



## Safety recommendation no. 18

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<b>Safety deficit</b>	<p>An open fire in the engine compartment of a Robinson R22 Beta II helicopter occurred in cruise flight, which had been caused by a short circuit between a retrofitted alternator filter and the alternator terminal.</p> <p>According to a PMA granted by the FAA, the installation of a Lone Star Aviation Corp. LS03-01004 alternator filter is approved for various light aircraft (e.g. Cessna C172). However, the installation instructions do not describe how the alternator filter must be mounted to the alternator. As a result, the alternator filter can be mounted in such a way that a short circuit may occur between the earthed alternator filter housing and the alternator's A+ terminal.</p> <p>In general, PMA-approved components as granted by the FAA with approval for installation in certain aircraft types do not always come with detailed installation instructions. The STSB considers it to be a fundamental risk that installations are performed which may carry a hidden or long-term hazard potential.</p>
<b>Safety recommendation</b>	<p>Topic: Installation of an alternator filter subject to a PMA granted by the FAA</p> <p>Target group: Aircraft owners, operators and maintenance companies</p> <p>In all aircraft that have been retrofitted with an alternator filter mounted on the alternator subject to a PMA granted by the FAA, it should be ensured that no short circuit can occur between the earthed alternator filter housing and the electrical system.</p>
<b>Investigation report concerning the safety recommendation</b>	<p><u>Schlussbericht</u></p> <p><u>Final report</u></p>