– PRODUCT BULLETIN –

Bulletin Number	PSI240007-2
Title	PSI Field Programmer WHG Release
Date of Notice	4/12/2024
Engine Displacement	21.9L (22L)
Fuel Type	Wellhead Gaseous Fuel
Description	PSI has released a new field programmer software. This software will allow certain 21.9L engine calibrations to be updated in OEM factories or the field. *Ref. ECO 59730*

PSI has launched an innovative "**PSI Field Programmer**" software designed to allow an ECM calibration update on products in OEM Factories or the field. This software tool eliminates the need for direct PSI intervention via remote access to update ECM calibrations. The upgrade streamlines the calibration process, offering a more autonomous and efficient solution for calibration updates performed through our cloud based programming tool.

The launch of PSI's field programmer software is strategically aligned with the introduction of new wellhead gas (WHG) calibrations for select PSI 21.9L engines. This synchronization ensures that OEMs or end users wishing to upgrade their engine control modules (ECM) with the latest WHG calibrations can do so seamlessly and efficiently, leveraging the convenience and flexibility of the new software solution.

www.psiengines.com/WHG

The calibration update is <u>not a warranty situation</u> and reimbursement will not be processed.

PSI FIELD PROGRAMMER DOWNLOAD LINK

Navigate to www.psiengines.com/WHG and select the PSI Field Programmer Software download option.

PSI Field Programmer Software
Download the PSI Field Programmer Software Now

WELLHEAD GAS CALIBRATION RELEASE

OEMs and end users utilizing specific PSI 21.9L engines with wellhead gas (WHG) can now upgrade their engine control module (ECM) calibrations to the latest WHG versions.

The newly introduced WHG calibrations encompass multiple enhancements aimed at improving engine operation in WHG applications. These enhancements are designed to minimize engine knock, ultimately ensuring more dependable operation for users.

- **Knock diagnostic trouble code (DTC) will result in a malfunction indicator lamp (MIL)**
- **Engine will not shut down on code 1325 (Knock Retard at Limit)**
- **Less aggressive timing curve**

GUIDANCE ON WHG CALIBRATION UPDATE

PSI advises against upgrading to a WHG calibration when the engine is operating on non-WHG fuels. Specifically, for engines running on propane fuel or pipeline quality fuel (often referred to as "City Gas") over prolonged periods, it is recommended to maintain the current calibration.

CALIBRATION TABLE

The chart below shows you the existing non-WHG calibrations which can be updated to the new corresponding WHG calibration.

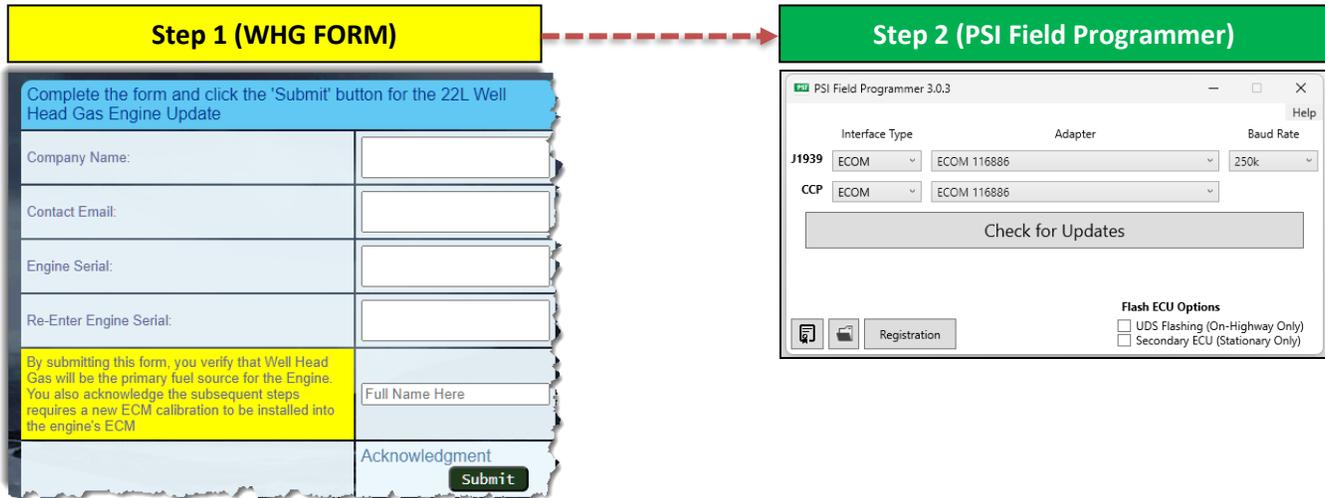| ECM	Existing Non-WHG Calibration	Update to New WHG Calibration
Primary	58200089-1	**58200238-1**
	58200089-2	
	58200089-3	
	58200089-4	
	58200089-5	
	58200089-6	
	58200089-7	
Secondary	58200090-1	**58200239-1**
	58200090-2	
	58200090-3	
	58200090-4	
	58200094-2	
	58200094-4	
	58200094-5	
	58200094-6	

PROCESS TO UPDATE TO WHG CALIBRATION

The process includes two (2) steps.

1. Fill out the Wellhead Gas Form for each engine serial number***** you would like to update → Click Here
2. Use the PSI Field Programmer Software to update the ECM

*If you have provided PSI the engine serial information, you can skip step 1.

Step 1 (WHG FORM)	Step 2 (PSI Field Programmer)

IMPORTANT INFORMATION

The PSI Field Programmer operates independently and does not require you to use 4G Display, M-Link, or remote login sessions.

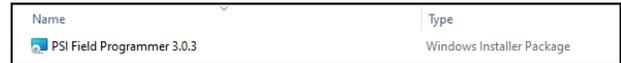The list below outlines what is required.

1. ECOM Cable which can communicate to each ECM
2. B+ and Switched Voltage ("VSW") to the ECM
3. Good internet connection
4. PSI Field Programmer Software installed & Registered
5. 4G Display should not be open while using PSI Field Programmer
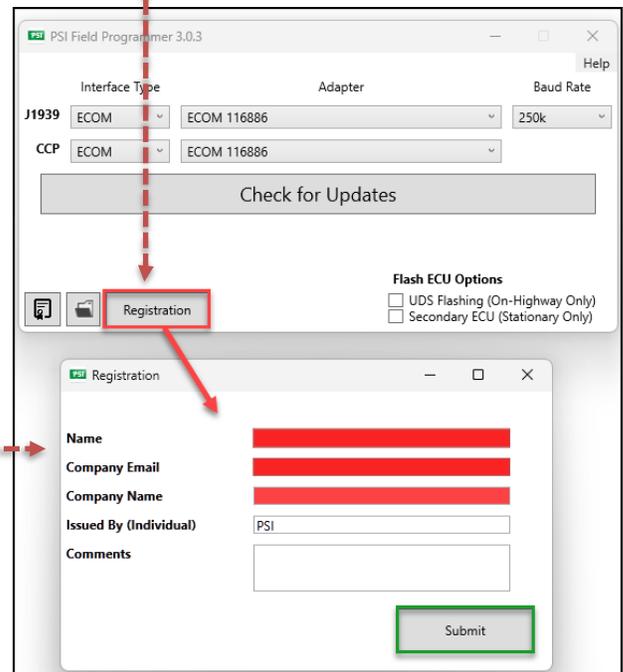
PSI FIELD PROGRAMMER USER GUIDE

Software Installation
1. Download the PSI Field Programmer using the link provided on page 2.
2. Double click the PSI Field Programmer windows installer package
3. Follow the prompts in the installation wizard

Name	Type
PSI Field Programmer 3.0.3	Windows Installer Package

Software Registration
1. Open the PSI Field Programmer from your Windows Start Menu or Desktop Icon
2. Click the "Registration Button"
3. Fill out the fields in the registration form

Important: The PSI Field Programmer software requires a single download, installation, and registration process for each laptop. If you already have the PSI Field Programmer installed and registered on your device, you can jump to the "**CALIBRATION UPDATE**" section
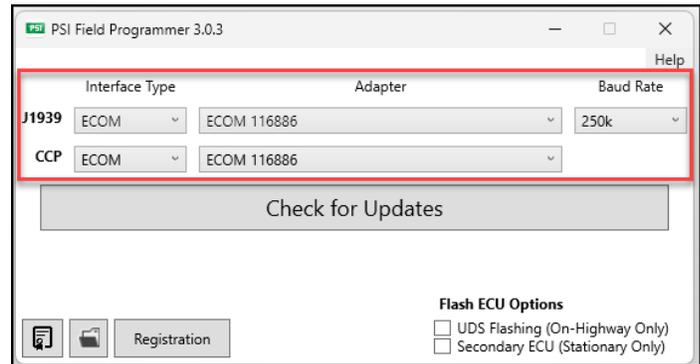
Software Setup

1. If the interface type, adapter, and baud rate are not already selected to what it shown below, use the drop down boxes to select the correct options. The adapter dropdown will show ECM + a 6 digit number which represents your ECOM Module Serial Number.

       Interface type = ECOM
       Adapter = ECOM XXXXXXX
       Baud Rate = 250K

Note: The number after "ECOM" may not appear until you have established connection between the field programmer and ECM.

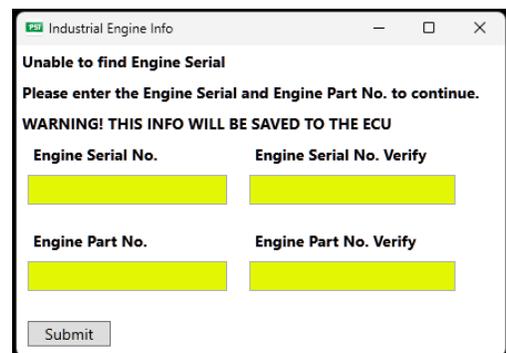|		
PSI PSI Field Programmer 3.0.3	— □ ✕	
		Help
	Interface Type	Adapter	Baud Rate
J1939	ECOM ⌄	ECOM 116886 ⌄	250k ⌄
CCP	ECOM ⌄	ECOM 116886 ⌄	
	Check for Updates	
		Flash ECU Options
📖 📁 Registration		☐ UDS Flashing (On-Highway Only)
		☐ Secondary ECU (Stationary Only)

IMPORTANT INFORMATION PRIOR – READ BEFORE PROCEEDING
☑ Ensure Battery Voltage to ECM is not interrupted during programming
☑ Ensure Switched Voltage to ECM is not interrupted during programming
☑ Ensure ECM Communication is not interrupted during programming
☑ Ensure you have stable internet connection prior to programming
☑ Ensure the engine serial number has been registered for an update via the WHG Form

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PERFORM A CALIBRATION UPDATE
1. Press the "***Check for Updates***" Button
2. Fill out the information in the yellow boxes once prompted
   a. Engine Serial Number*****
   b. Engine Part Number
3. Press Submit
   a. Programming takes approximately 11 minutes to complete
4. When completed the software will ask if you would like to update the secondary ECM, proceed with the same process to update the secondary ECM calibration.
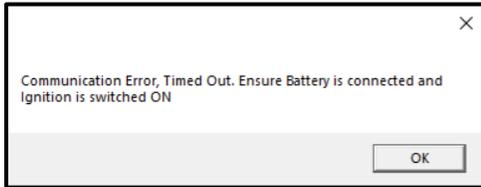
PSI Industrial Engine Info   — □ ✕
Unable to find Engine Serial
Please enter the Engine Serial and Engine Part No. to continue.
WARNING! THIS INFO WILL BE SAVED TO THE ECU
Engine Serial No.   Engine Serial No. Verify
Engine Part No.   Engine Part No. Verify
Submit

*Engine serial number should be correct and should be an exact match to the serial number previously submitted in the WHG Form (page 2, step 1). The correct serial number format is five letters followed by six digits with **no spaces** between the letters and numbers.

EZYOF123456

FIVE LETTERS		SIX NUMBERS

PROGRAMMING ERRORS OR ISSUES

Communication Error, Timed Out. Ensure the battery is connected and ignition is switched ON

Reason → Software cannot communicate with the ECM (Engine Control Module).

Possible Causes
- ECM Not Powered Up (requires Battery Voltage & Switched Voltage)
- Field Programmer Interface, Adaptor, or Baud Rate not configured correctly
- Faulty ECM Cable or Faulty USB Port
- ECM is set as a secondary ECM and the "Secondary ECU" checkbox is not checked

How to Resolve
- Close PSI Field Programmer Software and reopen it.
- Open 4G Display and attempt to connect with it. If you can connect, check whether the ECM calibration is primary or secondary.
- Verify the Switched Voltage (VSW) input is correct/energized on the 4G Display (Switched Voltage should equal Battery Voltage).
- If unable to connect with 4G Display, troubleshoot connectivity issues concerning Battery Voltage power, Switched Voltage Power, USB, or ECOM Configuration (Target CAN Address 0 = Primary ECM, 1 = Secondary ECM).
- If connected directly to a secondary ECM via the engine harness or desktop programmer, check the "Secondary ECU" checkbox in the PSI Field Programmer main screen.
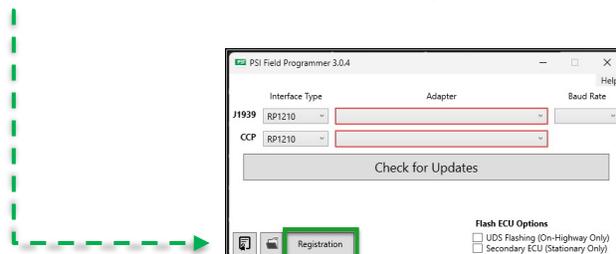
Your product license is not registered

Reason → PSI Field Programmer has not been registered

How to Resolve
- Use the "Registration" button within the PSI Field Programmer software to register your product.

Current Calibration on ECU is not listed on the Cloud Server

Reason → No update is available based on the calibration installed in the ECM or based on the engine serial number entered into the programmer.

Possible Causes
- Engine Serial Number entered into the programmer is invalid or incorrect.
- Engine Serial Number has not been registered via the WHG update form.
- Calibration installed in the ECM is not applicable to the WHG update.

How to Resolve
- Verify the Engine Serial Number (ESN) entered into the programmer is valid and in the correct format.
- Confirm that the WHG update form has been submitted.
- Connect with 4G Display and verify the current calibration and revision installed in the ECM.
- Submit a case file to PSI with the details through their support service at www.psiengines.com/service (click on the Support icon).

Unable to connect to PSI Servers

Reason → There is no internet connection to the PSI Cloud Server.

Possible Causes
- The laptop is not connected to the internet.
- User's firewall or security protection is preventing the laptop from reaching the PSI Cloud Server.

How to Resolve
- Check and confirm the laptop's internet connection.

Boot Block Recovery

In certain situations, such as programming errors, loss of B+ (battery power), communication failures, laptop malfunctions, and similar issues, the Engine Control Module (ECM) may enter a 'boot block' mode, also known as bootstrap mode. This state renders the ECM non-functional. Attempting to connect a 4G display to an ECM in boot block mode will result in a bootstrap warning or error message.

Fortunately, the PSI Field Programmer is equipped with a capability to recover an ECM from boot block mode.

To initiate a boot block recovery, first, exit out of the field programmer completely. Then, proceed to attempt the calibration update following the standard procedure. The PSI Field Programmer will automatically operate in the background to restore the ECM's functionality.