

SUBJECT: Main Aircraft Battery Maintenance and Health Monitoring  
Aircraft: Eclipse 500 and 550  
Effectivity: All Aircraft  
Applicability: All Aircraft

## 1. SUMMARY

This SIL provides guidance concerning main aircraft battery maintenance and related battery health monitoring checks that can be done by a pilot or other non-maintenance personnel.

## 2. BACKGROUND

A number of main aircraft batteries have recently failed six month residual capacity checks after only 12 or 18 months in service. In order to reduce the number of batteries failing the check we worked with our battery supplier, Energys to improve the Aircraft Maintenance Manual (AMM) procedures. We are also publishing this Service Information Letter for customers to provide additional information regarding battery maintenance and health monitoring.

## 3. ECLIPSE ACTION

EAI has released an AMM Temporary Revision (TR) for the battery capacity (adjustment/test) check per AMM Task 24-32-24-071-801 and for the AMM battery charging (servicing) procedure per AMM Task 24-32-24-061-801.

## 4. SUGGESTED OPERATOR ACTION

Operators that are concerned about the health of a battery can perform the following check to evaluate the likelihood of passing the six month residual capacity check. Please note that this check is not a substitute for the full AMM battery capacity check. Passing this check does not guarantee that the battery will pass the full battery capacity check.

1. To check the system battery health set the Sys Batt switch to On and set the Bus Tie switch to Auto. Ensure the Start Batt switch remains in Off.
2. To check the start battery health set the Start Batt switch to On and the Bus Tie switch to Auto. Ensure the Sys Batt switch remains in Off.
3. Monitor the applicable system or start battery voltage for 5 minutes.
4. If the voltage stays at or above 23.7 volts the battery is considered healthy and no further action is recommended.
5. If the voltage is between 23.6 and 23.0 volts the battery's health is fair. It should be charged for 12 hours per the battery servicing procedure from the applicable AMM or AMM TR.
6. If the voltage drops below 23.0 volts the battery's health is poor. It should be charged for 24 hours per the battery servicing procedure from the applicable AMM or AMM TR.

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7. If the voltage drops below 22.0 volts at any time during the test, the test should be stopped immediately by setting the applicable battery switch to Off and the Bus Tie to Open. The battery should be charged for 24 hours per the battery servicing procedure from the applicable AMM or AMM TR.
8. At the end of the 5 minute period note the battery voltage and stop the test by setting the applicable battery switch to Off and the Bus Tie to Open.

The minimum system and start battery voltage of 23 volts as listed in the Airplane Flight Manual (AFM), section 4, Normal Procedures, Engine Start, must be adhered to. If the voltage is below 23, the batteries should be allowed to charge before starting the engines.

There is one acceptable method for charging batteries per the AMM. That method is constant voltage charging. Constant voltage charging requires a constant voltage charger capable of providing 29 volts DC at 10 amps. Constant current chargers and mixed mode or multi-mode chargers are not recommended by EAI or EnerSys.

The charge times listed in the AMM battery charging procedure (Task 24-32-24-061-801) are minimums. If a battery is drawing 1 amp or greater after the time listed on the chart has passed we recommend continuing to charge the battery while monitoring the charge current. The charge current's trend should be downward. The charge current of a healthy battery should be .33 amps or less for the last three hours of the charge cycle.

The Open Circuit Voltage (OCV) of a fully charged healthy battery should be 25.7 volts or greater. We recommend resting a recently charged battery for at least one hour and checking the OCV as a good way to confirm a battery is fully charged and ready for installation in an aircraft.

## 5. EXPORT CONTROL

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