

**>>> Service Letter**

Technical Aspects are FAA Approved

**Number: L05-04 A**  
**INITIAL RELEASE**

**Date:** 06/06/2005

**Subject:** Overhaul and Repair Procedures for the SA47006S-A1 (Short-reach Spark Plugs) and SA47006L-A1 (Long-Reach Spark Plugs) Cylinder Stud Assemblies.

**Application:**

Cylinder Assemblies	Engine Applications
SA47006S-A1 Stud Assemblies	O-470-G, K, L, M, R & S IO-470-C
SA47006L-A1 Stud Assemblies	O-470-U; IO-470-D, E, F, L, M, N, S, U & V

**Compliance:** Any time the above cylinders are removed for overhaul or repair.

This Service Letter covers specific differences between a Superior Air Parts, Inc. SA47006 series standard cast cylinder, and the original equipment manufacturer's cylinder, as it pertains to repair and overhaul. If a specific procedure is not addressed in this Service Letter, the applicable procedure in the original equipment manufacturer's current overhaul manual applies. The cylinders are identified by part number and serial number on the cylinder flange, as shown in Figure 1.

**Cylinder Bore**

The Millennium<sup>®</sup> standard cast cylinder barrels are manufactured from AMS 6382 steel. The barrels are through hardened with a choked bore, which should be maintained during any boring or honing operation. See Figure 2 for new standard cylinder dimensions and finish specifications.

Any time a cylinder is removed, the diameter and out-of-round condition should be checked and the cylinder inspected for scoring, galling, low spots, and ring step. Inspection results should be compared to the dimensions in Figure 2 and in the original equipment manufacturer's current overhaul manual. Piston Rings for nitrided cylinders should be used in through hardened cylinder barrels unless the cylinder has been chrome or nickel plated. Though hardened steel cylinders that are worn may be oversized .015 or chrome or nickel plated back to standard dimensions. Refer to the appropriate repair service instructions for rings to be used with the type of plating being placed in service.

**Cylinder Rebarreling**

A Millennium® standard cast cylinder may have the cylinder bore returned to new steel limits by having the cylinder barrel replaced by a Superior Air Parts licensed FAA Repair Station. The old worn barrel is removed and a new Superior Air Parts FAA-PMA standard cast cylinder barrel (the same high quality barrel used in new standard cast cylinder assemblies) is installed. This procedure returns the cylinder bore to the new steel limits shown in Figure 2, as well as, assuring that other critical dimensions, such as, compression height and cylinder barrel flange hole alignment, are returned to new limits. Superior Air Parts Customer Service may be contacted for approved sources of this repair.

**Cylinder Heads**

Superior Air Parts, Inc. Millennium® standard cast cylinder heads for the SA47006 series cylinders are investment cast using ASTM B26 aluminum alloy in compliance with Superior Air Parts, Inc. material specifications.

**Cylinder Parts**

The following list of parts are used in new production of the SA47006S-A1 and SA47006L-A1 stud assemblies.

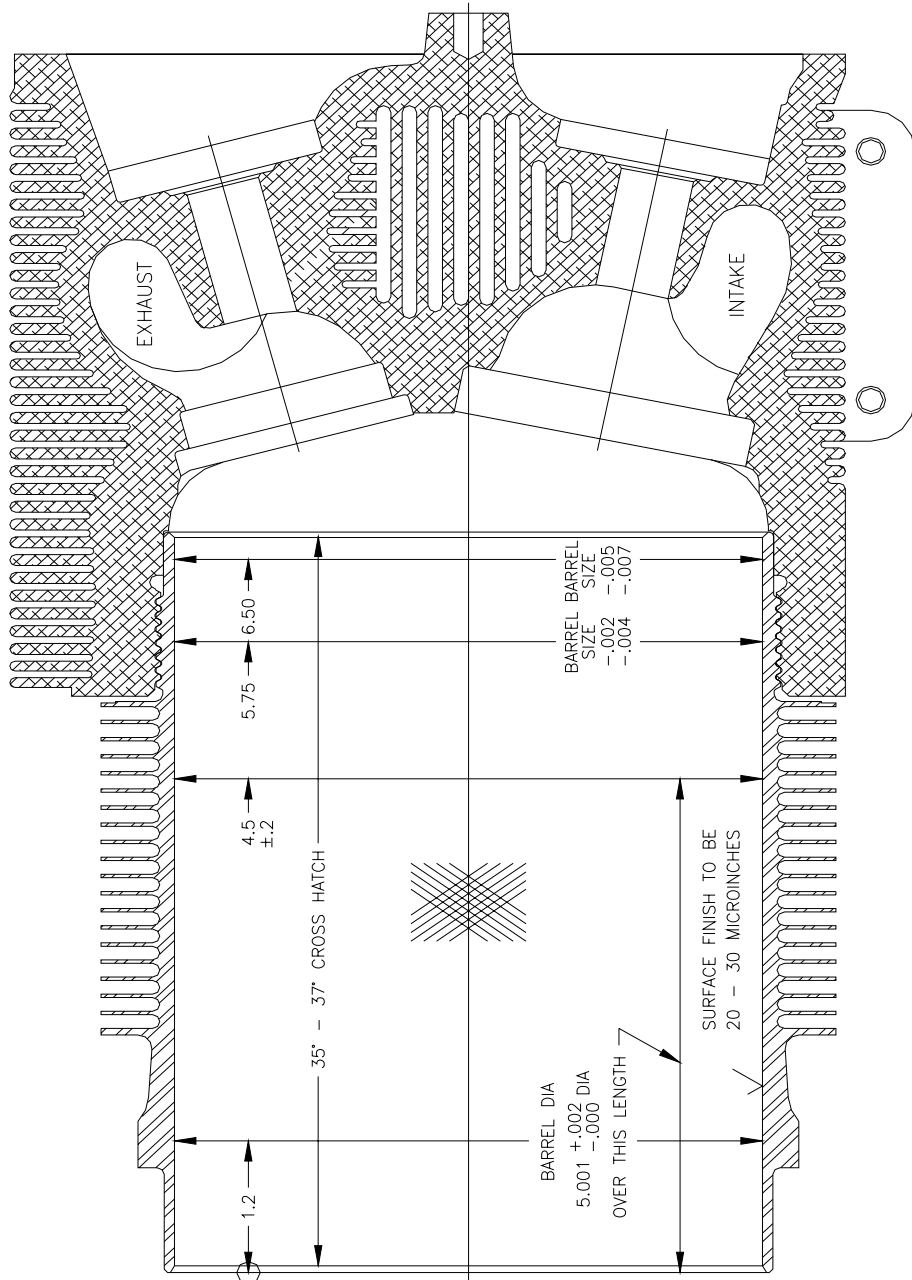
**SA47006S-A1 and SA47006L-A1**

SA636242	**	Exhaust Valve Guide (Ni-Resist)
SA643766-1	**	Intake Valve Guide - Aluminum Bronze
SA401893		Exhaust Stud
SA35967		Exhaust Seat
SA630591		Intake Seat
MS21209C4-15		Helicoil, Rocker Shaft
SL-STD-2-107		Helicoil, Spark Plug (Long Reach)
MS9018-05/2-52		Helicoil, Spark Plug (Short Reach)
MS122121		Insert, Helical Coil

**Additional Related Cylinder Assy Parts**

SA643873		Exhaust Valve
SA539988		Intake Valve
SA654442		Valve Spring - Inner
SA654441		Valve Spring - Outer
SA625393		Lower Spring Seat
SA629117-1		Roto-Coil
SA24802		Valve Key - Retaining
646985		Intake Seal Assembly
SA35971		Intake Valve Retainer

\*\*For field service, P/N SA643766 and P/N SA643767 pre-reamed guides may be used.



CYLINDER DIMENSIONS – STANDARD (NEW)  
SA47006S & SA47006L

FIGURE 2