

FEDERAL AVIATION AGENCY

E-142
 Revision 3
 Pratt & Whitney
 WASP
 S3H1-G
 R-1340-59
 February 1, 1974

AIRCRAFT ENGINE SPECIFICATION

Engines of models described herein conforming with this specification and approved data on file with the Federal Aviation Agency meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft specifications and applicable portions of the Civil Air Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Manufacturer Pratt & Whitney Aircraft
 Division of United Aircraft Corporation
 East Hartford, Connecticut

Model	Wasp	S3H1	R-1340-59
Type	9RA	3:2 reduction gearing	--
Rating (Impeller gear ratio)		10:1	--
Maximum continuous, hp., rpm, in.Hg., at:			
Critical altitude (ft.)		550-2200-32.5-5000	--
Sea level pressure altitude (ft.)		550-2200-34.0-S.L.	--
Takeoff (5 minutes), hp., rpm, in.Hg., at:			
Critical altitude (ft.)		600-2250-35.5-3000	--
Sea level pressure altitude (ft.)		600-2250-36.0-S.L.	--
(See Note 4 for additional rating.)			
Fuel (minimum grade aviation gasoline)		80/87	--
Lubricating oil		See P&WA Service Bulletin No. 1183	--
Bore and stroke, in.		5.75 X 5.75	--
Displacement, cu. in.		1344	--
Compression ratio		6:1	--
Weight (dry), lb.		930	950
Propeller shaft, SAE No.		40	--
Carburetion		Stromberg NA-Y9B, NA-Y9C or NA-Y9H with 2-3/4 in. venturi	Stromberg NA-Y9E1
Ignition, Dual		Scintilla SB9R magnetos	Scintilla SB9RN-4
Timing, °BTC		25	--
Spark plugs		See P&WA Service Bulletin No. 1175	--
Notes		1, 2, 3, 4, 7	1, 2, 3, 6, 7

Certification basis Type Certificate No. 142

Production basis Production Certificate No. 2

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NOTE 1. Maximum permissible temperatures are as follows:

	<u>Cylinder Head</u>	<u>Cylinder Barrel</u>	<u>Oil Inlet</u>
S3H1-G	500°F.	300°F.	200°F.
R-1340-59	500°F.	335°F.	200°F.

NOTE 2. Fuel and oil pressure limits:

	<u>S3H1-G</u>	<u>R-1340-59</u>
Fuel pressure (psi)	3-6	3-5
Oil pressure (psi)	70-90	70-90

NOTE 3. The following accessory drives are provided:

	Direction of Rotation (Clockwise or Counter-Clockwise)	Speed Ratio (Times Crankshaft Speed)	Maximum Torque (in. lb.)		**Maximum Overhang (in.-lb.)
			Cont.	Static	
Starter	CC	1.0	2300	10,000	180
Generator	C	1.5	100	300	183
Generator (opt. S3H1-G) (Std. R-1340-59)	C	2.0	140	900	183
Fuel pump	CC	1.0	150	450	10
Aux. accessory	CC	1.0	*150	450	10
Tachometer R.H.	C	.5	15	45	10
L.H.	CC	.5	15	45	10
Governor	C	1.144	60	250	-
Vacuum pump	C	1.5	*100	300	10

*Maximum combined drive load of vacuum pump and fuel pump must not exceed 150 in.-lb.

**Maximum allowable accessory moments in in.-lb., provided no destructive accessory drive or mounting pad forces resulting from accessory vibration are present.

Early Wasp engines incorporate tongue and groove vacuum and fuel pump drives. All later engines have spline type drives.

NOTE 4. (a) Ratings are based upon the best power mixture strength and 450°F cylinder head temperature.
(b) With the use of grade 91/96 fuel, the following ratings may be used:

Maximum continuous, hp, rpm, in.Hg., at:	
Critical altitude (ft.)	550-2200-33.0-4500
Sea level pressure altitude (ft.)	550-2200-34.0-S.L.
Takeoff (one minute), hp, rpm, in.Hg., at:	
Critical altitude (ft.)	600-2250-36.0-2300
Sea level pressure altitude (ft.)	600-2250-36.5-S.L.

NOTE 5. Deleted February 1, 1974.

NOTE 6. Eligible with rear crankcase section fabricated from aluminum alloy instead of magnesium alloy at a weight increase of 12 lbs.

NOTE 7. R-1340-59 is the same as S3H1-G except for carburetor setting and dry weight.

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