

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E-239	TCDS NUMBER E-239 REVISION: 6* DATE: April 30, 2013 Franklin Sp. z.o.o. MODELS FRANKLIN 4A4-75-A2, A3, B2, B3 4A4-85-A2, A3, B2, B3 4A4-95-A2, A3, B2, B3 4A4-100-B2, B3
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number 239) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER

Franklin Sp. z.o.o.
 Ul. Chelmińska 208
 86-300 Grudziądz
 Poland

TYPE CERTIFICATE (TC) HOLDER RECORD

WSK-PZL-RZESZOW transferred TC E-239 to Franklin Sp. z.o.o. on August 17, 2006

I. MODELS	4A4-75-A2, A3	4A4-75-B2, B3	4A4-85-A2, A3
TYPE	4HOA		
RATINGS			
Maximum Continuous hp, r.p.m., full throttle at: Sea level pressure altitude	75-2050-S.L.	75-1950-S.L.	85-2350-S.L.
Takeoff hp, r.p.m., full throttle	75-2050	75-1950	85-2350
FUEL			
Minimum grade aviation gasoline	73	80	73
COMPRESSION			
Bore and stroke, in.	4.5 x 3.5	--	--
Displacement, cu. in.	225	--	--
Compression ratio	6.5:1	7:1	6.5:1

* PAGE	1	2	3	4	5
REV.	6	4	6	5	5

LEGEND: "--" INDICATES "SAME AS PRECEDING MODEL"

I. MODELS (Continued)	4A4-75-A2, A3	4A4-75-B2, B3	4A4-85-A2, A3
WEIGHT (DRY) (lb)	191, 198	--	--
CENTER OF GRAVITY (in)			
Forward of rear mounting lug C.L.	6.6 4.8 with starter and 15 amp generator	-- --	-- --
Below prop. shaft	0.93	--	--
PROPELLER SHAFT	SAE No. 2, flange	--	--
CARBURETION	Marvel-Schebler MA-5	--	
IGNITION (dual)	Eisemann LA-4 magnetos, impulse coupling --	--	
TIMING, \emptyset BTC	28	34	28
SPARK PLUGS	Champion 78S, J-10, C- 10, S, AC-SA-47, Auto- Lite A5-B, A4-S	--	--
OIL SUMP CAPACITY, QT.	6.5	---	--
NOTES	1 - 4	--	--

II. MODELS	4A4-85-B2, B3	4A4-95-A2, A3	4A4-95-B2, B3	4A4-100-B2, B3
TYPE	4HOA			
RATINGS				
Maximum Continuous hp, r.p.m., full throttle at: Sea level pressure altitude	85-2200-S.L.	95-2600-S.L.	95-2450-S.L.	100-2550-S.L.
Takeoff hp, r.p.m., full throttle	85-2200	95-2600	95-2450	100-2550
FUEL				
Minimum grade aviation gasoline	80	73	80	--
COMPRESSION				
Bore and stroke, in.	4.5 x 3.5	--	--	--
Displacement, cu. in.	225	--	--	--
Compression ratio	7:1	6.5:1	7:1	--

II. MODELS (Continued)	4A4-85-B2, B3	4A4-95-A2, A3	4A4-95-B2, B3	4A4-100-B2, B3
WEIGHT (DRY) (lb)	191, 198	--	--	--
CENTER OF GRAVITY (in)				
Forward of rear mounting lug C.L.	6.6	--	--	--
	4.8 with starter and 15 amp generator	--	--	--
Below prop. shaft	0.93	--	--	--
PROPELLER SHAFT	SAE No. 2, flange	--	--	--
CARBURETION	Marvel-Schebler MA-5 carburetor	--	--	--
IGNITION (dual)	Eisemann LA-4 magnetos, impulse couplin --	--	--	
TIMING, ∅BTC	34	--	--	--
SPARK PLUGS	Champion 78S, J-10, C-10, S, AC-SA-47; Auto-Lite A5-B, A4-S	--	--	--
OIL SUMP CAPACITY, QT.	6.5	--	--	--
NOTES	1 - 4	--	--	--

CERTIFICATION BASIS

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Type Certificate 239 issued/revised:

<u>Model</u>	<u>Date of Application</u>	<u>Date TC Issued/Revised</u>
4A4-75-A2	06/04/45	09/27/45
4A4-75-A3	06/04/45	09/27/45
4A4-75-B2	06/04/45	09/27/45
4A4-75-B3	06/04/45	09/27/45
4A4-85-A2	06/04/45	09/27/45
4A4-85-A3	06/04/45	09/27/45
4A4-85-B2	06/04/45	09/27/45
4A4-85-B3	06/04/45	09/27/45
4A4-95-A2	06/04/45	09/27/45
4A4-95-A3	06/04/45	09/27/45
4A4-95-B2	06/04/45	09/27/45
4A4-95-B3	06/04/45	09/27/45
4A4-100-B2	06/04/45	09/27/45
4A4-100-B3	06/04/45	09/27/45
TC Inactivated		12/05/50
TC Re-activated		01/11/62
Reissued to WSK "PZL-RZESZOW"		11/05/81
Reissued to WSK "PZL-RZESZOW" SA		12/8/94
Reissued to Franklin Sp. z.o.o.		04/30/13

PRODUCTION BASIS

1. Production Certificate No. 9 for U.S. production. There will be no further production of engines or replacement parts under this production certificate.
2. FAR 21.500 for production of engines or replacement parts under this type certificate by WSK "PZL-RZESZOW" SA under control of the Republic of Poland General Inspectorate of Civil Aviation (GICA).

Parts produced under either production basis are eligible to be used interchangeably.

The General Inspectorate of Civil Aviation of Poland originally type certificated this engine. The FAA validated this product under U.S. Type Certificate Number **E-239**. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Poland.

IMPORT REQUIREMENTS

To be considered eligible for installation on U.S. registered aircraft, each new engine to be exported to the United States with the General Inspectorate of Civil Aviation of Poland or EASA airworthiness approval shall have a Joint Aviation Authorities (JAA) or EASA Form 1, Authorized Release Certificate. The JAA or EASA Form 1 should state that the engine conforms to the type design approved under the U.S. Type Certificate **E-239**, is in a condition for safe operation and has undergone a final operational check.

Additional guidance is contained in FAA Advisory Circular 21-23, Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products, imported into the United States.

NOTES

NOTE 1. Maximum permissible cylinder head, barrel, and oil inlet temperatures, 500øF, 300øF and 230øF, respectively.

NOTE 2. The following accessory provisions and typical engine accessories are eligible at the indicated weight increases:

ACCESSORY	WEIGHT - lbs.
<u>Starter:</u> Models - 3 only	
Auto-Lite, Part No. 10118	16
Delco-Remy, Part No. 10750	16
<u>Generator:</u> Models - 3 only	
Auto-Lite, Part No. 10119 or 11497, 15 amp	12
Delco-Remy, Part No. 17556, 25 amp	16
<u>Fuel Pump:</u>	
AC Diaphragm type, Part No. 10551	3
<u>Miscellaneous:</u>	
Ratio Shielding	3
Fram P 1/2 Filter	---

NOTE 2. (CONT.)

The following accessory drives are provided:

ACCESSORY	Type of Drive Pad	Rotation Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in. -lb.)		Maximum Overhang Moment (in. - lb.)
				Cont.	Static	
Starter	None	CC	11.444:1	--	240	30
Generator	None	CC	1.000:1	12	35	55
Tachometer	AND 10005	CC	0.500:1	20	60	2
"C" - Clockwise facing engine drive pad, "CC" - Counterclockwise facing engine drive pad						

NOTE 3.

Eligible with a temporary propeller shaft flange drilled for six 3/8- inch bolts on a 4-inch circle.

NOTE 4.

SERVICE INFORMATION:

Each of the documents listed below must state that it is approved by the European Aviation Safety Agency (EASA) or, for approvals made before September 28, 2003 by the General Inspectorate of Civil Aviation of Poland. Any such documents including those approved under a delegated authority, are accepted by the FAA and are considered FAA approved.

- Service bulletins,
- Structural repair manuals,
- Vendor manuals,
- Aircraft flight manuals, and
- Overhaul and maintenance manuals.

These approvals pertain to the type design only.

---THE END---