

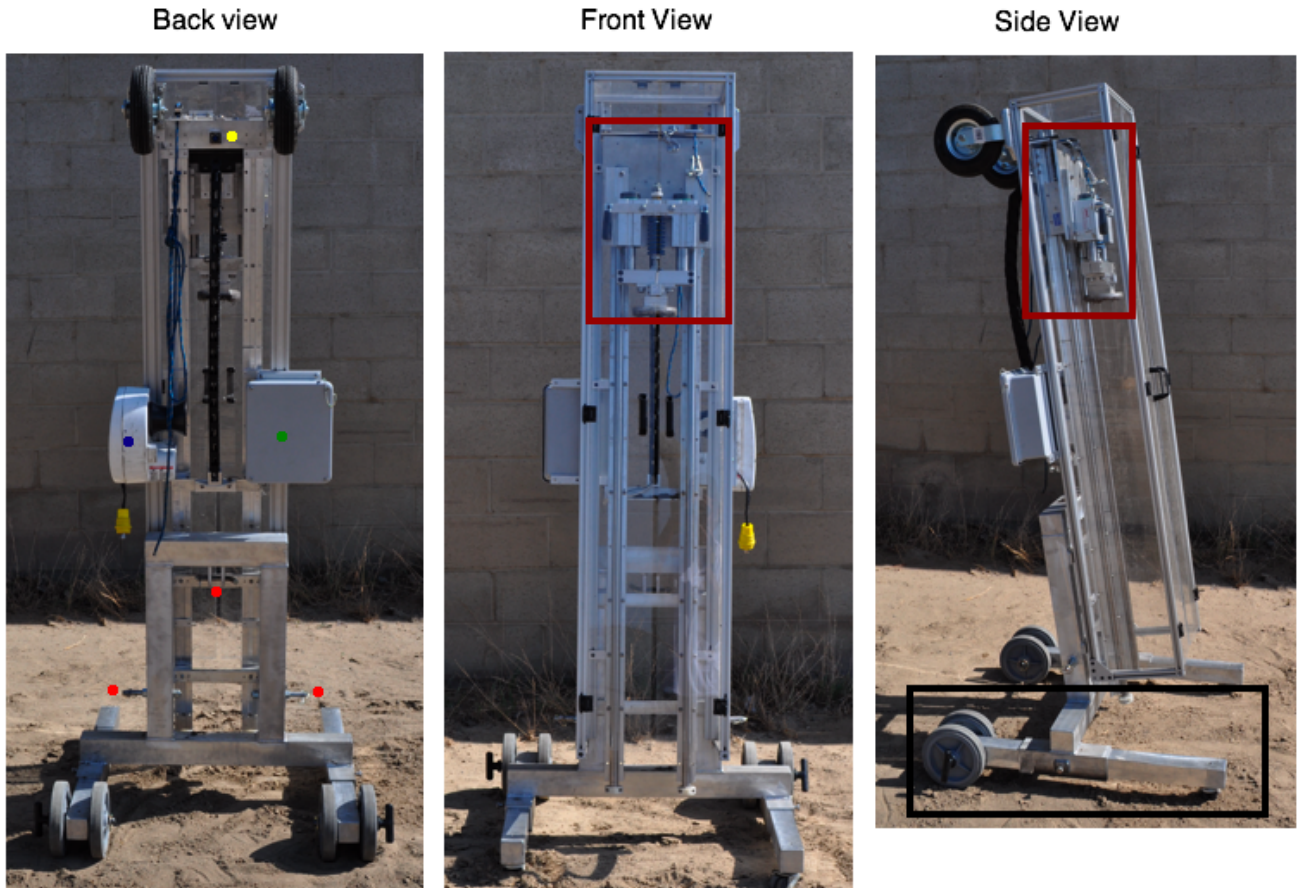
Bio Mechanical Hoof Tester Operator's Manual



Introduction:

To inform the user, this manual will begin with a set of reference figures outlining the components of the Bio Mechanical Hoof Tester. The manual will then break down the use of the Bio Mechanical Hoof Tester into three parts: 1st Assembly, 2nd Data Collection, 3rd Disassembly and Storage.

Figure 1: Bio Mechanical Hoof Tester with component description



- Hitch points (3 total)
- Winch
- Instrumentation power supply box
- Electro Static Magnet

□ Slide Assembly

□ Wheel Assembly

Figure 2: Three Point Hitch



Figure 3: Digital Readouts and On/Off Switch



- Digital Display (Force and Angle)
- On/Off Switch
- Winch and Hitch Control



- Force Display
- Dynamic Angle Display

Figure 4: Controls and Trigger Switch

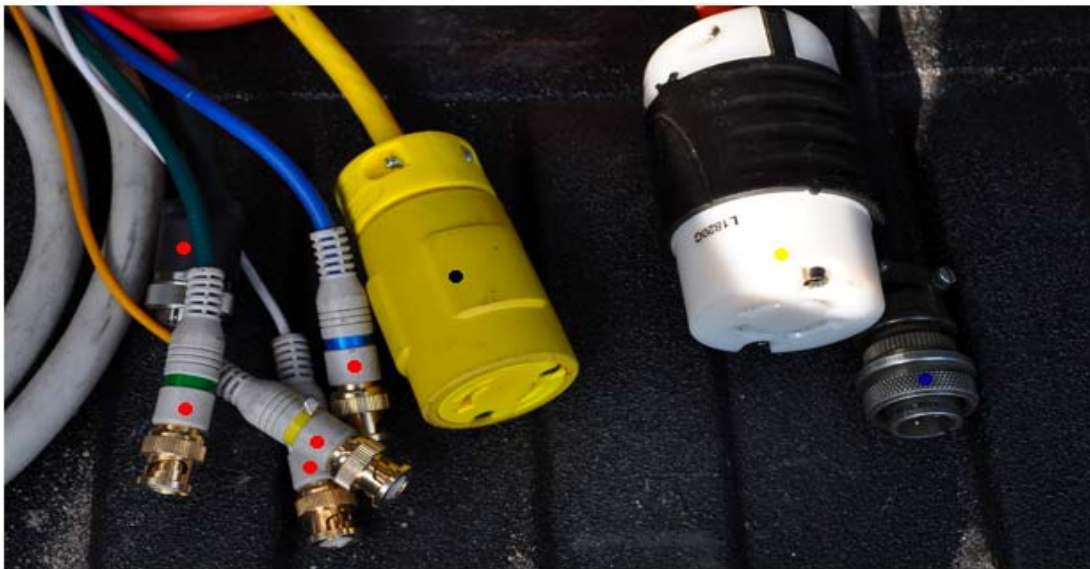


- Hitch Toggle switch (Up/Down)
- Winch Toggle switch (Up)



- Trigger Button

Figure 5: Power Supply Connectors



- Instrumentation Connectors (connects to instrumentation power supply box)
- Winch Power Supply Connector
- Hitch Power Supply Connector
- Electro Static Magnet Power Supply Connector

Assembly Stage:

For ease of installment, park the vehicle and equipment on a solid, level surface. Put the vehicle in park and leave running. Note that it is best to have the vehicle running throughout the entire process.

Step 1: Open rear doors and expose equipment.



Step 2: Remove Bio Mechanical Hoof Tester.



① The wheel assembly is in storage position

Step 3: Stand Bio Mechanical Hoof Tester up and slide wheels into free-standing position.



Wheel assembly in free standing position

Step 4: Tighten thumb screws to secure wheel assembly in free-standing position.



Step 5: Remove 3 Point Hitch from the vehicle and install in Hitch Receiver.



Make sure hitch pin is installed

Step 6: Position Bio Mechanical Hoof Tester for installment of three-point hitch. Install hitch points and replace safety pins.



• Hitch Points Attached

Step 7: With the Bio Mechanical Hoof Tester installed on the three-point hitch, the next step is to connect all connectors to the Bio Mechanical Hoof Tester. Reference Figures 1, 2 and 5 to see where appropriate connections are to be made. (Note: Each connection has a unique connector except for the Instrumentation Power Supply Box, which has 4 connectors that are color-coded.)



- Electro Static Magnet Connected
- Instrumentation Connectors Connected
- Winch Connected
- Three Point Hitch Connected

Step 8: With all power and instrumentation connections made, turn main power source to on position.



Step 9: With main power source turned on, raise the Bio Mechanical Hoof Tester from the ground and remove wheel assembly and thumb screws. (Note: It is important that the thumb screws are not left in the machine. There should be no loose parts with the possibility of being lost on the race track.)



Step 9: With the Bio Mechanical Hoof Tester raised to travel position and the wheel assembly removed, the Bio Mechanical Hoof Tester is ready for testing. (Note: The rear doors of the vehicle are closed and the hatch is opened.)



Data Collection:

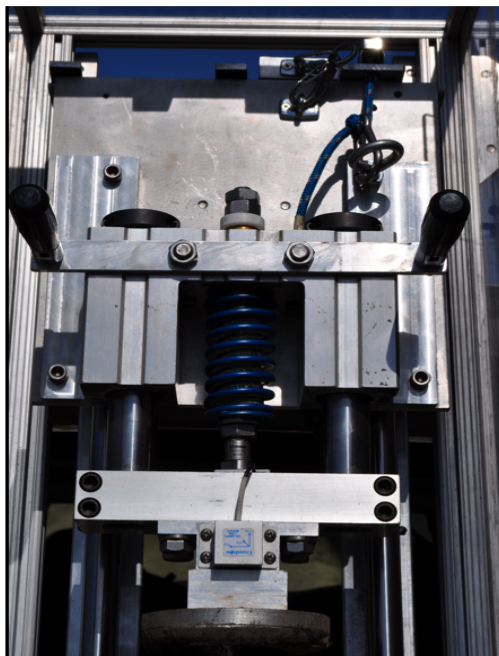
Step 1: Once the Bio Mechanical Hoof Tester has been positioned into the test location, lower the Apparatus onto the ground. The Apparatus should be firmly positioned on the ground and taking the weight of the vehicle.



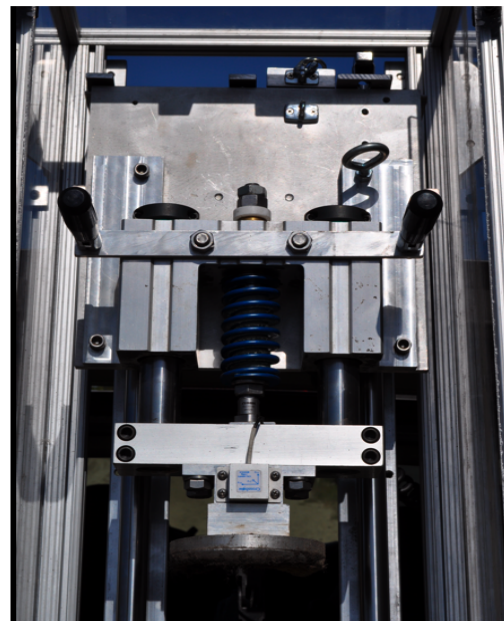
Test Apparatus firmly place on the ground

Step 2: Remove safety catch and winch rope.

Catch and Winch Rope Attached



Catch and Winch Rope Detached



With the Apparatus firmly placed on the ground and the safety catch and winch rope removed, the Apparatus is ready to take data. Before continuing to the next step, make sure that none of the wires attached to the Apparatus are in a position that would allow them to be pinched when the slide assembly is dropped.

Step 3: Using the trigger switch, drop the slide assembly. (Note: There should be nothing underneath the hoof that would interfere with its impact on the track surface.)



Step 4: Record data from digital displays.



Step 5: Raise the slide assembly until contact is made with the electrostatic magnet.



Step 6: Raise the apparatus to travel position and move vehicle to the next desired location.

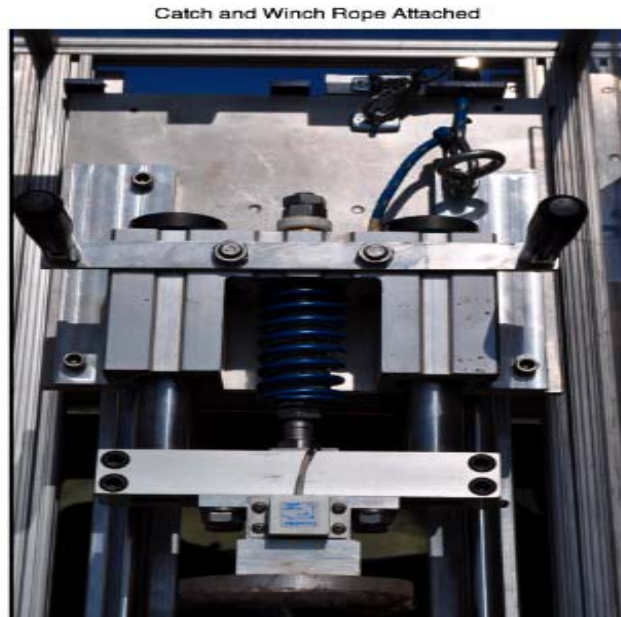


Once the apparatus is located in the next testing location, repeat steps 1 – 6.

Disassembly and Storage:

Once all data has been collected from the track, return to solid and level ground for disassembly.

Step 1: Reattach the Winch Rope and Safety Catch.



Step 2: Reinstall the wheel assembly and lower the apparatus to the ground.

Step 3: With the safety catch and winch rope attached, disconnect all wires from the Bio Mechanical Hoof Tester.

Step 4: Turn power off.



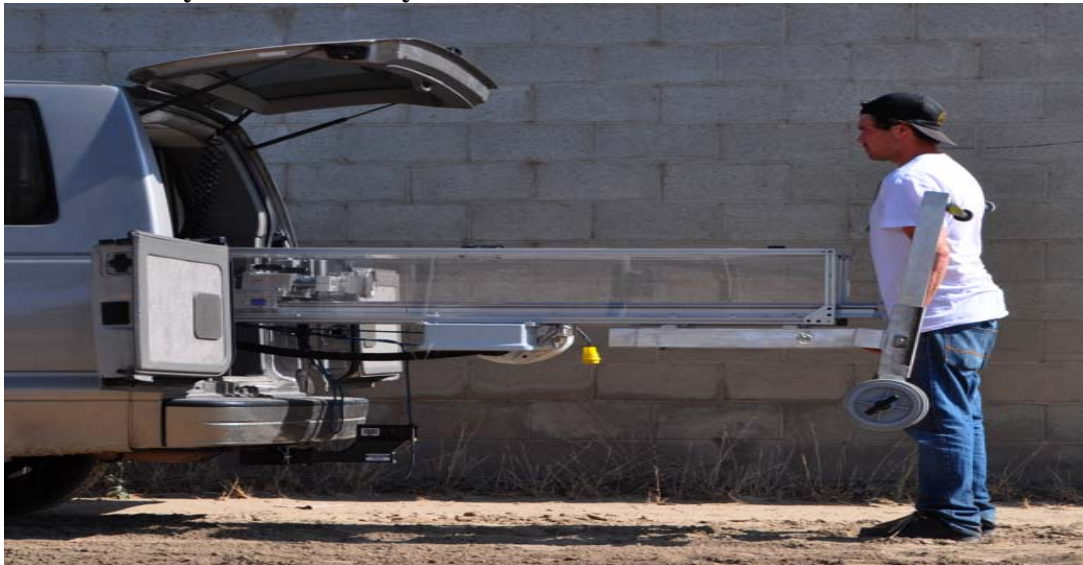
Step 5: Remove Bio Mechanical Hoof Tester from the three-point hitch.

Step 6: Remove the three-point hitch and place in the side door of the vehicle.

Step 7: Move Bio Mechanical Hoof Tester wheel assembly to storage position. Tilt machine over and place large wheels on the tail gate of vehicle.



Step 8: Lift machine by wheel assembly cross bar and wheel into vehicle.



Step 9: Close vehicle doors.