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Sikorsky S92 Tail Rotor Bearing Failure Update

January 2017



S92 Tail Rotor Pitch Change Shaft (TRPCS) Bearing Timeline

- **11/23/2016 – Sikorsky Issues Alert Service Bulletin ASB-92-64-009**
 - A one time inspection of TRPCS assembly that has less than 80 hours time in service with bearings that were manufactured prior to November 3, 2016.
 - This was not applicable to our aircraft.
- **11/23/2016 – Sikorsky Issues Emergency Airworthiness Directive AD 2016-24-51**
 - Referenced above Inspection and was not applicable to our fleet.
- **11/23/2016 – Sikorsky Issues Alert Service Bulletin ASB-92-64-010**
 - One Time Inspection Maintenance Records T/R Pitch Change Shaft for Long Term/Short Term storage records.
 - Referenced ASB was not applicable as we had no aircraft in short or long term storage as referenced to the bulletin.



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- **12/31/2016 – Sikorsky Issues CCS-92-AOL-16-0019 S-92**
 - Sikorsky offered information in regards to the CHC unscheduled landing on an oil platform in the North Sea on 12/28/2016 due to loss of tail rotor authority
 - The condition offered a degradation of the Tail Rotor Pitch Change Shaft (TRPCS) bearing. Although the failure condition presents a loss of control authority, it does not result in a loss of tail rotor drive or tail thrust. After standard emergency procedures followed by the crew, the aircraft landed safely without any injuries to the passengers or crew.
 - The specified root cause determination is in the early stages, the parts were removed and forwarded to Connecticut for investigation and the aircraft did not sustain any significant damage and will be returned to service following the replacement of the affected components.



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- **1/10/2017 – Sikorsky releases Alert Service Bulletin (ASB) 92-64-011**
 - The subject of ASB 92-64-11 is a one-time inspection of the TRPCS and bearing assembly for ratcheting, binding or rough turning.
 - The purpose is to provide instructions for the above inspection.
 - Compliance is essential and is to be accomplished prior to the next flight from a maintenance facility not to exceed thirty days.
 - If the aircraft is not at a maintenance facility, three flight hours are allowed in order to return the aircraft to a maintenance facility. If more time is needed, Sikorsky must approve (See attached approval letter).
 - The one-time inspection consists of removing the TRPCS and complying with an inspection for improper axial play.
 - Review of the Tail Gear Box (TGB) bearing energy tool and insure normalized data readings are below 1.75.
 - Review and incorporate the newly established recurring review of the TGB bearing energy HUMS tool into the helicopters maintenance plan (Review post flight).



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- **1/10/2017 – Chevron requests flight extension for >3 flight hours.**
 - Chevron complies with all of Sikorsky's HUMS data requirements (25 hours of flight data per aircraft) and received an extension to allow 6 flight hours prior to complying with the ASB
- **1/10/2017 – Chevron complies with ASB 92-64-011**
 - Chevron complies with the requirements of the ASB and no defects were noted. Aircraft S/N: 920204 and 920249 have been released for service and 920199 has been complied with but is still down for a scheduled hangar inspection.
- **1/10/2017 – HUMS data forwarding**
 - HUMS data must be downloaded and transferred to Sikorsky at the end of each days flying not to exceed 6 flight hours until the new software is released.



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- **1/10/2017 – Sikorsky releases Temporary Revision No. 45-03**
 - New software release, changes downloads to 6 hours and can be reviewed and released @ customer location.
 - Complied with software update as per temporary revision 1/14/2017



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- **1/11/2017 – The United Kingdom's Air Accidents Investigation Branch (AAIB) issues Special Bulletin S1/2017**
 - S1/20178 offers a preliminary detailed investigation of the events dated 12/28/2017 on their initial root causes.



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- **1/13/2017 – FAA releases Emergency Airworthiness Directory AD#: 2017-02-51**
 - The purpose of this AD is to add an additional 10 hour Time in Service (TIS) borescope inspection of the TRPCS assembly, thereafter at intervals not to exceed 10 hours TIS.
 - The difference between this and ASB 92-64-011 is the addition of the borescope inspection and does not address the required Sikorsky HUMS inspection.
 - If the white Teflon seal or snap ring is missing, or if there is a rip, tear or heat damage on the seal or if there is no gap in the snap ring, replacing the TRPCS assembly is required before further flight.



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- 1/118/2017 – CCS-92-AOL-17-0002 S92 HUMS update FAQs
 - This communication shares some of the most popular Frequently Asked Questions (FAQs) compiled by Sikorsky through their Tail Rotor Pitch Change Shaft (TRPCS) Bearing webcasts .
 - It is a very informative and comprehensive document and does “shed some light” on some of the most common questions.



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- All Chevron aircraft are currently in compliance and no defects were noted across our fleet.
- Chevron to complete HUMS download and analysis after every flight, not to exceed 6 hours TIS. Download and analysis signoff was added to the daily logsheets 1/16/2017
- Chevron participates in webcasts as they arise.
- All actions will be ongoing until otherwise advised by the proper authorities.

