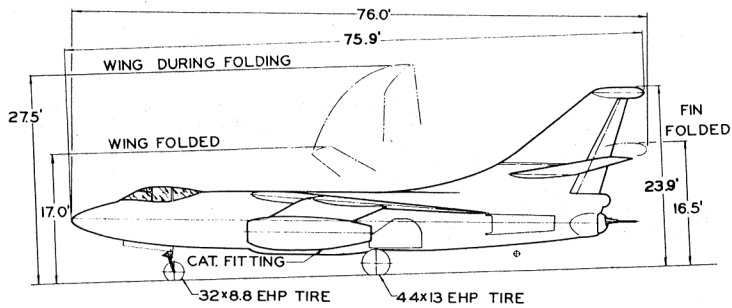
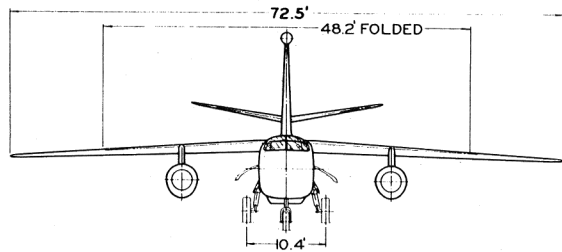
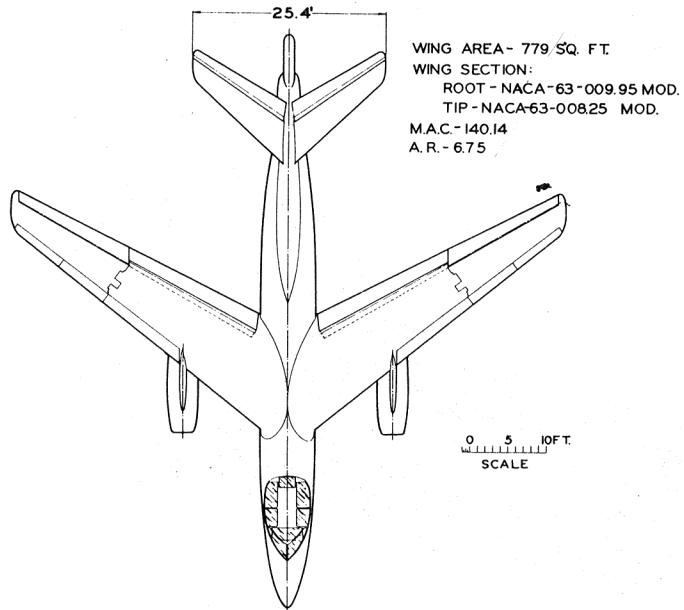


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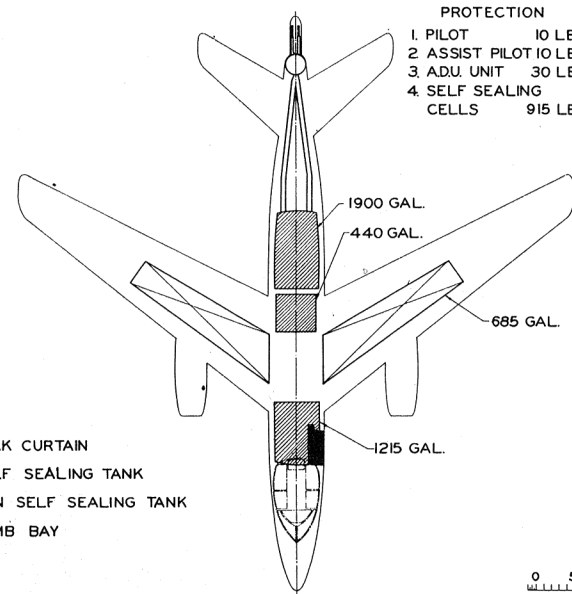
Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

STANDARD AIRCRAFT CHARACTERISTICS A3D-1P "SKYWARRIOR"

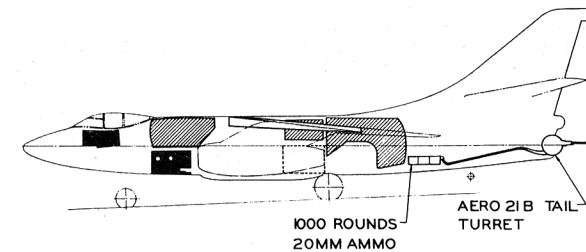
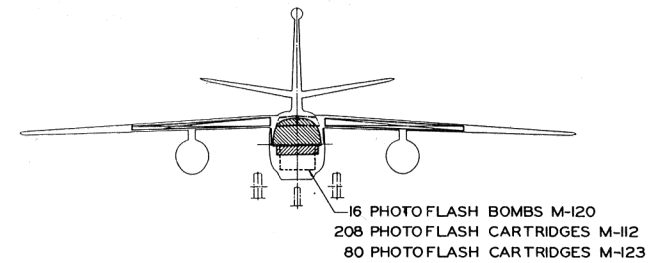
DOUGLAS



DESCRIPTIVE ARRANGEMENT



- FLAK CURTAIN
- ▨ SELF SEALING TANK
- ▧ NON SELF SEALING TANK
- BOMB BAY



ARMAMENT & TANKAGE

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Standard Aircraft Characteristics NAVAER 13358 (REV. 1-49)

POWER PLANT

NO. & MODEL.....(2) J57-P-1
MFR.....Pratt & Whitney
TYPE.....Axial Comp.
LENGTH.....164.0"
DIAMETER.....41.0"

RATINGS

	Lbs.	Rpm		Alt.
		*N ₁	**N ₂	
T.O.	9500	5950	9950	SSL
MIL.	9500	5950	9950	SSL
NORM.	8250	5700	9720	SSL

SPEC. NO. A-1532-A

- * N₁: speed of low pressure compressor.
- ** N₂: speed of high pressure compressor.

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Standard Aircraft Characteristics NAVAER-1335C

ORDNANCE

GUNS

No.	Size	Location	Rds.
2	20mm, M-3	Tail	1000

Tail Turret System... Aero 21B

PHOTOGRAPHIC

- 12-M-120 Photoflash Bombs
- 208-M-112 Photoflash Cartr'dgs
- or
- 80-M-123 Photoflash Cartr'dgs

Photographic Equipment

- 1/K-38 or A-10 Fwd. Oblique
- 3/K-17, T-11 or GA-8 - Tri-Metrogon
- 1/K-37, 38, 17C, T-11 - Prim. Vert
- 1/K-37, 38, 17C, T-11 - Split Prim Vertical
- 1/A-22 VF - Bomb Bay

MISSION AND DESCRIPTION

The primary mission of the A3D-1P airplane is photo reconnaissance on day and night missions. The airplane is designed to operate from aircraft carriers and land bases.

The airplane has a conventional all metal swept wing with a semi-monocoque fuselage. The two turbo-jet engines are enclosed in nacelles under the wing. The three man crew consists of pilot, photo navigator and gunner navigator. The tricycle landing gear, arresting gear, wing and tail fold mechanisms, single-slotted wing flaps, rudder power boost mechanism, elevator and ailerons are operated by hydraulic power.

DEVELOPMENT

First flight (A3D-1) - September 1953

DIMENSIONS

WING	
AREA.....	779 sq. ft.
SPAN.....	72' - 6"
MAC.....	11' - 8"
SWEEPBACK.....	36°
LENGTH.....	75' - 11"
HEIGHT.....	23' - 10"
TREAD.....	10' - 6"

WEIGHTS

LOADINGS	LBS	L.F.
EMPTY*.....	37656
BASIC*.....	40022
DESIGN.....	55942	2.67
COMBAT*.....	58289	2.67
MAX.T.O.(Field).....	70000	2.25
(Cat.).....	70000
MAX.LAND(Field).....	55940
(Arrest).....	45900

All weights are calculated.

* Day reconnaissance.

FUEL AND OIL

NO. TANKS	TOTAL GAL.	LOCATION
2	3115	Fuselage
2	1370	Wing
1	440	Bomb Bay

FUEL GRADE.....JP-4
FUEL SPEC.....MIL-F-56244

OIL

CAPACITY (GALS.).....11
GRADE.....1010
SPEC.....MIL-O-6081A

ELECTRONICS

VHF COMM.....	AN/ARC-27A
MHF RECEIVER.....	AN/ARR-15A
MHF TRANS.....	AN/ART-13 or 13A
IGS.....	AN/AIC-4A
ALTIMETER.....	AN/APN-22
MF RADIO COMPASS.....	AN/ARN-6
NAV.REC.....	AN/ARN-14E
IFF.....	AN/APX-6E
(Video roder not installed)	
AUTOMATIC CHAFF.....	AN/APA-89)
DISPENSER SET	
VISUAL HOMING.....	AN/ARN-21

PERFORMANCE SUMMARY					
TAKE-OFF LOADING CONDITION		(1) HIGH ALT. Recon. (Day) 3/K-17C Plus L/K-38 Cameras		(3) HIGH ALT. Recon. (night) 3/K-37 Cameras 16/M-120 Flash Bombs	
TAKE-OFF WEIGHT	lb.	70,000		70,000	
Fuel	lb.	29,277		26,719	
Payload	lb.	130		2,602	
Wing loading	lb./sq.ft.	89.9		89.9	
Stall speed - power-off	kn.	129.5		129.5	
Take-off run at S.L. - calm	ft.	4,400		4,400	
Take-off run at S.L. 25 kn. wind	ft.	2,950		2,950	
Take-off to clear 50 ft. - calm	ft.	6,100		6,100	
Max. speed/altitude (A)	kn./ft.	524/18,000		524/18,000	
Rate of climb at S.L. (B)	fpm	3,720		3,720	
Time: S.L. to 20,000 ft. (B)	min.	6.6		6.6	
Time: S.L. to 30,000 ft. (B)	min.	11.3		11.3	
Service ceiling (100 fpm) (B)	ft.	41,800		41,800	
Combat range	n.mi.	3,000		2,630	
Average cruising speed	kn.	470		470	
Cruising altitude(s)	ft.	41,000-49,200		41,000-49,300	
Combat radius	n.mi.	1,500		1,345	
Average cruising speed	kn.	470		470	
Mission time	hrs.	6.4		4.6	
COMBAT LOADING CONDITION		(2) CLEAN		(4) CLEAN	
COMBAT WEIGHT	lb.	58,289		56,784	
Engine power		Military		Military	
Fuel	lb.	17,566		16,031	
Combat speed/combat altitude	kn./ft.	485/44,500		491/44,100	
Rate of climb/combat altitude	fpm/ft.	410/44,500		600/44,100	
Combat ceiling (500 fpm)	ft.	44,100		44,500	
Rate of climb at S.L.	fpm	4,650		4,790	
Max. speed at S.L.	kn.	532		532	
Max. speed/altitude	kn./ft.	542/11,000		543/11,000	
LANDING WEIGHT	lb.	43,831		43,709	
Fuel	lb.	3,108		2,956	
Stall speed - power-off	kn.	102.5		102.3	
Stall speed - with approach power	kn.	100.6		100.4	

NOTES

(A) Normal rated thrust

(B) Military rated thrust

Performance Basis: Calculations.

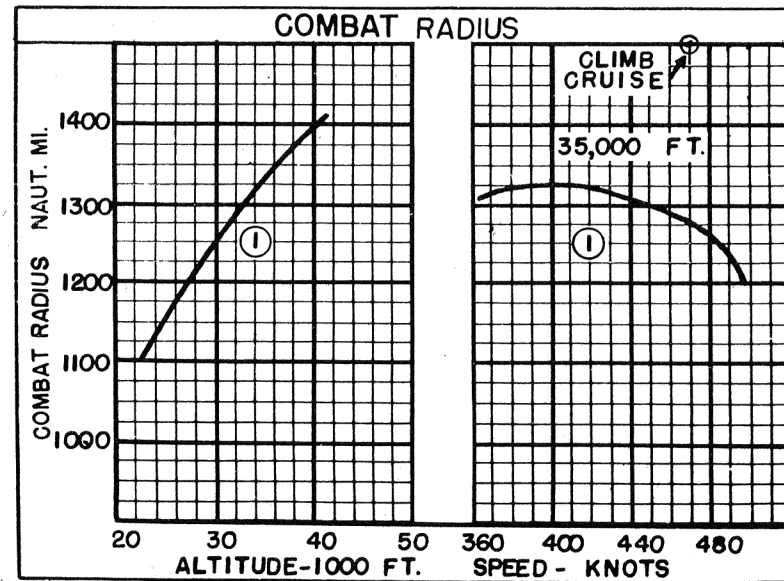
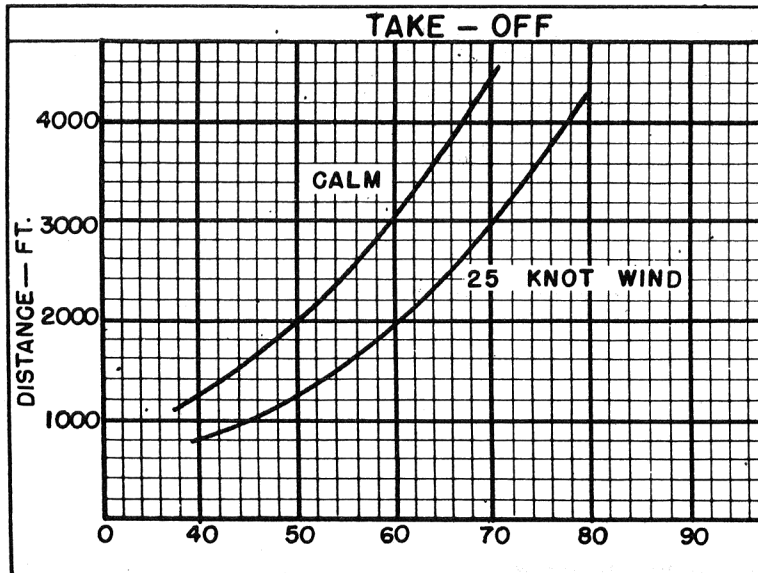
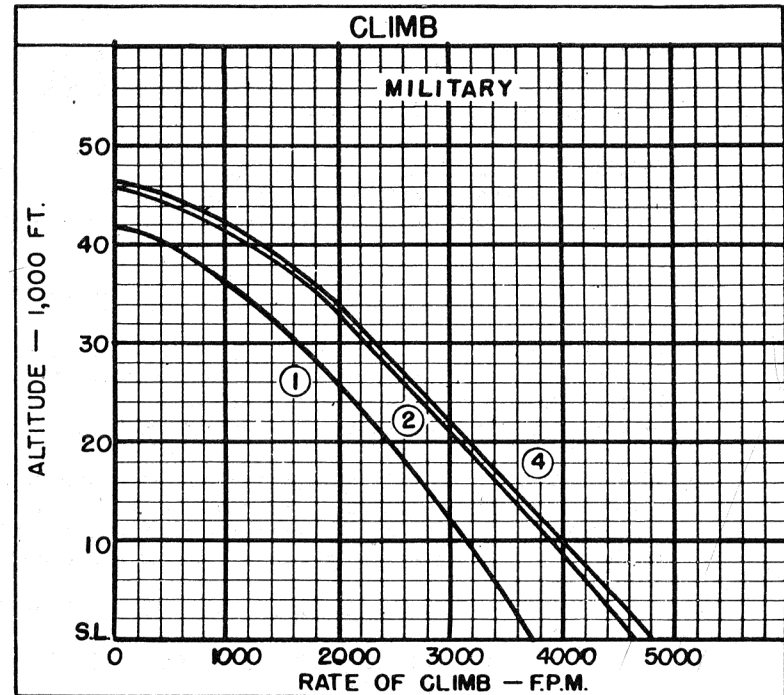
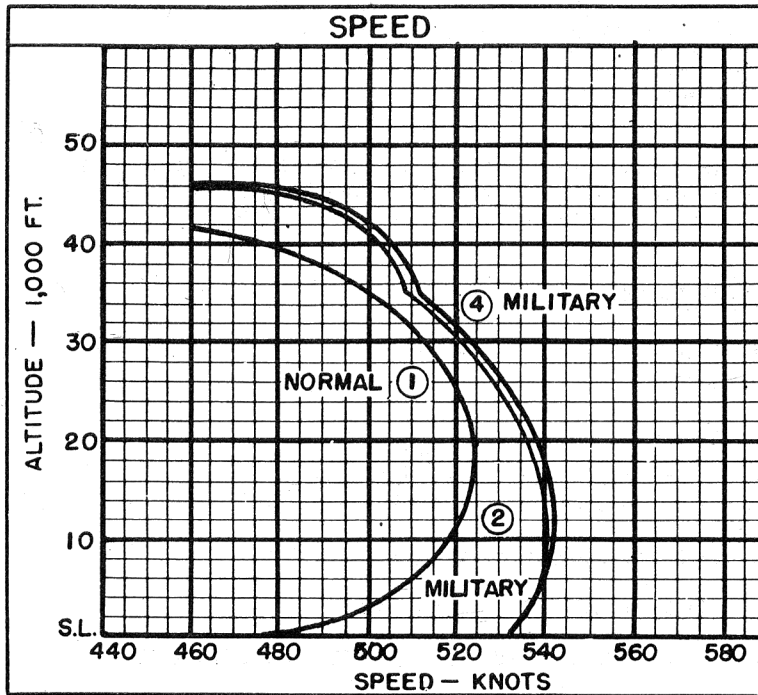
Range and radius are based on engine specification fuel consumption data increased by 5%.

(Cont'd on NOTES page)

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NAVAER-1335D (Rev. 10-51)

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Standard Aircraft Characteristics NAVAER 1335E (REV. 2-50)

○ LOADING CONDITION COLUMN NUMBER

NOTES

(Continued Performance Summary)

SPOTTING: A maximum operating spot aboard a CVA-19 (canted deck) class carrier consists of 15 aircraft on the flight deck with elevators and landing area clear and 12 aircraft on the hangar deck with hangar bay fire doors and elevators clear. Total: 27 aircraft.

HIGH ALTITUDE RECONNAISSANCE

WARM UP, TAKE-OFF, ACCELERATE: 5 minutes at normal rated thrust at sea level.

CLIMB: On course to cruise altitude at military rated thrust.

CRUISE OUT: At speed for long range.

RUN-IN: 15 minutes at normal rated thrust in level flight.

DROP FLARES

EVASIVE ACTION: 2 minutes at normal rated thrust at combat altitude (no distance gained).

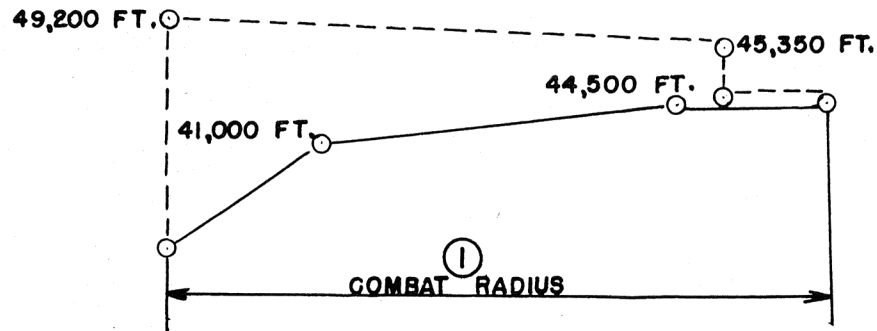
RUN-OUT: 8 minutes at normal rated thrust. (Run-out assumed concluded at initial cruise back altitude).

CRUISE BACK: At speed for long range at cruise ceiling.

RESERVE: 20 minutes at speed for maximum endurance at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} + \text{CRUISE OUT} + \text{RUN IN} = \text{RUN OUT} + \text{CRUISE BACK}$$

$$\text{MISSION TIME} = \text{TIME REQUIRED FOR CLIMB} + \text{CRUISE OUT} + \text{RUN IN} + \text{EVASIVE ACTION} + \text{RUN OUT} + \text{CRUISE BACK}$$



① LOADING CONDITION COLUMN NUMBER