



Navion Service Bulletin No. 103A
July 17, 2009

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 BA BB and higher Horse power and displacement engines installed, fail to meet strength requirements.
Compliance	Mandatory
Description	<p>The Navion Part Numbers for the unapproved parts are 145-31102-XX. Unapproved parts can be identified by one of the following methods:</p> <ol style="list-style-type: none">1. All 145-31102-XX fittings should be stamped out of a single piece of steel. Unapproved parts will have secondary pieces of varying size and shape of made unknown ferrous material welded inside the front flange near the large bolt hole. Suspect parts will also have welded joints of poor quality 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 1,2 and 3 as an example.
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 should be replaced or field approval obtained.



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

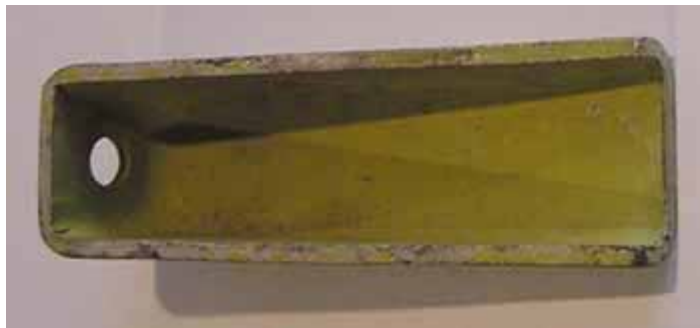


Figure 2. Sample 145-31102-XX fitting approved, original configuration up to 185 HP



Figure 3. 145-31102-1001 Fitting, preferred



Figure 4. Fuselage Station 93 & surrounding area



Figure 5. Nose Gear Beam Doublers, Left Shown, Right Opposite