POWER PLANT
No. & Model ..(2) J52-P-6
Mfr. ........ Pratt & Whitney
Type \Twin Spool Axial Flow
Length ............... 127"
Diameter ............. 31"
Augmentation .......... None

RATINGS
Lbs. @ RPM
Maximum 8500 11650
T.O. & Mil. 8500 11650
Normal 7500 11100
Sea Level Static
Spec No.N-1731 of 17 July 1957

MISSION AND DESCRIPTION
The A2F-1 is a medium size, all weather low altitude two-place attack aircraft capable of high subsonic performance and broad mission versatility including tanker capability.
At light gross weights it can operate from short unprepared fields and H-6 catapults, in close support of ground troops, while at higher gross weights, it can operate from CL-1 catapults on long range special weapon strikes against heavily defended fixed targets.
An integrated attack- and central
digital computer system is provided to find, track and destroy small moving targets and large fixed targets in all weather conditions. Pilot displays provide contact analogue, terrain clearance, attack and horizontal situation information in integrated form. Five store stations are provided, inboard of the wing fold joint.
Irreversible hydraulic flight controls are provided. Longitudinal control is effected by an all-moveable stabilizer. Lateral control is provided by flaperons while a conventional rudder is used for directional control.
High lift devices are slotted flaps, leading edge slats and tilting tail pipes. Anti-skid brakes on main wheels are provided. Nose wheel tow catapulting is used. A speed brake is located aft on each side of the fuselage. Side by side ground level sjection seats are provided for the pilot and radar operator.
Power wing folding is provided. The engines may be removed and serviced by removal of fuselage fairings panels.

DEVELOPMENT
First Flight ........ April 1960
Service Use .......... December 1962

ELECTRONICS
Search-Radar .... Instruments
Track Radar AN/APQ-86
Doppler Radar AN/APQ-122(V)
Digital Computer
Radar Altimeter AN/APN-117
Bullpup Transmitter AN/AEW-73
All-Weather Bullpup
Integrated Display Subsystem
- Nomenclature not available
ONI Package AN/ASQ-57
UHF ADF AN/AAR-50
UHF Rec.Transmitter AN/ARC-52
UHF Stand-by Rec. AN/AIR-46
IFF AN/AQX-68
IFF Coder AN/APR-9(GIP)
TACAN AN/ARN-21A
ICS AN/AI-4-14
Counter Measures
Repeater Jammer AN/AJQ-30
Repeater Jammer (2) AN/AJQ-19
Chaff Dispenser AN/ALR-18
Warning Receiver (2)AN/ALR-15

DIMENSIONS
Wing
Area 528.9 sq. ft.
Span 53 ft.
MAC 130.8 inches
Sweepback \(\frac{1}{4}\) Chord 25°
Length 53' 3"
Height 15' 2"
Tread 10' 10"

WEIGHTS
LOADINGS Lbs. L.F.
EMPTY .......... 2302 
BASIC
(Long Range) 26391
(Short Range) 26318
DESIGN .......... 36395 6.5
COMBAT
(Long Range) 30286
(Short Range) 32633
MAX.T.O.(Field) 53278
(Cat.) 53578
MAX. L.V.(Field) 32583
(Arrest) 32583
All weights are estimated.

FUEL AND OIL
No. Tanks Gal. Lbs. Location
3 1309 8900 Fuselage
5 109 7120 Wings
5(300 gal.) 1477 1004 Drop Tanks
Fuel Grade .......... JP-5
Fuel Spec. (Appi.) MIL-F-5624C-1

OIL
Capacity (Gals.) ...... 5/Eng.
Spec. (Appi.) .......... MIL-L-7808

ORDNANCE
Maximum Bomb Capacity: 13020 lbs.
Bombs: MK-51, MK-52, MK-53, MK-54, HD
Fire Bomb: MK-79 Mode-6
Special Weapons: MK-28
MK-28-I, MK-3
Rocket Pkg.:Aero 7D,Aero 10D,
Aero 6A1
Missiles: Sidewinder, Bullpup,
Corvus
In addition, the following may be carried:
Practice Bomb Containers,
Aero 8A(MK-56, MK-89)
Lazy Dog Missile Dispenser-
Aero 1A
Flare Dispenser-Aero 5A
Napalm Tank-150 gal.

30 APRIL 1960
## PERFORMANCE SUMMARY

<table>
<thead>
<tr>
<th>TAKE-OFF LOADING CONDITION</th>
<th>Low Altitude Attack (Mod. 1)</th>
<th>S.L. Store Del. (M-90)</th>
<th>Low Alt. Attack (Mod. 1)</th>
<th>S.L. Store Del. (M-90)</th>
<th>Low Alt. Attack (Mod. 1)</th>
<th>S.L. Store Del. (M-90)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Alt. Attack (Mod. 1)</td>
<td>1-MK 83</td>
<td>5-MK 83</td>
<td>1-MK 83</td>
<td>5-MK 83</td>
<td>1-MK 83</td>
<td>5-MK 83</td>
</tr>
<tr>
<td>Fuel internal/external</td>
<td>9750 lb</td>
<td>9750 lb</td>
<td>9750 lb</td>
<td>9750 lb</td>
<td>9750 lb</td>
<td>9750 lb</td>
</tr>
<tr>
<td>Payload</td>
<td>16020 lb</td>
<td>16020 lb</td>
<td>16020 lb</td>
<td>16020 lb</td>
<td>16020 lb</td>
<td>16020 lb</td>
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<tr>
<td>Wing loading</td>
<td>1200 lb</td>
<td>1200 lb</td>
<td>1200 lb</td>
<td>1200 lb</td>
<td>1200 lb</td>
<td>1200 lb</td>
</tr>
<tr>
<td>Stall speed / power-off</td>
<td>111.2 ft</td>
<td>111.2 ft</td>
<td>111.2 ft</td>
<td>111.2 ft</td>
<td>111.2 ft</td>
<td>111.2 ft</td>
</tr>
<tr>
<td>Take-off run at S.L.</td>
<td>1130 ft</td>
<td>1130 ft</td>
<td>1130 ft</td>
<td>1130 ft</td>
<td>1130 ft</td>
<td>1130 ft</td>
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<tr>
<td>Take-off to clear 500 ft</td>
<td>1470 lb</td>
<td>1470 lb</td>
<td>1470 lb</td>
<td>1470 lb</td>
<td>1470 lb</td>
<td>1470 lb</td>
</tr>
<tr>
<td>Max. speed / altitude</td>
<td>553/S.L.</td>
<td>553/S.L.</td>
<td>553/S.L.</td>
<td>553/S.L.</td>
<td>553/S.L.</td>
<td>553/S.L.</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>5390 ft</td>
<td>5390 ft</td>
<td>5390 ft</td>
<td>5390 ft</td>
<td>5390 ft</td>
<td>5390 ft</td>
</tr>
<tr>
<td>Time: S.L. to 20,000 ft</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
</tr>
<tr>
<td>Time: S.L. to 30,000 ft</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Service ceiling (100 fpm)</td>
<td>101 fpm</td>
<td>101 fpm</td>
<td>101 fpm</td>
<td>101 fpm</td>
<td>101 fpm</td>
<td>101 fpm</td>
</tr>
<tr>
<td>Combat range</td>
<td>1460</td>
<td>1460</td>
<td>1460</td>
<td>1460</td>
<td>1460</td>
<td>1460</td>
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<tr>
<td>Average cruising speed</td>
<td>10750 ft</td>
<td>10750 ft</td>
<td>10750 ft</td>
<td>10750 ft</td>
<td>10750 ft</td>
<td>10750 ft</td>
</tr>
<tr>
<td>Combat radius/Mission time</td>
<td>2000/1.1</td>
<td>2000/1.1</td>
<td>2000/1.1</td>
<td>2000/1.1</td>
<td>2000/1.1</td>
<td>2000/1.1</td>
</tr>
<tr>
<td>Average cruising speed</td>
<td>129</td>
<td>129</td>
<td>129</td>
<td>129</td>
<td>129</td>
<td>129</td>
</tr>
<tr>
<td>IFR Radius/Mission Time</td>
<td>1691.5</td>
<td>1691.5</td>
<td>1691.5</td>
<td>1691.5</td>
<td>1691.5</td>
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</tr>
</tbody>
</table>

## COMBAT LOADING CONDITION

<table>
<thead>
<tr>
<th>Stores Retained</th>
<th>Tanks Off / Store Off</th>
<th>Stores Retained</th>
<th>Missiles Retained</th>
<th>Tanks Off / Missile On</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4</td>
<td>6</td>
<td>8</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COMBAT WEIGHT</th>
<th>lb.</th>
<th>Engine power</th>
<th>Military</th>
<th>3200 lb</th>
<th>3200 lb</th>
<th>3200 lb</th>
<th>3200 lb</th>
<th>3200 lb</th>
<th>3200 lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel</td>
<td>lb.</td>
<td>Military</td>
<td>Military</td>
<td>3200 lb</td>
<td>3200 lb</td>
<td>3200 lb</td>
<td>3200 lb</td>
<td>3200 lb</td>
<td>3200 lb</td>
</tr>
<tr>
<td>Combat ceiling (500 fpm)</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
<td>14700 lb</td>
</tr>
<tr>
<td>Rate of climb at S.L.</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
<td>10950 fpm</td>
</tr>
<tr>
<td>Max. speed at S.L.</td>
<td>566</td>
<td>573</td>
<td>573</td>
<td>573</td>
<td>573</td>
<td>573</td>
<td>573</td>
<td>573</td>
<td>573</td>
</tr>
</tbody>
</table>

## LANDING WEIGHT

<table>
<thead>
<tr>
<th>Stores Off</th>
<th>lb.</th>
<th>Fuel</th>
<th>lb.</th>
<th>Stall speed / power-off</th>
<th>lb.</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
<th>59.7/3.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>26136</td>
<td>135</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td>1671</td>
<td></td>
</tr>
</tbody>
</table>

## NOTES

- **PERFORMANCE BASIS:** Calculations
- **RANGE AND/OR RADIUS:** Eng. spec. fuel consumption increased 5%
- **A:** Military Rated Thrust
- **B:** Inflight refueling. One out bound inflight fueling
- **756 n.m.i. out, 9700 lb. fuel transferred (tanker, tot. fuel 26099 #)
- **C:** IFR: One out bound IFR 765 N.M.i out, 9600 lb. fuel transferred from buddy tanker

**MISSION TIME:** Any time where fuel is used and distance gained including loiter and combat time.

**SPOTTING:** A total of 60 airplanes can be accommodated in the safe parking area on the flight and hangar decks of a CV-19 class angled deck carrier.

**A2F-1**

**CONFIDENTIAL**

**30 APRIL 1960**
### NOTES

<table>
<thead>
<tr>
<th>Loading</th>
<th>Take-Off Weight-lbs</th>
<th>Sea Level Store Delivery (Mod.)</th>
<th>Low Altitude Attack (Mod.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(all data based on JP-5 fuel)</td>
<td></td>
<td>Combat Radius</td>
<td>Mission Time</td>
</tr>
<tr>
<td>1-MK 28 Store plus 2-300 gal. ext. tanks</td>
<td>47516</td>
<td>787</td>
<td>4.5</td>
</tr>
<tr>
<td>1-MK 43 Store plus 4-300 gal. ext. tanks</td>
<td>51795</td>
<td>1064</td>
<td>5.7</td>
</tr>
<tr>
<td>2-MK 83 Stores plus 3-300 gal. ext. tanks</td>
<td>49475</td>
<td>921</td>
<td>5.1</td>
</tr>
<tr>
<td>5-MK 8h Stores</td>
<td>50816</td>
<td>415</td>
<td>2.8</td>
</tr>
<tr>
<td>4 Sidewinders</td>
<td>41559</td>
<td>465</td>
<td>3.1</td>
</tr>
</tbody>
</table>

#### Low Altitude Attack (Modified)
- Warm-up, taxi, take-off: 5 min. SSL NRP
- Climb: On course to optimum cruise alt. with mil power
- Cruise-out: At max. range speed at opt. cruise alt.
- Descend: To 5000 ft. (no fuel used, no dist. gained)
- Loiter: 1 hour at max. end. speed (no dist. gained) Store dropped at end of loiter
- Climb: On course to optimum cruise alt. with mil power
- Cruise-back: At max. range speed at opt. cruise alt.
- Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S.L. (all engines operating)

#### Sea Level Store Delivery (Modified)
- Warm-up, taxi, take-off: 5 min. SSL NRP
- Climb: On course to optimum cruise alt. with mil power
- Cruise-out: At max. range speed at opt. cruise alt.
- Descend: To S.L. when 300 n.m.i. from target (no fuel used, no dist. gained)
- Cruise: At max. range speed at S.L. (all engines operating)
- Dash: 3 min. to target with mil thrust, tanks dropped prior to dash. (All engines operating)
- Drop Store(s)
- Dash: 2 min. from target with mil thrust (all engines operating)
- Cruise: At max. range speeds at S.L. to a point 300 n.m.i. from target
- Climb: On course to opt. cruise alt. with mil power
- Cruise-back: At max. range speed at opt. cruise alt.
- Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S.L. (all engines operating)

#### High Altitude Attack-Buddy IFR (Modified)
- Warm-up, taxi, take-off: 5 min. SSL NRP
- Climb: On course to optimum cruise alt. with mil power
- Cruise-out: At max. range speed at opt. cruise alt.
- Allowance for hook-up and flight contingencies - 5 min. at max. endurance speeds (no fuel used, no distance gained during transfer of fuel)
- Refuel Point: Limited to return of receiver to base with normal reserve if contact is not made
- Cruise-out: At max. range speed at opt. cruise altitude
- Combat: 5 min. with mil thrust at best cruise altitude
- Cruise-back: At max. range speed at opt. cruise alt.
- Reserve: 5% initial internal fuel +20 min. @ max. end. speed at S.L. (all engines operating)