

SUBJECT: Alternate Approved Aircraft Inspection Programs
Aircraft: Eclipse 500 and 550
Effectivity: All Aircraft
Applicability: All Aircraft

1. SUMMARY

This SIL provides information regarding the use of alternate Approved Aircraft Inspection Programs (AAIP) for Eclipse 500 and 550 aircraft. Eclipse strongly advises against deferring maintenance on time-limited items identified in the Eclipse AMM. Specifically, there is no possible FEC inspection that would be sufficient to justify deferring replacement past the specified life limit.

2. BACKGROUND

Chapter 4 Airworthiness Limitations included in Eclipse 500 AMM 06-117751 and Eclipse 550 AMM 06-123838 were originally established by Eclipse based on certification test results and type design replacement/overhaul intervals of critical components. These Chapter 4 Airworthiness Limitations have evolved as necessary to accommodate type design changes, additional certification testing, and service history.

In accordance with §43.16 and §91.403, operators are required to follow the inspection and maintenance specified in Chapter 4 Airworthiness Limitations applicable to their aircraft serial number. For aircraft following the Eclipse maintenance program, Chapter 4 Airworthiness Limitations included in Eclipse 500 AMM 06-117751 and Eclipse 550 AMM 06-123838 apply. For aircraft using an alternate AAIP, Chapter 4 Airworthiness Limitations from that program must be followed.

Some Eclipse 500 Part 135 operators have implemented alternate AAIPs more suitable to an air carrier's operating environment. The alternate AAIPs used by Part 135 operators have historically included changes to better align inspection and maintenance with the utilization and availability of aircraft between scheduled flight operations.

An alternate AAIP for the Eclipse 500 has recently been made available to operators via STC SA04458CH. This AAIP includes changes to Chapter 4 Airworthiness Limitations which warrant further discussion.

3. ECLIPSE POSITION

Alternate AAIPs may identify items as inspections or maintenance tasks. This is typically done to ensure that operators have a clear, common understanding of the classification of each item. FAA legal interpretation has clarified that maintenance actions listed in Chapter 5 Time Limits/Maintenance Checks are not mandatory. Specific designation of Chapter 5 items as maintenance ensures that the maintenance action associated with those items is understood to be not mandatory, that it may be deferred at the discretion of the operator with appropriate justification.

Note that any time limitations appearing in Ch. 5 are still considered part of each component's inspection and must be assessed and dispositioned as such. Deferral of or deviation from listed maintenance actions must be substantiated to ensure continued airworthiness.

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Eclipse has specific concerns regarding maintenance of the items listed below. Replacement of these items should follow the interval specified and should not be deferred.

Engine Fire Extinguisher Canister PN FX00200-() & PN 26-123127-()

The Eclipse 500 AMM and Eclipse 550 AMM Chapter 4 Airworthiness Limitations for fire extinguisher canisters (FECs) have been established based on component type design limitations and certification testing. The inspection of the FEC per AMM Chapter 26, required as part of the recurring 300-hour/24-month and 1200-hour/48-month inspections, tests several aspects of the FEC but does not evaluate the viability of the pyrotechnic agent contained within the FEC. It is this pyrotechnic agent that drives the FEC life limit. There is no means of inspection to establish the health of this critical component. As such, there is no possible FEC inspection that would be sufficient to justify deferring replacement past the specified life limit.

While it may be permissible to defer maintenance of the Engine Fire Extinguisher Canister under an alternate AAIP that shifts this component limitation to Chapter 5 Time Limits/Maintenance Checks and specifically designates this component as a maintenance item, Eclipse strongly advises against this practice. To ensure effective operation of the FECs and continued airworthiness, they must be replaced at the specified intervals.

Pitch Trim Actuators PN 27-112568-() and Landing Gear Actuators PN EM 4115-()

The Eclipse 500 AMM and Eclipse 550 AMM Chapter 4 Airworthiness Limitations for Electromech actuators have been established based on service history. Ongoing reliability issues have been seen with the Electromech actuators, and failure of this component could affect pitch control and landing gear extension/retraction. No on-aircraft inspection can be performed to verify actuator performance. SIL 32-002 strongly encourages replacement with the newer Tamagawa actuators.

While it may be permissible to defer maintenance on the Electromech Pitch Trim Actuators under an alternate AAIP that shifts this component limitation to Chapter 5 Time Limits/Maintenance Checks, Eclipse strongly advises against this practice.

4. SUGGESTED OWNER/OPERATOR ACTION

Once an owner has signed on to an alternate AAIP, they are required to adhere to that AAIP. As stated above, Eclipse does not support the move of some items from Chapter 4 Airworthiness Limitations to Chapter 5 Time Limits/Maintenance Checks. Time limitations appearing in Ch. 5 are still considered part of each component's inspection, and corrective action must be taken to address expired components. Deferral of or deviation from listed maintenance actions must be substantiated to ensure continued airworthiness. Eclipse strongly advises against deferring maintenance on time-limited items identified in the Eclipse AMM.

5. EXPORT CONTROL

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