

CRANK SHAFT ANNEALING SERVICES

Nicol & Andrew can save you from costly, time consuming crankshaft replacements and major engine rebuilds.

In addition to our long established in-situ machining repair method where we remove excessive hardness from heat damaged journals with our orbital equipment We also provide an in-situ annealing option when the heat hardness is too deep to be eliminated within the manufacturers limits.

This annealing option only requires that the crankpin journal be free of any heat cracks which the initial pre-machining and will not determine. After annealing only a minor amount of re-machining and polishing is necessary to end up at a standard undersize

Benefits of Crankshaft Annealing

- An otherwise scrap crankshaft can be saved
- Service is provided on site within the engine
- Less diameter reduction on the journal
- Extended shaft / crankshaft life
- Avoidance of special undersize con rod

The N&A Crankshaft Annealing Process

Our annealing technicians measure and map out the hardness of the journal after the initial pre-machining. Remote temperature probes are attached to the journal, and then heating pads are wrapped around it.

The size and combination of pads is calculated to suit the particular size of the shaft. Suitable insulation wrap and blankets are placed carefully around the crankshaft to minimise heat loss.

The annealing process can then start by applying the correct programme using the control unit.

A typical time frame for the process of heating, soaking and cooling being around 36 hours. The hardness levels in the damaged areas are reduced by up to 300 HB.

Our in-situ annealing process on crankshaft journals has been shown to be controllable and safe.

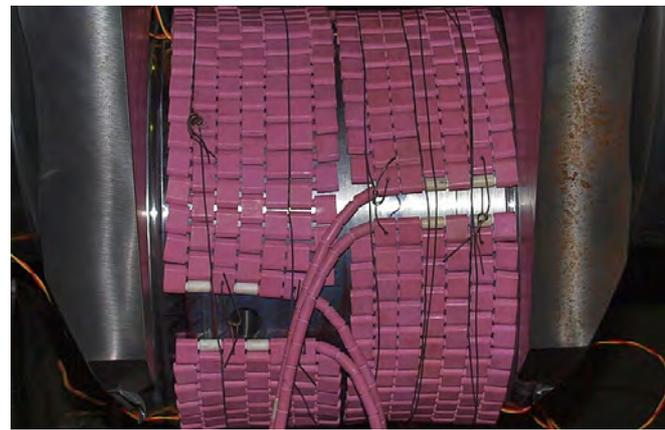
Occasionally shafts that have overheated locally also end up bent. Experience has shown that our pre-machining and annealing process often reduces any bend present.

If a slight amount of bend still remains then this can often be straightened in the engine by a careful process of peening and machining (and where required additional heat treatments). This has been shown to be a highly successful process over many years, (100% where excessive bend is not present).

 **+44(0) 1494 429800**
repairs@nicolandandrew.com
www.nicolandandrew.com



ISO 9001
2015



Crankpin With Heating Pads



Crankpin With Insulation



Crankshaft Straightening (Peening)

UK AGENTS FOR



Nicol & Andrew Group

Mayday House
Oakridge Road, High Wycombe
Buckinghamshire, HP11 2PF
Tel: 01494 429800

2 Mossland Road
Hillington Industrial Estate
Glasgow G52 4XZ
Tel: 0141 882 4724 Fax: 0141 883 3350