



SERVICE INFORMATION LETTER

NUMBER: WA-SIL002

Issued: 5 Nov 2025

Revised: NR

YMF WACO F5 SERIES

SUBJECT: Streamline Brace Wire Inspection and Maintenance

EFFECTIVITY: All

PURPOSE: To emphasize the importance of regular inspection and maintenance of the primary structure stainless steel streamline brace wires.

REFERENCE: Classic Aircraft Service Letter Dated 5 Nov 1990
Classic Aircraft Service Letter Dated 27 Feb 1992
Classic Aircraft Service Alert Dated 3 Jun 1996
WACO Aircraft Safety Notice SN-041 Dated 23 Oct 2023

DISCUSSION: The structural design of the YMF WACO F5 Series aircraft incorporates an externally braced bi-plane wing cellule using a system of grade 316 stainless steel streamline brace rods, commonly known as “Flying Wires”.

These brace rods support the wings, both in flight and on the ground, and direct the flight loads borne by the wings to the tubular steel fuselage frame. They are always in tension with a pre-load of between 1000 and 1300 LBF.

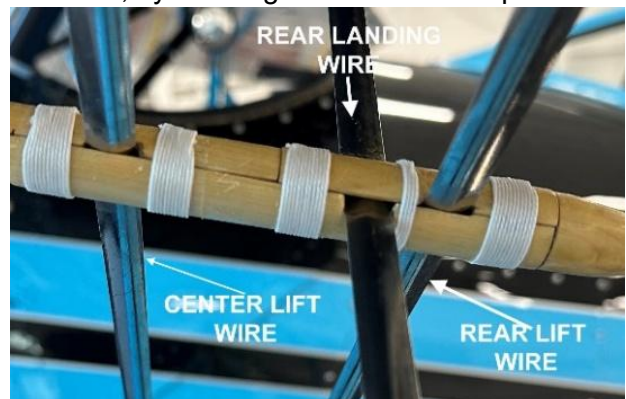
Although grade 316 Stainless Steel is generally considered to be corrosion resistant, it is not entirely immune to corrosion. The key to its corrosion resistance lies in the addition of chromium, which forms a passive oxide layer on the steel's surface. This protects the underlying metal from corrosive agents such as oxygen, moisture and common air pollutants.

If this protection is compromised by a scratch or nick, and the metal is subjected to the combined action of mechanical stress such as static or applied tensile load and a corrosive environment, pitting corrosion of the metal can occur leading to Stress Corrosion Cracking (SCC).

In the context of the structural design of the WACO YMF aircraft, the type of corrosion most detrimental to structural integrity is Stress Corrosion Cracking.

With the normal application of preload tension, cyclical flight loads and the presence of moisture, lift wires of the YMF airplanes can be subjected to the environmental conditions consistent with the development of Stress Corrosion Cracking.

The brace wire separators on the WACO YMF are manufactured from varnished birch wood dowel stock with the streamline portion of the wire passing through the separator as shown in the figure at the right.



ACTION:

In-service experience has shown that moisture can be retained in these openings resulting in corrosion pitting of the streamline brace wire leading to Stress Corrosion Cracking.

In addition to routine pre-flight visual inspection of the flying wires for nicks or scratches that can be detected by the naked eye or by touch alone, WACO Classic recommends that the flying wire separators be removed, and the underlying surfaces of the streamline wires be inspected at least annually using 10x magnification or greater to reveal surface pits that may not otherwise be visible.

This inspection must be accomplished by a licensed FAA Airframe Mechanic or FAA Certified Repair Station and returned to service in accordance with 14 CFR Part 43.