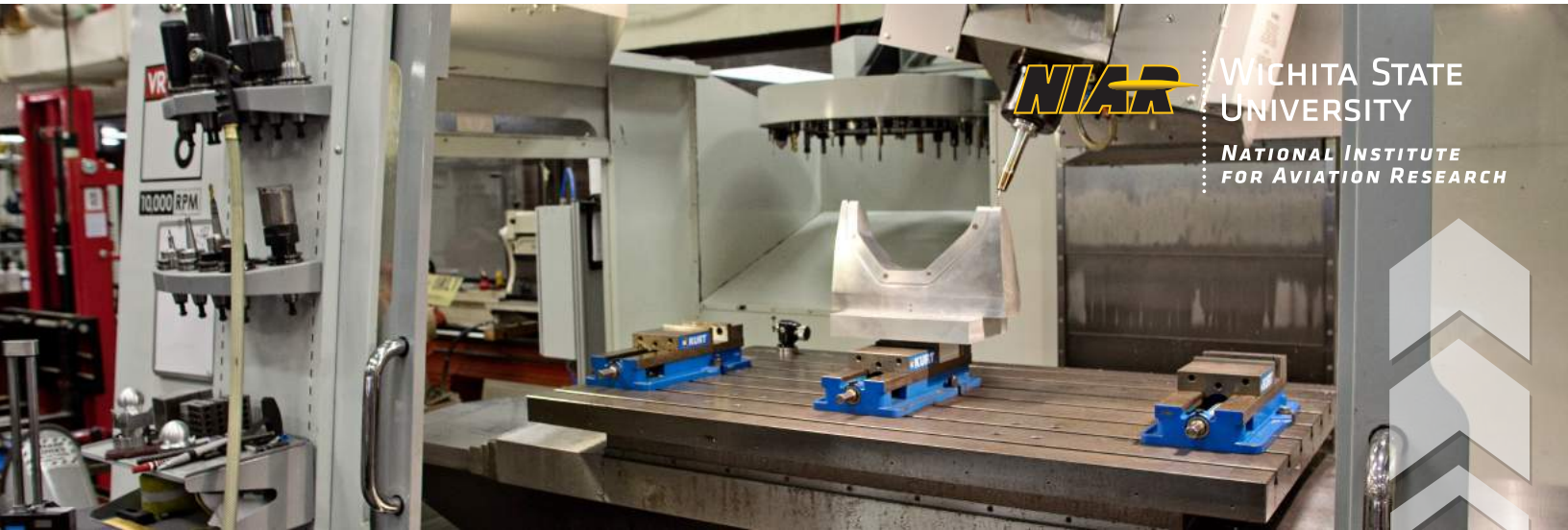


Research Manufacturing supports research at NIAR, WSU and within the aviation industry. The staff's intimate knowledge of the wind tunnels and other research tools greatly increases the shop's value and efficiency.



# RESEARCH MANUFACTURING



**NIAR**

WICHITA STATE  
UNIVERSITY

NATIONAL INSTITUTE  
FOR AVIATION RESEARCH

## → RESEARCH MACHINE SHOP CAPABILITIES

- CATIA/MasterCam
- Fixture design and fabrication
- Prototyping
- Small/large assemblies
- Precision Multi-Axis CNC machining
- RMS capabilities include turning, boring, facing, milling, drilling and welding
- Precision parts machining

## → FACILITIES & EQUIPMENT

- 8,000 sq. ft. of shop space
- Mastercam X8 software
- CATIA V5 R24 software
- HAAS VR-8 fi ve-axis VMC 64" x 40" x 30" travel
- HAAS VF-4 fi ve-axis VMC 50" x 20" x 25" travel
- HAAS VF-2 fi ve-axis VMC 30" x 16" x 20" travel
- HAAS VF-2 four-axis VMC 30" x 16" x 20" travel
- HAAS VF-2 three-axis VMC 30" x 16" x 20" travel
- FADAL 8030 VMV 80" x 30" x 30" travel
- HAAS TL-3 CNC Lathe 20" DIA. x 60" long
- HAAS HRT-310, 12" Rotary Table
- HAAS HRT-210, 9" Rotary Table
- HAAS SR-100 three axis router 100" X 52" X 8" travel
- K&T #2 Rotary Head die mill
- Harding high-speed tool room lathe
- Colchester 15" x 50" lathe with tracer
- South Bend 24" x 100" lathe
- Thompson surface grinder 12" x 36"
- Wood working machines; cabinet and pattern capabilities
- Welding; mig, stick arc and oxy-acetylene
- Hawkeye Borescope with Sony video camera/capture

## → COMPOSITE MACHINING CAPABILITIES

- Create complex shapes using composites with precision water jet cutting
- Core removal sandwich composites
- Specialize in dog bone, notching, lap shear, etc., composite specimens
- Precision composite drilling using CNC machines
- ASTM/EN/SACMA standard machining
- Dino-Lite digital microscope inspection

## → FACILITIES & EQUIPMENT

- 2-WaterFlow-48" x 48" - 60 KSI waterjet cutters
- 4-composite surface grinding machines
- HAAS VF-2 three-axis VMC 30" x 16" x 20" travel
- HAAS VF-1 three-axis VMC 26" x 14" travel

## → CONTACT

**Andy Jonas, Manager**  
(316) 978-7339  
ajonas@niar.wichita.edu