

Dwell Settings

The **Dwell Settings** section provides critical control over ignition coil charge time, which impacts spark energy and ignition system performance. These tables ensure proper ignition timing and spark strength across different RPM and voltage conditions.

Dwell Time Base (Top Graph)

Purpose: Adjusts the base dwell time (in milliseconds) relative to engine RPM.

Explanation:

- At lower RPMs, dwell time is higher (e.g., 4 ms at 0 RPM) to fully charge the ignition coil.
- As RPM increases, dwell time decreases (e.g., 2.00 ms at 7000 RPM) to ensure the coil can charge and discharge within the shorter cycle times.

Tuning Note:

- Excessively high dwell times at higher RPMs can cause coil saturation and heat damage.
- Too low dwell times can lead to weak sparks or misfires.

Dwell Voltage Correction (Bottom Graph)

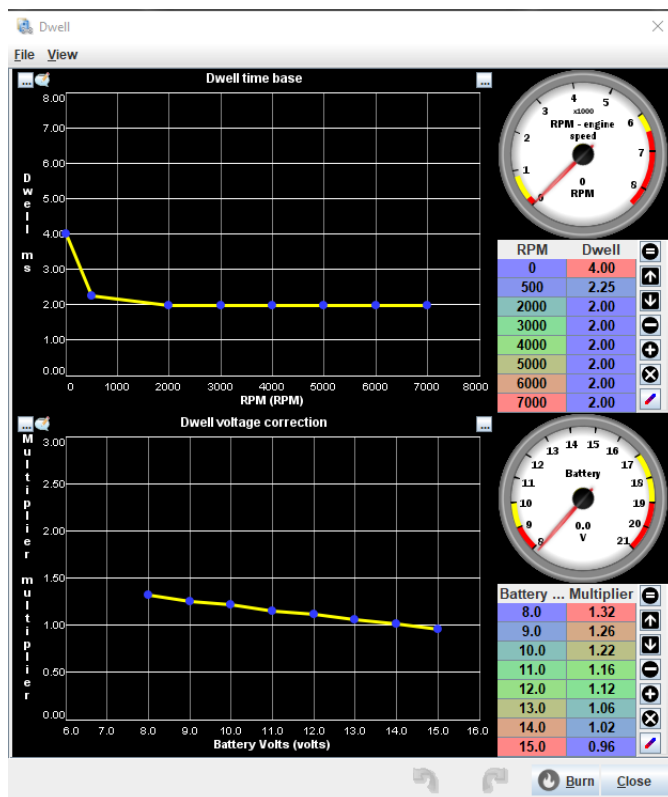
Purpose:

Modifies dwell time based on battery voltage to maintain consistent spark energy.

Explanation:

- At lower battery voltages, dwell time is increased (multiplier > 1.0) to compensate for reduced coil charging efficiency.
- At higher voltages, dwell time is reduced (multiplier < 1.0) to prevent overheating or overcharging the coil.
- **Example:** At 8.0 volts, the multiplier is 1.40; at 16.0 volts, the multiplier drops to 0.80.

General Notes



RPM Table: Values typically start around 2.0-4.0 ms at idle and reduce as RPM rises.

Battery Voltage Table: Correct compensation is vital for engines with weak electrical systems or those running additional electrical loads.

Tuning Advice: These settings typically will never have to be changed unless switching to aftermarket ignition coils.