

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E24EA	TCDS NUMBER E24EA  REVISION: 4 <sup>*</sup> DATE: DECEMBER 8, 1994  WYTWORNIA SPRZETU KOMUNIKACYJNEGO "PZL-RZESZOW" - SPOLKA AKCYJNA  MODELS:  FRANKLIN 2A-120-A 2A-120-B 2A-120-C 2A-120-D
---	---

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E24EA) 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      Wytwornia Sprzetu Komunikacyjnego (WSK) "PZL-RZESZOW" - Spolka Akcyjna (SA)  
 ul. Hetmanska 120  
 35-078 Rzeszow  
 Poland

I. MODELS	2A-120-A	2A-120-B	2A-120-C	2A-120-D
TYPE	2HOA Horizontally-Mounted Direct Drive			
RATINGS				
Maximum Continuous hp, r.p.m., at: sea level pressure altitude	60-3200	--	--	--
Takeoff hp, r.p.m., full throttle at: sea level pressure altitude	60-3200	--	--	--
FUEL				
minimum grade aviation gasoline	100/130	--	--	--
LUBRICATING OIL	MIL-L-6082 or MIL-L-22851	--	--	--
OIL GRADE				
above 40øF ambient air temp.	SAE 50	--	--	--
below 40øF ambient air temp.	SAE 30	--	--	--

\*

PAGE	1	2	3	4	
REV.	4	4	4	4	

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

"---" INDICATES "DOES NOT APPLY"

NOTICE: ALL PAGES ARE REFORMATTED. SIGNIFICANT CHANGES, IF ANY,  
 ARE BLACK-LINED IN THE LEFT MARGIN.

I. MODELS (Continued)	2A-120-A	2A-120-B	2A-120-C	2A-120-D
COMPRESSION				
Bore and stroke, in.	4.625 x 3.5	--	--	--
Displacement, cu. in.	117	--	--	--
Compression ratio	8.5:1	--	--	--
WEIGHT (DRY) (lb)	133	126	133	129
CENTER OF GRAVITY (in) (with all accessories)				
forward from rear face of crankcase	1.49	3.44	1.68	3.29
above C.L. of crankshaft	.05	1.2 below	.05	.57 below
PROPELLER SHAFT	SAE No. 2, six 3/8 in. bolts on 4.75 in. circle	--	--	--
CARBURETION	Marvel-Schebler MA-3A	--	--	--
IGNITION (dual)	Slick 2070	--	--	--
TIMING, °BTC	36	--	--	--
SPARK PLUGS	AC 273, Champion RHB32E, RHB36D, RHB36W	--	--	--
OIL SUMP CAPACITY, QT.	2.5	--	4	--
USEABLE OIL, QT. (starting with full tank)				
15° nose down	2.2	--	2.0	--
20° nose up	2.3	--	2.8	--
NOTES	1-6	--	--	1-6

CERTIFICATION BASIS

FAR Part 33, effective February 1, 1965, as amended by 33-1 to 33-3, inclusive.

Type Certificate E24EA issued/revised:

<u>Model</u>	<u>Date of Application</u>	<u>Date TC Issued/Revised</u>
2A-120-A	09/23/70	04/26/71
2A-120-B	09/23/70	01/29/71
2A-120-C	02/09/72	07/26/72
2A-120-D	02/09/72	07/26/72
Reissued to PEZETEL		08/01/79
Reissued to WSK "PZL-RZESZOW"		11/05/81
Reissued to WSK "PZL-RZESZOW" SA	12/8/94	

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.

IMPORT REQUIREMENTS

To be considered for installation on United States registered aircraft, each engine (or propeller) to be exported to the United States shall be accompanied by a certificate of airworthiness for export, or certifying statement endorsed by the exporting cognizant civil airworthiness authority, which contains the following language:

- (1) This engine (or propeller) conforms to its United States type design (Type Certificate Number E24EA) and is in a condition for safe operation.
- (2) This engine (or propeller) has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference FAR Section 21.500, which provides for the airworthiness acceptance of aircraft engines or propellers manufactured outside of the United States for which a United States type certificate has been issued.

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.

<b>NOTES</b>
--------------

NOTE 1.

Maximum permissible temperatures (øF):

	<u>Model 2A-120-A, B, C, D</u>
Cylinder head	400 (bayonet thermocouple)
Cylinder base	320
Oil inlet	285

NOTE 2.

Fuel pressure limits:

	<u>Pressure Feed</u>	<u>Gravity Feed</u>
Inlet to fuel pump	6 p.s.i. (max)	5" fuel (min)
Oil pressure limits:		
Idle	25 p.s.i.	
Normal operation	55-95 p.s.i.	

NOTE 3. The following accessory drives are provided (2A-120-B, -D has tachometer only):

ACCESSORY	Type of Drive Pad	Rotation Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in. lb.)		Maximum Overhang Moment (in. lb.)
				Cont.	Static	
<b>Starter</b>	Special	CC	11.44:1	140	450	90
<b>Alternator</b>	Belt	CC	1.08:1	70	800	60
<b>Tachometer</b>	AND 10005	CC	0.50:1	7	50	5
<b>Fuel Pump</b>	Diaphragm	Plunger	1.08:1	100	800	30

"C" - clockwise facing engine drive pad, "CC" - counter clockwise facing engine drive pad

NOTE 4. Power tolerance for production engines is +4%, -0% of the nominal rating.

NOTE 5. The above engines incorporate the following detailed differences:

<u>2A-120 Model</u>	<u>Characteristics</u>
-A	Basic model.
-B	Similar to -A but does not incorporate starter, alternator or fuel pump.
-C	Similar to -A except for increased oil sump capacity and revised induction system.
-D	Similar to -C but does not incorporate starter, alternator or fuel pump.

NOTE 6. Service Bulletins, structural repair manuals, vendor manuals, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Republic of Poland General Inspectorate of Civil Aviation (GICA) approved, are accepted by the FAA and are considered FAA approved. These approvals pertain to the type design only.

---THE END---