

Cranking Settings

This dialog box allows you to configure the parameters for the engine's cranking phase. Proper configuration ensures efficient starts under various operating conditions.

Cranking Settings

Cranking RPM Limit (RPM): Defines the RPM threshold below which the engine is considered to be in cranking mode.

- Default: 850 RPM. Adjust as needed for different starter speeds.

Fuel Settings

Injection Mode: Specifies how fuel is injected during cranking:

- **Simultaneous:** All injectors fire together.
- **Batch:** Injectors fire in pairs.
- **Sequential:** Injectors fire in sync with engine timing (requires crank/cam sync).

Default is typically Sequential and won't usually need to be changed

Base Fuel Mass (mg): Specifies the base amount of fuel injected during cranking when the Fixed fuel source is selected. Typical values range from 20 - 50 mg

Ignition Settings

Timing Advance Mode: Controls how ignition timing is handled during cranking

- **Fixed (auto taper):** Starts with a fixed timing and transitions to dynamic timing as RPM increases.
- **Table:** Uses the Cranking Ignition Advance Table for ignition timing (accessible through the dropdown menu under the Cranking button).

The screenshot shows the 'Cranking Settings' dialog box with the following settings:

- Cranking RPM limit(RPM):** 450
- Fuel**
 - Injection mode:** Sequential
 - Base fuel mass(mg):** 30.0
- Ignition**
 - Timing Advance mode:** Fixed (auto taper)
 - Fixed cranking advance(deg):** 10
 - Fixed Cranking Dwell(ms):** 5.0
- Idle air valve**
 - Cranking base IAC position(percent):** 35
 - After cranking IAC taper duration(cycles):** 80
- Advanced**
 - Enable flood clear:** true
 - Enable faster engine spin-up:** true
 - Use Flex Fuel cranking table:** false

At the bottom, there are buttons for 'Burn' and 'Close', along with navigation icons.

Fixed Cranking Advance (deg): The ignition timing in degrees before top dead center (BTDC) during cranking. **NOTE: This setting is only used in the Fixed (auto taper) mode.**

Example: A typical value is 0 degrees BTDC.

Fixed Cranking Dwell (ms): The dwell time for ignition coils during cranking.

Idle Air Valve Settings

Cranking Base IAC Position (percent): Sets the idle air control (IAC) position during cranking. Higher values allow more airflow to help the engine start.

After Cranking IAC Taper Duration (cycles): Determines how long the IAC gradually returns to its normal position after the engine starts.

Advanced Settings

Enable Flood Clear: Allows the driver to clear a flooded engine by fully pressing the throttle during cranking. Fuel injection is cut off until the throttle is released.

Enable Faster Engine Spin-Up: Reduces cranking timing delay to help the engine spin up faster.

Use Flex Fuel Cranking Table: Enables specific cranking fuel adjustments for engines running on ethanol-based fuels (e.g., E85).

TIP: Cranking Base Fuel Mass and Cranking Base IAC, ARE GLOBAL VALUES BEFORE ANY TEMPERATURE BASED MULTIPLIERS ARE ADDED TO THE VALUE.