PISTON FITTING

1. REMOVAL

- Mark the installation direction and position of the pistons, conrod caps, etc.
- Remove cooling oil nozzles, if present, to avoid damaging them when fitting or removing the pistons.
- Carefully remove oil carbon from the cylinder to avoid damaging the piston during disassembly.
- Loosen the screw connections in the order indicated in the manufacturer specifications.
- Remove the piston and conrod from the cylinder.
- Remove the piston pin and disconnect the conrod from the piston—see the “CONROD FITTING” poster for details.

2. TESTING

- Before used parts are fitted, the dimensional accuracy of each individual part must be checked.
- Carefully remove oil carbon and other residue from the ring grooves.
- Check the conrod for damage and distortion.
- Check the cylinder surfaces for damage and wear.
- Check the cooling oil nozzles for damage and proper flow.
- For new pistons, the pin should also always be replaced.
- Before fitting, verify and compare the diameter of the new piston.
- The diameter of the cylinder is equal to the diameter indicated on the piston crown plus the fitting clearance. Example: piston diameter (76.475 mm) + fitting clearance (0.035 mm) = cylinder diameter (76.510 mm)
- Caution: for pistons with a coated piston skirt, the measured piston diameter is 0.04 mm larger. This amount must be subtracted from the calculation.

3. FITTING

- Note the installation markings prior to assembly.
- Thoroughly clean all parts and lubricate generously.
- Use only new circlips—see details on the “CONROD FITTING” poster.
- Fit the piston rings as specified—see details on the “PISTON RING FITTING” poster.
- Use a clamping band to insert the piston into the cylinder.
- Carefully push the oiled pistons into the cylinder—the piston rings must slide into the bore without resistance. Take care not to damage them in the process.
- Fit the cooling oil nozzles.
- Tighten the connecting rod bolts in the order indicated in the manufacturer specification.
- Anti-fatigue bolts must always be replaced.
- On diesel engines, also check the piston protrusion.
- When using hard-anodised (elox) pistons, ensure that the piston crown does not break off under any circumstances. These pistons can be identified by the black coating on the crown.