

STANDARD AIRCRAFT CHARACTERISTICS

FJ-3 "FURY"

NORTH AMERICAN

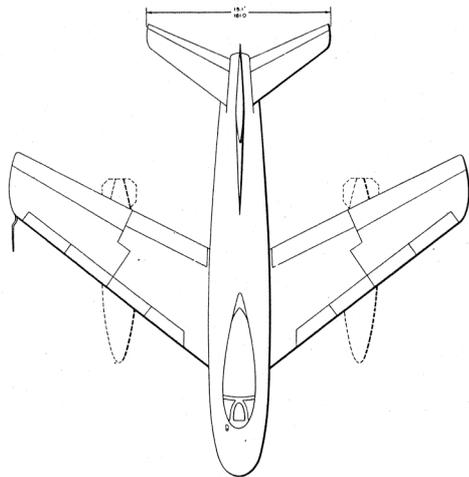
Standard Aircraft Characteristics NAVAER 1335A (REV. 1-49)

1 JULY 1953

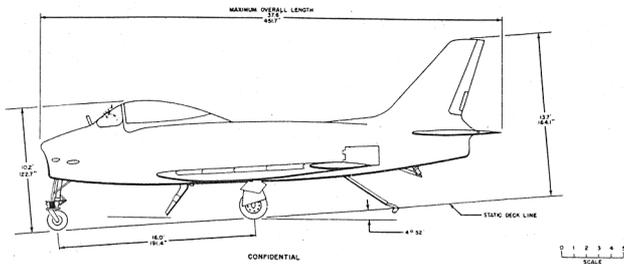
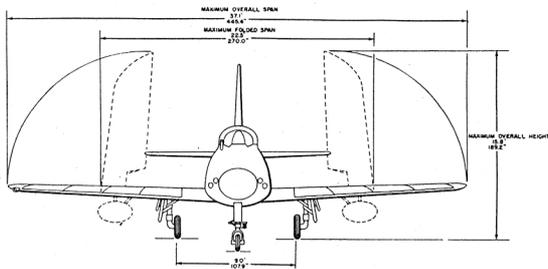
FJ-3 (J65-W-2)

SERVICE

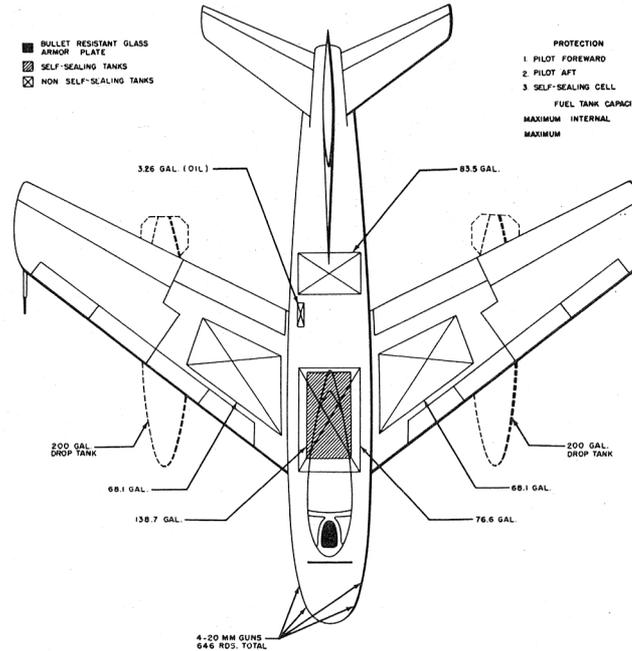
SECURITY INFORMATION-CONFIDENTIAL



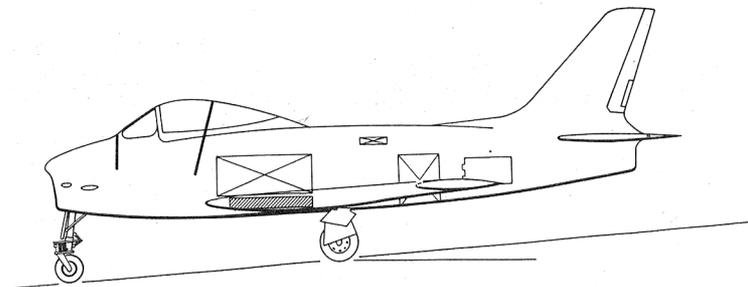
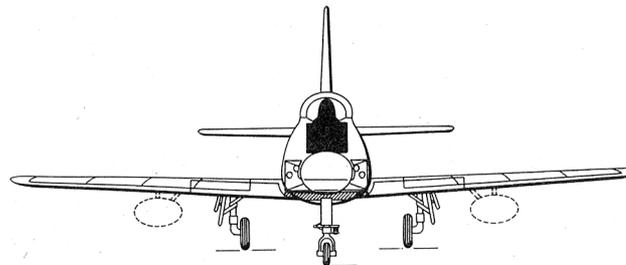
WING AREA 2878
 MAC 9703
 ASPECT RATIO 4.18
 WING SECTION ROOT MACA 002 TO 81/84
 TIP MACA 001 TO 80/84
 * NORMAL TO QUARTER CHORD



SECURITY INFORMATION-CONFIDENTIAL



PROTECTION
 1 PILOT FORWARD 88 LBS.
 2 PILOT AFT 52 LBS.
 3 SELF-SEALING CELL 82 LBS.
 FUEL TANK CAPACITY
 MAXIMUM INTERNAL 435 GAL.
 MAXIMUM 831



ARMAMENT & TANKAGE
 FJ-3

CONFIDENTIAL

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

POWER PLANT

NO. AND MODEL.....(1) J65-W-2
 MFR..Wright Aeronautical Corp.
 TYPE.....Axial Flow
 LENGTH.....124 in.
 DIAMETER.....39 in.
 AUGMENTATION.....none

RATINGS

	<u>LBS</u>	@ <u>RPM</u>	@ <u>ALT.</u>
TAKE OFF	7,220	8,300	S.S.L
MILITARY	7,220	8,300	S.S.L
NORMAL	6,400	8,000	S.S.L

SPEC. NO. W.A.D. N879-14

ORDNANCEGUNS

<u>NO.</u>	<u>SIZE</u>	<u>LOCATION</u>	<u>RDS.</u>
4	20mm	Fuse.Fwd.	646

FIRE CONTROL

A.F.C. Mk. 16 Mod. 2
 Radar Ranging
 Equipment.....AN/APG-30

MISSION AND DESCRIPTION

The FJ-3 is a single place, jet propelled fighter designed for land and carrier operations. The primary mission of the airplane is the destruction of enemy aircraft.

Features of this airplane include swept-back wing and tail, hydraulic speed brakes, aerodynamically actuated wing slats, NACA slotted flaps, hydraulic power-operated irreversible controls with artificial feel for the all-movable horizontal tail and ailerons.

The cockpit is provided with differential pressurization, adequate heating and cooling, a jettisonable canopy, an ejection-type seat, and anti-G suit provisions.

Design maximum dive speed is 590 knots
 MAS at 5,000 feet.

Design maximum Mach No. is 1.18 at
 25,000 feet.

DEVELOPMENT

First flight.....July 3, 1953
 Service use.....March 1954

DIMENSIONS

WING
 AREA.....288 sq. ft.
 SPAN.....37' -1"
 M.A.C.....8' -1"
 SWEEPBACK.....35 Deg.
 LENGTH.....38' -7"
 HEIGHT.....13' -8"
 TREAD.....9.0 ft.

WEIGHTS

<u>LOADINGS</u>	<u>LBS</u>	<u>L.F.</u>
EMPTY.....	12,784.....	
BASIC.....	13,790.....	
DESIGN.....	16,482..6.5	
COMBAT.....	16,600..6.4	
MAX.T.O. (Field).....	19,360*..4.9	
(Cat.).....	19,360.....	
MAX.LAND. (Field).....	19,360*.....	
(Arrest).....	15,000.....	

All weights are estimated.
 * Max. anticipated wt.

FUEL AND OIL

<u>GALS.</u>	<u>No.</u>	<u>TANKS</u>	<u>LOCATION</u>
213	3		Wing
222	2		Fuselage
400.0	2(Drop)		Wing

FUEL GRADE...80 or higher
 FUEL SPEC.....MIL-F-5572

OIL

CAPACITY(Gals).....3.26
 GRADE.....1010
 SPEC.....MIL-C-6081A

ELECTRONICS

UHF TRMTR-RCVR.....AN/ARC-27A
 UHF A.D.F.....AN/ARA-25
 IFF.....AN/APX-6B
 RADIO COMPASS.....AN/ARN-6
 RADAR.....AN/APG-30
 VOR...AN/ARN-14E (with alternate provisions for AN/ARN-21)
 Service Installation:
 SELECTIVE IDENTIFICATION
 FEATURE.....AN/APA-89
 (Provisions will be installed in 188th and subsequent aircraft).

PERFORMANCE SUMMARY

TAKE-OFF LOADING CONDITION		(1) Fighter			
TAKE-OFF WEIGHT	lb.	19,360			
Fuel (Gasoline)	lb.	2,610/2,400			
Payload	lb.	- - -			
Wing loading	lb./sq.ft.	67.2			
Stall speed - power-off	kn.	111.5			
Take-off run at S.L. - calm	ft.	2,050			
Take-off run at S.L. 25 kn. wind	ft.	1,380			
Take-off to clear 50 ft. - calm	ft.	- - -			
Max. speed/altitude (A)	kn./ft.	533/11,000			
Rate of climb at S.L. (B)	fpm	6,750			
Time: S.L. to 20,000 ft. (B)	min.	3.9			
Time: S.L. to 30,000 ft. (B)	min.	7.3			
Service ceiling (100 fpm) (B)	ft.	43,200			
Combat range	n.mi.	995			
Average cruising speed	kn.	470			
Cruising altitude(s)	ft.	41,300/46,200			
Combat radius	n.mi.	* 320			
Average cruising speed	kn.	470			
Mission time	hrs.	1.7			
COMBAT LOADING CONDITION		(2) Clean			
COMBAT WEIGHT	lb.	16,600			
Engine power		Military			
Fuel	lb.	2,610			
Combat speed/combat altitude	kn./ft.	530/35,000			
Rate of climb/combat altitude	fpm/ft.	3,030/35,000			
Combat ceiling (500 fpm)	ft.	47,000			
Rate of climb at S.L.	fpm	9,400			
Max. speed at S.L.	kn.	599			
Max. speed/altitude	kn./ft.	599/S.L.			
LANDING WEIGHT	lb.	14,833			
Fuel	lb.	842			
Stall speed - power-off	kn.	97.4			
Stall speed - with approach power	kn.	94.4			

NOTES

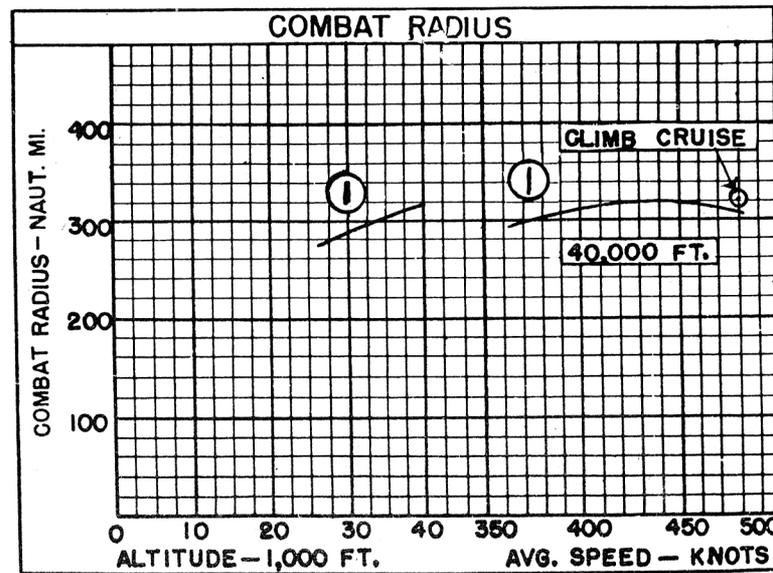
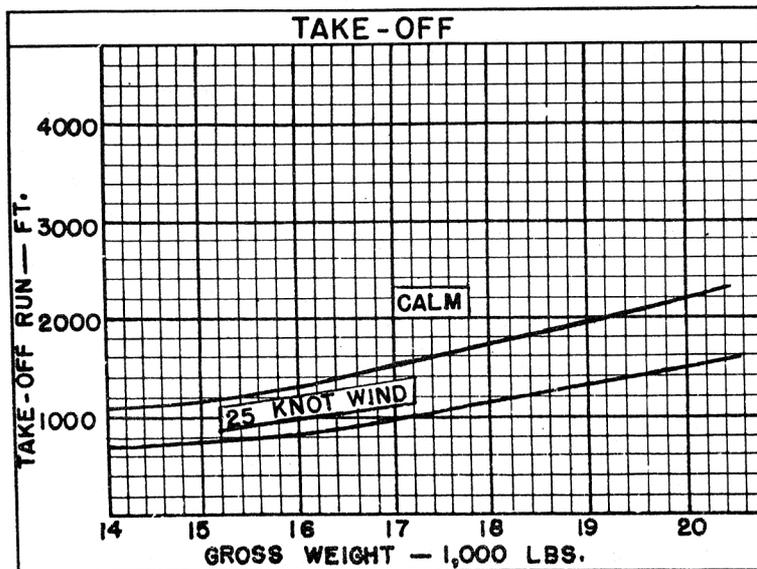
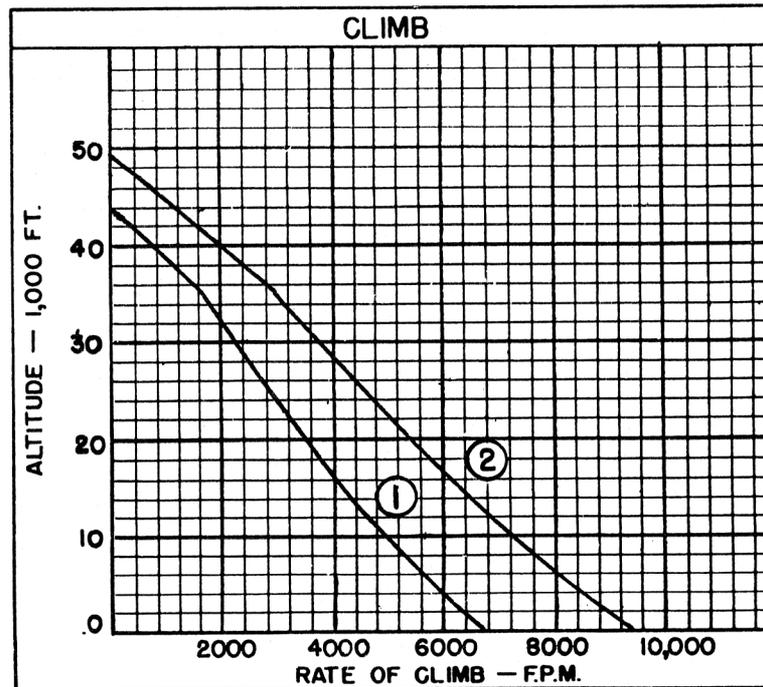
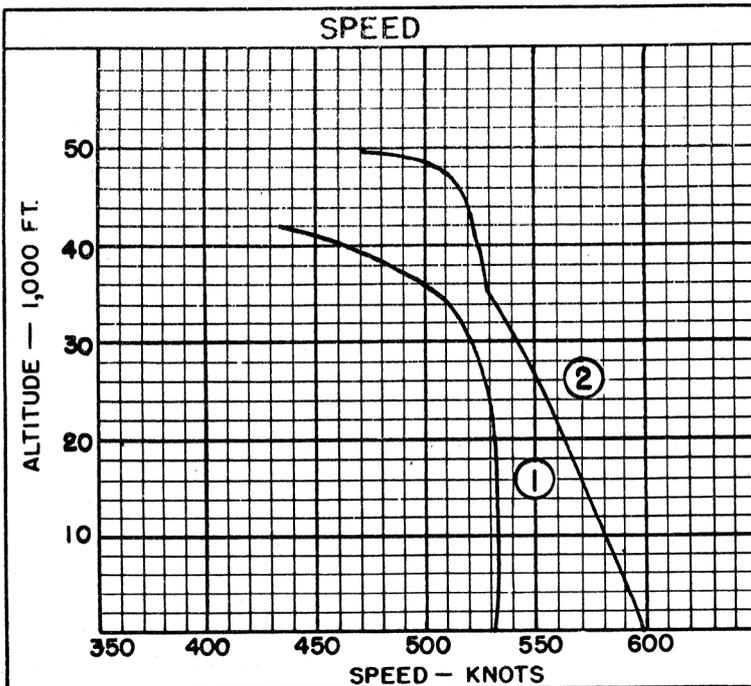
(A) Normal Rated Thrust

(B) Military Rated Thrust

Performance Basis: Calculations

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

* Radius is 385 nautical miles when JP-4 fuel is used. (Fuel = 2,827/2,600 lbs.)



○ LOADING CONDITION COLUMN NUMBER

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

NOTES

SPOTTING: 25 airplanes (wings folded) can be spotted in a rectangular area 200 ft. long and 96 ft. wide.

COMBAT RADIUS PROBLEM - GENERAL PURPOSE FIGHTER (GAS TURBINE)

WARM UP, TAXI, ACCELERATION: 5 minutes at normal power.

CLIMB: To altitude for best cruise at military power.

CRUISE OUT: At speed for long range at altitude for best cruise.

DESCEND: To 35,000 ft. (No fuel used, no distance gained).

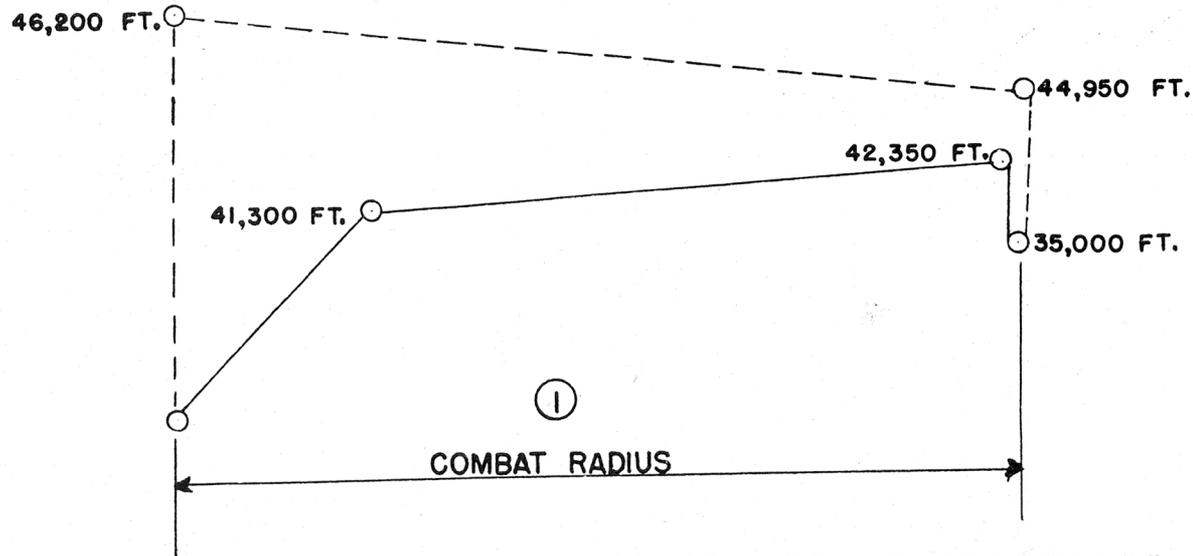
COMBAT: Fuel allowance for 20 minutes operation with military power at 35,000 ft. (External tanks dropped when empty). (Assume combat concluded at initial cruise back altitude).

CRUISE BACK: At speed for long range at altitude for best cruise.

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

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

MISSION TIME INCLUDES CLIMB + CRUISE-OUT + COMBAT + CRUISE BACK



Radius is reduced approximately 8.5 nautical miles for each additional minute of combat.

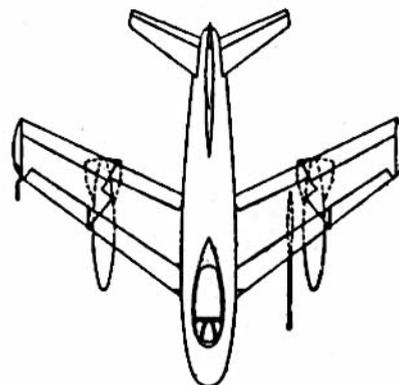
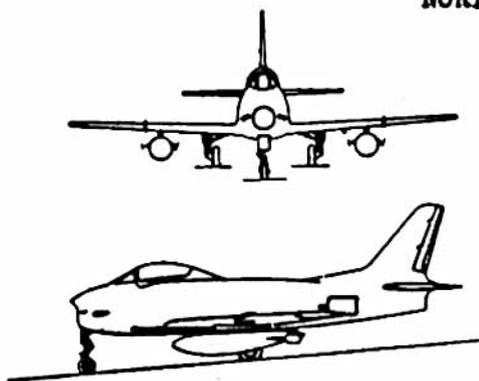
○ LOADING CONDITION COLUMN NUMBER

CHARACTERISTICS SUMMARY

GENERAL PURPOSE FIGHTER

FJ-3

NORTH AMERICAN "FURY"



WING AREA 302.32 sq. ft.

WING SPAN 37' - 1"

LENGTH 37' - 7"

HEIGHT 13' - 8"

AVAILABILITY			PROCUREMENT			
NUMBER AVAILABLE			NUMBER DELIVERED			
			IN FISCAL YEARS			
ACTIVE	RESERVE	TOTAL				

STATUS

First Flight (J65-W-2 Engine)..... 3 July 1953
 (J65-W-4 Engine)..... 28 October 1955
 (J65-W-4B Engine)..... 16 December 1955

Service Use..... March 1954
 Service Use (J65-W-4B Engine)..... January 1956

ENGINES

(1) Wright J-65-W-4B

	LBS	RPM	ALT
T.O.	7650	8300	SSL
MIL.	7650	8300	SSL
NORM.	6700	8030	SSL

FEATURES

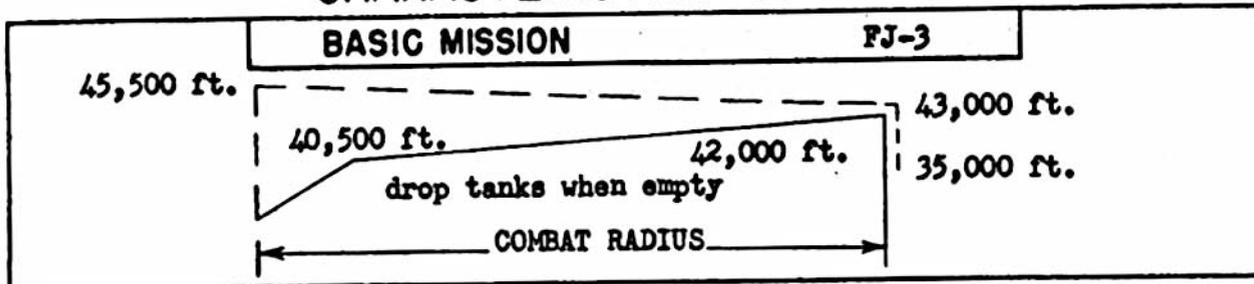
Crew - 1
 Hydraulic Speed Brakes
 Cambered L. E. Wing
 Cockpit Pressurisation
 Ejection Type Seat
 Jettisonable Canopy
 Anti "G" Suit Provision
 Refueling Provisions
 (A3D-1, -2)
 Max. Fuel Cap. 959 gal.

ARMAMENT

Guns: (4) 20mm MK. 12
 Mod 0 - 646 rds
 Fire Control System:
 MK. 16 Mod 2

Stores: None
 The FJ-3 has no
 provisions for carry-
 ing external stores.

CHARACTERISTICS SUMMARY



PERFORMANCE		
COMBAT RADIUS	COMBAT RANGE	SPEED
560 naut. mi. 455 knots avg. 2.8 hr. Mission time General Purpose Fighter; Armaments: (4) 20mm Guns	1550 naut. mi. 454 knots avg. - - hours	592 knots at S.L. 568 knots at 20,000ft. 537 knots at 35,000ft. Combat Weight Military Power
CLIMB	CEILING	TAKE OFF
5750 ft./min. Sea Level, T. O. wt. Military Power	44,000 ft. 100 ft./min., T. O. wt. Military Power	2520 ft. Calm
7350 ft./min. Sea Level, Combat wt. Military Power	47,200 ft. 500 ft./min., Combat wt. Military Power	1600 ft. 25 knot wind
LOAD	WEIGHTS	STALLING SPEED
Fuel 959 gal. fixed 559 drop 400 JP-5 Fuel	Empty 12,205 lbs. *Combat 17,189 lbs. Take-off 20,287 lbs. *Clean	123.3 knots Power Off Flaps down, T. O. wt. TIME TO CLIMB 35,000 ft. in 6.6 min. Combat Wt., Max. Power

NOTES

PERFORMANCE BASIS: Data based on flight test.
 RANGE and RADIUS based on flight test fuel consumption data increased by 5%.
 COMBAT AIR PATROL - 150 n.mi. radius: 1.9 hrs. Loiter and 3.0 hrs. Mission time; Loiter with one Rendezvous IFR - 5.3 hrs.