

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

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| A17EA Revision 3 USDA Forest Service (SP-2E) P2V-5F January 16, 2008 |
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RESTRICTED TYPE CERTIFICATE DATA SHEET NO. A17EA

This data sheet which is a part of Restricted Type Certificate No. A17EA prescribes conditions and limitations under which the product for which the Restricted Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

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|--------------------------------|--|
| Type Certificate Holder | USDA Forest Service 2 nd Floor, SW Wing 201 14 th Street SW Washington, DC 20090-6090 |
| Type Certificate Holder Record | U. S. Department of Agriculture Forest Service Washington, D.C. 20250 |

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| I - Model P2V-5F (SP-2E) (Restricted Category) Approved 13 October 1971. |
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|-----------------|--|
| Engines | 2 Curtiss-Wright R-3350-36WA 2 Westinghouse J34-WE-34 |
| Fuel * | MIL-G-5572 Grade 115/145 |
| Engine limits * | R-3350-36WA (Fuel Grade 115/145 Low Blower) |

| | R.H.P. | R.P.M. | Man. Press. (In. Hg.) | Altitude (Ft.) |
|-------------------------|--------|--------|--------------------------|-------------------|
| Takeoff (5 minutes) wet | 3500 | 2900 | 57.5 | Sea Level |
| Takeoff (5 minutes) wet | 3500 | 2900 | 57.5 | 4500 |
| Takeoff (5 minutes) dry | 3250 | 2900 | 59.5 | Sea Level |
| Takeoff (5 minutes) dry | 3250 | 2900 | 59.5 | 4200 |
| Maximum continuous | 2600 | 2600 | 48.5 | Sea Level |
| Maximum continuous | 2640 | 2600 | 46.5 | 6500 |

**Fuel grade 100/130 is also eligible at lower power ratings. High blower and reverse pitch operation are restricted to a maximum of 2600 r.p.m. See NAVWEPS 01-75 EDA-1 for Engine Operating Limits Tables.*

| | |
|---------------|-------------------------------------|
| Engine limits | J-34-WE-34 (Sea Level Standard Day) |
|---------------|-------------------------------------|

| | Static Thrust Lb. | R.P.M. | Exhaust Gas Temp. °F/°C |
|---------------------|----------------------|---------------|----------------------------|
| Takeoff (5 minutes) | 2750 | 12500 (101%) | ** |
| Maximum continuous | 2300 | 11800 (94.6%) | ** |
| Starting | | | 1500/816 |
| Acceleration | | | 1400/760 |

***These limits are individually calibrated and therefore must be obtained from the log book for each engine.*

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|----------|---|---|---|---|---|
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Propeller and
propeller limits

Hubs - 2 Hamilton Standard 24260
 Blades - 3 2J17H3-36S
 Diameter Limits: 14 ft. 2 in. - no cutoff permitted
 Continuous ground operation between 2000 and 2400 r.p.m. is prohibited.

Pitch Setting at 72 in. Station

Low Pitch + 16°
 Feathered + 82°
 Reverse - 22°

Airspeed limits
(C.A.S.)

V_{mo} (Maximum Operating) 242 m.p.h. (210 knots)

V_{fe} (Flaps Extended 5°) 242 m.p.h. (210 knots)

V_{fe} (Flaps Extended 10°) 242 m.p.h. (210 knots)

V_{fe} (Flaps Extended 15°) 230 m.p.h. (200 knots)

V_{fe} (Flaps Extended 20°) 201 m.p.h. (175 knots)

V_{fe} (Flaps Extended 25°) 178 m.p.h. (155 knots)

V_{fe} (Flaps Extended 32°) 167 m.p.h. (145 knots)

V_{le} (Maximum Speed Landing
Gear Extended) 178 m.p.h. (155 knots)

V_a (Maneuvering Speed) 184 m.p.h. (160 knots)

V_{mc} (Minimum Control Speed) 124 m.p.h. (108 knots)

Fire Retardant Dumping Envelope (See Note 2)

120 knots to 145 knots (Full Flaps)

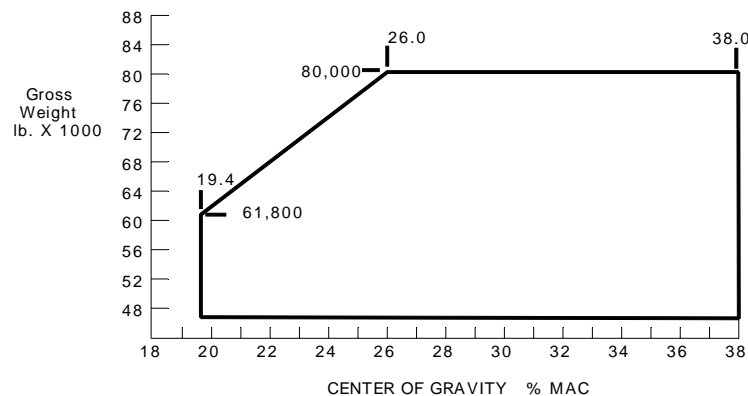
120 knots to 150 knots (All Other Flap Settings)

Center of Gravity
(C.G. range)

(26.0) to (38.0) at 80,000 lb.

(19.4) to (38.0) at 61,800 lb.

Straight-line variation between points given



Empty weight C.G. range

None

Datum

The reference datum is located at fuselage station 0

Mean aerodynamic chord
(M.A.C.)

The leading edge of the M.A.C. is located at fuselage station 330.1

The length of the M.A.C. is 126.2 inch.

Leveling means

Longitudinal: Use the leveling hook in the nose gear wheel well

Lateral: Level airplane laterally by adjusting wing jacks

Maximum weights Takeoff 80,000 lb.
 Landing 67,000 lb.

Minimum crew Two (Pilot and Co-Pilot)

Number of seats None

Maximum baggage None

Fuel capacity ***

| | No. Tanks | Gal. | <u>Total Fuel</u> | |
|----------------------------|--------------|------|-------------------|-------|
| | | | Gal. | Lb. |
| Center section | 2 | 790 | 1580 | 9480 |
| Main (outboard wing panel) | 2 | 715 | 1430 | 8580 |
| Total Permanent Tankage | | | 3010 | 18060 |

***Arm variable - refer to individual airplane weight and balance data.
 Wing tip fuel tanks or bomb bay fuel tanks are not approved.

Oil capacity ****

| | No. Tanks | Gal. | <u>Total Oil</u> | |
|--|--------------|------|------------------|------|
| | | | Gal. | Lb. |
| <u>Bureau Number 124856 through 128422</u> | | | | |
| Nacelle Tank | 2 | 60 | 120 | 852 |
| (Expansion space) | 2 | 27 | - | - |
| Auxiliary Tank | 1 | 35 | 35 | 249 |
| (Expansion space) | 1 | 4 | - | - |
| <u>Bureau Number 131400 and subsequent</u> | | | | |
| Nacelle tank | 2 | 80 | 160 | 1136 |
| (Expansion space) | 2 | 20 | - | - |
| <u>Jet Pod Oil Tank</u> | 2 | 1.38 | 2.75 | 20.6 |

****Arm variable - refer to individual airplane weight and balance data.

Water injection
 Tank capacity (ADI)

| | No. Tanks | Gal. | <u>Total ADI</u> | |
|--------------|--------------|------|------------------|-----|
| | | | Gal. | Lb. |
| Nacelle Tank | 2 | 25 | 50 | 375 |

Fluid - 50% Federal Specification O-M-232 Grade A 50% Distilled Water

| | | | | | |
|---------------------------|---------------------|------|-----------------|--------|-----------------|
| Control surface movements | Aileron | Up | 20° | Down | 18.5° |
| | Aileron Trim Tab | Up | 15°45' ± 2° | Down | 16°20' ± 2° |
| | Aileron Spring Tab | | | Down | 20° |
| | Flaps | | | Down | 32° |
| | Spoilers | Up | 55° - 60° | | |
| | Elevator | Up | 27°37' ± 1 1/2° | Down | 27° ± 1 1/2° |
| | Elevator Trim Panel | Up | 7° (+ 1/4° -0°) | Down | 3° (+ 1/4° -0°) |
| | Rudder | Left | 21° | Right | 21° |
| Rudder Trim Tab | Left | 10° | Right | 10°30' | |

Serial Nos. eligible All U.S. Navy Bureau Nos. (See Notes 4 and 5)

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|---------------------|--|
| Certification basis | 14 Code of Federal Regulations (CFR) part 21 & 21.25 (a) (2) and (b) (2). CAR Part 4B as effective Oct. 1, 1959. FAR 21.50 (b), 25.571 and 25.1529 to Amendment 25-54 as effective Sept. 11, 1980 (see Note 3). Type Certificate No. A17EA issued 13 October 1971 for the special purpose of forest and wildlife conservation (aerial dispensing of fluids) under FAR Part 91. Date of Application: 8 July 1970. |
| Production basis | None |
| Equipment | The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. Equipment necessary for the particular special purpose operation must be installed. See Note 5. |

NOTE 1. The current weight and balance report including a list of equipment included in certificated empty weight, and loading instructions when necessary must be provided for in each aircraft at the time of original airworthiness certification.

NOTE 2. The aircraft shall be operated in accordance with the Navy Flight Handbook NAVWEPS 01-75 EDA-1 for the SP-2E Neptune dated 1 September 1965 and in conjunction with the Flight Manual Supplement required for the special purpose.

NOTE 3. Revise. For FAR Part 91 operations, the aircraft must be maintained in accordance with the Instructions for Continued Airworthiness as specified in AAS-ICA-05-001 which is certified to the requirements of FAR 25.571 and 25.1529. This document specifies mandatory replacements and inspection intervals which are not subject to change without the express approval of the FAA. All maintenance, structural repair, alteration and modification to those areas specified in AAS-ICA-05-001 must be performed to the requirements of FAR 25.571 and FAR 25.1529.

NOTE 4. Prior to civil certification, compliance with the following Department of the Navy P-2 Service Bulletins, Aircraft Bulletins, Aircraft Service Changes, Engine and Propeller Bulletins and Powerplant Changes in addition to the P-2 "Maintenance Requirement Cards NA01-75EEB-6 Series" must be established.

Airframe Bulletins

2, 3, 6, 10 Rev. A, 11, 31, 31 Am. 1; 40, 43, 45, 47, 48, 54, 55, 56, 57, 58, 67, 70, 72, 73, 75, 76 Am.1, 79, 80*, 81, 84, 94, 99, 99 Am. 1, 100, 108, 109, 110, 113, 116, 117, 118.

**Partial compliance required (Reference U.S. Navy Speed Letter to Federal Aviation Administration (EA-212) dated 15 October 1971).*

Aircraft Bulletins

150, 221

Aircraft Service Changes

378, 378A, 383, 385, 398, 399, 434, 463, 521, 540, 598, 601, 622, 658, 714, 735, 751, 756, 807, 819, 820, 826, 830B, 848, 848A, 851, 852, 852A, 854, 862, 885, 903, 910, 912, 922, 924**, 924 Am. 1**, 940, 943, 951, 955A, 984**.

***Applicable only to stainless steel nacelles.*

R-3350 Engine Bulletins

424, 753A, 754

J-34 Turbo-Jet Engine Bulletins

177, 177 Am. 1, 261, 336, 336 Am. 1, 376, 376 Am. 1, 379

J-34 Powerplant Changes

16, 17

Hamilton Standard Propeller Bulletins

422B, 444, 476A, 486, 488, 489, 491, 505A

NOTE 5. Modification to these aircraft or special equipment will be necessary, reference FAR 21.25(a)(2), prior to civil airworthiness certification for the special purpose of forest and wildlife conservation (aerial dispensing of fluids) and for any other FAA approved special purpose operation.

The fire retardant tank and installation in accordance with Rosenbalm Aviation, Inc. Drawing List "P2V-5 Aerial Tanker" dated 8 December 1971 together with the Rosenbalm Aviation, Inc. Installation Instructions "Conversion of P2V-5 A/C to Aerial Tanker General Instructions" dated 8 December 1971 is an approved modification for the special purpose of forest and wildlife conservation (aerial dispensing of fluids). Lockheed Model SP-2E (P2V-5F) Air Tanker Conversion U. S. Forest Service Flight Manual Supplement #1, dated 13 October 1971 is required for this special purpose. "This modification is approved only for one aircraft, manufacturer's S/N 5044, Navy Bureau No. 124904."

NOTE 6. Restricted aircraft airworthiness certificates issued are effective as long as maintenance and preventive maintenance, replacement times and inspection intervals are performed in accordance with "P2V-5 Instructions for Continued Airworthiness" AAS-ICA-05-001, "Maintenance Requirement Cards NA01-75EEB-6 Series", Department of the Navy Service Bulletins Nos. 116, 117, and 118; and FAR Parts 21, 43 and 91.

NOTE 7. No agricultural aircraft operations shall be conducted unless approval has been issued under provisions of FAR Part 137.

NOTE 8. The FAA representative responsible for the issuance of Restricted Airworthiness Certificates shall make Notes 6 and 7 part of the operating limitations issued with the Airworthiness Certificate.

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