



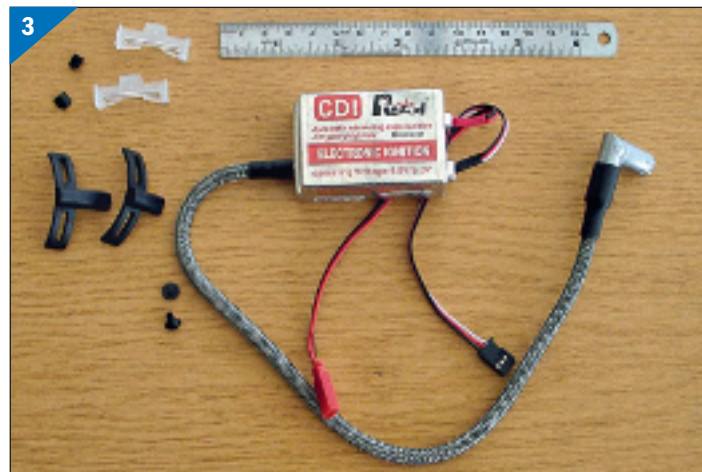
SPARK IGNITION

The model aircraft scene is one where new technology is constantly pushing boundaries and in that field, Just Engines have been a highly regarded supplier of engines and accessories for a number of years. In response to a resurgence of interest in spark ignition, they have introduced a range of Cdi (Capacitor discharge ignition) units aimed primarily at aeromodellers who wish to convert existing glow plug engines to spark-petrol operation. These units rely on Hall effect sensing and not the old style contact breaker points. The power requirement is 4.8 to 6.0-volts, which can be easily supplied from a typical 4.8-volt flight battery pack. The higher voltage is recommended for high rpm operation. **Photograph 3** shows the Cdi unit with sensor attachment brackets, **photo 4** the plug and magnet and **photo 5** a close-up of the

sensor. In addition, a sensor test set (**photo 6**) is available which allows the ignition timing to be accurately set and verified without fitting the complete ignition kit.

I have not yet made the attachment parts for the home brewed 4-stroke but have tried fitting the Cdi kit to an ASP 91 (15cc 2-stroke) and this is shown in **photo 7**. The prop driver has been turned down to take an added ring which houses the magnet, this being Loctited in a drilled hole and the edge is peened over for added security. A second ring has been turned which fits around the front bearing housing, providing a location for the sensor bracket. As both rings may be rotated then locked in position, maximum flexibility is given for the angular position of the sensor, and for timing.

Using the sensor test kit, the timing is set by arranging that the bleeper and LED go silent/



Rcxel ignition kit with two sizes of sensor bracket on the left.

off at 28 to 30deg. before top dead centre. This is a very easy operation using the supplied degree disc.

This amount of advance sounded a lot for a static setting, and I asked the question of Just Engines. They replied "It uses the remaining degrees to work out when to fire. It has a mini computer to

work when to fire." If they really have built in auto advance then this really is a clever piece of electronics.

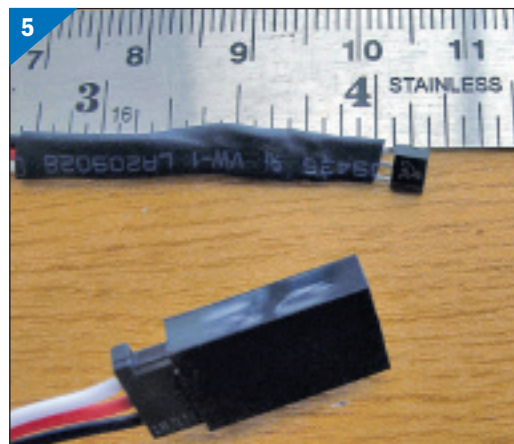
Just Engines appreciate that their new package is not an instant 'plug and play' or one size fits all product and says that a certain amount of experiment and careful fitting will be needed. As a result their pricing structure is extremely competitive. From the list of items, the one which really jumped out at me was the 1/4in. spark plug which at £6.39 is significantly cheaper than some similar competing items. **ME**

Contact details

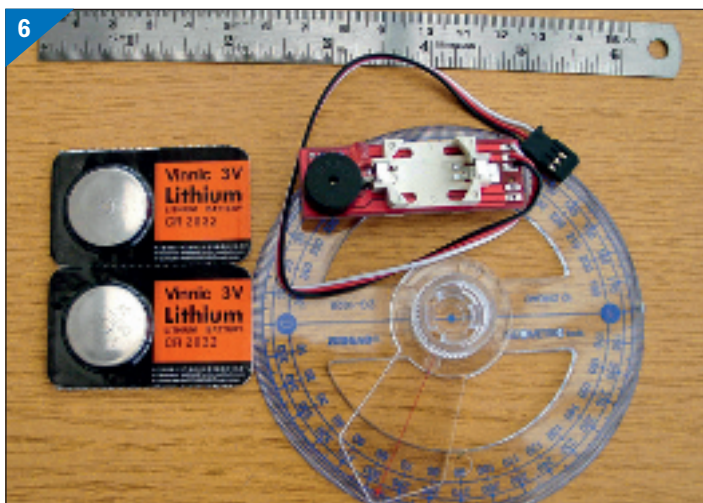
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Spark plug and magnet.



Sensor (next to rule) and connecting plug.



Sensor test kit allows ignition timing to be accurately set and is supplied with a degree timing disc and two coin type batteries.



Modified ASP91 2-stroke. One aluminium ring has been used to house the magnet and another to carry the sensor bracket.

