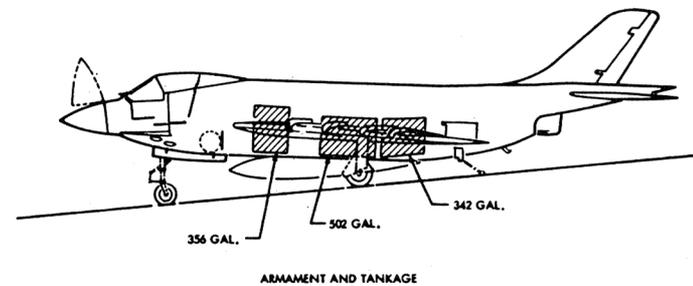
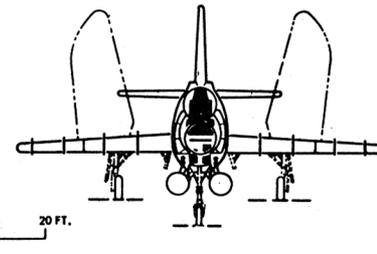
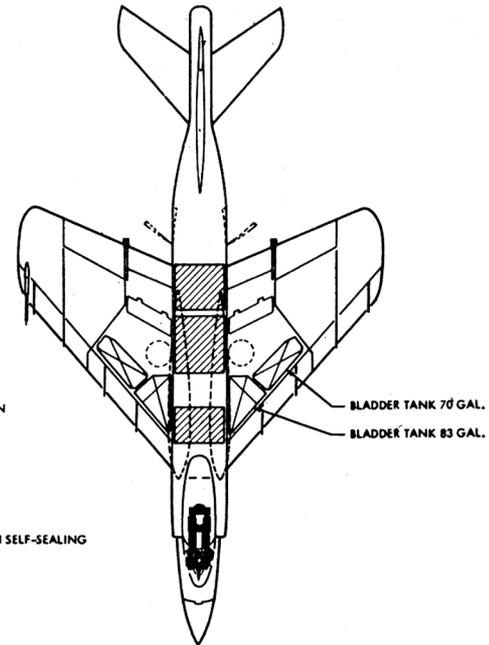
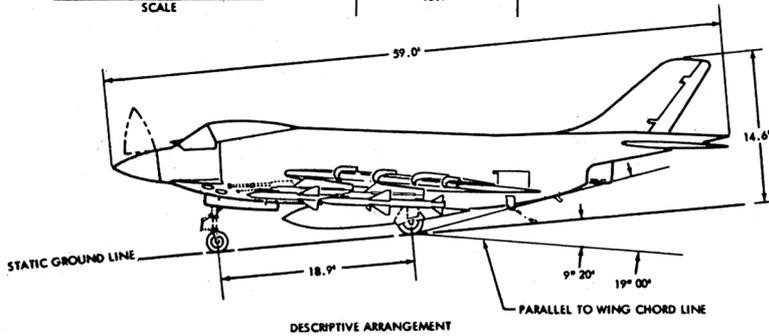
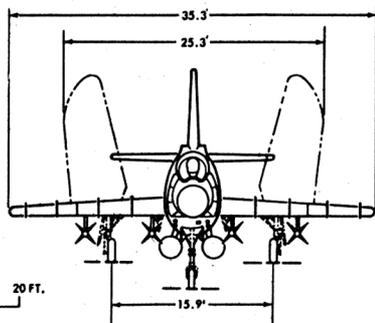
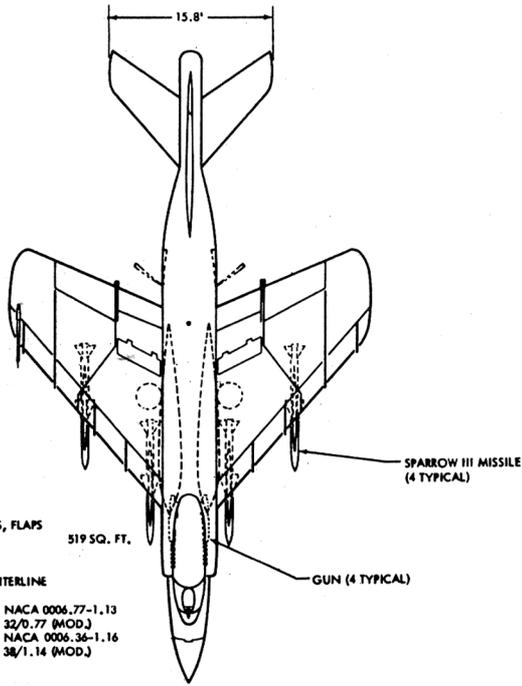


STANDARD AIRCRAFT CHARACTERISTICS

F-3B (F3H-2) "DEMON"

McDONNELL

SERVICE



| POWER PLANT | MISSION AND DESCRIPTION | WEIGHTS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|---|---------|---------------|-------|------------|----------|-------|-------------|--------|------|--------------|------------|------|--------------|------------|------|---------------|-------|----------|--------------------|--|---|-----------|------|----------|---|-----|----------------|---|-----|----------------|---|-----|----------------|---|-----|---------------|---|-----|----------------|---|-----|----------------|
| <p>No. & Model..... (1) J71-A-2B Mfg..... Allison Spec..... Allison No. 361 - F Type.....Axial Flow-Turbo Jet Augmentation Afterburner Length (Incl.A.B).....287.1" Height..... 42.1" Width 42.6"</p> | <p>The McDonnell F-3B (F3H-2) airplane is a single place, swept-wing, jet-propelled fighter and is designed for either land or carrier based operations.</p> | <table border="1"> <thead> <tr> <th>Loading</th> <th>Lbs.</th> <th>L.F.</th> </tr> </thead> <tbody> <tr> <td>Empty.....</td> <td>21287</td> <td>--</td> </tr> <tr> <td>Basic</td> <td>22293</td> <td>--</td> </tr> <tr> <td>Design</td> <td>26000</td> <td>7.5</td> </tr> <tr> <td>Combat</td> <td>31145</td> <td>5.8</td> </tr> <tr> <td>Max.T.O.</td> <td>39000</td> <td>--</td> </tr> <tr> <td>Max.-CarrierLand..</td> <td>26700</td> <td>--</td> </tr> </tbody> </table> | Loading | Lbs. | L.F. | Empty..... | 21287 | -- | Basic | 22293 | -- | Design | 26000 | 7.5 | Combat | 31145 | 5.8 | Max.T.O. | 39000 | -- | Max.-CarrierLand.. | 26700 | -- | | | | | | | | | | | | | | | | | | | | | |
| Loading | Lbs. | L.F. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Empty..... | 21287 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Basic | 22293 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design | 26000 | 7.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Combat | 31145 | 5.8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max.T.O. | 39000 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max.-CarrierLand.. | 26700 | -- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">RATINGS</p> <p style="text-align: center;"><u>Static Thrust</u> <u>at Sea Level</u></p> <table border="1"> <thead> <tr> <th></th> <th>Lbs.</th> <th>RPM</th> </tr> </thead> <tbody> <tr> <td>Maximum (A/B)</td> <td>14400</td> <td>6175</td> </tr> <tr> <td>Military</td> <td>10000</td> <td>6175</td> </tr> <tr> <td>Normal</td> <td>8700</td> <td>6000(Est)</td> </tr> <tr> <td>90% Normal</td> <td>7920</td> <td>5920</td> </tr> <tr> <td>75% Normal</td> <td>6600</td> <td>5820</td> </tr> <tr> <td>Idle</td> <td>714(Max)</td> <td>3950(Min)</td> </tr> </tbody> </table> | | Lbs. | RPM | Maximum (A/B) | 14400 | 6175 | Military | 10000 | 6175 | Normal | 8700 | 6000(Est) | 90% Normal | 7920 | 5920 | 75% Normal | 6600 | 5820 | Idle | 714(Max) | 3950(Min) | <p>The F-3B is equipped with the Sparrow III weapon system which consists of provisions for carrying four supersonic air-to-air guided missiles and special electronic guidance equipment. Further armament consists of four forward firing 20 mm guns. Provisions are included for two heavy duty pylons on the underside of the fuselage for carrying various external stores.</p> | <p style="text-align: center;">FUEL AND OIL</p> <table border="1"> <thead> <tr> <th>No. Tanks</th> <th>Gal.</th> <th>Location</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>356</td> <td>Fuselage, Fwd.</td> </tr> <tr> <td>1</td> <td>502</td> <td>Fuselage, Cen.</td> </tr> <tr> <td>1</td> <td>342</td> <td>Fuselage, Aft.</td> </tr> <tr> <td>2</td> <td>166</td> <td>Wing, Inboard</td> </tr> <tr> <td>2</td> <td>140</td> <td>Wing, Outboard</td> </tr> <tr> <td>2</td> <td>282</td> <td>External Tanks</td> </tr> </tbody> </table> <p>Fuel Grade..... MIL-F-5624D or Cheapest MIL-F-5572 Fuel Spec MIL-F-5624D or MIL-F-5572 Fuselage Tanks Self - Sealing Wing Tanks Bladder Type</p> | No. Tanks | Gal. | Location | 1 | 356 | Fuselage, Fwd. | 1 | 502 | Fuselage, Cen. | 1 | 342 | Fuselage, Aft. | 2 | 166 | Wing, Inboard | 2 | 140 | Wing, Outboard | 2 | 282 | External Tanks |
| | Lbs. | RPM | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Maximum (A/B) | 14400 | 6175 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Military | 10000 | 6175 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Normal | 8700 | 6000(Est) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90% Normal | 7920 | 5920 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 75% Normal | 6600 | 5820 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Idle | 714(Max) | 3950(Min) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. Tanks | Gal. | Location | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 356 | Fuselage, Fwd. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 502 | Fuselage, Cen. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 342 | Fuselage, Aft. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 166 | Wing, Inboard | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 140 | Wing, Outboard | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 282 | External Tanks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">ORDNANCE</p> | <p>The F-3B is provided with tricycle landing gear, catapult and arresting gear, and folding wing panels. Equipment includes an automatic pilot, ejection seat, and pressurized cockpit. An auxiliary power unit may be carried externally to provide for engine starting when operating from advance bases.</p> | <p style="text-align: center;">OIL</p> <p style="text-align: center;">Integral with Engine Spec..... MIL-L-7808</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>4 - 20 mm. MK 12 aircraft guns 600 Rds. MK 12 20 mm. Ammo. (Normal Load) 760 Rds. MK 12 20 mm. Ammo. (for special loadings) 1 - AFCS MK 21 Mod 0 1 - AN-N-6A Gun Camera</p> | <p>Power actuated leading edge slats and trailing edge plain flaps increase lift for landing and take-off, and fuselage mounted speed brakes provide drag control in flight. The primary control system incorporates power actuation with artificial feel forces. Provisions are included for obtaining moderate control forces during emergency operations.</p> | <p style="text-align: center;">ELECTRONICS</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p style="text-align: center;">External</p> <p>4 - Sparrow III Missiles 2 - Douglas Ejector Racks (Fus.) (Aero 7A) 4 - Sidewinder Missiles (Alternate Load)</p> | <p style="text-align: center;">DEVELOPMENT</p> <p>First Flight..... July 1957 Service Use September 1957</p> | <p>UHF AN/ARC-27A UHF DF.... AN/ARR-40 & AN/ARA-25 Short Range Nav..... AN/ARN-21 Radio Altimeter..... AN/APN-22 IFF Identifier..... AN/APX-6B Radar AN/APG-51B Missile Guidance Set. AN/APA-127 Missile Launching Set. AN/ASA-23 Video Coder..... AN/APA-89</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p style="text-align: center;">DIMENSIONS</p> <p>Wing Area.....519 sq. ft. Span 35' 4" MAC 15' 6" Sweepback (1/4chord)..... 43°-12' Length (overall) 58' 11.5" Height..... 14' 6.6" Tread 15' 10.4"</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

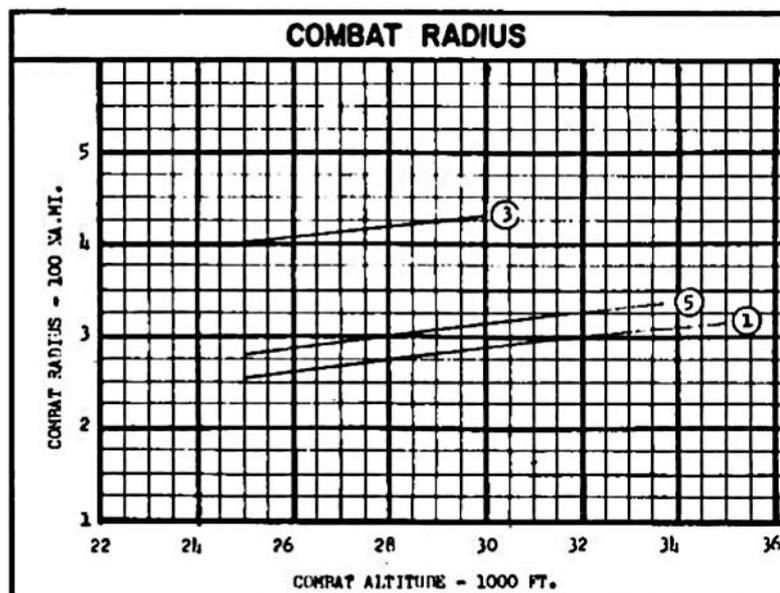
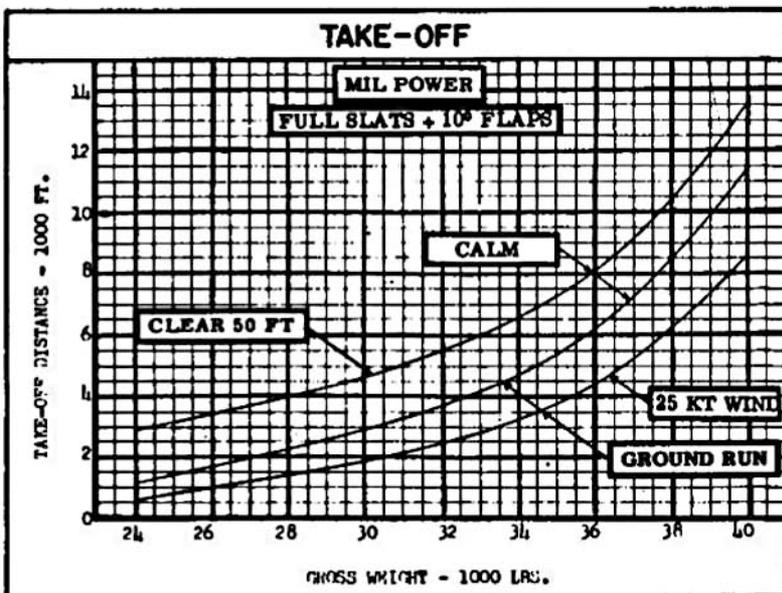
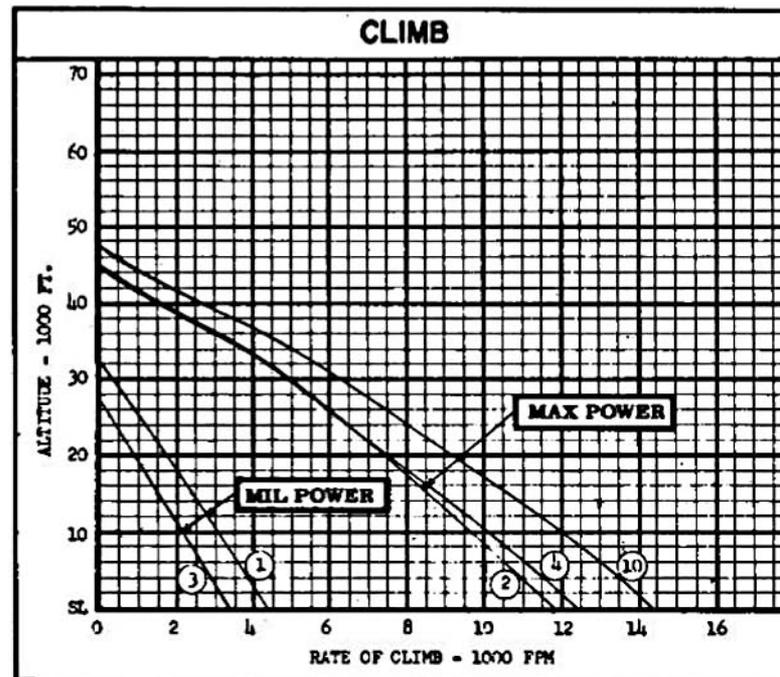
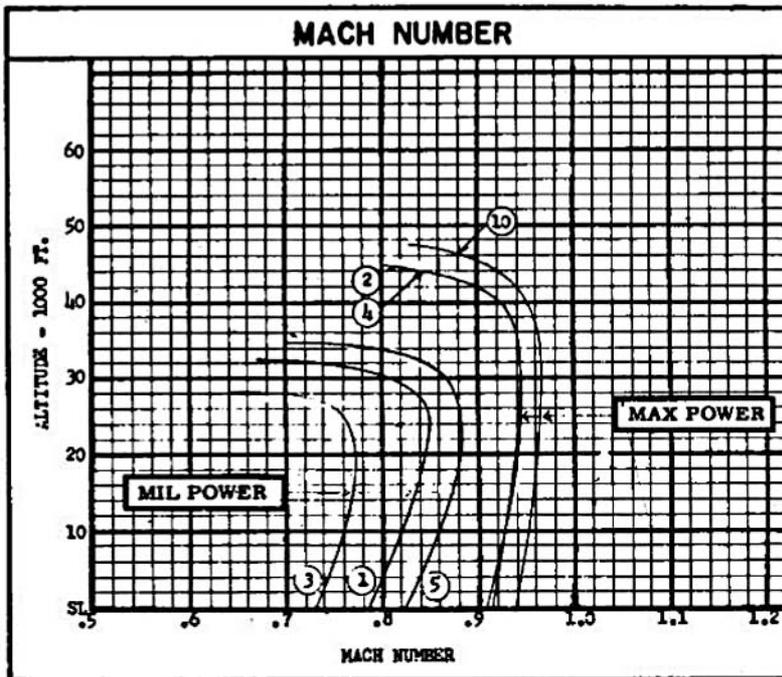
PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION | | (1) (4) SPARROW III | (3)(4) SPARROWS III (2) 282 GAL. TKS. | (5) (2) SPARROW III | (7)(2) SPARROW III (2) 282 GAL. TKS. | (9) (2) SIDEWINDERS |
|---|------------|--------------------------|--|--------------------------|---|------------------------------|
| TAKE-OFF WEIGHT | LB. | 35239 | 38997 | 34203 | 38600 | 33424 |
| FUEL INTERNAL/EXTERNAL (JP-5) | LB./LB. | 10241/ | 10241/3196 | 10241/ | 10241/3835 | 10241/ |
| PAYLOAD AMMO./MISSILES | LB./LB. | 432/1520 | 432/1520 | 432/760 | 432/760 | 432/310 |
| WING LOADING | LB./SQ.LB. | 67.9 | 75.1 | 65.9 | 74.4 | 64.4 |
| STALL SPEED - POWER-OFF | KN. | 118 | 124 | 116 | 123 | 114 |
| TAKE-OFF RUN AT S.L. - CALM (A)/(B) | FT. | 5550/2425 | 9860/3030 | 4830/2265 | 9280/2970 | 4390/2150 |
| TAKE-OFF RUN AT S.L. 25 KN. WIND (A)(B) | FT. | 3890/1615 | 7320/2070 | 3340/1500 | 6860/2030 | 3000/1415 |
| TAKE-OFF TO CLEAR 50 FT. - CALM (A)(B) | FT. | 7400/3820 | 11800/4645 | 6640/3600 | 11200/4550 | 6160/3445 |
| MAX. SPEED/ALTITUDE | (A) M/FT. | .85/25000 | .77/20000 | .88/25000 | .80/25000 | .89/25000 |
| RATE OF CLIMB AT S.L. | (A) FPM. | 4330 | 3380 | 4840 | 3730 | 5140 |
| TIME: S.L. TO 20000 FT. | (A) MIN. | 7.19 | 10.82 | 6.28 | 7.33 | 5.89 |
| TIME: S.L. TO 30000 FT. | (A) MIN. | 16.50 | 36.00 | 13.22 | 25.40 | 11.87 |
| SERVICE CEILING (100 FPM.) | FT. | 32000 | 27150 | 34000 | 28950 | 35050 |
| COMBAT RANGE | N.MI. | 844 | 1076 | 958 | 1277 | 1026 |
| AVERAGE CRUISING SPEED | M. | .73 | .71 | .76 | .74 | .78 |
| CRUISING ALTITUDE(S) | FT./FT. | 29400/35000 | 23200/34000 | 32000/37500 | 25400/36400 | 33400/38200 |
| COMBAT RADIUS/MISSION TIME | N.MI./HR. | 294/2.06 | 420/2.69 | 336/2.21 | 501/3.01 | 363/2.24 |
| AVERAGE CRUISING SPEED | Mn. | .75 | .73 | .77 | .75 | .82 |
| CAP LOITER TIME/DECK CYCLE TIME (C) | HR/HR | .69/2.09 | 1.34/2.76 | .89/2.26 | 1.74/3.14 | .97/2.33 |
| IFR RADIUS/DECK CYCLE TIME | N.MI./HR | 562/3.36 | 654/3.90 | 613/3.52 | 730/4.15 | 617/3.64 |
| COMBAT LOADING CONDITION | | (2) SPARROWS RETAINED | (4) TANKS OFF SPARROWS OFF | (6) SPARROWS RETAINED | (8) TANKS OFF SPARROWS OFF | (10) SIDEWINDERS RETAINED |
| COMBAT WEIGHT | LB. | 31145 | 31839 | 29349 | 31944 | 29020 |
| ENGINE POWER | | Maximum | Maximum | Military | Military | Maximum |
| FUEL | LB. | 6147 | 8065 | 6147 | 8446 | 6147 |
| COMBAT SPEED/COMBAT ALTITUDE | M/FT. | .94/31000 | .94/28500 | .88/33700 | .86/31000 | .96/35000 |
| RATE OF CLIMB/COMBAT ALTITUDE | FPM./FT. | 4720/31000 | 5310/28500 | 890/33700 | 1010/31000 | 1740/35000 |
| COMBAT CEILING (500 FPM.) | FT. | 43150 | 42880 | 35800 | 33950 | 45200 |
| RATE OF CLIMB AT S.L. | FPM. | 11770 | 12410 | 5860 | 5480 | 14350 |
| MAX. SPEED AT S.L. | Mn. | .91 | .91 | .83 | .82 | .94 |
| MAX. SPEED/ALTITUDE | M/FT. | .94/35000 | .94/35000 | .89/30000 | .87/30000 | .97/35000 |
| LOADING WEIGHT | LB. | 25425 | 25884 | 25144 | 25637 | 24811 |
| FUEL | LB. | 1947 | 2110 | 1942 | 2139 | 1938 |
| STALL SPEED - POWER-OFF/APPR. POWER | KN./KN. | 98/94 | 99/94 | 97/93 | 98/94 | 97/93 |
| DIST. - GRD ROLL/OVER 50 FT. OBS. | FT./FT. | 4740/6815 | 4775/6885 | 4710/6780 | 4755/6845 | 4685/6735 |

NOTES: PERFORMANCE BASIS: Contractor and NATC Flight Test
RANGE AND/OR RADIUS are based on flight test fuel
consumption data.

*Nos. 1, 3, 5, 7, & 9 are General Purpose Fighters

(A) MILITARY RATED THRUST
(B) MAXIMUM RATED THRUST
(C) Combat Air Patrol-150 naut.mi. radius
All loadings include guns.

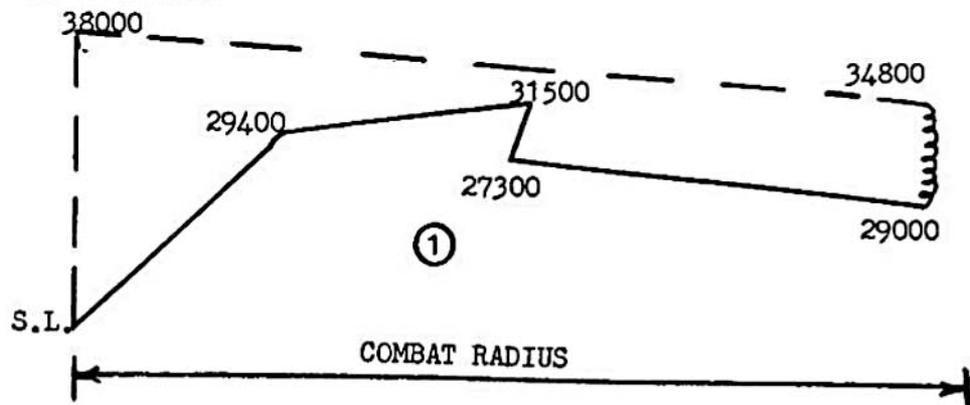


○ LOADING CONDITION COLUMN NUMBER

NOTES

GENERAL PURPOSE FIGHTER WITH IN-FLIGHT REFUELING

1. Warm-up: Fuel for 5 min. with normal thrust.
2. Climb: With mil. thrust to opt. cruise alt.
3. Cruise-out: At alt. and speed for max. range.
4. Refueling allowance for hook-up and flight contingencies:
Fuel for 5 min. at speed and altitude for max. endurance.
No fuel used or distance gained during transfer.
5. Cruise-out: At alt. and speed for max. range. The remainder of the problem is the same as General Purpose fighter of condition 1.
6. Combat.
7. Cruise back.
8. Reserve.



If JP-4 Fuel is used, the following are applicable:

| | ΔWEIGHT | Δ RANGE | Δ RADIUS | Δ DECK CYCLE TIME |
|--|---------|---------|----------|-------------------|
| G.P. Fighter-guns/4 Sparrows | -452 | -48 | -26 | -.12 |
| G.P. Fighter-guns/4 Sparrows-IFR | -452 | -67 | -36 | +.16 |
| G.P. Fighter-guns/4 Sparrows plus 2-282 gal. tanks* | 0 | -3 | -2 | -.02 |
| G.P. Fighter-guns/4 Sparrows plus 2-282 tks.-IFR* | 0 | -52 | -28 | -.18 |

*Airplane defueled to max. T. O. gross weight of 39,000 lbs.

○ LOADING CONDITION COLUMN NUMBER

NOTES

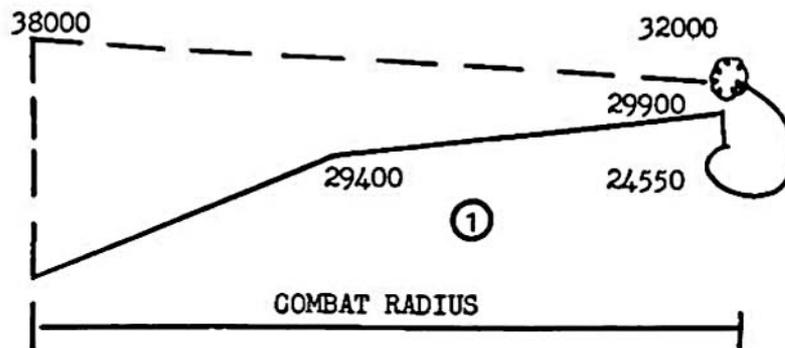
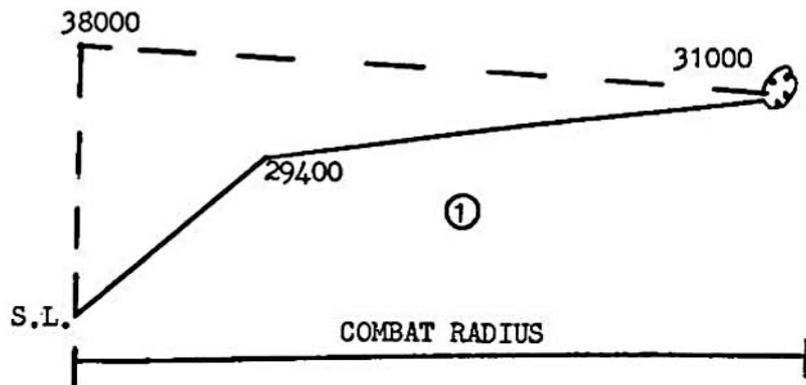
SPOTTING: A total of 64 airplanes can be accommodated in a landing spot on the flight and hanger decks of a CVA-19 class canted deck carrier.

GENERAL PURPOSE & ESCORT FIGHTER

1. Warm-up: Fuel for 5 min. with normal thrust.
2. Climb: With mil. thrust to opt. cruise alt.
3. Cruise-out: at Alt. & speed for max. range
4. Combat allowance:
Altitude: opt. cruise alt. corresponding to gross weight prior to combat or 35000 ft. whichever is lower.
Fuel for: (a) 15 min. mil. thrust at Mmax.
(b) 5 min. AB thrust at Mmax.
5. Cruise-back: At alt. & speed for max. range.
6. Reserve: (a) 5% initial fuel.
(b) Fuel for 20 min. max. endurance at S. L.

COMBAT AIR PATROL

1. Warm-up: Fuel for 5 min. with normal thrust.
2. Climb: With mil. thrust to opt. cruise alt.
3. Cruise-out: To a point 150 na.mi. from base at alt. & speed for max. range.
4. Loiter: On station at alt. & speed for max. endurance.
5. Combat allowance:
Altitude: Opt. cruising alt. corresponding to gross weight prior to combat or 35000ft. whichever is lower.
Fuel for: (a) 15 min. mil. thrust at Mmax
(b) 5 min. max. thrust at speed midway between mil. Mmax and AB Mmax.
6. Cruise-back: At speed & alt. for max. range
7. Reserve: (a) 5% initial fuel
(b) Fuel for 20 min. max. endurance at S. L.



Mission Time Excludes Warm-up, Take-off and Reserve Fuel.
Cycle Time Excludes Warmup and Take-off Fuel.

CONTINUED

○ LOADING CONDITION COLUMN NUMBER