



## SLICK MAGNETO

### FEATURES

Champion Slick Magnetos make timing, installation, inspection, and maintenance simpler and more convenient than ever before. We also incorporated mechanic-endorsed features to improve performance and service life.

- **Lift-off housing – Internal timing is not disturbed during inspections.**
- **Simplified internal timing – Improved internal markings and unique Slick E-gap tool make timing easier and more accurate.**
- **Fully sealed bearings – Keeps contaminants out and grease in for smoother operation and less maintenance.**
- **Lower EMI Levels – Redesigned housing improves sealing and results in less radio noise.**
- **OEM Approved – Models are available for more than 225,000 engines – all compatible with existing Slick Ignition Harnesses.**



### TECHNICAL INFORMATION

The function of the aviation piston engine ignition system is to provide an electrical spark to ignite the fuel/air mixture in the engine cylinders. The ignition system of the engine is a separate system and is not part of the airplane's overall electrical system. The magneto type ignition system is used on most reciprocating aircraft engines. Magnetos are engine-driven self-contained units that supply electrical current without using an external source of current. Magnetos are frequently not maintained to requirements specified in L1363 Manual- 4300/6300 Series Magneto Maintenance and Overhaul Manual, probably because they're so reliable and all engines have a redundant magneto. Magnetos need regular maintenance, and the consequences of neglect can be devastating.

Modern airplane engines are required by to have a dual ignition system – that is, two separate magnetos to supply the electric current to the two spark plugs contained in each cylinder. One magneto system supplies the current to one set of plugs, while the second magneto system supplies the current to the other set of plugs. The airplane's double ignition system provides better performance because of more efficient combustion and a higher level of safety through redundancy.

Champion Slick magnetos have applications on nearly all piston engines and are known for the following design features:

- Smaller and lighter unique design allowing for a dimensionally smaller magneto, resulting in easier installation and lighter weight- as much as one pound lighter than competitive magnetos.
- Radio noise suppression- Slick magnetos feature superior noise suppression, eliminating the need for magneto filters.
- Easy to maintain- Slick magnetos use up to 50% fewer parts than the competitive aircraft magnetos. In addition, 70% of the parts in any Slick magneto are interchangeable with the comparable parts in other current production Slick magnetos.



**SPARK → IGNITE → EXCITE**

Slick magnetos are engineered so that mechanical parts wear at a balanced rate. Consistent and complimentary wear patterns establish the recommended maintenance intervals defined in Champion Aerospace service literature, so used and service-worn parts should never be used to troubleshoot or repair a magneto, nor should original parts be replaced by used service worn parts on magnetos being returned to service.

Further, non-Champion Aerospace manufactured parts may wear at uneven and different rates than original Champion Aerospace manufactured parts, making Champion Aerospace service literature an inappropriate guide to proper maintenance. Parts not manufactured by Champion Aerospace, even if FAA/PMA Approved, may not fit or operate like original Champion Aerospace manufactured parts. FAA testing of PMA parts does not require operation on an engine or flight tests and does not require the test duration to exceed the maintenance intervals called out in Champion Aerospace literature. For these reasons, used service worn parts or parts not manufactured by Champion Aerospace may adversely affect magneto reliability in ways not anticipated by Champion Aerospace and its service literature.

Genuine Champion Aerospace parts are produced and inspected under rigorous procedures to ensure airworthiness and suitability in Slick magnetos. Parts purchased from sources other than Champion Aerospace (even though outwardly identical in appearance) may not have had the required tests and inspections performed, may be different in fabrication techniques and materials, and may be dangerous when installed in a Slick magneto. Salvaged magneto parts, reworked parts obtained from non-Champion Aerospace approved sources, or parts the service history of which is unknown or cannot be authenticated may have been subjected to unacceptable stresses or temperatures or have other hidden damage, not discernible through routine visual or usual nondestructive testing techniques. This may render service work with this part, even though originally manufactured by Champion Aerospace, unsuitable or unsafe for use in a Slick magneto. Champion Aerospace expressly disclaims any responsibility.

Slick magnetos can also be economically serviced at 500-hour intervals. To ensure their reliability, all AD's are complied with and the following high wear parts are replaced:

- Brush
- Capacitor(s)
- Points
- Rotor Gear
- Impulse Spring (as applicable)

For aircraft that operate in demanding environments, use Champion SlickSTART™ technology; Cold Start, Hot Start, Any Start, SlickSTART. SlickSTART unleashes a firestorm of ignition energy to get your engine started under the worst environmental conditions. SlickSTART is so effective, even sub-optimal fuel mixtures and seriously fouled spark plugs won't stop the capacitive discharge output from providing the ignition boost your engine needs for reliable starts under demanding conditions. SlickSTART's sure starting power:

- Delivers up to 340% more spark energy to your plugs during starting
- Increase output voltage by more than 30%
- Overcomes poor engine priming
- Reduces costly electrical stress to your battery and starter
- Is approved for use with Slick Magnetos

Plus, it's inexpensive and easy to install. Just add SlickSTART to your impulse coupled magnetos or replace your antiquated starting vibrator.