STANDARD AIRCRAFT CHARACTERISTICS

AJ-1 "SAVAGE"

NORTH AMERICAN

30 JUNE 1957
POWER PLANT

NO. & MODEL: (2) R-2800-7W-11
(1) J-33-A-10

SUPERF. 144"

PROPR. GEAR RATIO: 0.190

PROP. DIA.: 2PL790-24C

RATINGS

T.O. 2300 2800 S.L.
MILITARY 2200 2800 3000
NORMAL 1800 2500 3700

ESE RFN ALT

T.O. 4600 11750 S.S.L.
MILITARY 4600 11750 S.S.L.
NORMAL 3900 11250 S.S.L.

SPEC. NOS. B-5127-B and 256-D

MISSION AND DESCRIPTION

The AJ-1 is a carrier-based attack airplane. The first flight of the experimental model was made 3 July 1946. The first production delivery was June 1947.

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

The limit dive speed is 420 knots IAS at 5,000 feet altitude, and 768 Mach at high altitudes.

DEVELOPMENT

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

WEIGHTS

LOADING

WEIGHT

BFGT. 30,776
BASIC 30,869
DESIGN 32,962 40
COMBAT 33,052 40
MAX T.O. (Field) 54,000
(Cat.) 54,000
MAX Arrested (Field) 27,000
(Arrest) 37,500

All weights are actual.

FUEL AND OIL

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

OIL

OIL GRADE 1100 1010 1065
MIL. SPEC. 1 0-683 1 0-683 1 0-682

DIMENSIONS

WING AREA 836 sq. ft.
WING SPAN 31' 5'
WING SPAN (with Tip Tank) 31' 11'
WING SPAN (Folded) 36' 6'
HEIGHT 21' 5'
HEIGHT (Folded) 21' 4'
HEIGHT (Folded with Tip Tank) 21' 11'
TREAD 24' 5'
PROPS CLEARANCE 1' 2'
R. A. O. CLEARANCE 1' 2'

ELECTRONICS

VHF AN/ARC-1 or AN/ARC-1A
RANGE REC. AN/ASK-5A
NEC. AN/ATQ-13
Radar. AN/APS-13
ELECTRICAL. AN/ALT-1
MP RAD. AN/AIU-6
COMM. AN/AUC-8
ALT. AN/AFS-1
LEARNING RADAR AN/AFS-31A
RAD. AN/AVQ-18
IFF AN/AR-6
UHF AN/AIQ-27
VHF-CHINESE RANGE AN/ARQ-19
SEARCHING AN/ARC-4

30 JUNE 1957
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) ATTACK 1 MK-5 Nimb 2-300 gal Tip Tanks 1-500 gal R.H. Bay Tank</th>
<th>(3) ATTACK 1 MK-10 2-300 gal Tip Tanks 1-500 gal R.H. Bay Tank</th>
<th>(4) ATTACK 1 MK-5 2-300 gal Tip Tanks 1-80 gal R.H. Bay Tank</th>
<th>(5) PENET 1-80 gal R.H. Bay Tank</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb. 49,952</td>
<td>lb. 50,963</td>
<td>lb. 42,418</td>
<td>lb. 49,351</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 10,302/3,500</td>
<td>lb. 7,302/3,600</td>
<td>lb. 7,302/ -</td>
<td>lb. 12,342/3,600</td>
</tr>
<tr>
<td>Payload</td>
<td>lb. 1,095</td>
<td>lb. 7,560</td>
<td>lb. 1,325</td>
<td>-</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq.ft. 59.8</td>
<td>lb./sq.ft. 59.8</td>
<td>lb./sq.ft. 59.8</td>
<td>lb./sq.ft. 59.8</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn. 103.0</td>
<td>kn. 104.0</td>
<td>kn. 101.4</td>
<td>kn. 102.4</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>ft. 2,040 (1,300)</td>
<td>ft. 7,300 (1,420)</td>
<td>ft. 1,350 (800)</td>
<td>ft. 1,950 (1,250)</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 km. wind</td>
<td>ft. 1,180 (720)</td>
<td>ft. 1,300 (795)</td>
<td>ft. 750 (590)</td>
<td>ft. 1,150 (690)</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - calm</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./hr. 300/26,000</td>
<td>km./hr. 295/26,000</td>
<td>km./hr. 332/34,000</td>
<td>km./hr. 303/26,000</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(B) 1,000</td>
<td>(B) 970</td>
<td>(B) 1,250</td>
<td>(B) 1,020</td>
</tr>
<tr>
<td>Time: S.L. to 10,000 ft.</td>
<td>(B) 12.0</td>
<td>(B) 12.6</td>
<td>(B) 9.4</td>
<td>(B) 11.6</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>(B) 26.0</td>
<td>(B) 27.7</td>
<td>(B) 17.4</td>
<td>(B) 25.1</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>ft. 34,500</td>
<td>ft. 33,700</td>
<td>ft. 38,000</td>
<td>ft. 35,100</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.m. 4,190</td>
<td>n.m. 4,205</td>
<td>n.m. 1,122</td>
<td>n.m. 2,600</td>
</tr>
<tr>
<td>Cruising altitude</td>
<td>ft. 25,000</td>
<td>ft. 25,000</td>
<td>ft. 25,000</td>
<td>ft. 25,000</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m. 1,010</td>
<td>n.m. 720</td>
<td>n.m. 460</td>
<td>n.m. 233</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>kn. 207</td>
<td>kn. 204</td>
<td>kn. 206</td>
<td>-</td>
</tr>
<tr>
<td>Mission time</td>
<td>hr. 10.1</td>
<td>hr. 7.3</td>
<td>hr. 4.6</td>
<td>12.1</td>
</tr>
</tbody>
</table>

## COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>COMBAT WEIGHT</th>
<th>lb. 46,252</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine power</td>
<td>Dry Milt., All Eng.</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 10,302</td>
</tr>
<tr>
<td>Combat speed/altitude</td>
<td>kn./ft. 366/30,000</td>
</tr>
<tr>
<td>Rate of climb/altitude</td>
<td>fpm/ft. 1,870/30,000</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft. 60,800</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm. 2,900</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>kn. 310</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>kn./ft. 390/36,000</td>
</tr>
</tbody>
</table>

## Landing Weight

<table>
<thead>
<tr>
<th>Landing Weight</th>
<th>lb. 34,072</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>lb. 1,046</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn. 85.9</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>kn. 72.4</td>
</tr>
</tbody>
</table>

### NOTES

**REASONS FOR REISSUE**: Loading condition modified to include special stores. Performance data completely based on NAVY/USN Flight Test data.

**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.
NOTES

HIGH ALTITUDE ATTACK COMBAT RADIUS PROBLEM

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