APR Porsche EMCS™ Operating Instructions

APR's Enhanced Modular Chipping System™ (EMCS™) is an industry leading technology that brings many new features to the automotive enthusiast. EMCS technology was developed exclusively by Audi Performance & Racing, LLC and demonstrates APR's continued commitment to lead the industry with the most technologically advanced products available. EMCS consists of three important parts that work together as a cohesive unit: the EMCS module (which is soldered to the engine computer board), the EMCS on-board software (the software that is on the module), and the support software that is used to program and reprogram the module. APR's EMCS is a truly modular system that allows for future enhancements and features to be added as they are developed without the need for additional hardware.

EMCS makes the following advanced features possible:

> **FlipSwitch:** Using the cruise control buttons, you are able to switch between up to four separate ECU programs of your choice. Examples of possible chip programs include stock, performance chip, 100 octane program, valet, etc.

> **User Reprogramming and Reconfiguration:** This gives the user the ability to reprogram their ECU with the latest software updates and to reconfigure their ECU for different preferences or to function with different hardware. This function requires the optional programming adaptor.

> **Security Lockout Feature:** Prevents unauthorized personnel from accessing EMCS functions. The user may select any 1 to 4 digit security code. The security code is entered using the cruise control buttons.

> **Fault-code Erase:** Allows you to erase and reset engine related trouble codes without having to use a specialty tool.

> **Anti-Theft Mode:** This feature is **NOT** the same as our Security Lockout Feature. This feature eliminates any throttle input from the accelerator peddle so that the car cannot be driven away under it's own power.

> **VERY IMPORTANT! Precautionary Measures!**
> **Please read the following carefully before accessing APR EMCS™ in your vehicle.**

> Never while driving the vehicle attempt to change chip modes. (It is possible to change modes while driving but it is not recommended.) This is dangerous due to the fact that one must look at the dash to locate what mode they are in. Program switching should always be done with the engine on but the car stopped and the engine idling.

> DO NOT attempt to use anything less than certified 100-octane unleaded fuel with programs intended for 100-octane fuel. *Lower octane gases are NEVER to be used with race-gas programs regardless of how much octane booster or other additive is used. OCTANE BOOSTER AND A LOWER OCTANE
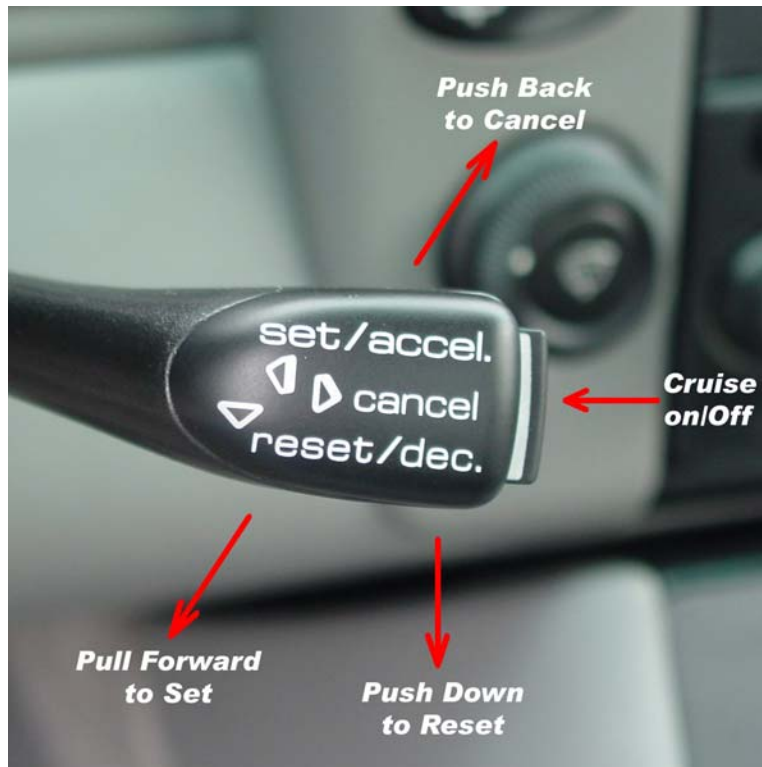
Installing Your EMCS ECU

Follow the normal ECU installation procedures included with your EMCS ECU. Be sure to turn the ignition ON (engine not running) and leave the key in the ON position for at least three minutes before running the car.

EMCS features are accessed using the cars' cruise control buttons. From here on, these buttons will be referred to as they are labeled in the picture: SET, RESET, CANCEL, ON, and OFF. EMCS will not interfere with normal operation of the cruise control.

Security Lockout Features

> **Note:** If you did not opt for the security feature, you can skip this section.
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> The security feature allows you to lock or unlock EMCS function selection. When the EMCS module is in the LOCKED state, it will not be possible to select any other EMCS features or toggle between ECU programs. Putting the EMCS module into locked state will lock in the current configuration.
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> **Example:** You have selected the second ECU program (chipped). Next you select the LOCKED state. The ECU will now run the program that you had previously selected (chipped). If you attempt to switch chip states or use any other EMCS function by depressing the cruise control buttons while in the LOCKED state, you will receive no visual feedback and the requested function will not run.
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> If your EMCS product is equipped with the security feature, then you MUST enter the security code correctly before you will be able to access EMCS features. The EMCS module will always default to the LOCKED state when ECU power is interrupted and the ECU will run the first program (usually stock). The EMCS module will not reset when the ignition key is turned OFF and back ON. You will not loose your current EMCS settings unless the ECU losses power (i.e. the ECU is unplugged or the battery is disconnected.) An exception to this is the anti-theft status, which cannot be reset by disconnecting power but only by entering the correct access code.

Procedure to put the EMCS module into the UNLOCKED mode

> 1. Locate your unique security code.
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> 2. Turn the engine ON.
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> 3. Ensure that the cruise control push button (this is at the end of the cruise control stalk) is in the ON position. If the cruise control button is OFF, turn it ON.
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> 4. Enter the first digit of your security code by pressing the CANCEL button on the cruise control stalk the same number of times corresponding with the first digit of your security code (ex. for a 9, press the SET button nine times). You do not have to hold the button for any specific period of time- just press the button and release it.
>
> 5. Pres the SET button on the cruise control stalk to register each digit of your security code.
>
> 6. Enter subsequent digits in your security code by following the same procedure you used above- depressing the CANCEL button the number of times corresponding with each digit. Do not forget to register each digit by pressing the SET button.

7. After you have correctly entered your security code and the SET button is pressed after the last digit, the check engine light will blink five times to signify that the code was entered correctly and that the EMCS module is unlocked.

8. You will now be able to access all other EMCS functions that your ECU is equipped with until the EMCS module is relocked.

Procedure to put the EMCS module into the LOCKED mode

1. The engine must be running and the cruise control must be on.

2. Push the RESET button down and hold. Keep holding the button until the check engine light blinks two times a second and release the button. The check engine light will blink five times to signify that the code was entered correctly and that the EMCS module is locked. If you have purchased the fault code erase then you will need to wait while the light first blinks once a second (after approximately five seconds), then twice a second for five seconds. The check engine light will blink five times indicating that the EMCS module has been locked.

Overview of EMCS Security Lockout Feature Instructions

The EMCS module will always default to the LOCKED state with the first program selected.

The engine must be ON and the cruise control must be on in order to enter your unique security code or access any EMCS features.

Enter your security code by using the cruise control CANCEL button and use the SET button to register each digit of the security code. If you make a mistake while entering your security code, press RESET and begin again with the first digit.

When the security code is correctly entered, the check engine light will blink five times to indicate that the EMCS module has been unlocked successfully. The same blinking pattern will occur when the module is relocked.

The module can be locked, by holding the RESET button until the check engine light blinks two times a second, and then releasing the RESET button.

The EMCS module will stay in the same chip mode until another mode is selected. This mode will not be affected by turning the ignition off nor will this mode change due to the EMCS modules locking state.

FlipSwitch (optional)

The FlipSwitch option allows you to switch between two or more ECU programs of your choice. Program selection is facilitated by using the cruise control CANCEL button.

WARNING! DO NOT ATTEMPT TO SWITCH PROGRAMS WHILE THE CAR IS IN MOTION! ALTHOUGH EMCS WILL ALLOW PROGRAM SWITCHING WHENEVER THE ENGINE IS RUNNING, IT IS NOT RECOMMENDED TO SWITCH PROGRAMS UNLESS THE CAR IS MOTIONLESS. ATTEMPTING TO SWITCH PROGRAMS WHILE DRIVING COULD BE DISTRACTING FOR THE DRIVER AND COULD RESULT IN AN ACCIDENT.

Swapping Program Modes Procedure

1. Locate your EMCS configuration sheet that accompanied your ECU.

2. Turn the engine on and make sure the cruise control is also on.

3. Be sure that your EMCS module is in the UNLOCKED state (if equipped with the security feature). Unlock the module if required.

4. Make sure the car is not in motion.

5. Hold down the cruise control CANCEL button to select the appropriate engine program. After approximately five seconds, the check engine light will begin blinking once a second. This will continue for five seconds. Next the check engine light will begin blinking two times a seconds for five seconds. This pattern will continue for three blinks (depending on the number of programs that are configured) and the will continue with four blinks a second (which will appear as a sequence of continuous blinks.) If you miss the intended program keep holding the CANCEL button and the programs will cycle. The number of blinks per seconds corresponds with the program number on your configuration sheet:

> Program 1 = 1 blink per second
> Program 2 = 2 blinks per second
> Program 3 = 3 blinks per second*
> Program 4 = 4 blinks per second*
> (* if equipped)

6. Release the cruise control CANCEL button when the indicated blinks per seconds corresponds with the program that you wish to run. Ex.- To run the program in slot 2, hold down the cruise control CANCEL button until the check engine light blinks twice per second and then release the CANCEL button. You will now be running program number 2.

Note: If your EMCS module is equipped with two programs, then you will never see 3 blinks or 4 blinks per second. The pattern will end with two blinks per second. Similarly, if your

EMCS module is equipped with 3 programs, you will never see 4 blinks per second.

Remember: If your EMCS module is equipped with special software for particular hardware and/or fuel DO NOT attempt to run those programs without the correct matching hardware and/or fuel. This could result in serious damage to your car.

Fault Code Erase/Throttle-Body Alignment (Optional)

The EMCS fault code erase feature can be used to erase all fault codes present on the engine computer. This feature is activated using the cruise control RESET button.

Erasing Fault Codes

1. Turn the engine ON.

2. Be sure that your EMCS module is in the UNLOCKED state (if equipped with the security feature.)

3. You will use the cruise control RESET button to access this function. To erase fault codes, hold the RESET button until the check engine light starts blinking once per second and then release the cruise control button

Activating Ant-Theft Mode

1. Turn the engine ON.

2. Be sure that your EMCS module is in the UNLOCKED state (if equipped with the security feature.)

3. To activate the anti-theft mode, rapidly press the following sequence of buttons.

> CANCEL **2** times
> RESET **2** times
> CANCEL **2** times
> RESET **2** times

4. The check engine light will blink rapidly to signify that the anti-theft mode is active.

5. To deactivate the anti-theft mode simply input the security code.