Standard Aircraft Characteristics

NAVY MODEL
A-1G
AIRCRAFT

(This publication supersedes NAVAIR 00-110A-1 dated 1 May 1955 in part and all addenda thereto)

Published by direction of the commander of the Naval Air Systems Command

1 July 1967
NAVAIR 00-110AA1-2

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STANDARD AIRCRAFT CHARACTERISTICS
A-1G SKYRAIDER
POWER PLANT

No. & Model..............................................(1) R-3350-26-VA
Mr...................................................Wright Aero
Supercharg..........................R-15-3.5, 2-Stage Ten Speed
Rad. Gear Ratio..........................43.5:1
Prop. Mr. ......................................Aero Products
Blade Des. No. .........................................No.14A-162-0
No.Blades/Prop.Diam..........................6/1376

RATINGS

T.O. 2,700 2,900 S.L.
M.I.Z. 2,705 2,900 3,700
2,100 2,500 14,500
NO.B. 2,300 2,500 2,600
1,900 2,600 17,000

Spec. No. 8536-D

MISSION AND DESCRIPTION

The principal mission of the AD-5N is that of night attack and radio countermeasures. It is also a bomber, mine-layer, torpedo or assault airplane capable of operating from carrier or land bases. The AD-5N has complete installation provisions for all equipment required for anti-surface operations and also contains structural provisions for any type of tactical equipment normally carried on any other AD model. The AD-5N is a development of the AD series and incorporates a side-by-side seating for an assistant pilot. A radar operator is located aft of the pilot. The crew and all special tactical equipment is located within a unified cockpit area to permit interchange of crew positions and maintenance of electronics equipment in flight. The AD-5N incorporates increased armament, improved maintenance, and improved aerodynamic characteristics. A single dive brake is provided for dive bombing and maneuvering control. The airplane arrangement provides space for additional equipment as may be dictated by future tactical requirements.

DEVELOPMENT

First Flight.........................August 1942
Service Ready.......................March 1943

WEIGHTS

LOADINGS LBS.
BAT... 12,122
GUNRT... 13,000
CMRT... 12,505
MALRT... 20,000
CAT... 20,000
MAX.LO.D. (FUELS)... 21,000
(AEROST)... 17,500

ALL WEIGHTS ARE CALCULATED

FUEL AND OIL

GALS. 115/145
LD JAMS 4141
LOCATION
35IP..................Kingsland
150 or 300...........Oir. Drop
150 or 300...........M. Drop
Fuel Grade...115/145
Fuel Spec....MIL-F-5972
*Self Sealing Tank
Max. usable fuel 590 gal. (limited by oil caps.)

CAPACITY..................39 gals.
SPE.. 29
GRADE..................1120

OIL

ELECTRONICS

UHF Trans.-Rec...AN/ARC-7A
MUF Trans.-Rec..AN/ARC-7A
Radio Attenuator..AN/APE-22
Marker Beacon...AN/APS-12
TFE...AN/APE-2
TFE Code...AN/APE-49
LF ASP...AN/APE-25
UHF ASP...AN/APE-25
Interphone...AN/APE-25
Radar Search...AN/APS-11C
LAR Radar Homing..AN/APE-16
LAR R-R Adapter...AN/APE-26
Sounding Rec...AN/APE-20
Scrambler...AN/APE-24
ECM Rec...AN/APE-29

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## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) ATTACK 1,500 lb. Bomb 6-100 lb. Missiles</th>
<th>(3) 1,560 lb. Store 300 gal. Aero Ls Fuel Tank</th>
<th>(4) ASM ATTACK Mk. 41. Torpedoes 3,000 lb. Horseshoe (2) Payload 4,000 lb. Horseshoe 2,000 lb. Bomb</th>
<th>(2) ATTACK 1,500 lb. Bomb 12-100 lb. Missiles</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TAKE-OFF WEIGHT</strong></td>
<td>20,917</td>
<td>23,069</td>
<td>23,320</td>
<td>22,117</td>
</tr>
<tr>
<td>Fuel</td>
<td>3,282</td>
<td>2,280</td>
<td>2,280</td>
<td>2,280</td>
</tr>
<tr>
<td>Payload</td>
<td>1,420</td>
<td>1,660</td>
<td>1,200</td>
<td>2,700</td>
</tr>
<tr>
<td>Wing loading</td>
<td>1,100</td>
<td>57.7</td>
<td>53.3</td>
<td>55.3</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>59.7</td>
<td>91.1</td>
<td>93.1</td>
<td>93.1</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>1,200</td>
<td>1,600</td>
<td>1,300</td>
<td>1,440</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 km. wind</td>
<td>600</td>
<td>570</td>
<td>740</td>
<td>760</td>
</tr>
<tr>
<td>Take-off to clear 58 ft. - calm</td>
<td>2,025</td>
<td>2,775</td>
<td>2,330</td>
<td>2,445</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>257/10,500</td>
<td>257/10,500</td>
<td>257/10,500</td>
<td>257/10,500</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>1,040</td>
<td>1,330</td>
<td>1,480</td>
<td>1,850</td>
</tr>
<tr>
<td>Times: S.L. to 10,000 ft.</td>
<td>6.3</td>
<td>6.3</td>
<td>6.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Times: S.L. to 20,000 ft.</td>
<td>16.3</td>
<td>22.1</td>
<td>23.4</td>
<td>23.4</td>
</tr>
<tr>
<td>Service ceiling (1000 fpm)</td>
<td>22,000</td>
<td>22,000</td>
<td>22,000</td>
<td>22,100</td>
</tr>
<tr>
<td>Combat range</td>
<td>575</td>
<td>1,135</td>
<td>510</td>
<td>472</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>165</td>
<td>170</td>
<td>165</td>
<td>165</td>
</tr>
<tr>
<td>Cruising altitude (100 fpm)</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Combat radius</td>
<td>165</td>
<td>170</td>
<td>165</td>
<td>165</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>165</td>
<td>170</td>
<td>165</td>
<td>165</td>
</tr>
<tr>
<td>Total Mission time</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
<td>4.3</td>
</tr>
</tbody>
</table>

## COMBAT WEIGHT

<table>
<thead>
<tr>
<th>COMBAT WEIGHT</th>
<th>(2) CLEAN 60% Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine power</td>
<td>Military 1600</td>
</tr>
<tr>
<td>Fuel</td>
<td>3,956</td>
</tr>
<tr>
<td>Combat speed/combat altitude km/ft.</td>
<td>263/sea level</td>
</tr>
<tr>
<td>Rate of climb/combat altitude fpm/ft.</td>
<td>2,580/sea level</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm) ft.</td>
<td>24,300</td>
</tr>
<tr>
<td>Rate of climb at S.L. fpm.</td>
<td>2,580</td>
</tr>
<tr>
<td>Max. speed at S.L. km.</td>
<td>263</td>
</tr>
<tr>
<td>Max. speed/altitude km/ft.</td>
<td>270/15,100</td>
</tr>
</tbody>
</table>

## Landing Weight

<table>
<thead>
<tr>
<th>LANDING WEIGHT</th>
<th>17,371</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>2,241</td>
</tr>
<tr>
<td>Stall speed - power-off km.</td>
<td>82.2</td>
</tr>
<tr>
<td>Stall speed - with approach power km.</td>
<td>77.7</td>
</tr>
</tbody>
</table>

### NOTES

(a) Normal rated power.
(b) If the water injection kit is installed including 124 gal. 9.4 D.I. Fluid the airplane weight is increased 136 lbs. the maximum available combat HP is 3,350 horsepower and the sea level high speed is 278 knots and the sea level rate of climb is 5,100 ft./min.
(c) If the 1,660 lb. store is aboard, the sea level high speed is 272 knots with combat power and 258 knots with military power.

Continued on NOTES Page
NOTES

(Continued from PERFORMANCE SUMMARY Page)

PERFORMANCE BASIS: Performance is calculated based on contractor's flight tests of N DAL A-4B, A-5 and A-6.

CONTRIBUTORS AND RANGE are based on fuel consumption data from A-4B, A-5 and A-6 flight tests and increased 5%.

All loadings include centerline and inner wing bomb racks, 12 aero 14 racks, and four 20mm guns equipped with flash hiders.

(Continued from ELECTRONIC Page)

| ECM IF | AK/AFS-6A |
| ECM Ref. | AK/AFS-13 |
| Provision | AK/AFS-14 |

Bomb Director | MK-3 MGB-5

Towed Boms: Two
Frag. Cl: 2-500 lb 2-100 lb
Incend. Cl: 2-500 lb 2-100 lb
Chem. Tanks: 2-Aero 14A
Fuel Tanks: 2-300 gal 2-150 gal
Frag. Bombs: 2-Aero 14 Container

Rockets: 2-11.75 in
Miss. Stores: 3-Aero 24 Smoke and Flares
1-AFS-15B Radar Store
1-AFS-19 Radar Store
1-16X-900A Window Disp.
1-16X-900A Window Disp.

Outer Wing (12-Aero 14 Racks)
Bomb: 2-500 lb 2-100 lb
Depth Bombs: 12-350 lb
Frag. Bombs: 6-500 lb 12-100 lb
Incend. Cl: 2-500 lb 12-100 lb
Rockets: 12-Aero 14 Container

FLED CAMERA: AERIAL
L-20cm type M/200/200 150 150 150 150
Gunsight, Mk 20 MGB 4
Mounted in wing leading edge
Arms Cont. Syst (LAS) Aero 18G

SPOTTING: A total of 33 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19.

LOW ALTITUDE ATTACK AND GROUND SUPPORT BOMBER MISSION - COMBAT RADIUS PROBLEM

WARMS UP, TAXI, TAKE-OFF: 10 minutes at normal pressure.
CLIMB: On course to 5,000 feet with normal power
CRUISE-OUT: 10,000 feet at velocity for long range.
DESCEND: To sea level (no fuel used, no distance gained)
DROP BOMBS, FIRE ROCKETS,
COMBAT: at 15 minutes at sea level.
CLIMB: On course to 5,000 feet with normal power.
CRUISE BACK: 5,000 feet at velocity for long range.
RESERVE: 20 minutes at velocity for long range at initial fuel load.

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

MISSION TIME = TIME REQUIRED FOR CLIMB + CRUISE-OUT + COMBAT + CLIMB + CRUISE-BACK

5,000 FT

COMBAT RADIUS

O LOADING CONDITION COLUMN NUMBER