

# *Chain Guide and Bash Guard*



R I D E H A R D

Brought to you by  
**YOUR MOM**

Nicholas DeKeyser

Ben Dolan

Bill Genevro

Ryan Shea

# THE CUSTOMER



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# Getting The Idea

- **Premise**
  - **Biking is a popular activity.**
- **Questions**
  - What problems exist?
  - Where is there room for improvement?
  - What is the benefit of providing this improvement?

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# A Look At The Competition

- *Gamut*
  - 260 grams
  - Symmetrical Boomerange
  - Adjustable Roller
  - 3/8 Polycarbonate Bashguard



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- *E-thirteen*
  - 288 g
  - Adjustment for Idler Position
  - Captive Fasteners
  - Thermoplastic Bash Guard



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# New product premise

- Your Mom has achieved a new era in mountain bike performance through the combination of ideas from today's top manufacturers and extensive research and redesign. We have developed an idea that exceeds the current competition's design on almost every level.

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# Development

- Research
  - Banana
    - Hinge or swivel
    - Mounting and Adjustability
    - Strength
  - Bash Guard
    - Layered
    - Reinforced

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# Banana

- Hinge
  - Traditional
    - Z-Corp
  - Fabric
    - Laser Cutter
  - Semi-spherical Bearing
    - FDM
    - Invision

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# Banana

- Mounting and Adjustability
  - Solid Banana with set hole pattern
    - Z-corp
    - Laser Cutter
  - Two piece Banana with slides
    - Z-corp
    - Laser Cutter
    - FDM

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# Banana

- Strength
  - Material Choice
    - Titanium
    - Aluminum
    - Other options

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# Bash Guard

- Reinforced
  - Carbon Fiber
  - Kevlar
    - Bonding
      - » Heat Activated
      - » Photo Activated



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# Bash Guard

- Laser Cutter
  - Lexan
  - Carbon Fiber
  - Kevlar
- Epoxy
- Pre-preg



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# Manufacturing Process

- Banana
  - CNC Mill
  - Aluminum



- Bearing
  - Sony
  - Teflon Coat



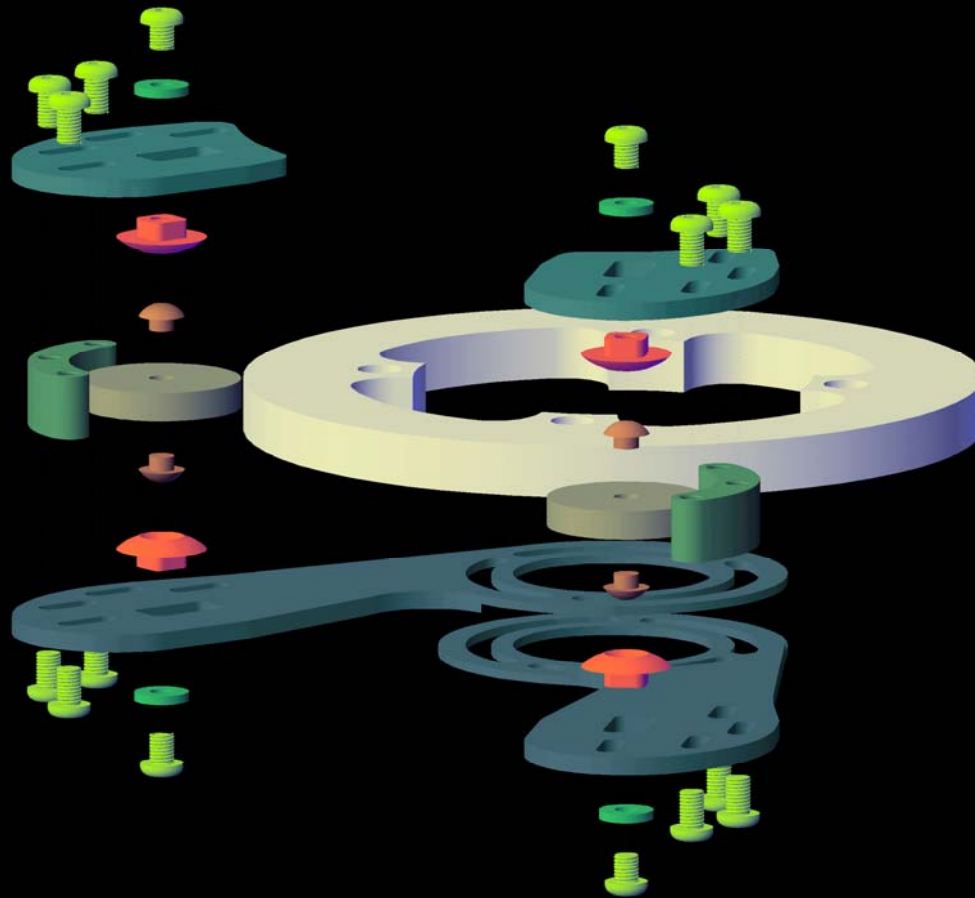
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# Manufacturing Process

- Bash Guard
  - Laser Cutter
  - Lexan
    - Upgradeable to the Kevlar reinforced later this year.
- Hardware
  - Standard Metric.

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# Finalized Design



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# Manufacturing Process

- Packaging
  - Z-corp mold
  - Vacuform housing
  - Aluminum box
  - Laser etched



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# Working Model



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# Conclusion

- Your Mom has effectively designed the future of mountain biking.

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# Questions?

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- Nicholas DeKeyser
- Ben Dolan

- Bill Geneviro
- Ryan Shea



Thank You

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