A JENBACHER CASE STUDY

Repair Of Bearing Caps, Linear landings & Oil Gallery

Background To The Repair

Our customer had a failure of a Jenbacher engine. The shaft had seized and broken the con rod and spun the shells in the block. A broken con rod damaged the lower liner areas and the oil gallery. Nicol & Andrew were called in to carry out a dimensional survey to establish the extent of damage and to recommend a repair procedure. etc

Findings
The oil gallery had been crushed and cracked which would require an extensive repair. The lower liner land area had large areas of impact damage and would require boring oversize and sleeving. (see opposite). The caps were scored and closed in.

Repair To Oil Gallery
We ground out the oil gallery to remove the damaged section. We then reamed the bore to give a good size and finish to allow the fitting of a thin wall tube. After manufacturing a thin wall tube in our workshops (allowing for a slight interference fit), we pressed it into position and secured it with Loctite adhesive. The surrounding area was then built up with liquid metal to match the existing profile.

Repair To Lower Liner Landing
We mounted a line boring machine (in this case a Climax BB5000) in the top liner landing using a special precision mount to allow us to reference the undamaged bore. We then bored the landing oversize and fitted a precision sleeve (grub screwed into position).

Repair to Caps
The caps were welded, stress relieved, machined and re-bored back to standard size.