

>>> Service Letter

Technical Aspects are FAA Approved

Number: L99-03 C

Replaces L99-03 B

Date: 04/18/2005

Subject: Overhaul and repair of the SA55000 cylinder.

Application:

Cylinder	Engine Applications
SA55000-A1 Stud Assemblies	IO-550-D, -E, -F, -L (see Service Letter No. 99-002)

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

This Service Letter covers specific differences between a Superior Air Parts, Inc. SA55000 series Millennium 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 Cylinder® barrels are manufactured from AMS 6382. The barrels are through-hardened with a choke 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 manufactures 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. Worn through-hardened steel cylinders may be oversized to .010 or .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

Millennium 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 Millennium Cylinder® barrel (the same high quality barrel used in new Millennium 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 Cylinder® heads for the SA55000 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 SA55000-A1 stud assemblies.

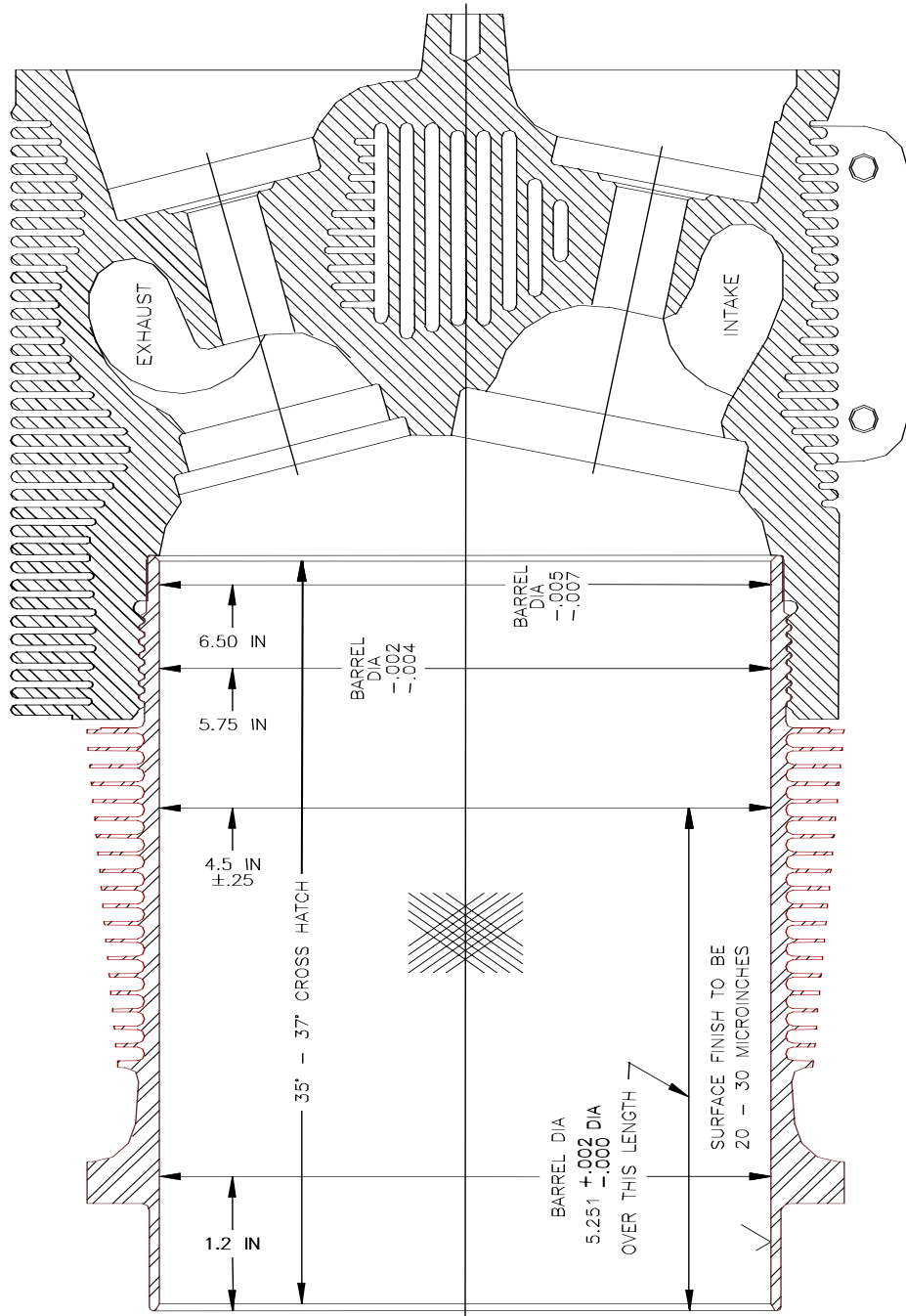
SA55000-A1

SA636242 **	Exhaust Valve Guide (Ni-Resist)
SA643766-1 **	Intake Valve Guide (Aluminum Bronze)
SA35967	Exhaust Seat
SA642318	Intake Seat - Venturi type
MS21209C4-15	Helicoil, Rocker Shaft
SL-STD-2-107	Spark Plug Helicoil
SA640482	Stud Assy, Exhaust
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
SA646985	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)
SA55006-A1

Figure 2