United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number **SE978NW**

This certificate, issued to **Machen, Inc.**
10555 Airport Drive
Coeur d'Alene Airport
Hayden Lake, ID 83835

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 13 *of the* Civil Air *Regulations.*

Original Product—Type Certificate Number: E14EA

Make: AVCO Lycoming

Model: LTIO-, TIO-540-J2BD (MA)

Description of the Type Design Change: Installation of Garrett AiResearch Model T18A21 or T18A95 turbocharger with Machen, Inc., Intercooler and associated systems in accordance with Machen, Inc., Report 66-1.

NOTE: Refer to AVCO Lycoming Detail Specification No. 2436C dated June 4, 1973, for operating limits as shown in Addendum No. SE978NW.

Limitations and Conditions: Approval of this change in type design applies to the above model engines only. This approval should not be extended to other engines of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that engine. A copy of this Certificate must be maintained as part of the permanent records for the modified engine.

If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

(See "Continuation Sheet" Page 3)

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: July 8, 1980

Date reissued:

Date of issuance: July 16, 1980

Date amended: January 20, 1982; November 1, 1998

By direction of the Administrator

(Signature)

Acting Manager, Seattle Aircraft Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47.

FAA FORM 8110-2(10-68)

Supplemental Type Certificate
(Continuation Sheet)

Number **SE978NW**

Machen, Inc.
Reissued:
Amended: 01/20/82; 11/01/98

Limitations and Conditions continued:

The conditions and limitations of Type Certificate Data Sheet E14EA apply except where superseded by the following:

This Supplemental Type Certificate Data Sheet, which is part of STC SE978NW, prescribes the conditions and limitations under which the product for which the STC was issued meets the airworthiness requirements of the Civil Air Regulations.

SUPPLEMENTAL TYPE CERTIFICATE HOLDER: Machen, Inc.

I. AVCO LYCOMING LTIO-, TIO-540-J2BD(MA) AS MODIFIED BY STC SE978NW

Full power manifold pressure (" Hg) shall be set within the following limits as a function of the fuel servo-inlet temperature (°F):

LOWER MAP LIMIT: MAP = 0.036 ($T°_{F)}$ + 39.5" Hg.

UPPER MAP LIMIT: MAP = 0.036 ($T°_{F}$) + 40.5" Hg.

NOTE: Maximum manifold pressure shall not exceed 49 inches of mercury ("Hg).

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