

FEDERAL AVIATION AGENCY

E-289 Revision 2 WRIGHT Cyclone 990C7BA1 December 28, 1983

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	Curtiss-Wright/Marquette, Inc. Fountain Inn, South Carolina	
Model	Cyclone	990C7BA1
Type	7RA	Direct drive
Rating (impeller gear ratio)	7.21:1	
Maximum continuous hp, rpm, in.Hg., at:		
Critical pressure altitude (ft.)	700-2400-37.0-7300	
Sea level pressure altitude	700-2400-39.5-S.L.	
Takeoff hp, rpm, in.Hg., at:		
Critical pressure altitude (ft.)	800-2600-42.5-5500	
Sea level pressure altitude	800-2600-43.5-S.L.	
Fuel (minimum grade aviation gasoline)	Grade 91/96	
Lubricating oil	WAD Specification No. 5815 or 5818	
Bore and stroke, in.	6.125 X 6.312	
Displacement, cu. in.	1301	
Compression ratio	6.2:1	
Weight (dry), lb.	1070	
C.G. location (dry)		
Foward of mounting flange centerline, in.	5.29	
Above propeller shaft, in.	0.08	
Propeller shaft, SAE No.	40	
Crankshaft dampers - Torsional & Lateral	3 1/2 order - Front & Rear	
Carburetion	Stromberg PD9G1	
Ignition, dual	Bosch S7LU-3 magnetos	
Timing, °BTC	20	
Spark plugs	See Note 4.	
NOTES	1, 2, 3, 4, 5	
Certification basis	Type Certificate No. 289 issued August 9, 1956	
Production basis	Production Certificate No. 8	

NOTE 1. Maximum permissible temperatures:

<u>Cylinder Head</u>	<u>Cylinder Base</u>	<u>Oil Inlet</u>
450°F	325°F	220°F
500°F for takeoff only		

Page No.	1	2
Rev. No.	2	2

NOTE 2.

Fuel and oil pressure limits:

	<u>Maximum</u>	<u>Minimum</u>
Fuel pressure	23	21
Oil pressure	70	60

NOTE 3.

The following accessory provisions are provided:

Accessory	Direction of Rotation*	Speed**	Maximum Torque (in.-lb.)		Maximum Overhang Moment (in.-lb.)
			Cont.	Static	
Starter	C	1.000:1	—	25800	300
Fuel pump	CC	1.000:1	25	450	—
Tachometer	C	0.500:1	7	50	—
Spare	C	0.500:1	7	50	—

*"C" - clockwise; "CC" - counter-clockwise facing engine pad

**Speed - times crankshaft rpm

NOTE 4.

The following spark plugs are approved on these engines:

AC 172, 181, 272, 281

BG RB19R-2, RB27R-1

Champion R119, R819, REA87N, REB87N, RHA87N, RHB87N

NOTE 5.

This engine is approved for helicopter application and operation, and is eligible for installation in a 39° nose-up attitude.

...END....