



## **Cylinder Liner Distortion**

Cylinder bore distortion can occur in both parent bores and lined engines. It can cause high oil consumption, piston and ring scuffing, and in extreme cases engine seizure.

In wet liners, a trapped or over compressed seal can cause distortion [see also SB2102].

Any distortion of the engine block will affect dry liner bores. Possible causes are:

- Incorrect assembly
- Uneven or excessive tightening of components attached to the cylinder block
- Engine overheating

Distortion of the engine block can allow combustion gases to penetrate between the block and the outside of a dry liner. This allows carbon to form on the liner outer surface, which will restrict the normal heat flow. This in turn causes the liner to distort and reduce the piston's running clearance. Reduced running clearance and overheating of the cylinder wall will cause piston and ring scuffing and eventual seizure.

To reduce the possibility of cylinder liner distortion, thoroughly clean the cylinder block bores. Check there is no distortion and are to the correct size specifications. Ideally, complete this inspection with all block fittings attached and correctly tightened. Ensure all water passages are clear and free of scale. Any restriction of coolant flow can lead to cylinder block distortion.

