

Quick Start Guide for Dyno DataMite USB

This sheet hits the major points for getting your dyno up and running quickly.

1) DO NOT plug in DataMite USB yet. Install the software from the CD and unlock the program by mailing or calling Performance Trends with your numbers as outlined on the sheets stapled to the CD envelope, or on page 3 in the manual. Note that the software will run for 10 days without any limitations, so you do NOT have to unlock it before going to the next steps below.

2) Plug in DataMite USB via USB cable to one of your computer's USB ports (either with or without power supply connected). You should hear the USB connect sound, and your computer should say "Found new hardware". It may ask if it should connect to the internet to find a driver. Say No, and when it asks for you for a CD, put the Performance Trends Installation CD in your computer. **Wait about 60 seconds to see if the Installation Wizard comes up.** If it does, then click on OK for the intro messages, then click on Stop in the lower left corner to shut it down. With the Installation Wizard gone, follow the instructions in the Found New Hardware Wizard.

3) Check the individual instruction sheets folded and placed in the user manual, or packaged with the individual sensors and parts. These give critical instructions especially for your particular dyno system. Pay particular attention to:

- Notes on Dyno Configuration. **Be sure to open the correct File from the Example Test Files when you start configuring the software for your dyno. You need to start with the correct example file to get your computer to communicate with your DataMite USB.**
- Dyno Software setup for DataMite USB.
- Various schematics showing how the DataMite connects to power and various sensors.
- Calibration sheets for various sensors. Calibrations are entered into the DataMite specs menu in the program as outlined in Section 2.5 in the manual, starting on page 51.
- Appendix 2: Hardware Installation and Operation in the manual on page 189 also has tips on system installation.

Additional important tips for installation

- Mount the data logger and your computer as far as practical from the engine to avoid electrical interference from the ignition system.
- Avoid mounting any electronic boxes on surfaces which vibrate from engine vibration or are exposed to exhaust or engine heat.
- Avoid **coiling up** excess length of sensor leads, as coils of wire are more apt to pick up electrical noise than cables stretched out.

3) Shakedown/Troubleshooting: Before you can run dyno tests, you must make sure that the sensors are all reading. This is most easily done in the "Current Readings" screen on page 75 in the manual. Example 4.1 on page 143 is also good reading for Black Box II installations and Example 4.3 on page 173 is good for DataMite II installations.

A common problem is not being able to initially communicate with the data logger. Check Appendix 3, Troubleshooting in the manual on page 199 and especially page 200 for help.

4) Running your dyno tests: Check Example 4.1 on page 143 for typical inertia dyno tests. Check Example 4.3 on page 173 for absorber dyno tests. For chassis dynos, check the Index under "Chassis Dyno" for pages discussing this type of dyno.

5) Page through the entire manual when you have time. We know no one will read it all, but at least look at the pictures and captions to fully understand all the features in this data logger package.

USB Driver Installation Sheet

This sheet hits the major points for getting your data logger communicating to your computer.

Plug in your Performance Trends USB device to one of your computer's USB ports You should hear the USB connect sound, and your computer should say "Found new hardware".



It may ask if it should connect to the internet to find a driver. Say No, and when it asks for you for a CD, put the Performance Trends Installation CD in your computer (the same CD which contains your data loggers software). When the Installation Wizard comes up, click on Stop at lower left corner.

Wait about 60 seconds to see if the USB Driver Installation Wizard comes up.

If it does, then click on OK for the intro messages, then click on Stop in the lower left corner to shut it down. With the Installation Wizard gone, follow the instructions in the Found New Hardware Wizard. When complete, it should now say "Your hardware is ready to use."

If it does NOT, then unplug your USB cable from the computer. Remove and reinstall the Performance Trends Installation CD again. When the Installation Wizard comes up click on the "Install DataMite Utilities" button in the "Data Logger Programs" section at the upper right corner.

Choose "Install 64 bit DataMite USB Drivers" (for most new, 64 bit computers). Follow program instructions for installing USB Driver, accepting all default suggestions if offered. Once completely done installing, click on "Stop" at lower left corner of the Installation Wizard and remove the CD. Start up your software and see if it communicates now.

A screenshot of the "Performance Trends Installation Wizard" window. The window title is "Performance Trends Installation Wizard" and it includes a navigation bar with "Options", "Movies", "Product Comparisons", and a website link. The main area is divided into several sections: "Engine Performance Programs", "Engine Building Tools", "Drag Racing Tools", "Circle Track/Road Race Tools", and "Data Logger Programs". Each section contains a grid of buttons for "Install This Program" and "View Brochure". A tooltip is visible over the "Install DataMite Utilities" button, listing options like "Install DataMite II 'Box' Update Utility" and "Install 64 bit DataMite USB Drivers (Vista/Win 7)". At the bottom left, there is a "Stop" button and a "Click here to install various utility programs..." link. A "Quick Start for DataMite III USB Dyno.pub page 2" link is also present at the bottom left of the page.

Quick Start for DataMite III USB Dyno.pub page 2

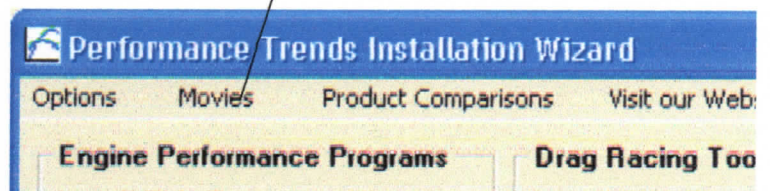
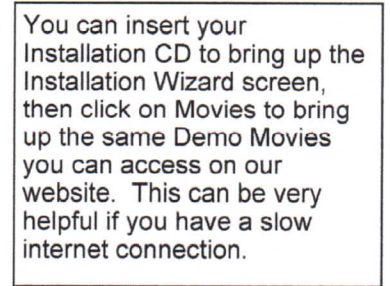
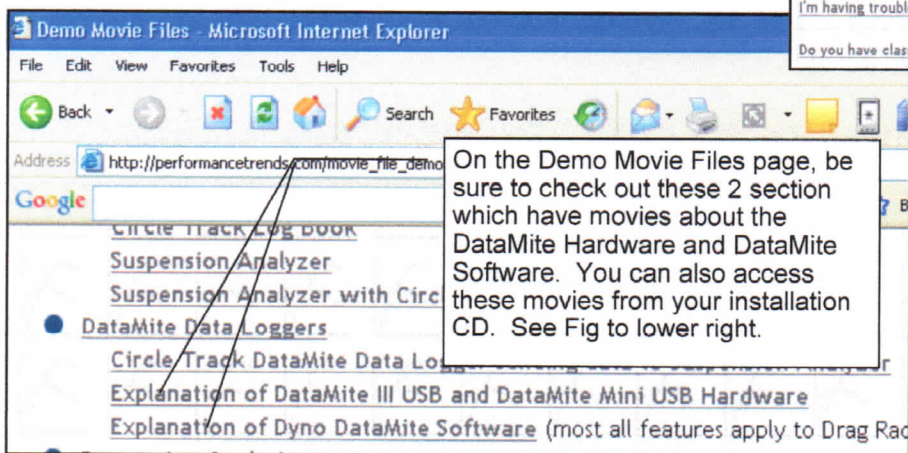
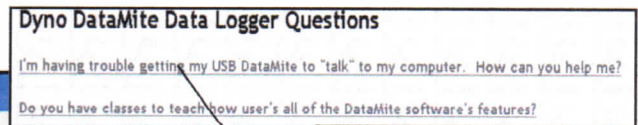
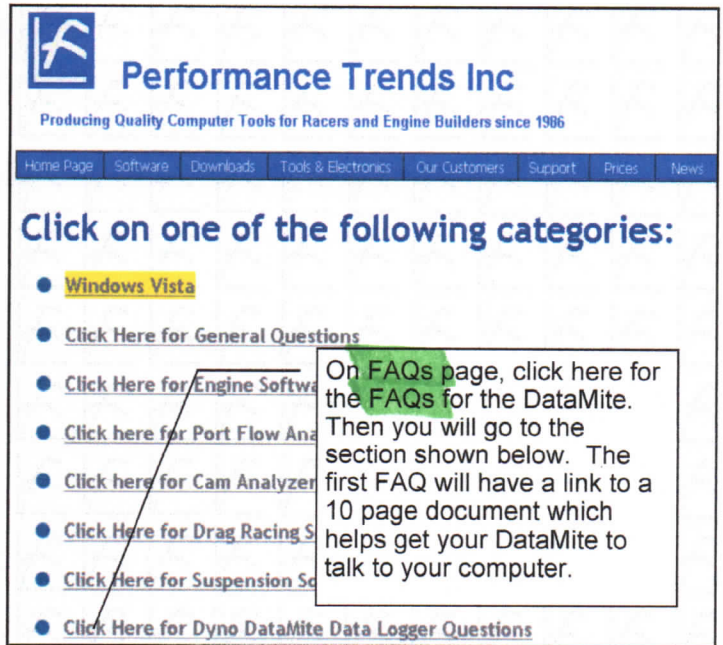
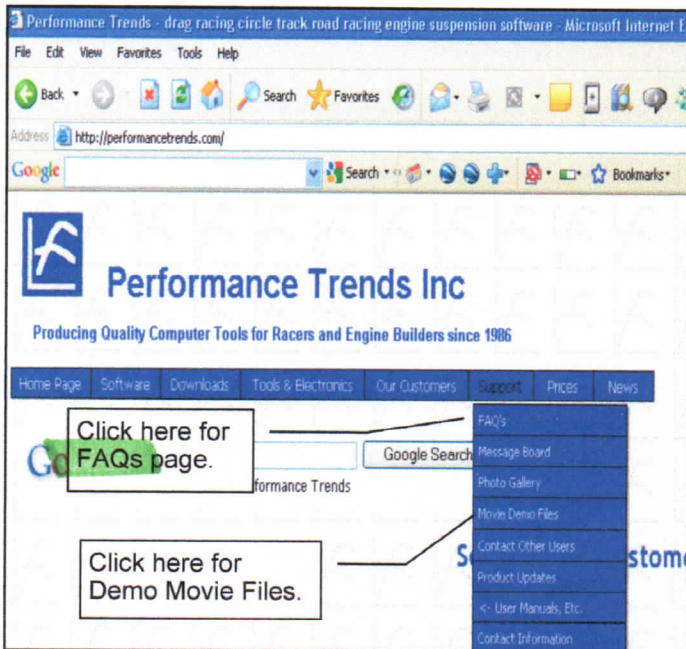
DataMite Info on our Website and CD

If you go to our website www.performancetrends.com there are lots of tools to help you understand the hardware and software, and get going quickly.

If you have Internet Explorer, you can click on "Help" at top of main screen of your DataMite software, then "Performance Trends on the Web" to go to www.performancetrends.com automatically.

Once on our website, click on "Support" at top of main menu bar, then "FAQs". At the FAQs page, select "Click Here for Dyno DataMite Data Logger Questions". The first FAQ of "I'm having trouble getting my USB DataMite to "talk" to my computer. How can you help me." has some excellent info for getting going.

Once on our website, you can also click on "Support" at top of main menu bar, then "Movie Demo Files", then choose either of the "DataMite Hardware" or "DataMite Software" section of movie files. There are about 20 narrated, instructional movie files, each about 6-12 minutes in length. These movies are also available on your CD, but clicking on Movies at the top of the Installation Wizard, then "DataMite Hardware" or "DataMite Software".



DataMite III/4 USB Dyno Wiring for Inertia Dyno

Check Appendix 2, starting on page 189, especially Section 4 Selecting Locations for Mounting your DataMite USB on page 192 for more tips on installing your system.

DC power in. Note, system may function with just USB power, but results will not be accurate without this DC power connected.

Thermocouples for temperature measurements plug into 4 connectors here.

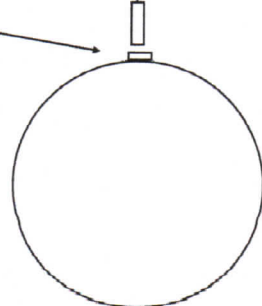
To computer's USB port

USB cable, connects to bottom connector on Black Box II with male pins



Dyno wheel or shaft with magnet(s) attached. Typically 1 magnet only is best.

Dyno wheel RPM sensor. Typically .100" gap works well.



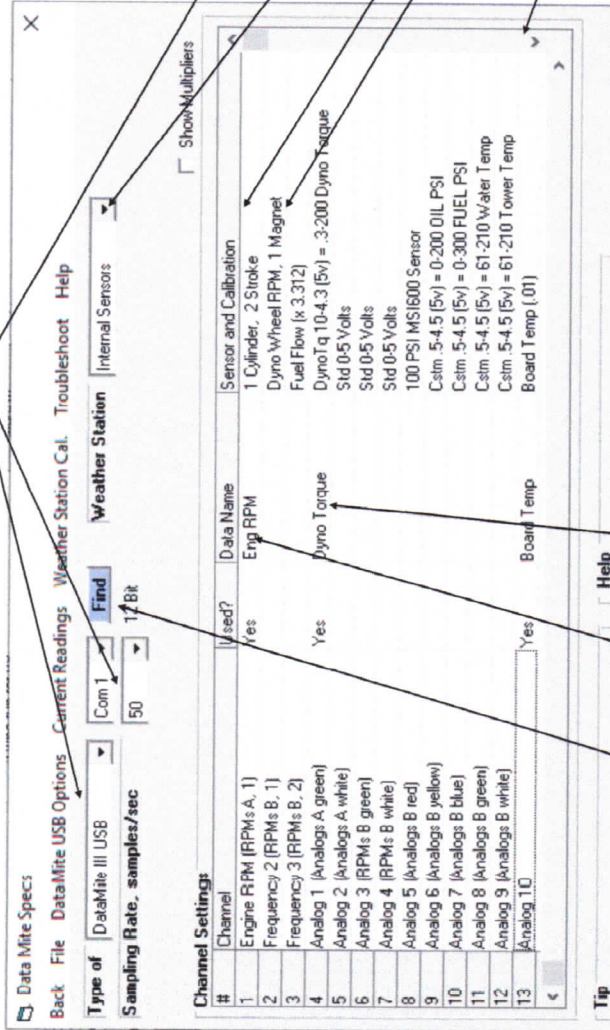
Inductive pickup box, cleans up plug wire signal.

Clip this wire to spark plug wire if using inductive pickup box.

For "coil on plug", you may have to remove clip and place wire near or around coil(s).

DataMite USB Dyno Software Setup

If you Open the correct Example Test File **BEFORE** setting up the software (see "Notes on Your Dyno Configuration" sheet) then most critical settings will be correct when you open this screen.



Configure DataMite III Channels by first clicking on DataMite at top of main screen.

Select "DataMite III USB", "DataMite 4 USB", or "DataMite Mini USB" (whichever you have) as the "Type" as shown here and select 50 samples per second (or slower).

Assign Internal Sensors if you have Internal Weather Station.

For Inertia Dynos, you typically use both RPM channels as shown here. Most all single cylinder Kart engines (Briggs included) will use the Engine RPM config of 1 Cylinder, 2 Stroke.

For most DataMite III & 4 systems with thermocouples, you will use internal Thermocouple Channels. Slide the slide bar down to see these channels, which are below the section of screen shown here.

IMPORTANT:

Click on the "Find" button to find possible Com ports. To start, choose the highest Com Port # shown (except possibly 3).

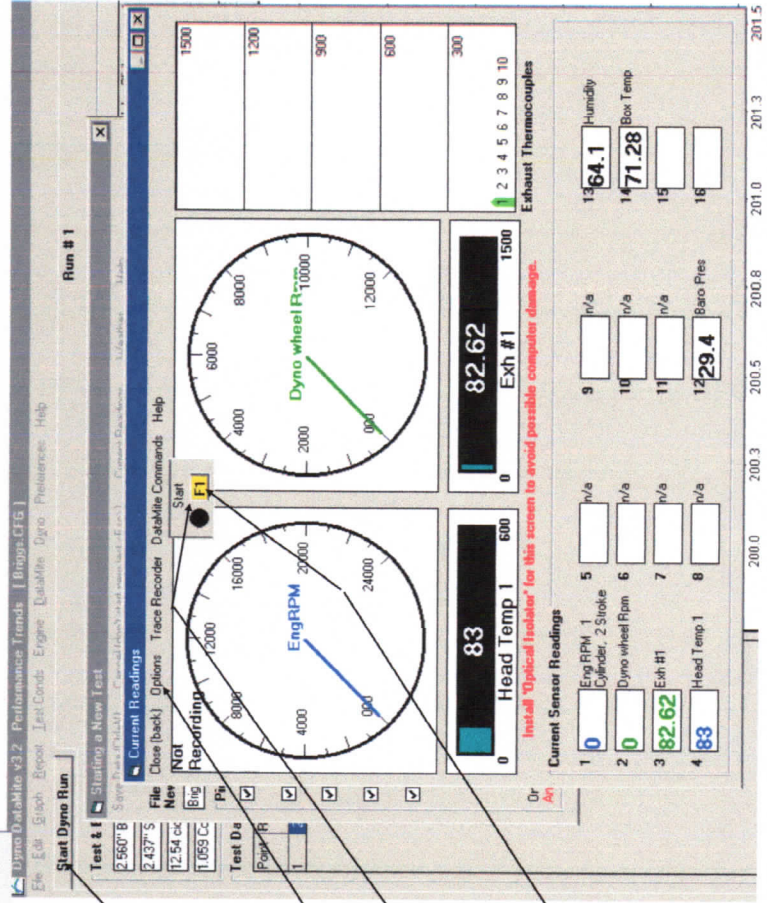
For Absorber Dynos, like a water brake, Stuska™, Go Power™, use Analog Channels 1 or 2 for Dyno Torque. Also, because the dyno is typically direct drive to the dyno, you will assign Engine RPM as 1 Cylinder, 2 Stroke and use RPM Channel 1 for Dyno RPM. Channel 2 RPM will typically NOT be used.

To start a test, click on Start Dyno Run button

Click on Options to set which channels show up on these Gauges

Press <F1> key to start recording data for the test.

Press <F2> key at the end of the test.

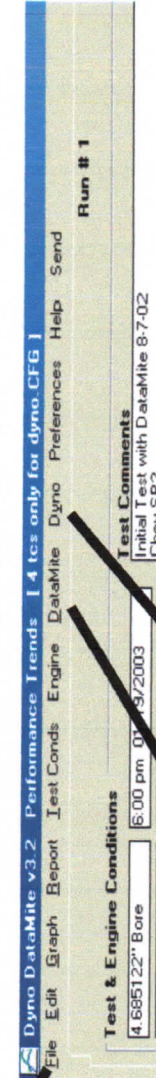


Notes on Your Dyno Configuration

Click on "File", then "Open" (from all saved tests)". Then choose this Example test to start building your first test file, which will configure your DataMite and Dyno Specs.

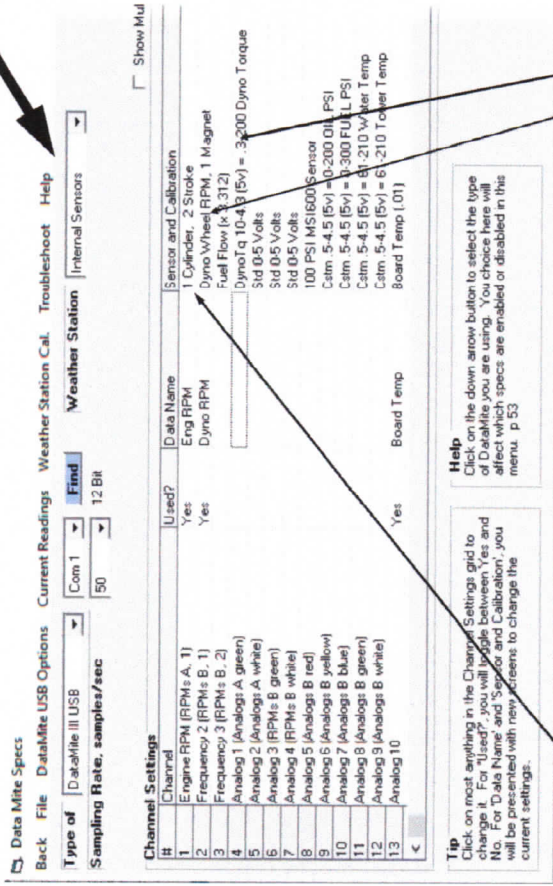
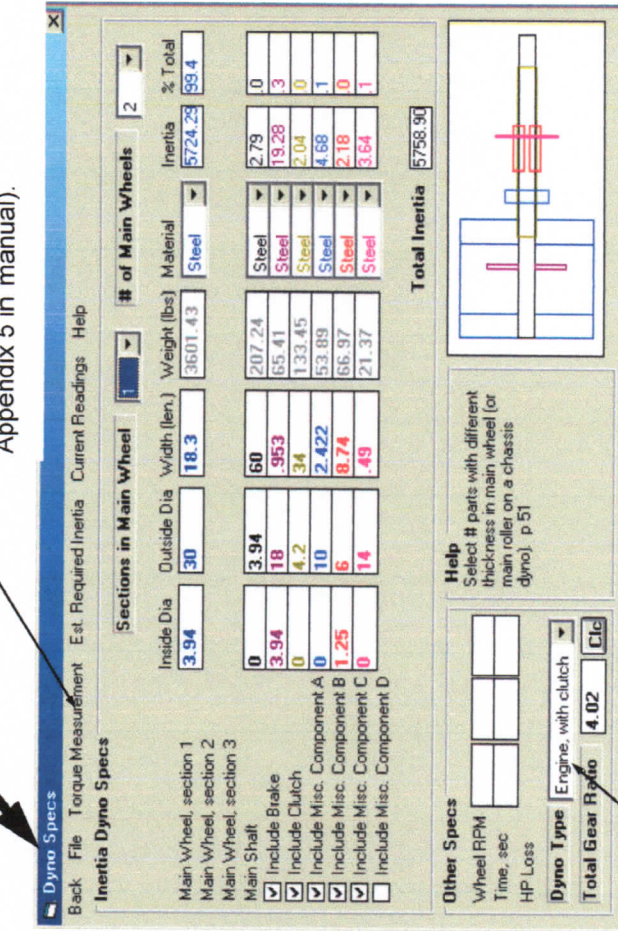
- ___ Stock Briggs.cfg
- ___ ALC-MAG.cfg
- ___ Black Box II.cfg
- ___ USB DataMite Dyno.cfg
- ___ DataMite Mini
- ___ DataMite 4 USB Example.cfg
- ___ USB Example.CFG
- ___ DataMite 4 Absorber w Fuel.cfg

First click on File, then Open (from all saved tests) to open an example test file, similar to the dyno and DataMite system you have. Then click on DataMite and Dyno to obtain critical menus shown below to configure your Dyno system



Click on Torque Measurement to tell program you have:

- 1) An inertia dyno
- 2) An absorber (torque arm) dyno (see Appendix 5 in manual).



First row, Engine RPM: set to

1 Cylinder, 2 Stroke

Note: For chassis dynos, Engine RPM calibration can also be set in Test Conds screen, especially if you are Calculating Engine RPM from the roller RPM. Many times it makes more sense to set it there because vehicles and engines often change.

Row 2 (frequency row 2): set to

Dyno Wheel RPM, 1 Magnet

If Absorber Type Dyno: Analog 1 set to

N/A

Dyno Type setting determines if you will measure both engine and dyno RPM, or if you need to. We recommend you select:

- Engine, direct drive
- Chassis Dyno
- Engine, with clutch
- Chassis Dyno, no eng RPM

Total Gear Ratio is then:
Critical to enter correctly

Used only for clutch slip calculations
Not used

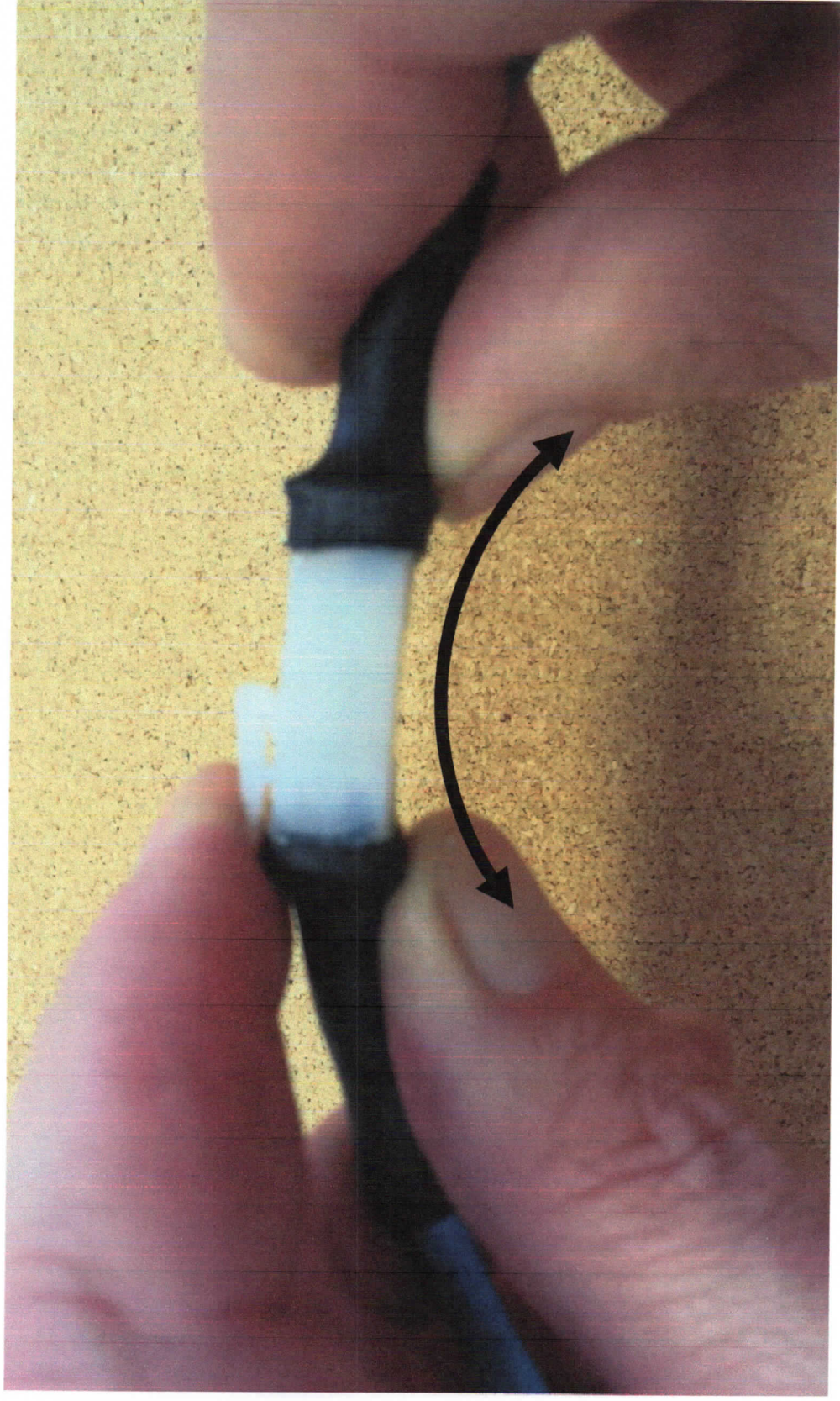
Vehicle info for Chassis Dyno are entered in Test Conds screen (Pro version only)

IMPORTANT: For this Dyno Type, go into Preferences, then Calculations tab, then set "Engine RPM is Calculated RPM" to NO.

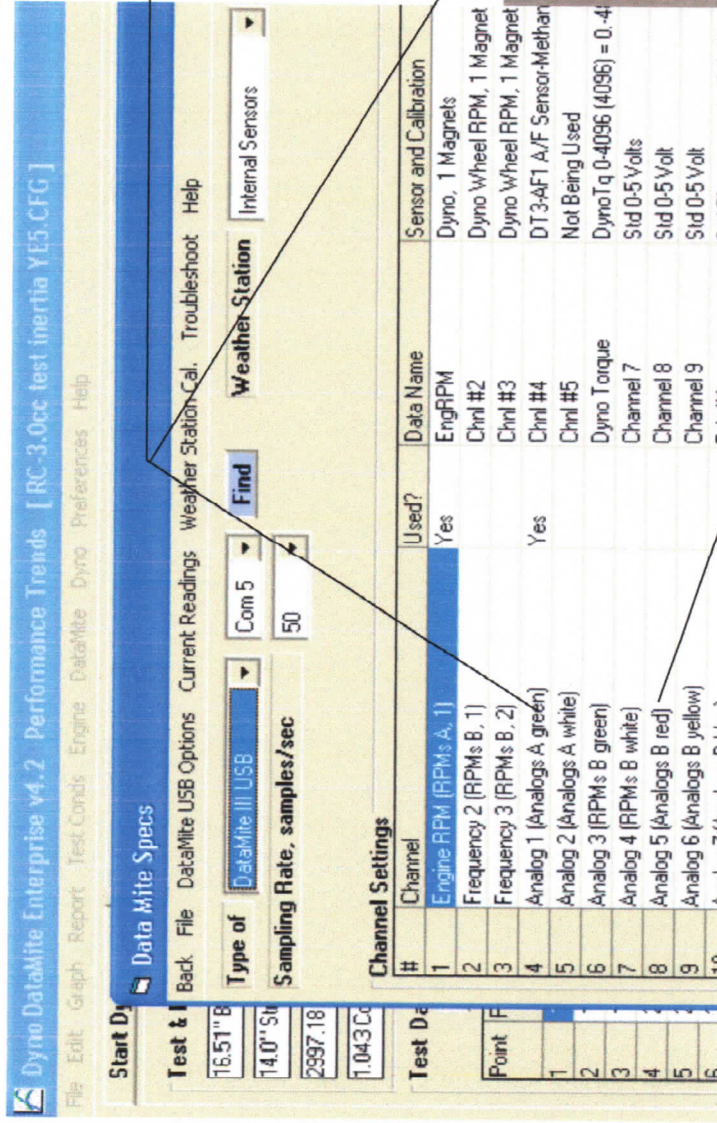
Once you have made these critical changes, click on File at the top of these screens, then Save as Master DataMite (or Dyno) specs.

Releasing (unhooking) Molex Connectors w Shrink Tubing Strain Reliefs

Some connectors come with shrink tubing to act as the strain relief. On the connector with the latch, the shrink tubing can make it difficult to press the latch far enough to unhook it. However, if you grab both connectors by the shrink tubing and connector, and bend them as shown below, it makes it much easier to unlatch them.

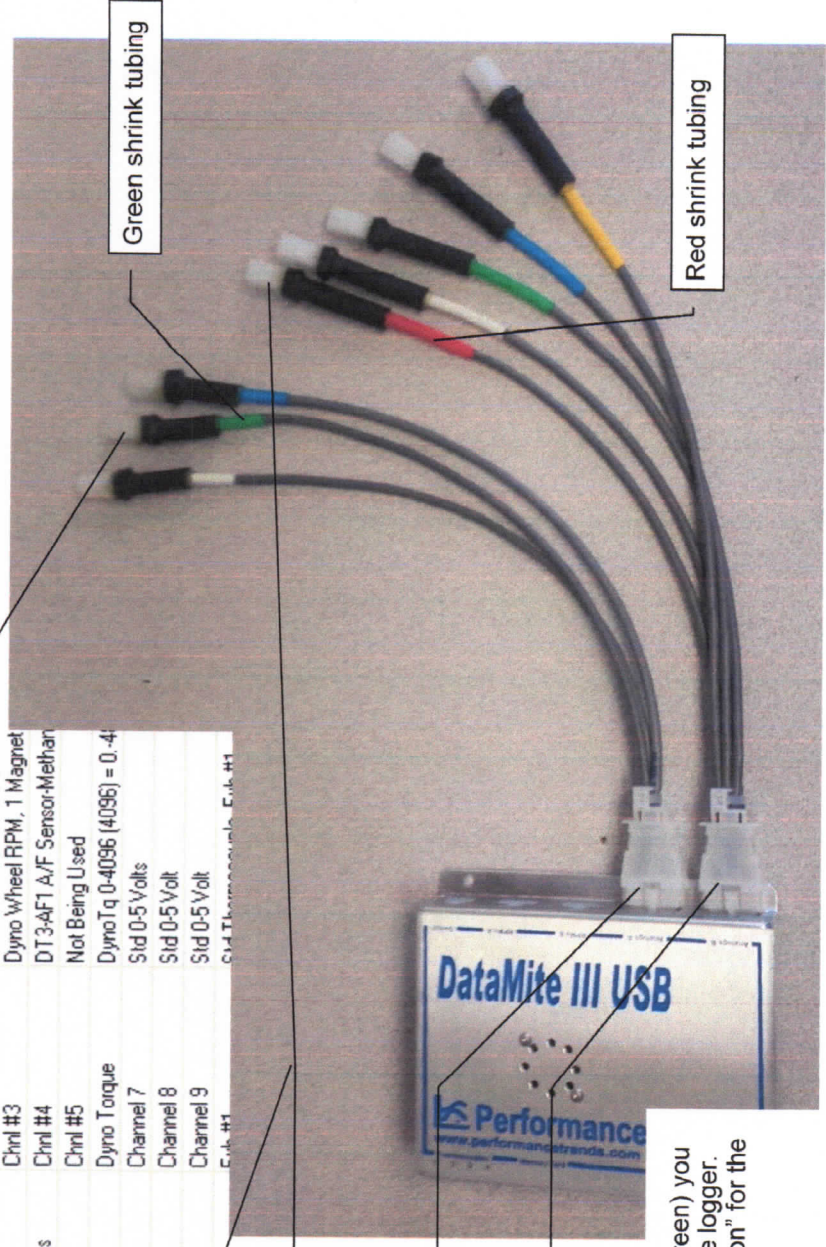


DataMite III and 4 Analog Breakout Cable



To keep the DataMite logger small, but still provide a lot of channels required us to keep the number of connectors on the box low. To access many channels through a single connector, we provide "breakout cables", with 1 connector on the end that plugs into the DataMite box and many connectors on the other end for individual sensors.

The location of the breakout cable (Analog A or Analogs B) and the color of the shrink tubing on the 4 pin connector determine which channel is assigned to this particular sensor in the software. For example, Analog 1 (Analog A green) is the sensor and calibration for the sensor plugged into the green connector on the breakout cable. As shown in the software to the left, this connector would be for reading a DT3-AF1 A/F sensor.



Analog B red is connected to the red connector on the breakout cable plugged into Analogs B.

Analog A, provides for 3 channels with DataMite III and 5 channels with DataMite 4.

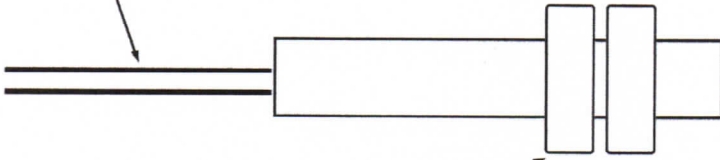
Analog B, provides for 5 channels with both DataMite III DataMite 4.

Except for Dyno Tq (which must plug into Analogs A green) you can connect any analog sensor into any channel on the logger. You just must assign the correct "Sensor and Calibration" for the sensor connected to that particular channel.

RPM Sensor Setup

DTM-RPMA

Note: Do NOT overtighten these nuts as you may crack the body of the sensor.



This sensor is simply an On/Off switch and does not have polarity. It does not matter which lead you hook to which side of your circuit.

If you are replacing a sensor, you will attach one side of this sensor to the black wire.

Depending on the type of harness you have, you will either attach the other wire to:

The white wire (if present)

Or the red wire (if no white wire is present).

To check if a sensor is working: Switch your volt meter to ohms Ω (resistance) and disconnect the sensor from the DataMite logger. Put the probes across the 2 terminals connected to the black and either red or white wire terminals as described above (pins 1 and 4 in picture to lower left). You may have to remove the strain relief "cap" from the connector to see the color of the wires. (Note: Some cables will have a terminal for the red wire even if there is also a terminal for the white wire. In those cases the red wire is not used.)

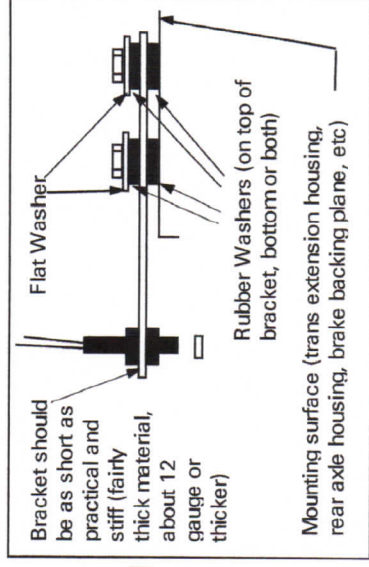
With no magnet, the resistance ohms should be very high (infinity). With a magnet at the tip of the sensor (either north or south pole), the resistance should be less than 5 ohms.

6 5 4



3 2 1

Typical 6 pin connector attached to cable to this type RPM sensor. Pins 1 and 4 are typically connected to this sensor. Pin 6 may be present but is not used for this type sensor.



Occasionally vibration will induce noise spikes on the RPM channel. If this happens, check the suggestions for mounting the magnets. Also, consider mounting your RPM bracket between rubber washers or absorbers. See picture to the right.

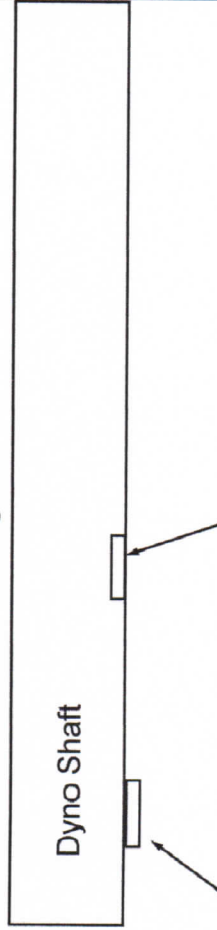
Installing Magnets for RPM Measurements

Most of the DataMite RPM sensors will trigger off magnets. The 2 wire sensors trigger off either a North or South pole, the 3 wire sensors only trigger off a South pole only. For Dynos, it may be necessary to isolate the sensor from vibration, like mounting the bracket in rubber.

For Dynos: For shafts or wheels which reach RPMs of 1600 RPM or greater, it is recommended to use **ONLY 1 MAGNET**. This eliminates any spacing issues which produces erratic RPM readings. The Black Box II does not have a magnet spacing problem, so on the Black Box II, 2 magnets can be used, but only if you need RPM measurements below 400 RPM.

For Road Racing/Circle Track Racing: Two (2) magnets per wheel or driveshaft work well.

For Drag Racing (where it is critical to catch RPM the moment things start to turn): Four (4) magnets per wheel work well. On Driveshafts, where the RPM can get quite high, it is still recommended you use 2 magnets.



Mount the magnet on the surface of the shaft with quick set, 2 part epoxy.

Countersinking the magnet into the shaft or wheel is **NOT** recommended as it seems to weaken the magnet's strength.

IMPORTANT: An epoxied magnet can eventually come loose and fly off. If people can be around the rotating component, put a shield around it to prevent the magnet from injuring yourself or bystanders.

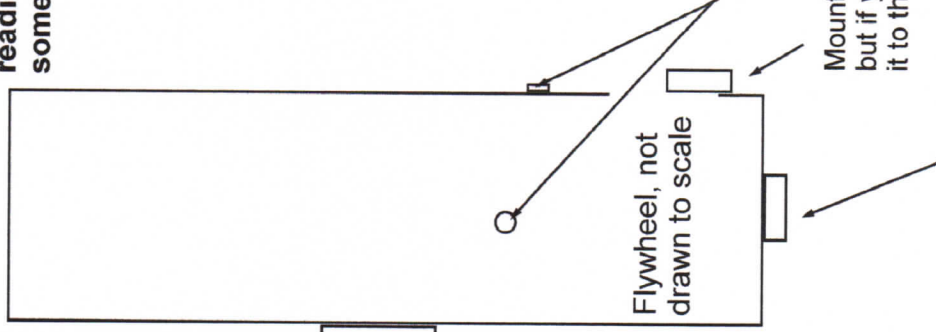
To check if a magnet and RPM sensor is working, you must get the wheel or shaft spinning to some minimum RPM to get a reading. This can be as high as 450 RPM on some systems with just 1 magnet installed.



Apply epoxy to wheel or shaft and place magnet into it. If steel, magnet will attach to wheel. Then place additional epoxy over top of magnet and let set.

Smaller, rare earth magnets can also work well.

Mounting magnets on the side of the flywheel can work, but if you encounter "noise", we will recommend moving it to the outside edge, as described below.

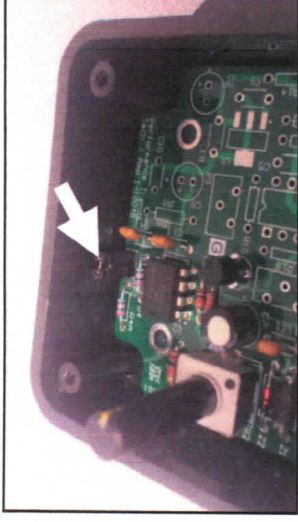


For most Kart inertia dynos, we have the best luck mounting one magnet on the outside edge of the wheel.

DataMite External Inductive Pickup Wiring Installation

Important: Do *not* kill engine by disconnecting the plug wire from the spark plug. This may cause high voltage spikes to travel back to your computer, damaging your COM port, or this inductive pickup box. Instead, ground the spark plug to kill the engine.

At higher RPM on 4 or more cylinder engines, the Inductive Pickup may stop working. There is a jumper inside the IPU (shown by arrow) which will extend this range higher. The jumper typical comes connected to only 1 leg of the jumper for storage. If you need to extend the RPM range, remove it and slide it over both legs of JP2.



Important: If tip is not insulated, do not get it near metal spark plug tip. Also, if something prevents plug from firing (fouled plug, missing plug, broken plug wire) the high voltage can jump to this Inductive Pickup box and damage it. These things are not covered by warranty.

Mounting Tip: To avoid excessive vibration, it is best to mount OFF the engine stand. If possible, leave the box hang its connecting cable.

Tie wrap or clip purple wire from Inductive Pickup to spark plug wire. Sometimes you may have to remove the clip top place purple wire next to coil or spark plug for COP (coil on plug) engines.

If you are getting erratic Engine RPM readings: Adjust the sensitivity knob (or screw through the hole in the top on earlier versions). Clockwise (CW) rotation makes the system LESS sensitive. Many times you want to go LESS sensitive to improve the readings.

Another thing to try is to click on "Preferences" (top of main screen), then the "Calculations, cont.", then change the DataMite III USB Frequency Signal settings from whatever it is to the other choice.

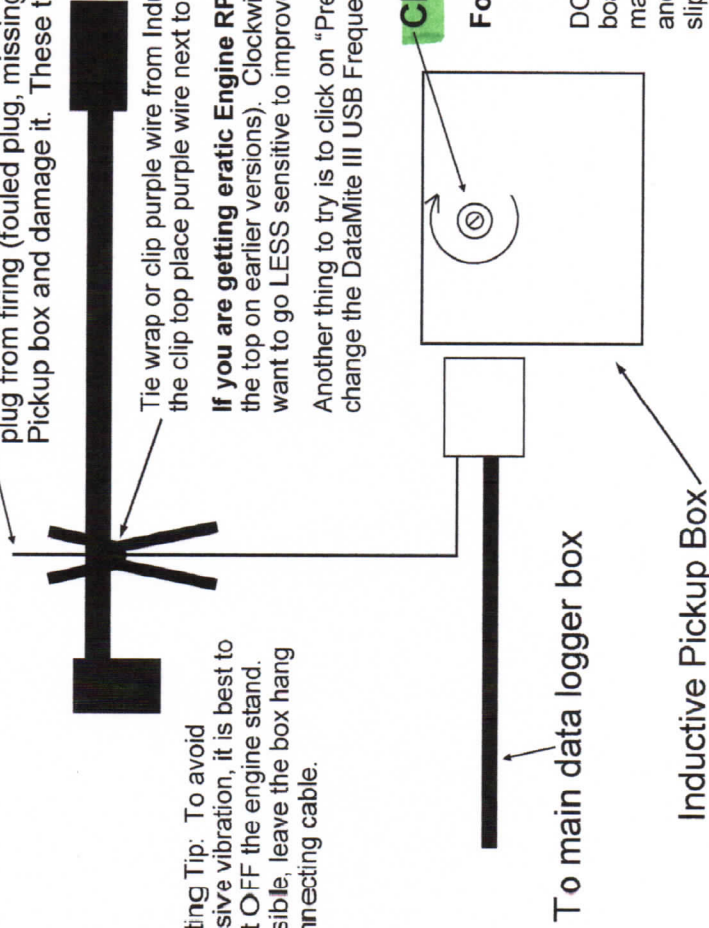
Clockwise, Less sensitive (boxes with knob)

For older boxes, with screw inside hole in top of box:

Counter Clockwise, Less sensitive (old boxes)

Clockwise, Less sensitive (newer boxes w blue button)

DO NOT let metal screwdriver slip off screw or you risk shorting out the board inside. Box typically comes from factory with sensitivity set to maximum sensitivity. This is a 15 turn pot, so you can make several turns and still have adjustment. When it gets to either end of adjustment, it just slips (you may feel it click) to avoid damaging the adjustment potentiometer.



BB2-IPUP inductive pickup for low voltage wires like coil (12V) primary wire, fuel injector wire, etc.

Check the additional instructions packed with this **BB2-IPUP** for attaching this end to various signal wires.



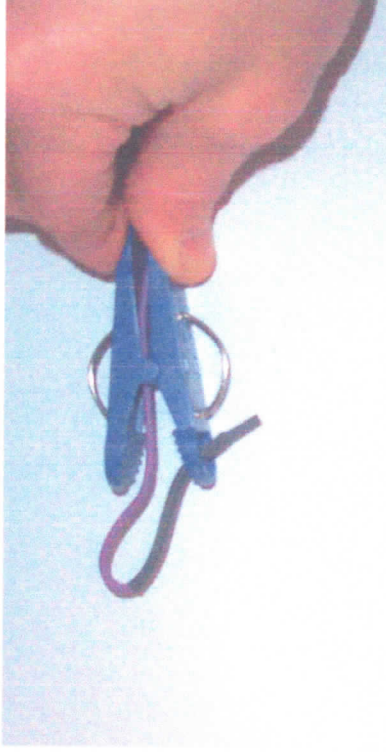
The **BB2-IPUP** replaces the Inductive Pickup Box shown above. This connector plugs into same harness connector as where the Inductive Pickup Box would plug into.

Installing DataMite Inductive Pickup Clip DTM-IPUCW

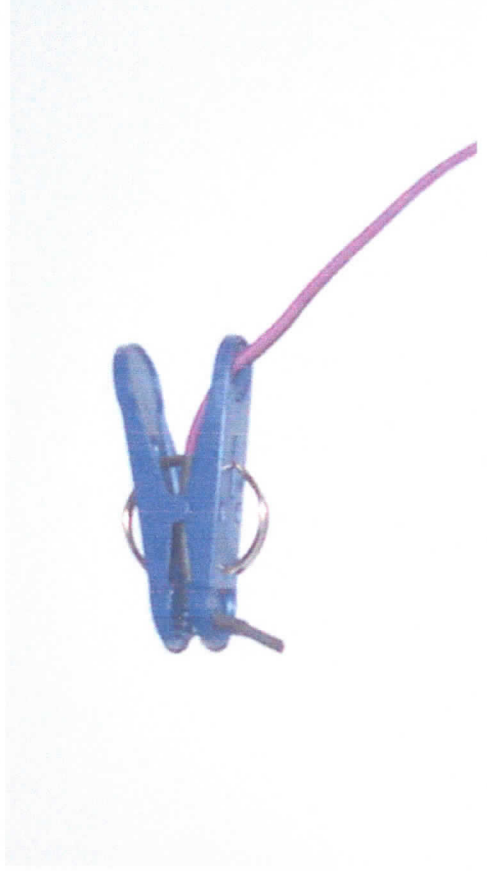
- 1) Thread inductive pickup wire (typically purple) through hole in finger pad, then through hinge and out the clip end



- 2) Now open clip and insert purple wire through hole in clip about half an inch (12 mm). Then allow clip to close some and pull wire back through hinge and hole in finger pad.



- 3) Finished clip installation should look as it does below. The clip is only to provide a convenient way to attach the purple wire to your plug wire. To adjust sensitivity, you need to adjust the sensitivity screw in the inductive pickup box. (Older inductive pickup boxes did not have this adjustment) Sometimes you may want to remove this clip, like if you need to put the purple wire close to the coil for "coil on plug" type ignition systems.



**Weather and
Thermocouple
(temperature sensor)
Information**

USB DataMite Black Box Internal Weather Station

Mount your DataMite in the same room as the engine, so the DataMite sees the same air as the engine. The Barometric Pressure and Humidity of the air at the engine WILL be the same at the engine as it is at the DataMite. However, the temperature may be different.

For improved accuracy, you can mount a thermocouple at the air inlet to the engine and assign that thermocouple as "Std Thermocouple, Eng Intake Air" in the Sensor and Calibration column in the DataMite specs and the software will then use that channel for performance corrections. If you purchased one of these air thermocouples, separate instructions will explain this in more detail.

You must configure the DataMite software for the Black Box weather station as shown below.

Fan Operation: The DataMite III and Mini USB have recirculating fans which cycle on and off for improved weather sensor accuracy and long fan life. The default fan operation for the DataMite III is with the fan cycling on and off whenever it is powered up, by the power supply or the USB cable. The Mini's fan only comes on when the "Current Readings" screen has been displayed at least once. Then it stays on for as long as the program runs, until you shut down the program. You can have the DataMite III operate much like the Mini (turning off the fan when the program is not running) by going into Preferences, the "Calculations (cont)" tab, and set "Turn Fan Off When Shutting Down" to Yes. However, if you turn off power to the DataMite III, then turn power back on, it will revert to the default condition with the fan cycling on and off whenever power is on to the DataMite III.

Calibration #s for sn _____

Select: **Internal Sensors** as the weather station in the DataMite specs.

Type in the numbers written below, then click on 'Use Calc. Value' so the program can more accurately read the weather station's readings. For most all situations, these numbers are "0"

Weather Station Cal Specs

Calib. Data from: 06/17/2002

Calibration Factors

Barometer	0
Temp	0
Humidity	0

Note:
Enter the numbers from the Calibration Sheet or Calibration Sticker on the bottom of the Performance Trends 'Black Box' Weather Station.

Use Calc Value Help Cancel Print

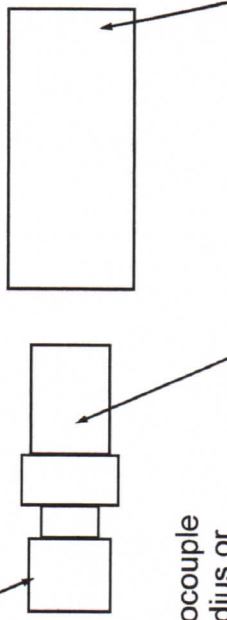
Click on Weather Station Cal. (visible only after you select 'Black Box' as the weather station) to bring up the calibration screen shown to the right.

DataMite Thermocouple Mounting Hardware

After ferrule crimp fitting is installed, slide thermocouple through it and the ferrule inside. Adjust the thermocouple to the depth you need. Then tighten the end cap to crimp the ferrule to the thermocouple shaft. **You can not adjust the depth once the ferrule has been crimped.**

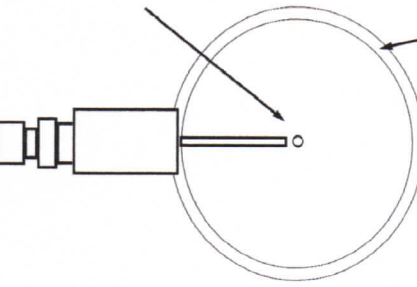


For systems reading a fluid temperature (or air temperature below 250 deg F): The ferrule in the steel fitting is replaced by 2 or 3 neoprene O rings. **After installation, be sure to check for fluid leaks.**



Ferrule crimp fitting with ferrule inside. The ferrule is the small ring, some people call a "wedding ring" or "wedding band". This is what gets crimped to the thermocouple shaft. **Once it is crimped, you can not adjust the depth of the thermocouple.** Weld pipe nipple to exhaust pipe. If you already have a pipe thread to fit the ferrule crimp fitting, you don't need this fitting.

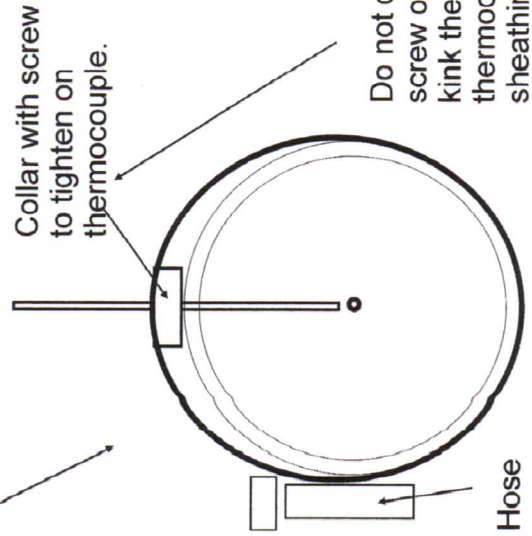
You can gently bend this thermocouple shaft to approximately a 1.0" radius or greater. Be careful not to kink.



Typical mounting in exhaust pipe. Position tip to center of pipe, then tighten down fitting to lock thermocouple in place. **NOTE: On very high HP engines (blown, high nitrous, etc.), use sheathed (covered) tips and position the tip only 0.5" into flow to prevent bending from pulsations.**

For individual cylinder exhaust temps, most dyno operators place the exhaust thermocouple 1.5 inches or closer to the exhaust port.

Hose Clamp Mounting: Drill 9/64 or 5/32 hole in exhaust pipe. Slide thermocouple through hose clamp hole, then collar, then hole in exhaust pipe. Adjust depth of thermocouple and tighten screw in collar. Then tighten hose clamp on exhaust pipe.



Do not overtighten screw or you will kink the thermocouple sheathing.

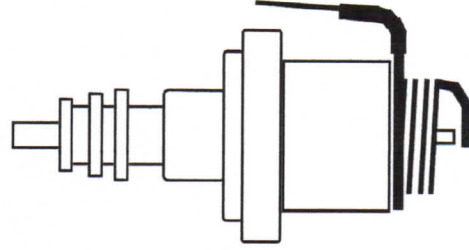
NOTE: High exhaust heat will cause components to seize up. Use anti-seize compound on parts you want to disassemble in the future.

DataMite Cylinder Head Thermocouple Installation

Install the thermocouple under the spark plug as shown below.

Signal Noise. With thousands of volts passing through the spark plug and a thermocouple signal being only a few millivolts, its not surprising "noise" will appear in this signal. Our current thermocouple signal conditioning is quite noise immune. However, if you encounter some problems, here are some things which may reduce this noise:

- Resistor or suppressor plugs, boots or wires. Note that this also reduces the signal to an inductive pickup, so you may have to wrap the inductive pickup wire around the spark plug wire several times to maintain an RPM signal.
- For Briggs engines, use an NGK Resistor Boot on the spark plug to help eliminate electrical noise. They are available from most karting suppliers, like American Power Sports.



Install the cylinder head thermocouple under the spark plug, between it and the cylinder head. Then plug it into a thermocouple lead to connect it to a dataMite box or DataMite Analog Converter.

Severe engine vibration can eventually cause the thermocouple to break. Avoid bending the thermocouple where it is brazed to the ring which goes under the plug. Do not put preload on the lead by pulling it tight, or by pushing the thermocouple up against a cooling fin.

DataMite III Eng Intake Air for Weather Corrections

An engine's output will vary with the weather conditions it is running in. The DataMite software can correct for these changes to give Corrected torque and HP numbers. When making comparisons from different days, Corrected torque and HP are more repeatable and are therefore the numbers you should use.

To do accurate weather corrections, accurate barometric pressure, humidity and temperature of the air entering the engine must be done. Barometric pressure, humidity and temperature sensors can be built into the DataMite III box. The barometric pressure at the box is EXACTLY the same as the engine, even if they are in different rooms. The humidity at the box is typically very close to that at the engine, even if they are in different rooms. However, the temperature at the box can be quite different between the box and the engine.

For that reason, you can choose to measure the air temp at the engine for more precise corrected data. There is a special thermocouple channel you can choose to do this with, called Eng Intake Air. If you pick this calibration for one of the thermocouple channels, and mount that thermocouple in the air inlet stream to the engine, the program will use this temperature for correction factors.

To do this:

- 1 Click on DataMite at the top of the Main Screen.
- 2 Click on the Sensor and Calibration for one of the thermocouple channels and choose Intake Eng Air.

3 Mount a thermocouple with an exposed tip or a special "air temperature" type thermocouple in the air stream going directly to the engine. **NOTE: Space this back from the engine inlet enough so that fuel "stand off" or "back spray" from the carb does not get fuel on the thermocouple. This will cool the thermocouple and record too low a temperature.**

The screenshot shows the 'Data Mite Specs' dialog box in the DataMite v3.7 software. The 'Channel Settings' table is as follows:

#	Channel	Used?	Data Name	Sensor and Calibration
10	Analog 7 (Analog 8 blue)		an7	Std 0-5 Volts
11	Analog 8 (Analog 8 green)		an8	Std 0-5 Volt
12	Analog 9 (Analog 8 white)		an9	Std 0-5 Volt
13	Analog 10	Yes	Board Temp	Board Temp Deg F
14	Analog 11	Yes	Power Volts	Box Power Volts
15	Analog 12	Yes	Baro Pres	Std. Baro Pres Calibration
16	Analog 13	Yes	Humidity	Std. Humidity Calibration
17	Analog 14 (Analog 8 blue)	Yes	Box Temp	Std. Box Temp Calibration
18	Analog 15	Yes	Exh #1	Std Thermocouple [A], Exh #1
19	Analog 16	Yes	Exh #1	Std Thermocouple [A], Exh #1
20	Analog 17	Yes	Exh #6	Std Thermocouple [A], Exh #6
21	Analog 18	Yes	Exh #8	Std Thermocouple [A], Exh #8

The 'Analog Sensor Specs' dialog for channel 17 is open, showing 'Std Thermocouple [A], Eng Intake Air' selected. The 'Type' is 'ADTM III Internal'. The 'Correction' is 'Read'. A note at the bottom of the dialog reads: 'Note: Pick the type of sensor and fill in the Calibration Specs as necessary for fill in from factory calibration table provided with sensor. The 'Correction' factor is meant for an adjustment after the calibration.' Buttons for 'Keep Specs', 'Help', 'Cancel', and 'Print' are visible.

Annotations in the image include:

- 1) Click on DataMite (pointing to the 'Data Mite Specs' button in the top menu)
- 2) Use scroll bars to scroll down to bottom of DataMite III channels, to find the thermocouple channels. Click in the Sensor and Calibration channels for one of these Thermocouple channels. (pointing to the 'Std Thermocouple [A], Exh #1' entry in the Channel Settings table)
- 3) Pick Eng Intake Air as the calibration (pointing to the 'Std Thermocouple, Eng Intake Air' dropdown in the Analog Sensor Specs dialog)
- 4) Click on Keep Specs (pointing to the 'Keep Specs' button in the Analog Sensor Specs dialog)

Limited 1 Year Warranty

DISCLAIMER OF WARRANTIES:

THE **DATAMITE or BLACK BOX** PROVIDED HEREIN IS SOLD "AS IS" WITHOUT ANY WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY WARRANTIES FOR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NO ORAL OR WRITTEN STATEMENTS, REPRESENTATIONS OR OTHER AFFIRMATION OF FACT, INCLUDING BUT NOT LIMITED TO STATEMENTS REGARDING CAPABILITY, CAPACITY, SUITABILITY FOR USE OR PERFORMANCE OF HARDWARE SHALL BE RELIED UPON BY USER OR BE DEEMED TO BE A WARRANTY OR REPRESENTATION BY PERFORMANCE TRENDS, INC. FOR ANY PURPOSE, OR GIVE RISE TO ANY LIABILITY OF OBLIGATION OF PERFORMANCE TRENDS, INC. WHATSOEVER. USER ACCEPTS ALL RESPONSIBILITY FOR SELECTING THE HARDWARE TO MEET USER NEEDS OR SPECIFIC PURPOSES. PERFORMANCE TRENDS INC. IS UNDER NO OBLIGATION TO FURNISH USER UPDATES OR ENHANCEMENTS EVEN IF FURNISHED TO OTHER USERS.

LIMITATION OF LIABILITY:

If during a period of 1 year from date of purchase there are any defects in material or workmanship of the hardware, User's sole and exclusive remedy shall be the replacement or repair of any hardware returned to Performance Trends, Inc. shipping prepaid with dated proof of purchase within 1 year of receipt of the Hardware by User, or at Performance Trends Inc.'s sole option, a refund of the purchase price paid to Performance Trends, Inc. by User. This remedy does not apply to installation, damage resulting from owner misuse or abuse, and other failures not attributable to manufacturing defects.

IN NO EVENT SHALL PERFORMANCE TRENDS, INC. OR THIRD PARTIES WHO HAVE RIGHTS IN THE HARDWARE OR SOFTWARE BE LIABLE TO USER FOR LOSS OF PROFITS, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES EVEN IF PERFORMANCE TRENDS, INC. IS AWARE OF THE POSSIBILITY OF SUCH DAMAGES.

IN THE EVENT ANY REMEDY HEREUNDER FAILS OF ITS ESSENTIAL PURPOSE, OR IN ANY OTHER EVENT, PERFORMANCE TRENDS INC.'S LIABILITY HEREUNDER SHALL NOT EXCEED ANY AMOUNTS PAID BY USER TO PERFORMANCE TRENDS, INC. UNDER THIS AGREEMENT.

Some states do not allow the limitation or exclusion of liability for incidental or consequential damages and some states do not allow the exclusion of implied warranties, so the above limitations or exclusions may not apply to you.

No action, regardless of form, arising out of any claimed breach of this agreement or performance under this agreement may be brought by either party more than one year after the affected party learns of the cause of action.

Tech Support will be provided for the first year of ownership.
After 1 year of ownership you may be charged for Tech Support.