



Engine RPM Pickup

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Introduction

This user manual is an integral part of the dynoKRAFT ADAQ controller hardware.
The integrated MSD GMR Pickup a product of MSD Performance (www.holley.com)

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Original User Manual for dynoKRAFT Engine RPM Pickup hardware.

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Installation and configuration

Installing GMR Pickup sensor

❗ The dynoKRAFT Engine RPM Pickup can be used on coil-over-plug ignition systems to sense the engine RPM.

Other supported ignition systems are listed in the "MSD GMR Pickup Installation Instructions" - see attachments at the bottom of this page.

1. Please refer to Workshop Manual of your vehicle to find out which circuit is responsible for firing ignition coils.

In example below it's the either the BK, BK/O, BK/R or BK/G circuit.

We will choose the **BK/G** (black/green stripe) circuit as it can be easily accessed on the ECU plug.



4. Connect the RED (+) and BLACK (-) cables to 12V DC power supply - for example 12V car battery.

5. Connect the green connector with screw terminals to ADAQbase RPM1 or RPM2 input:

White - V+

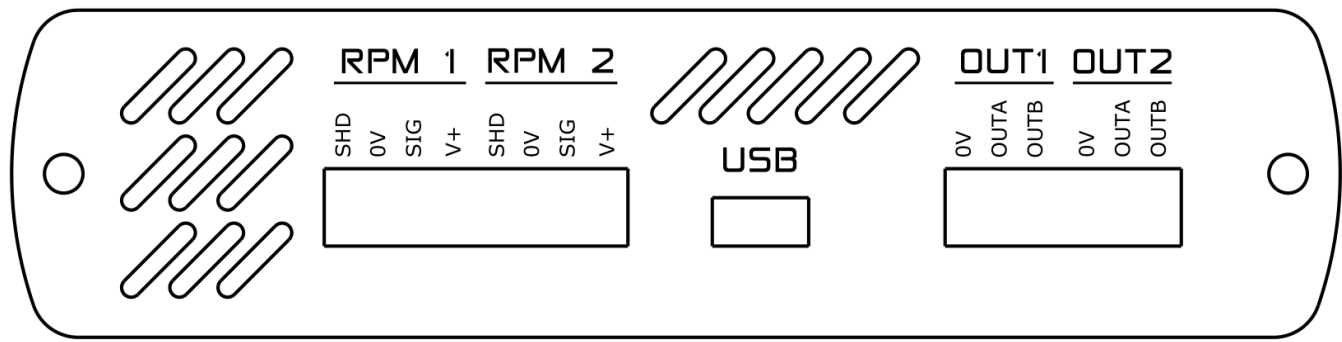
Brown - 0V (ground)

Green - SIG

⚠ When using Engine RPM Pickup on 4x4 dynamometers (A200-4WD-ML and A380-4WD-ML) please make sure to setup the RPM Input for Roller RPM correctly.

See ADAQ Software User Manual for details.

Optionally an second ADAQbase module may be used to support Engine RPM Pickup while retaining standard RPM-Input configuration for Roller RPM.



Installation of Inductive RPM pick-up

This version of RPM pickup can be used to sense both High-Voltage distributor as well as coil-over-plug ignition systems.

It is equipped with integrated control circuit thus it can only be connected to RPM 1 or RPM 2 input in ADAQbase.

Do not connect this RPM pick-up to YourDyno Ultimate or YourDyno V5 "Eng RPM" input!

NOTE:

Please make sure to correctly set the clamp with arrow pointing to spark-plug.



Functions:

Blue LED (blinking) - indicates ignition pulse

Connections:

White - V+

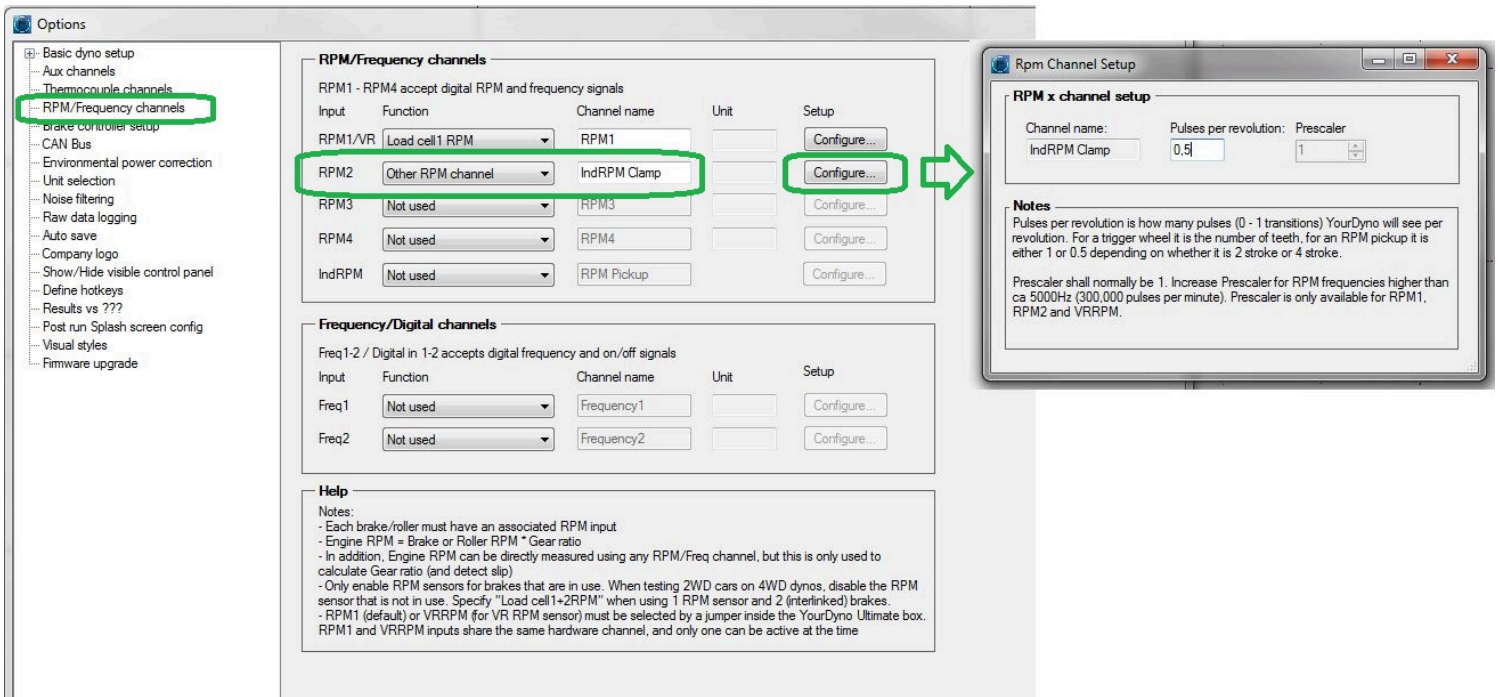
Brown - 0V (ground)

Green - SIG

Software configuration

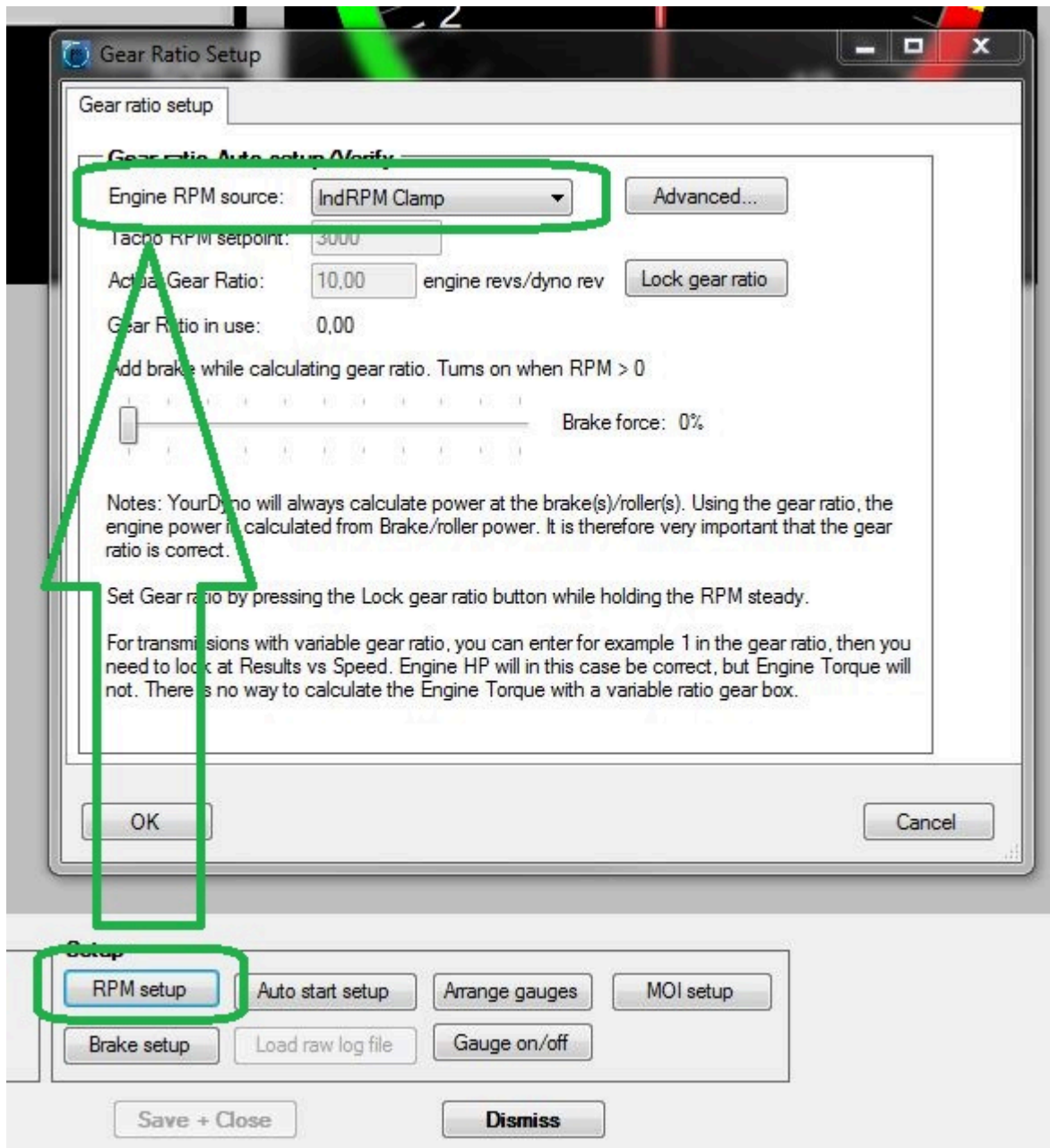
1. In OPTIONS window open the RPM/Frequency channels Setup and configure the respective RPM input as "Other RPM channel".

Assign an Channel name and adjust "Pulses per revolution" count in "Configure..." window according to your ignition system type.



2. In the Gear Ratio settings in Gauges window (new Testrun) select the newly created channels as Engine RPM source.

The ADAQ Software will now automatically calculate the Gear Ratio based on the Roller RPM and Engine RPM signal from Ignition Pickup.



3. To display the Engine RPM as gauge please add this channel (in our example "IndRPM Clamp") as new Gauge. In example below the Gauge Type was changed to Live Graph to show the signal quality.

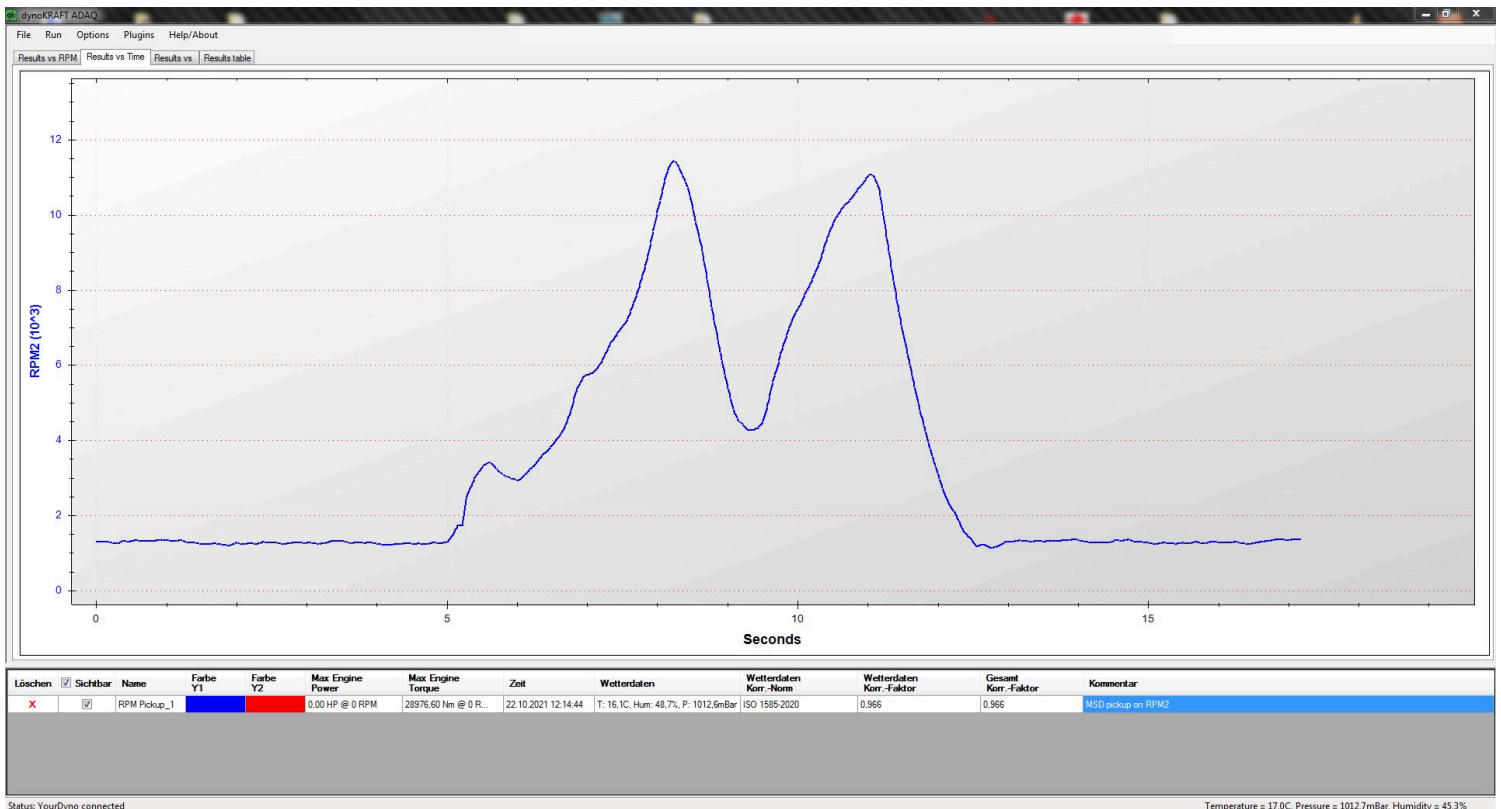
① **NOTE:** In picture below the analog "Engine RPM" gauge is the calculated engine RPM based on actual Roller RPM (in our example RPM 1) multiplied by Gear Ratio.

Since the dynamometer roller is standing still (RPM1 shows zero -> therefore the Engine RPM is also zero) only the signal from inductive RPM Pickup (RPM 2) can show actual engine RPM.

NOTE 2: When Gear Ratio is correctly set and locked both "Engine RPM" gauge and "RPM 2" gauge should show same RPM values.



4. When analyzing recorded test run the sensed engine RPM will be visible as RPM 2 Channel (in our example):



Noise filtering

In some cases you may need to modify / increase the standard noise filtering settings in software Options.

Some good results can be achieved with "Gauge noise filtering" and "RPM spike removal" filtering set both to 5.

Go to: **Options -> Noise filtering**

Graph noise filtering

Recommended to keep noise reduction on, but as low as possible.

Noise reduction, 0 (off) to 10 (max)

Note: You can experiment with different noise settings on the same run by reading back a raw log file in the Run window.

Gauge noise filtering

Lower number = faster gauge respons, higher number = less noise

Noise reduction, 0 (off) to 10 (max)

RPM spike removal

Keep at 5 unless there are issues with noise in the RPM measurements

RPM filter (5 = normal, 0 = off)

If RPM jumps or reacts slowly, then the number is too high

Removing the Pickup

To remove the Engine RPM Pickup please follow these steps:

1. Turn ignition off.
2. Remove both RED (+) and BLACK (-) cables from 12V DC power source.
3. Remove the Pickup sensor from the circuit.