

ACL TECH TALK

RE-RINGING & HONING

The importance of correct cleaning of cylinder bores after honing cannot be overstated. There is no quicker way of wearing out a set of piston rings than by leaving carborundum and/or cast iron grit on the bores after honing, and it is surprising how often we get warranty claims where the cause has been a lack of cleanliness.

To hone or not to hone

Should you always hone a bore when re-ringing, or can you re-ring a worn bore without honing? The situation is this: with any engine, and with any ring set, best results will always be achieved if the bores are brought back into their original condition.

However, there are still situations when you can get a good result without honing.

*If the bores are not excessively worn, and do not have any deep scratches or scuffmarks.

*If the bores are not distorted.

*If the bores are not glazed.

*If the rings to be fitted are designed to be used in unhone bores.

Honing a used cylinder

Rehoning is still good practice but only if you can be sure of doing the job correctly. There was a time when various ring manufacturers discouraged the practice of honing for re-ringing. The reason for this was because of fear (often justified) that the highly abrasive (carborundum or Aluminium oxide) honing grit and cast iron would not be properly cleaned out prior to assembly. This was especially so when the cylinders were honed with the engine in the chassis. As well there was the fear (also justified) that an incorrect honed finish would be achieved and this could be worse than not honing at all.

Cleaning a honed cylinder

Best results are achieved by scrubbing with a nylon brush and hot soapy water. Kerosene, brake clean or petrol is not effective. After cleaning, check by wiping with clean engine oil and a clean white cloth which should not come out grey!

Piston rings

ACL ring sets marketed as **Protec** and **Proseal** are designed to bed in and seal on new or worn bores. This is because both compression rings have profiles, which deliberately achieve bottom edge contact. These are both downward scraping rings, which will aid running in. The oil control rings have a slightly higher wall pressure than most original equipment rings to assist rapid bed in.

ACL ring sets marketed as **Premium** have barrel lapped moly inlaid or chromium-plated rings. These types of rings are designed for new bores only, and are not suitable on used bores. However premium rings are more suitable for LPG and high performance use, and an absolute must for supercharger and turbo applications.