EIS-41000 Electronic Ignition System
Instructions for Continued Airworthiness

Revision: 1; 6/7/2011

Eligibility:
Make: Lycoming
Model: 235 4-cylinder series
290 4-cylinder series
320 4-cylinder series
360 4-cylinder series
(See STC for exact model numbers)

Record of Revisions

No.	Date of Revision	Description of Revision	Revised by
1	June 7, 2011	Document Creation	J. Ratliff

Airworthiness Limitations

The Airworthiness Limitations section is FAA approved and specifies maintenance required under §§43.16 and 91.403 of the Federal Aviation Regulations unless an alternative program has been FAA approved.

Annually

1. ***Inspect all wire connectors to verify that the connections are still tight and sealed.***
2. ***Inspect all ground connections to verify they are tight and have continuity with the ground terminal on the aircraft battery.***
3. ***Inspect "Gasket" area on MAG Time Housing to make sure there are no oil leaks coming from the gasket area.***
4. ***Check resistance between the "Red" and "Black" wires on the ½" Magnetic Sensor; resistance should measure between 600 to 800 Ohms. Note: Take resistance through the connector attached to the magnetic sensor.***
    a. ***If the resistance is between 600 to 800 Ohms, the magnetic sensor is functioning properly and should be reconnected to its appropriate connection.***
    b. ***If the resistance is not within 600 to 800 Ohms, the magnetic sensor is inoperative and MUST be replaced.***
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. ***Inspect MAP Sensor hose connection to verify there are no vacuum leaks.***

Each 1000 hours or five years

1. ***Replace spark plug wires and rubber washers with new Electroair spark plug wires P/N EA-4090 and rubber washers P/N EA-4040***

At Overhaul

1. ***Replace MAG Timing Housing with a new Electroair MAG Timing Housing P/N EA-3000.***

Troubleshooting the EIS-41000

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. If the original manual is not with the system, contact Electroair for an up to date replacement installation manual.***

Engine Kick-Back during starting:

1. **check all ground connections**
2. **check for weak battery (particularly if using a permanent magnet type lightweight starter)**
3. **check for bad/worn starter cables**
4. **check starter functionality**
5. **verify that timing on EIS is set correctly**

Engine runs poorly or rough:

1. **check all ground connections**
2. **verify that spark plug wires are connected securely**
3. **verify that spark plugs are set to correct firing order**
4. **inspect all spark plug harnesses for evidence of arc-out (indicated by small burn marks near the spark plug)**
5. **inspect all spark plugs for proper gap, cracked ceramic, cleanliness, wear**
6. **verify that timing is set correctly**

Engine runs poorly or rough at high RPM and/or high engine load:

1. **indicates imminent failure of either a spark plug or spark plug wire; follow procedures for engine running rough**

EIS is dropping off-line or is intermittent:

1. **Indicates possible magnetic pick-up failure; inspect pick-up by disconnecting at the electrical interconnect and test impedance. The impedance should be between 600-800ohms and does not oscillate when wires are moved. (Impedance that moves up and down indicates a bad pick-up).**
2. **Inspect power supply to both coil pack & controller for proper voltage.**
3. **Inspect ground connections.**

High CHT readings or detonation:

1. **Indicates that timing has advanced too far. Adjust timing if necessary.**
4. **Disconnect MAP Sensor and verify that operation returns to normal settings (without vacuum advance)**
5. **Verify that the temperature range of the spark plugs is correct for the engine application (particularly important with automotive spark plugs)**

If the above troubleshooting techniques are ineffective, call the factory for support. Evaluation of coil pack, EIS Controller, and any other components are all available through Electroair technical support.