

INSTALLING YOUR S/S CD IGNITION SYSTEM

INTRODUCTION:

Thank you for purchasing our product. We have worked very hard to produce a reliable and easy to install ignition system. Please visit our web site at www.cncengines.com for updates and timing instructions. We can be reached by phone (419-452-6042) from 9:00 am to 6:00 pm **eastern** time Monday thru Friday. You are also welcome to contact us on Saturdays but be aware this is not a regular workday. **NEVER power up the ignition system without a spark plug correctly installed.**

SPECIFICATIONS:

Our standard ignition system is designed to operate on a 4-cell pack.

MAXIMUM voltage is 5.5 Volts and operation at higher voltages will damage the electronics.

VOLTAGE REGULATED SYSTEMS will have an indent in the Aluminum Spark Plug Cap with a **RED OR BLUE** dot in it. These systems have an onboard linear regulator and can be used with a **MAXIMUM** voltage of 8.5. This system is reverse polarity protected and supplied with a Futaba style connector. It is compatible with most radio systems on the market today. We specify a limit of 9,000 RPM. This means your engine could misfire at a higher RPM.

CONNECTOR PIN OUT:

Battery connector: **Black** = ground or negative and **Red** = + 5 Volts or positive.

Hall/Deans connector: **Black** = ground or negative, **Red** = + 5 Volts or positive, **White** = signal. Never connect power to the white wire as it will damage the hall switch.

PROPER MOUNTING OF COMPONENTS:

Wrap the ignition box in foam just as you would your radio receiver. Use rubber bands or Velcro to secure it inside the aircraft. If vibration is kept to a minimum the system will operate indefinitely. It is also good practice to anchor the wire leads near the hall switch so undo stress and flexing are not an issue.

ALUMINUM SPARK PLUG CAP:

We have made every effort to capture all stray electrical noise within the ignition system. The cap is designed for short bantam style spark plugs with a 5/8" or 3/4" hex. When the cap is properly installed on the correct spark plug type there should not be any porcelain visible. The cap will nearly touch the rounded area just above the spark plug hex. If there is any significant amount of porcelain exposed you may experience radio interference. It is most important that the pilot range check their equipment regularly. The difference in radio range with and without the engine running should be very minimal, if not a thorough check of the system should be performed. Battery connectors and switches are a common source of radio interference.

HALL SWITCH AND MAGNET ASSEMBLY:

Do not use CA type glue to attach the hall switch. You can use epoxy, silicone, or heat shrink tubing to mount the hall switch. If you plan on heat shrinking the hall switch use a small amount of silicone to insulate it from any metal and be careful not to apply too much heat for too long a period of time. Most heat guns produce temperatures beyond the limits of the hall switch. The hall switch is sensitive only to the South Pole of a magnet; this is the end that will attract the North Pole of a compass and the part # on the face of the hall switch must face the magnet. The air gap between the hall and magnet will be determined by the strength of the magnet but in most cases it should not be less than the thickness of a business card. If the gap is too wide or the magnet is not strong enough it is possible for the engine to start and run but not be capable of reaching full RPM which could be interpreted as a carburetor or timing problem.

TROUBLESHOOTING:

No spark or erratic spark:

1. Try a different battery
2. Connect a battery directly to the ignition system connector.
3. Make sure your battery is fully charged.
4. Was a battery with more than 4 cells connected or a voltage higher than 5.5 applied? If so the system electronics are most like damaged and the system will need to be returned for repair.
5. Air gap incorrect or magnet defective.
6. Hall switch defective. **BE CAREFUL HERE.** Unplug the hall switch from the ignition system. On the connector coming from the ignition box short the white wire to the ground wire momentarily. The spark plug should be removed from the engine and properly installed in the spark plug cap.
7. Spark plug is bad or the gap is not set correctly. The spark plug gap should be set to the engine manufacturer specifications.

REPAIR:

We have in house repair service for quick turnaround of repairs. Before sending your system in for repair please contact us so we can determine what parts need to be included and to give you an estimated cost for repairs.

SHIP TO ADDRESS:

S/S Machine & Engineering LLC
16940 County Road T
Fayette, OH 43521

ASSEMBLY PROCEEDURE FOR SPARK PLUG



Aluminum cap ready to be installed onto spark plug. It is necessary to roll the silicone tube up onto itself so the cap can be pushed onto the spark plug. You do not have to do this to remove the cap but you do need to rotate the cap back and forth while pulling it off so the spring contact does not pull out of the rubber boot.



Spark plug properly inserted into cap and rubber boot. None of the insulator is showing between the Al cap and spark plug hex.



Ground strap and silicone tubing in proper position for engine operation. Notice the silicone tube completely covers the hex on the spark plug.