President

(305) 247-5423

PITTS AVIATION ENTERPRISES, Inc.

P.O. BOX 548 • HOMESTEAD, FLORIDA 33030

May 29, 1972

SERVICE BULLETIN NO. 5

1. APPLICABILITY: Accomplishment of this Service Bulletin is mandatory as noted, in paragraph 4. below.

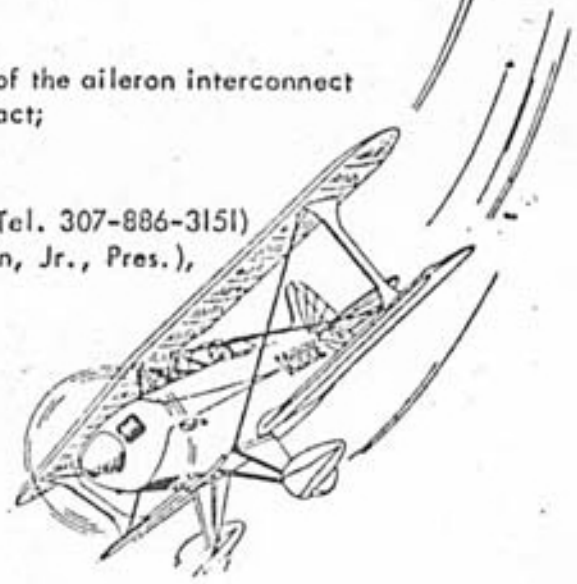
   This Bulletin may be applicable to any Model S-2A airplane from serial number 2001 through 2025. (See paragraph 4.)

2. PURPOSE: To prevent structural damage arising from in-flight vibration of the upper and lower aileron interconnect tubes; Pitts P/N 2-5216-1.

3. DISCUSSION: There have been reports of some airplanes in the above-noted serial number range which have experienced in-flight vibration of the aileron interconnect tubes. In addition, there has been one case in which the vibration was severe enough to cause a structural failure of the attachment at the lower aileron end of the tube. (This airplane remained fully controllable, and was safely landed without further damage.) Since learning that some aircraft have experienced this vibration, extensive investigation by Pitts Aviation Enterprises, Inc. and Aerotek, Inc., including in-flight studies, has revealed the following information:
   a) It is not abnormal for the aileron interconnect tubes to vibrate on the ground when the engine is idling at (approximately) 750 RPM.
   b) It should be considered abnormal for the interconnect tubes to exhibit in-flight vibration for a period of time longer than approximately one second, at any combination of attitude, yaw angle, airspeed, or power setting.
   c) Aircraft having interconnect tubes which do not exhibit in-flight vibration within the first five hours of total time are extremely unlikely to ever show this vibration.

4. ACCOMPLISH THE FOLLOWING:
   a) If your aircraft has ever exhibited in-flight vibration of the aileron interconnect tubes exceeding one second continuous duration, contact;

   Aerotek, Inc.
   P. O. Box 547
   Afton, Wyoming 83110 (Tel. 307-886-3151)
   (Attn: Mr. E. H. Andersen, Jr., Pres.),



and arrange for immediate shipment of two replacement aileron interconnect tubes, part no. 2-5216-11, (3/4 x .035 round tube, 4130 'N'). Send the original tubes to Aerotek, Inc. Note: If your airplane has exhibited the above noted in-flight vibration, it is recommended that you do not fly until installation of the replacement tubes is accomplished.

b) When installing the replacement tubes, make certain to adjust the length at the lower threaded end to the same overall length between AN3 bolt centers as the tubes originally installed on your airplane. Also note that the same installation hardware at the upper and lower ends of the tubes may be retained for reuse, but make certain that the correct number of AN960-10 (1/16 or 1/32 thick) washers are installed so that the bearing inner races are clamped-up snugly without bending the fork ends of the tubes.

c) Whether or not your airplane has exhibited the adverse vibration of the aileron interconnect tubes noted in this Bulletin, please execute the enclosed compliance card and mail to:

Pitts Aviation Enterprises, Inc.
P. O. Box 548
Homestead, Florida 33030

5. GENERAL: We further note that

a) Airplanes which have exhibited the adverse vibration have shown the tubes to vibrate in some cases from 70mph IAS to 140 IAS, but in most cases the vibration is worst at about 120 mph IAS, and appears unrelated to engine rpm.

b) Research is proceeding as to the fundamental cause of the vibration phenomenon. It is known that the 3/4 x .035 round tubes cannot be made to vibrate in flight. However, although the drag penalty for these round tubes is so slight as to be negligible, we are continuing to examine various streamline configurations. If one is found which we are certain will be trouble-free, you will be notified.

6. COMPLIANCE DATE: This bulletin should be complied with prior to 14 July 1972.

APPROVED: Pitts Aviation Ent., Inc.

E. F. Dearing

E. F. Dearing, Chief Engineer

F.A.A. APPROVED