SERVICE BULLETIN 103 MANDATORY

SUBJECT: NOSE GEAR OVER-CENTER SPRINGS

APPLICATION: All Glasair III aircraft that are ready for taxi testing or are already flying

DESCRIPTION: We were recently informed of a Glasair III nose gear collapse that occurred when the hydraulic system failed to maintain adequate pressure in the gear extended position. Currently, emergency landing gear extension in the Glasair III is accomplished by means of a hydraulic hand pump, which is fairly typical of general aviation aircraft. Springs installed at the gear struts provide a backup for the hydraulic system by holding the main gear side braces and the nose gear drag brace in an overcenter position when the gear is extended. In the absence of hydraulic pressure, the present nose gear down lock spring may lack sufficient mechanical advantage to keep the drag brace assembly from folding when the nose gear is subjected to shimmy or rough terrain.

SOLUTION:

WARNING: This modification is mandatory for all Glasair IIIs either flying or ready for taxi testing.

NOTE: Since we are still in the process of researching the best solution to this problem, the modification described here could be just a temporary fix. We will sell the spring kit, therefore, only to Glasair builders whose airplanes are already flying or just about ready to fly. We are sending this Service Bulletin to all Glasair builders because we have no way of knowing which airplanes are already flying or may be flying soon.

To assist the existing nose gear down lock spring, and to prevent the nose gear from collapsing if hydraulic pressure is lost, Stoddard-Hamilton Aircraft requires the installation of two nose gear over-center springs, as shown in FIGURE (1). The springs are to be installed between holes drilled in the curved plate at the forward end of the drag brace and eye bolts installed in the pivot stop plate on the nose gear strut.

Use a #21 drill bit to drill two holes in the nose gear pivot stop plate, which is part of the nose gear strut assembly, as shown in FIGURE (1). Drill parallel to the long axis of the oleo strut.

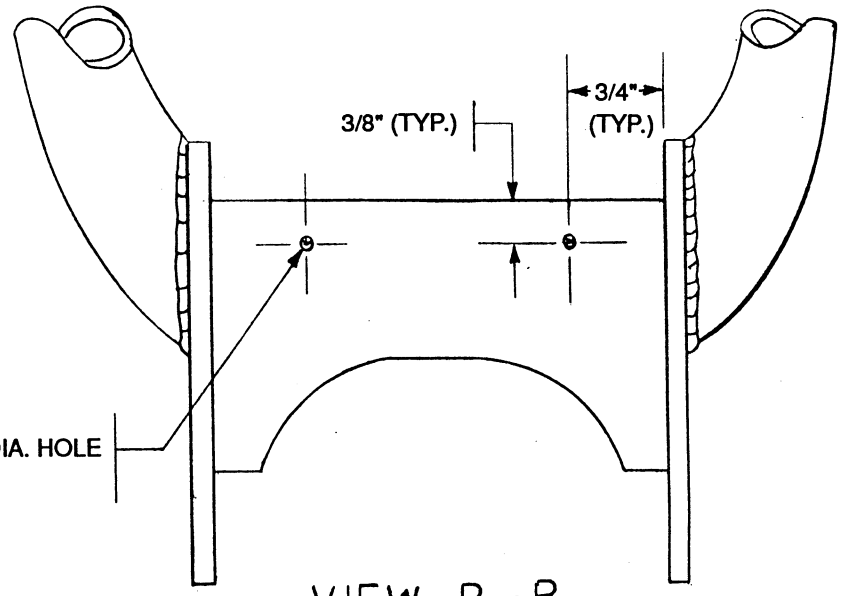
NOTE: Be careful when positioning the holes to provide clearance from the strut body for the 10-32 tap that will be used to cut the threads. If the tap contacts the strut body underneath the stop plate, it can break the tap.

Tap the holes with a 10-32 tap. Thread an AN42B4A eye bolt into each hole with two AN960-10 washers stacked under the shoulder of each bolt. Secure the eye bolts with Loc-tite thread lock adhesive.

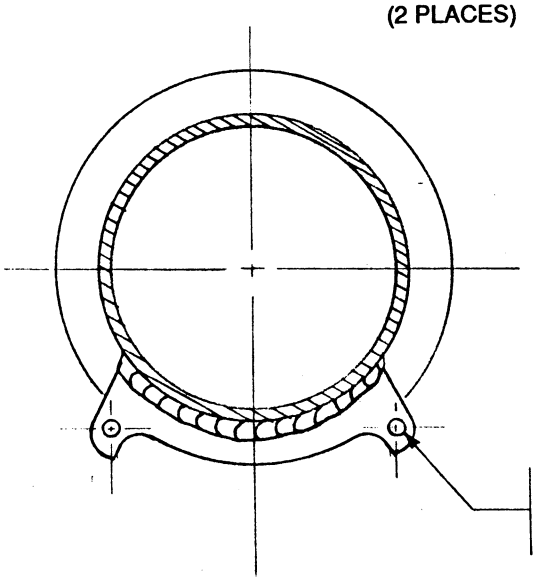
Drill two 1/8" diameter holes in the curved plate at the forward end of the drag brace, as shown in FIGURE (1). Drill the holes at an angle to align with the axes of the installed springs.

Install the over-center springs, as shown, with the hooks at both ends oriented AFT. (The hook at the eye bolt end must face aft to allow the spring to clear the uplock actuating arm shaft when the gear is retracted; the hook at the drag brace end must face aft so that it does not tend to rotate out of the hole during gear operation.)

A Glasair III Nose Gear Over-Center Spring kit (part number: 353-2355-501, price: $25.00) will be available by September 20, 1991 from Stoddard-Hamilton Aircraft's Order Desk. The kit includes the springs, the eye bolts, and washers. (All prices are subject to change without notice.)



VIEW B-B



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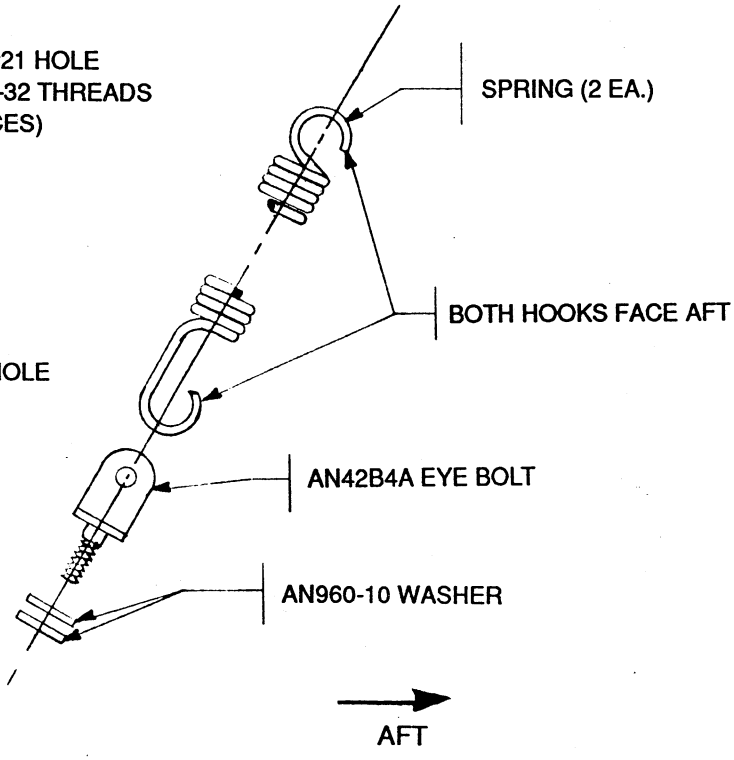

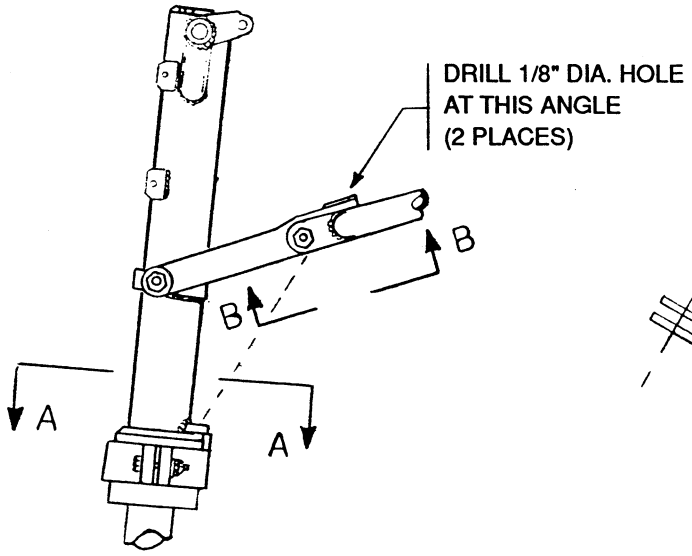

NOSE GEAR STRUT

FIGURE (1)

STODDARD-HAMILTON
AIRCRAFT, INCORPORATED

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