



# SERVICE LETTER

No. 688

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

October 24, 1973 M

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Subject:

Unfeathering Accumulator Maintenance and Preventive Maintenance -- reference attached Woodward Service Bulletin No. 33551, dated August, 1973.

Models Affected:

PA-31P Navajo

Serial Numbers Affected:

Refer to attached Woodward Service Bulletin No. 33551, dated August, 1973, Equipment Affected section for identification of affected unfeathering accumulator assemblies.

Compliance Time:

Refer to attached Woodward Service Bulletin No. 33551, Compliance.

Purpose:

To provide distribution of attached Woodward Service Bulletin No. 33551, dated August, 1973.

Instructions:

Refer to attached Woodward Service Bulletin No. 33551, Corrective Action.

Material Required:

Refer to attached Woodward Service Bulletin No. 33551, Parts Required.

Availability of Parts:

Your Piper Dealer.

Effectivity Date:

This Service Letter is effective November 7, 1973.

Summary:

Please contact your Piper Dealer to make arrangements for compliance with the attached Woodward Service Bulletin No. 33551, dated August, 1973.

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August, 1973

S/K-688

**TO**

1. Manufacturers and operators of twin engine airplanes that have Woodward unfeathering accumulators installed.
2. Aircraft service facilities and certificated propeller governor repair stations.

**SUBJECT**

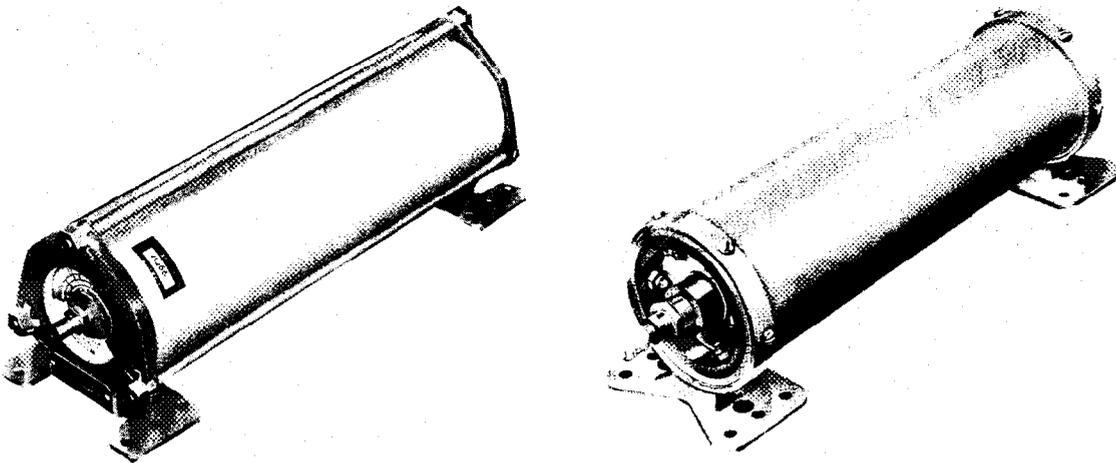
Unfeathering accumulator maintenance, and preventive maintenance.

**PURPOSE**

To alert or warn of the importance of proper periodic accumulator maintenance.

**EQUIPMENT AFFECTED**

All 8907-001, -002, -003, -004, -005, -006, -007 and former model (on right) accumulator assemblies.

**COMPLIANCE**

1. Check accumulator gas charge for correct pressure at earliest opportunity and on a regular basis thereafter.
2. Overhaul accumulators at engine overhaul or before if necessary.

WOODWARD GOVERNOR COMPANY  
AIRCRAFT CONTROLS DIVISION  
ROCKFORD, ILLINOIS, U.S.A.

## DETAILS

An accumulator that has lost its gas charge and is filled solid with oil may fail from over-pressure if:

1. After engine shutdown, the propeller controls are left in or near feather position.
2. In cruise flight, the unfeathering check valve in the propeller governor is incorrectly set.

In either case, the oil may be trapped in the accumulator with no expansion space. An 84<sup>o</sup> F temperature rise will expand the trapped oil enough to create about 1400 PSI pressure and may fail the accumulator. To prevent rupture of the cylinders the end plates will deform and allow the oil seals to extrude and leak with a loss of engine oil.

## CORRECTIVE ACTION

1. Check gas charge every 50 - 100 hours. Replenish as required with dry air or nitrogen. Gas charge for P/N 8907-003 is 75 psi, all others are 125 psi. If a unit will not hold 70% of its normal charge from one check to the next, it should be overhauled.

Any accumulator that will not hold a charge should be removed from the airplane and the fitting on the governor sealed with a cap. Warning: Do not remove the hose fitting from the governor. To do so may damage the governor.

2. Overhaul the accumulator routinely. TBO for the accumulator is the same as for the governor and the engine it is used on.
3. Check the unfeathering check valve setting in the governor at governor overhaul. An improperly set unfeathering check valve cannot cause an accumulator failure as long as the accumulator retains an air charge.

Note: The unfeathering accumulator is a part of the propeller system. Preventative maintenance may be performed per FAR Part 43, but it must be overhauled by an approved propeller governor repair station.

## PARTS REQUIRED

Replacement accumulators or overhaul service may be obtained through any regular dealer, service center, certificated propeller governor repair station or by direct exchange with the Woodward Governor Company.

See Bulletin 33058A for accumulator overhaul instructions.

Woodward Governor Company  
Main Office: Rockford, Illinois, U.S.A.  
Fort Collins, Colorado, U.S.A.- Tokyo, Japan  
Sydney, N.S.W., Australia

Woodward Governor Nederland B.V.  
Hoofddorp, The Netherlands

Woodward Governor (U.K.) Ltd.  
Slough, Bucks., England

Woodward Governor GmbH  
Lucerne, Switzerland

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