STANDARD AIRCRAFT CHARACTERISTICS

AD-6 "SKYRAIDER"

DOUGLAS

15 FEBRUARY 1956
POWER PLANT

NO. & MODEL (1) R-3350-26-M4A
MFR. Wright Aero
SUPERCH. 1-stage, 2-speed
REDUCTION GEAR RATIO 4.75:1
PROP. MFR. Aero Products
BLADE, ASA 4073 D02-4-250/G042-4-150-0
NO. BLADE/PROP. DIA. 4/13' 6"

RATINGS

B.H.P. RPM ALT
T.O. 2700 2900 S.L.
MIL. 2700 2900 S.L. to 3700'
2100 2600 11500' to 14500'
NORMAL 2300 2600 S.L. to 6200'
1900 2500 12000' to 17000'

SPEC. NO. N-9363

MISSION AND DESCRIPTION

The AD-6 airplane's primary mission is the destruction of sea and ground targets by dive bomb ing attacks. The airplane is also capable of torpedo, glide bombing, rocket attacks and tactical support missions. The AD-6 is designed to operate from all classes of naval aircraft carriers or from land bases.

The single-place airplane is conventional in design and structure, landing gear, canopy, flaps, wing folding, and three fuselage dive brakes are operated hydraulically. Flaps are NACA single-slotted trailing-edge type. The pressure-balanced type ailerons are operated by power boost. The rudder is equipped with a spring tab system. Longitudinal trim is achieved by an electrically adjustable stabilizer. Power plant, engine mount, and elevators are conventional. Oxygen for five hours is supplied.

The centerline bomb station of the AD-6 is capable of carrying external stores up to 3,500 lbs. weight and 30 inches diameter. A combination 14 and 30 inch suspension bomb ejector is installed. A bomb director suitable for either high or low altitude bombing is installed.

Wing bomb racks are similar to previous AD series, except the pylons are located 14 inches forward of the location of AD-4, and previous models. Aero 14 adapters (30-inch suspension) are provided for stores weighing over 2,000 lbs.

An external armor kit provides increased flak and small arms protection and can be readily removed or installed as dictated by operational requirements.

DEVELOPMENT

Prototype - AD-6B
First Flight - June 1953
Service Use - September 1953

WEIGHTS

LOADINGS LBS. L.F.
EMPTY 11,900
BASIC 13,111
VISION 15,095
COMBAT 16,000
MAX. T.O. (Field) 25,000
(MAX. T.O. (Cat.) 25,000
MAX. LANDING (Field) 21,000
(MAX. LANDING (Arrest) 17,500

ALL WEIGHTS ARE CALCULATED

FUEL AND OIL

NO. TANKS TOTAL GAL. LOCATION
1 380 Fuselage
1 150 or 300 Wtr. Drop
2 150 or 300 Wing Drop

FUEL GRADE... N150
FUEL SPEC... MIL-F-5172

OIL

CAPACITY (Gal.)... 115
GRADE... 1120
SPEC... AN-O-8

DIMENSIONS

WING AREA... 400 Sq. Ft.
SPAN... 40 ft. 40" MAC... 25° 30" MAC... 25° 30" LENGTH... 2" HEIGHT... 2" TREAD... 13' 11" PROP. GEAR CLEARANCE... 6" ELETRONICS

UHF... AN/ARC-27A
IFH... AN/APS-28B, AN/APS-89
LP ADF... AN/APS-48
UHF DTR. INDOR... AN/ARC-25
RADIO ALTIMETER... AN/APS-22
MARK, DRAGAN REG... AN/APS-12
TAGAN (Alt. to AN/APS-6)... AN/APS-21
SEARCH RADAR (Prov.)... AN/APS-19 C

15 FEBRUARY 1956

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AD-6
## PERFORMANCE SUMMARY

### TAKE-OFF LOADING CONDITION

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb. 18,918</td>
<td>lb. 18,578</td>
<td>lb. 22,288</td>
<td>lb. 22,620</td>
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<tr>
<td>Fuel</td>
<td>lb. 2,280</td>
<td>lb. 2,280</td>
<td>lb. 5,880</td>
<td>lb. 5,880</td>
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<tr>
<td>Payload</td>
<td>lb. 2,000</td>
<td>lb. 1,600</td>
<td>lb. 1,600</td>
<td>lb. 1,600</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb/sq.ft. 47.3</td>
<td>lb/sq.ft. 46.4</td>
<td>lb/sq.ft. 46.5</td>
<td>lb/sq.ft. 46.5</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn. 86.1</td>
<td>kn. 85.3</td>
<td>kn. 94.1</td>
<td>kn. 94.1</td>
</tr>
<tr>
<td>Take-off run at S.L. - 350</td>
<td>ft. 1,155</td>
<td>ft. 1,130</td>
<td>ft. 2,070</td>
<td>ft. 2,080</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 knots</td>
<td>ft. 630</td>
<td>ft. 600</td>
<td>ft. 1,130</td>
<td>ft. 1,120</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - 350</td>
<td>ft. 630</td>
<td>ft. 600</td>
<td>ft. 1,130</td>
<td>ft. 1,120</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(B) kn./ft. 290/15,500</td>
<td>293/15,630</td>
<td>279/15,400</td>
<td>266/15,200</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(A) ft. 0.000</td>
<td>0.140</td>
<td>1.475</td>
<td>1.600</td>
</tr>
<tr>
<td>Time: S.L. to 10,000 ft.</td>
<td>(A) min. 5.1</td>
<td>5.0</td>
<td>7.6</td>
<td>8.0</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>(A) min. 12.4</td>
<td>12.2</td>
<td>20.1</td>
<td>21.8</td>
</tr>
<tr>
<td>Service ceiling (100 rpm)</td>
<td>(A) ft. 31,100</td>
<td>31,650</td>
<td>26,250</td>
<td>25,750</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.m. 759</td>
<td>752</td>
<td>1,988</td>
<td>1,143</td>
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<tr>
<td>Cruising altitude (A)</td>
<td>ft. 5,000</td>
<td>5,000</td>
<td>5,000</td>
<td>5,000</td>
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<tr>
<td>Combat radius</td>
<td>n.m. 268</td>
<td>273</td>
<td>680 (C)</td>
<td>561</td>
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<tr>
<td>Average cruising speed</td>
<td>kn. 170</td>
<td>170</td>
<td>170</td>
<td>170</td>
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<tr>
<td>Total Mission Time</td>
<td>hrs 3.5</td>
<td>3.5</td>
<td>8.2</td>
<td>6.9</td>
</tr>
</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>Condition</th>
<th>CLEAN</th>
<th>CLEAN</th>
<th>CLEAN</th>
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</thead>
<tbody>
<tr>
<td>COMBAT WEIGHT</td>
<td>lb. 16,006</td>
<td>lb. 16,006</td>
<td>lb. 16,006</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
<td>Military</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 1,368</td>
<td>lb. 1,368</td>
<td>lb. 1,368</td>
</tr>
<tr>
<td>Combat speed/altitude</td>
<td>kn./ft. 277/Sea Level</td>
<td>277/Sea Level</td>
<td>277/Sea Level</td>
</tr>
<tr>
<td>Rate of climb/altitude</td>
<td>ft./min. 3,230/Sea Level</td>
<td>3,230/Sea Level</td>
<td>3,230/Sea Level</td>
</tr>
<tr>
<td>Combat ceiling (500 rpm)</td>
<td>ft. 31,200</td>
<td>31,200</td>
<td>31,200</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>ft./min. 3,230</td>
<td>3,230</td>
<td>3,230</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>kn. 277</td>
<td>277</td>
<td>277</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>kn./ft. 303/35,000</td>
<td>303/35,000</td>
<td>303/35,000</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb. 220</td>
<td>220</td>
<td>220</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn. 76.3</td>
<td>76.3</td>
<td>76.3</td>
</tr>
<tr>
<td>Stall speed - with approach power</td>
<td>kn. 71.7</td>
<td>71.7</td>
<td>71.7</td>
</tr>
</tbody>
</table>

### NOTES

1. Normal Rated Power.
3. External fuel tanks and 1,258 lb of external fuel dropped prior to combat.
4. Performance Basis: Performance is calculated and based on flight tests of Models AD-4B, AD-5 & AD-6 airplanes. Combat range and radius are based on fuel consumption data from AD-4B, AD-5 and AD-6 flight tests.
5. All loadings include centerline and inner wing bomb racks, 12 Aero 16 racks and 4-20 mm guns.

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NOTES

SPOTTING: A maximum operating spot aboard a CVA-19 (Angled Deck) class carrier consists of 42 aircraft on the flight deck with elevators and landing area clear and 41 aircraft on the hangar deck with hangar bay fire doors and elevators clear. Total - 83 aircraft.

LOW ALTITUDE ATTACK AND GROUND SUPPORT BOMBER

WARM-UP, TAKE-OFF, ACCELERATE: 10 minutes at normal rated power at sea level.
CLIMB: To 5,000 ft. at normal rated power.
CRUISE-OUT: At speed for long range at 5,000 ft.
DECLINE: To sea level - no fuel used - no distance gained.
DROP BOMBS AND FIRE ROCKETS
COMBAT: 5 minutes at maximum power plus 10 minutes at normal rated power at sea level.
CLIMB: To 5,000 ft. at normal rated power.
CRUISE-BACK: At speed for long range at 5,000 ft.
RESERVE: 20 minutes at speed for long range at sea level plus 5% of initial fuel.

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

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Standard Aircraft Combat Radius

5,000 FT.

S.L.

COMBAT RADIUS

S.L.

5,000 FT.