

Alejandro Moody

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SUMMARY

Lead **Mechanical Design** Engineer with more than 12 years supporting mechanical product development, reciprocating engine applications, and coordinated engineering delivery. Hands on work includes CREO, **high end 3D CAD**, Windchill PLM, Oracle ERP, GD&T, **tolerance stack ups**, FEA, simulation, testing, rapid prototyping, validation, NPI, DFM, and root cause analysis. Career progression reflects growing ownership across design development, technical review, issue resolution, documentation, and schedule control. Partners with multidisciplinary stakeholders to translate requirements into practical deliverables, maintain quality, and resolve interface concerns. Provides guidance to team members and balances technical accuracy with project constraints. Prepared to contribute disciplined design judgment, clear communication, and reliable execution within a hybrid engineering environment requiring occasional travel and **no visa sponsorship**.

EXPERIENCE

Lead Mechanical Design Engineer

January 2022 - Present

Northstar Design Partners

Milwaukee, WI 53202

Leads mechanical design delivery across product development work, coordinating requirements, reviews, engineering systems, technical issue resolution, documentation, and team guidance. Supports practical decisions that protect quality, schedule, stakeholder alignment, and manufacturability.

- Converted engine requirements into CREO assemblies and coordinated release packages for review.
- Used **Windchill PLM** revision control to keep design records aligned across engineering stakeholders.
- Applied **GD&T** and **tolerance stack ups** to resolve fit concerns before production release.
- Built FEA and simulation studies that guided design changes during technical reviews.
- Coordinated testing, validation, and **rapid prototyping** activities for NPI design decisions.
- Used **Oracle ERP** and DFM reviews to connect engineering changes with production needs.
- Investigated field issues through **root cause** analysis, calculations, testing, and documented corrective actions.
- Guided team members through concurrent priorities, clear reviews, and practical delivery decisions.

Mechanical Design Engineer

March 2018 - December 2021

Great Lakes Technical Group

Milwaukee, WI 53202

Delivered mechanical design work for coordinated product initiatives, translating **technical requirements** into detailed models, reviews, validation activities, and controlled documentation. Worked with multidisciplinary partners to resolve interfaces and maintain dependable project execution.

- Developed **CREO** models for reciprocating engine components using established design requirements.
- Managed Windchill PLM releases and revisions across active mechanical engineering work.
- Checked GD&T callouts and **tolerance stack ups** during design and drawing reviews.
- Compared **FEA** results with test findings to support practical design corrections.
- Supported rapid prototypes, **validation** planning, and NPI readiness through focused engineering reviews.
- Applied DFM feedback to simplify components and improve production readiness.
- Resolved technical conditions through root cause analysis, **field information**, and engineering calculations.
- Coordinated stakeholders around interfaces, documentation, priorities, and schedule commitments.

Mechanical Design Engineer

July 2015 - February 2018

Midwest Project Studio

Milwaukee, WI 53202

Supported mechanical product development from early requirements through design review and delivery, using 3D CAD, analysis, testing, documentation, and manufacturing input. Strengthened coordination across engineering, production, and project stakeholders.

- Translated project requirements into detailed CREO parts, assemblies, and drawing packages.
- Maintained **Windchill PLM** records through controlled revisions and documented approval workflows.
- Reviewed GD&T and **tolerance stack ups** to identify interface risks early.
- Used FEA and **simulation** findings to focus prototype and test activities.
- Supported **NPI** reviews by connecting validation results with production design decisions.
- Applied **DFM** feedback during design refinement for practical manufacturing outcomes.
- Investigated root causes using calculations, testing, field information, and documented engineering judgment.
- Communicated design status and technical decisions across **multidisciplinary** project teams.

Mechanical Design Engineer

June 2014 - June 2015

Riverbend Design Services

Milwaukee, WI 53202

- Contributed to mechanical design assignments involving detailed modeling, technical investigation, drawing quality, documentation, and stakeholder coordination. Built practical experience across analysis, testing, manufacturing review, and controlled engineering delivery.
- Created CREO models and drawings from documented **mechanical design** requirements.
 - Applied **GD&T** checks to improve drawing clarity and support downstream inspection.
 - Updated **Windchill PLM** records through disciplined revision and release practices.
 - Supported FEA, simulation, and testing activities during early design investigations.
 - Participated in **rapid prototyping** and validation work for development decisions.
 - Used DFM reviews to identify practical changes before **production** planning.
 - Documented root cause findings from technical issues, calculations, and available test evidence.
 - Coordinated design questions with senior engineers and multidisciplinary project **stakeholders**.

PROJECTS

Reciprocating Engine Design Validation 📅 2026

Improved design confidence by connecting CREO models, FEA findings, prototype reviews, testing, and validation decisions for reciprocating engine development.

Controlled Mechanical Release Workflow 📅 2025

Strengthened release quality through Windchill PLM revisions, GD&T review, tolerance stack ups, Oracle ERP alignment, and stakeholder checks.

LEADERSHIP & AWARDS

- Recognized for dependable mechanical design delivery across concurrent engineering priorities and schedule commitments.
- Selected to guide team members through design reviews, technical investigations, and practical project decisions.
- Earned continued stakeholder confidence through clear documentation, issue resolution, and disciplined quality practices.

EDUCATION

Bachelor of Science in Mechanical Engineering

2014

University of Wisconsin Platteville GPA: 4.0

Platteville, WI

Coursework: Mechanical Design, Thermodynamics, Materials Science, Manufacturing Processes

CERTIFICATIONS

- Mechanical Design Continuing Education 📅 2026
- Engineering Analysis Continuing Education 📅 2026

TECHNICAL SKILLS

- **CAD Design:** CREO, 3D CAD, Mechanical modeling
- **Product Lifecycle:** Windchill PLM, Revision control, Release management
- **Enterprise Systems:** Oracle ERP, Engineering records, Product data
- **Engineering Analysis:** FEA, Simulation, Engineering calculations
- **Geometric Definition:** GD&T, Tolerance stack ups, Drawing review
- **Product Development:** NPI, Design validation, Requirements translation
- **Manufacturing Design:** DFM, Production readiness, Design review
- **Prototype Development:** Rapid prototyping, Prototype review, Test planning
- **Verification Testing:** Testing, Validation, Field information
- **Mechanical Systems:** Reciprocating engines, Components, Assemblies

SKILLS

- | | | | |
|--------------|-----------------|-------------------------|-----------------------|
| • CREO | • NPI | • Reciprocating engines | • Root cause analysis |
| • FEA | • DFM | • Tolerance stack ups | • Mechanical design |
| • GD&T | • Windchill PLM | • Rapid prototyping | • 3D CAD |
| • Simulation | • Oracle ERP | • Validation testing | |

PROFESSIONAL AFFILIATIONS

- Professional engineering collaboration across design, manufacturing, testing, quality, and project stakeholders.
- Ongoing mechanical design development through continuing education, technical review, and practical application.

LANGUAGES

- English (Native)
- Spanish (Intermediate)

ADDITIONAL INFORMATION

Work Status : Authorized to work in United States. No sponsorship required.

REFERENCES

AVAILABLE ON REQUEST