTERSON AIR FORCE BASE OHIO

5 February 2008

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Defense Technical Information Center
Attn: Ms. Kelly Akers (DTIC-R)
8725 John J. Kingman Rd, Suite 0944
Ft Belvoir VA 22060-6218

Dear Ms. Akers

This concerns Technical Report AD159109, Standard Aircraft Characteristics, Phase 2 ½, Weapon System 118P. High-Altitude Reconnaissance, 25 May 1956.

Subsequent to WPAFB Freedom of Information Act (FOIA) Control Number 06-650LK, the distribution statement: "*Distribution authorized to DoD only; Administrative/Operational Use; JUN 1956. Other requests shall be referred to Department of the Air Force, Attn: Public Affairs Office, Washington, DC 20330.*" **is no longer applicable.**

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Point of contact is Lynn Kane at (937) 522-3091.

Sincerely

A handwritten signature in cursive script that reads "Sheree Coon".

SHEREE COON
Freedom of Information Act Manager
Management Services Branch
Base Information Management Division

Attachments

1. FOIA Request
2. Cover sheet
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