

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-270
Revision 5
WRIGHT
Double Row Cyclone
956C18CA1
975C18CB1

December 28, 1983

TYPE CERTIFICATE DATA SHEET NO. E-270

Engines of models described herein conforming with this specification and approved data on file with the Civil Aeronautics Administration and Federal Aviation Administration are rated as airworthy for use in certificated aircraft in accordance with pertinent aircraft specifications and the manufacturer's installation, operation, repair and overhaul instructions.

Manufacturer Curtiss Wright/Marquette Inc.
Fountain Inn, S.C.

	956C18CA1	975C18CB1
Model Double Row Cyclone	956C18CA1	975C18CB1
Type 18RA	16:7 Reduction gearing	- -
Rating		
(with low impeller gear ratio)	6.46:1	- -
Max. continuous, hp, rpm, in.Hg., at:		
Critical altitude (ft.)	2300-2600-45.5-6300	2400-2600-46.0-5300
Sea level pressure altitude	2300-2600-47.0-S. L.	2400-2600-47.5-S. L.
Take-off (5 min.), hp, rpm, in.Hg., at:		
Critical altitude (ft.)	2700-2900-52.5-5100	2800-2900-52.5-4500
Sea level pressure altitude	2700-2900-54.0-S. L.	2800-2900-54.0-S. L.
(With high impeller gear ratio)	8.67:1	- -
Max. continuous, hp, rpm, in.Hg., at:		
Critical altitude (ft.)	2000-2600-46.5-15,800	2000-2600-46.0-16,000
Low critical pressure altitude (ft.)	2000-2600-48.0-10,700	2000-2600-47.5-10,800
Fuel (Minimum grade aviation gasoline)	115/145	115/145 (See NOTE 6 for 100/130)
Bore and stroke, in.	6.125 X 6.312	- -
Displacement, cu. in.	3350	- -
Compression ratio	6.70:1	- -
Weight (dry), lbs.	2945	3065
C.G. location (dry)		
From crankcase mounting pad counterbore, in.	13.50	- -
From thrust nut face, in.	30.64	- -
Above propeller shaft, in.	0.2	- -
Propeller shaft, SAE No.	60	- -
Fuel injection model	Bendix Stromberg PR-58-P3 master control with two direct injection pumps	Bendix Stromberg PR-58-S2 or PR-58-P3 master control with two direct injection pumps
Ignition, Dual	Scintilla, DLN-9 magneto	- -
Timing, °BTC	25 (35 in cruising)	- -

NOTES 1, 2, 3, 4, 5 1, 2, 3, 4, 5, 6

"- -" indicates "same as preceding model"
"—" indicates "does not apply"

Certification basis Type Certificate No. 270
Production basis Production Certificate No. 8

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NOTE 1. Maximum permissible temperatures are as follows:

<u>Head (Well Type Thermocouple)</u>	<u>Barrel</u>	<u>Oil Inlet</u>
475° (500° for T.O. only)	350°	220°

NOTE 2. Fuel and oil pressure limits:

Oil pressure (psi) Rear Pump	70 ± 5
Fuel pressure (psi)	25 ± 1

NOTE 3. The following accessory drives are provided:

	Rotation*	Speed*	Maximum Torque (lbs. in.)		Maximum Bending Moment (in. lbs.)
			<u>Continuous</u>	<u>Static</u>	
Starter	C	1.000	-	36000	350
Generator and accessory (2)	C	3.110	1500	6600	400
Fuel pump (2)	CC	1.000	25	450	15
Hydraulic pump	C	1.400	600	2700	350
Vacuum pump (2)	C	1.400	250	1650	75
Tachometer (2)	1C	0.500	22	50	15
	1CC				
Propeller governor	C	0.857	125	825	30

*"C" - Clockwise viewing drive pad
 "CC" - Counter clockwise
 Speed - Times crankshaft rpm

NOTE 4. These engines incorporate torquemeters, provisions for crankcase mounting and double-acting hydraulic propeller provisions.

NOTE 5. The ratings of these engines are based on standard conditions of temperature and barometric pressure (60°F and 29.92 in.Hg. at sea level) and 80% relative humidity. If corrected to dry standard air conditions, the rated powers would be increased approximately 2.5% at sea level to 0.4% at 15,000 feet for equal manifold pressure settings.

NOTE 6. The 97C18CB1 engine is eligible for use with grade 100/130 fuel at the following ratings:

With low impeller rear ratio:

Max. continuous, hp, rpm, in.Hg., at:
 Critical altitude (ft.) - 2150-2600-40.5-8700
 Sea level - 2150-2600-43.0-S. L.

Take-off (5 min.), hp, rpm, in.Hg. at:
 Critical altitude (ft.) - 2350-2600-45.0-5900
 Sea level - 2350-2600-46.5-S. L.

With high impeller gear ratio:

Max. continuous, hp, rpm, in.Hg., at:
 Critical altitude (ft.) - 1800-2600-41.0-18,800
 Low critical pressure altitude (ft.) - 1800-2600-42.0-14,000

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