STANDARD AIRCRAFT CHARACTERISTICS

AD-5N "SKYRAIDER"

DOUGLAS

30 APRIL 1956
POWER PLANT

No. & Model: (1) R-3350-26-WK
Mr. No.: Weight Aero
Superchg: Single Stage Turbo Speed Red. Gear Ratio: .475:1
Prop. Mr. No.: Aero Products
Blade Dm. No.: MCA2-162-0
Blade/Blades Prop.: A/3164

RATINGS

SPEC. RPM RPM A.L.T.
T.O. 2,700 2,900 S.L.
K.I.L. 2,700 2,900 3,700
N.O.M. 2,350 2,600 14,500
N.O.M. 1,900 2,600 17,000

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 scout airplane capable of operating from carrier or land bases. The AD-5N has complete installation provisions for all equipment required for anti-submarine operations and also contains structural provisions for any item of tactical equipment normally carried on any other AD-5 model.

The AD-5N is a development of the AD-7 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 electronic equipment in flight. The AD-5N incorporates improved armament, improved maintenance, and improved aerodynamic characteristics. A single dive brake is provided for dive bombing and maneuver control. The airplane arrangement provides space for additional equipment as may be dictated by future tactical requirements.

DEVELOPMENT

First Flight: August 1952
Service Use: March 1954

WEIGHTS

LOADINGS LBS. Lb.
BASIC 12,112
STANDARD 14,641
GENEIX 17,000
COMBAT 18,505
MAX. T.G. FIELD 25,000
MAX. A.T.G. FIELD 25,000
MAX. A.T.G. FIELD 21,000

FUEL AND OIL

CAPACITY 39 gals.
SPEC. 40-8
GRAIN 1120

ELECTRONICS

UHF Trans.-Rec. AM/ARQ-27A
MUF Trans.-Rec. AM/ARQ-2
Radio Altimeter AM/AM-22
Master Beacon AM/AM-12
IFF AM/ARQ-6
IFR Coder AM/ARQ-89
LP ALF AM/AM-5
UHF ADP AM/AM-25
Interphone AM/AM-14
Radar Search AM/APS-310
LAB Radar Beacon AM/APS-26
LAB R-R Adapter HS-76/APS-16
Sonobuoy Rec. AM/AM-26
Searchlight AM/AQV-2A
ECCM Rec. AM/AQF-9B

DIMENSIONS

WING AREA 400.3 sq.ft.
SPAN 50.0 ft.
MAC 8.4 ft.
LENGTH 46.0 ft.
HEIGHT 15.8 ft.
TR值 13.9 ft.
PROP. GEAR CLEARANCE 6 in.

ORDNANCE

Maximum Bomb Load 3,000 lbs.
Conventional (17-24 lbs. each)
Bombs 1,000 lb. 750 lb.
2,000 lb. 1,500 lb.
Depth Bomb 1,000 lb.
Mines 1,000 lb. 1,500 lb.
Torpedoes 1,000 lb.
Missiles 1,000 lb. 1,500 lb.

ALL WEIGHTS ARE CALCULATED

30 APRIL 1956

AD-5N
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) ATTACK</th>
<th>(2) ASV ATTACK</th>
<th>(3) ASV ATTACK</th>
<th>(4) ASV ATTACK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1-500 lb. bomb</td>
<td>50 gal. Aero 1A Fuel Tank</td>
<td>1-1660 lb. Store 50 gal. Aero 1A Fuel Tank</td>
<td>1-100 lb. Bomb</td>
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<tr>
<td></td>
<td>6-100 lb. bombs</td>
<td></td>
<td></td>
<td>1-100 lb. Bomb</td>
</tr>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td></td>
<td></td>
<td>lb.</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td></td>
<td></td>
<td>lb.</td>
</tr>
<tr>
<td>Payload</td>
<td>lb.</td>
<td></td>
<td></td>
<td>lb.</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq.ft.</td>
<td></td>
<td></td>
<td>lb./sq.ft.</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km./hr.</td>
<td></td>
<td></td>
<td>km./hr.</td>
</tr>
<tr>
<td>Take-off run at S.L. - calms</td>
<td>ft.</td>
<td></td>
<td></td>
<td>ft.</td>
</tr>
<tr>
<td>Take-off run at S.L. 25 km.</td>
<td>ft.</td>
<td></td>
<td></td>
<td>ft.</td>
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<tr>
<td>Take-off run to clear 50 ft.</td>
<td>ft.</td>
<td></td>
<td></td>
<td>ft.</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./hr.</td>
<td></td>
<td></td>
<td>km./hr.</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>rpm.</td>
<td></td>
<td></td>
<td>rpm.</td>
</tr>
<tr>
<td>Time: S.L. to 10,000 ft.</td>
<td>min.</td>
<td></td>
<td></td>
<td>min.</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>min.</td>
<td></td>
<td></td>
<td>min.</td>
</tr>
<tr>
<td>Service ceiling (100 fps)</td>
<td>ft.</td>
<td></td>
<td></td>
<td>ft.</td>
</tr>
<tr>
<td>Combat range</td>
<td>n.m.</td>
<td></td>
<td></td>
<td>n.m.</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km./hr.</td>
<td></td>
<td></td>
<td>km./hr.</td>
</tr>
<tr>
<td>Cruising altitude (a)</td>
<td>ft.</td>
<td></td>
<td></td>
<td>ft.</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m.</td>
<td></td>
<td></td>
<td>n.m.</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km./hr.</td>
<td></td>
<td></td>
<td>km./hr.</td>
</tr>
<tr>
<td>Total mission time</td>
<td>hrs.</td>
<td></td>
<td></td>
<td>hrs.</td>
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</tbody>
</table>

### COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th></th>
<th>(2) CLEAN 10% Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb.</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
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<tr>
<td>Fuel</td>
<td>lb.</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km./hr.</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fps./hr.</td>
</tr>
<tr>
<td>Combat ceiling (500 fps)</td>
<td>ft.</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fps.</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km./hr.</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km./hr.</td>
</tr>
</tbody>
</table>

### LANDING WEIGHT

<table>
<thead>
<tr>
<th></th>
<th>lb.</th>
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<tbody>
<tr>
<td>Fuel</td>
<td>lb.</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>km./hr.</td>
</tr>
<tr>
<td>Stall speed - approach power</td>
<td>km./hr.</td>
</tr>
</tbody>
</table>

### NOTES

- Normal rated power.
- If the water injection kit is installed including 10 gal. A.H. Fluid, the airplane weight is increased 136 lb., the maximum available combat RBF is 3,150 horsepower, and the speed level high speed is 278 knots and the sea level rate of climb is 3,140 ft./min.
- If the 1,660 lb. store is aboard, the speed level high speed is 276 knots with combat power and 268 knots with military power.

Continued on NOTES Page
NOTES

(Continued from PERFORMANCE SUMMARY Page)

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

- CONSIDERATION is made for additional flight tests and increased fuel consumption.

- COMBAT RADIUS AND RANGE are based on fuel consumption data from AD-4B, AD-5 and AD-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 suppressors.

(Continued from ELECTRONICS Page)

ECM DF.......................... AM/APA-69A
ECM Rec.......................... AM/APA-13
Provisions
VHF Trans.-Rec.......................... AN/ARC-1
Bomb Director.......................... MK-3 MOD-5

(Continued from GUNNERY Page)

Torpedoes.......................... Two
Frag. Cl.......................... 2-500 lb. 2-100 lb.
Incend. Cl.......................... 2-500 lb. 2-100 lb.
Chern. Tanks.......................... 2-Aero 14A
Fuel Tanks.......................... 2-300 gal. 2-150 gal.
Fus. Bombs.......................... 2-Aero 4A Container
2-Aero 5A Container
Rockete.......................... 2-11.75 in.
Misc. Stores.......................... 2-Aero 2A Smoke/Flare
R-APS-3B Radar Store
R-APS-7B Smoke/Flare
1000A Window disp. 2-Para. Flare cont.
1-300 Smoke/Flare

Outer Wing (12-Aero 14/Racks)
Bombe.......................... 6-500 lb. 12-100 lb.
Depth Bombe.......................... 4-500 lb.
Frag. Bombe.......................... 6-500 lb. 12-100 lb.
Incend. Cl.......................... 6-500 lb. 12-100 lb.
Rockets.......................... 12-11.75 in.
12-144 RV 5 in.
12-Aero 38 Packages

FUSED GUNS/ROGS, ANG
L-22mm type M2 200 rds. per gun
Gun sight, Mk. 20 MOD 4
Mounted in wing leading edge
Arm. Cont. Syst. (LLANS) Aero 18C

SPOTTING: A total of 83 airplanes can be accommodated in a landing spot on the flight and hanger decks of a CVA-19.

LOW ALTITUDE ATTACK AND GROUND SUPPORT MISSION - COMBAT RADIUS PROBLEM

WARM-UP, TAXI, TAKE-OFF: 30 minutes at normal power.

CLIMB: On course to 5,000 feet with normal power.

CRUISE-OUT: At 5,000 feet at velocity for long range.

DESIGNED: To sea level. (No fuel used, no altitude gained.)

DROP NOSES, FIRE ROCKETS.

COMBAT: 15 minutes at sea level. (5 minutes at military power and 10 minutes at normal power.)

CLIMB: On course to 5,000 feet with normal power.

CRUISE BACK: At 5,000 feet at velocity for long range.

RESERVE: 20 minutes at velocity for long range at sea level plus 5% of initial fuel load.

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

AD-5N

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