

ECM/PCM Data Initialization to Clear False Codes & Restore Proper Module Communication

This procedure applies to most makes and models, including gasoline and diesel vehicles. Performing a Factory Hard Reset clears stored adaptive data, resets module communications, and reinitializes sensors and control units after replacing or reprogramming the ECM/PCM.

We recommend a full hard reset duration of 2 hours for optimal results. If certain issues persist after the first reset, it is not uncommon to perform a second or even third hard reset, as some vehicles require multiple resets for all onboard modules to fully communicate and adapt to the new ECM/PCM.

Step 1: Disconnect Battery Power

- **Gasoline Vehicles:**
Disconnect both negative (-) and positive (+) battery terminals.
- **Diesel Vehicles:**
Disconnect both batteries completely—both the negative and positive terminals on both batteries.
- Once disconnected, leave the vehicle powered down for a minimum of 2 hours.
- Do not reconnect the battery or attempt to start the vehicle during this time.
- This allows capacitors to fully discharge and enables the vehicle to clear adaptive memory and reset module communication.

Optional Step - Deep Capacitor Discharge (If Desired):

After disconnecting both terminals:

- Touch and hold the positive and negative battery cables together (metal ends only) for 60 seconds.
- Ensure the cables are disconnected from the battery before performing this step.

Note: This optional step accelerates the discharge of residual power from capacitors. However, waiting the full 2 hours is typically sufficient.

Step 2: Reconnect Battery Power

- After the 2-hour reset period, reconnect the battery:
- Positive terminal first, then negative terminal.
- For diesel vehicles, ensure all connections are secure on both batteries.

Step 3: Perform Key Relearn Procedures (If Required)

Some manufacturers require a key or system relearn after ECM/PCM installation:

- **GM Vehicles:**
For GM (General Motors) vehicles, the ECM/PCM may require a Key Relearn Procedure before starting. Please refer to: GM Security Relearn Procedure
- **Toyota/Lexus Vehicles:**
For Toyota and Lexus vehicles, a reset tool is included inside the box to complete the required procedure after ECM installation. Please check your package for the included tool. For instructions on how to use it, refer to: Toyota/Lexus Reset Tool Instructions
- **Ford Vehicles:**
Ford vehicles equipped with the Passive Anti-Theft System (PATS) will require a key relearn after ECM/PCM replacement. A scan tool is likely required to complete this procedure. For more information and instructions, visit: Ford PATS System Information

Step 4: Key-On Relearn

- Once battery reconnection and any necessary key relearns are complete:
1. Insert the key and turn it to the ON/RUN position (engine off, dashboard lights on).
 2. Leave the key in the ON position for 15 minutes.
- Do not start the engine.
 - This allows the ECM/PCM to perform initial diagnostics and sensor resets.
3. Turn the key to the OFF position and leave it off for 1 full minute.

Step 5: Start and Idle

1. Start the engine and let it idle in PARK or NEUTRAL for 10-15 minutes.
 2. Do not press the accelerator or rev the engine.
- This allows the idle control system, throttle body, and fuel trims to stabilize and relearn.

Step 6: Drive Cycle

1. Drive the vehicle under normal conditions for 10-15 minutes.
- Include both stop-and-go city driving and light highway driving.

IMPORTANT:

Avoid aggressive driving, wide-open throttle, or heavy loads during this phase. This could interfere with the ECM/PCM's learning process and delay adaptation.

Additional Notes:

- **Multiple Hard Resets May Be Necessary:**

If drivability issues, communication faults, or warning lights persist after the first hard reset, performing the procedure a second or third time is common. Some modules require multiple resets to establish proper communication with a replacement ECM/PCM.

- **Immobilizer & SKIM Systems:**

If the vehicle uses a SKIM (Sentry Key Immobilizer Module) system, do not clear any SKIM-related codes immediately after installation.

- Clearing SKIM-related codes such as P0633 - Immobilizer Key Not Programmed can lock the ECM/PCM, requiring it to be removed and reprogrammed.
- Always verify key pairing procedures before attempting to erase any codes.

