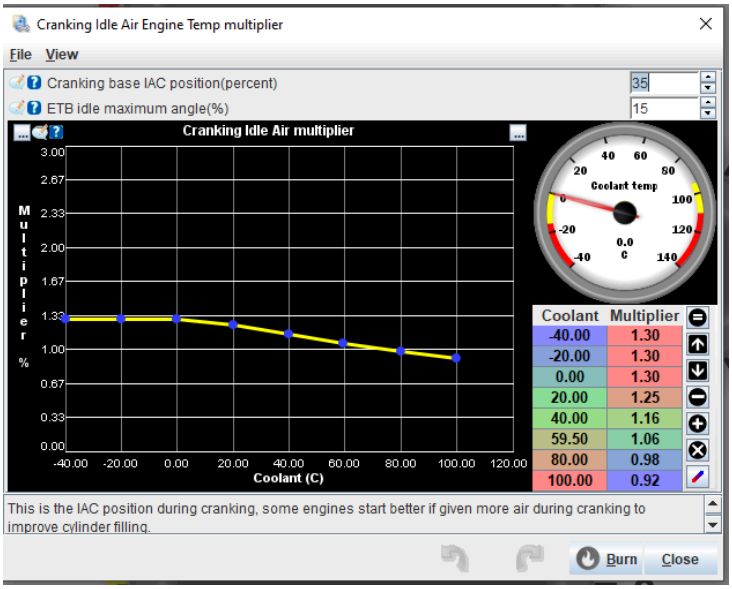
Cranking Idle Air Engine Temp Multiplier

This table controls the multiplier applied to the idle air control valve (IAC) during engine cranking, based on the coolant temperature. It ensures that the engine receives the appropriate amount of air for reliable starts in varying thermal conditions.

X-Axis (Coolant Temperature):

- Ranges from -40°C to 100°C in this example.
- Represents the engine's coolant temperature.



Y-Axis (Multiplier):

- Represents the scaling factor applied to the base IAC position during cranking.

Typical Behavior

Cold Starts

- At very low temperatures (e.g., -40°C), the multiplier is highest (e.g., 1.30).
- This opens the idle air control valve more to provide additional airflow for starting in cold conditions.

Warm Starts:

- As the temperature increases, the multiplier gradually decreases.
- Above 40°C, the multiplier stabilizes at lower values (e.g., 1.15 or less), indicating reduced airflow adjustment is required.

Recommended Adjustments:

- These values are pre-tuned in Impact ECU Plug and Play units but may need tuning for modified setups or extreme temperature environments.
- Ensure higher multipliers for very cold starts to allow sufficient airflow for smooth ignition.
- For warm starts, adjust the table to avoid unnecessary over-compensation, which could lead to excessive RPM during cranking.

Cold Start Behavior:

- Multipliers greater than 1.30 at very low temperatures help offset increased engine friction and reduced air density.