



*High-performance Racing Manufacturer Reduces Fluid Consumption by 75% with Custom Branded Fluid from Tailored Performance Fluids™*



## Overview

A manufacturer producing critical components for high-performance racing car engines was using a vegetable ester-based metalworking fluid to machine alloys such as stainless steel, aluminum, and Inconel®. However, they encountered several issues, including poor tool life, excessive foam that required constant supervision, and residue buildup on both parts and machine tools. Despite testing over 12 different products, the manufacturer was unable to find a solution. Following a thorough investigation, they were recommended to trial a custom-branded fluid from Tailored Performance Fluids™.

## Application

This premium semi-synthetic metalworking fluid excels in machining aluminum and difficult-to-machine steels, including some stainless steels. The product's unique blend of boundary lubricants produces exceptional surface finishes, particularly on aluminum, while also protecting against corrosion in both ferrous and non-ferrous metals. It exhibits low foaming in soft water, has excellent stability in higher hardness conditions, and runs very clean, preventing carry-off and reducing product usage. What's more, the semi-synthetic has excellent resistance to bacteria and fungus, extending sump life and reducing the need for frequent dumping and recharging.

## Results

After a test duration of 60 days, with production occurring five days per week, 24 hours per day, it was evident that the Tailored Performance Fluids product was the right choice for the manufacturer. The product eliminated foam, meaning that the manufacturer was finally able to run lights-out without any of the issues they had experienced with their previous fluid. Surface finishes were also greatly improved, and **with a decrease in fluid consumption by 75%**, and an increase in parts produced per shift, it wasn't long before the manufacturer saw the incredible cost savings resulting from running with this semi-synthetic.

- **75% decrease in usage**
- Fourfold increase in parts per shift
- Lower operating concentration
- Lower cost per gallon
- Improved surface finishes
- Fewer tool changes and less downtime
- Increased speeds and feeds

Product	Concentration	Alloy	Foam	Parts / Day	Inserts	Usage / Shift
Previous Fluid	12-15%	Aluminum	Yes	1	1	4 Qt.
TPF Fluid	10%	Aluminum	No	4	3	1 Qt.