STANDARD AIRCRAFT CHARACTERISTICS

AD-5W "SKYRAIDER"

DOUGLAS

30 APRIL 1956
POWER PLANT

NO. & MODEL: (1) D-3350-26-W1
MFR. ................. Wright Aero
SUPERCHARGE: Single Stage Two Speed
REDUCER/REAR RATIOS: ............ 0.875:1, 1:1
FUEL, MFR. .......... Aero Products
BLADE DES. NO. ............. M202-156-0
NO. BL/550 ............. 43/56

RATINGS

BHP @ RPM @ ALL.
T.O. .............. 2,700 2,900 S.L.
MIL. .............. 2,700 2,900 3,700
2,100 2,600 11,500
NORM. .............. 2,200 2,600 6,200
1,900 2,600 17,000

Spec. No. ........... M836-D

MISSION AND DESCRIPTION

The principal mission of the AD-9W is that of airborne early warning and anti-submarine search from carrier or land bases. The AD-9W is a development of the AD series and incorporates improvements in equipment, arrangement, and performance and stability. Installation provisions for all armament and aircraft and on other AD-5 models are retained.

The crew consists of pilot, assistant pilot, navigator, and radar operator. The main distinction between this airplane and other AD-5 series aircraft is the incorporation of the AR/AP-208 radar.

DEVELOPMENT

First Flight .............. April 1954
Service Use .............. November 1954

ELECTRONICS

UHF Trans.-Rec............. AN/ARC-771
MRB Trans.-Rec............. AN/ARC-20
Radio Altimeter............. AN/APR-22
Marker Beacon............. AN/ASQ-12
IFF .................... AN/ABP-6
IFF Coder ................ AN/APQ-09
LF ADF .................. AN/ARB-0
UHF ADF .................. AN/ARX-25
Interphone ............... AN/ARQ-04
Radar Search ............ AN/APC-10
LAB Radar Height ........ AN/APC-16
LAB R-R Adapter .......... AN/G7C/AG-16
Sonobuoy Rec.................. AN/ARQ-06
Search Light .......... AN/VQ-24
SCM Rec .................. AN/APQ-08
SCM DF .................. AN/AFQ-09
MCM Rec .................. AN/AQF-6

VHF Trans.-Rec .......... AN/ARC-4
Bomb Director ............ AN-J-3 MOD-5

DIMENSIONS

WING
AREA .................. 460 sq. ft.
SPAN .................. 50 ft.
MAC .................. 28 ft.
LENGTH .................. 48 ft.
HEIGHT .................. 15 ft.
TRAIL .................. 24 ft.
PROOF, OX, DB, ORM, ORM: ....... 6 in.

ORDNANCE

Equipped with inner wing bomb racks as on other AD-5 models and can carry the same stores.

Provisions for 12 14 in. racks in outer wings and .50 mm guns in wing fold with 200 rds. of ammunition per gun.

FUEL AND OIL

FUEL GRADE ............. 153/165
FUEL SPEC ............. MIL-F-5572

OIL

CAPACITY ............. 39 gals.
SPRCE ............. AN-O-8
GRADN ............. AN-1120

WEIGHTS

LOADING LBS. L.P.
EMPTY .................. 12,099
BASE .................. 12,800
T.O.G. .............. 17,125
MAX. T.O. (FIELD) .... 29,800
MAX. L.G. (FIELD) .... 21,000

ALL WEIGHTS ARE CALCULATED

30 APRIL 1956
AD-5W
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>SEARCH 2-300 gal. Aero 1A Fuel Tanks</th>
<th>SEARCH 2-150 gal. Aero 1A Fuel Tanks</th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT (lb.)</td>
<td>16,037</td>
<td>20,061</td>
</tr>
<tr>
<td>Fuel (lb.)</td>
<td>2,880</td>
<td>4,080</td>
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<tr>
<td>Payload (lb.)</td>
<td>1,050</td>
<td>1,330</td>
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<tr>
<td>Wing loading (lb./eq.ft.)</td>
<td>14.1</td>
<td>50.1</td>
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<tr>
<td>Stall speed - power-off (km.)</td>
<td>71.2</td>
<td>92.7</td>
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<tr>
<td>Take-off run at S.L. - calm (ft.)</td>
<td>1,025</td>
<td>1,230</td>
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<tr>
<td>Take-off run at S.L. - wind (ft.)</td>
<td>60.0</td>
<td>72.0</td>
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<tr>
<td>Take-off to clear 50 ft. - calm (ft.)</td>
<td>1,030</td>
<td>2,385</td>
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<tr>
<td>Max. speed/altitude (a) (km./hr.)</td>
<td>250/7,300</td>
<td>250/7,300</td>
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<tr>
<td>Rate of climb at S.L. (fpm)</td>
<td>2,700</td>
<td>1,330</td>
</tr>
<tr>
<td>Time: S.L. to 10,000 ft. (min.)</td>
<td>8.3</td>
<td>5.5</td>
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<tr>
<td>Time: S.L. to 20,000 ft. (min.)</td>
<td>24.8</td>
<td>17.1</td>
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<tr>
<td>Service ceiling (100 fpm) (ft.)</td>
<td>26,000</td>
<td>23,800</td>
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<tr>
<td>Combat range (n.mi.)</td>
<td>885</td>
<td>1,295</td>
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<tr>
<td>Average cruising speed (km.)</td>
<td>165</td>
<td>160</td>
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<tr>
<td>Cruising Altitude (ft.)</td>
<td>1,090</td>
<td>1,000</td>
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<tr>
<td>Combat radius (n.mi.)</td>
<td>275</td>
<td>320</td>
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<tr>
<td>Average cruising speed (km.)</td>
<td>163</td>
<td>160</td>
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<tr>
<td>Mission time (hrs.)</td>
<td>4.4</td>
<td>8.1</td>
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</table>

<table>
<thead>
<tr>
<th>COMBAT LOADING CONDITION</th>
<th>60% Fuel</th>
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<tbody>
<tr>
<td>COMBAT WEIGHT (lb.)</td>
<td>17,125</td>
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<tr>
<td>Engine power</td>
<td>Military</td>
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<tr>
<td>Fuel (lb.)</td>
<td>1,365</td>
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<tr>
<td>Combat speed/combat altitude (km./hr.)</td>
<td>253/1,600</td>
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<tr>
<td>Rate of climb/combat altitude (fpm/hr)</td>
<td>2,700/1,600</td>
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<tr>
<td>Combat ceiling (500 fpm) (ft.)</td>
<td>28,800</td>
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<tr>
<td>Rate of climb at S.L. (fpm)</td>
<td>2,700</td>
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<tr>
<td>Max. speed at S.L. (km.)</td>
<td>290</td>
</tr>
<tr>
<td>Max. speed/altitude (km./hr.)</td>
<td>250/7,300</td>
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</tbody>
</table>

| LANDING WEIGHT (lb.)      | 15,985                                 |
| Fuel (lb.)                | 222                                   |
| Stall speed - power-off (km.) | 82.8                             |
| Stall speed - with approach power (km.) | 77.1                              |

(a) Normal rated power.

PERFORMANCE BASIS: Performance is calculated and based on contractor's flight tests of the AD-5W.

COMBAT RANGE AND RADIUS are based on fuel consumption data from AD-4B, AD-5 and AD-5 flight tests and are increased 5%.

All loadings include inner wing MB-51 bomb racks.

NOTES

30 APRIL 1956
NOTES

SPOTTING: A total of 83 airplanes can be accommodated in a landing spot on the flight and hangar decks of a CVA-19 class angled deck carrier.

ASH RADIUS AND RADIUS PROBLEM

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

COMBAT RANGE = CLIMB + CRUISE
MISSION TIME = TIME REQUIRED FOR CLIMB + CRUISE
COMBAT RADIUS = LOCK COMBAT RANGE

1,500 FT.

COMBAT RANGE