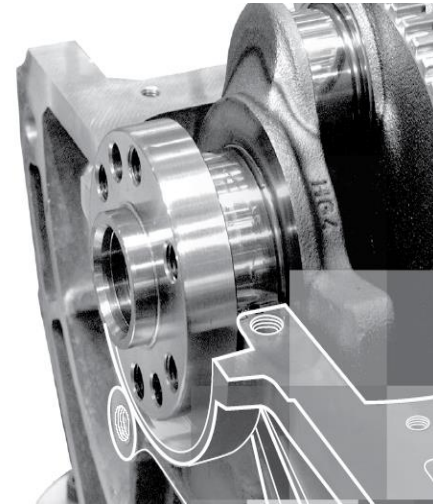


# AUTOMOTIVE (Mexico)

## CRANKSHAFT QUENCHING

### Castrol Syntilo® 9954

## ANNUAL SAVINGS: \$30,279 USD



### THE SITUATION

The customer was using a competitive polymer quench fluid for quenching engine crankshaft. The fluid only lasted about three weeks and began to emit foul odors. The addition of additives was required constantly to maintain its performance. Because of a sticky residue left on parts, additional cleaning was needed in order to not interfere with the gauge measurement station. The residue also left clogged conveyor parts and tool cassettes.

In summary, use of the current fluid was costly for frequent fluid changes, cleanup costs and production stoppages due to a gummy residue.

### BEFORE

- Poor fluid life (3 weeks)
- Frequent use of expensive additives to maintain performance
- Extra cleaning to remove sticky residue that interferes with the gauging operations
- Downtime cost of support rollers for cleaning sticky residue off the tools

### AFTER

- Extended fluid life
- No sticky / gummy residue
- Dimensional measurements are fast and without problem (no extra cleaning)
- Save over 40% in fluid consumption plus no additives needed

### THE SOLUTION

- Based on similar successful application with a global manufacturer of bearings, we made a visit with the customer, so that they could see the benefits of a synthetic fluid in heat treatment process.
- We worked with Castrol technical support to provide laboratory tests to compare cooling curves between the competitor product and our Syntilo 9954.
- Castrol utilized “Best Practice Transfer” from other customers running similar operations.
- This improvement in the heat treatment process has been so good that the client will present it to their corporate engineering so it can be implemented at other plants.

- Castrol utilizes “Knowledge Transfer” from successful application.
- Improved quenching fluid life and performance yields customer savings

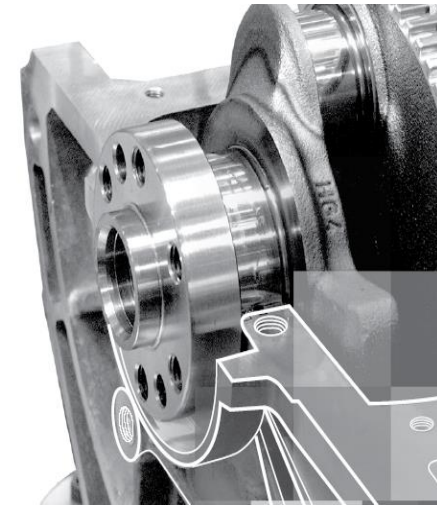
## RECOMMENDATIONS

Based on this improvement, the customer has documented savings in part cleaning time/labor, rolling tool changes, and process downtime. In addition, improvements were noted in the quality of parts produced.

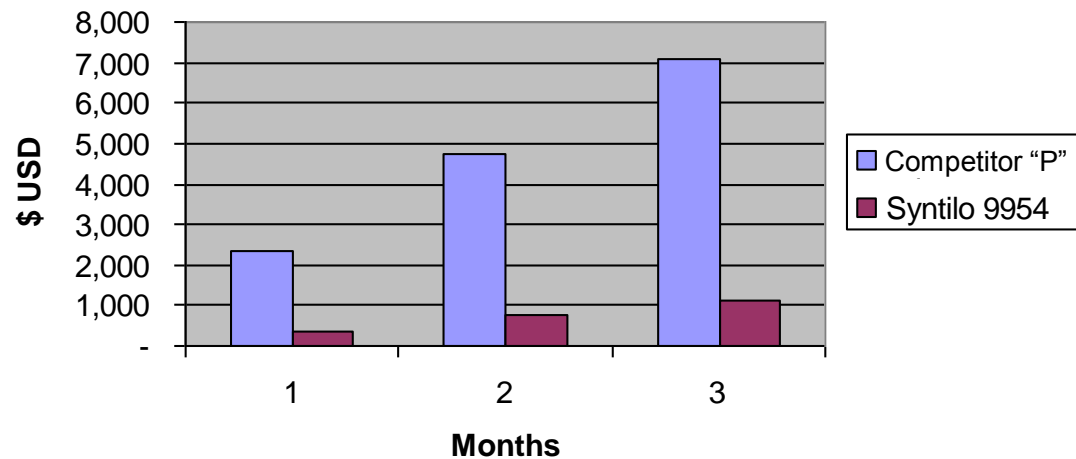
## CONCLUSION

The outcome was longer fluid life by over 40% and no sticky / gummy residue on parts quenched.

By eliminating these problems, the dimensional measurement station is more efficient, fluid costs are reduced, and labor time is lower.



**Quench product consumption (cumulative)**



## OTHER POTENTIAL APPLICATIONS

Castrol Syntilo 9954 is a high performance synthetic coolant which has also been very successful in polymer quench applications. The concentration can be adjusted to provide the quench speed required for the process.

*The savings shown in this graph are for 1 machine. There are three Elotherm quench machines (two on the crankshaft line, one in wheel support).*