



**Customer Services**

Piper Aircraft Corporation

# SERVICE LETTER

No. 609

Lock Haven, Pennsylvania, U.S.A.

February 21, 1972

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Subject: Control Surfaces Inspection and Maintenance Guidelines

Models Affected: All.

Serial Numbers Affected: All.

Compliance Time: Since the contents of this Service Letter are general in scope, there is no "Compliance Time" provision in the manner normally specified on Service Publications.

The information contained herein applies to all types of inspections, such as preflight walk-arounds, standard periodics, and programmed.

Purpose: The importance of maintaining aircraft wing and empennage movable control surfaces (such as ailerons and aileron tabs, stabilator and stabilator tabs, elevators and elevator tabs, and rudder and rudder tabs), corresponding hinges and attachment points in satisfactory operating condition cannot be stressed too highly. Failure of the aircraft to perform properly with respect to control response and trimming can often be traced to improper maintenance practices, particularly in the areas of inspections (both visual and physical), rigging, faulty or improper repairs, etc.

The intent of this Service Letter is to summarize and present for use by field agencies, wing and empennage movable control surfaces inspection and maintenance guidelines on all Piper airplanes.

Instructions:

- I. INSPECTION: Control surfaces, corresponding hinges and attachment points are exposed to both cursory visual and detailed physical inspections as follows;
  - A. Walk-Around - Described in the operating procedures sections of owners handbooks and pilot's information manuals. This procedure is visual, conducted by the pilot-in-command, and occurs during preflight preparations. At this time, the control surfaces are observed

(over)

Instructions: (Continued)

for condition (evidence of damage), rig, security of attachments and freedom of movement. Should the condition and/or operation of any control surface, hinges or attachment points appear to be questionable, the condition should be resolved prior to flight.

- B. Periodic/Annual - Control surfaces, corresponding hinges and attachments are to be inspected for the following conditions every one hundred hours of operation or on an annual basis, in accordance with the applicable Periodic Inspection Report "Wing Group" and "Fuselage and Empennage Group":

1. Surface damage or irregularities (such as skin cracks, distortion, dents, corrosion and excessive paint build up);
2. Structural defects (loose or missing rivets);
3. Evidence of misrigging or structure imbalance (refer to appropriate Service Manual for proper control surface rigging and balance information);
4. Hinge damage, excessive wear, freedom of movement and proper lubrication; and
5. Attachment points for missing or worn hardware.

- C. Programmed Maintenance: Control surfaces are subject to an inspection procedure of the same depth and scope as above, but on a scheduled routine and detailed basis. The applicable (Piper) Programmed Maintenance Manual describes in detail proper implementation of Programmed Maintenance procedures.

- II. **MAINTENANCE**: The primary ingredients of successful control surface maintenance are careful, systematic and thorough inspections as described above, and periodic cleaning and lubrication of control surface movable components (hinges, bearings and bushings). Surfaces should be kept clean and free from deposits of foreign substances at all times.