

*Nathan Morrill, P.E.*

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**Education**

A.S. Pre-Engineering, Utah Valley State College, 2001  
B.S. Mechanical Engineering, University of Utah, 2004  
Registered Professional Engineer, Utah License # 5567105-2202  
Registered Professional Structural Engineer, Utah License # 5567105-2203

**Experience**

*Alpine Engineering and Design, Inc.*  
*Engineering Project Manager (2006-Present)*

**Product Development**

Conceptual development and detailed design of products in various industries including mobile equipment, trucking, medical equipment, plant layout, and exercise equipment. Design duties include selection of materials and components, engineering design calculations, drawing packages, detailed manufacturing procedures, prototyping, and testing. Experience with circuit logic (hydraulic, pneumatic, and electrical circuits) and computer programming.

**Fabrication/Prototyping**

Prototyping of hydraulic powered machinery and mobile equipment. Build weld fixtures, machined components for tarping systems, patient transfer equipment, etc.

**Finite Element Analysis (FEA)**

Linear and non-linear analysis of components, and assemblies for conceptual designs development, product development, and product improvement.

**Patent Preparation**

Patent searches for patentability of conceptual designs and preparation of patent specifications for filing of provisional patents.

**Technical Writing**

Produce and provide reports concerning product testing, analyses, and specifications as well as technical and product manuals.

**Project Quoting**

Outline Product development and analysis projects with budgetary estimates.

*Alpine Engineering and Design, Inc.*  
*Design Engineer (2004-2006)*

**Product Development**

Design of new products involving conceptual development, engineering calculations, stress analyses, and drawing packages.

**Fabrication/Prototyping**

Prototyping of mobile equipment as well as machined components for cranes, liftgates, etc.

**Finite Element Analysis (FEA)**

Linear and non-linear analysis of trailer components, end dumps, and other mechanical structures.

**Patent Preparation**

Performed patent searches and preparation of patent specifications.

**Technical Writing**

Produced reports concerning product testing, analyses, and specifications.

*Alpine Engineering and Design, Inc.  
Design Engineer/Intern (2000-2004)*

**Product Development**

Helped with the development of designs from concept. Performed engineering calculations, along with stress analyses. Helped with the production of drawing packages.

**Fabrication/Prototyping**

Performed welding and machining in production of lawn equipment, liftgates, tarping systems, etc.

**Finite Element Analysis (FEA)**

Linear and non-linear analysis of trailer components, and mechanical structures.

**Patent Preparation**

Performed patent searches.

**Skills**

Familiar with production equipment which include presses, lathes, drills, punches, welders, mills, etc.

Foreign Languages – Fluent in Korean

Experience in the use of software packages including:

SolidWorks	EMRC Nisa	Mathcad
Pro-E	CosmosWorks	Microsoft Word
Cadkey	CosmosMotion	Microsoft Excel
Autocad	Working Model	Microsoft PowerPoint

Familiarity with production processes including: injection molding, rotational molding, extruding, welding, machining, swaging, etc.

**Patents Issued:**

7,341,157	Enclosed-reeving, live-line boom
7,458,629	Tarping system for open top containers

**Patents Pending/Applied for:**

Enclosed-reeving, live-line boom  
Trailer frame flexible cross member