DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A1RM
Revision 2
LOCKHEED
SP-2H (P2V-7)

February 5, 1980

TYPE CERTIFICATE DATA SHEET NO. A1RM

This data sheet which is a part of Type Certificate No. A1RM prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Administration.

Type Certificate Holder — Evergreen Air Center
Marana Air Park
Marana, Arizona 85238

I - Model SP-2H (P2V-7) (Restricted Category) Approved 11 July 1972.

Engines
(a) 2 Curtiss-Wright R3350-32WA
Reduction gear ratio 16:7
(b) 2 Westinghouse J34WE-36

Fuel * — MIL-G-5572 Grade 115/145

Engine limits * — (a) R-3350-32WA (Fuel Grade 115/145 Low Blower)

	BHP	RPM	MAN. PRESS. IN. HG.	ALTITUDE (FT.)
Takeoff (5 minutes wet)	3700	2900	59.0	Sea Level
Takeoff (5 minutes wet)	3700	2900	59.0	2000
Takeoff (5 minutes dry)	3400	2900	61.5	Sea Level
Takeoff (5 minutes dry)	3400	2900	60.5	2000
Maximum Continuous	2800	2600	51.5	Sea Level
Maximum Continuous	2800	2600	50.0	4000

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

(b) J34 WE-36

	Static Thrust lb.	R.P.M.	Exhaust Gas Temp. °F/°C
Takeoff (5 minutes)	3050	12,500 (100%)	**
Maximum Continuous	2650	12,000 (96%)	**
Starting:			
First 5 seconds only			1760°/960°
Next 30 seconds only			1562°/850°
Acceleration			1661°/905°

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

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Propeller and propeller limits	Hubs - 2 Hamilton Standard 24260-313 Blades - 4 2J17H3-36S or 2J17Z3-36S Diameter Limits: 14 ft. 2 in. - no cutoff permitted Continuous ground operation between 2000 and 2400 is prohibited. Pitch Setting at 72-inch station: Low Pitch + 16.5° (± 0.5°) Feathered + 82° Reverse - 22° Interchangeable Blades - These blades can be used interchangeably in the same propeller provided they are used in pairs and installed in opposite arms and that the prefix letters for opposite blades and the cutoff dash numbers for all blades are the same.
Airspeed limits	Vmo (Maximum Operating) at sea level 406 m.p.h. (350 knots) Vfe (Flaps Extended 5°) 242 m.p.h. (210 knots) Vfe (Flaps Extended 10°) 242 m.p.h. (210 knots) Vfe (Flaps Extended 15°) 230 m.p.h. (200 knots) Vfe (Flaps Extended 20°) 201 m.p.h. (175 knots) Vfe (Flaps Extended 25°) 178 m.p.h. (155 knots) Vfe (Flaps Extended 32°) 167 m.p.h. (145 knots) Vle (Maximum Speed Gear Extended) 178 m.p.h. (155 knots) Va (Maximum Speed) 184 m.p.h. (160 knots) Vmc (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)
C.G. range	Aft of datum, landing gear extended +26.0 to +36.0 at 80,000 lbs. +19.4 to +36.0 at 61,800 lbs. Straight line variation between points given.
Empty weight C.G. range	None. 50 lbs. fixed ballast required at sta. +895"
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 inches.
Leveling means	Level the aircraft by dropping a plumb bob from the leveling hook through the leveling grid in the nose wheel well.
Maximum weights	Takeoff 80,000 lb. Landing 67,000 lb.
Minimum crew	Two (Pilot and Co-Pilot) at +158"
Number of seats	One at +180", occupancy limited to persons essential to perform the special purpose operation.
Fire retardant	3,000 gal. (V.S.) 26,400 lbs. at +398".

Fuel capacity

	No. Tanks	U.S. Gal.	Total Fuel U.S. Gal.	Lbs.	ARM
Center section	2	790	1580	9,480	+382.5"
Wing (main)	2	715	1430	8,580	+376.5"
Total permanent tankage			3010	18,060	

Oil capacity

	No. Tanks	U.S. Gal.	Total Oil U.S. Gal.	Lbs.	ARM
Nacelle tank	2	80	160	1136	+382.7"
		20	-	-	
Jet pod oil tank	2	2.75	5.5	41	+311"

Water injection tank capacity

	No. Tanks	U.S. Gal.	Total ADI U.S. Gal.	Lbs.	ARM
Nacelle tank	2	25	50	375	+316"

Fluid - AMS - 3006 Type 1 which specifies 48 - 52% methyl alcohol by volume and 48 - 52% water by volume.

Control surface movements

Aileron	Up	22° + -1°	Down	15° 30' + 1°
Aileron tab	Up	15° 45' + -2°	Down	16° 20' + -2°
Elevator	Up	27° 37' + -1°30'	Down	27° + -1°30'
Elevator trim panel	Up	7° (+ 1/4° -0°)	Down	3° (+1/4° -0)
Spoiler	Up	55° - 60°		
Rudder trim tab	Left	20°	Right	10°30'
Rudder	Left	21°	Right	21°

Aileron spring tab: Adjust aileron spring tab in accordance with NAVWEPS 01-75EEB-2-3 figure 3-16.

Serial Numbers eligible

Manufacturers Serial No.	U. S. Navy Serial No.
8010	135587
8013	135593
8025	135617

Certification basis

FAR 21.25(a)(2) and (b) (2) including Amendment 21-1 through 21-37, effective 4 December 1970. Type Certificate No. A1RM issued 11 July 1972 for the special purpose of forest and wildlife conservation (fire fighting).
Date of application, 28 June 1972.

Production basis-None

Prior to original airworthiness certification of each aircraft, FAA personnel must perform an airworthiness inspection to determine the aircraft to be in condition for safe operation, and determine that a satisfactory flight trest has been conducted.

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. In addition, an FAA approved Airplane Flight Manual Supplement dated 11 July 1972 (or a subsequent approved revision) is required. See Note 2.

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

NOTE 2. The aircraft shall be operated in accordance with the NATOPS Flight Manual NAVAIR 01- 75EEB-1 for the SP-2H dated 1 September 1969 and in conjunction with the Flight Manual Supplement required for the special purpose.

NOTE 3. Reserved.

NOTE 4. Prior to civil certification, compliance with the following Department of the Navy Service Bulletins, Aircraft Bulletins, Aircraft Service Changes, Engine and Propeller Bulletins and Powerplant Changes.

SP-2H (P2V-7) Airframe Bulletins--Nos. 1, 3, 4, 5, 6, Int 7, Int 8, Int 9, Int 10, Int 11 and Amend 1, Int 12, Int 13, Int 14, Int 17, Int 18, Int 19, Int 20 Rev B, Int 21 and Amend 1, Int 22, Int 23, Int 24, Int 25, Int 26 and Amend 1, Int 27 Rev A, Int 29 and Amend 1, Int 31 and Amend 1, Int 32, Int 33 and Amend 1, Int 36, 37, Int 38, Int 39, Int 40, Int 41, 42, Int 43, Int 44, 45, Int 46, Int 47, Int 48, Int 49 and Amend 1, Int 51 Rev A, Int 53, Int 55, Int 56, Int 59, Int 60 and Amend 1, Int 61, Int 62, Int 63, Int 65, Int 67, Int 69 and Amend 1, Int 72, Int 74, Int 75, Int 78, Int 81, Int 82, 83 Amend 1, 86, Int 88, Int 90, Int 91, Int 92, Int 93, 94, 95 and Amend 1, Int 98, 100, Int 101, 102, 103, Int 104, Int 105, 107, 108, Int 110, Int 114, Rev A, Int 115, Int 116 and Amend 1, Int 117, Int 118, and Int 119.

P2V-7 Aircraft Service Changes--Nos. 605, 676, 681, 688, 693, 694, 697, 699, 706, 709, 711, 714, 721, 722, 724, 726, 733, 735, 736A, 737, 746, 751, 752, 753A, 758A, 765A, 767C, 768, 770, 773, 781, 783, 785, 787A, 793, 795, 798, 799, 802, 803A, 806A, 807, 808, 812, 815, 816, 817, 819, 822, 825A, 826, 831B, 839C, 841, 843, 845A, 847, 848A, 851, 856, 861A, 862, 864, 877B, 878, 882, 885, 894 Amend 1, 896 Amend 1, 898, 900, 901, 903, 904, 906, Amend 1, 912, 920, 923, 924, Amend 1, 928, 929, Int 931, Amend 1, 932, 934, 935, 937, 940, 941, 948, 952, 953 Amend 1, 955A, 959 Amend 2, 971, 974, 979, 980, 981, 984, 987, 988, and 991.

Wright R3350-32WA Engine Bulletins--Nos. 155 Rev B, 296 Amend 2, 360 Rev B, 396 Amend 2, 461 Amend 1, 420, 423 Rev B, 445 Rev C, 469 Rev A, Amend 2, 474 Rev A, 485 Rev A, 486 Amend 1, 489 Rev B, 490 Rev A, 491 Rev A, 515, 516, 517, 518, 519 Amend 1, 520 Amend 1, 562 Rev A, 563 Amend 2, 564 Rev B, Amend 2, 566 Rev B, 599 Rev A, 622 Rev A, 625 Rev A, Amend 1, 635 Rev C, 642, 646 Rev A, 653 Amend 1, 656 Rev A, 663, 680 Rev A, 681, 682 Rev A, 685, 686, 688, 689, 691 Amend 1, 693, 694 Amend 1, 697, 698, 699, 700, 702, 703, 705, 706, 707, 708, 709, 710, 711 Amend 1, 713 Rev A, 714 Rev B, 715, 716 Amend 1, 717, 718, 719, 720, 721 Rev B, Amend 1, 722, 726 Amend 1, 727, 731, 732, 735, 736, 737, 742 Amend 2, 748, 750, 751 Rev A, and 752.

J-34-WE-36 Turbo-Jet Engine Bulletins--Nos. Engine Bulletin No. 0, 181, 183, 199, 202, 208, 232, 236, 241, 244, 245, 246, 247, 265, 266A and Amend 1, 275 and Amend 3, 279, 280, 291, 296 Rev B, 303, 308 Rev A, 312, 313, 314, 320, 322, 323 Rev A, 326 Rev A, 328 Amend 1, 332, 333, 334, 335, 338 Rev A, 339, 341, 342, 343 Amend 1, 345, 346, 347, 349 Rev A, Amend 1, 350, 351, Amend 1, 353, 354 Rev A, 355 Rev B, Amend 1, 356, 361, 363, 364, 365, 366, 368, 370 Rev A, 371 Rev A, 374, 376 Amend 1, 378, 380, 381 Rev A, Amend 1, and 382.

Hamilton Standard Propeller P/N 24260 Propeller Bulletins--Nos. 270, 272, 275, 276, 277, 293, 311, 312, 317, 318, 324, 338, 346A, 360, 361A, 362, 368A, 370, 373A, 376, 377, 390, 401, 402, 405, 415A Amend 3, 417, 419, 422B, 429, 432, 435 and Amend 1, 436, 440A and Amend 1, 447, 450, 462, 463, 467 Amend 2, 474, 486, 488, 489, 491, 492, Rev A, 494, 502, 505A, 506A, 509, 515A, 516, 527A, 531, 532, 535A, 541, 544A, 551, 555, 600A.

NOTE 5. Modification to these aircraft or special equipment will be necessary, reference FAR 21.25(a)(2) or (b) (2), prior to civil airworthiness certification for the special purpose of forest and wildlife conservation (fire fighting) and for any other FAA approved special purpose operation in accordance with Item 12, Johnson Flying Service approved data file dated 7 July 1972.

NOTE 6. Restricted Aircraft Airworthiness Certificates issued are effective under FAR 21.181(a)(1) as long as maintenance and preventive maintenance are performed in accordance with eight of the following documents:

1. NAVWEPS 01-75EEB-7, "Handbook Inspection Requirements Intermediate and Major - Navy Model P2V-5F, -5S, -7S Aircraft."

2. Johnson Flying Service - Inspection Program, SP2H, dated 11 July 1972.

NOTE 7. The FAA representative responsible for the issuance of Restricted Airworthiness Certificates shall make the applicable portion of Note 6 part of the operating limitations issued with the Airworthiness Certificate.

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