

Subject: Main Aircraft Battery Life Expectancy and Unapproved Battery Re-Blocking
Aircraft Type: Eclipse 500 and Eclipse 550®
Effectivity: All Aircraft
Applicability: All Aircraft

1. SUMMARY

This SIL provides information regarding the discovery of unapproved aircraft batteries and information regarding the typical life expectancy of main aircraft batteries.

2. BACKGROUND

An in-service aircraft was recently found with two main aircraft batteries with manufacture dates in 2008. Main aircraft batteries typically last 24 to 36 months before failing a battery residual capacity check. These batteries from 2008 were notable outliers. Upon further investigation it was discovered that the battery's case was from 2008 but the internal components had been replaced with unapproved parts. Additional examination of the case showed that the batteries had been carefully reworked so as to appear to be FAA approved batteries.

Unapproved battery mono-blocks do not meet minimum performance standards for airborne equipment. They are not designed or tested for environmental conditions such shock and vibration, or susceptibility to flammability. Using mono-blocks not rated for use in airborne equipment could result in hazardous conditions and / or catastrophic aircraft damage.

The specific unapproved mono-blocks that were found in the re-blocked batteries referenced above were rated to 18 amp-hours (the FAA approved aircraft batteries are rated for 22 amp-hours). This does not meet the residual battery capacity requirements of the Eclipse EA 500.

In a battery power only condition, the 18 amp hour battery will not be capable of supplying power to loads essential to continued safe flight and landing.

A complete loss of electrical power will result in loss of power to electronic displays; loss of communications capability; loss of power to L/R FADEC; and loss of R and L ACS (notably: pitch, roll and yaw trim, flap control, and fuel system control). Additionally, under-rated batteries will contribute to hotter, slower engine starts and could lead to engine exhaust cone damage.

3. ECLIPSE ACTION

Because of this recent finding of a battery that had been re-blocked using unapproved mono-blocks, Eclipse Aerospace, Inc is issuing this SIL to alert owners, operators, and maintainers to this situation. Eclipse is working closely with the FAA in their investigation.

4. SUGGESTED OPERATOR ACTION

Owners, operators, and maintainer are encouraged to track the date of manufacture and service life of the main aircraft batteries in their aircraft. If the battery's date of manufacture is older than 36 months the maintenance history should be reviewed to ensure they are conforming batteries.

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5. EXPORT CONTROL

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