

SE-42 Guidance on V-Band Clamp Failures

Safety Enhancement Action:	FAA develop an appliance-specific document addressing the security of exhaust-related v-band clamp assemblies, specifying inspection and/or replacement criteria.
Implementers:	FAA AIR
Statement of Work:	<p>To help prevent fatal general aviation accidents due to failure of the powerplant system, the general aviation community should develop an appliance-specific document addressing the security of exhaust related v-band clamp assemblies.</p> <p>Based on SCF-PP dataset, three representative accidents were identified with v-band clamp issues. Specifically noted were fatigue cracking at spot welds that led to exhaust leaks which then propagated into inflight fires and powerplant failures. In some cases the v-band clamp cracking was due to improper installation and in other cases corrosion. In addition to being noted in the SCF-PP dataset, historical documentation has noted an ongoing issue with v-band clamps (reference NTSB accident investigations, and OEM and FAA service documents). Considering the three representative accidents, as well as the historical OEM, FAA, and NTSB documents, the FAA shall investigate the need for an appliance-specific airworthiness directive.</p>
Total Financial Resources:	
Relation to Current Aviation Community Initiatives:	<p>V-band clamps have been the subject of service instructions and airworthiness directives since the early 1980's. Below is a list of said documents in chronological order (with the exception of the NTSB accident investigation report numbers):</p> <ul style="list-style-type: none"> Lycoming SI 1238A Piper SB 657A Piper SB 884 AD 80-20-05 Lycoming SIL 1422 ATSB AD-Turbo-1 AD 82-16-05 Piper SB 884 NTSB SRL 2043 (A-88-147 thru 152) AD 2000-01-16 AD 2001-08-08 Mooney SB M20-299

	TCM SB 10-01 Lycoming SI 1238B Lycoming MSB 598A Piper SB 644E AD 2013-10-04 Lycoming SI 1562 Lycoming SSP 1775 KAPS/HET SB 029 and SB 031 NTSB WPR10FA056 CHI02FA042 FTW98LA350								
Performance Goal Indicators:	Report back to SAT on the results of review.								
Key Milestones:	<table border="1"> <thead> <tr> <th></th> <th><u>Total Months</u></th> <th><u>Start Date</u></th> <th><u>End Date</u></th> </tr> </thead> <tbody> <tr> <td>Output 1:</td> <td>12 mos.</td> <td></td> <td></td> </tr> </tbody> </table>		<u>Total Months</u>	<u>Start Date</u>	<u>End Date</u>	Output 1:	12 mos.		
	<u>Total Months</u>	<u>Start Date</u>	<u>End Date</u>						
Output 1:	12 mos.								
Potential Obstacles:									
Detailed Implementation Plan Notes:									
CICTT Code:									
Output 1:									
Description:	FAA to develop an appliance-specific document addressing the security of exhaust related v-band clamp assemblies specifying inspection and/or replacement criteria.								
Lead Organization:	FAA ACE-113								
Supporting Organizations:	OEMs (airframe, engine, etc.), STC holders								
Implementers:	FAA								
Actions:	<ol style="list-style-type: none"> 1. Compile related existing ADs, NTSB accident reports, and service information (SBs, SILs) 2. Use existing Small Airplane Risk Assessment Process (SARA) 3. Develop the appliance-specific guidance that specifies inspection and/or replacement criteria 								
Output Notes:	FAA has indicated desire to support (telecon on September 5, 2014)								
Time Line:	12 mos								
Target Completion Date:									

Training on Turbocharger Failure

Safety Enhancement Action:	Revise/update appropriate training material (not limited to, but including PHAK & AFH) to include recognition of loss of engine power as a result of turbocharger failure & appropriate action items.		
Implementers:	FAA Tech Pubs		
Statement of Work:	<p>To help prevent fatal general aviation accidents due to failure of the powerplant system, the general aviation community should revise and update appropriate training material to include recognition of loss of engine power as a result of turbocharger failure and appropriate action items.</p> <p>The SCF-PP dataset had two accidents involving turbocharger failures. There have been NTSB accident investigations and NTSB safety recommendations that relate to this topic and call for better instruction of pilots with regard to these turbocharger failure scenarios. Therefore, this Safety Enhancement is directed to the FAA so that they review and revise existing training material regarding turbocharger failures, with an end result of gaining an appropriate responses from pilots.</p>		
Total Financial Resources:			
Relation to Current Aviation Community Initiatives:	NTSB Recommendation Letter A08-21 CHI05FA162 CHI04GA130		
Performance Goal Indicators:	FAA publish guidance on turbocharger failure scenarios.		
Key Milestones:		<u>Total Months</u>	<u>Start Date</u>
	Output 1:	12	
	Output 2:	12	
	Completion:		
Potential Obstacles:			
Output 1:			
Description:	Review and compile existing training materials regarding turbocharger operations/failures.		
Lead Organization:	FAA Tech Pubs		
Supporting Organizations:	OEMs (aircraft, engine, and appliance); AOPA; EAA; STC-Holders		

Implementers:	FAA
Actions:	<ol style="list-style-type: none"> 1. Review existing training material that discusses turbocharger operations, turbocharger failure signatures, and recommended actions. 2. Compile a list of suggested revisions to documents and training material
Output Notes:	Review OEM emergency procedures and incorporate into revised training material.
Time Line:	12 mos.
Target Completion Date:	
Output 2:	
Description:	Revise training materials as necessary regarding turbocharger operations/failures and provide OUTREACH/TRAINING.
Lead Organization:	FAA Tech Pubs
Supporting Organizations:	OEMs (aircraft, engine, and appliance); AOPA; EAA; STC-Holders
Implementers:	FAA
Actions:	<ol style="list-style-type: none"> 1. Revise Training materials as necessary regarding turbocharger operations/failures. 2. OUTREACH - FAA/Industry outreach campaign on revised documentation/training.
Output Notes:	Review OEM emergency procedures and incorporate into revised training material.
Time Line:	12 mos.
Target Completion Date:	