United States of America

Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number **SE1657NM**

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: 1E4

Make: AVCO Lycoming

Model: IO-540-S1A5 and IO-540-AA1A5

Description of the Type Design Change: Installation of Rotomaster 3AU2ME60H3 (or H2), and 3AV2ME60H3 (or H2), turbochargers, optional intercooler and associated systems in accordance with Machen, Inc. Report No. 65-2, dated June 12, 1982 or later FAA approved revisions.

Limitations and Conditions: Approval of this change in type design applies to the above model engines only, and is limited to the Piper Aerostar 600, 601, 601P and 602P aircraft modified per STC SA1658NM. 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: January 26, 1982

Date reissued:

Date of issuance: August 11, 1982

Date amended: April 24, 1985, March 18, 1988, 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 **SE1657NM**

Machen, Inc.
Reissued:
Amended: November 1, 1998

Limitations and Conditions continued:

SUPPLEMENTAL TYPE CERTIFICATE (STC) ADDENDUM NO. SE1657NM

The conditions and limitations of Type Certificate Data Sheet (TCDS) 1E4 apply except where superseded by the following:

The Supplemental Type Certificate Data Sheet, which is part of STC SE1657NM 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.

AVCO Lycoming IO-540-S1A5-MM or IO-540-AA1A5-MM as modified by STC SE1657NM

Non-Intercooled Installation

Full power manifold pressure and rpm shall be set within the following limits for 325 hp maximum power continuous operation:

Max MAP = 41" Hg

Max RPM = 2500

Decrease MAP 1/2" Hg per 1,000 feet altitude above 15,000 feet altitude operation.

Intercooled Installation

Full power manifold pressure and rpm shall be set within the following limits for 340 hp maximum power continuous operation:

Max MAP = 41" hg

Max RPM = 2500

Full power manifold pressure and rpm shall be set within the following limits for 350 hp maximum power continuous operation:

Max MAP = 42" Hg

Max RPM = 2500

- END -

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