

Navion Service Bulletin No. 103
July 20, 2004

Subject	Airframe – Fuselage Reinforcing Kit
Effectivity	Serial Numbers NAV-4-002 thru NAV-4-2561
Purpose	Unapproved fuselage beef-up components have been discovered that fail to conform to FAA approved design data. These components, when installed as fuselage structural reinforcements for the installation of the Lycoming GO-435, Continental IO-470P, IO-470C, IO-470H & IO-520B, fail to meet strength requirements.
Compliance	Mandatory
Description	<p>The Navion Part Numbers for the unapproved parts are 145-31102-XX, 143-31001-411, 143-31001-412, 143-31001-429, 143-31001-425, 143-31001-426, 143-31102-XX, 143-31002-66, 143-31001-415, 143-31001-416, 143-31001-417, 143-31001-418, 143-31001-427, 143-31007-39, 143-31007-40, 143-31007-41. Unapproved parts can be identified by one of the following methods:</p> <ol style="list-style-type: none">1. All 145-31102-XX & 143-31102-XX fittings should be stamped out of a single piece of steel. Unapproved parts will have secondary pieces of varying size and shape welded inside the front flange near the large bolt hole. Suspect parts will also have welded joints along the edges of the same flange. Wall thickness different than 0.109” ± 0.010” fails to meet strength requirements or conform to approved design data. Inner width from inboard to outboard greater than 0.925” fails to meet strength requirements or conform to approved design data. Both approved and unapproved 145-31102-XX fittings are shown in Figures 1 and 2 as an example.2. 143-31001-425, 143-31001-426 & 143-31002-66 lower longeron stiffeners which run in either direction from fuselage station 93 should have a thickness of 0.156 ± 0.010 inches. Any other thickness fails to meet strength requirements or conform to approved design data.

3. 143-31001-411, 143-31001-412 & 143-31001-429 upper longeron stiffeners which run in either direction from fuselage station 93 should have a thickness of 0.091 ± 0.010 inches. Any other thickness fails to meet strength requirements or conform to approved design data.
4. 143-31007-39, 143-31007-40 & 143-31007-41 Nose gear beam stiffeners should have a thickness of 0.072 ± 0.010 inches. Any other thickness fails to meet strength requirements or conform to approved design data.

NOTE:

If any part fails to meet strength requirements or conform to approved design data, all parts of the kit are considered unapproved and should be inspected for conformity. Kits which fail to conform must be replaced.



Figure 1: Sample 145-31102-XX fitting suspect part



Figure 2: Sample 145-31102-XX fitting approved part

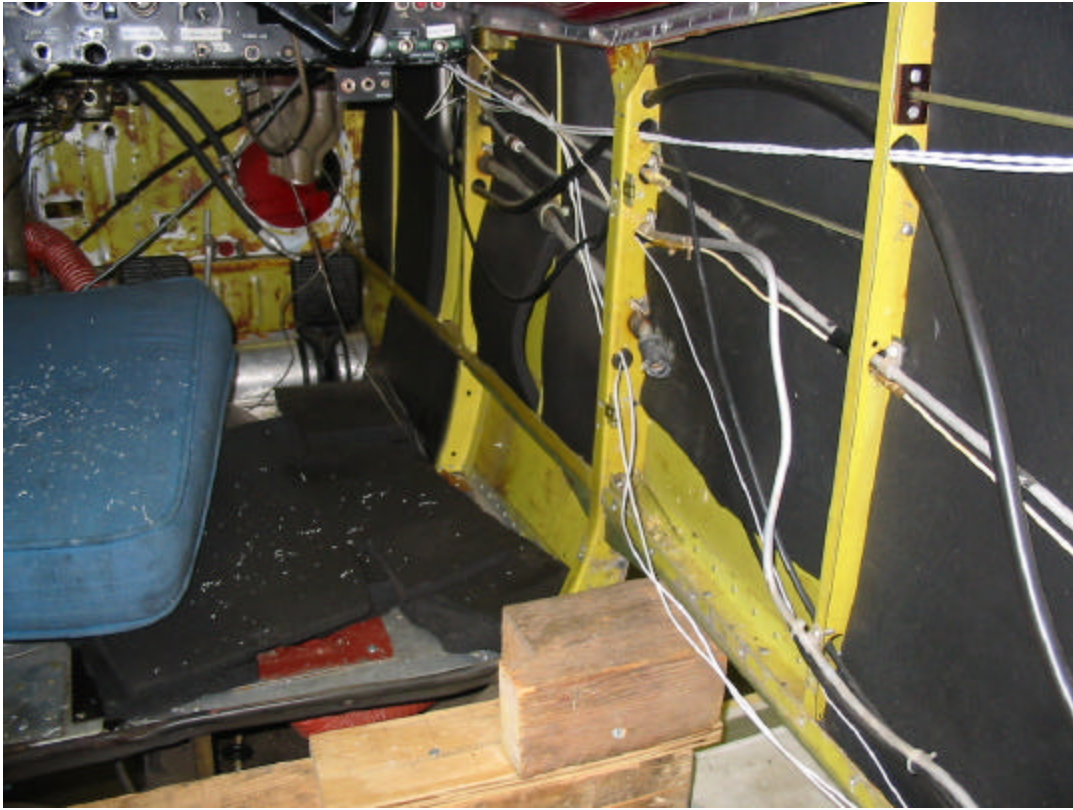


Figure 3: Fuselage Station 93 & surrounding area

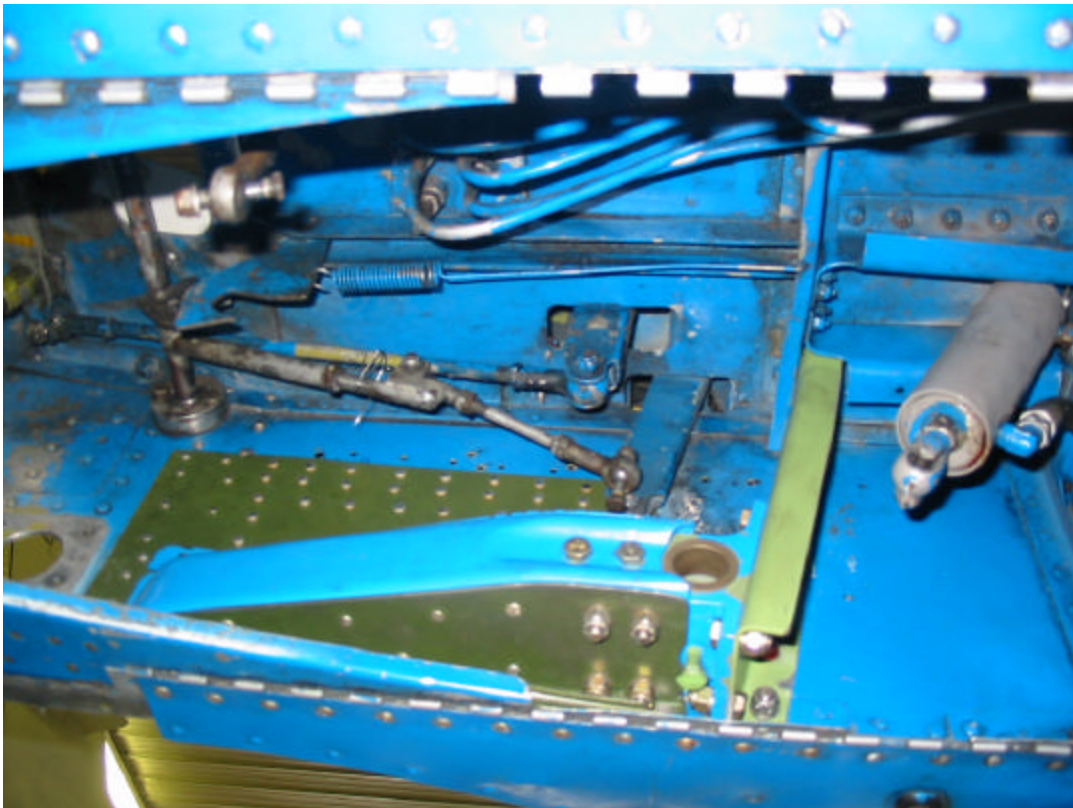


Figure 4: Nose Gear Beam Doublers