Slope Support

Team Yellow

2.009 Final Presentation

December 11, 2006

The Customer

Manual wheelchair users:

- Desire to be active
- Pride in self-propelling

Limitations of power wheelchair:

- Price
- Battery
- Size and weight

Slope Support

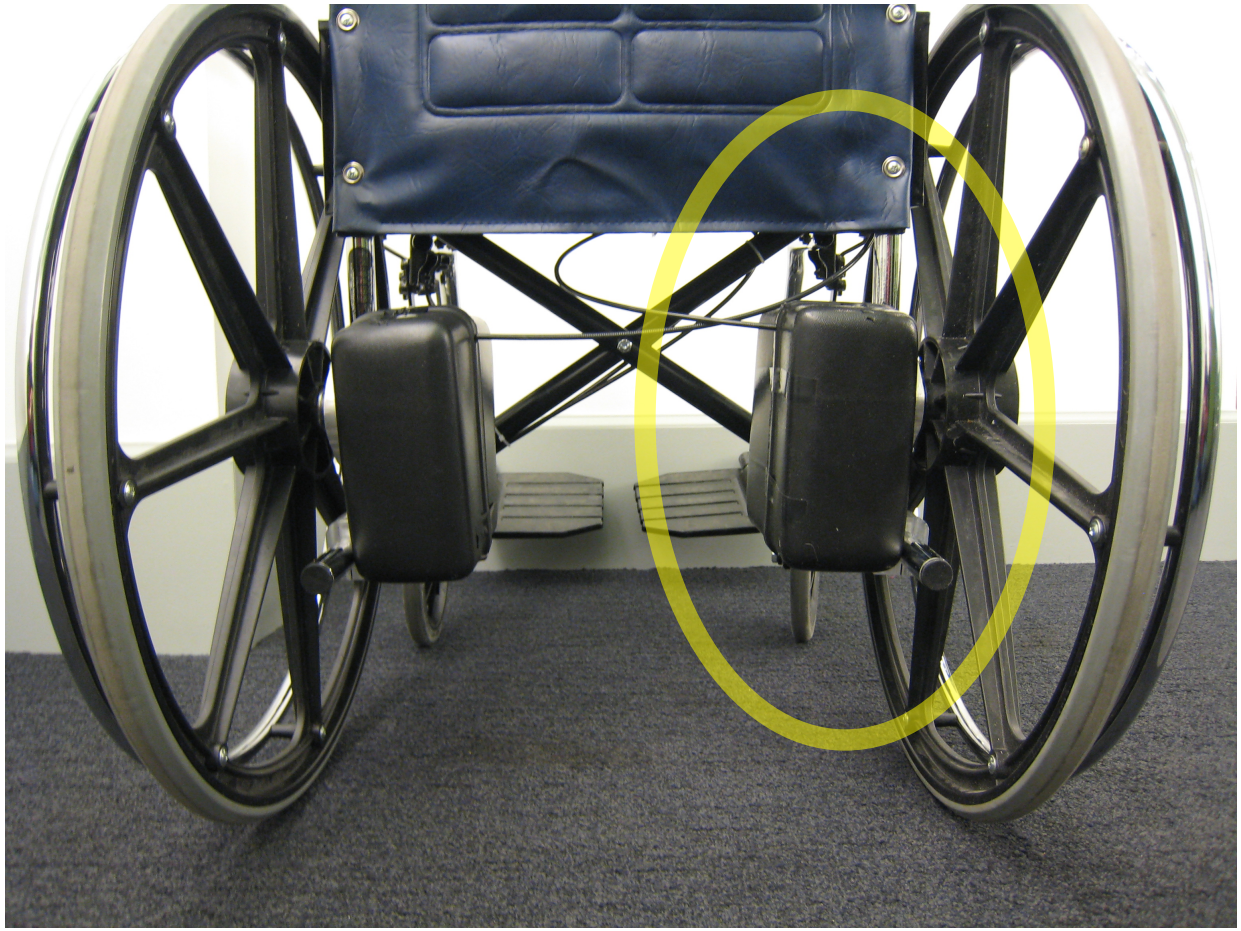
Slope Support

Specifications

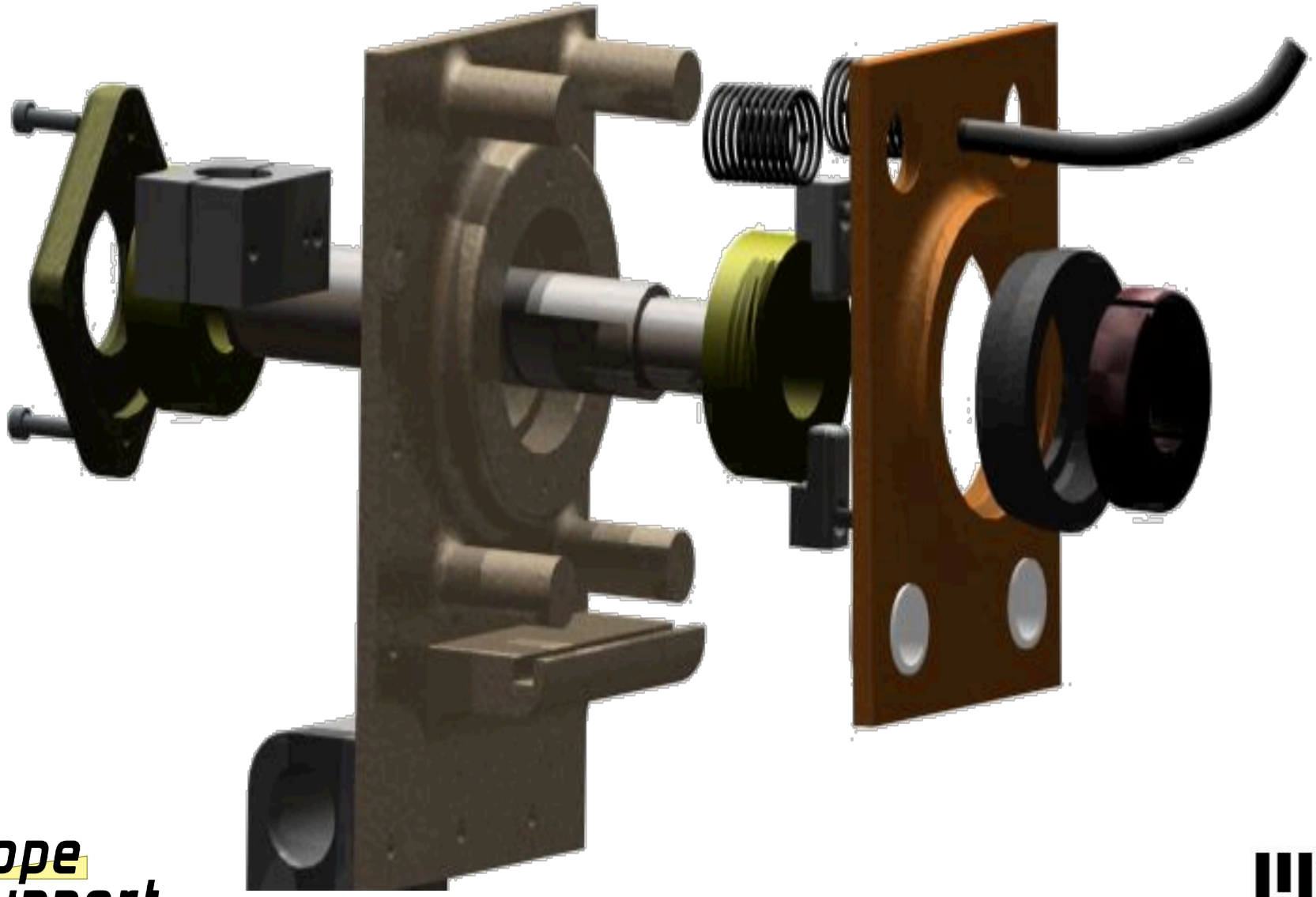
- Holds user on a 10% grade
- Allows manual override
- Engages without tipping
- Adds less than 10 pounds
- Provides safe failure condition

Slope Support

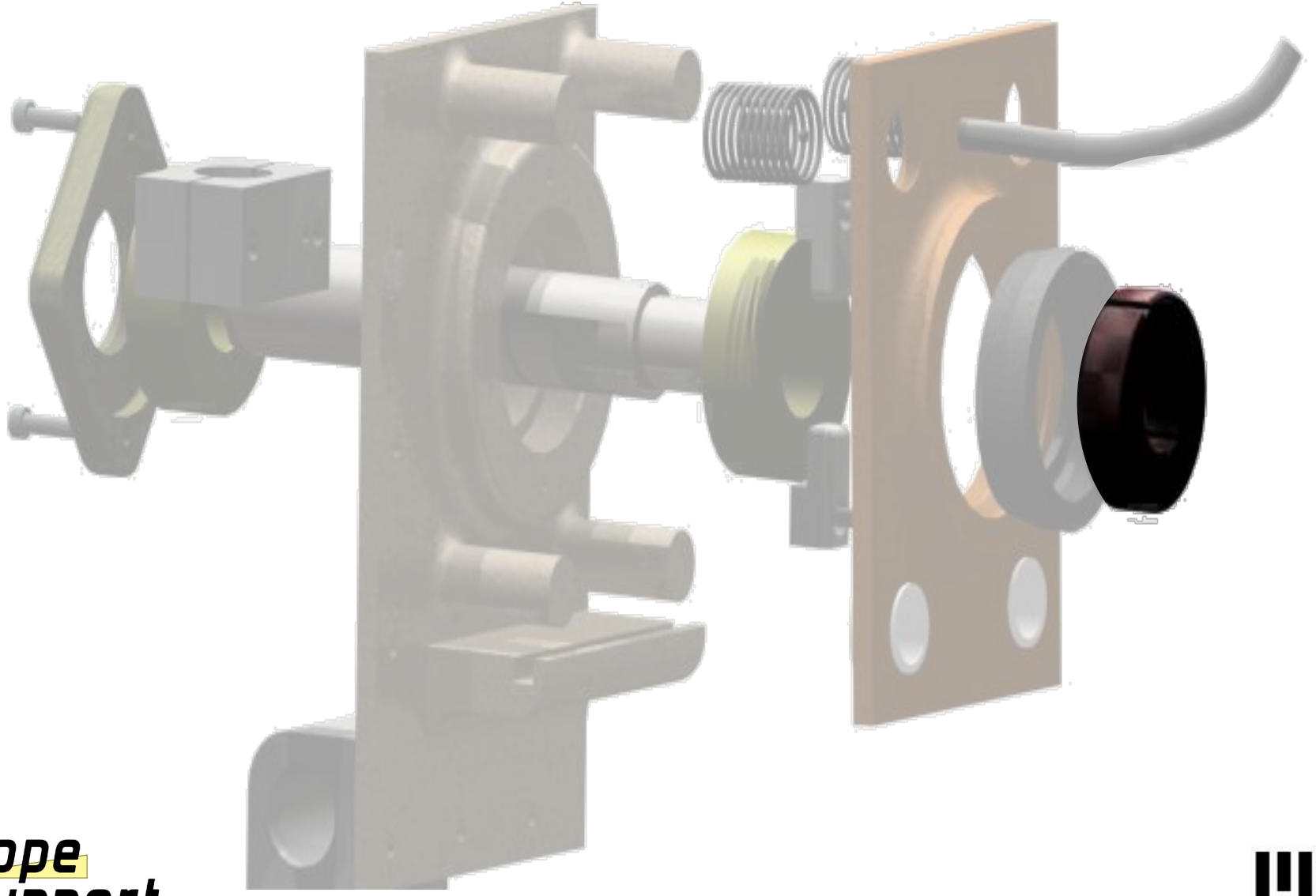
Components



Components



One-Way Clutch



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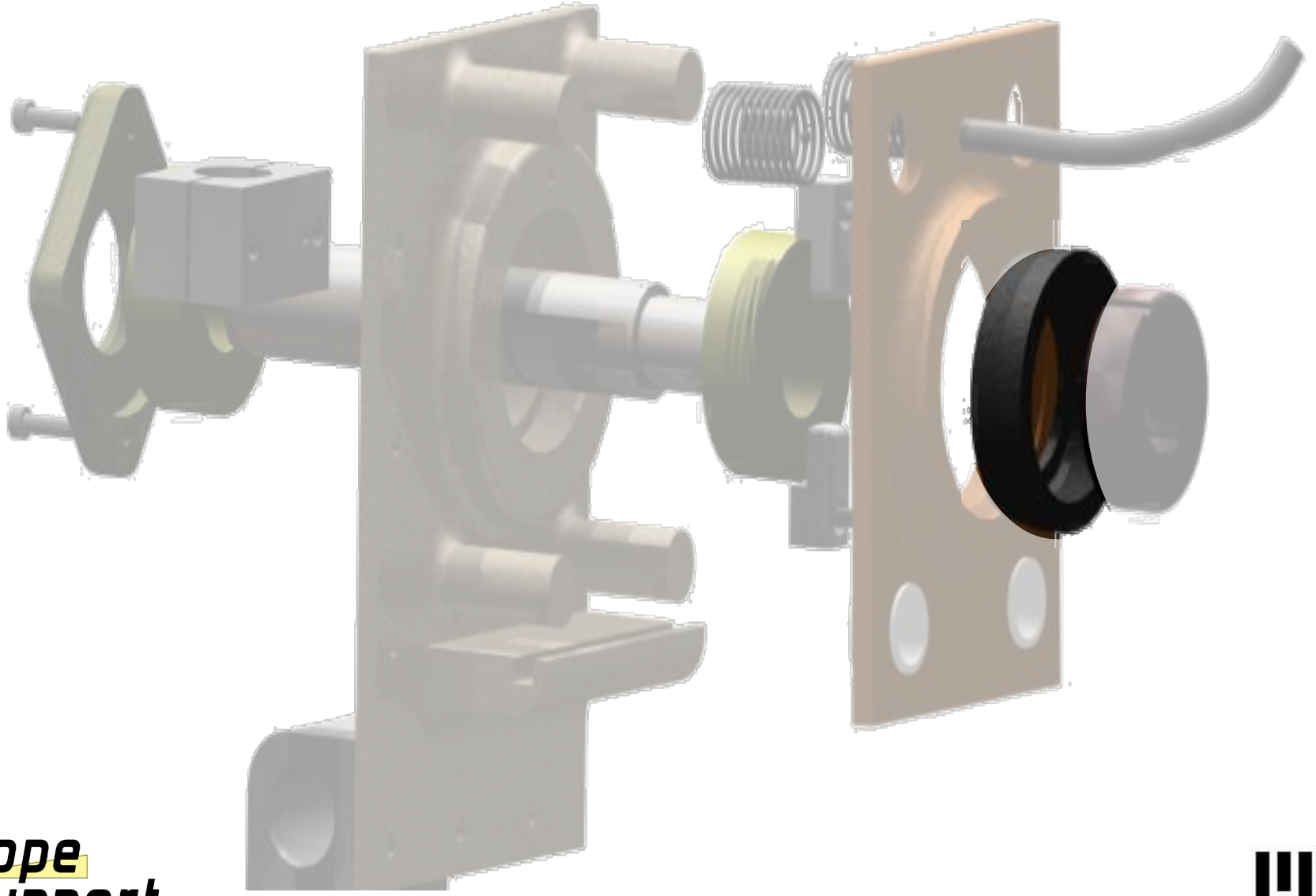
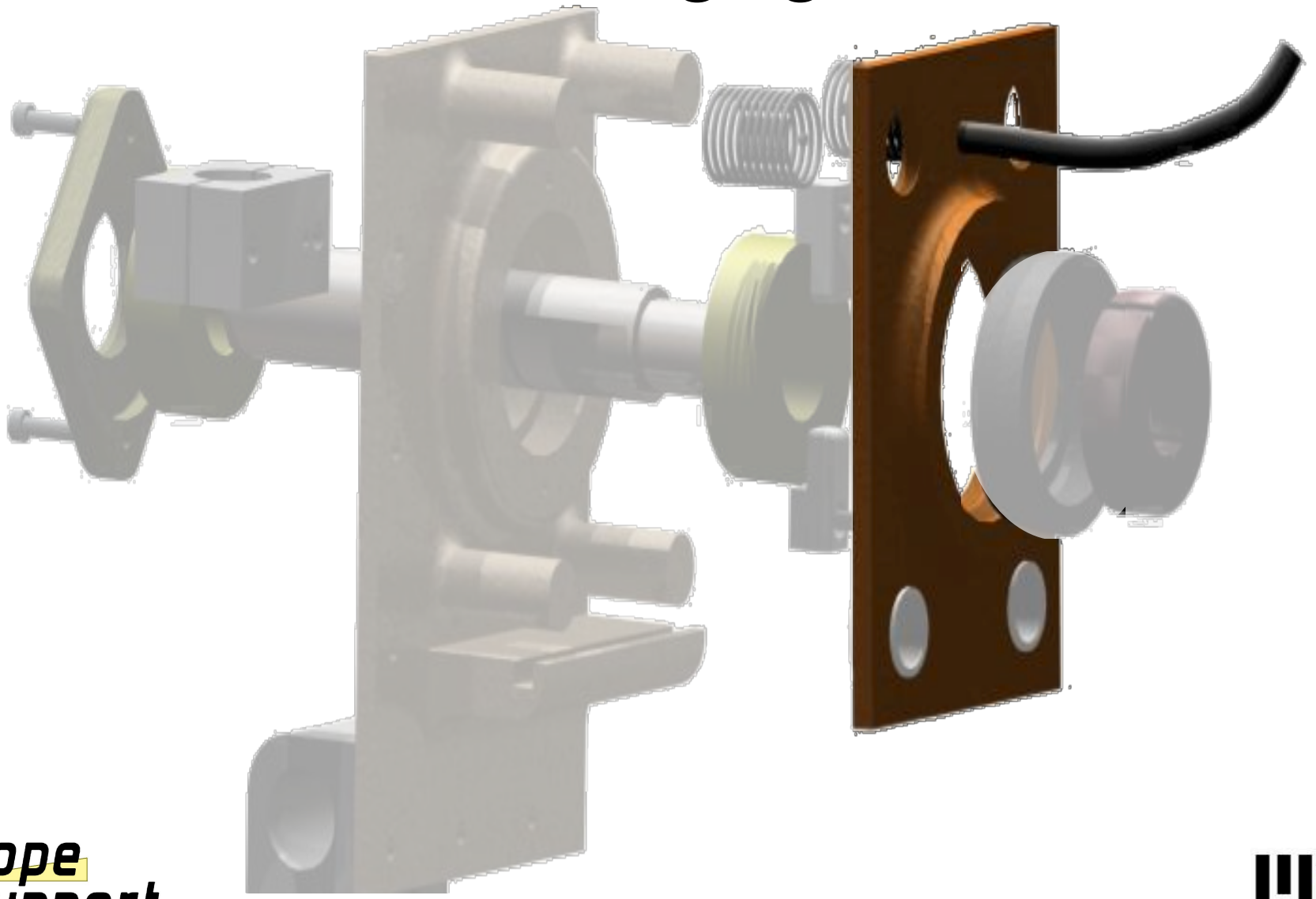
Friction Engagement



Friction Engagement



Actuation

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Customer Feedback

- Backwards overdrive is a true benefit.
- A safe failure condition provides peace of mind.

Customer Feedback

"This product is especially useful for people of a higher level of injury. It gives them extra control and safety on slopes, especially if they try to shift their weight while on the hill."

Customer Feedback

"I can see this being used by retirement communities, nursing homes; therapists will be able to take their residents further, resting on hills while the wheelchair is held safely on the slope."

Slope Support

Market Opportunity

- 2.7 million wheelchair users in US over age 15
- 75% use manual wheelchairs
- Average user buys new wheelchair every 5 years
- Product designed to retrofit most wheelchairs
- 400,000 manual wheelchairs sold annually

Slope Support vs. Grade Aids™

- No risk of injury
- Manual override
- Reliability
- No adjustment required
- Combined actuation
- Easy-reach lever
- Range of tire materials
- Retrofit to most wheelchairs

Grade Aids

Market Entry

- FDA approval
- Doctor prescription for insurance coverage
- Marketing to key groups
  - Medical professionals
  - Assistive device distributors
  - Wheelchair community
- Sale through assistive device distributors

Manufacturing Cost

Custom Components	Qty	Unit Cost	Total
Clutch Plate	4	$5	$20
Engager Linkage Set	2	$4	$8
Wheel	2	$3	$6
Housing	2	$0.50	$1
Axle	2	$0.50	$1
Standard Components	**Qty**	**Unit Cost**	**Total**
Sprague Clutch	2	$10	$20
Bearing	4	$4	$16
Cable	2	$4	$8
Spring	4	$0.25	$1
Total Cost			**$81**

Financial Outlook

Initial Manufactured Cost: $81

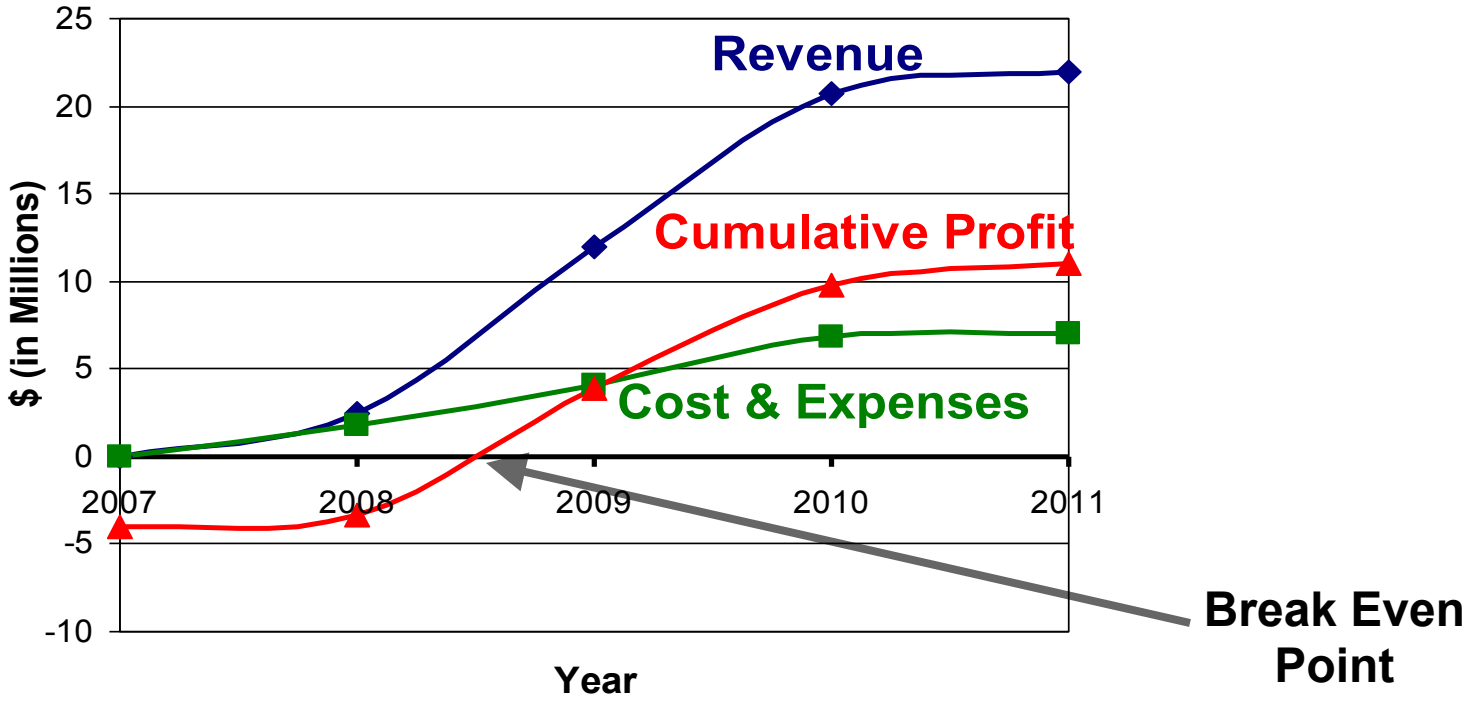
Initial Selling Price: $250

2007 Market Penetration: 2.5%

Breakeven during Year 2

IRR: 25%

Initial Investment: $4 Million



Slope Support

Conclusion

- Strong need
- Practical solution
- Economically viable

Acknowledgements

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