STANDARD AIRCRAFT CHARACTERISTICS

T2V-1

LOCKHEED

CLEARED FOR OPEN PUBLICATION 12 AUG 1955

N.W. Frasella
Public Information Officer
By direction of the Commander

15 FEBRUARY 1956
POWER PLANT

NO. & MODEL.............(1) J35-A-24
MFR.........................Allison
TYPE.......................Centrifugal
LENGTH......................107'
DIA.M.......................50'
AUGMENTATION.............None

RATINGS

LBS.............11,800
MPH.............12,200
ALT..............S.S.L.

MIL.............6,100
NORM.............5,500

SPEC. NO. 405

MISSION AND DESCRIPTION

The T2V-1 is a two-place single engine trainer designed for land or carrier base operations. The primary mission is to train pilots in aerobatics, confidence maneuvers, instrument flying and carrier landing and take-off operations.

Design features include fully automatic leading edge slats and single-sloped trailing edge flaps with auxiliary system boundary layer control. The airplane has fixed wing tip tanks, arresting hook and catapult equipment.

DEVELOPMENT

First Flight..................1 January 1956
Service Use..................1 January 1957

ORDNANCE

NONE

WEIGHTS

LOADING

LBS.....................11,129

EMPTY........................11,129

BASIC........................11,348

MAX.............17,000

COMBAT..................17,080

MAX. T.O. (Field)........12,700

MAX. T.O. (Cat)..................12,700

MAX. LAND (Field)........11,235

(Min)..................11,235

ALL WEIGHTS ARE ESTIMATED

FUEL AND OIL

NO. TANKS.......TOW. GALL.

4....................154

1....................146

Wing Fuel

2....................400

Wing Tip Fuel

FUEL GRADE...............JP-4

FUEL SPEC...........MIL-F-5622B

OIL

CAPACITY (Gall)..............3

GRADE..................1010

SPEC.............MIL-O-5621A

DIMENSIONS

WING

AREA..................233 sq. ft.

SPAN..................37' - 7'

MAC..................6' - 9'

SWEPTBACK (1 chord)........None

LENGTH..................30' - 6'

HEIGHT..................11' - 10'

THICK.............8' - 2'

ELECTRONICS

Automatic Direction Finder, AB/ARA-25

BDF Command...............AB/ARA-27A

Marker Beacon Rec., AD/ABR-12

Radio Compass Rec., AB/ARA-3

YF-9 Navigation Rec., AB/ARA-1E

TACAN, AB/ABR-21

Glide Path Rec., AB/AAR-9

Identification Radar, AB/APX-68

Gnudcr, AB/APC-90

Interception, AB/AIR-10

Climber Altimeter, AB/APC-32

Range Receiver, AB/33/ARC-5
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>(1) TRAINER</th>
<th>(2) FIGHTER (Simulated)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TAKING-OFF WEIGHT</strong></td>
<td>lb.</td>
<td>lb.</td>
</tr>
<tr>
<td>Fuel</td>
<td>294</td>
<td>4,940</td>
</tr>
<tr>
<td>Payload</td>
<td>lb.</td>
<td>MORE</td>
</tr>
<tr>
<td>Wing loading</td>
<td>lb/ sq. ft.</td>
<td>71.8</td>
</tr>
<tr>
<td>Stall speed - power-off</td>
<td>kn.</td>
<td>106.4</td>
</tr>
<tr>
<td>Take-off run at S.L. - cala</td>
<td>ft.</td>
<td>2,550</td>
</tr>
<tr>
<td>Take-off run at S.L. - km/s</td>
<td>ft.</td>
<td>790</td>
</tr>
<tr>
<td>Take-off to clear 50 ft. - cala</td>
<td>3,800</td>
<td>3,800</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>(a) kn/ft.</td>
<td>485/35</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>(a) fpm</td>
<td>5,500</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft.</td>
<td>(a) min.</td>
<td>4.4</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft.</td>
<td>(a) min.</td>
<td>7.8</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>(a) ft.</td>
<td>44,800</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m.</td>
<td>260</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>n.m.</td>
<td>392</td>
</tr>
<tr>
<td>Cruising altitude(s)</td>
<td>(f) km</td>
<td>41,000/44,500</td>
</tr>
<tr>
<td>Combat radius</td>
<td>n.m.</td>
<td>260</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>km.</td>
<td>392</td>
</tr>
<tr>
<td>Mission Time</td>
<td>hrs.</td>
<td>1.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMBAT LOADING CONDITION</th>
<th>(3) CLEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COMBAT WEIGHT</strong></td>
<td>lb.</td>
</tr>
<tr>
<td>Engine power</td>
<td>Military</td>
</tr>
<tr>
<td>Fuel</td>
<td>lb.</td>
</tr>
<tr>
<td>Combat speed/combat altitude</td>
<td>km/ft.</td>
</tr>
<tr>
<td>Rate of climb/combat altitude</td>
<td>fpm/ft.</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>ft.</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>fpm</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>km.</td>
</tr>
<tr>
<td>Max. speed/altitude</td>
<td>km/ft.</td>
</tr>
</tbody>
</table>

| LANDING WEIGHT              | lb.       | 12,685                 |
| Fuel                        | lb.       | 980                    |
| Stall speed - power-off     | kn.       | 92.8                   |
| Stall speed - with approach power | kn. | 90.9/86.9(C)          |

### NOTES

(A) Military Rated Thrust
(B) Without Boundary Layer Control
(C) With Boundary Layer Control

PERFORMANCE BASIS: Flight test on F-80C & calculations.

RANGE AND RADIUS are based on engine specification fuel consumption increased 5%.

**SPOTTING:** A total of 53 airplanes can be accommodated in a landing spot on the flight hangar decks of a CVA-19 angled deck carrier.

**REASON FOR REISSUE:** To reflect changes in stall speeds due to decreased leading edge slat extension. Preliminary NASA flight test take-off distances agree closely with calculated data, therefore previous take-off distances are unchanged.

15 FEBRUARY 1957 (REV. 4/15/57)
NOTES

COMBAT RADIUS - TRAINER (GAS TURBINE)

TAKE-OFF, ACCELERATE TO CLIMB SPEED: 5 minutes at normal rated thrust at Sea Level.
CLIMB: With military rated thrust to altitude for best cruise.
CRUISE-OUT: At speed for long range at cruise-climb altitudes.
LAND: At sea level base - no distance gained - no fuel used.
TAKE-OFF, ACCELERATE TO CLIMB SPEED: 5 minutes at normal rated thrust at Sea Level.
CLIMB: With military rated thrust to altitude for best cruise.
CRUISE-OUT: At speed for long range at cruise-climb altitudes.
RESERVE: 20 minutes at maximum endurance speed at Sea Level plus 5% of initial fuel load.

COMBAT RADIUS = CLIMB + CRUISE-OUT + CLIMB + CRUISE-BACK

MISSION TIME = TOTAL TIME WHERE DISTANCE IS GAINED PLUS COMBAT IF APPLICABLE

COMBAT RADIUS - GENERAL PURPOSE FIGHTER (GAS TURBINE)

TAKE-OFF, ACCELERATE TO CLIMB SPEED: 5 minutes at normal rated thrust at Sea Level.
CLIMB: With military rated thrust to altitude for best cruise.
CRUISE-OUT: At speed for long range at cruise-climb altitudes.
COMBAT: 20 minutes with military thrust at 35,000 ft. (and combat at initial cruise-back altitude).
CRUISE-BACK: At speed for long range at cruise-climb altitudes.
RESERVE: 20 minutes at maximum endurance speed at Sea Level plus 5% of initial fuel load.

○ LOADING CONDITION COLUMN NUMBER

15 FEBRUARY 1956