Adaptive Motocross

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Introduction:

GOAL
Design and produce a deployable stabilization system, crash bar, and foot constraints that allow riders to start and stop without the use of their legs.

BACKGROUND
Our team developed this stability system for a local paraplegic motocross enthusiast. The bike that everything was developed for was a 2011 KTM350 sx-f. There are very few products for paraplegic motocross riders that make starting and stopping easy.

Design:

The final design for our support system involves a simple 4 bar mechanism and a linear actuator. When the linear actuator is retracted, the support legs are conveniently stored under the bike. The actuator can be turned on using a switch on the handle bar, and will extend out until the legs reach the ground.

THE BIKE:

THE TEAM:

Results:

Foot Constraints
First Support Arm Prototype
Final Support Arm
Crash Bar

Note: This is foot constraint v1. It is designed to be able to rotate to any position the rider desires and also hold the user's feet so that it is secure and protected while riding.

Note: This is the support arm v1 it was designed to hold the bike up while coming to a stop with out the use of the rider's legs.

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