

LAA/AWA19/04
21th February 2019

Slick Magneto (4-Cyl. Type)

Potential Decrease in Service Life

Slick magnetos are common in the GA fleet and only rarely cause trouble, though one issue that was once considered quite rare, but recently appears to be a more common failure mode, is slippage of the distributor gear's 'finger' electrode.

Champion Aerospace, the manufacturer of the 'Slick' range of magnetos, recently revised a Service Bulletin (SB1-15A) suggesting that some magnetos designed for 4-cylinder engines may suffer a decrease in service life because of this issue; they'll replace the potentially defective part free of charge, but of course this will mean removing and dismantling the magneto.

One LAA member, who was suffering rough running on one fairly recently overhauled magneto, ended up unnecessarily replacing all the spark plugs and the ignition leads before returning the magneto to the repair shop where a loose finger electrode was found to be the problem.

Champion have recently replaced the troublesome copper electrode with one made from Monel (a nickel-copper alloy) which is stronger and has a better resistance to corrosion.

Slick magnetos are not lifed in the conventional sense and are therefore operated 'on-condition' on LAA aircraft, though the manufacturer recommends a full 'service' at 500 hours and supply a 500hr. maintenance and inspection kit which contains all the necessary parts.

Although this Slick Bulletin has been given much publicity it should be noted that it isn't a mandatory device – though it does serve to remind that every component on an aircraft will, at some point, benefit from an overhaul and that it's not just fouled plugs that cause mag. drops.

A copy of the Slick Service Bulletin (SB1-15A) can be downloaded [HERE](#).



Fig 1. The 'finger' electrode directs the high-tension electrical charge to the correct plug at the correct time. Looseness in the electrode will affect the quality of the spark and may cause rough running. As the gap between the finger electrode and the contact in the distribution cap naturally increases with age, increased sparking will decrease the efficiency of the ignition system and may lead to a failure of one or more cylinders.



Fig 2. Distributor gears manufactured between 2008 and 2016 may contain suspect finger electrodes. The serial number, on the magneto's data plate, also contains the date of manufacture.

The example shown above gives the date first (2014/April) followed by the actual serial number (0782).