DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A36NM
Minden Air
SP-2H (P2V-7)
Revision 5
February 11, 2010

TYPE CERTIFICATE DATA SHEET NO. A36NM

This data sheet which is a part of Type Certificate No. A36NM 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: Minden Air Corp
2311 P-51 Court
Minden, NV 89423

Previous Address: Minden Air Corp.
9991 E. Desert Air
Tucson, AZ 85730

I. Model SP-2H (P2V-7) (Restricted Category) Approved June 8, 1991

Engines (A) 2 Curtiss-Wright R3350-32WA
Reduction Gear Ratio 16:7

(B) 2 Westinghouse J34WE-36

Fuel MIL-G-5572 Grade 100/130 *

Engine Limits (A) R3350-32WA (Fuel Grade 100/130 Low Blower) *

	BHP	RPM	M. P. IN. HG	Altitude (FT)
Takeoff (5 minutes Wet)	3696	2900	59.0	Sea Level
Takeoff (5 minutes Wet)	3716	2900	59.0	2000
Takeoff (5 minutes Dry)	2900	2900	54.0	Sea Level
Takeoff (5 minutes Dry)	2900	2900	53.0	2000
Max Continuous	2600	2600	48.5	Sea Level
Max Continuous	2655	2600	47.5	4000

*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) J34WE-36 **

			Exhaust Gas Temp	
	StaticThrust Lbs.	RPM	°F	°C
Takeoff (5 minutes)	3050	12,500 (100%)	**	**
Maximum Continuous	2650	12,500 (96%)	**	**
First 5 sec. only			1760	960
Next 30 sec. Only			1562	850
Acceleration			1661	905

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

Propeller and Propeller Limits

Hubs – 2 Hamilton Standard 24260-313 or
2460-337 or 24260-223
Blades – 4 2J17H3-36S or 2J17Z3-36S or
2FJ17C3-36S***
Diameter Limits – 14 ft. 2 in. – No cutoff permitted.
Continuous ground operation between 2000 and 2400 RPM is prohibited.

Pitch setting at 72-inch station:

Low pitch	14	(±0.5)
Feathered	+82	(±0.5)
Reverse	-22	(±0.5)

*** 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

V_{ne}	Never exceed at sea level	270 KIAS
V_{fe}	(Flaps extended 5)	210 KIAS
V_{fe}	(Flaps extended 10)	210 KIAS
V_{fe}	(Flaps extended 15)	200 KIAS
V_{fe}	(Flaps extended 20)	175 KIAS
V_{fe}	(Flaps extended 25)	155 KIAS
V_{fe}	(Flaps extended 32)	145 KIAS
V_{le}	(Maximum gear extend)	155 KIAS
V_a	(Maximum maneuvering)	160 KIAS
V_{mc}	(Minimum control speed)	108 KIAS

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
362.91 to 375.53 at 80,000
354.71 to 375.53 at 61,400
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 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 lbs.
Landing	68,700 lbs.
Zero Fuel	68,550 lbs.

Minimum Crew
Pilot and Co-pilot

Number of Seats
One at +180", occupancy limited to persons essential to perform the special purpose operation.

Fire Retardant 2,750 gallons (U.S.) 25,300 lbs. at F.S. 313.0 to 481.0

Fuel Capacity

			Total	Fuel	
	No. Tanks	U.S. Gal.	U.S. Gal.	Lbs.	Arm
Center Section	2	790	1580	9480	+382.5"
Wing (main)	2	715	1430	8580	+376.5"

Total permanent tankage	3010	18060

Oil Capacity

			Total	Oil	
	No. Tanks	U.S. Gal.	U.S. Gal.	Lbs.	Arm
Nacelle Tank	2	80	160	1136	+382.7"
(expansion space)	-	20	-	-	-
Jet Pod Oil	2	2.75	5.5	41	+311.0

Water Injection Tank Capacity

			Total ADI	Fluid	
	No. Tanks	U.S. Gal.	U.S. Gal.	Lbs.	Arm
Nacelle Tank	2	25	50	375	+316.0"

Fluid – AMS – 3006 Type I 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° 30' ± 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 10°	Right 10° 30'
Rudder	Left 21°	Right 21°

Aileron Spring Tab: Adjust spring tab in accordance with NAVWEPS 01-76-EEB-2-3, Figure 3-16.

Serial Numbers Eligible
148344 and 148357

Certification Basis	The certification basis is 14 Code of Federal Regulations (CFR) part 21 & § 21.25 (a)(2) and (b)(2), CAR Part 4B as effective October 1, 1959, § 21.50(b), § 25.571 and § 25.1529 to Amendment 25-54 as effective September 11, 1980 (see Note 5). Type Certificate Data Sheet No. A36NM, Revision 5, issued 11 February, 2010 for the special purpose of forest and wildlife conservation (aerial dispensing of fluids)
Production Basis	None. Prior to original airworthiness certification of each aircraft, FAA personnel must perform an airworthiness inspection determining condition for safe operation and determine the applicant has conducted a satisfactory flight test. See Note 3 for data on Service bulletins and service changes.
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. In addition, an FAA approved Airplane Flight Manual Supplement is required. (See Note 2).
Note 1	Current weight and balance report including 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. Refer to T.O. 1-1B-40, Handbook of Weight and Balance Data, and Minden Air P2V-7 Weight and Balance Report No. MA-750 dated June 5, 1991.
Note 2	The aircraft shall be operated in accordance with the Minden Air Flight Manual MAC-FMS-002A, Revision 2, dated April 17, 2002, or later FAA approved revision, and Minden Air Flight Manual Supplement Report No. MAC-FMS-002 Rev. No. “2”, dated April 20, 1999.
Note 3	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, must be determined. SP-2H (P2V-7) Airframe and Interim Airframe Bulletins – Nos. 1, 3, 4, 5, 6, 8, 9, 10, 12, 13, 14, 17, 18, 19, 20, Rev. B, 21 and Amend 1, 22, 23, 24, 25, 26, and Amend 1,27, Rev. A, 31 and Amend 1, 63, 65, 67, 69, and Amend 1, 72, 74, 75, 78, 81, 83, Amend 1, 86, 88, 90, 91, 92, 93, 94, 95, and Amend 1, 98, 100, 101, 102, 103, 104, 105, 107, 108, 110, 114, Rev. A, 115, 116, and Amend 1, 117, 118, 119. Interim 7, Interim 11, and Amend 1, Interim 29 and Amend 1, Interim 31, Amend 1, Interim 32, Interim 33 and Amend 1, Interim 36, 37, Interim 38, Interim 39, Interim 40, 42, Interim 43, Interim 44, 45, Interim 46, Interim 47, Interim 48, Interim 49 and Amend 1, Interim 51, Rev. A, Interim 53, Interim 55, Interim 56, Interim59, Interim 60 and Amend 1, Interim 61, Interim 62. P2V-7 Aircraft Service Changes – 605, 676, 681, 688, 693, 694, 297, 699, 706, 709, 711, 714, 721, 722, 724, 726, 733, 735, 736A, 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, Amend1, 894 Amend 1, 896 Amend 1, 896 Amend 1, 898, 900, 901, 903, 904, 906, Amend 1, 912, 920, 923, 924, Amend 1, 928, 929, 931 Amend 1, 932, 934, 935, 0937, 940, 941, 948, 952, 953 Amend 1, 955A, 959 Amend 2, 971, 974, 979, 980, 981, 987, 988, 991

Note 3 (cont'd)

Wright R3350-32WA Engine Bulletins – Nos. 115 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. Engines 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, 509, 515A, 516, 527A, 531, 532, 535A, 541, 544A, 551, 555, 600A.

Note 4

Modification to these aircraft or special equipment will be necessary, reference § 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 Minden Air Corp. Master Drawing List MAC-MDL-0001, Revision 16, dated April 12, 2002, or later FAA approved revision. Carriage of hazardous materials is prohibited unless compliance is shown with § 21.25, part 91 and the applicable regulations in the Code of Federal Regulations 49, Part 175.

Note 5

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-7 Instructions for Continued Airworthiness for S/N 148344 and S/N 148357, "Minden Air Corp. Report No. P2V-ICA-001, Revision N/C, dated December 21, 2009, 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.

The Instructions for Continued Airworthiness as specified in Minden Air Corp. Report No. P2V-ICA-001, Revision N/C, dated December 21, 2009 are certified to the requirements of § 25.571 and § 25.1529 and 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 Minden Air Corp. Report No. P2V-ICA-001 must be performed to the requirements of § 25.571 and § 25.1529.

Note 6

All autopilot equipment must be removed.

Note 7

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

END