

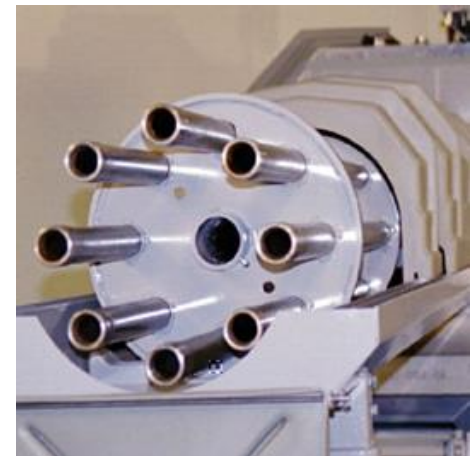
Plant-based Neat Oil Delivers Multiple Benefits

MACHINERY MANUFACTURE (USA)

Lawn & Yard Care Equipment

Castrol Performance Bio[®] NC Plus*

ANNUAL SAVINGS: \$40,500



THE SITUATION

BEFORE

THE SOLUTION

A major gas powered lawn & yard care equipment manufacturer needed a more reliable source for cutting oil for their Swiss automatic operations. They had experienced shipment delays & service problems from their previous vegetable based oil supplier.

After a few mineral oil based tests that resulted in smoke and mist problems, they reviewed Performance Bio fluids from their Castrol distributor, which was a reliable supplier for their aqueous machining operations.

- Acceptable performance but poor on-time delivery
- Vegetable based fluid from Company B was expensive
- Mineral oil options were unacceptable due to mist and smoke

AFTER

- Short lead times for on-time deliveries
- Improved performance with higher speeds & feeds
- Lower price per gallon for NC Plus

- Testing began in one Maier Swiss automatic running their standard 4140 steel parts.
- The chips showed that the cut needed to be heavier, so feeds and speeds were increased.
- More parts per hour were realized, while maintaining good finish and part quality.
- More Maier machines were changed over to NC Plus, as well as some Hanwha brands.
- Finally their whole Swiss automatic department was converted.
- No issues in maintaining inventory or delays in deliveries, as was previously experienced.

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RECOMMENDATIONS

NC Plus and NC Lite are excellent choices for Swiss automatics. Due to the history of higher operating temperatures at this customer, NC Plus made sense since their typical part temperature was 102°F.

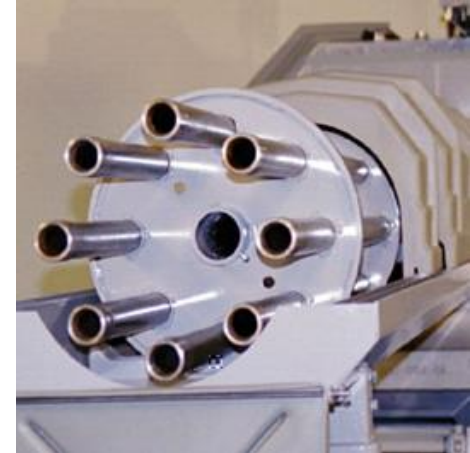
The use of coated carbide tools with NC Plus in their turning, drilling and tapping operations allows them to experience good tool life and higher productivity with their 38 R_C material.

CONCLUSION

NC Plus has been successful across the full range of small parts produced in their Swiss automatic department, which generally vary from 8 to 12.5 mm in diameter.

Castrol and our distributor partner have secured great customer satisfaction with continued service and value proven performance of the NC Plus.

The overall result was \$40,500 in annual savings just on the oil cost with additional benefits coming from the ability to produce parts faster.



OTHER POTENTIAL APPLICATIONS

Castrol Performance Bio NC series are part of Castrol's "environmentally responsible" offer. They are based on renewable, plant-based lubricants with very high flash points, low VOCs, outstanding lubricity, and high viscosity index.

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