MD MUSTANG DYNAMOMETER

Quick Start Guide

Table of Contents:

Key:

▷ - PowerDyne function

Bold/Underline - PowerDyne Menu selection

Bold - PowerDyne Button / Popup Selection

TIP - Helpful tip

⚠️ - Extremely important!

To Bring Car Onto Lift

Turn on shop vent fan

Lift

Up (this locks roller brake)

- Bring wheel just behind roller
  TIP *You want the wheel to be "climbing" the roller during operation*
- Chock both sides of one wheel
- Use 4 tiedowns
- Tighten straps (somewhat loose)

Lift

Down (this unlocks roller brake)

- Roll to 10 MPH to center the car   ⚠️ **Keep hands on the steering wheel!**
- Tighten straps fully
- Lock handles

TIP *crisscross straps on front wheel drive cars*

- Place engine cooling fan in front of car
- Open shop doors
- Mount AFR Sensor
- Mount exhaust vent hoses
- Open Window
- Turn on vehicle exhaust vent fan

⚠️ DO NOT USE BRAKES!

Enter a New Vehicle

➤ **File**

   ➤ **Load Configuration**

      ➤ select **2WD** or **AWD**

➤ **Database**

   ➤ **Customer Vehicles**

  ➤ select **New Search**

     • Enter the First and Last name

      ➤ select **Save**

      ➤ select **Vehicles**

    Enter the: • Plate
- Year
- Make
- Model
- Weight
- HP @ 50
- Cylinders
- Displacement

      ➤ select **Save**

     ➤ select **Select**

    ➤ select **Exit**

  ➤ select **Exit**

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To Find a Vehicle

Database

    Pick Vehicle For Testing

- Enter the name

select **Search**

select the desired vehicle

select **OK**

OBD-II Functions

TIP **You must reload OBD-II whenever you restart the program or turn the car ON/OFF**

Calibration

Scan Tool Setup

OBD-II

- Select the channel to edit
- Pick parameter by scrolling down

To view parameters on PowerDyne:

Double click the window you want changed

- Scroll down
- Select parameter

select **OK**

RPM Configuration

▸ **Calibration**

  ▸ **SmartTach Setup**

    ▸ **Download Inductive Configuration** (verify "Remote" on SmartTach)

To change the RPM Source from **Spark Plug** to **OBD-II** or **VS/VS**:

▸ **Calibration**

▸ **Dyno Parameters**

- Locate the **Engine RPM Input Source** area (top right corner)

  ▸ select **OBD-II** or **Analog** (Spark Plug for Inductive) (TS1) (OPT)

      TIP *make sure the switch box is at the correct position, **A** or **B***

- Rev the engine to 3,000 RPM for inductive

TIP *If the RPM drops off, change the threshold voltage with the following instructions:*

  ▸ **Calibration**

    ▸ **SmartTach Setup**

    ▸ **Set Threshold Voltage**

- The **Default** is **1.760** (The range is **0-5 V**)
  ▸ Change the **Default** to **.95**
- Rev the engine to 3,000 RPM
- If it still drops off, ▸ change the **Default** to **2.15**

TIP *If RPM is different between the Car Tach and the Computer, calibrate with the following instructions:*

  ▸ **Calibration**

    ▸ **SmartTach Setup**

    ▸ **Set Pulse/Rev**

- Set so that SmartTach and the computer/screen RPMs match.

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Tests

Basic Horsepower Test

Tests

> **Performance**

>> **Power Curve**

- Set the **Start Speed** to **50 MPH**
- Set the **Stop Speed** to **80-130 MPH** (depending on HP)

click **Start Test**

- Be in 4th gear @ 40 MPH (or closest 1:1 ratio), then launch.

⚠ **Check tie-down straps after run!**

Basic 1/4 Mile Test

Tests

> **Timing**

>> **1/4 Mile**

click **Start Test**

⚠ **Check tie-down straps after run!**

*PowerDyne auto-saves results when "**Save Trace**" and "**Save Result**" is highlighted (not grayed-out)*

⚠ DO NOT USE BRAKES!

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Calibration Verification / Maintenance

Calibration

▸ **Calibration**

 ▸ **Load Cell Calibration**

  ▸ **Load Cell 1**

- Verify that the **Current (in)** and **Current (zero)** are within 0.04 of each other

 To Recalibrate:

 ▸ click **Zero** with no weight

 - Place a 50 lb. cal weight on the load cell

 ▸ click **Span**

 ▸ click **OK**

Maintenance (Lubrication)

Every 6 months:

- Grease pillow blocks with Mobile Synthetic Grease (High Temp)
- PAU (1 place) Remove Allen screw opposite zerk fitting

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