



# SERVICE LETTER

No. 722

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

August 27, 1974 M

Subject:

Fuel System Modification

ATA 2822

Models Affected:

PA-31-350 Navajo Chieftain

Serial Numbers Affected:

31-5001 to 31-7405478 incl.

Compliance Time:

At owner's discretion -- see next to last paragraph in Purpose, Page 2, relative to special price.

Purpose:

As a result of greater than anticipated use of the Chieftain at higher density altitudes coupled with variability of fuel characteristics, a modification of the fuel system for operation under these certain operating conditions is recommended. The addition of an auxiliary fuel boost pump, actuated electrically when the master switch is ON, will give substantial benefit to the operation of the Chieftain. With this fuel boost pump operating, fuel is supplied to the engine driven fuel pump at sea level pressure up to 24,000 feet altitude thus minimizing problems associated with possible fuel vapor formation.

Benefits to be derived from the incorporation of this fuel boost pump include:

1. Improved engine idling characteristics under high temperature conditions.
2. Improved engine fuel pump life.
3. Fuel flow and engine operation at high density altitudes is more stable. Eliminates need for monitoring to determine if emergency pump operation is required to stabilize fuel pressure. Manifold pressure fluctuations are minimized.
4. Engine operation less affected by high ambient air temperatures.
5. Variations in fuel vapor pressures from one batch of gasoline to another have negligible influence on fuel pressure and thus on stability of engine operation.
6. Increased service life of emergency fuel pump as it is not called on to even out fuel pressure fluctuations

~~caused by vapor in fuel~~

Purpose: (continued)

7. Lower level of fuel injector servicing and replacement.
8. Aging of fuel system components including strainers has less effect on proper engine functioning.
9. More positive fuel cross-feed capability under high density altitude or temperature conditions.
10. Warning light to indicate improper functioning of the fuel boost pump.

This fuel boost pump and necessary instructions and parts plus a warning light are available in kit form.

It is strongly recommended that all Chieftain owners take full advantage of this fuel system modification. In the interest of full compliance with this release, the modification is being offered at a special price for a period of time not to exceed six months from the effectivity date of this release. The special price is \$264.00H. Normal suggested list price after this time period will be \$1,117.46C.

Approximate man-hours to accomplish this modification is 24. We suggest that the installation of this modification be accomplished at one of your normal inspection time periods to reduce the man-hours.

Instructions:

Contained in Kit 760 873, Fuel System Modification.

Material Required:

One (1) each per aircraft Kit 760 873, Fuel System Modification.

Availability of Parts:

Your Piper Field Service Facility.

Effectivity Date:

This Service Letter is effective September 13, 1974.

Summary:

Please contact your Piper Field Service Facility to make arrangements for installation of this fuel system modification.