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TECHNICAL BULLETIN		
	November 2000 TB 1841	

Blast Media Cleaning Caution

The AERA Technical Committee offers the following caution for machine shops using a blast cleaning method to clean engine parts. This method of cleaning may use steel shot, glass beads, and aluminum or ceramic media. Removing all traces of this media from engine components is paramount to the longevity of engine parts.

Reports of media contaminated and damaged piston rings have been reported by a piston ring manufacturer. This media was found in the “washed parts absolute filter” at their lab and it was later determined to be coming from the engine builders’ component rinse tanks. As displayed below the media has produced a “pitted” appearance on the ring top and bottom surfaces.

Any residual media and/or fragments that are deposited and remain within a block/head/engine component will be detrimental to engine life. How the harmful material is transported or attaches itself can sometimes be overlooked. Airborne, harmful “dust” may migrate anywhere, depending on air movement. Another form of contamination has been residual magnification of components that were previously magnetic particle inspected. Fine metallic particles that remain attached to cast iron components after rinsing may be washed off later by engine oil and cause engine damage.

Bead and grit blast cleaning can be a highly cost effective and efficient method of cleaning engine parts such as blocks, heads, and manifolds. These engine components, however, have many internal passages with irregular surfaces. Many areas include blind ends and are virtually inaccessible to mechanical cleaning methods. If glass bead or grit blasting is used to clean components, it is imperative a method of cleaning the castings is employed which removes all the cleaning media from the internal passages. Even a microscopic amount of certain cleaning media left in an oil or intake passage may be ingested by the engine and severe damage to all engine parts will result.

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Sodium bicarbonate (Baking Soda) has recently been introduced as a cleaning media for blasting machines; it dissolves in water during the final water rinse cleaning of engine components.

The AERA Technical Committee

Bulletin Diagram: DAMAGED PISTON RING - CYLINDER BLOCK



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