SERVICE BULLETIN 91 MANDATORY

SUBJECT: FAILURE OF THE ALTERNATE AIR DOOR SPRING (injected induction system)

APPLICATION: Glasair III, and any Glasair I, II, or II-S aircraft fitted with the fuel-injected induction system air filter assembly.

DESCRIPTION: At least six Glasair builders have reported the failure of the spring that holds tension against the alternate air door.

WARNING: If the spring fails, it may be ingested into the engine.

Premature wear of the piano hinge that secures the door to the air filter box has also been reported. One builder reported the door vibrating loose and being sucked past the injector fuel servo. We suspect that, once the spring breaks, the vibration and possible fluttering of the door cause excessive premature wear and subsequent failure of the hinge assembly.

SOLUTION: *******COMPLIANCE WITH THIS SERVICE BULLETIN IS MANDATORY*******

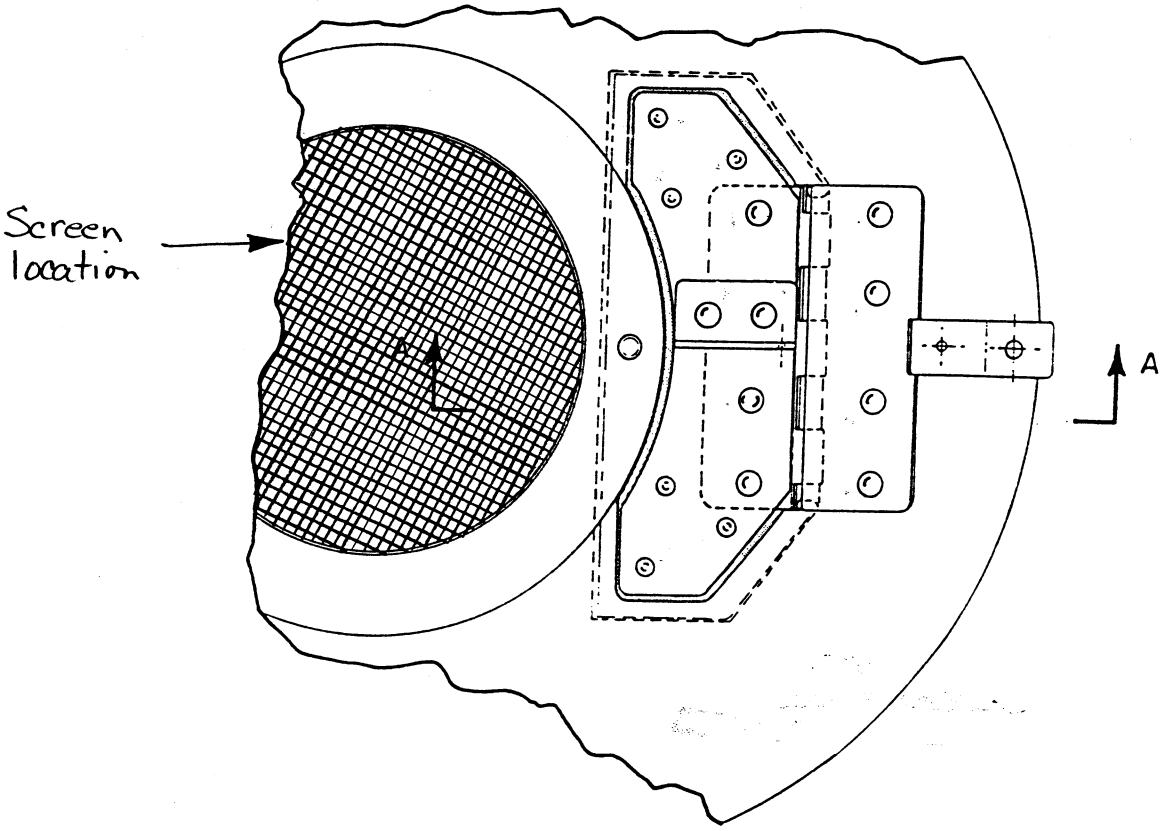
Glasair owners affected by this Service Bulletin must inspect the air filter alternate air door components before further flight. Inspect these components again after every 5 hours of operation until a suitable fix or alternative can be devised.

To eliminate wear and damp vibration between the alternate air door spring and its mounting tabs, apply a generous bead of silicone at each end of the spring where it attaches to the tabs. This has worked well on our factory Glasair III, N540RG. As a backup, run a piece of safety wire through the middle of the spring and anchor the safety wire to the induction filter cover plate to retain the spring in case of breakage. The safety wire loop must be long enough to allow the door to open properly. As another possible remedy to prevent engine ingestion of these components, Stoddard-Hamilton Aircraft, Inc. is testing a 14 mesh per square inch stainless steel screen installed at the base of the spun flange.

NOTE: Even after incorporating any of these remedies, continue to closely scrutinize all components downstream of the air filter for wear and fatigue during periodic condition inspections, or any time the cowling is off. The fine wire screen may be more of a hazard than a help if it doesn't hold up under engine vibration. Also, inspect the 4" SCAT hose at the same time the spring and door are inspected. Replace the hose if signs of excessive wear are evident.

The purpose of the alternate air door is to provide an emergency back-up source of engine induction air in the event that the induction NACA scoop were to ice over. Glasair builders who do not intend to fly IFR may choose to simply wire or bolt the door shut. If you choose this option, make a notation in the aircraft flight logs prohibiting IFR flight for this reason.

Builders are encouraged to report failures of any of these components. Stoddard-Hamilton will continue investigating improvements to the design.



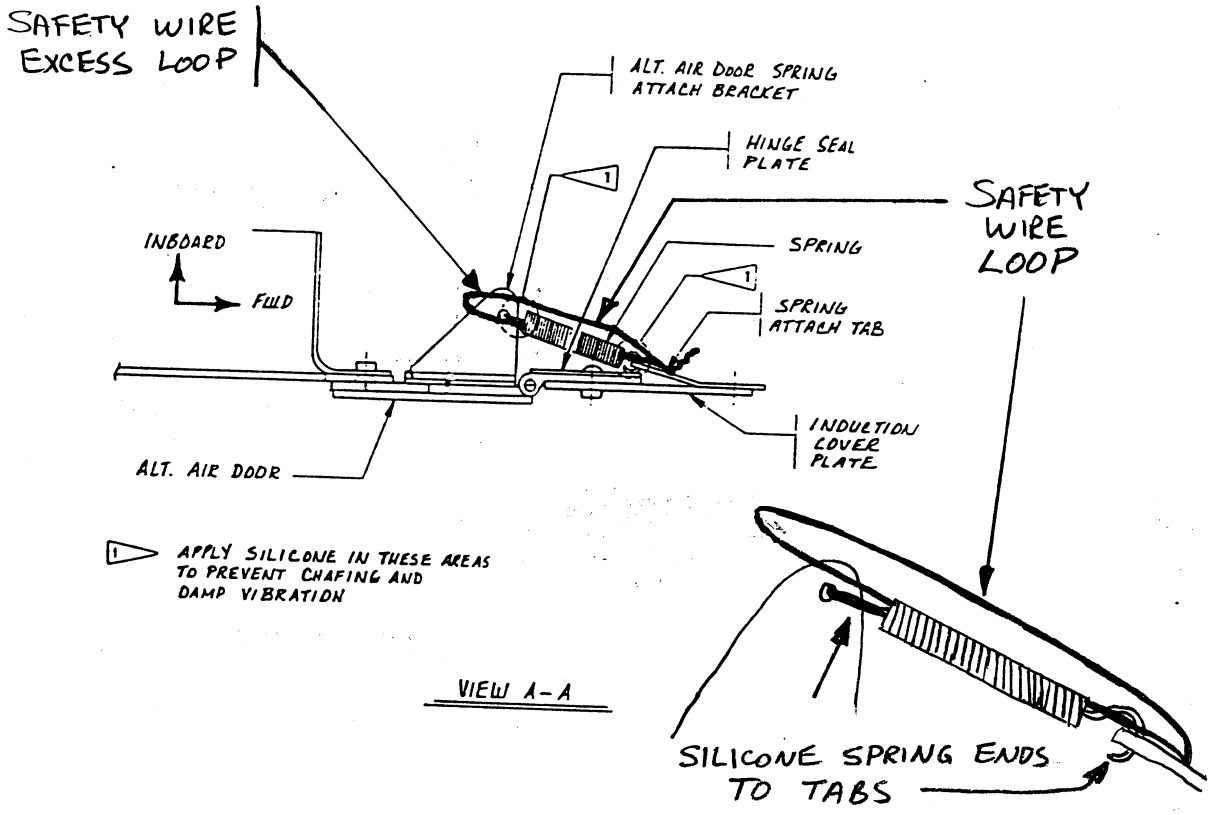




FIGURE (1)

STODDARD-HAMILTON
AIRCRAFT, INCORPORATED

| MODEL | ASSEMBLY NAME | REVISION | DATE | VOLUME | PAGE |
|---|---|---|---|---|---|
| GLASAIR | SERVICE BULLETIN 91 | | 12/10/90 | | 2 of 2 |