

## Version 3.048 29-04-2025

### V2 IMPORTER

- Engine start added
- Fueling import added

### IDLE CONTROL

- Ignition target table is now 3D (RPM target vs CLT).
- **Fixed issue where ignition min/max torque clamp did not work.**
- Idle ignition target log channels now correctly display negative angles.

### CAM INPUTS

- CAM1: When the CAM 1 decoder is set to "Do not use", the input is active only during scope capture.
- CAM2: When the CAM 2 decoder is set to "Do not use", the input is active only during scope capture.

### KNOCK CONTROL

- TPS can now be used as the Y-axis of the engine noise table.
- Fixed bug related to knock detection status.

### ENGINE START

- Ignition angle lock feature added.

### FUELING

- MAP can be used as the lambda target when Alpha-N strategy is selected ("Use MAP for Lambda target").

### WBO

- Increased the sensor temperature range where lambda readings are considered valid.
- WBO no longer reinitializes when changing fuel settings (e.g., injector phase, squirt twice per cycle, etc.).

### NITROUS

- CAN analog input can now be used for the nitrous pressure sensor.

### CAN COMMUNICATION

- Subaru GH CAN stream modified.
- MQB CAN stream improved.

### GEAR SHIFT

- Added blip support using throttle kicker.

### LOG BOOK

- Oil pressure error is now registered only when RPM > 600 and engine runtime > 5 seconds.

## HELP

- DSG documentation work in progress.

## OTHER

- Channel "ECU Reset Cause" added.
- Watchdog functionality enabled.
- Injection angle table now supports "Load" on the Y-axis.
- Treeview items for available strategies are properly filtered after client startup.
- Coil dwell wizard for VW coil "06E 905 115 E" fixed.
- Trigger error field added to the status line.
- Graph log channel selector: if the channel is not found and Enter is pressed, the channel list displays instead of showing a warning message.

#### **NITROUS**

- Strategy added for dry, wet, and progressive systems
- **Two-stage operation**

#### **TRANS-BRAKE**

- Trans-brake strategy added

#### **FUEL**

- 3D tables for injector trim

#### **MQB**

- DSG RPM signal generation via H-BRIDGE 2A
- Idle target modified based on gearbox feedback

#### **DSG**

- Idle target increase added based on DSG torque losses table

#### **OTHER**

- Latency control for AUX and ignition outputs improved
- Base maps directory added (first available base map: AUDI A3, R32 BUB DSG)

#### **EMU CAN STREAM**

- Injector PW channel fixed
- TPS, PPS fixed
- Functions 1–8 status replaces Virtual outputs and parametric outputs from V2

#### **ALS**

- Short-term trim is disabled during ALS

#### **TC**

- RPM condition bug fixed

#### **PADDLE SHIFT**

- Fixed cut issue when shifting to 1st gear
- XAP controller CAN support added

#### **TRIGGER**

- COLT CZ CAM and CKP trigger decoders added
- CAM-based pattern with 2 missing teeth added

#### **HBRIDGES**

- Configuration of H-bridges (DBW, EWG, MQB, Outputs) rewritten
- New log channels for HBRIDGE1 and HBRIDGE2 modes added

#### **DBW (Drive by Wire)**

- Mode selection changed; new DBW mode parameters introduced (reconfiguration required after upgrade)

- ECUMASTER DUAL H-BRIDGE OVER CAN support added (mainly for BMW S54 ITB throttle)

#### **DBW TUNER**

- New throttle type support (Standard throttle, BMW S54 ITB)
- Single-output PWM S54 BMW ITB support added

#### **CAN BUS**

- Clio 3RS code optimized
- MQB CAN can operate in parallel with other CAN streams

#### **TIMERS**

- Drag racing timer added
- Timer resolution increased to 0.1s (from 0.25s)
- Timer strategy rewritten

#### **OVERRUN**

- Fixed error involving high ignition entry and exit rates

#### **VVTI**

- Cam angles reset to 0 when engine is not running

#### **HELP**

- DBW help added, covering various methods of controlling the S54 ITB throttle
- Nitrous help added
- Ignition help completed

#### **SCOPE**

- Data collection bug fixed (progress bar freeze issue resolved)

#### **GAUGES**

- Coolant pressure gauge added

#### **GRAPH LOG**

- When all channels are removed, a message (“Please select channel(s) to display”) replaces the black screen

#### **LOG**

- Knock voltage peak for each cylinder range changed from 30V to 5V

#### **OTHER**

- LC indicator in the status bar fixed
- V2 Importer crash fixed (sensor and ignition settings now import correctly)
- Latency control for AUX and ignition outputs improved
- Base maps directory added (first available base map: AUDI A3, R32 BUB DSG)
- Missing files for Trigger Wizard’s supported engines added:
  - BMW E36 M52B20/M54
  - BMW E46 N42B18
  - FORD FOCUS MK2 ST225 (B5254)

- LEXUS IS200 (1G-FE)
- NISSAN VQ35
- VW R32 (BUB, BFH)
- LOTUS EXIGE 380 CUP

## **Version 3.044 07-02-2025**

### **V2 IMPORTER**

- Work in progress – Imports trigger settings and sensors.

### **CAN**

- MQB platform support added.
- MQB platform added for Decode VW coding tool.

### **ACCELERATION ENRICHMENT (ACC ENRICH)**

- Acc. CLT correction range increased to 250%.
- Async. Acc. CLT correction table added.
- Async. enrichment CLT correction bug fixed.

### **USER SWITCHES**

- Flex Fuel input can be used as a switch input (switched to ground).

### **BUZZER**

- Buzzer can be activated by function.

### **TACHOMETER (TACHO)**

- Bug from version 3.044 fixed.

### **OUTPUTS**

- Electric water pump control added.
- Volvo EHPS (power steering) support added.

### **FUNCTIONS**

- Bitwise AND bug fixed.

### **IDLE CONTROL**

- Idle ON if MAP over bug fixed.

### **GEAR SHIFT**

- Min TPS to cut and 89iiiiiiuuuuuuMax TPS to blip parameters added.
- Gear shift can be initiated by gearshift sensor (Lever configuration).

## **KNOCK CONTROL**

- Per-gear gain added.

## **HELP**

- Added all log channel bitfields and enumerations to functions help.

## **DRIVE-BY-WIRE (DBW)**

- Boost target limit table added (allows boost control under minimum spring load).

## **KNOCK SENSORS**

- Restore rate previously always worked as 1° per cycle – Fixed.

## **TRIGGER WIZARD**

### **Supported engines:**

- BMW E36 M52B20, M54
- BMW E46 N42B18
- FORD FOCUS MK2 ST225 B5254
- LEXUS IS200 1G-FE
- NISSAN VQ35
- VW R32 BUB, BFH

## **Version 3.043 07-01-2025**

## **CUSTOM AXES**

- Added support for Baro.

## **FUEL PUMP**

- The fuel pump state now reflects the actual state of the pump (previously influenced by the "Invert output" option).
- Added a fuel pump test option to facilitate fuel system testing.

## **TACH OUTPUT**

- Added a second switchable RPM multiplier.

## **PRESSURE SENSORS**

- Added support for a nitrous sensor.
- Code size optimizations.

## **GENERAL**

- Code size optimizations.

## **CAN BUS**

- Improved support for Renault Clio 3RS (AC request, fuel consumption).

- Improved stream for Subaru GH.

## HELP

- Updated the ignition section.
- Updated the DSG section.

## Version 3.042 02-12-2024

## CANBUS

- **Polaris RZR 2024** support added.
- **DSG (Direct-Shift Gearbox)**
  - Torque reduction ignition and cut tables added (requires further testing).
  - DSG gearbox torque reduction request log channel added.

## IDLE

- Cycling idle **Cut RPM** and **Resume RPM** minimum values limit lowered (1000 and 500).
- Ramp-down delay functionality added.

## SHORT TERM TRIM

- Rich and Lean limits are now 2D tables as a function of airflow.

## KNOCK CONTROL

- Fuel/spark cut delay default value set to **250ms**.

## CUSTOM AXES

- Injectors' **Duty Cycle (DC)** range issue fixed.
- **Boost target** added as a channel for all custom axes.

## VVTI & VTEC

- Minimum engine oil temperature parameter added.

## DBW (Drive-by-Wire)

- **ITB (Individual Throttle Body) mode:**
  - When parameter **Disabled** and no RPM is enabled, the DC is set to **-100%** (no output current).

## LOGGING

- Min/Max flags visibility now follows global settings.

## CLIENT SOFTWARE

- **TPS default values** for VE table in **Alpha-N strategy** corrected (**0-100%** instead of **0-20%**).
- **Tree view items:**
  - Double-clicking now closes the existing frame on the desktop.
- **Autotune 3D window:**

- Properly refreshes the **X-axis bins (MAP ↔ TPS)**.
- **Trigger Wizard:**
  - Nissan **350Z (VQ35)** trigger wizard added.
  - Various bugs fixed.

## Version 3.041 11-11-2024

### Trigger Types

- Renix Triggers Added and Tested:
  - Renix 66-2-2-2 (Renault Alpine) and Renix 44-2-2 (Clio Williams) triggers have been implemented and validated on the bench.

### Paddle Shift

- Downshift Preload Time:
  - Minimum value reduced from 10 ms to 2 ms for improved responsiveness.

### Launch Control (LC)

- Prestage State Added:
  - A new prestage state is introduced for enhanced control.
- Bug Fix:
  - Issue with entering the exit state during target RPM changes has been resolved.

### Boost Control

- CO2 Control Strategy Added:
  - Implemented a new CO2-based control strategy for precise boost management.

### Sensors

- Wastegate Dome Pressure Sensor Added:
  - Support for wastegate dome pressure monitoring integrated.

### DSG (Direct Shift Gearbox)

- ESP Data Sharing:
  - ESP now sends data to the traction control strategy.
- Torque Reduction Handling:
  - Traction control torque reduction is applied to the CAN engine torque value.
- Logging Improvements:
  - Torque % and Actual Torque (Nm) channels now reflect corrected torque values.



## **Traction Control (TC)**

- **ESP Torque Reduction Mode Added:**
  - A new mode that incorporates ESP torque reduction into the strategy.

## **Drive-By-Wire (DBW)**

- **Autocalibration Bug Fixed:**
  - Fixed TPS voltage direction issue in the DBW autocalibration tool.
- **Timeout Definition:**
  - CAN control timeout can now be defined for more flexible configurations.

## **Client Software**

- **CSV Export:**
  - Resolved issues with CSV data export functionality.
- **Crash Fixes:**
  - Fixed crashes related to:
    - Opening windows using the keyboard.
    - Exiting the application when all desktop windows are closed.
- **Trigger Type Translation:**
  - Updated to immediately reflect the number of teeth when trigger types are translated.
- **Comment Editor:**
  - Enhanced for better usability.
- **Help Panel Resizing:**
  - Adjusting the help panel no longer restarts text display from the beginning.

## **Log Groups**

- **Channel Sorting:**
  - All channels are now sorted across log groups for easier navigation and analysis.