U.S. Department of Transportation
Federal Aviation Administration

Southwest Region
Arkansas, Louisiana,
New Mexico, Oklahoma,
Texas

Manufacturing Inspection District Office #43
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Alcor Aviation, Inc.
210/349-6491

PMA No. PQ148SW
Supplement No. 4

FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

NAME AND PART NUMBER	APPROVED REPLACEMENT FOR	APPROVAL BASIS AND APPROVED DESIGN DATA	INSTALLATION ELIGIBILITY
Vernier Type Mixture Control, P/N 93882	OEM Vernier Type Mixture Controls	Test and Computations per 14 CFR part 21 § 21.303 for Alcor Aviation, Inc. ECN307, dated 1/8/97, and MDL 93882 Rev. 3, dated 1/9/97.	Single engine aircraft equipped with carbureted reciprocating engine

(END OF LISTING)

NOTE: Any major change to the design data (reference 14 CFR part 21 §§ 21.93 and 21.97) must be FAA approved before being incorporated in the finished part. Minor design changes (reference 14 CFR part 21 §§ 21.93 and 21.95) must be submitted to the Aircraft Certification Office (ACO) at regular intervals and in a manner as determined by the ACO. The method shall be documented in appropriate company procedures.

Robert A. Robino, Jr.
Manager, San Antonio
Manufacturing Inspection District Office

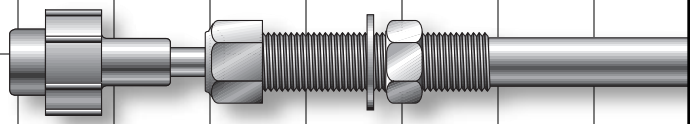
Date: January 10, 1997

This supplement is an attachment to FAA-PMA letter dated September 26, 1994.

Vernier Mixture Control

Installation Instructions

FAA/PMA Approved



GENERAL INFORMATION

Alcor® Vernier Mixture Control (VMC), **PN 93882**, replaces existing non-vernier push/pull type mixture controls. This feature allows the pilot to more accurately lean the fuel/air mixture for more precise Exhaust Gas Temperature adjustments. Installation to be done in accordance with standard approved methods referencing FAA Advisory Circular 43.13-1B or later revision.

INSTALLATION

1. Before removal of old mixture control assembly, make sure that original routing and length are adequate for new installation. Minimize sharp bends.
2. Disconnect and remove old push/pull control assembly and save all hardware at carburetor connection.
3. Remove inner wire from ***Alcor***® VMC housing.
4. Lay old control housing alongside Alcor housing so that panel friction nut on both are aligned.
5. Mark the ***Alcor***® VMC housing where the old control housing ends and cut using a hacksaw or other appropriate tool.
6. Reinstall the inner control wire, previously removed, back into the ***Alcor***® VMC housing. With controls still aligned and the knobs on both old and new assembly pushed in completely, mark the wire and cut off excess.
7. Enlarge hole in instrument panel where old cable was removed to .765 inches, plus or minus .005.
8. Route ***Alcor***® VMC control through panel and firewall to carburetor mixture control lever, following route of old control cable removed. **Install jam nut and washer before routing control cable through firewall hole**.

SEE NOTICE ON THE FOLLOWING PAGE

9. Secure outer ***Alcor***® VMC housing with hardware previously removed, if it is in good condition or replace using AN 742-DC6, MS 21919-DG4, or similar clamps.
10. If necessary, drill out hole in mixture lever arm swivel bolt on carburetor to .081 using drill size #46 to accept larger control wire size.
11. Push ***Alcor***® VMC knob in the cockpit all the way forward to the full RICH position. Turn control knob one turn counter clockwise. Place carburetor mixture lever in full RICH position. While in this position tighten control wire swivel bolt/nut.
12. Pull ***Alcor***® VMC knob to the aft or LEAN position by pushing the release button in center of knob. In this position, the mixture lever arm should rest against the idle cut off or full LEAN stop on carburetor body. With knob placed back in the full RICH or forward position, recheck that the lever arm has reached the full RICH stop position on carburetor. Adjust control wire as necessary to achieve proper operation.
13. If existing placard is removed or difficult to read, install new placard that reads, “MIXTURE-PULL LEAN.”

The ***Alcor***® VMC is **FAA/PMA approved for all single engine aircraft equipped with carbureted reciprocating engines.** as a generic mixture control replacement with no Supplemental Type Certificate required. A log book entry is required as it would be for any minor alteration.

NOTICE - Instructions for Adjusting Friction

Alcor® VMCs are supplied with correct amount of friction — great enough to prevent creep but not so great as to make the knob difficult to turn. To change the amount of friction, turn Friction Adjust Nut clockwise to increase and counterclockwise to decrease.

WARRANTY INFORMATION

Alcor,® Inc., warrants all parts in your new ***Alcor***® product to be free from defects in material and workmanship under normal use. Our obligation under this warranty is limited to repair or exchange of any defective part of this unit if the part is returned, transportation prepaid, within **THREE YEARS** from the date of manufacture. The replacement parts carry a warranty for the balance of the period of warranty.

Under this warranty, ***Alcor***® is not responsible for any service charges, including removal and reinstallation or any other consequential damages.

This warranty is void on any product which has been subjected to misuse, accident, negligent damage, repaired by anyone other than the ***Alcor***® Repair Department, or damaged in transit handling. If in the opinion of ***Alcor***®, the product's serial number or inspection date label have been altered or defaced, the warranty is void.

This warranty is in lieu of all other warranties expressed or implied and all other obligations of liability on ***Alcor***®'s part, and it neither assumes nor authorizes any other person to assume for ***Alcor***® any other liability in connection with the sale of ***Alcor***® products.

Should the product covered by this warranty fail to operate properly contact ***Alcor***® customer support at **1/800-FLI-SAFE (1/800-354-7233)** or **support@alcorinc.com**