

Aerospace

## Case Study: OSG Aerospace Solutions

Brought To You By OSG | Jun 03, 2019

OSG tooling innovations are designed to excel in difficult-to-machine aerospace materials. The aerospace industry's mission is to manufacture more environmentally progressive, longer-range and faster aircrafts that require lower operating costs and greater efficiencies and OSG's aerospace tooling shares the same mission.

### Case Study: Aerospace Structure

OSG USA **EXOCARB®** AERO **UVX-Ti** Series in collaboration with Third Wave Systems

#### Challenge:

Develop a versatile and stable tool with maximum removal rates in Titanium alloys.

#### Approach:

- Use AdvantEdge to verify the cutting characteristics of Titanium
- Use Production Module to study forces during Titanium machining operations
- Use knowledge from simulations to determine the best tool design for chip and temperature control, stability and high material removal rates

#### Software:

- Third Wave Systems NC optimization product, Production Module

#### Results:

- OSG developed the EXOCARB® AERO UVX-Ti series that offers a new grinding technology which maintains blade strength while offering the benefits of variable helix and variable flute
- Ti alloy aircraft landing gear
- Reduced roughing time by **35%**

OSG's **EXOCARB®** AERO **UVX-Ti** variable lead end mill is designed for stable, high-efficiency milling of Titanium alloy offering solutions for slot milling and complicated pocket milling. OSG utilized Third Wave Systems products, AdvantEdge and Production Module, to assist in production of the EXOCARB® AERO UVX-Ti series. Using Third Wave System products, OSG was able to study cutting phenomena and evaluate cutting tool geometries. OSG utilized the information gathered from these products to guide its customers in machining best practices to execute the most efficient tooling performance.

*To download a PDF of this Case Study, [click here](#).*

*Watch this short video for titanium solutions in a variety of applications:*

*Previously Featured on Third Wave System's website.*