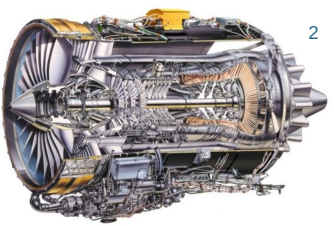
Customer Advisory Board

April 2017

Hans Diegel
Customer Service Manager

Rolls-Royce

BR700-710A2-20 Engine



Agenda

- *Summary items from sub-committee calls*
- *HPC Coating Loss - 00 - 34 - M - 991*
- *TRU Corrosion - 78-27-M-887*
- *Breather / Vent Boots - 71-33-M-978 / 71-33-PO-979*
- *Rolls Royce AOG Response – Parts Ordering Responsiveness - 00 - 21 - M - 703*
- *Loaner Engine Pool Update - 00-23-M-766*

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Rolls-Royce Subcommittee Summary

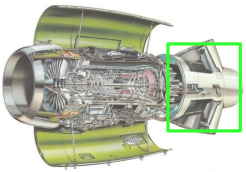
Topics	Status
EEC Firebox Campaign	New Campaign to address paint adhesion on fireboxes installed on new style EEC's (X-software std). Alert SB 73-A101977 issued, compliance by 31 Jan 2021, expected to be covered by EASA AD. Parts are FOC. Refer to Newsflash 2017-05
TRU seal support brackets cracking	Current parts are configured and orderable and RTV for fly-on available. Additional delay due to hardware availability and documentation, Service Bulletin planned to be available by December 2017. 50% parts price reduction offer for customers who have to install current standard because new standard is not available yet.
TRU stiffener brackets cracking	Parts are configured and orderable. Stress analysis does not explain parts cracking. Review of assembly processes did not identify any pre-stress condition

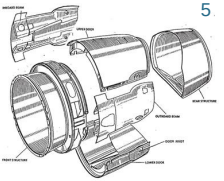
00 - 34 - M – 991 HPC coating loss Status Update

- **Communication**
  - CAB alignment call 16 Jan 17
  - Detailed Newsflash 2017-03 issued 2nd March
- **HPC Rear Casing Coating**
  - Corrosion Testing (salt test to understand the impact of corrosion on the coating) commenced to plan and has been completed, hardware is on the way back to our Lab.
    RR internal engineering highspots end of April to review findings
- **HPC Front Drum Coating**
  - Workshop took place to scope the optimisation of coating parameters during application and produce a draft plan when it can be incorporated.

BR710 Thrust Reverser Corrosion

78-27-M-887





Problem Definition

- Corrosion is found in multiple areas of the Thrust Reverser Unit (TRU) resulting in customer satisfaction issues and in-service disruption

Problem Containment

- Inspection intervals have been aligned to address corrosion before it has the opportunity to propagate
- Increase acceptance limits of top TRU corrosion issues/repairs – Completed Dec-2014
- Aircelle non-configured spare parts are now configured and spareable

Root Cause Identification

- Depending on the individual area, corrosion may be initiated from multiple sources (foreign object damage, wear, handling damage, etc.)
- Infrequent inspections leading to late identification and hence more severe corrosion than can be easily addressed with standard maintenance

Solution (including incorporation strategy)

- A combination of design change, Notice To Operator (NTO), Repeat TV updates and AMM/EMM updates have been agreed between RR and Safran

Problem Defined	Problem Contained	Root Cause Identified	Solution Agreed	Solution Deployed
24-Aug-12	*29-July-16*	*30-Jun-14*	*30-Nov-16*	*TBD*

Completed
Hazard to Plan
On-Plan
Significant Hazard

Dates shown are actual completion dates in the past or forecast dates in the future

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78-27-M-887 BR710 Thrust Reverser Corrosion

Solution

- **General Visual Inspection of the Thrust Reverser every 30 months**
  - To be introduced in TLMC by Q4 2017. This is a very important milestone to better manage TRU corrosion going forward
- **Plan for availability of drain hole modification being worked**

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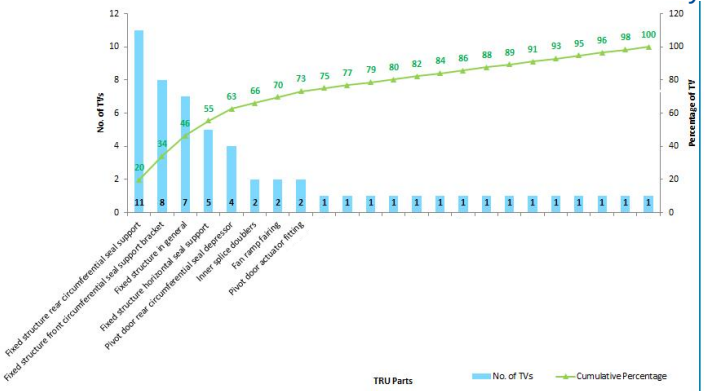
78-27-M-887 BR710 Thrust Reverser Corrosion

Solution

- **EMM updates via RTV**
  - All topics will be adressed where more than one TV was raised in 2015. TV Pareto from 2016 is very similar



- Majority of the TVs were issued for the following Parts:
  1. Fixed structure rear circumferential seal support
  2. Fixed structure front circumferential seal support bracket
  3. Fixed structure in general
  4. Pivot door rear circumferential seal depressor

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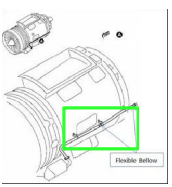
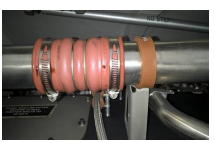
P/N: BA203712



Engine Vent Boots

71 - 33 -PO- 979

71 - 33 - M - 978



Problem Definition

- Boots absorb and leak oil
- High part price
- High replacement rate of parts
- Part is not covered by Corporate Care, but ATA chapter is not on excluded parts list.

Root Cause Identification

- Part exposure to oil is higher than expected, however part is not deteriorating
- Additional sampling and investigation of parts from other engine programs ongoing to identify possible solutions

Problem Containment

- Sufficient number of parts on stock and in forecast
- Spares price reduced by 50% until potential redesign
- Excluded parts list corrected

Solution (including incorporation strategy)

- Redesign decision to be made based on investigation results

Problem Defined	Problem Contained	Root Cause Identified	Solution Agreed	Solution Deployed
09-Aug-2016	*04-Oct-2016*	*31-Mar-2017*	TBD	TBD

Completed
Hazard to Plan
On-Plan
Significant Hazard

Dates shown are actual completion dates in the past or forecast dates in the future

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00 - 21 - M - 703 Rolls Royce AOG Response – Parts Ordering Responsiveness

- Item opened in April 2010, no OSD was in place, spare parts could only be sent from Pooler or Derby.
- Since 2013 the 24/7 OSD is in place. Average response time today for simple AOG‘s (for example a part is required) is 22,5 hrs for resolution.
- Additional spare parts warehouses opened in LAX, Frankfurt, Dubai and Singapore.
- No questions or comments in the CAB minutes since 2013.
- Item proposed to be closed.

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00-23-M-766 Lease Engine Pool Update

BR710A2-20 - GX	Number of engines
Engines available (Status 31st March 2017)	13
Engines identified	2
Engines post lease	1
Engines in shop	0
Engines in custodianship	2
Engines leased	1
Engines unserviceable	1
Total number of engines	**20**

- Pool size is sufficient
- Two more lease engines are planned to be added to the pool in Q4 2017

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