



# Airworthiness Bulletin

## AWB 62-008 Issue 2 - 27 February 2026

### UH-1B Bell 204 TT Strap

An Airworthiness Bulletin is an advisory document that alerts, educates and makes recommendations about airworthiness matters. Recommendations in this bulletin are not mandatory.

#### 1. Effectivity

All model UH-1 rotorcraft with main rotor tension torsion strap (TT strap) part number 204-011-113-1.

#### 2. Purpose

The purpose of this CASA airworthiness bulletin (AWB) is to advise UH-1 operators and maintainers of a defect report (DR) that was submitted to CASA where the TT strap part number 204-011-113-1 was found to have cracked / failed segments within the TT strap. See Figure 1.

#### 3. Background

The TT strap is a critical, highly engineered component in a helicopter's main rotor system that connects the rotor blade to the hub. The strap serves two primary functions: it withstands the immense **centrifugal force** pulling the blade outwards and allows the blade to **feather** (rotate) for pitch control.

The subject part number TT strap 204-011-113-1 is constructed utilising stainless-steel plates, while later designed TT straps consist of a wire wound assembly.

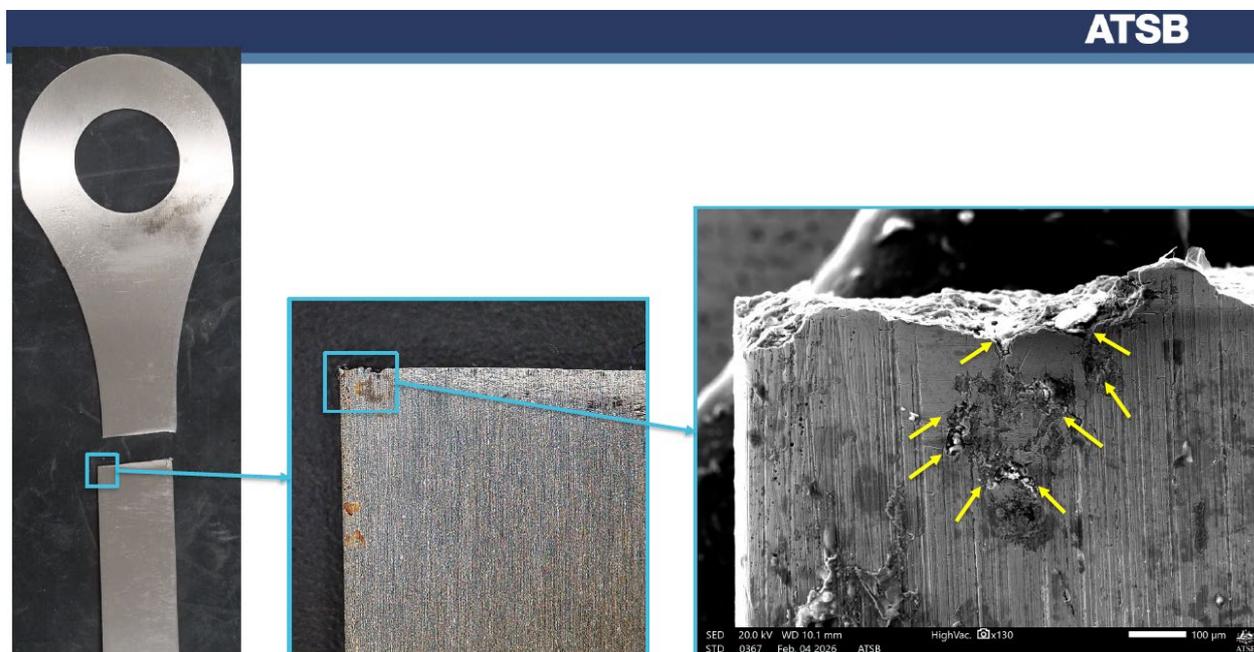
The failed TT strap reported to CASA raised concerns as the TT strap part number 204-011-113-1 is not included within the applicability of either CASA AD/UH-1/18 or FAA AD 2002-20-01.



**Figure 1. Subject failed segments of Main Rotor Tension Torsion Strap**

The initial investigation by CASA highlighted disparities between the operator's maintenance program (based on military TMPs) and the civil variant's airworthiness limitations. For example, the P/N in question is operating on a significantly longer life limit compared to the identical P/N when installed on the civil equivalent Bell 204.

A detailed material analysis completed by the Australian Transport Safety Bureau (ATSB) laboratory observed chloride-induced crevice corrosion which lead to stress-raisers at the edge of the plates, with in-service loads then causing a progressive failure. See Figure 2 below from the ATSB analysis.



**Figure 2. Scanning Electron Microscope (SEM) images of corrosion pitting indicated by the yellow arrows**

Further SEM images and analysis of the crack propagated surfaces by the ATSB, see Figure 3 below, “show crack arrest (beach) marks associated with fatigue crack progression. As the crack progressed from approximately one quarter of the crack length, pockets of uniform, ductile rupture and plastic deformation (as would be expected from tensile failure) punctuated the beginning of each crack cycle. This indicated crack progression under relatively high strain conditions.”

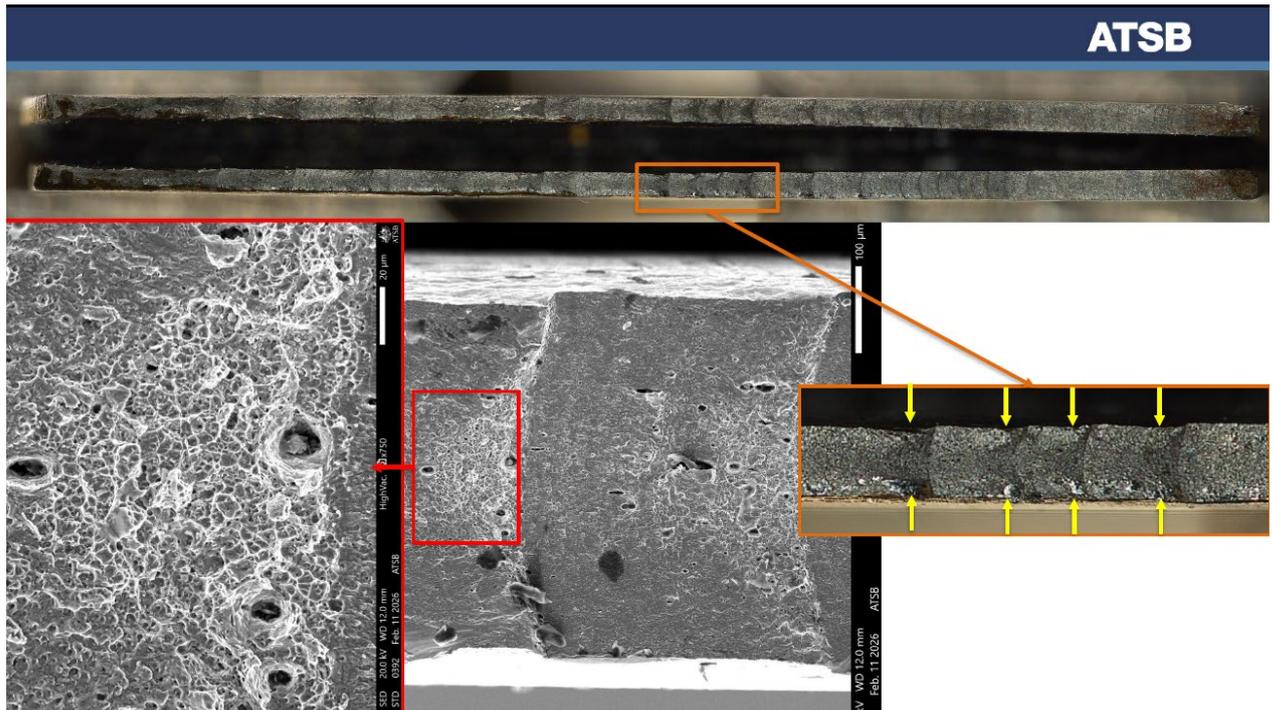


Figure 3. SEM image provided by the ATSB laboratory.

#### 4. Recommendations

Given the ATSB’s findings as to why the TT strap in question failed, CASA recommends that operators and maintainers of UH1 aircraft do the following:

1. Consider incorporating any requirements that are *more restrictive* within the civil variant’s airworthiness limitation section, particularly when part numbers are identical.
2. Factor aircraft utilisation into the life limit of the subject TT straps, particularly in light of ultra-low utilisation of some UH1 aircraft in Australia.
3. Ensure that pilots report main rotor overspeed or abnormal flight loads and any irregular vibrations to engineering and annotate the Maintenance Release, accordingly, directing maintainers to take a closer look for potential damage.
4. Identify and mitigate the safety risks arising from the use of “new old” military stock with no hours in service but which may have been in storage for multiple decades, often without storage instructions from the original equipment manufacturers (OEM).



## 5. Reporting

Major defects experienced by operators must be reported to CASA under regulation 51A of the Civil Aviation Regulations (1988) or Division 42.C.4 of the Civil Aviation Safety Regulations (1998) as applicable. For further guidance on how to submit a report, refer to CASA Advisory Circular 20-06 which is available on the CASA website. The aircraft type certificate holder should also be notified to facilitate global monitoring of the issue.

## 6. Enquiries

Enquiries regarding the content of this Airworthiness Bulletin should be made via the direct link email address:

[AirworthinessBulletin@casa.gov.au](mailto:AirworthinessBulletin@casa.gov.au)

or in writing, to:

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