STANDARD AIRCRAFT CHARACTERISTICS

AD-5W "SKYRAIDER"

DOUGLAS

CLASSIFICATION (CANCELED) (BY AUTHORITY OF


NAVAL AIR SYSTEMS COMMAND
DEPARTMENT OF THE NAVY
POWER PLANT

NO. & MODEL... (1) R-3350-26W
MFR.................. Wright
SUPERCH........ 1 Stage, 2 Speed
PROF, GEAR RATIO..... 0.4375
PROF, MFR............ Aero.-Prod.
PROF, DES. NO........ M20A-162-0
NO. BLA./DIA........ 4/131-6

RATINGS

Ehp @ Rpm @ Alt.
T. O. 2,700 2,900 S. L.
MIL. 2,700 2,900 3,700
2,100 2,500 14,500
NORM. 2,300 2,600 S. L.
1,900 2,600 17,100
SPEC. NO. N-836

MISSION AND DESCRIPTION

The principal mission of the AD-5W is that of airborne early warning and anti-submarine search from carrier or land bases. In addition, the airplane can function as a Combat Information Control plane. The AD-5W is a development of the AD series and incorporates improvements in equipment, arrangement, and performance and stability. Installation provisions for all armoring and armament carried on other AD-5 models are retained. The AD-5W is equipped with a single dive brake for maneuvering control.

The side-by-side seating arrangement of pilot and assistant pilot/CIC operator facilitates all weather operation. The unified cockpit arrangement with the radar operator aft of the pilot provides interchange of crew positions and maintenance of electronic equipment in flight. AN/APS-20B radar and complete countermeasures equipment are installed for search operations. Appropriate radar and communications relay equipment also are installed. Since the structural and armament provisions of all AD-5 series airplanes are identical, the AD-5W may be rapidly converted to a general purpose attack by removal of specific ASM equipment, including the radome and AN/APS-20B scanner, and installation of a center bomb rack.

First flight — March 1953
Service use to start — August 1953

WEIGHTS

Loadings Lbs. L.F.
EMPTY............... 12,110
BASIC............... 15,101
DESIGN.............. 17,800 5.1
COMBAT.............. 17,519 5.1
MAX, T.O. (Field) 21,400 3.7
(Cat.) 23,400
MAX, LANDING (Field) 21,000
(Apr. 17,000)

All weights are calculated.
* Maximum anticipated loading

FUEL AND OIL

Gals. No. Tanks Location
380 1 Fuse., S.S.
150 (or 300) 1 Ctr., Drop
t
150 (or 300) 2 Wing, Drop

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

OIL

CAPACITY (Gals.)..... 39
GRADE........ 1120
SPEC... MIL-D-5082

ORDNANCE

NONE

DIMENSIONS

WING AREA.............. 460 sq. ft.
SPAN.................. 50' 0"
LENGTH................ 40' 0"
HIGHT................ 15' 0"
WINGSPAN........ 131' 11"
M.A.C.................. 81' 4"
PROP, CLEAR........... 6"

ELECTRONICS

UHF TRANS.-R3C & RELAY........ AN/ARC-27A
VHF RELAY SYS.......... AN/ARC-26
(Alter, Prov. to AN/ARC-27A)
HF TRANS.-R3C........ AN/ARC-26
(Alter, Prov. to (1) ARC-27A)
NAV, R-26........ AN/AD-2A
MARKER BEACON........ AN/AD-12
IFF.................. AN/APS-6
INTERPHONE........ AN/A-19A
RADAR RELAY TRANS........ AN/ART-26
RADAR SEARCH........ AN/APS-20B

(Continued on NOTE 5)
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td>lb.</td>
<td>lb.</td>
</tr>
<tr>
<td>Fuel (Fixed/Drop)</td>
<td>19,587</td>
<td>21,522</td>
<td>17,409</td>
</tr>
<tr>
<td>Payload</td>
<td>lb.</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq.ft.</td>
<td>49.0</td>
<td>53.2</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km.</td>
<td>83.9</td>
<td>88.0</td>
</tr>
<tr>
<td>Take-off run at S.L. - calm</td>
<td>ft.</td>
<td>980</td>
<td>1,150</td>
</tr>
<tr>
<td>Take-off run at S.L. - wind</td>
<td>ft.</td>
<td>740</td>
<td>725</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - calm</td>
<td></td>
<td>325</td>
<td>325</td>
</tr>
<tr>
<td>Max. speed/altitude (A)</td>
<td>km./ft.</td>
<td>251/18,900</td>
<td>246/18,500</td>
</tr>
<tr>
<td>Rate of climb at S.L. (A)</td>
<td>fps.</td>
<td>1,730</td>
<td>1,970</td>
</tr>
<tr>
<td>Time: S.L. to 10,000 ft. (A)</td>
<td>min.</td>
<td>6.4</td>
<td>7.6</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft. (A)</td>
<td>min.</td>
<td>16.9</td>
<td>21.9</td>
</tr>
<tr>
<td>Service ceiling (100 fpm) (A)</td>
<td>ft.</td>
<td>25,300</td>
<td>23,100</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.mi.</td>
<td>1,695</td>
<td>1,650</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>151</td>
<td>154</td>
</tr>
<tr>
<td>Cruise altitude (A)</td>
<td>ft.</td>
<td>1,500</td>
<td>1,500</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.mi.</td>
<td>420</td>
<td>660</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>151</td>
<td>154</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>COMBAT LOADING CONDITION</th>
<th>(2) COMBAT</th>
<th>AN/APS-20 Radar 2-500 Gal. Tanks</th>
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</thead>
<tbody>
<tr>
<td>COMBAT WEIGHT</td>
<td>lb.</td>
<td>17,519</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td></td>
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<tr>
<td>Fuel</td>
<td>lb.</td>
<td>2,280</td>
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<tr>
<td>Combat speed/combat altitude</td>
<td>km./ft.</td>
<td>246/1,500</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fps.</td>
<td>2,590/1,500</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft.</td>
<td>23,900</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fps.</td>
<td>2,610</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km.</td>
<td>282</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./ft.</td>
<td>266/19,300</td>
</tr>
</tbody>
</table>

| LANDING WEIGHT              | lb.                                | 15,566                            |
| Fuel                        | lb.                                | 227                               |
| Stall speed - power-off     | km.                                | 14.8                              |
| Stall speed - with approach power |         | 62.1                              |

### NOTES

(A) Normal Power
(B) 300 gallon drop tanks are Douglas high speed stores, carried on Aero-61A racks.

Performance is based on AD series flight test.

Range and radius are based on AD series flight test fuel consumption data increased 5%.

Spotting: 200 ft. length is required to spot 19 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on 07-9 carriers.
NOTES

ASW RANGE AND RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 10 minutes at normal power.
CLIMB: On course to 1,500 feet at normal power.
COMBAT RANGE: Cruise at V for long range at 1,500 feet. External fuel tanks dropped when empty.
RESERVE: 20 minutes at V for long range plus 5% of initial fuel load.

COMBAT RADIUS = 40% OF COMBAT RANGE

ELECTRONICS (Continued)

RADAR OPI .................................................. AN/APA-57C
NAV. SYS .................................................. AN/ASW-21
(Planned Service Installation)
ALTIMETER .................................................. AN/ANU-22 or -1
RADIO COMPASS ......................................... AN/ARN-5
UHF D.F ..................................................... AN/ARFA-25

IFF ......................................................... AN/AFX-7
(Planned Service Installation)

Provisions only for:
ROM REC .................................................. AN/AFR-9B
HCMD REC .................................................. AN/APA-700

AD-5W

1 MAY 1952