	TCDS NUMBER E24EA REVISION: 5* DATE: March 23, 2007
U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E24EA	WYTWORNIA SPRZETU KOMUNIKACYJNEGO "PZL-RZESZOW" - SPOLKA AKCYJNA MODELS: FRANKLIN 2A-120-A 2A-120-B 2A-120-C 2A-120-C1 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-C1**	**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	- -	- -	- -	- -
COMPRESSION					
Bore and stroke, in.	4.625 x 3.5	- -	- -	- -	- -
Displacement, cu. in.	117	- -	- -	- -	- -
Compression ratio	8.5:1	- -	- -	- -	- -

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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-C1	2A-120-D
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	- -	- -	SAE No. 2, six 3/8 in. bolts on 4.75 in. circle and six M8 bolts on 3.98 in. circle (simultaneously)	- -
CARBURETION	Marvel-Schebler MA-3A	- -	- -	- -	- -
IGNITION (dual)	Slick 2070	- -	- -	- -	- -
TIMING, øBTC	36	- -	- -	- -	- -
SPARK PLUGS	AC 273, Champion RHB32E, RHB36D, RHB36W	- -	- -	- -	- -
OIL SUMP CAPACITY, QT.	2.5	- -	4	- -	- -
USEABLE OIL, QT. (starting with full tank)					
15ø nose down	2.2	- -	2.0	- -	- -
20ø nose up	2.3	- -	2.8	- -	- -
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CERTIFICATION BASIS

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

Type Certificate E24EA issued/revised:

Model	Date of Application	Date TC Issued/Revised
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

The General Inspectorate of Civil Aviation of Poland originally type certificated this engine. The FAA validated this product under U.S. Type Certificate Number E24EA. Effective September 28, 2003, the European Aviation Safety Agency (EASA) began oversight of this product on behalf of Poland.

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 eligible for installation on U.S. registered aircraft, each new engine to be exported to the United States with 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 E24EU, 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 temperatures (øF):

	Model 2A-120-A, B, C, D	Model 2A-120-C1
Cylinder head	400 (bayonet thermocouple)	395 (bayonet thermocouple)
Cylinder base	320	320
Oil inlet	285	260

NOTE 2. Fuel pressure limits:

	Pressure Feed	Gravity Feed
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.) Cont.	Max. Torque (in. lb.) Static	Maximum Overhang Moment (in. lb.)
Starter	Special	CC	11.44:1	140	450	90
Alternator	Belt	CC	1.08:1	70	800	60
Tachometer	AND 10005	CC	0.50:1	7	50	5
Fuel Pump	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 following engines incorporate the additional detailed characteristics:

2A-120 Model	Characteriestics
-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.
-C1	Similar to -C1 except for a modified lubrication system.

NOTE 6.

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 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.

NOTE 7. The following accessory drives are provided:

ACCESSORY	Type of Drive Pad	Rotation Facing Drive Pad	Speed Ratio to Crankshaft	Max. Torque (in. lb.) Cont.	Max. Torque (in. lb.) Static	Maximum Overhang Moment (in. lb.)
Starter	Special	CC	11.44:1	140	450	90
Alternator	Belt	CC	1.08:1	70	800	60
Tachometer	AND 10005	CC	0.50:1	7	50	5
Fuel Pump	Diaphragm	Plunger	1.08:1	100	800	5
Vacuum Pump or Hydraulic pump	AND 20000	CC	1.08:1	125	570	25
CC" - counter clockwise facing engine drive pad						

---THE END---