

# STANDARD AIRCRAFT CHARACTERISTICS

## AJ-1 "SAVAGE"

NORTH AMERICAN



## POWER PLANT

NO. & MODEL.....(2) R-2800-44W  
 (1) J-33-A-10  
 MFR.....Pratt & Whitney, Allison  
 SUPERCH.....1 Stg., 1 Spd. & Turbo  
 TURBO.....G. E. CH-8  
 PROP. GEAR RATIO.....0.350  
 PROP. MFR.....Ham. Std.  
 PROP. DES. NO.....2F17M3-24AC  
 NO. BL./DIA.....4/15'-1"

## RATINGS

|          | BHP  | RPM   | ALT    |
|----------|------|-------|--------|
| T.O.     | 2300 | 2800  | S.L.   |
| MILITARY | 2300 | 2800  | 30000' |
| NORMAL   | 1800 | 2600  | 37600' |
|          | LBS  | RFM   | ALT    |
| T. O.    | 4600 | 11750 | S.S.L. |
| MILITARY | 4600 | 11750 | S.S.L. |
| NORMAL   | 3900 | 11250 | S.S.L. |

SPEC. NOS. N-8127-B and 258-D

## ORDNANCE

| GUNS  |       |          |     |
|---|-------|----------|-----|
| None  |       |          |     |
| BOMBS   |       |          |     |
| Type  | Size  | Location | No. |
| Bombs   | 100#  | Bomb Bay | 16  |
| Bombs   | 250#  | Bomb Bay | 12  |
| Bombs   | 500#  | Bomb Bay | 12  |
| Bombs   | 1000# | Bomb Bay | 8   |
| Bombs   | 1600# | Bomb Bay | 6   |
| Bombs   | 2000# | Bomb Bay | 4   |
| Special Stores -- MK-5, 7, 8, 12, 15,<br>91 and 39    |       |          |     |
| (Only one of each type may be<br>carried in Bomb Bay) |       |          |     |
| Mines (MK 39)   | 2000# | Bomb Bay |     |
| Mines (MK 25)   | 2000# | Bomb Bay |     |
| Mines   | 1000# | Bomb Bay |     |
| BOMB DIRECTOR SET.....AN/ASB-1                        |       |          |     |
| MAXIMUM BOMB CAPACITY.....12,000 lbs.                 |       |          |     |

## MISSION AND DESCRIPTION

The AJ-1 is a carrier-based attack airplane. The first flight of the experimental model was made 3 July 1948. The first production delivery was June 1949.

The wing contains slotted flaps. The vertical fin folds and there is a crew of three in the pressurized cockpit. There is a power boost system for ailerons, elevators, and rudder.

The limit dive speed is 420 knots IAS at 5,000 feet altitude, and .78 Mach at high altitudes.

## DEVELOPMENT

Mockup date (XAJ-1).....October 1946  
 Service Use.....June 1949

## DIMENSIONS

WING AREA.....836 sq. ft.  
 WING SPAN.....71' - 5"  
 WING SPAN(with Tip Tanks)...75' - 0"  
 WING SPAN(Folded).....49' - 4"  
 HEIGHT.....21' - 5"  
 HEIGHT(Folded).....16' - 2"  
 HEIGHT(Folded with Tip Tanks)  
 17' - 4"  
 TREAD.....22' - 8"  
 PROP. CLEAR.....1' - 2"  
 M. A. C.....12' - 5"

## WEIGHTS

| LOADINGS                        | LBS.        | L.F. |
|---------------------------------|-------------|------|
| EMPTY.....                      | 30,776..... |      |
| BASIC.....                      | 30,889..... |      |
| DESIGN.....                     | 48,040..... | 4.0. |
| COMBAT.....                     | 46,352..... | 4.0. |
| MAX. T.O. (Field) 54,000.....   |             |      |
| (Cat.) 54,000.....              |             |      |
| MAX. ARREST (Field) 45,000..... |             |      |
| (Arrest) 37,500.....            |             |      |

All weights are actual.

## FUEL AND OIL

| GALS. | NO. TANKS | LOCATION       |
|-------|-----------|----------------|
| 1,016 | 2         | Wing, S.S.     |
| 201   | 1         | Fuse., S.S.    |
| 600   | 2         | Tip, Drop      |
| 840   | 1         | Bomb Bay       |
| 500   | 1         | Upper Bomb Bay |
| 300   | 1         | Lower Bomb Bay |

FUEL GRADE.....115/145  
 FUEL SPEC.....MIL-F-5572

## OIL

|            | RECIP  | JET    | TURBO  |
|------------|--------|--------|--------|
| CAP. (GAL) | 57.0   | 3      | 3      |
| OIL GRADE  | 1100   | 1010   | 1065   |
| MIL. SPEC. | 0-6082 | 0-6081 | 0-6082 |

## ELECTRONICS

VHF.....AN/ARC-1 or -1A  
 RANGE REC.....R-23A/ARC-5  
 HF LIAISON.....AN/ART-13  
 HF REC.....AN/ARR-15A  
 HOMING.....AN/ARR-2A  
 ALTIMETER.....AN/APN-1  
 MF RADIO COMPASS.....AN/ARN-6  
 MARKER BEACON.....AN/ARN-8  
 ALT. HIGH ALTITUDE.....SCR-718C  
 SEARCH RADAR.....AN/APS-31, -31A  
 or ASB  
 IFF.....AN/API-6  
 UHF.....AN/ARC-27  
 VOR-OMNI-RANGE.....AN/ARN-19  
 INTERCOM.....AN/AIC-4

## PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION           | (1) ATTACK<br>1 MK-5 Bomb<br>2-300 gal Tip Tanks<br>1-500 gal B.Bay Tank | (3) ATTACK<br>1 MK-15<br>2-300 gal Tip Tanks | (4) ATTACK<br>1 MK-5 | (5) FERRY<br>2-300 gal Tip Tanks<br>1-840 gal B.Bay Tank |
|--------------------------------------|--|--|----------------------|--|
| TAKE-OFF WEIGHT                      | lb. 49,952   | 50,963                                       | 42,418               | 49,351   |
| Fuel (Fixed/Drop)                    | lb. 10,302/3,600   | 7,302/3,600                                  | 7,302/ - -           | 12,342/3,600   |
| Payload                              | lb. 3,025  | 7,600  | 3,025                | - -  |
| Wing loading                         | lb./sq.ft. 59.8  | 61.0   | 50.8                 | 59.1   |
| Stall speed - power-off              | kn. 103.0  | 104.0  | 95.4                 | 102.4  |
| Take-off run at S.L. - calm (A)      | ft. 2,040(1,300)   | 2,200(1,420)                                 | 1,350(800)           | 1,960(1,250)   |
| Take-off run at S.L. 25 kn. wind (A) | ft. 1,180( 720)  | 1,300( 795)                                  | 750(390)             | 1,150( 690)  |
| Take-off to clear 50 ft. - calm      | ft. - -  | - -  | - -                  | - -  |
| Max. speed/altitude (B)              | kn./ft. 300/26,000   | 295/26,000                                   | 332/34,000           | 303/26,600   |
| Rate of climb at S.L. (B)            | fpm. 1,000   | 970  | 1,425                | 1,040  |
| Time: S.L. to 10,000 ft. (B)         | min. 12.0  | 12.6   | 9.4                  | 11.6   |
| Time: S.L. to 20,000 ft. (B)         | min. 26.0  | 27.7   | 17.4                 | 25.1   |
| Service ceiling (100 fpm) (B)        | ft. 34,500   | 33,700                                       | 38,000               | 35,100   |
| Combat range                         | n.mi. 2,190  | 1,505  | 1,125                | 2,660  |
| Average cruising speed               | kn. 234  | 235  | 235                  | 233  |
| Cruising altitude(s)                 | ft. 25,000   | 25,000                                       | 25,000               | 25,000   |
| Combat radius                        | n.mi. 1,010  | 720  | 460                  | - -  |
| Average cruising speed               | kn. 207  | 204  | 206                  | - -  |
| Mission time                         | hr. 10.1   | 7.3  | 4.6                  | 12.1   |
| COMBAT LOADING CONDITION             | (2)<br>1-MK-15<br>retained   |  |                      |  |
| COMBAT WEIGHT                        | lb. 46,352   |  |                      |  |
| Engine power                         | Dry Mil., All Eng.   |  |                      |  |
| Fuel                                 | lb. 10,302   |  |                      |  |
| Combat speed/combat altitude         | kn./ft. 386/30,000   |  |                      |  |
| Rate of climb/combat altitude        | fpm/ft. 1,870/30,000   |  |                      |  |
| Combat ceiling (500 fpm)             | ft. 40,800   |  |                      |  |
| Rate of climb at S.L.                | fpm. 2,900   |  |                      |  |
| Max. speed at S.L.                   | kn. 310  |  |                      |  |
| Max. speed/altitude                  | kn./ft. 390/34,000   |  |                      |  |
| LANDING WEIGHT                       | lb. 34,071   |  |                      |  |
| Fuel                                 | lb. 1,046  |  |                      |  |
| Stall speed - power-off              | kn. 85.9   |  |                      |  |
| Stall speed - with approach power    | kn. 72.4   |  |                      |  |

## NOTES

REASONS FOR REISSUE: Loading condition modified to include special stores.  
Performance data completely based on NATSTGEN Flight Test data.

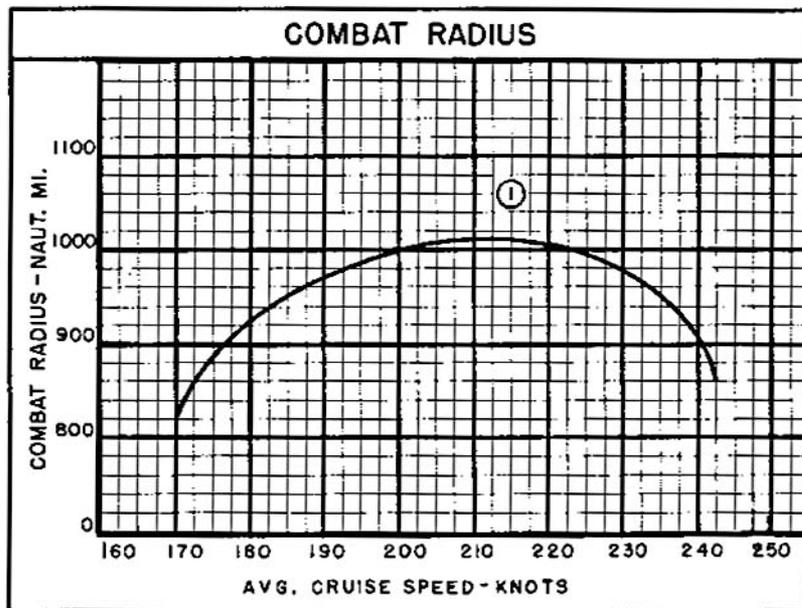
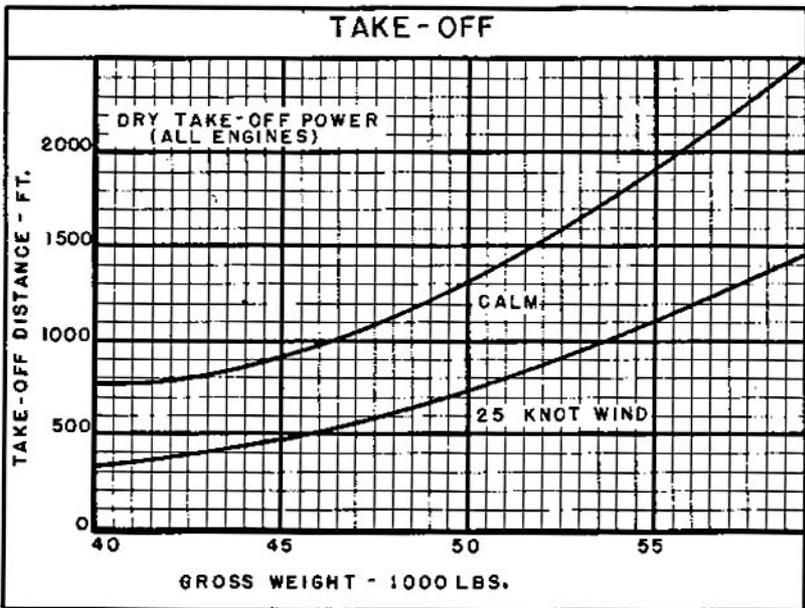
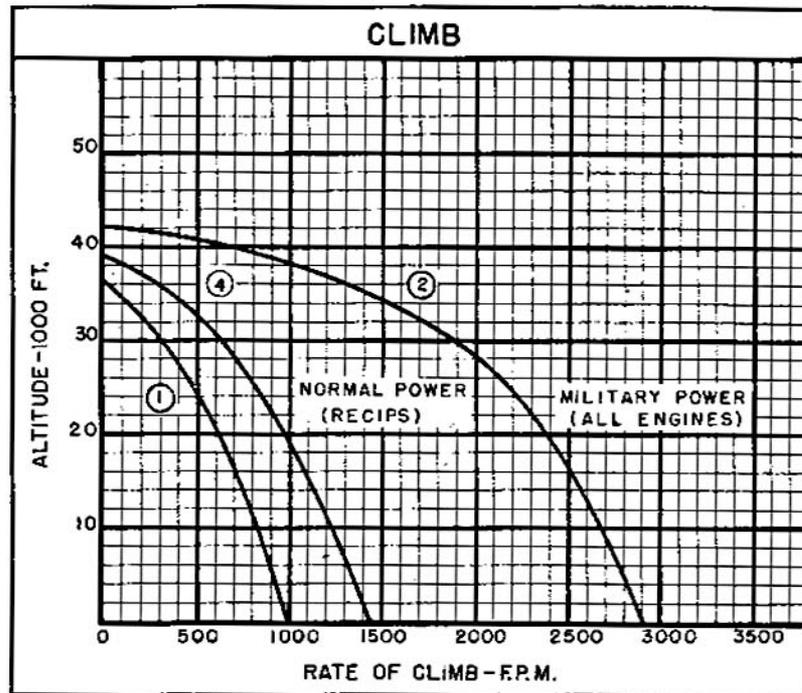
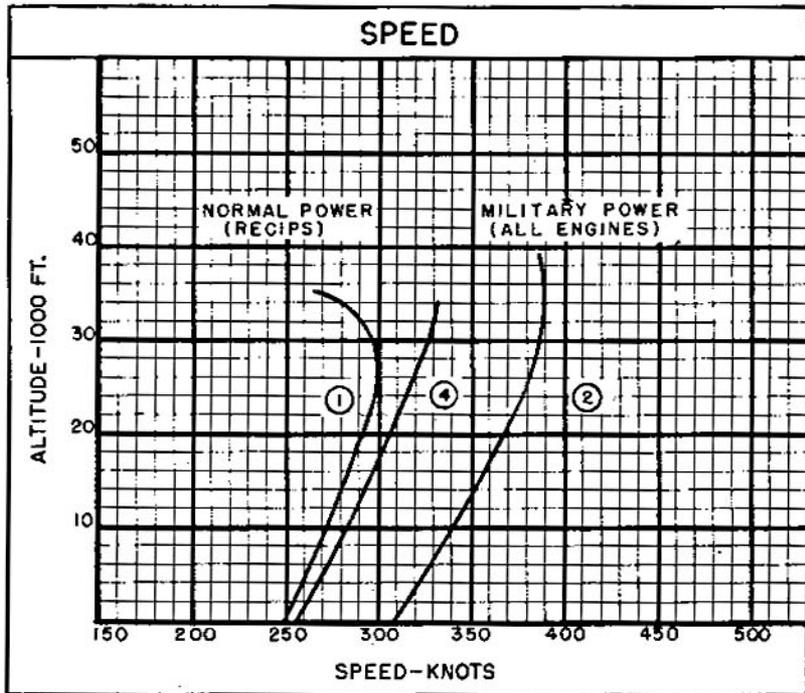
(A) Take-off distances are for take-off power on reciprocating engines.  
Figures in parenthesis are for take-off power on all engines.

(B) Normal Rated Power (2 reciprocating engines).

COMBAT RANGE and RADIUS are based on flight fuel consumption increased by 5%.

Tip tanks are carried at all times. (Cruising fuel consumption is better with tip tanks on than with tip tanks off).

SPOTTING: A total of 22 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.



○ LOADING CONDITION COLUMN NUMBER

Standard Aircraft Characteristics NAVAER 1335E (Rev. 1-55)

# NOTES

## HIGH ALTITUDE ATTACK COMBAT RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: Reciprocating engines: 10 minutes at normal rated power.  
Jet engine: 5 minutes at normal rated power.

CLIMB: On course to 25,000 ft. at normal rated power. Jet off.

CRUISE-OUT: At 25,000 ft. at V for long range. Jet off. Tip tanks retained.

CLIMB: On course to 30,000 ft. at normal rated power. Jet off. Climb ends 87 nautical miles from target.

CRUISE-OUT: 43.5 nautical miles at 30,000 ft. at V for long range. Jet off.

RUN-IN: 43.5 nautical miles at 30,000 ft. at military rated power, all engines.

DROP BOMBS

RUN-OUT: 43.5 nautical miles at 30,000 ft. at military rated power, all engines.

DESCEND: To 10,000 ft. (No fuel used, no distance gained).

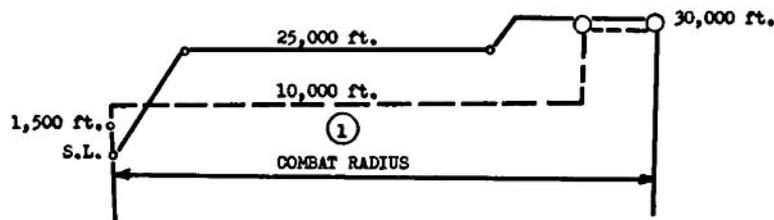
CRUISE-BACK: At 10,000 ft. at V for long range. Jet off.

DESCEND: To 1,500 ft. (No fuel used, no distance gained).

RESERVE: 30 minutes at V for long range at sea level (jet off) plus 5% of initial fuel load.

COMBAT RADIUS = CLIMB + CRUISE-OUT + CLIMB + CRUISE-OUT + RUN-IN = RUN-OUT + CRUISE-BACK

MISSION TIME = CLIMB + CRUISE-OUT + CLIMB + CRUISE-OUT + RUN-IN + RUN-OUT + CRUISE-BACK



○ LOADING CONDITION COLUMN NUMBER