



CHAMPION AEROSPACE LLC
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SERVICE LETTER

To: Aircraft Manufacturers, Aircraft Engine Manufacturers, Distributors, Dealers, Engine Overhaul Facilities, Owners and Operators of Champion Fine Wire Spark Plugs.

Subject: Official Champion Aerospace Position on the Service Bulletin published by Tornado Alley Turbo on 9/23/2011 – TAT SB11-05

On September 23, 2011, Tornado Alley Turbo issued Service Bulletin TAT SB11-05, which addresses Cirrus SR22 aircraft, with a Tornado Alley Turbo Turbo-normalizer installed, as well as other aircraft. There are many statements and assumptions in the service bulletin with which Champion does not agree.

Champion has examined a number of cracked core nose insulators in recent history. Detailed evaluation of these parts has resulted in no evidence of manufacturing defects to date.

All of Champion's spark plugs, including the RHB32S, are manufactured on the same production line in South Carolina, and have been for over 20 years. Champion has reviewed the spark plug manufacturing processes and confirmed there have been no significant process changes.

Champion recently conducted spark plug performance testing and confirmed that the heat rating of the RHB32S plug is within specification and consistent with historical heat ratings.

The RHB32S spark plug is used in a wide variety of applications, spanning large and small engines from both Continental and Lycoming. Despite the widespread usage of this spark plug, the aforementioned applications are the only ones in which core nose cracks are reported with any frequency.

Champion believes the most likely cause of these fine wire core nose cracks to be excessive lean-of-peak operation in which precise control over the engine's performance cannot be maintained to avoid detonation and/or pre-ignition. Champion recognizes that some limited groups advocate running engines aggressively lean of peak; outside the engine OEM recommended procedures. Champion's belief is that running the engine outside the OEM operating guidelines can increase the likelihood of detonation and/or pre-ignition which will potentially cause significant engine damage, including damage to spark plugs.

Finally, Champion has consulted with the engine manufacturers and other industry experts on the matter. These experts have reviewed the evidence and concluded the only common element is that the engine anomalies occurred where aircraft operators were likely running their engines outside the OEM recommended operating parameters. Champion advises operators to consult and strictly follow these recommended OEM engine operating parameters to avoid damage to their engine and spark plugs.

Recommendation:

Champion recommends that aircraft operators review and follow their OEM Pilot Operating Handbook or Engine Operating Handbook.