

# MQL Success with Castrol CareCut

## AUTOMOTIVE (USA) ENGINES

Castrol CareCut® ES 1\*

**ANNUAL SAVINGS: \$10,560**



### THE SITUATION

A major automotive manufacturer was seeking a high performance MQL (Minimum Quantity Lubrication) fluid for their crankshaft oil drilling operations. The fluid needed maximum machining performance in order to meet the customer's desired tool life. In addition, good wash-off properties and low total operating costs were desired as well.

### BEFORE

- Vegetable-based neat oil with good lubricity
- Usage – 8 drums per month
- Good tool life
- High total operating cost

### AFTER

- Castrol CareCut ES 1, synthetic ester MQL fluid in use
- No change in usage
- Improved tool life
- Reduced total operating cost

### THE SOLUTION

- The customer had good success with the previous vegetable-based cutting oil but asked Castrol for any fluid options that could improve their operations further.
- CareCut ES 1 was recommended as one of our best performing fluids for machining cast iron with MQL applications.
- The result with CareCut ES 1 was equal machining performance, slight improvement in tool life, and a lower fluid price.

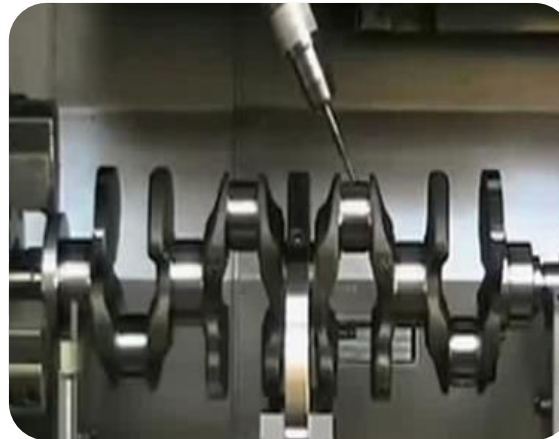
\*Formerly known as  
CareCut ES 1 NA

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## RECOMMENDATIONS

Castrol representatives had high confidence that CareCut ES 1 would work well in this MQL operation, based on our success at other customer plants. This application utilizes a Nachi MQL delivery system on Fuji and Mitsubishi machine tools to gundrill cast iron crankshaft oil holes.

*Example of  
crankshaft oil  
hole drilling*



## CONCLUSION

With CareCut ES 1, the customer was able to reduce their cutting oil spend by over \$10,000 annually and improve tool life. Once the factory warranty expires on another cell of machine tools, the customer will expand these savings by converting to the Castrol MQL fluid.



## OTHER POTENTIAL APPLICATIONS

CareCut ES 1 is a high performance, multi-metal synthetic oil for general machining, broaching and gear manufacturing. Its high flashpoint and low mist qualities improve the work environment. Cutting oil life is extended due to its good filtering properties and high oxidation stability.

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