

EXEMPTION APPLICATION

Category III – Engine Control Module (ECM) Programmers and/or ECM Signal Modifications

New ECM calibrations and/or ECM signal modifications that include no other parts or modifications for proper installation. Category IX should be selected for the application if other parts or modifications are included.

APPLICANT INFORMATION

Name of Device Manufacturer with design control:					
Device Name:					
Name of Authorized Device Man	ufacturer Contac	t:			
Mailing Address:					
City:	State:		Zip Code:		
Telephone Number:		Email Address:			
Name of Authorized Representa	tive (if different fr	om above):			
Mailing Address:					
City:	State:		Zip Code:		
Telephone Number:		Email Address:			

APPLICATION REQUIREMENT OVERVIEW

The application must include all of the following:

- 1. A vehicle coverage list that meets the following criteria:
 - a. Single original equipment vehicle/engine manufacturer
 - b. Same vehicle class unless combined under same engine test group
 - c. Same engine configuration (e.g., I4, V6, V8, method of aspiration)

- d. Same fuel type (flex-fuel may be included with gasoline)
- e. Same emissions control technology (grouping patterns follow those of On-Road New Vehicle or Engine Certification Executive Orders).
- f. Same emission standards (e.g., LEV III ULEV 125 and LEV III ULEV 70 are unique emission standards).
- 2. A list of part numbers assigned by the manufacturer for each unique calibration (calibration number(s) and/or unique calibration identifier(s)).
- 3. For each kit or stand-alone part number, step-by-step installation instructions with associated parts list and diagrams/pictures/schematics for proper installation of each part number. Installation instructions that represent more than one part number must have all applicable part numbers clearly presented in the instructions, along with applicable vehicles covered.
- 4. A detailed description, as described in the section titled "DETAILED DEVICE DESCRIPTION" below, to assist CARB staff in understanding its operation, including technical operating principles, dimensional drawings, schematics, and material specifications. Manufacturers shall also identify, by name and part number, any OEM parts, components, or systems that are impacted by installation, resulting in changes to performance, fuel economy, drivability, emission control components, OBD, and emissions.
- A facsimile of the exemption label (see Section VIII of the Procedures for labeling requirements). Manufacturers with a previously issued exemption Executive Order must include an actual physical label with the first application submission of each calendar year.
- A plan to collect vehicle identification numbers (VIN) from purchaser's vehicles for any device that modifies a stock engine, body, or transmission control module's software, excluding speedometer and/or wheel speed adjusters.
- 7. Sample kit or part, only when needed to assist Executive Officer in understanding the device's operation and effects on emissions (if requested by the Executive Officer and after receipt of the application).

OPTIONAL APPLICATION SUBMISSIONS

The application may include the following (if not submitted with the initial application, the Executive Officer may request these items during application review):

1. Independent laboratory report (in the format as detailed in Section V(e) of the Procedures) from emissions and OBD II testing, if previously completed.

2. Stock and modified maximum horsepower graphs. If vehicle is equipped with a supercharger or turbocharger, include stock and modified maximum boost pressure graphs, if previously completed.

VEHICLE/ENGINE COVERAGE LIST*

(Attach applicable file)

Please provide a spreadsheet (Excel compatible) in the following format with all applicable vehicle(s) or engine(s) coverage information.

Part Number	Calibration Number/ Identifier	Model Year	Model	Engine Size	Test Group	New Vehicle Cert. Executive Order #	Performance Impact (e.g. HP, TQ, and/or Boost)
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The file name should identify the vehicle list as follows:

Mfr Device OEM Class Engine-Config. Fuel Type Emissions Std

For example: Supercharger-Maker_Super-Charger_Ford_LDT_V6-TC_Gas_LEV3ULEV70

*If applicable, provide a list of <u>excluded vehicles/models/configurations</u> that would otherwise fall within the scope of requested vehicle or engine coverage.

INSTALLATION INSTRUCTIONS

(Submit all applicable installation instructions)

Total number of uploaded or attached installation instruction files:

DETAILED DEVICE DESCRIPTION

Attach separate document(s) for device description.

Include all technical operating principles, dimensional drawings, electrical schematics, material specifications, and impacts to performance, fuel economy, drivability, and emissions for the following affected parts, components, and/or systems (if applicable).

- ECM parameters (e.g. fuel tables, lambda tables, ignition advance/retard, parameters sensed/controlled, and/or adjustable settings)
- Transmission Control Module (TCM) parameters (e.g. shift points, shift pressure)
- Sensors (i.e. signal modifications, location, and/or functionality)

The following questions in regards to your device's modification(s) will help CARB staff evaluate your device. Please answer, in specific detail, each response.

- 1. Identify all parameters being sensed and engine parameters or components being controlled by your device. Attach a table and/or spreadsheet to support your explanation with the following:
 - a. Include all parameters sensed and parameters controlled.
 - b. Explain how and to what degree these parameters/components are being controlled and/or modified.
 - c. Describe the conditions under which these parameter changes are active.
- Submit calibration tables and/or lookup tables for all of the parameters being modified by your device (e.g. fuel, ignition timing, boost pressure, volumetric efficiency, air/fuel target ratios, etc.). You may attach these, formatted as electronic spreadsheets, diagrams, and/or photos.
- 3. Explain in technical and quantitative terms how your device affects performance, fuel economy, and emissions during the following operating conditions:
 - a. Low load (e.g. highway cruise speeds, coasting)
 - b. High load (e.g. hard acceleration, towing)
 - c. Cold start (i.e. below normal operating temperature)
 - d. Idle speeds
 - e. Rapid-throttle motion (also explain fuel enrichment in terms of percentage), or percentage gain in signal voltage(s), etc.)
 - f. Wide-open throttle (also explain fuel enrichment in terms of percentage), or percentage gain in signal voltage(s), etc.)
- 4. Identify any and all changes made that are outside any emissions test cycles (e.g. FTP, SFTP). Be sure to quantify (e.g. percentage) any change to the vehicle's performance, fuel economy, and emissions when compared to stock configuration.
- 5. Identify all operating conditions where your device commands open loop operation, turns off any emission control components, or turns off any OEM designated engine derate (power reduction).
- 6. Describe the effects the modifications made by your device may have on the durability of the engine and/or any of its emission control components?
- 7. Describe the effects the modifications made by your device may have on vehicle drivability?
- 8. Disclose whether your device's ECU modification utilizes multiple calibration mapping (e.g. user selectable recalibrations). If more than one calibration map is being utilized,

please elaborate on the major differences between each map.	For each additional map,
address all above items.	

9. Describe any modifications that have been made to any stock OBDII diagnostic strategies (monitors or DTCs).

EMISSIONS EVALUATION CRITERIA *			
* Explanation of Evaluation Criteria can be found here (<u>Exemption Procedures</u>).			
Evaluation Criteria (Check One):			
☐Emission Standards ☐Comparison to Baseline Emission Levels			
LABELING REQUIREMENTS *			
* Explanation of labeling requirements can be found here (<u>Exemption Procedures</u>).			
(Submit facsimile of an exemption label)			
(Submit material and lettering specifications for label)			
REQUEST FOR SAMPLE			
CARB may require one or more devices for evaluation. Device(s) will be returned only if return is requested at the time of device submission. Do you agree to provide the device(s) free of cost? Yes No If "No", please explain why.			
SIGNATURE			

☐ I affirm the information provided is true, accurate, and complete, and that to the best of my knowledge installation of the device on a covered vehicle or engine will not cause regulated emissions to increase beyond the certification standards to which the vehicle or engine was certified, including any noxious or toxic matter, and will not cause emission control components and OBD to function differently than as designed by the vehicle or engine manufacturer.

□ I understand that I or the device manufacturer an endorsement or approval by CARB, 2. Marke than that shown on the Executive Order, 3. Apply the date shown on the Executive Order, 4. Marke those listed on the Executive Order, 5. Offer for applicable kit as an individual device, 6. Advertise emissions, or 7. Advertise, offer for sale, sell, or on-road motorcycle, prior to or concurrent with tree.	et the device(s) using any identification other y the Executive Order to parts sold prior to et the device(s) for an application other than sale, or advertise any component of an se the product as capable of reducing install the device on a motor vehicle, except
Signature (authorized device manufacturer contact):	Date of Signature:

INSTRUCTIONS FOR SUBMITTING THIS FORM

Please submit to: (<u>AMPES@arb.ca.gov</u>).

For questions regarding this form, please contact (<u>AMPES@arb.ca.gov</u>).

A staff engineer assigned to your application submission will contact you after a preliminary review has been completed.

PRIVACY STATEMENT

Under the California Public Records Act (Gov. Code, § 6250 et seq.), your submissions, including associated contact information (e.g., your address, phone, email, etc.) become public records and may be released to the public upon request. Personal information will be protected from disclosure as required by law, including under the Information Practices Act (Cal. Civ. Code, § 1798, et seq.). Information that is claimed to be confidential should be submitted as provided in CARB's regulations for submitting confidential data, California Code of Regulations, title 17, section 91011.

This application form provides an accessible example on how to comply with the "Procedures for Exemption of Add-on and Modified Part(s) For On-Road Vehicles/Engines", adopted: June 29, 2021, and does not alter, amend, or modify the applicable statutes or regulations in any way. It does not provide any options for alternative compliance. In the event of any conflicting interpretation, the statutes and regulations control.