FAA
Aviation Safety

SPECIAL AIRWORTHINESS INFORMATION BULLETIN

SAIB: SW-19-18
Date: December 5, 2019

SUBJ: Fuselage Cracks

This is information only. Recommendations aren't mandatory.

Introduction

This Special Airworthiness Information Bulletin informs owners and operators of Bell Helicopter Textron Canada Limited (Bell) Model 206L helicopters about reports of fuselage cracking and possible loose rivets in an area that currently has no inspection program.

At this time, the airworthiness concern is not an unsafe condition that would warrant airworthiness directive (AD) action under Title 14 of the Code of Federal Regulations (14 CFR) part 39. However, we are continuing to monitor this airworthiness concern and may issue mandatory corrective actions if necessary.

Background

There are multiple reports of cracks found in the fuselage frame/bulkhead of Bell Model 206L helicopters upper area of fuselage station (FS) 145.

The FAA's Monitor Safety/Analyze Data (MSAD) data contains several reports documenting cracks found in stiffener Part Number 206-033-107-055. The stiffener is located in the upper area of FS 142.7 where the aft cabin bulkhead and the bulkhead for the aft passenger seat come together.

Further investigation, including reports from the Service Difficulty Report (SDR) database, revealed additional occurrences of cracks in the area of FS 145. The reported cracks were found by visual inspection and were not limited exclusively to the stiffener. This area can be highly loaded and could be subjected to movement. As a result of the movement, it is not uncommon to find the rivets in this area "smoking" or working and in need of replacement. Over time, the loose rivets could result in cracking of the fuselage structure.

During parts of the progressive inspection, opening of the door assemblies identified in Figure 1 (items 24, 24A, and 24B) is required to inspect the most aft hardware of the pylon support assemblies for the transmission and the forward engine mount fuselage structure. However, there are currently no specific Service Bulletins or Notices to inspect this area. Access to conduct a thorough inspection can also be limited by the size of the opening. The Bell 206L Maintenance Manual and Structural Repair Manual do not include specific damage assessment criteria or repairs for this area. Transport Canada has issued Civil Aviation Safety Alerts(CASA) No. 2019-05 to raise awareness of a potential crack in the fuselage frame/bulkhead going undetected during a scheduled maintenance inspection. The CASA is available at https://www.tc.gc.ca/eng/civilaviation/opssvs/cracks-fuselage.html.

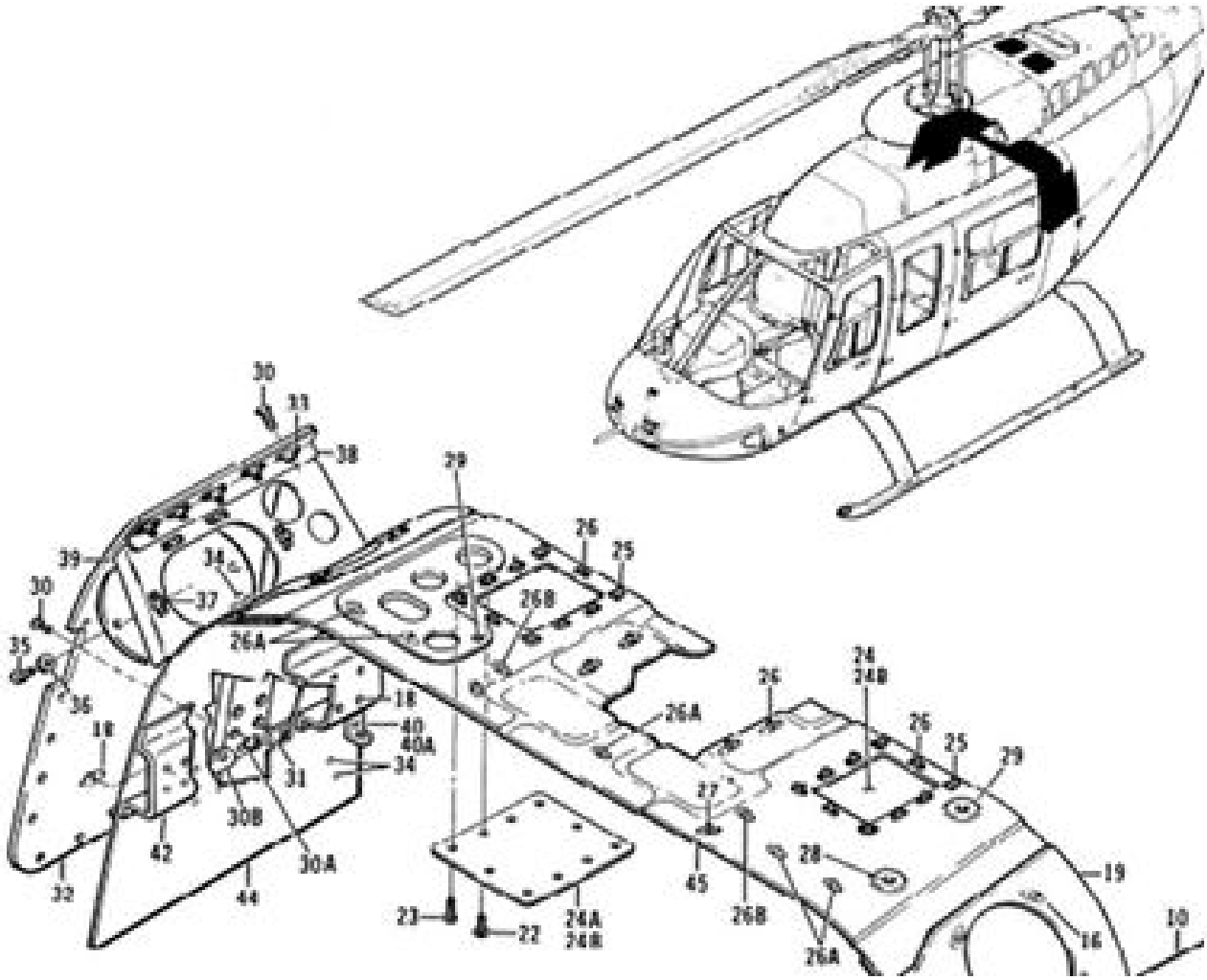

Figure 1

Recommendations

The FAA recommends the following for all Bell Model 206L series helicopters:

1. Each time the left and right hand door assemblies identified in Figure 1 (items 24, 24A, and 24B) of this SAIB are removed, inspect the entire internal structure of FS 142.7 to FS 155.00 for smoking and working rivets and for cracks. For areas with limited access, the use of a mirror and flashlight as an aid in the visual inspection is recommended. A borescope could also be used.
2. Use the approved Bell Maintenance and Structural Repair Manuals (SRM) for inspecting, repairing and the replacing defective parts that are within the scope of authorized maintenance.
3. For any repairs not included in the SRM, repair in accordance with any FAA approved repair.

The FAA will continue to monitor MSAD (SDR) related to this issue and may issue recommended or mandatory corrective action, if necessary.

For Further Information Contact

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