

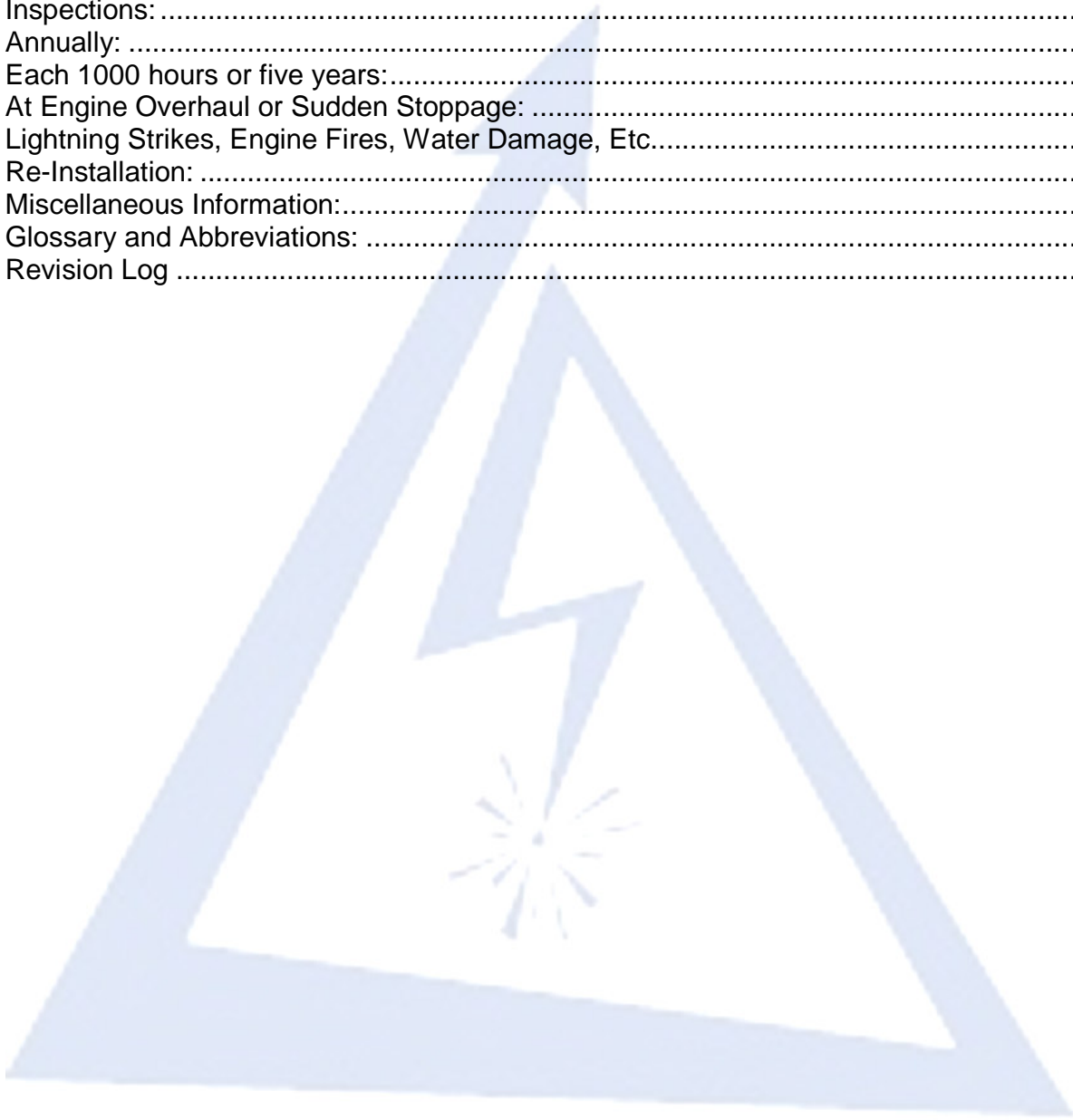
**electroair**  
ELECTRONIC IGNITION SYSTEMS

***EIS-41000***  
***Instructions for Continued***  
***Airworthiness***

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## **Precautionary Statements:**

- Read this entire document before starting any processes listed within. If there are any questions please contact Electroair before starting to resolve them. (517-552-9390 or [sales@electroair.net](mailto:sales@electroair.net))
- If an EIS is improperly installed or misfired; the EIS, the aircraft, or the installer could be seriously damaged.
- Always use appropriate work and safety practices.
- The exposed section of the crankshaft is tin plated; using an abrasive will remove the plating. It is recommended to use a liquid cleaner/degreaser to clean this area.
- Do not tighten the CSTW screws to the point where there is no gap between the halves.
- Do not leave the feeler gauge in the gap between the CSTW and the magnetic pick-up when rotating the engine.
- Be careful when not using an Electroair plug, that gapping the outer electrode can become over stressed and break.
- Since each wire in the spark plug assembly will make 2 spark plug wires, be careful when determining spark plug wire length.
- Spark plug leads shall be disconnected from the ignition system before inspection.

## **Eligibility:**

Make:	Lycoming	Continental
Model:	235 4-cylinder series	65 4-cylinder series
	290 4-cylinder series	75 4-cylinder series
	320 4-cylinder series	85 4-cylinder series
	360 4-cylinder series	90 4-cylinder series
		200 4-cylinder series
		240 4-cylinder series

(See approved model list (AML) for exact model numbers)

## **Manual Reference:**

Electroair Kit Part Number	Installation Manual Number
EIS-41000	IM EIS-41000
EIS-41000T	IM EIS-41000
EIS-41000IC	IM EIS-41000
EIS-41000TLH	IM EIS-41000
EIS-41000TIC	IM EIS-41000
EIS-41000TLHIC	IM EIS-41000

## ***Airworthiness Limitations Section (ALS):***

The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of Title 14 of the Code of Federal Regulations unless an alternative program has been FAA approved. There are no FAA mandated inspection or replacement intervals for this STC.

### ***Receiving and Acceptance Checking of EIS Kit***

1. Review the packaging before acceptance from the freight carrier.
  - a. If damaged refuse.
2. Open the package.
3. Review the contents of the package to the content listing on the package.
4. Are all of the materials there?
  - a. Yes, proceed to step 5.
  - b. No, contact the factory. Have the serial number of the kit available when contacting. (factory 517-552-9390 or [sales@electroair.com](mailto:sales@electroair.com))
5. Review the controller and MAP sensor for damage to the aluminum housing.
6. Review the wires for nicks and cracks.
7. Review the coil pack and plate for external damage.
8. Review the CSTW for external damage.
9. Are all materials acceptable?
  - a. Yes, proceed with installation.
  - b. No, contact the factory. Have the serial number of the kit available when contacting. (factory 517-552-9390 or [sales@electroair.com](mailto:sales@electroair.com))

If possible, store parts in original packaging when not in use. If not possible, wrap parts in cushioning material and place in one location. Review as above prior to reinstallation.

### ***Inspections:***

Refer to the installation manual for required tooling. Note: Installation of the EIS system does NOT eliminate the requirement to comply with applicable airworthiness directives (AD's).

#### ***Annually:***

1. Inspect all wire connectors. Verify connections are still competent.
2. Inspect all ground connections. Verify they are competent and have continuity with the ground terminal on the aircraft battery or other acceptable ground buss.
3. Inspect "Gasket" area on MAG Time Housing, if installed. Ensure no oil leaks coming from the gasket area. If a new gasket is required contact the factory for a replacement.
4. Inspect for oil seal failures.
  - a. Remove the MTH cover.
  - b. Inspect for oil pooling. Note: A thin film of oil does not indicate a failure.

- c. Replace the cover in the same orientation it was removed. For units that have a yellow triangle on the MTH cover label, the yellow triangle shall point towards the magnetic sensor when installed.
  - d. **NOTE:** The MTH is not a field serviceable or repairable unit.
5. Inspect all spark plug wires to check for exterior damage.
  - a. If any wires look damaged in any way they **MUST** be replaced.
6. Remove and inspect spark plugs.
  - a. Replace if fouled or out of acceptable resistance range (refer to <http://electroair.net/sparkplugs.html> for the resistance values)
  - b. Verify spark plug gap at this time. Adjust as required.
7. Inspect MAP Sensor hose connection. Verify no vacuum leaks.
  - a. Pass: No vacuum leaks.
  - b. Fail: Vacuum leaks. Address connections to vacuum system. Contact the factory (517-552-9390 or [sales@electroair.net](mailto:sales@electroair.net)) if further assistance is needed.
8. Inspect all placards and labels for existence and legibility. If missing or no longer readable, replace.
9. If fuses were used instead of circuit breakers, inspect for the existence of readily accessible spare fuses. (Note: 14CFR 91.205(c)(6) applies when using fuses.)

**Each 1000 hours or five years:**

1. Replace spark plug wires and attaching hardware with new Electroair spark plug wires and attaching hardware. Use Electroair part number EA-4000 for spark plug wire and EA-4000REM or EA-4000RHM for the attaching hardware combination.

**At Engine Overhaul or Sudden Stoppage:**

1. Replace MAG Timing Housing, if installed, with a new Electroair MAG Timing Housing part number EA-10000.
2. Inspect CSTW and brackets. Replace the CSTW and/or bracket if damage suspected. Replace magnetic sensor.

**Lightning Strikes, Engine Fires, Water Damage, Etc.**

1. Inspect the EIS wiring harness, controller, and MAP sensor.
2. If there is obvious damage, replace the damaged parts.
3. If there is no obvious damage, perform a ground run-up. If no problems are found, continue with the standard procedures as stated in the AFMS.
4. If unsure, contact factory (517-552-9390 or [sales@electroair.net](mailto:sales@electroair.net))

**Re-Installation:**

1. For instructions on reinstalling individual EIS-41000 components or the entire system, refer to the EIS-41000 Installation Manual that was included with the EIS-41000 kit. If the original installation manual is not with the system, contact the factory for an up to date replacement installation manual (517-552-9390 or [sales@electroair.net](mailto:sales@electroair.net)) or retrieve from the factory's website [www.electroair.net](http://www.electroair.net).
2. After re-installation follow the instruction for start-up in the AFMS to verify the operation of the EIS system.

## **Miscellaneous Information:**

- For impulse coupled applications record:
  - Donor magneto model number: \_\_\_\_\_
  - Donor magneto part number: \_\_\_\_\_
  - Donor magneto serial number: \_\_\_\_\_
- For updated versions of this and other documents Electroair documents; refer to the company website: [www.electroair.net](http://www.electroair.net).
- Announcements regarding updates will be made via the Electroair page on [www.facebook.com](http://www.facebook.com) and constant contact.
- Use of a high tension lead tester is acceptable as long as all applicable precautions have been taken.

## **Glossary and Abbreviations:**

- AD('s) – airworthiness directive(s)
- AFM – aircraft flight manual
- AFMS – aircraft flight manual supplement
- ALS – aircraft limitations section
- AML – approved model list
- BTDC – before top dead center
- CFR – code of federal regulations
- CSTW – crankshaft trigger wheel
- EIS – electronic ignition system
- FAA – federal aviation administration
- MAG -- magneto
- MAP – manifold absolute pressure
- May/Should – an optional requirement
- MTH – mag timing housing
- Must/Shall – a mandatory requirement
- RPM – revolutions per minute
- STC – supplemental type certificate
- TDC – top dead center

## Revision Log

Revision	Date of Revision	Description of Revision	Approved by	Date of Approval
00		skipped number		
01	06/07/2011	Initial Release	JR	06/07/2011
02	02/21/2012	Added TCM 4 cylinder models	JR	02/21/2012
03	10/07/2013	Corrected issues from FAA memo dated 08/30/2013 and received 09/30/2013	KP	10/08/2013
04	11/01/2013	Added handling information.	KP	11/04/2013
05	11/25/2013	Corrected issues from AEG follow up email dated 11/22/2013.	KP	11/25/2013
06	11/25/2013	Added information regarding MTH cover orientation to annual inspection.	KP	11/25/2013