

Test Plan

For A New Designed Hybrid Bicycle



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1.1



Test Plan:

1. Test Plan overview

This following test plan is used to ensure whether the final product meets the functional specifications' requirements. The multiple tests will be covered all high-level product mechanism and system performances in different kinds of condition.

2. Propulsion Test Plans

2.1 Pedal Assist sub-mode

Test Unit	Test Procedure	Expectation
Propulsion By motor	Pedaling	The motor automatically turns on at maximum load
Propulsion By pedaling	Pedaling	Smooth riding experience
Throttle Control	Rotating the Throttle	No response from motor

2.2 Throttle Control sub-mode

Test Unit	Test Procedure	Expectation
Throttle Control	More rotation of throttle	More power will be delivered to the wheel
Pedal only	Pedaling	No response from motor

2.3 Human Power sub-mode

Test Unit	Test Procedure	Expectation
Propulsion By pedaling	Pedaling	No response from motor
Throttle Control	Rotating the Throttle	No response from motor

3. Generator Test Plans

Test Unit	Test Procedure	Expectation
Regeneration Braking	Rotating the rotary potentiometer	Braking applies and batteries are charging

4. Control System Test Plans

Test Unit	Test Procedure	Expectation
Battery percentage Display	Turn on display board	LCD shows proper battery percentage
Speed Display	Riding HEB	LCD shows proper riding speed
Mode changing while riding	Changing the bicycle mode by pressing the mode switch	The bicycle mode can be changed properly

5. Durability Test Plan

Test Unit	Test Procedure	Expectation
Waterproof	Riding in raining day	Every single function of HEB are working properly
Ability to withstand Terrain interference	Riding in various road conditions	Every single function of HEB are working properly
Ability to withstand high Temperature	Long-term riding in high temperature	Every single function of HEB are working properly