Standard Aircraft Characteristics

NAVY MODEL
TA-4E
AIRCRAFT

THIS PUBLICATION SUPERSEDES NAVAIR 00-110A-1 DATED
1 MAY 1955 IN PART AND ALL ADDENDA THERETO

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1 JULY 1967
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STANDARD AIRCRAFT CHARACTERISTICS

MODEL TA-4E
POWER PLANT

- No. & Model (1) 352-P-6A
- Axial Flow Twin Spool Turbojet Without Afterburner
- MFR. - N & W Aircraft
- Spec. No. H-1844
- Length .......... 116.9 in.
- Diameter .......... 30.2 in.

RATINGS

- MIL. 12,050 RPM 9300 lb.
- Norm. 11,660 RPM 8200 lb.

ELECTRONICS

- UHF Communications .......... AN/ARC-51A
- IFF ................................ AN/AAR-64
- Standby Communications .......... AN/ARC-69
- DIRECT FIRECR ................................ AN/AAM-1C
- TACAN ................................ AN/ARC-5A
- Leds (Green and Red Mode) .......... AN/AJL-3A
- Auto Pilot .......... 12PH/QGAS
- Store Arming .......... AN/AAR-1
- Radar .......... AN/AW-45A
- Radar Attendant .......... AN/AAR-41
- doppler .......... AN/AAR-73A
- Auto. Dead Reckon .......... AN/ARC-41
- Air Data Computer and Bombing Mode of AJL-3A
- Strike and NULLPUS Provisions

MISSION AND DESCRIPTION

- The T4-ME is a two-seat advanced jet trainer version of the A-4D airplane. Missions include training of pilots in combat aerobatics, tactical maneuvers, instrument flying, carrier take-off and landing, and air-to-air flying and air-to-surface weapon delivery.

- The space for the second cockpit is obtained by moving the nose section of the basic A-4D forward 28 inches and reducing the size of the fuselage fuel tank. The nose landing gear is moved forward with the nose section. The rear seat is elevated above the forward seat for good visibility. Controls and instruments are repeated in the rear cockpit. Nose wheel steering and wing landing spoilers are installed. The 352-P-6A used in the A-4D. 

WEIGHTS

- LOADINGS
  - Empty 10,602 lb.
  - Stand 10,781 lb.
  - Flight Design 12,254 lb.
  - Combat 10,541 lb.
  - Max. Take-Off 24,250 lb.
  - Max. Landing 14,900 lb.
  - Arrest 14,900 lb.
  - Airfield 16,000 lb.

SERVICE

- FUEL AND OIL
  - 960 1 Wing
  - 100 1 Fuselage
  - In-Flight Refueling is installed
  - Fuel Spec. ................. MIL-F-5624A

- OIL
  - 5.0 Gal. mounted on engine
  - Oil Spec. ................. MIL-L-23459

ORDNANCE

- N0. Location Loading
  - 1 Fuselage Center Line up to 375 lbs.
  - 2 Inboard Wing up to 1250 lbs.
  - 2 Outboard Wing up to 500 lbs.
  - No Roll Restriction

- GUNS
  - 2 Lower Wing Outboard of Fuselage

DIMENSIONS

- Span ......................... 27.5 ft.
- Length ..................... 42.5 ft.*
- Height ........................ 7.3 ft.
- Max. Track .................. 7.8 ft.
- Turn, Rad. .................. 24.5 ft.*
- Wing Area .................. 250 sq. ft.

* Without In-Flight Refueling probe
## PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION | (1) MIL-11H-11 | (2) MIL-11H-3 | (3) P.S.L. Store Delivery | (4) Close Support | (5) Ferry
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TAKE-OFF WEIGHT</td>
<td>lb.</td>
<td>18,886</td>
<td>21,042</td>
<td>23,114</td>
<td>22,753</td>
</tr>
<tr>
<td>Fuel</td>
<td>internal/external (JP-5)</td>
<td>lb./lb.</td>
<td>4488/4080</td>
<td>4488/4080</td>
<td>4488/2040</td>
</tr>
<tr>
<td>Payload</td>
<td>None</td>
<td>None</td>
<td>2040</td>
<td>3600</td>
<td>None</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb./sq. ft.</td>
<td>60.9</td>
<td>88.9</td>
<td>69.2</td>
<td>87.4</td>
</tr>
<tr>
<td>Stall speed—power-off</td>
<td>kn.</td>
<td>113</td>
<td>133</td>
<td>139</td>
<td>139</td>
</tr>
<tr>
<td>Take-off run at S.L.—calm</td>
<td>ft.</td>
<td>1800</td>
<td>3410</td>
<td>500</td>
<td>4290</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(a)</td>
<td>582/5.1</td>
<td>538/5.0</td>
<td>537/5.1</td>
<td>396/5.0</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(a)</td>
<td>10,160</td>
<td>6600</td>
<td>6400</td>
<td>5200</td>
</tr>
<tr>
<td>Time: S.L. to 5000 ft.</td>
<td>(a)</td>
<td>2.4</td>
<td>4.6</td>
<td>4.6</td>
<td>6.2</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft.</td>
<td>(a)</td>
<td>4.4</td>
<td>12.5</td>
<td>16.8</td>
<td></td>
</tr>
<tr>
<td>Combat radius at 1000 fps</td>
<td>(a)</td>
<td>40,000</td>
<td>34,000</td>
<td>33,000</td>
<td>32,000</td>
</tr>
<tr>
<td>Combat radius/mission time</td>
<td>n.mi./hr.</td>
<td>360/1.8</td>
<td>665/3.2</td>
<td>420/2.0</td>
<td>125/1.6</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>kn.</td>
<td>433</td>
<td>615</td>
<td>613</td>
<td>489</td>
</tr>
<tr>
<td>Cruising altitudes</td>
<td>ft.</td>
<td>37,200</td>
<td>41,200</td>
<td>30,200</td>
<td>34,600</td>
</tr>
<tr>
<td>COMBAT LOADING CONDITION</td>
<td>(2) Clean Airplane</td>
<td>(4) Tanks Retained</td>
<td>(6) Tanks Dropped Store Retained</td>
<td>(8) Tank Dropped Store Retained</td>
<td>(10) Tanks Retained</td>
</tr>
<tr>
<td>COMBAT WEIGHT</td>
<td>lb.</td>
<td>14,051</td>
<td>16,963</td>
<td>18,672</td>
<td>20,515</td>
</tr>
<tr>
<td>Engine power</td>
<td>MILITARY</td>
<td>MILITARY</td>
<td>MILITARY</td>
<td>MILITARY</td>
<td>MILITARY</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>2693</td>
<td>2693</td>
<td>2693</td>
<td>2693</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>(a)</td>
<td>515/38,200</td>
<td>697/33,400</td>
<td>547/3.1</td>
<td>503/5,000</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>(a)</td>
<td>2000/26,200</td>
<td>1800/32,400</td>
<td>7800/5,1</td>
<td>5200/5000</td>
</tr>
<tr>
<td>Combat ceiling (500 fps)</td>
<td>ft.</td>
<td>44,000</td>
<td>38,100</td>
<td>36,200</td>
<td>31,400</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(a)</td>
<td>11,150</td>
<td>8,500</td>
<td>7800</td>
<td>6100</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>(a)</td>
<td>582/4.4</td>
<td>537</td>
<td>547</td>
<td>691</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(a)</td>
<td>582/5.1</td>
<td>537/4.5</td>
<td>547/5.0</td>
<td>594/4.2</td>
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<tr>
<td>LANDING WEIGHT</td>
<td>lb.</td>
<td>12,211</td>
<td>13,165</td>
<td>13,261</td>
<td>13,426</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>853</td>
<td>1077</td>
<td>1077</td>
<td>1000</td>
</tr>
<tr>
<td>Stall speed—power-off</td>
<td>kn.</td>
<td>113</td>
<td>133</td>
<td>139</td>
<td>139</td>
</tr>
<tr>
<td>Landing distance-ground roll/over 50 ft. obst.</td>
<td>ft./ft.</td>
<td>2210/2050</td>
<td>2310/2050</td>
<td>2490/2100</td>
<td>2130/2445</td>
</tr>
</tbody>
</table>

(a) Military Threat. Take-Off Weight, Stores and Tanks Retained.
(b) Ferry Range is 1460 n.mi. if Tanks Dropped When Empty.
(c) Combat Radius is 130 n.mi. if Tanks Dropped When Empty.
(d) All Loadings Except Clean Airplane Include Guns and Ammunition, and Have Plyons on all Stations.

**NOTES**
MINIMUM WIND OVER DECK REQUIRED FOR CATAPULTING VS. GROSS WEIGHT (a) (b)

MINIMUM WIND OVER DECK REQUIRED FOR ARRESTING VS. GROSS WEIGHT (b)

WAVE-OFF ACCELERATION LONGITUDINAL ACCELERATION AT 1.15 VSa

MINIMUM CARRIER APPROACH SPEEDS (c)

NOTES:

(a) Catapult Wind Over Deck Requirements are Estimated on the Basis of A-4S Aircraft/Catapult Flight Testing (Lauch Bld. 6-22G, Flaps 6 & 9)

(b) Catapult End Speed is Limited by a Maximum Tail Force of 120,000 lb Above a Takeoff Weight of 22,500 lb on the C-1 and C-7 Catapults and a Maximum Longitudinal Acceleration of 5.47g Below 22,500 lb

(c) Minimum Wind Over Deck Required for C7 Catapult is C7-1 Requirement Minus 12 Knots

(b) Arrested Landing Wind Over Deck Requirements are Estimated on the Basis of A-4S Aircraft/Aircraft Gear Flight Testing (Recovery Bld., 21-129, 24-134 & 26-128)

(c) Approach Speeds are Estimated on Speeds Recommended in A-4S Flight Handbook.

(f) SHUTTING: A Total of 175 Airplanes can Be Accommodated in a Landing Spot on the Flight and Hangar Decks of a CVA-99 Class Carrier.
<table>
<thead>
<tr>
<th>ORD NANCE</th>
<th>(Station No. 5) OUTBOARD STATION</th>
<th>(Station No. 4) INBOARD STATION</th>
<th>(Station No. 3) FUSELAGE</th>
<th>(Station No. 2) RIGHT INBOARD</th>
<th>(Station No. 1) RIGHT OUTBOARD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOMBS</strong></td>
<td>1) MK-81</td>
<td>1) MK-79 MOD 0</td>
<td>1) MK-79 MOD 0</td>
<td>1) MK-79 MOD 0</td>
<td>1) MK-79 MOD 0</td>
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<tr>
<td></td>
<td>1) MK-82</td>
<td>1) MK-82</td>
<td>1) MK-82</td>
<td>1) MK-82</td>
<td>1) MK-82</td>
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<tr>
<td><strong>SPECIAL WEAPONS</strong></td>
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<tr>
<td><strong>ROCKET LAUNCHERS</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>1) LAU 10/A</td>
<td>1) LAU 10/A</td>
<td>1) LAU 10/A</td>
<td>1) LAU 10/A</td>
<td>1) LAU 10/A</td>
</tr>
<tr>
<td><strong>GUIDED MISSILES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1) AGM-12B (HULLUP A)</td>
<td>1) AGM-12B (HULLUP A)</td>
<td>1) AGM-12B (HULLUP A)</td>
<td>1) AGM-12B (HULLUP A)</td>
<td>1) AGM-12B (HULLUP A)</td>
</tr>
<tr>
<td></td>
<td>1) AGM-12C (HULLUP B)</td>
<td>1) AGM-12C (HULLUP B)</td>
<td>1) AGM-12C (HULLUP B)</td>
<td>1) AGM-12C (HULLUP B)</td>
<td>1) AGM-12C (HULLUP B)</td>
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<td></td>
<td>1) AGM-454 (SIDERIX)</td>
<td>1) AGM-454 (SIDERIX)</td>
<td>1) AGM-454 (SIDERIX)</td>
<td>1) AGM-454 (SIDERIX)</td>
<td>1) AGM-454 (SIDERIX)</td>
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<tr>
<td><strong>EXTERNAL FUEL TANKS</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>1) 150 Gal.</td>
<td>1) 150 Gal.</td>
<td>1) 150 Gal.</td>
<td>1) 150 Gal.</td>
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</tr>
<tr>
<td></td>
<td>1) 300 Gal.</td>
<td>1) 300 Gal.</td>
<td>1) 300 Gal.</td>
<td>1) 300 Gal.</td>
<td>1) 300 Gal.</td>
</tr>
<tr>
<td><strong>MISCELLANEOUS STORES</strong></td>
<td></td>
<td>1) MK-400D1 Gun Pod</td>
<td>1) MK-400D1 Gun Pod</td>
<td></td>
<td>1) MK-400D1 Gun Pod</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) Aero K3 Spray Tank</td>
<td>1) Aero K3 Spray Tank</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) AGO 1A 150 Gal</td>
<td>1) AGO 1A 150 Gal</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MOUNTING/LAUNCHING DEVICES</strong></td>
<td></td>
<td>1) Douglas A/A378-1</td>
<td>1) Douglas A/A378-1</td>
<td></td>
<td>1) Douglas A/A378-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) Douglas A/A378-1 MAR</td>
<td>1) Douglas A/A378-1 MAR</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
1. Multiple stores are mounted on the Douglas MD-10, Single stores are mounted on the Aero 707 and the Aero 20B Wing Rack-Pylon.
3. Only individual Station Maximum Capabilities are listed.
NOTES

SEA LEVEL STORE DELIVERY

Warm-Up, Taxi, Take-Off: 5 Min S.L. NRP
Climb: On Course to Optimum Cruise Altitude with Military Power
Cruise Out: At Max Range Speed at Optimum Cruise Altitude (Drop Fuel Tanks When Empty)
Combat: 5 Min at NWT (Stores on, No Distance Gained)
Cruise Back: At Max Range Speed at Optimum Altitude,
Reserves: 5% Initial Fuel + 20 Min at Max Endurance Speed at S.L.

CLOSE SUPPORT

Warm-Up, Take-Off: 5 Min S.L. NRP
Climb: On Course to Optimum Cruise Altitude with Mil Power
Cruise Out: At Max Range Speed at Optimum Altitude (Drop Fuel Tanks When Empty)
Descend: To S.L. When 50 N.Mi From Target
(No Fuel Used, No Distance Gained)
Run In: 50 N.Mi at V max at NWT
Combat: 5 Min at NWT (Storms On, No Distance Gained) Stores Dropped After Combat.
Run Out: 50 N.Mi at V max at NWT at S.L.
Climb: On course to Optimum Cruise Altitude with Military Power
Cruise Back: At Max Range Speed at Optimum Altitude
Reserves: 5% Initial Fuel + 20 Min at Max Endurance Speed at S.L.

MISSION TIME

COMBAT RADIUS

LOADING CONDITION COLUMN NUMBER

8