

# Herman Grewal

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## SUMMARY OF QUALIFICATIONS

- 3+ years of diverse mechanical engineering experience in aerospace industry at [Pratt & Whitney Canada](#)
- Established mechanical design knowledge with 60+ industry projects with 300+ production level drawings & models released
- Skillful creative thinker able to lead projects from initial conception to development to final production

## SKILLS

### CAD

CATIA V5 • SolidWorks  
AutoCAD • CADAM • Inventor

### FINITE ELEMENT ANALYSIS

ANSYS • SolidWorks Simulation  
CATIA V5 Generative Structure  
Analysis

### MANUFACTURING

GD&T • Tolerance Analysis  
DFA/DFM • Machining • Tubing  
Castings • Welding/Brazing  
Additive (SLS) • Injection Molding  
Sheet Metal Forming

### PRODUCT MANAGEMENT

ENOVIA VPM & PLM  
SharePoint • Git • Slack

### SOFTWARE

C • C++ • VBA  
MATLAB • Simulink

## EDUCATION

### UNIVERSITY OF WATERLOO B.A.Sc IN MECHATRONICS ENGINEERING

Waterloo, CAN  
Ranked in Top 10% of Class  
Dean's Honour List  
Autodesk Capstone Design Award  
President's Research Award (x2)  
President's Scholarship of Distinction  
GPA: 3.93 / 4.0

## EXPERIENCE

[View Full CV](#)

### PRATT & WHITNEY CANADA

**MECHANICAL DESIGNER | EXTERNALS, CONTROLS & NACELLE DESIGN**  
Jul 2019 - Present, Jan 2018 - Aug 2018, | Toronto, CAN

- Over 3000 hrs drafting 2D detailed drawings & 3D models using CATIA V5
- Proficiency in ENOVIA VPM & PLM for version control, BOM management, change management & approval routes
- Create Design Layouts to communicate assembly instructions & BOM changes
- Manage Digital Mock-Up (DMU) for layout structures & ensure fits
- Approve production drawings validating tolerance stackups and GD&T controls
- Complete design verification with Best Practices (BP) review, Design for Assembly (DFA) studies, tool accessibility studies, trial fits and Request for Test (RT)
- Lead Integrated Product Team (IPT) meetings and track action items to progress project and maintain schedule

Module Owner for New Engine Program for Fuel and Air Systems

- Complete design responsibility for development and production
- Design rigid tubing, custom fittings & sheetmetal support brackets
- Present trade studies for material selection with cost, weight, reliability, manufacturing techniques & lead times
- Collaborate with international suppliers to optimize design for reduced tooling costs
- Work with Accessory designers and Global Supply Chain to define accessory requirements with design features, installation procedure and tolerances
- Evaluate supplier bids for Fuel Oil Heat Exchanger, Variable Guide Vane Actuator, Flow Divider Valve, Fuel Metering Unit, Pressure & Temperature Sensors

PW800 Development Vibration Sensor Bracket

- Ch. A & B vibration sensors experiencing mismatch in field causing safety issue
- Rapidly designed 2 alternative brackets to reposition sensors & reduce mismatch
- Experimental brackets machined and tested with positive results for "stacked" design
- Developed Design Verification Plan (DVP) to substantiate parts for field introduction
- Defined GD&T controls, calculated fits and specified coating on drawing

Exhaust Gas Temp. (EGT) Sensor System Design for New Engine Program

- Baseline design measured Turbine temp, but sensor quotes exceeded 10X projected cost due to harsh environment
- Tasked to design alternative EGT system with sensor design & harness routing
- Reviewed existing legacy temp. sensors for reliability and cost
- Collaborated with Accessory Design, Performance Aero & Controls to determine new design requirements & evaluate supplier bids

**TECH PUBS ANALYST | TURBOFAN ENGINE PRODUCT DEFINITION**  
Apr - Aug 2017 | Toronto, CAN

**MECHANICAL DESIGNER | COMPRESSOR DESIGN**  
Sept - Dec 2016 | Toronto, CAN

**WEIGHTS ANALYST | ADV. CONCEPTS ARCHITECTURE & MASS PROP.**  
Jan - Apr 2016, May - Aug 2015 | Toronto, CAN