

DiMonte Group: Development Process



About us/Philosophy

- Integrated Industrial Design and Engineering
- Completed over 4000 projects in the 20+ years since our founding
- Responsible for IP that has resulted in over 50+ patents assigned to our Clients
- 93% repeat business rate with our customers

Whether it's taking your product idea from Concept to Production or any point in between, we believe there is considerably more to the product development process than just a visually appealing design.

We integrate creative design, smart engineering, and our experience working with a vast array of production and manufacturing methods to deliver effective solutions to your complex problems, from Concept through Commercialization.



Industrial Design
Design Engineering

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About us/Studio

Open and collaborative environment



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About us/ Work space

Laboratory and Model Shop

- Metal and wood working



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About us/ Work space

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- In house 3D printing



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About us/ Work space

Laboratory and Model Shop

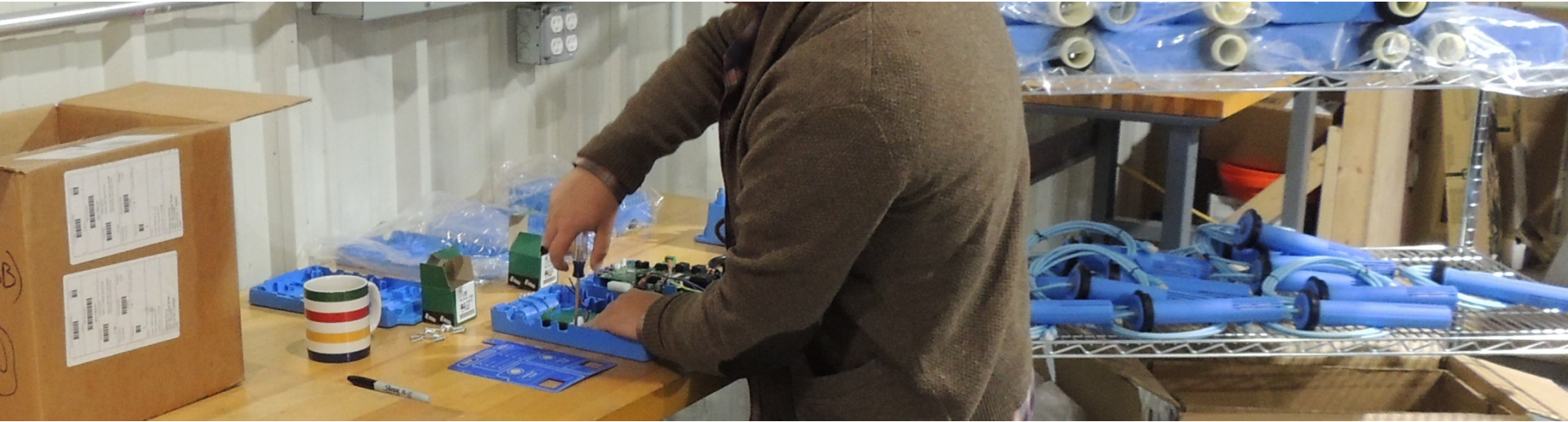
- 3D scanning. Physical testing. Accelerated Lifecycle testing.



About us/ Work space

Laboratory and Model Shop

- Assembly of prototypes testing form fit and function. Pre production short run mfg.



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Our Process

Project Kickoff and Knowledge gathering

- Develop understanding of the underlying business goals
- Evaluate prior art (if any)
- Assess competitor's product (if any)
- Quantity/price point/margin (if available)
- Manufacturing restrictions (if any, tied to business goals)
- Identify critical dates (trade shows, holidays, etc.)
- Develop and deliver phased estimate and associated timeline



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Knowledge gathering

Use Research



Lifting to drain:

We observed a variety of techniques used to drain fries.

In addition to the gentle lift technique shown in these photos, we saw:

- Slamming the handle of the basket 3-5 times against the grease trap hood
- While holding the handle, bouncing far end of the basket repeatedly off of the hanging channel (at the back of the fryer) as the employee walks the basket to the packaging tray
- Lift about halfway up, then release the handle so the basket drops and bounces while hanging off of hanging channel



Most of the time, after lifting the basket to drain, the employee went directly to the next step.

However, if two baskets were dropped simultaneously during a rush period, the first basket pulled was immediately drained then left to hang while the employee attended to the second basket.



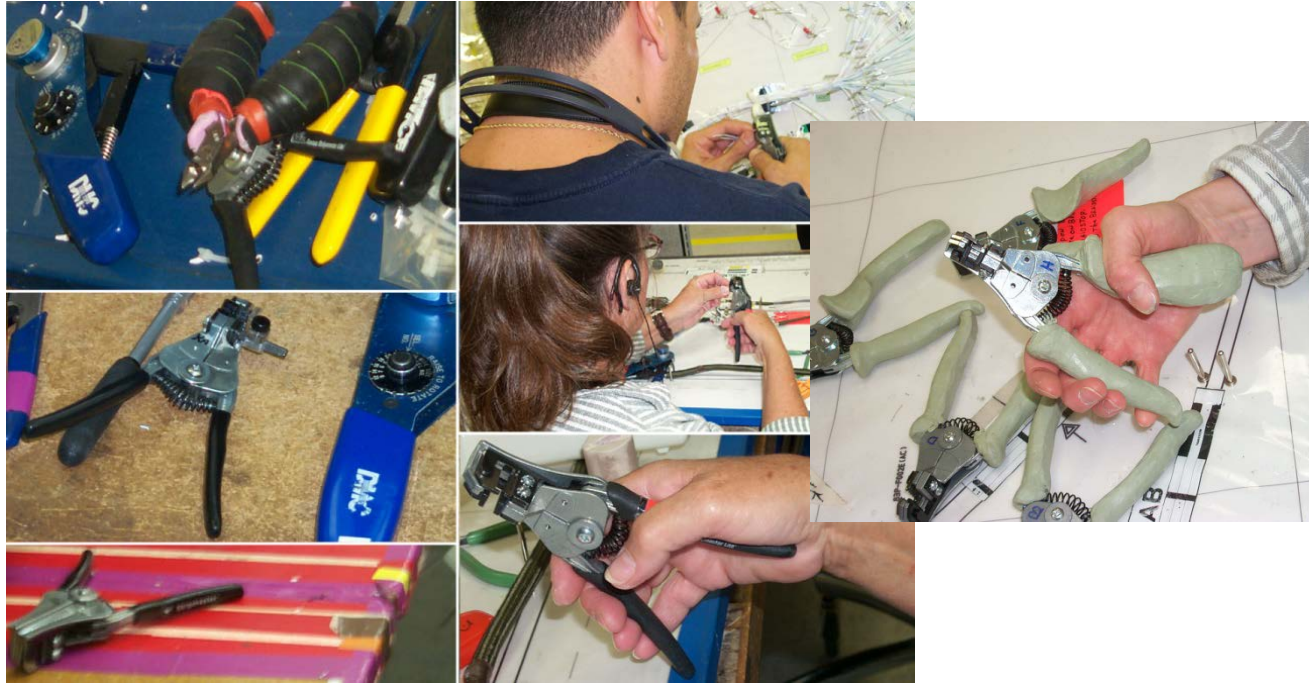
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Knowledge gathering

Use Research



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Knowledge gathering

Use Research



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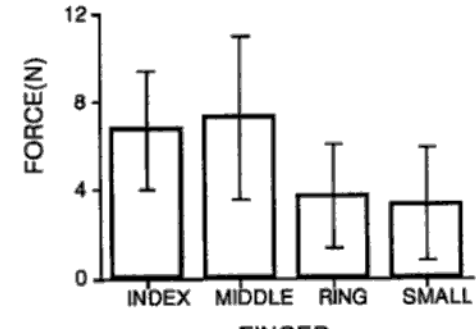
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Knowledge gathering

Ergonomic/Anthropometric research

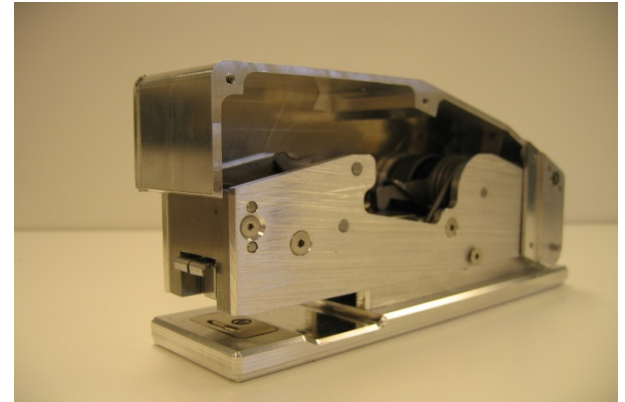


Average total grip force plotted against exertion level in subjects). Error bars represent \pm one standard deviation.



Ideation

Mechanism feasibility and validation



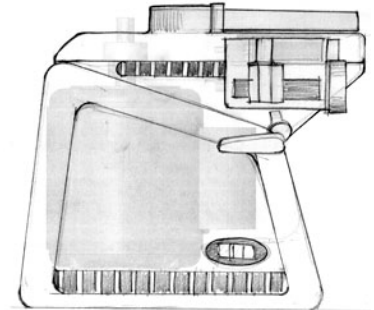
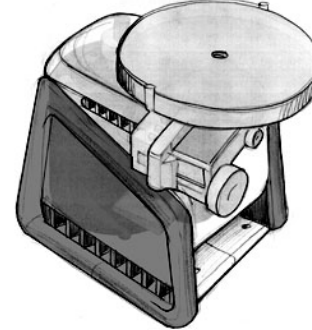
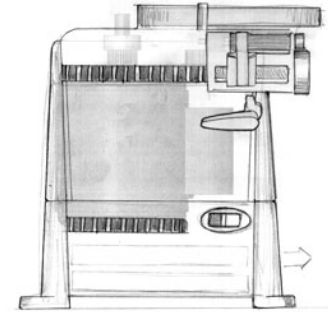
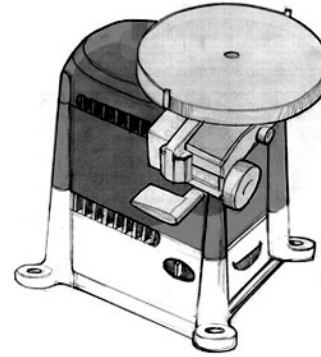
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Ideation

2D Sketching, to scale on top of known components



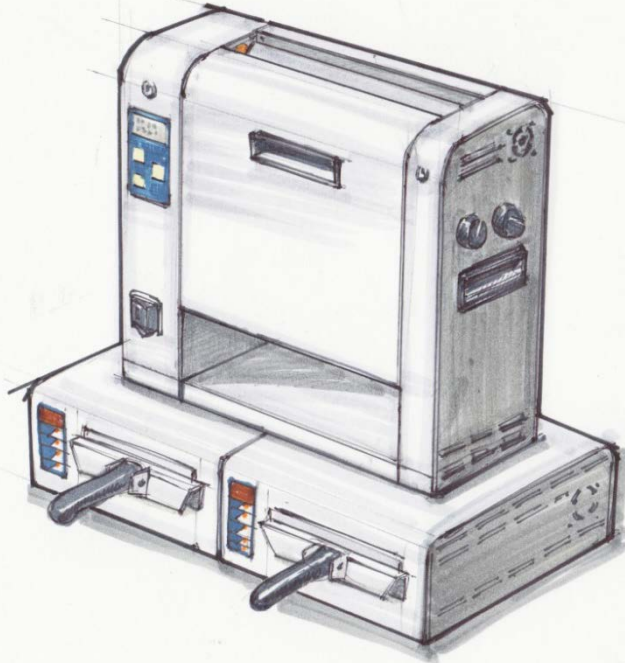
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Ideation

2D Sketching. Concepts consider fabrication, fasteners, and cables



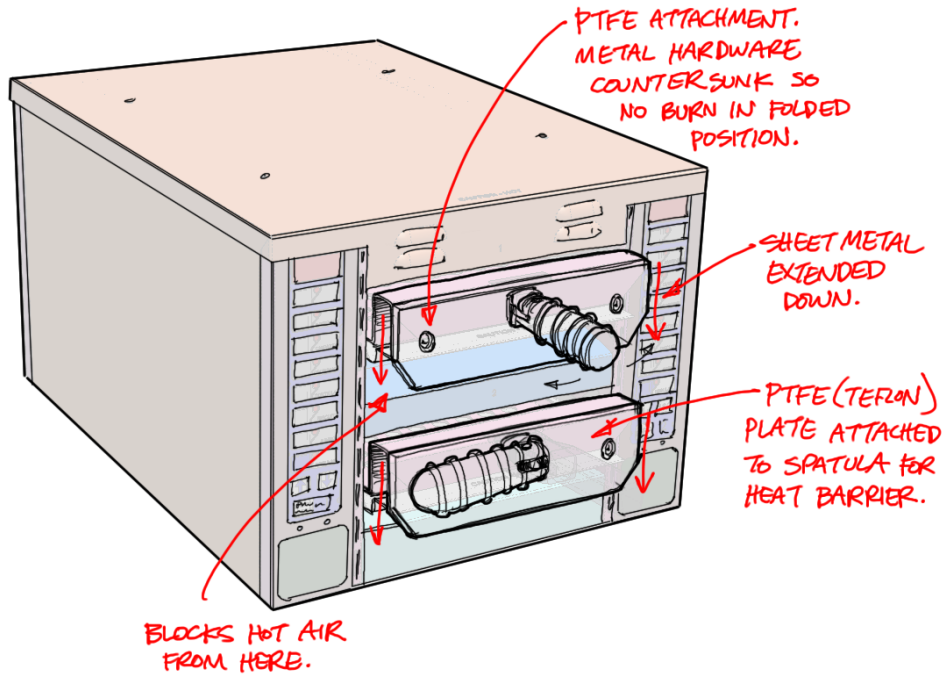
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Ideation

2D Sketching. Concepts consider manufacturing and service



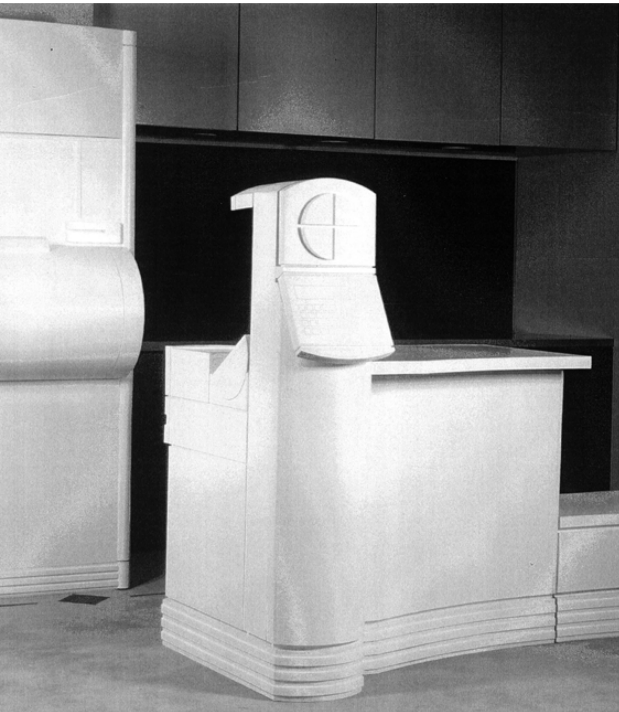
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Ideation

3D Sketching.



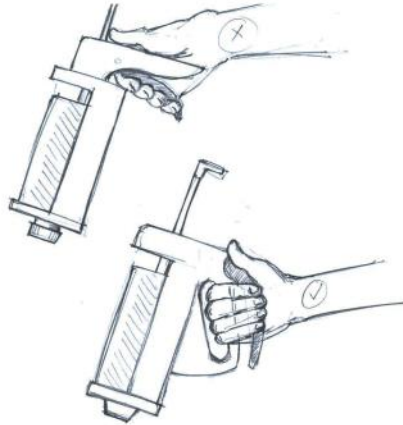
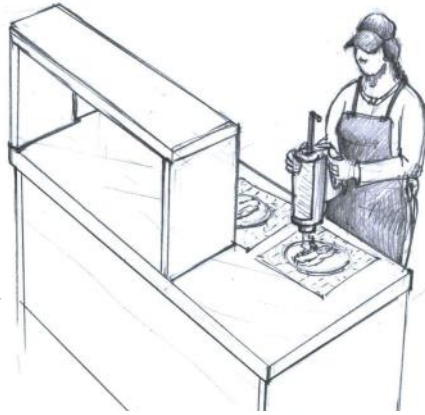
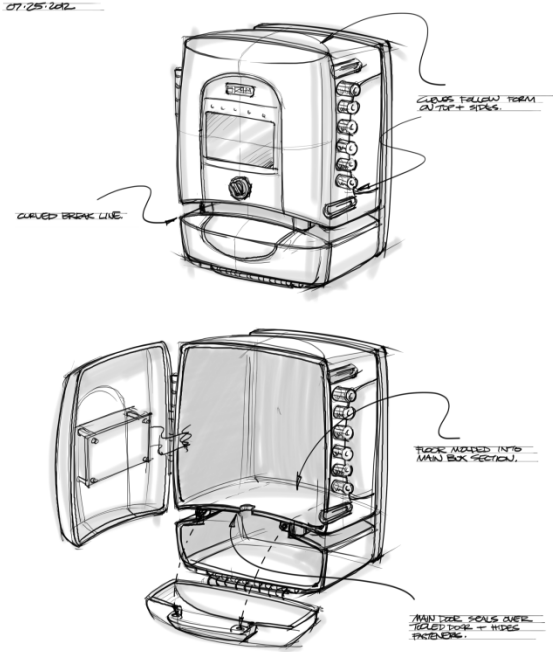
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Review

Presentation Sketch



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Review

Rendered hand sketch



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Fellowes

- Fellowes branding is provided inside the case
- Inner shell is styled to increase the visibility of the PDA
- Stylus stores inside of the hinge
- Hinge is redesigned to minimize the interference with the keyboard
- Hinge is lengthened to reduce 'wobble'
- Previously sharp corners on the latch are rounded off
- Lock button is recessed to prevent interference with keys. The shape of the button makes it easier to slide
- The lock button is colored to match the outside of the case
- The case has an unobscured perimeter. The lock button engages a piece contained within the case, causing the piece to slide into the PDA sync port and lock the PDA securely in place
- Stylus dock provided on inside of case
- Attachment port for a sync cable

Having only a single wall thickness behind the PDA allows the unit to be thinner

PDA TYPE 'N' GO
Gen II / Concept 2
©2004 Product Design Services, designed exclusively for Fellowes

DIMONTE GROUP

Deeper SKU
Shallower SKU
Deeper SKU with keypad support

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Review

Formatted presentations



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Review

Rendering and compositing



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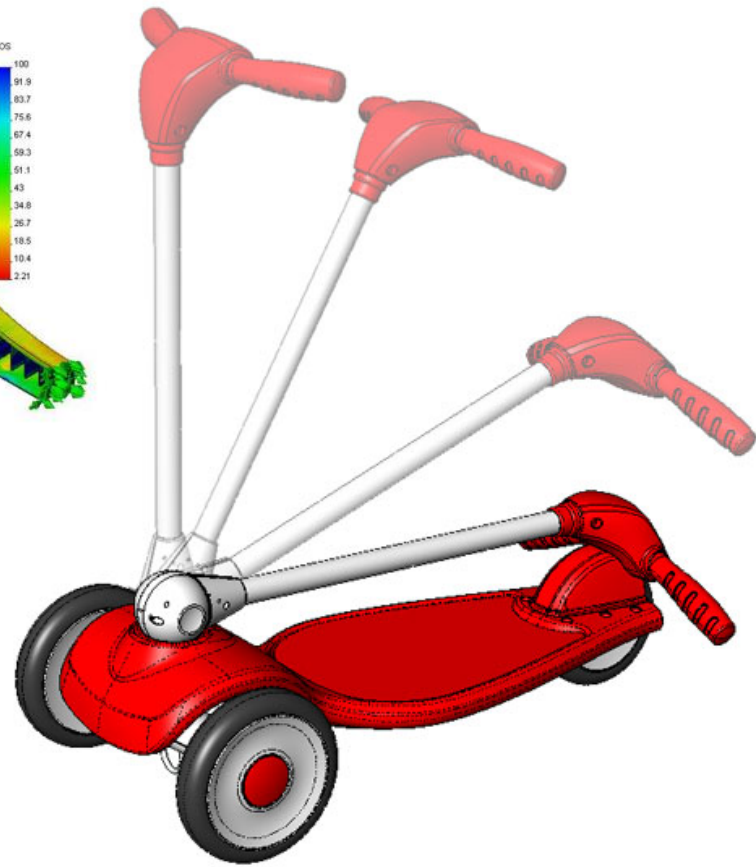
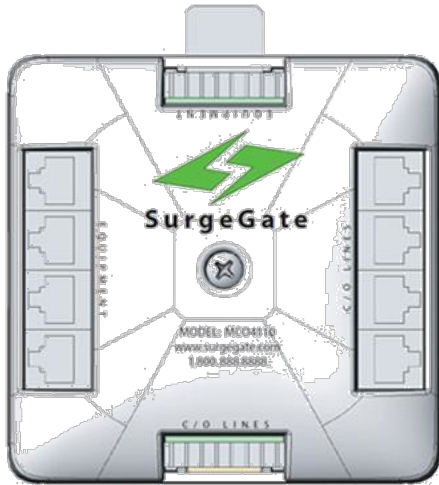
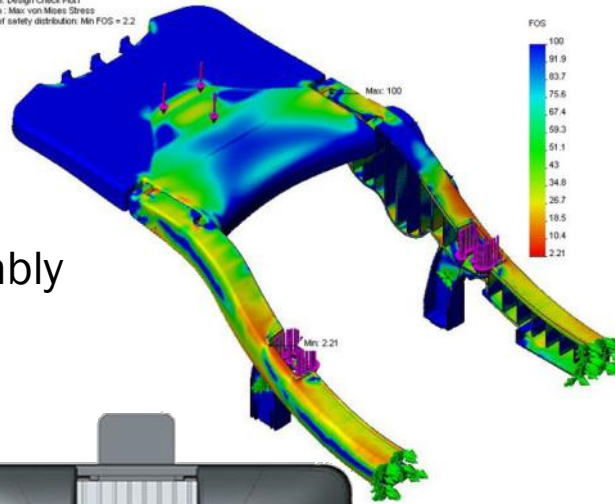
Execution:

Commercial 3D CAD

Detail Design for

Manufacturing and assembly

Model name: Tray FEA 3
Study name: 50lb Center Load
Plot type: Design Check Plot 1
Criterion: Max. von Mises Stress
Factor of safety distribution: Min FOS = 2.2



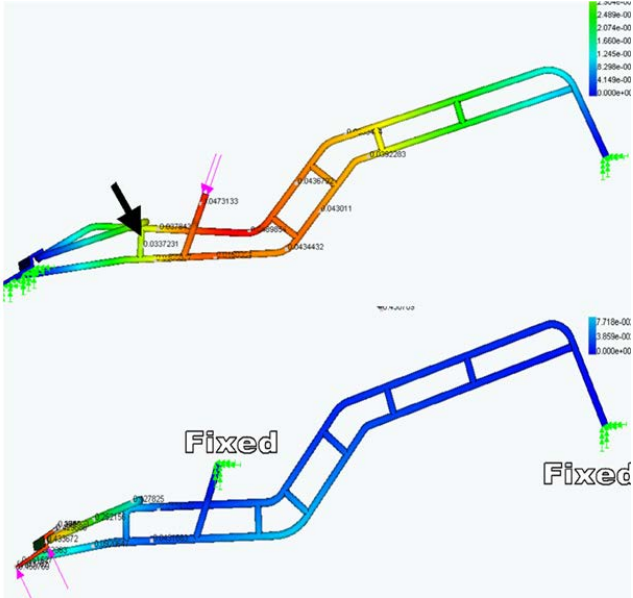
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Execution:

Design for customer processes and factories



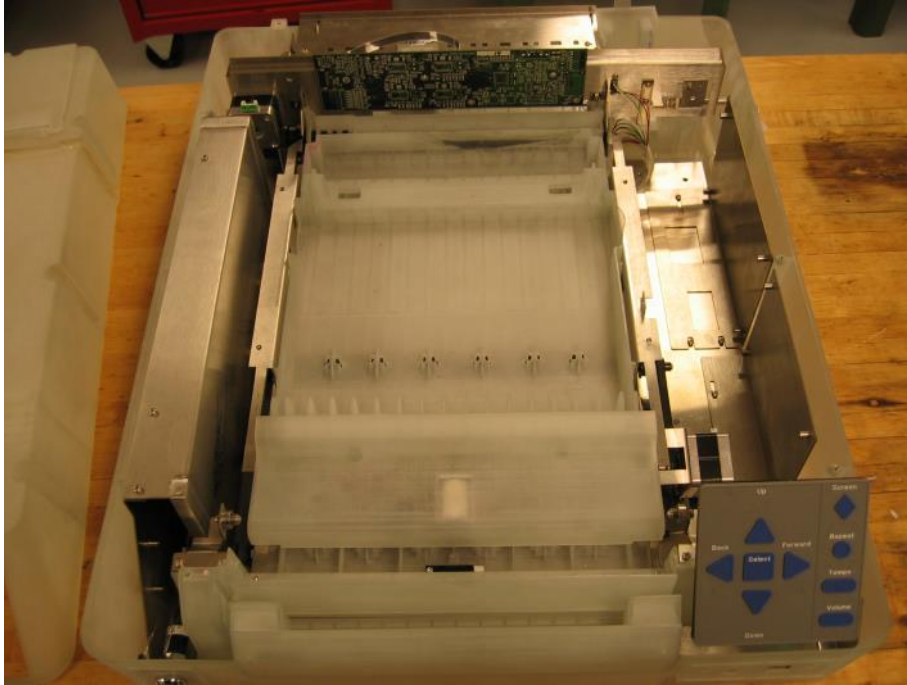
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Execution:

Prototyping



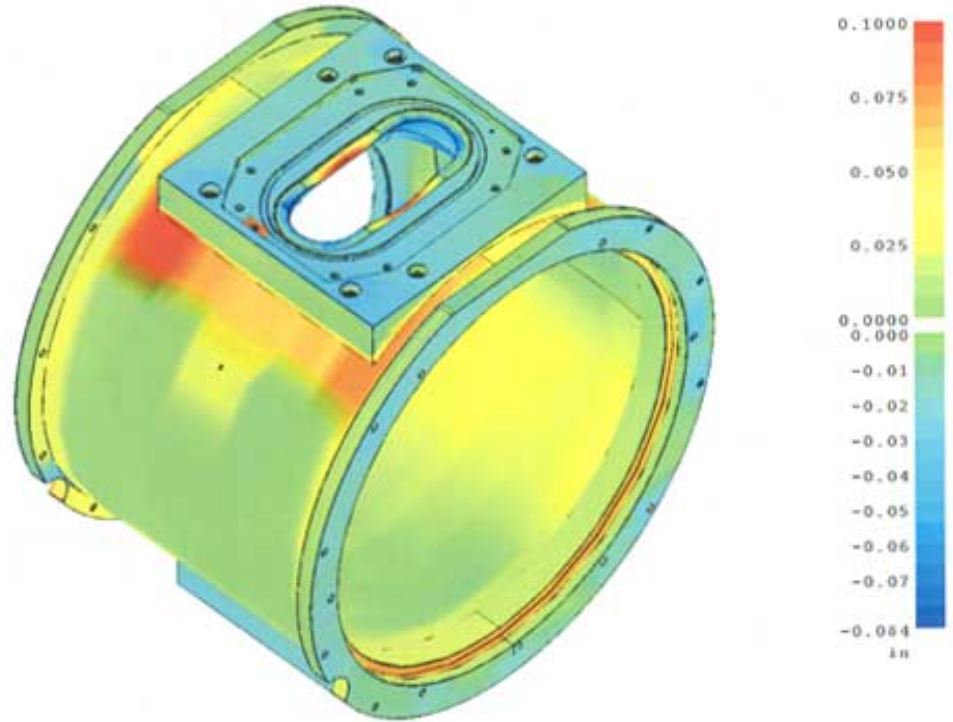
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Inspection & Reverse Engineering

3D Scanning, inspection report

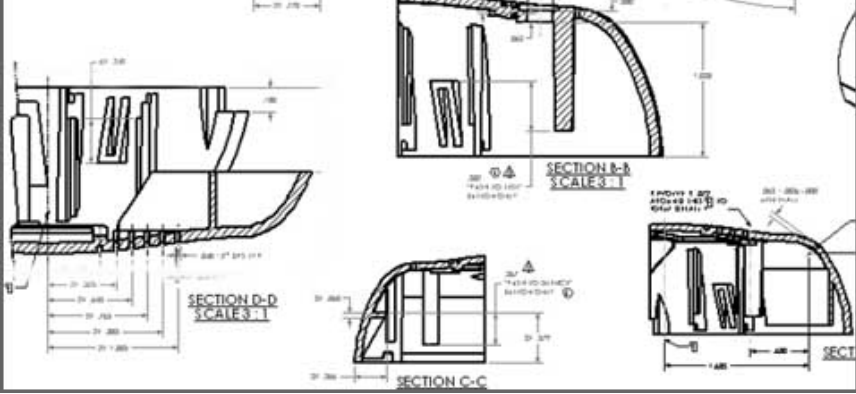
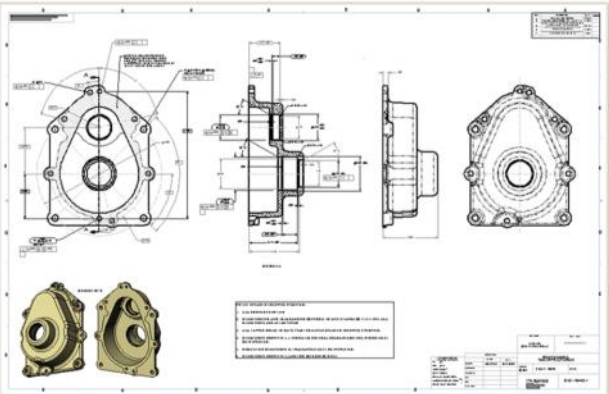
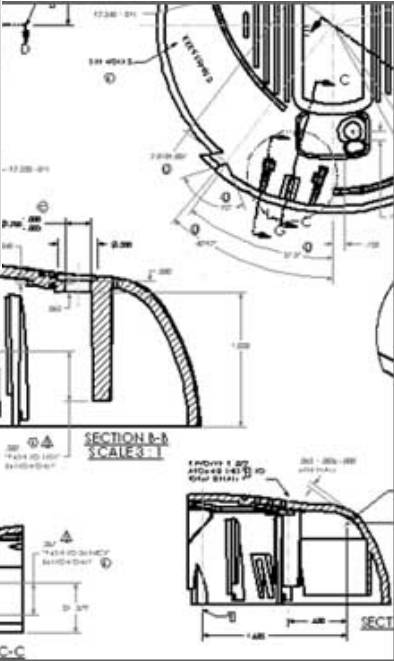
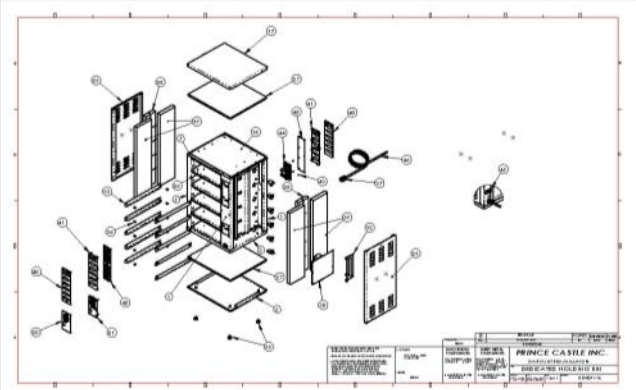
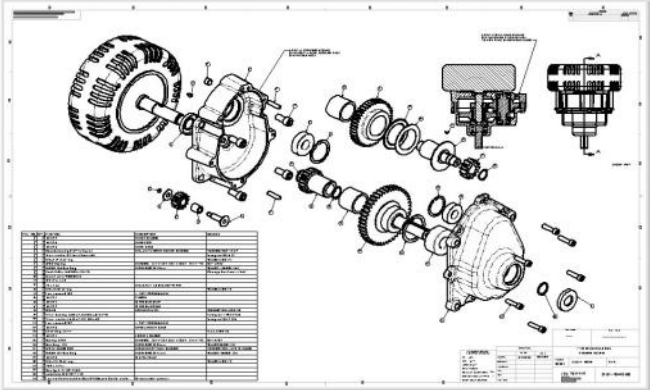


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Production Documentation



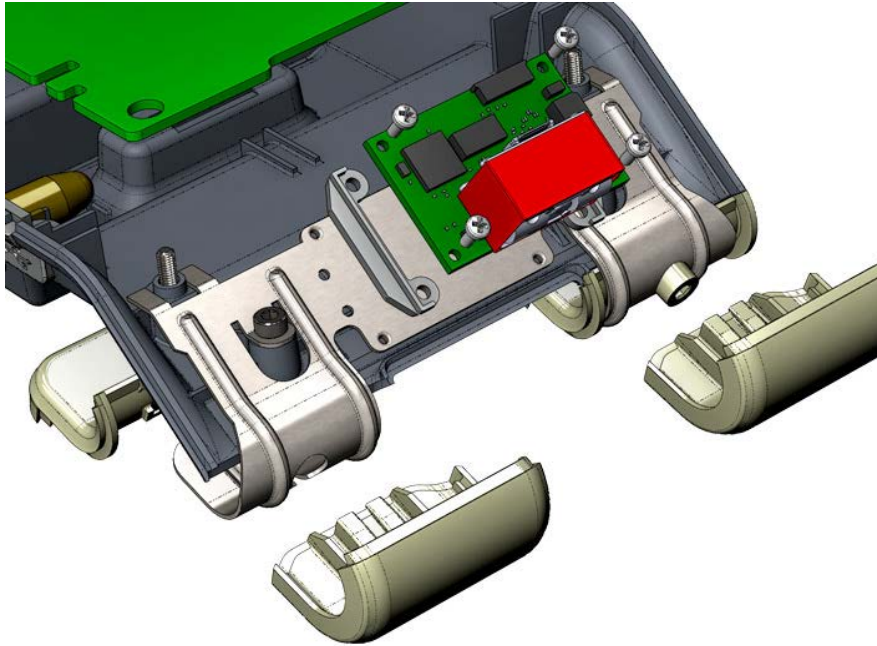
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Experience:

Sheet metal low and high volume processes



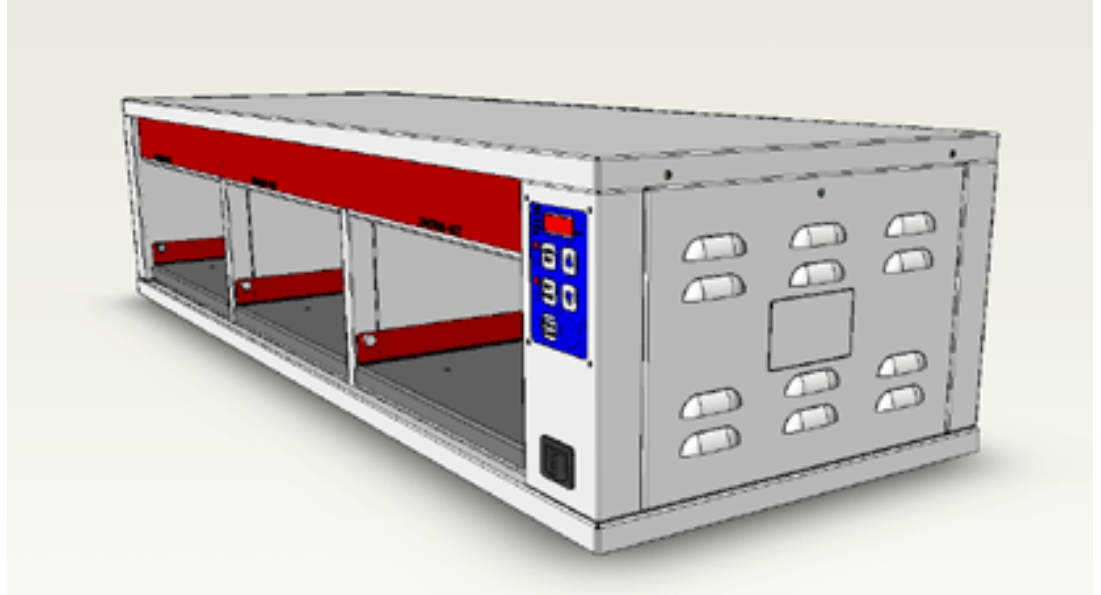
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Experience:

Food Service equipment and NSF design requirements



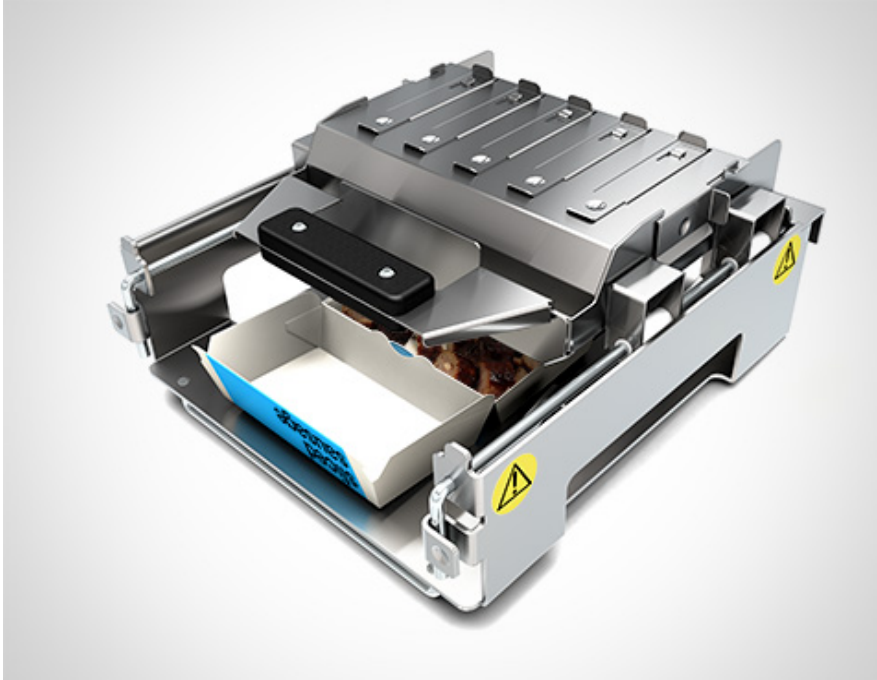
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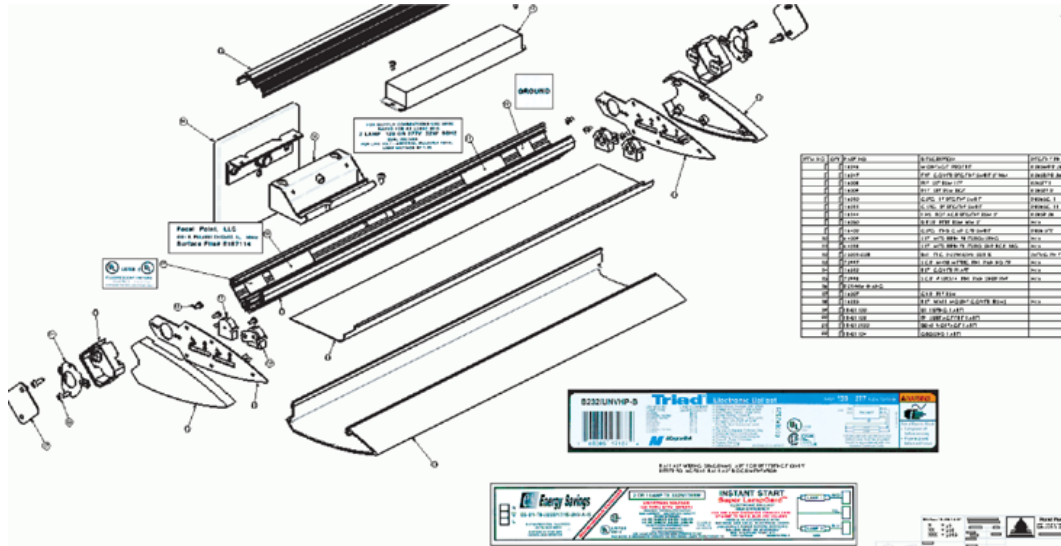
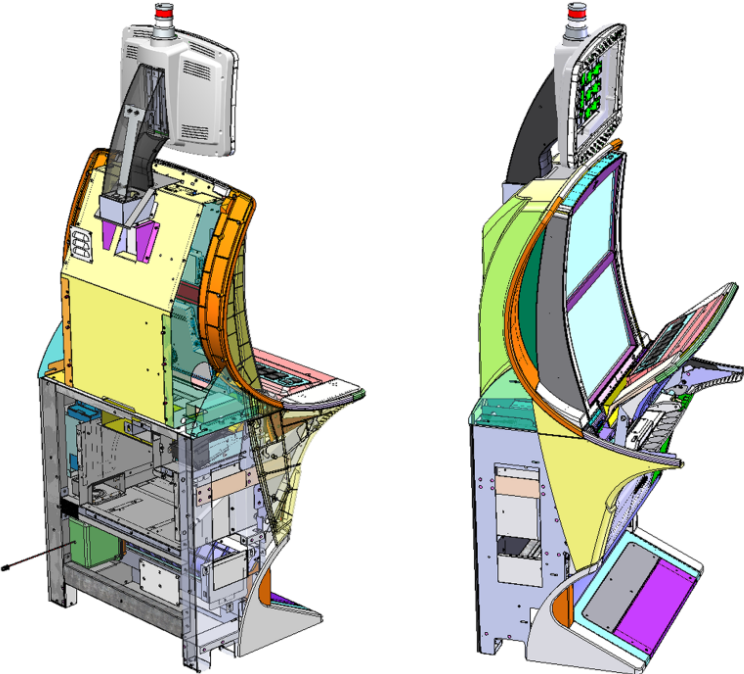
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Experience:

Gaming & Lighting.



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Experience:

Casting, Die Casting, and Forging



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Keson

Concept and execution of precision counter. ID through commercialization



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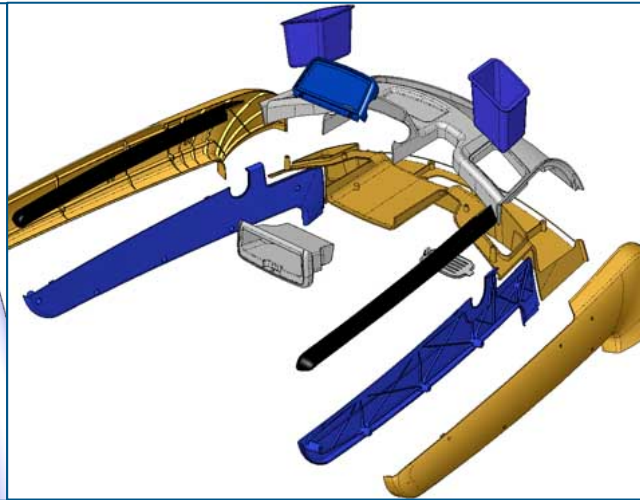
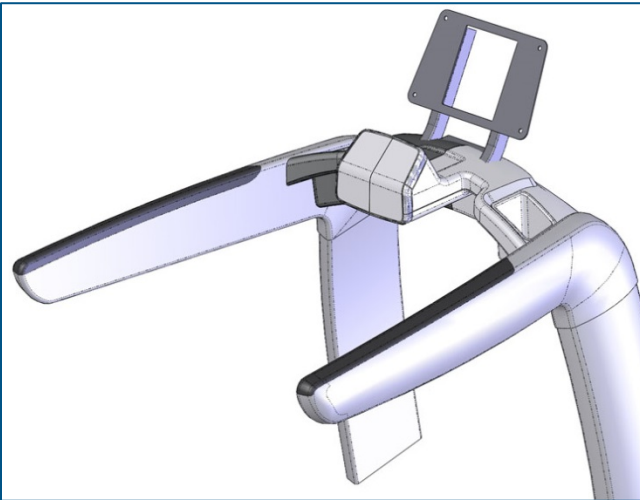
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Life Fitness

DFMA and execution of tool ready geometry from Industrial Design styling models



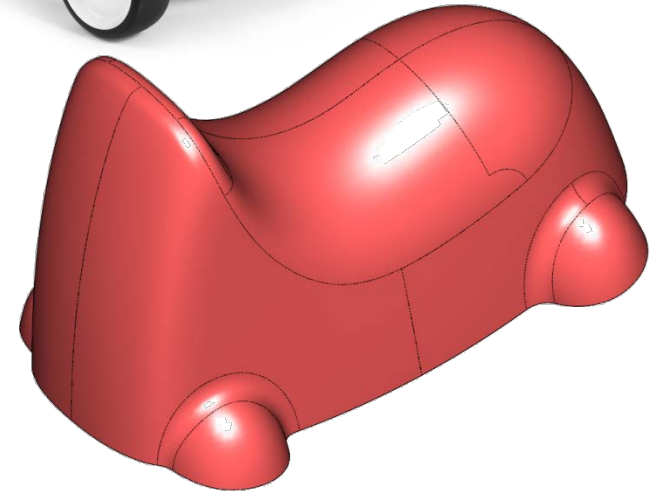
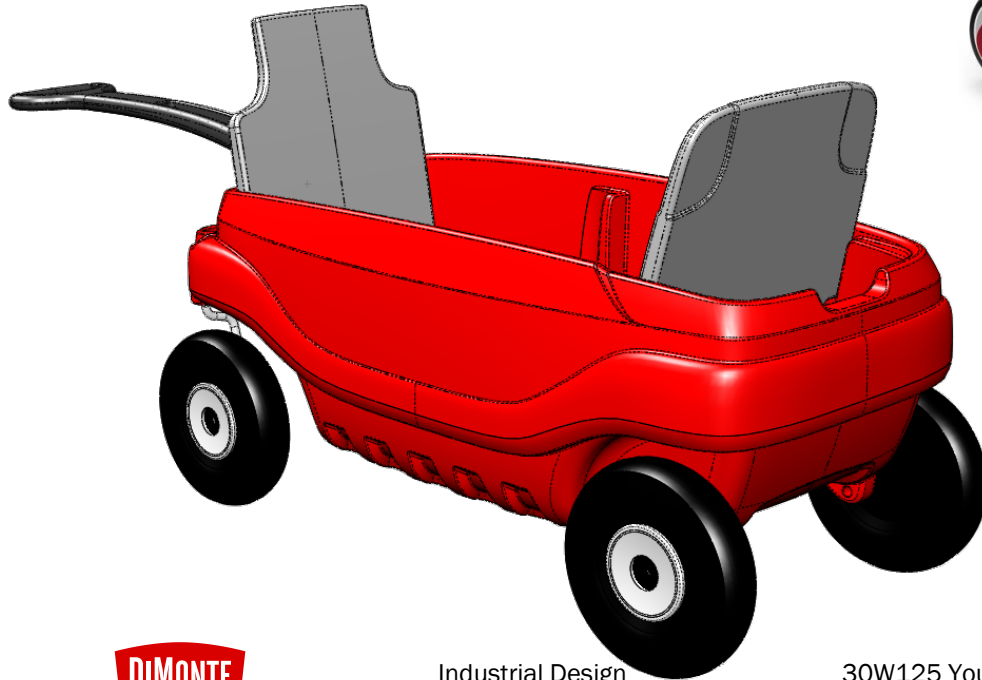
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Radio Flyer

Mechanism concepts and execution of tool-ready geometry from styling models



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- Hired to teach product development to developers
- Hired to do renderings for SolidWorks
- Case studies
- Blog contributions
- Tech Tips



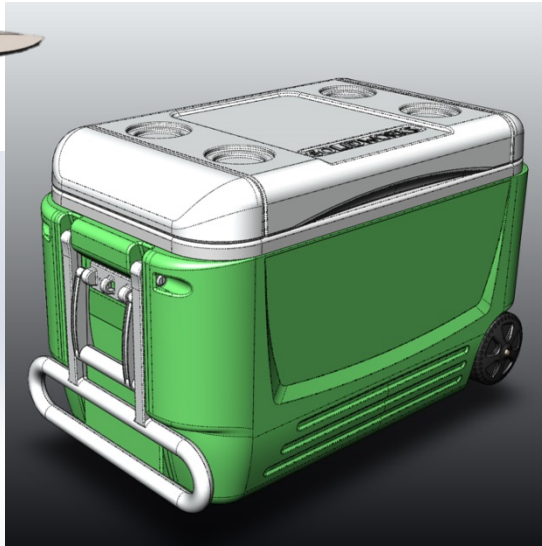
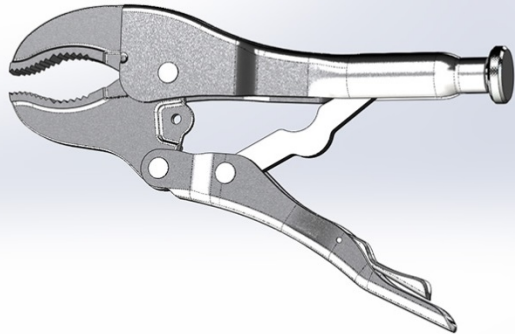
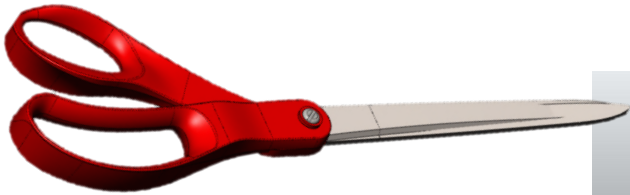
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