

CLASSIFICATION (CANCELED) ( ) BY AUTHORITY OF

SERVICE

AIR-9603

ON 3-11-83

*O. H. Person*

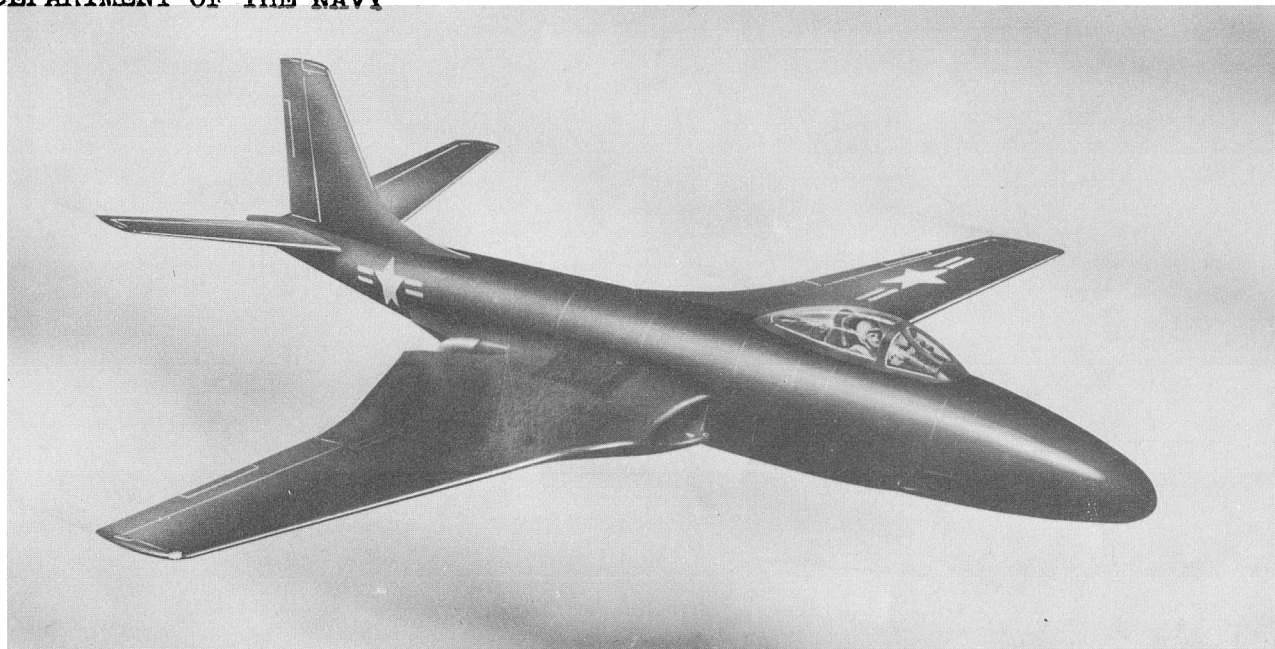
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NAVAL AIR SYSTEMS COMMAND

DEPARTMENT OF THE NAVY



# STANDARD AIRCRAFT CHARACTERISTICS

## F2H-3,4 "BANSHEE"

MCDONNELL

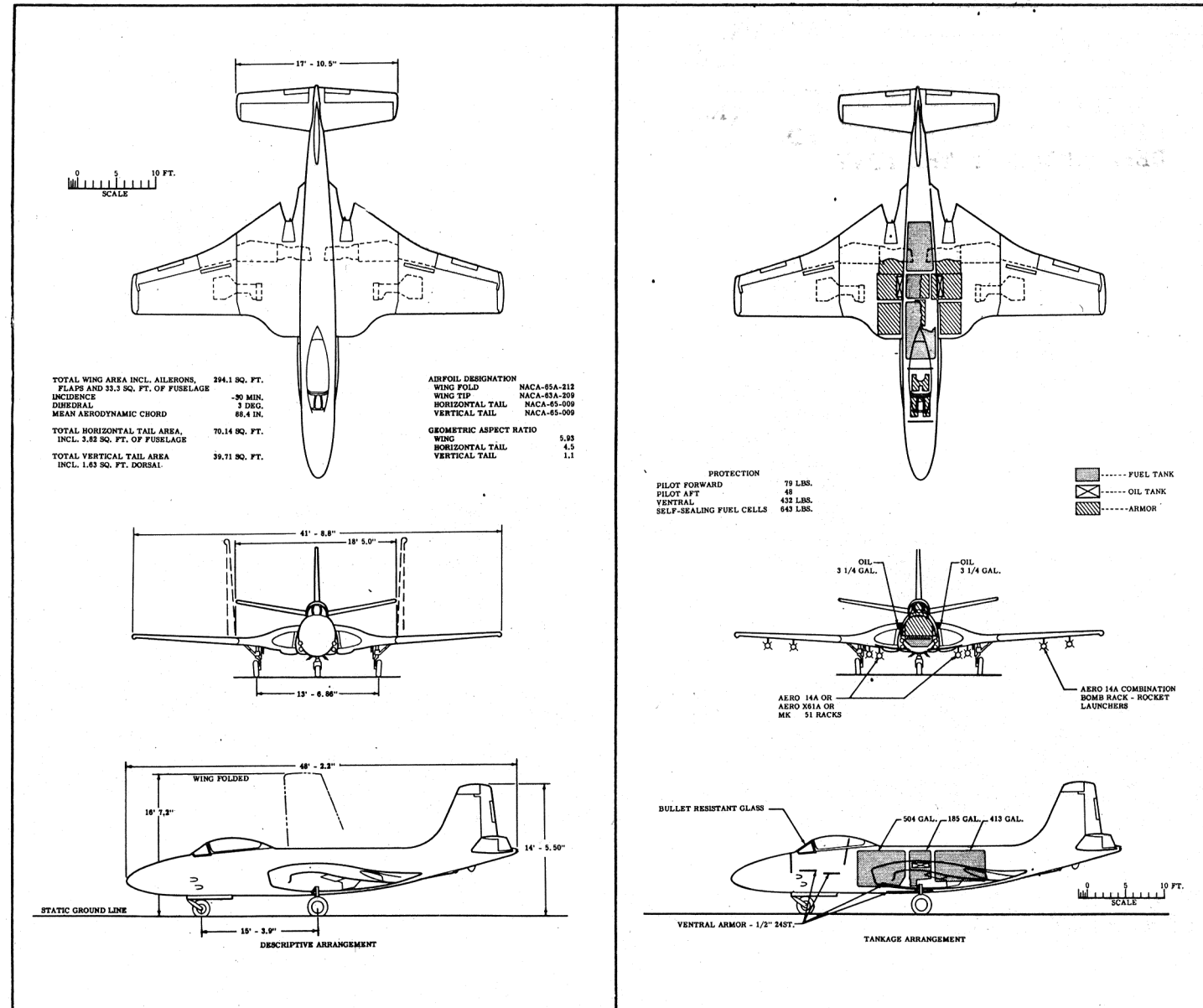
Standard Aircraft Characteristics NAVAER 1395A (REV. 1-49)

197

1 MAY 1951

F2H-3,4

# SERVICE



F2H-3, 4

1 MAY 1951

**POWER PLANT**

NO. & MODEL.....(2) J34-WE-34  
 MFR.....Westinghouse  
 TYPE.....11 Stg. Axial Compr.  
                   2 Stg. Turbine  
 ENG. LENGTH.....120"  
 ENG. DIAMETER.....50"

**RATINGS**

|       | Lbs.  | @ Rpm  | @ Alt. |
|-------|-------|--------|--------|
| T. O. | 3,250 | 12,500 | S.S.L. |
| MIL.  | 3,250 | 12,500 | S.S.L. |
| NORM. | 2,650 | 11,800 | S.S.L. |

SPEC. NO. WAGT-24C4D-2C

**ORDNANCE**

| GUNS |               |          |      |
|------|---------------|----------|------|
| No.  | Size          | Location | Rds. |
| 4    | 20mm (Mk. 16) | Nose     | 600  |

**FIRE CONTROL**

A.F.C.S.....Mk. 6 Mod. 0

**BOMBS AND ROCKETS**

| Type  | Size | Location | No. |
|-------|------|----------|-----|
| Bombs | 100# | Wings    | 8   |
| Bombs | 250# | Wings    | 8   |
| Bombs | 500# | Wings    | 2   |
| HVAR  | 5"   | Wings    | 8   |
| HPAG  | 5"   | Wings    | 8   |

2 - Mk. 51-11 Bomb Racks  
 8 - Aero 14A Combination Bomb  
 Rack and Rocket Launchers

Any combination of above not  
 to exceed 3,200 pounds.

**MISSION AND DESCRIPTION**

The F2H-3 airplane is a single place all weather fighter designed for either land or carrier based operations.

The airframe is of stressed metal skin construction with all surfaces being of the full cantilever type.

Equipment includes an APQ-41 radar, automatic pilot, ejection seat, and cockpit pressurization. The primary control system incorporates power actuation with artificial feel forces for the aileron and elevator. Split type trailing edge flaps and wing mounted speed brakes are provided. The F2H-3 is designed for carrier operations without tip tanks. Its internal fuel capacity has been increased by 225 gallons over that of the F2H-2.

Mock-up date — October 1950  
 First flight (prototype) — December 1951  
 Service use to start — August 1952

**DIMENSIONS**

|                |             |
|----------------|-------------|
| WING AREA..... | 294 sq. ft. |
| SPAN.....      | 41' - 9"    |
| LENGTH.....    | 48' - 2"    |
| HEIGHT.....    | 14' - 6"    |
| TREAD.....     | 13' - 7"    |
| M.A.C.....     | 7' - 4"     |

**WEIGHTS**

| Loadings         | Lbs.   | L.F.  |
|------------------|--------|-------|
| EMPTY.....       | 13,183 | ..... |
| BASIC.....       | 13,780 | ..... |
| DESIGN.....      | 18,600 | 7.5   |
| COMBAT.....      | 18,367 | 7.6   |
| MAX.T.O..(Field) | 25,214 | 5.5   |
| (Cat.)           | 25,214 | ..... |
| MAX.LAND.(Field) | 19,200 | ..... |
| (Arrest.)        | 16,700 | ..... |

All weights are calculated.

\* Maximum Anticipated Loading

**FUEL AND OIL**

| Gals. | No. Tanks | Location    |
|-------|-----------|-------------|
| 1,102 | 3         | Fuse., S.S. |
| 340   | 2         | Wing, Drop  |

FUEL GRADE.....115/145  
 FUEL SPEC.....MIL-F-5572

**OIL**

CAPACITY (Gals.).....6.5  
 GRADE.....1010  
 SPEC.....MIL-O-6081

**ELECTRONICS**

VHF COMMAND....AN/ARC-1 or -1A  
 (Installation Provisions Only)  
 UHF COMMAND.....AN/ARC-27  
 HOMING.....AN/ARR-2A  
 UHF D.F.....AN/ARA-25  
 ALTIMETER.....AN/APN-1  
 ADF.....AN/ARN-6  
 HOMING.....AN/ARN-21  
 (P.S.I., Repl. for AN/ARR-2A  
                                   and AN/ARN-6)  
 SEARCH RADAR.....AN/APQ-41  
 (250 aircraft only)  
 (See NOTES)

## PERFORMANCE SUMMARY

| TAKE-OFF LOADING CONDITION               | (1) FIGHTER<br>Full Internal<br>Fuel | (3) FIGHTER<br>2 - 170 Gallon<br>Tanks | (5) GRD. SUPPORT<br>2-170 Gal. Tank<br>4-5" HVAR Rock.<br>4-250 lb. Bombs |  |
|------------------------------------------|--------------------------------------|----------------------------------------|---------------------------------------------------------------------------|--|
| TAKE-OFF WEIGHT lb.                      | 21,013                               | 23,507                                 | 25,214                                                                    |  |
| Fuel (Fixed/Drop) lb.                    | 6,612/-                              | 6,612/2,040                            | 6,612/2,040                                                               |  |
| Payload (Ammunition, Rockets, Bombs) lb. | 337                                  | 337                                    | 337/1,580                                                                 |  |
| Wing loading lb./sq.ft.                  | 71.5                                 | 80.0                                   | 85.8                                                                      |  |
| Stall speed - power-off kn.              | 115                                  | 122                                    | 127                                                                       |  |
| Take-off run at S.L. - calm ft.          | 2,490                                | 3,210                                  | 3,800                                                                     |  |
| Take-off run at S.L. 25 kn. wind ft.     | 1,560                                | 2,100                                  | 2,470                                                                     |  |
| Take-off to clear 50 ft. - calm ft.      | --                                   | --                                     | --                                                                        |  |
| Max. speed/altitude (A) kn./ft.          | 470/S.L.                             | 454/S.L.                               | 381/30,000                                                                |  |
| Rate of climb at S.L. fpm (B)            | 5,150                                | 3,200                                  | 2,360                                                                     |  |
| Time: S.L. to 20,000 ft. min. (B)        | 4.6                                  | 7.9                                    | 12.6                                                                      |  |
| Time: S.L. to 30,000 ft. min. (B)        | 8.2                                  | 14.4                                   | 39.0                                                                      |  |
| Service ceiling (100 fpm) ft. (B)        | 47,000                               | 41,300                                 | 30,500                                                                    |  |
| Combat range n.mi.                       | 1,015                                | 1,490                                  | 955                                                                       |  |
| Average cruising speed kn.               | 400                                  | 385                                    | 390                                                                       |  |
| Cruising altitude(s) ft.                 | 40,000                               | 40,000                                 | 30,000/35,000                                                             |  |
| Combat radius n.mi.                      | 415                                  | 625                                    | 330                                                                       |  |
| Average cruising speed kn.               | 430                                  | 435                                    | 400                                                                       |  |
| COMBAT LOADING CONDITION                 | (2) CLEAN                            | (4) CLEAN                              |                                                                           |  |
| COMBAT WEIGHT lb.                        | 18,367                               | 21,013                                 |                                                                           |  |
| Engine power                             | Military                             | Military                               |                                                                           |  |
| Fuel lb.                                 | 3,966                                | 6,612                                  |                                                                           |  |
| Combat speed/combat altitude kn./ft.     | 455/35,000                           | 450/35,000                             |                                                                           |  |
| Rate of climb/combat altitude fpm/ft.    | 2,300/35,000                         | 1,800/35,000                           |                                                                           |  |
| Combat ceiling (500 fpm) ft.             | 46,600                               | 45,000                                 |                                                                           |  |
| Rate of climb at S.L. fpm                | 6,000                                | 5,150                                  |                                                                           |  |
| Max. speed at S.L. kn.                   | 503                                  | 500                                    |                                                                           |  |
| Max. speed/altitude kn./ft.              | 503/S.L.                             | 500/S.L.                               |                                                                           |  |
| LANDING WEIGHT lb.                       | 15,672                               | 15,797                                 |                                                                           |  |
| Fuel lb.                                 | 1,271                                | 1,382                                  |                                                                           |  |
| Stall speed - power-off kn.              | 99                                   | 99                                     |                                                                           |  |
| Stall speed - with approach power kn.    | 94                                   | 94                                     |                                                                           |  |

## NOTES

(A) Normal Power

(B) Military Power

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 Performance is based on calculations and NATC flight test of the F2H-2 airplane.  
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Range and radius are based on flight test fuel consumption increased by 5%.  
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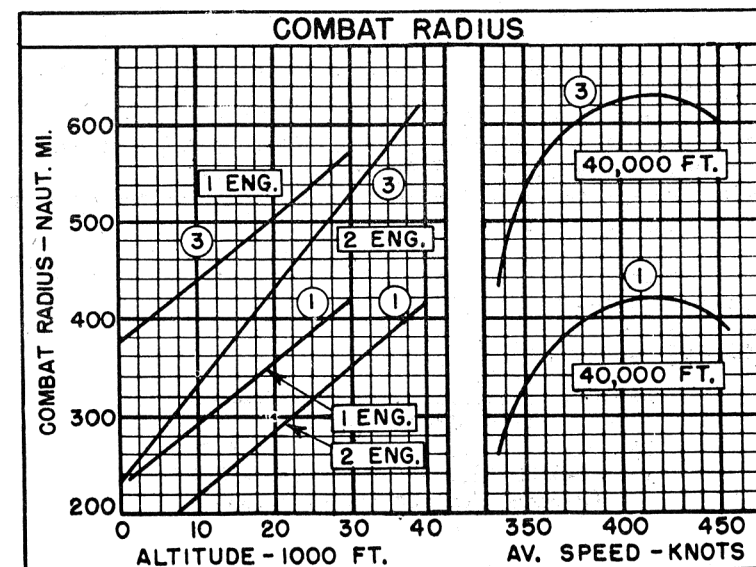
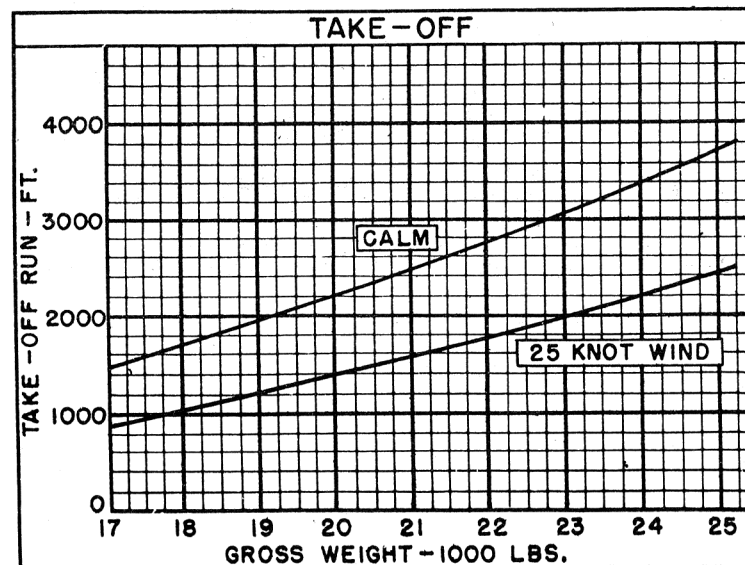
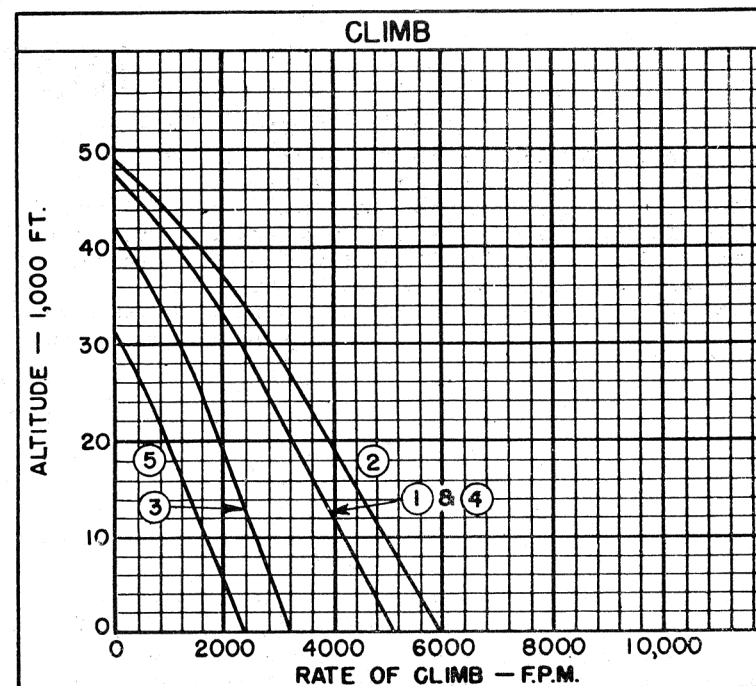
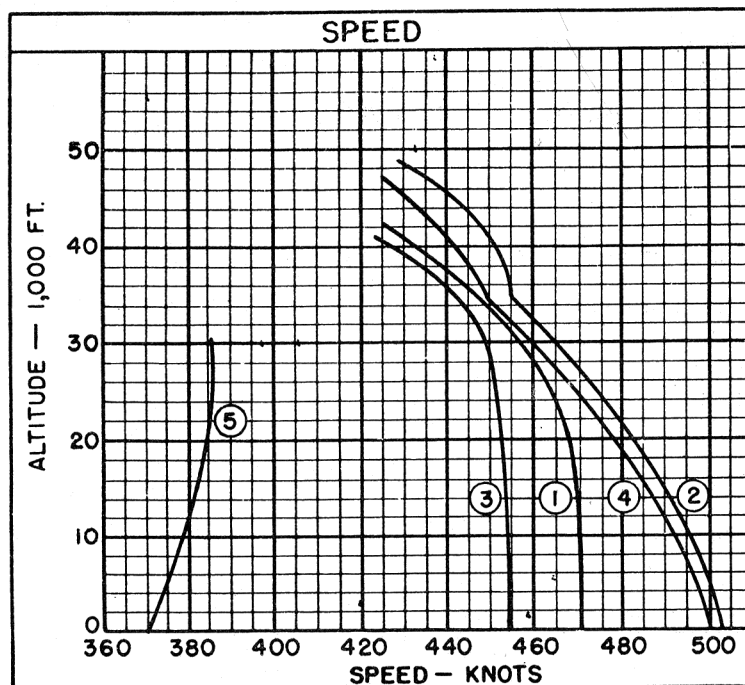
Spotting: 200 ft. length is required to spot 24 airplanes (wings folded) on the 96 ft. wide deck immediately aft of the forward ramp on the CV-9 class carriers.

200

NAVAER-1335D (Rev. 10-51)

201

Standard Aircraft Characteristics NAVAER 1335E (REV. 2-50)



○ LOADING CONDITION COLUMN NUMBER

# NOTES

## GENERAL PURPOSE AND ESCORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To 40,000 feet at military power.

CRUISE-OUT: At V for long range at 40,000 feet. External tanks dropped when empty.

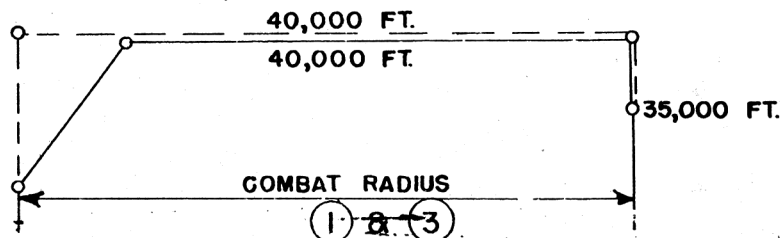
DESCEND: To 35,000 feet. (No fuel used, no distance gained.)

COMBAT: At 35,000 feet for 20 minutes at military power. (Assume combat concluded at cruise-back altitude.)

CRUISE-BACK: At V for long range at 40,000 feet.

RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.

$$\text{COMBAT RADIUS} = \text{CLIMB} + \text{CRUISE-OUT} + \text{CRUISE-BACK}$$



## GROUND SUPPORT FIGHTER COMBAT RADIUS PROBLEM (GAS TURBINE)

WARM-UP, TAXI, TAKE-OFF: 5 minutes at normal power.

CLIMB: To altitude for maximum radius (30,000 feet) at normal power.

CRUISE-OUT: At V for long range at 30,000 feet. External tanks dropped when empty.

DESCEND: To sea level. (No fuel used, no distance gained.)

LOITER: 10 minutes at V for maximum endurance at sea level.

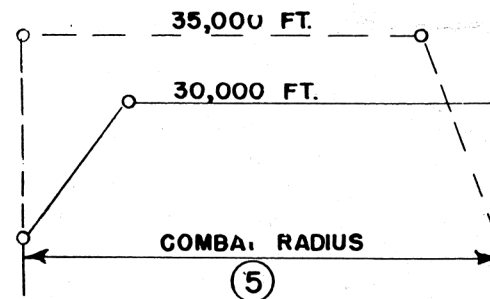
DROP BOMBS AND FIRE EXTERNAL ROCKETS

COMBAT: At sea level for 10 minutes at military power.

CLIMB: To altitude for maximum radius (35,000 feet) at normal power.

CRUISE-BACK: At V for long range at 35,000 feet.

RESERVE: 20 minutes at V for maximum endurance at sea level plus 5% of initial fuel load.



The F2H-4 airplane is the same as the F2H-3 airplane but carries AN/APG-37 radar instead of AN/APQ-41 radar. Weight and performance of the two airplanes are the same.

## ELECTRONICS (Continued)

RADAR.....AN/APG-37  
(150 aircraft only)  
IFF.....AN/APX-6  
IFF (I-R UNIT).....AN/APX-17  
(Planned Service Installation)