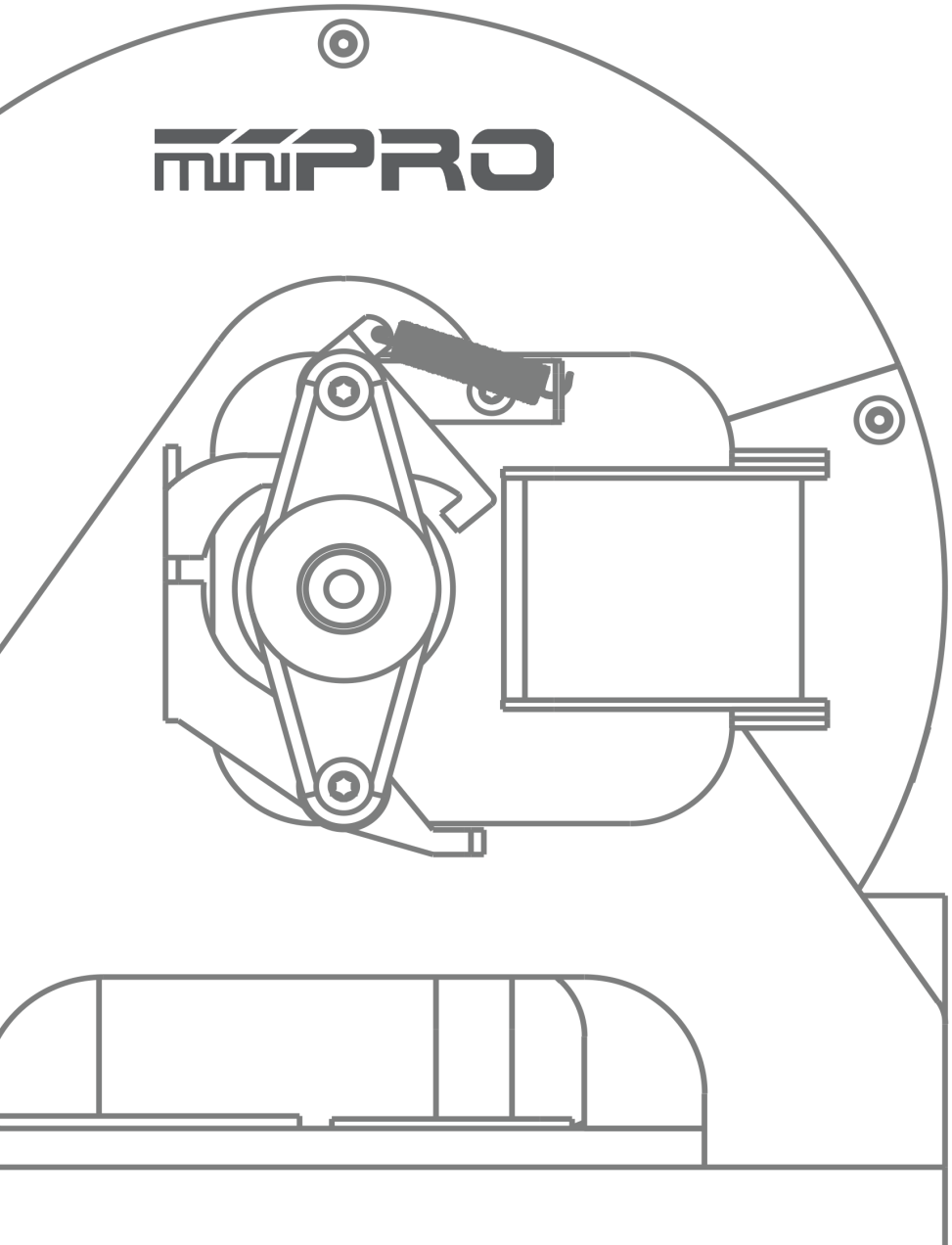
I200 INERTIA DYNO

QUICK START GUIDE

Customer: Dr. Matthews



MTPRO

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USING THIS GUIDE

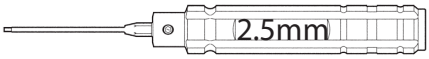
Before Using the Dyno

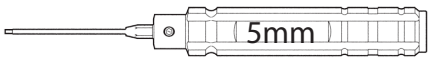
This dyno is a high-quality motor analyzing tool intended for persons with previous experience operating AC C-Frame motors. This is not a toy; it is a precision testing equipment. Make sure that dynamometers and motors under test are equipped with appropriate safety guards.

Before building and operating your dyno, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly. Contents of the box may differ from pictures. In line with our policy of continuous product development, the exact specifications of the dyno may vary without prior notice.

TOOLS REQUIRED

Allen: 2.5mm, 5mm





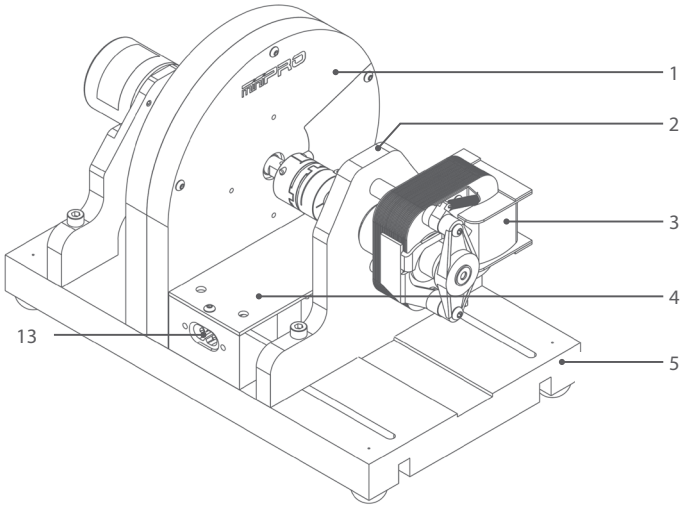
EQUIPMENT REQUIRED

Windows PC

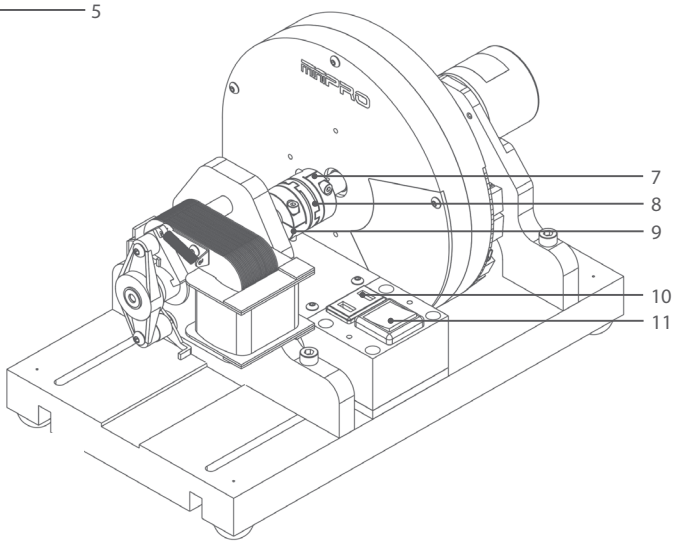
Operating System: 7, 8, or 10
(1) USB Port for Dyno

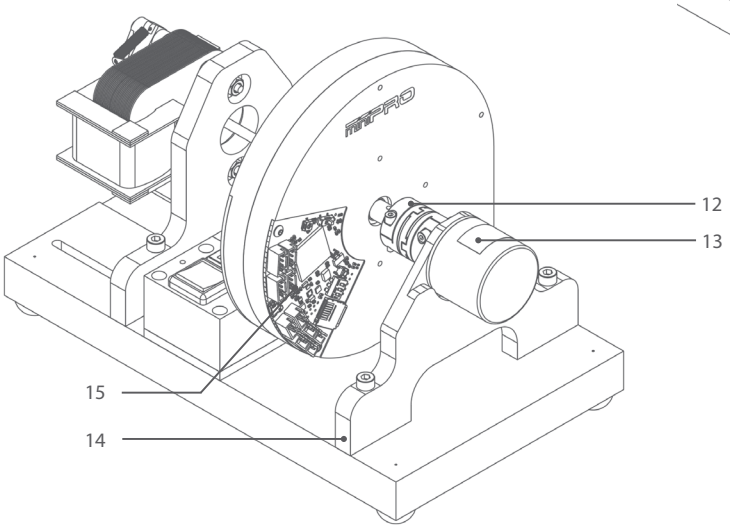
DYNO FEATURE HIGHLIGHTS

This is a C-Frame (custom) inertia dynamometer (dyno) that is ready to motors out of the box. Featuring an onboard electrical board equipped with an rotary rpm sensor that measures motor speeds at up to 4,500 rpm. The board is also equipped with auxiliary ports for an external LCD screen, throttle controller, and different types of sensors for measuring voltage, current, and temperature. A balanced flywheel (inertia mass) is enclosed by a high grade aluminum 6061 cover to provide safety. The flywheel is replaceable, that means you are not limited to the same load when testing your motors. This dyno is great tool for motor analysis, acceleration testing, kV/rpm measuring, voltage drop, current draw, power, and torque output analysis.



1. Flywheel Assy. Unit
2. Motor Holder
3. C-Frame Motor
4. Voltage and Current Sensor Box
5. Base
6. A/C Power Cable
7. Flywheel Coupling
8. Coupling Disc
9. Motor Coupling
10. Motor Power Input
11. ON/OFF Switch





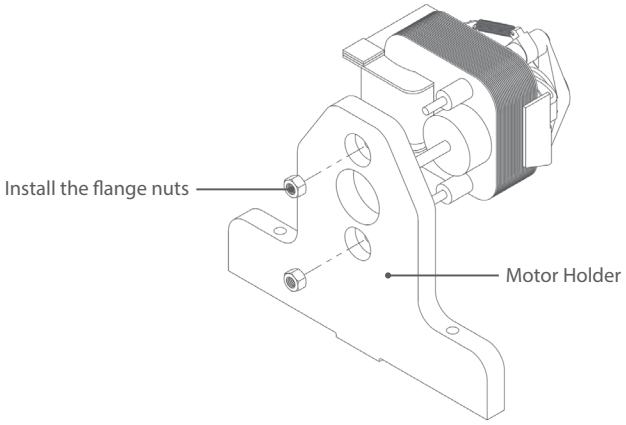
12. Rotary Encoder Coupling Assy.
13. Rotary Encoder
13. Electronic Board
14. Rotary Encoder Holder
15. Dyno Electronic Board

* May not be included in your kit.

INSTALLING A MOTOR

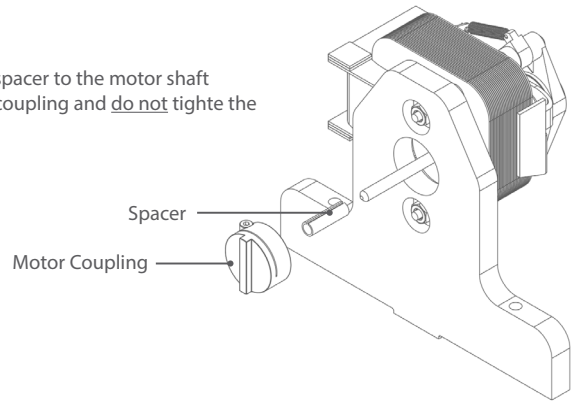
The dyno its already been pre-assembled. All you need to do is install the test motor.

1 Install the Motor to the Motor Holder

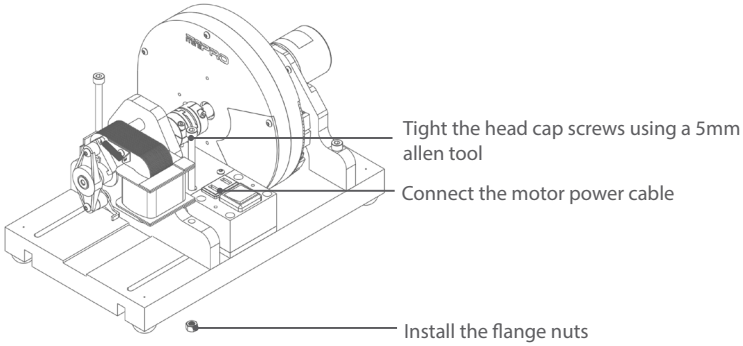


2 Install Motor Coupling

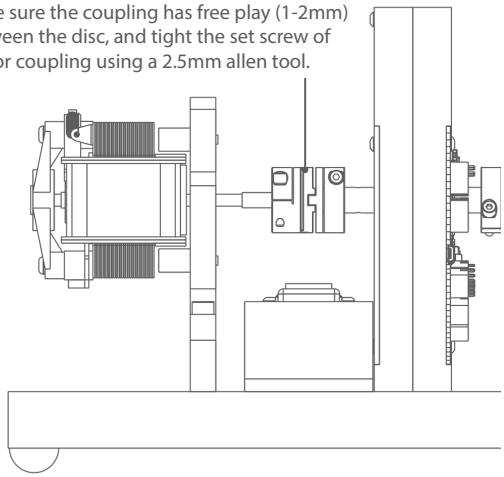
2.1 Install spacer to the motor shaft
2.2 Install coupling and do not tighte the set screw.



3 Install the Motor Holder to the Dynamometer



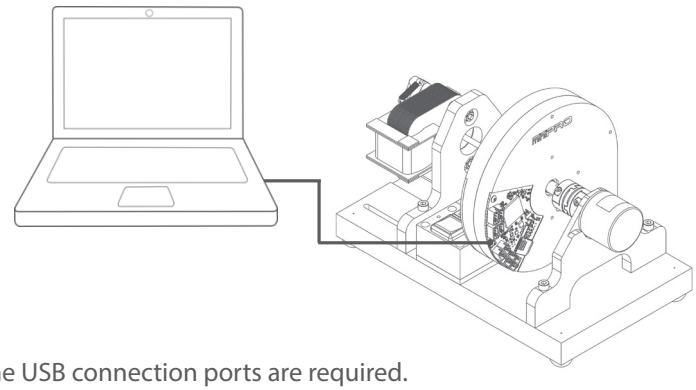
Make sure the coupling has free play (1-2mm) between the disc, and tight the set screw of motor coupling using a 2.5mm allen tool.



SAMPLE TEST RUN

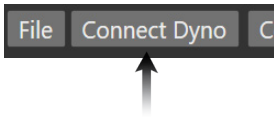
Manual Test Mode

1 **Connect the dyno to the PC using the micro USB cable.**

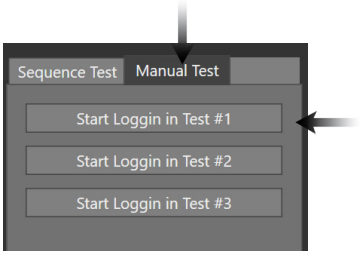


NOTE: One USB connection ports are required.

2 **Open the Application, and select the click "Connect."**

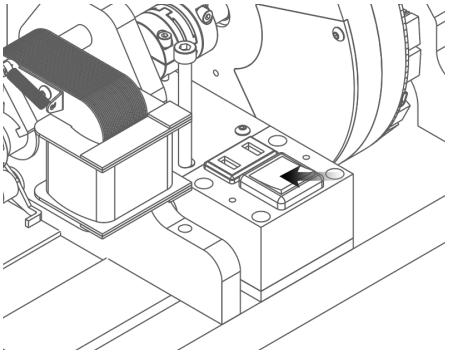


3 **Click "Manual Test Tab" following the Test number (Start Loging)**



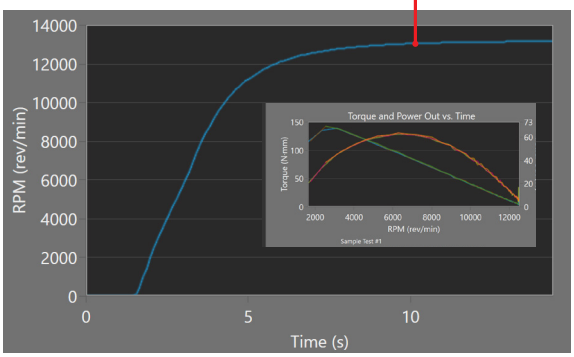
The MINIPRO Data Analyzer will start logging the data received by the dynamometer

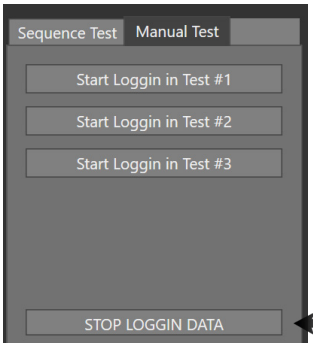
4 **Turn ON the Sensor Switch to start the Motor**



5 **When you reach maximum RPM, click "Stop Loggin Data."**

Max. RPM as soon torque and power reaches zero.

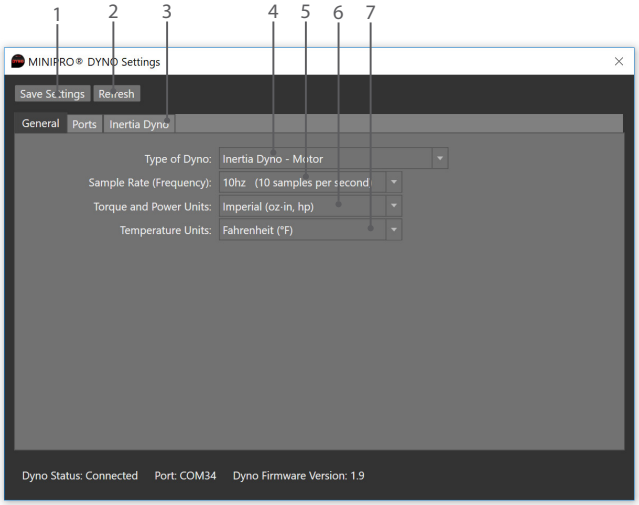


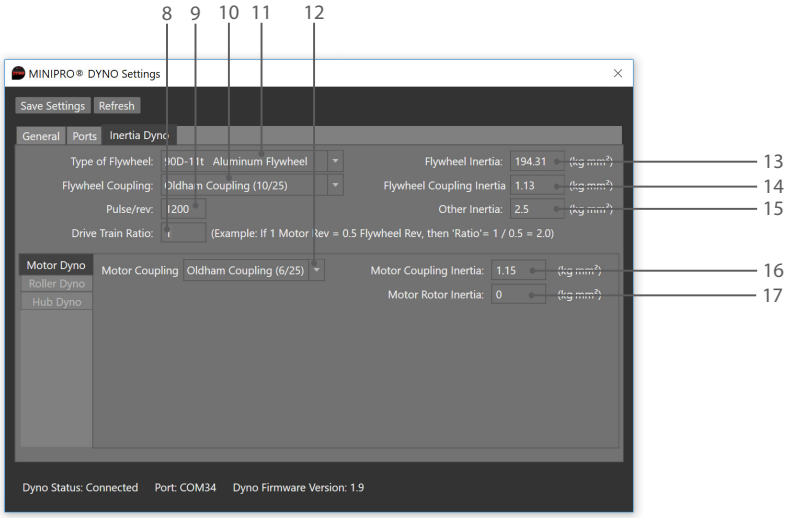


DYNO SETUP

General Settings

To access the settings of your dyno, you must open the MINIPRO Data Analyzer, click “Connect Dyno” and select “Setup.”





1. Saves the settings of your dyno
2. Refresh (re-load) the settings of the dyno
3. Inertia Dyno Settings Tab
4. Set the type of dyno
5. Set sample rate (Frequency)
6. Set the units for torque and power
7. Set the units for temperature
8. Set the ratio between the rotation of the flywheel and the power source (ex. motor)
9. Set the pulse per revolution of the flywheel
10. Set the flywheel coupling
11. Set the type of flywheel
12. Set the motor coupling
13. Set the inertia of the flywheel
14. Set the flywheel coupling inertia
15. Set other/additional inertia of the dyno
16. Set motor coupling inertia
17. Set motor rotor inertia

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