

CA35328-800E Fuel Boost Pump, Removal, Installation,  
and Instructions for Continued Airworthiness

Document No. CA35328-800E-MAINT

Rev. 1, Dated: 12-04-03

**IMPORTANT NOTE: THIS IS A NEW STYLE SOLID STATE FUEL PUMP. WHILE MOST MAINTENANCE INFORMATION FOUND IN THE APPLICABLE PIPER AIRCRAFT MAINTENANCE MANUALS APPLIES TO THIS PUMP, THE MAJOR EXCEPTION IS THAT THIS PUMP CANNOT BE ELECTRICALLY CHECKED USING AN OHMMETER PER THE PIPER INFORMATION. PIPER SPECIFICATIONS FOR RESISTANCE CHECKS DO NOT APPLY.**

**REMOVAL:**

- 1) Make sure that the aircraft battery and boost pump switches are "off".
- 2) Turn off the fuel supply at the selector and remove the cowlings.
- 3) Disconnect the fuel pump electrical lead and both fuel lines.
- 4) Remove the nuts and bolts securing the pump to its mounting bracket and remove the pump.

**INSTALLATION:**

- 1) If the pump being installed is different from the pump that was removed, remove the fittings from the old pump, noting their respective positions if different from each other. Clean and inspect the fittings and, if serviceable, install in the new pump in the proper positions, using appropriate thread sealant and tighten to 60-70 in/lb.
- 2) Position the pump to the mount bracket and secure with bolts, washers, and nuts.
- 3) Connect the electrical lead and fuel lines to the pump. The electrical connection must include the 3 amp in-line fuse.
- 4) Turn the fuel "on", and turn on the battery and fuel pump switch. Check to be sure there is no fuel leakage and for proper operation.
- 5) Reinstall all previously removed cowling.
- 6) Complete log entry.

**INSTRUCTIONS FOR CONTINUED AIRWORTHINESS:**

**Routine Filter Cleaning:** Once each 100 hours or 12 months, turn off the fuel supply and gain access to the fuel pump. Cut the safety wire and remove the bottom cover, gasket, magnet, and filter screen from the pump. Note: If the screen does not come out easily, use caution removing it from the pump housing so as not to damage it. Clean the cover and filter with acetone or a suitable dry type solvent.

**Caution:**

Solvents are flammable and harmful to the skin. Avoid sparks or open flame and wear rubber gloves and eye protection. Blow off excess solvent and inspect cover, gasket, and filter. If no damage exists, reinstall filter, gasket, and cover and safety wire. Turn on fuel supply. Operate pump and check for leakage and normal operation. Return the aircraft to service.

**Cleaning for Possible Contamination:** Should the pump become contaminated from dirty fuel, further disassembly and cleaning can be accomplished. Remove the cover and filter as above. Referring to the figure below, remove the retainer spring from the plunger tube using thin nose pliers to spread and remove the ends of the retainer from the tube. Remove the washer, "o" ring seal, cup valve, and plunger assembly from the pump.

**Caution:**

Do not remove the buffer spring and valve from the plunger assembly.

Do not tamper with the seal at the center of the mounting bracket at the side of the pump as it retains the dry gas which surrounds the electric components on the upper portion of the pump.

Clean all parts per above using the same Caution. If the plunger assembly does not come clean or there are any rough spots, polish gently with crocus cloth. Inspect for the following:

- Check the filter screen for damage or distortion.
- Gently touch the cup valve and check for freedom of movement. Do not disassemble.
- Shake the plunger assembly and listen for clicks to indicate valve action.
- Check the condition of the "o" ring.
- Check the condition of the cover gasket and plunger spring cup gasket.

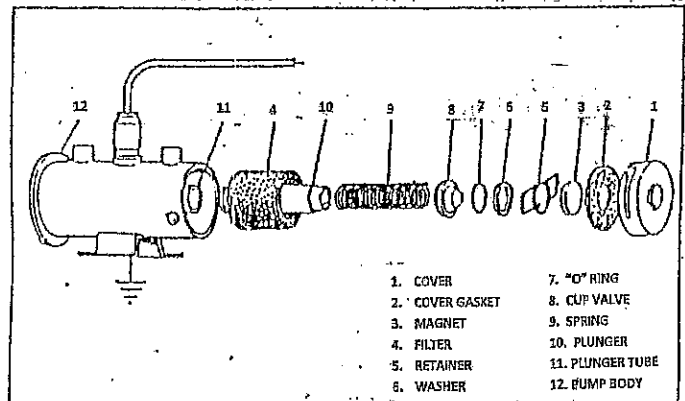
Parts replacement is limited to the cover gasket and filter. Any other damaged parts require pump replacement.

Reassemble the parts as follows: insert the plunger assembly (10) in the tube with the buffer spring end first. Install other components in the following order: cup valve, "o" ring seal, and then washer. Install the retainer spring securing the components inside the pump housing. Reinstall filter and cover with the gasket and magnet in place. Safety wire cover. Reinstall pump per above "Installation" instructions.

**Fuse replacement:** If the in-line 3 amp fuse should blow during service, replace it one time to see if the pump can be restored to service. If the fuse should blow a second time, the pump should be replaced.

**Note: Life Limitation/Replacement Time**

PMA Products, Inc. requires that the Electric fuel pump be replaced at each engine overhaul or 5 years, whichever comes first.



## FOR THE INSTALLER OF THIS PUMP

### PLEASE READ.

#### YOU MUST ACCOMPLISH ALL OF THE FOLLOWING:

- 1) Check that you have a p/n CA35328-800E fuel pump and that you have all of the following documents:
  - a) Copy of STC SA02410AT
  - b) Copy of "Authorization to use STC..."
  - c) Copy of PMA Supplement No. 72
  - d) Copy of Document No. CA35328-800E-MAINT
- 2) Check to see that this STC and pump are eligible for installation on the intended aircraft.
- 3) Install this pump per Document No. CA35328-800E-MAINT
- 4) Install a copy of Doc. No. CA35328-800E-MAINT permanently in the Aircraft Flight Manual.
- 5) Complete the enclosed "Authorization to use STC..." form and an FAA form 337 (not enclosed).
- 6) Make a copy of the "Authorization to use STC..." form and send it along with the FAA form 337 to the appropriate address in Oklahoma City.
- 7) **Very important...**Please send the self-addressed, stamped "Authorization to use STC..." form to PMA Products, Inc. for our records.
- 8) Any pump replacement after the initial installation will require only a log entry.
- 9) **Note: Life Limitation/Replacement Time**  
PMA Products, Inc. requires that the electric fuel pump be replaced at each engine overhaul or 5 years, whichever comes first.

Note: There is no weight change with this installation.

**PLEASE READ BOTH SIDES OF THIS  
DOCUMENT CAREFULLY.**

## IMPORTANT INFORMATION FOR USERS OF SOLID STATE FUEL PUMPS

### THIS IS A MUCH BETTER PUMP THAN THE OLD BREAKER POINT PUMPS, BUT THERE ARE SOME THINGS YOU NEED TO KNOW

- 1) There is nothing wrong with most returned pumps. If you think that you have a pump problem, call your distributor or PMA Products, Inc. (336-685-4423) before returning the pump.
- 2) If you think that the pump is not producing correct pressure, check the aircraft gauge for accuracy. Most small aircraft fuel pressure gauges are not accurate. We check the pumps with a certified pressure gauge accurate to .1 psi.
- 3) When these solid-state fuel pumps are running with no flow (max. pressure), the clicking noise does not slow down as it does with the older breaker point pumps. This is normal.
- 4) If you ever try to run these solid-state pumps with a battery charger, they will not run properly. A battery must be attached for the pump to run properly.
- 5) **Note: Life Limitation/Replacement Time**  
PMA Products, Inc. requires that the electric fuel pump be replaced at each engine overhaul or 5 years, whichever comes first.

PLEASE READ BOTH SIDES OF THIS

DOCUMENT CAREFULLY

United States of America  
 Federal Aviation Administration  
 Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**

Form No. 1  
 (Rev. 10-14-67)

PMA Products, Inc.  
 6120 Southwood Rd.  
 Liberty, NC 27298

This certificate is issued to certify that the design of the type design for the following product meets the provisions and conditions prescribed in the applicable Federal Aviation Regulations and the minimum performance standards of Part 3 of the Civil Air Regulations.

Type Certificate: PA23-160  
 Model: The New Piper Aircraft, Inc.  
 Model: Sec continuation sheet 2 of 2  
 Model: Sec continuation sheet 2 of 2

Modification of Type Design: Replaces existing Auxiliary Electric Standby Fuel Pump with PMA Products, Inc. P/N A3328-800E Fuel Pump per PMA Products, Inc. Drawing CA3328-800E, Rev. Orig., dated 8-8-01, or later FAA approved revision. Installation instructions and instructions for Continued Airworthiness are provided by PMA Products, Inc. Document A3328-800E-MAINT, Rev. IR, dated 9-20-01 or later FAA approved revision. See Sheet 2 for specific installation eligibility.

Special Conditions: This approval should not be extended to other aircraft of this model on which other previously approved modifications are incorporated, unless it is determined by the installer that the interrelationship between this change and any other previously approved modifications will produce no adverse effect upon the airworthiness of that airplane. If the holder of this certificate desires to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

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

Date of application: August 07, 2001  
 Date of issuance: October 10, 2001

Special remarks:  
 Other comments:  
 Signature of the Administrator

John H. Helms, Jr.  
 (Signature)  
 Manager  
 Atlanta Aircraft Certification Office



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.

United States of America  
 Federal Aviation Administration  
 Department of Transportation - Federal Aviation Administration  
**Supplemental Type Certificate**  
 (Continuation Sheet)

Form No. 1  
 Date of issuance: October 10, 2001

Original Product:

Type Certificate: PA10  
 Model: PA23, PA23-160  
 Model: PA23-235, PA23-250, PA23-250(G piece); s/n 27-1 through 27-2504 (14v)  
 Type Certificate: PA15  
 Model: PA24, PA24-250  
 Model: PA24-260; s/n 24-3642, 24-4000 through 24-4782, 24-4784 through 24-4803  
 Type Certificate: 2A13  
 Model: PA28-140, PA28-150, PA28-160, PA28-180  
 Model: PA28-151, PA28-161 (14v)  
 Model: PA28-181; s/n 28-7690001 through 28-7990626, 28-8090001 and up (14v)  
 Type Certificate: A18SO  
 Model: PA-38-112

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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.

PARTS MANUFACTURER APPROVAL NO. PQ1146CE

PRODUCTION APPROVAL LISTING - SUPPLEMENT NO. 72

DATED December 26, 2001


FEDERAL AVIATION ADMINISTRATION - PARTS MANUFACTURER APPROVAL

PMA Products, Inc.  
6120 Smithwood Road  
Liberty, NC 27298

<u>Part Name</u>	<u>Part Number</u>	<u>Approved Replacement for</u>	<u>FAA Approval Basis &amp; Approved Design Data</u>	<u>Installation Eligibility</u>	<u>Model</u>
Fuel Pump	CA35328-800E	Modification Part	14 CFR FAR Part 21.303(c)4, STC SA02410A dated 10-10-01T, Drawing CA35328-800E rev. 1, dated 11-19-01-01 or later FAA approval.	The New Piper Aircraft, Inc.	PA23, PA23-160, PA-235, PA23-250, PA23-250 (6place); s/n 27-1 through 27-2504 (14v) and PA24, PA24-250, PA24-260; s/n 24-3642, 24-4000 through 24-4782, 24-4784 through 24-4803 and PA28-140, PA28-150, PA28-160, PA28-180, PA28-151, PA28-161 (14v), PA-181; s/n 28-7690001 through 28-7990626, 28-8090001 and up (14v) and PA-38-112.

-END OF LISTING-

NOTE: Minor design changes (reference 14 CFR 21 ss 21.93 and 21.95) must be submitted in a manner as determined by the ACO. Major design changes (reference 14 CFR Part 21 §§ 21.93 and 21.97) to drawings and specifications are to be handled in the same manner as that for an original FAA-PMA.

  
FCP Jim Reeves  
Manager, Atlanta Manufacturing  
Inspection District Office