Standard Aircraft Characteristics

NAVY MODEL EA-6A

(A 2F-1H)

AIRCRAFT

(TITLE UNCLASSIFIED)

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1 JULY 1967
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NAV AIR 00-110AA6-2

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STANDARD AIRCRAFT CHARACTERISTICS

EA-6A

GRUMMAN
DECLASSIFIED

POWER PLANT

No. & Model (2) 152-2-P-6
Mfr. Pratt & Whitney
Type Twin Spool Axial Flow
Length 127 in.
Diameter 31 in.
Augmentation none

RATINGS

LBS. @ RPM

Maximum 8500 11650
T.O. & Military 8500 11650
Normal 7500 11400
Sea Level Static Spec. No. N-1731B

ELECTRONICS

Electronic Counter Measures
Warning Receiver AN/ALR-15
Detection System AN/ALQ-53
Chaff Dispenser AN/ALQ-18
Repeater Jammer AN/ALQ-41
Repeater Jammer AN/ALQ-51
Comm. Jammer AN/ALQ-55
Self Protective Pod AN/ALQ-31A
Jamming Pod AN/ALQ-31B
Decoy Pod AN/ALQ-54
Recorder/Reproducer AN/UNH-9

Attack Navigation Instrument
MF-1 Compass System AN/ASN-41
Vertical Ref. System AN/AJA-1
Search Radar AN/APQ-92
Doppler Radar AN/APN-122
Radar Altimeter AN/APN-117
AFCS AN/ASW-16
Air Data Computer Integrated Display Subsystem

Communications
CNI Package AN/ASQ-57
UHF ADF AN/ARX-50
UHF Rec. Trans AN/ARC-52
UHF Stand-by Rec AN/ARR-40
IFF AN/APX-6D
IFF Code AN/APA-89(SIF)
TACAN AN/AAN-21A
ICS AN/AIC-14
Data Link AN/ASW-21

MISSION AND DESCRIPTION

The EA-6A is a two-place tactical electronic counter measures version of the A-6A Intruder all-weather, low-altitude, attack aircraft. Its primary mission is to support strike aircraft and ground troops by suppressing enemy electronic activity and to obtain tactical electronic intelligence within the combat area utilizing detecting, locating, classifying, recording, and jamming techniques.

In addition, the EA-6A has limited all-weather attack capability with conventional and special weapons and retains much of the high subsonic performance capability and broad mission versatility of the parent A-6A aircraft, as well as its carrier and advanced base suitability and high payload.

Irreversible hydraulic flight controls are provided. Longitudinal control is effected by an all movable stabilizer. Lateral control is provided by flaperons while a conventional rudder is used for directional control.

High lift devices are slotted flaps, and leading edge slats. Anti-skid brakes on main wheels are provided. Nose wheel tow catapaulting is used. A speed brake is located aft on each side of the fuselage. Side by side ground level ejection seats are provided for the pilot and ECM operator.

Power wing folding is provided. The engines may be removed and serviced by removal of fuselage fairings panels.

DEVELOPMENT

First Flight Electronic Prototype April 1963
First Flight Production Prototype Scheduled First Service Availability

WEIGHTS

LOADINGS LBS. L.F.

Empty 27,769
Basic 48,958
Design 40,950 5.0
Combat 41,715
Max. Take-Off Field 54,571
Catapult 54,571
Max. Landing Field 36,061
Arrested 36,061
All weights are estimated

FUEL AND OIL

No. TANKS GALS. LBS. LOCATION

3 1309 8900 Fuselage 5 1023 6857 Wings 5(300 gal.) 1482 10,075 Drop Tanks
Fuel Grade JP-5
Fuel Spec. (applicable) MIL-F-5624C-1

OIL

Capacity 5 gals./engine 10 gals.
Spec. (applicable) MIL-L-7808

ORDNANCE

Maximum Bomb Capacity: 18,000 lbs.

Bombs: Mk 81, Mk 82, Mk 83, Mk 84,
Fire Bomb Mk 79 Mod-1

Special Weapons: Mk 28 Ex Mod-1
B43-0/N43-1, Ta 57

Rocket Package: Aero 7D, Aero 6A1,
LAU-10/A

In addition, the following may be carried:

ECM Pods: AN/ALQ-31A, -31B,-54
Practice Bomb Containers, Aero 8A
(Mk 76, Mk 89); CBU-1/A Dispenser,
Shrike Provisions

DIMENSIONS

Wing
Area 528.9 sq. ft.
Span 53 ft.
MAC 130.8 in.
Sweepback (1/4 chord) 25°
Length 55 ft. 6 in.
Height 15 ft. 9 in.
Tread 10 ft. 10 in.
### PERFORMANCE SUMMARY

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<th>TACTICAL ECM (3) AN/AQA-318 Pods</th>
<th>TACTICAL ECM (4) AN/AQ-218 Pod</th>
<th>TACTICAL ECM (4) AN/AQ-218 Pod</th>
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<th>ATTACK CONFIG</th>
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<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb. 48, 058</td>
<td>lb. 48, 058</td>
<td>lb. 48, 058</td>
<td>lb. 48, 058</td>
<td>lb. 51, 337</td>
<td>lb. 51, 337</td>
</tr>
<tr>
<td>Fuel internal/external UP-5</td>
<td>lb. 15, 857/0</td>
<td>lb. 15, 857/0</td>
<td>lb. 15, 857/0</td>
<td>lb. 15, 857/0</td>
<td>lb. 15, 857/0</td>
<td>lb. 15, 857/0</td>
</tr>
<tr>
<td>Payload</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
<td>3000</td>
<td>1800</td>
<td>1800</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq. ft. 90.8</td>
<td>lb./sq. ft. 90.8</td>
<td>lb./sq. ft. 90.8</td>
<td>lb./sq. ft. 90.8</td>
<td>lb./sq. ft. 19.1</td>
<td>lb./sq. ft. 19.1</td>
</tr>
<tr>
<td>Stall speed—power-off</td>
<td>kn. 119.6</td>
<td>kn. 123.5</td>
<td>kn. 127.4</td>
<td>kn. 127.4</td>
<td>kn. 131.2</td>
<td>kn. 131.2</td>
</tr>
<tr>
<td>Take-off run at S.L.—standard day</td>
<td>ft. 3650</td>
<td>ft. 4400</td>
<td>ft. 5210</td>
<td>ft. 5210</td>
<td>ft. 6270</td>
<td>ft. 6270</td>
</tr>
<tr>
<td>Take-off run at S.L.—tropical day</td>
<td>ft. 4530</td>
<td>ft. 5390</td>
<td>ft. 6370</td>
<td>ft. 6370</td>
<td>ft. 6510</td>
<td>ft. 6510</td>
</tr>
<tr>
<td>Take-off to clear 50 ft.—standard day</td>
<td>ft. 4360</td>
<td>ft. 5100</td>
<td>ft. 5920</td>
<td>ft. 5920</td>
<td>ft. 6070</td>
<td>ft. 6070</td>
</tr>
<tr>
<td>Max. speed/altitude (A)</td>
<td>kn./ft. 517/S. L.</td>
<td>kn./ft. 510/S. L.</td>
<td>kn./ft. 508/S. L.</td>
<td>kn./ft. 508/S. L.</td>
<td>kn./ft. 522/S. L.</td>
<td></td>
</tr>
<tr>
<td>Rate of climb at S.L. (A)</td>
<td>fpm. 5450</td>
<td>fpm. 5000</td>
<td>fpm. 4600</td>
<td>fpm. 4600</td>
<td>fpm. 5050</td>
<td>fpm. 5050</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (A)</td>
<td>min. 5.0</td>
<td>min. 5.4</td>
<td>min. 6.2</td>
<td>min. 6.2</td>
<td>min. 11.4</td>
<td>min. 11.4</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft. (A)</td>
<td>min. 10.2</td>
<td>min. 11.3</td>
<td>min. 13.0</td>
<td>min. 13.0</td>
<td>min. 32,000</td>
<td>min. 32,000</td>
</tr>
<tr>
<td>Service ceiling (100 fpm) (A)</td>
<td>ft. 36, 200</td>
<td>ft. 34, 500</td>
<td>ft. 32, 700</td>
<td>ft. 32, 700</td>
<td>ft. 33, 800</td>
<td>ft. 33, 800</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.mi. 1254</td>
<td>n.mi. 1756</td>
<td>n.mi. 2239</td>
<td>n.mi. 2239</td>
<td>n.mi. 2442</td>
<td>n.mi. 2442</td>
</tr>
<tr>
<td>Average cruising speed cr. dist./cr. time (A)</td>
<td>kn. 407</td>
<td>kn. 410</td>
<td>kn. 412</td>
<td>kn. 412</td>
<td>kn. 413</td>
<td>kn. 413</td>
</tr>
<tr>
<td>Cruising altitude(s)</td>
<td>ft. 34, 500/40, 200</td>
<td>ft. 33, 000/41, 300</td>
<td>ft. 31, 600/42, 400</td>
<td>ft. 31, 600/42, 400</td>
<td>ft. 32,000/44, 000</td>
<td></td>
</tr>
<tr>
<td>Combat radius/Mission time</td>
<td>n.mi./hr. 343</td>
<td>n.mi./hr. 594/5, 976</td>
<td>n.mi./hr. 825/5, 025</td>
<td>n.mi./hr. 825/5, 025</td>
<td>n.mi./hr. 800/4, 5</td>
<td></td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>kn. 408</td>
<td>kn. 411</td>
<td>kn. 413</td>
<td>kn. 413</td>
<td>kn. 413</td>
<td>kn. 413</td>
</tr>
<tr>
<td>IFR radius/Mission time</td>
<td>n.mi./hr. -</td>
<td>n.mi./hr. -</td>
<td>n.mi./hr. -</td>
<td>n.mi./hr. -</td>
<td>n.mi./hr. -</td>
<td>n.mi./hr. -</td>
</tr>
</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>STORES RETAINED</th>
<th>TANKS OFF STORES RETAINED</th>
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<th>TANKS OFF STORES RETAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMBAT WEIGHT</td>
<td>lb. 41, 715</td>
<td>42, 971</td>
<td>45, 703</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td>Military</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 951</td>
<td>11, 925</td>
<td>15, 857</td>
</tr>
<tr>
<td>Rate of climb/comb. altitude</td>
<td>fpm./ft. 6400/S. L.</td>
<td>fpm./ft. 6550/S. L.</td>
<td>fpm./ft. 6300/S. L.</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft. 37, 700</td>
<td>37, 800</td>
<td>36, 800</td>
</tr>
<tr>
<td>Rate of Climb at S.L.</td>
<td>fpm. 6400</td>
<td>6550</td>
<td>6300</td>
</tr>
<tr>
<td>Max. Speed at S.L.</td>
<td>kn. 518</td>
<td>524</td>
<td>533</td>
</tr>
<tr>
<td>Max. speed/altitude (A)</td>
<td>kn./ft. 518/S. L.</td>
<td>kn./ft. 524/S. L.</td>
<td>kn./ft. 533/S. L.</td>
</tr>
</tbody>
</table>

### LANDING LOADING CONDITION

<table>
<thead>
<tr>
<th>STORES RETAINED</th>
<th>TANKS OFF STORES RETAINED</th>
<th>TANKS OFF STORES RETAINED</th>
<th>TANKS OFF STORES RETAINED</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANDING WEIGHT</td>
<td>lb. 34, 361</td>
<td>33, 116</td>
<td>31, 839</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 2160</td>
<td>2070</td>
<td>1993</td>
</tr>
<tr>
<td>Stall speed—power-off/approach power</td>
<td>kn./kn. 101/96.4</td>
<td>96, 692.3</td>
<td>92, 188</td>
</tr>
<tr>
<td>Landing distance-ground roll/over 50 ft. obst. aft.</td>
<td>ft./ft. 1809/2491</td>
<td>1720/2373</td>
<td>1631/2256</td>
</tr>
</tbody>
</table>

**PERFORMANCE BASIS:** A-6A Flight Test & EA-6A Wind Tunnel Tests

**NOTES:**

(A) Military Rated Thrust

(B) Inflight Refueling: One outbound inflight refueling 657 n. mi. out, 10, 667 lb. fuel transferred from Buddy Tanker.

(C) Inflight Refueling: One outbound inflight refueling 688 n. mi. out, 10, 200 lb. fuel transferred from Buddy Tanker.

**MISSION TIME:** Any time where fuel is used and distance gained including loiter and combat time.

**SPOTTING:** A total of 63 airplanes can be accommodated in the safe parking area on the flight and hangar decks of a CVA-19 class angled deck carrier.
CARRIER SUITABILITY

MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING

VS. GROSS WEIGHT

MINIMUM WIND OVER DECK REQUIRED FOR ARRESTING

VS. GROSS WEIGHT

NOTES

(A) These curves should be used for planning purposes only. Actual catapult and arresting gear operation should be in accordance with applicable Aircraft Technical Orders, and Catapult and Arresting Gear Bulletins.

(B) Maximum weight for tropical day longitudinal acceleration of 2.1 ft./sec.² for C11-1 catapult with .9 Cl max.

(C) Maximum weight, 41,500 lbs., for tropical day longitudinal acceleration of 5.0 ft./sec.² at 1.15 VSPA (speed brakes retracted).

(D) Flap deflection, for catapulting $\theta_F = 30^\circ$, for landing $\theta_F = 40^\circ$.
**NOTES**

**TACTICAL ECM MISSION**

- Warm-up, Taxi, Take-Off: 5 min. SSL NRP
- Climb: On course to optimum cruise altitude with military power
- Cruise-out: At max. range speed at optimum cruise altitude
- Descend: To 5000 ft. (no fuel used, no distance gained)
- Loiter: 1 hour at max. end. speed (no distance gained)
- Climb: On course to optimum cruise altitude with military power
- Cruise-back: At max. range speed at optimum cruise altitude
- Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S.L (all engines operating)

**SEA LEVEL STORE DELIVERY MISSION — Modified (ATTACK CONFIGURATION)**

- Warm-up, Taxi, Take-Off: 5 min. SSL NRP
- Climb: On course to optimum cruise altitude with military power
- Cruise-out: At max. range speed at optimum cruise altitude
- Descend: To S.L. when 300 n.mi. from target (no fuel used, no distance gained)
- Cruise: At max. range speed at S.L. (all engines operating)
- Dash: 3 min. to target with military thrust, tanks dropped prior to dash. (All engines operating)
- Drop Store(s)
- Dash: 2 min. from target with military thrust (all engines operating)
- Cruise: At max. range speeds at S.L. to a point 300 n.mi. from target
- Climb: On course to optimum cruise altitude with military power
- Cruise-back: At max. range speed at optimum altitude
- Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S.L. (all engines operating)