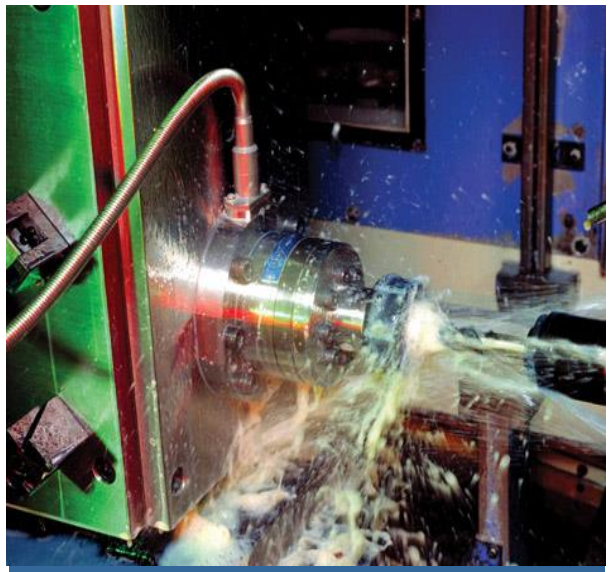
# Machinery Manufacturing

CaseStudy

**The Challenge: Improve finish quality of cam bearings**

## Castrol Hysol 6754 In Reaming

## *Finish Quality Exceeds 0.8 Ra*



A leading marine engine manufacturer was experiencing poor cam bearing quality on the final reaming operation while commissioning a new state-of-the-art aluminum head line.

Hysol 6754 exceeded the surface finish specification of 0.8Ra.

### Before:

- Runoffs with soluble and semi-synthetic coolants at 16% were marginally acceptable
- Surface finish could not be consistently met
- Chips were embedding in the bearing surface

### After:

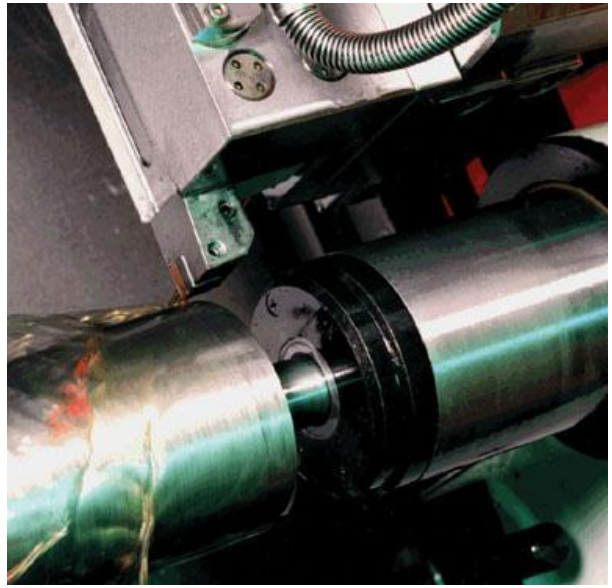
- Hysol 6754 exceeded requirements at 12-14% concentration
- Surface finish was consistently well below the target of 0.8Ra
- Bearing surface is very clean
- Sump life is equivalent to a semi-synthetic coolant

Result: High quality aluminum heads are produced every time.

Hysol 6754's excellent lubricity produces high quality aluminum parts while its biostatic additive package resists biological growth, resulting in long sump life.

Castrol

**Recommendations:** Upon review of the application, Castrol engineers quickly determined that the previous coolants did not provide the lubricity needed for the difficult final reaming operation. Hysol 6754 was chosen based on extensive tests performed at the Castrol Machine Center showing it out performed all other tested coolants in reaming of A356 aluminum. Start-up of this new line was not delayed because of Castrol's quick response.



Castrol's capability to provide real world test results on aluminum reaming from their Machine Center could not be matched by other fluid suppliers. This allowed Castrol to provide a single coolant recommendation that they knew would work immediately.

Castrol Hysol 6754 soluble oil coolant provides excellent lubricity, rust protection, and biostability, leading to exceptional surface finish of aluminum and steel, while achieving a long sump life that is not normally attributed to soluble oil coolants.

**Segment: Machinery Manufacturing**

**Sub Segment: Bearings -- Rings**