Cummins 6.7L ECM Bootloader RSA Patch User Guide

Cindy Myers

Cummins 6.7L ECM Bootloader RSA Patch User Guide

Contents

Prerequisites

Intended Audience

EFILive Customers using the V8 Scan and Tune Tool software.

Computer Knowledge

It is expected that readers have a basic understanding of:

- The Windows operating system;
- Starting and using Windows applications;
- Navigating folders using Windows Explorer.

Process Retirement

In June 2018, EFILive implemented a method that no longer requires third party methods of removing the Digital Signature via OEM 3 Plug Connector for CM2350B controllers.

The EFILive ECM flash process manages the removal of the Digital Signature via OBD-II flashing in the following circumstances:

Controller	Flash Method
CM2350B (CME)	In vehicle and bench harness flashing.
CM2200 (CMD)	Bench flashing only.
CM2100 (CMC)	Bench flashing only.

NOTE: The ECM must be fully operational and not in boot mode as a result of a failed flash (error $0340) or forced boot mode. Where the ECM is in boot mode, the unlock process is bypassed and two-step flash process is required to remove the digital signature.

1. Recover the ECM by flashing a stock tune to restore the ECM to operational mode.
2. Flash the ECM to remove the digital signature.

In vehicle flashing for CM2100 and CM2200 controllers still requires the BootRSA Patch file process to remove the digital signature.

All customers should update to the below versions (or later) to avoid using the outdated redundant processes outlined in this document.

- EFILive V8.2.17 or later.
- FlashScan V2 / AutoCal Firmware - V2.07.134 or later.

Introduction

RSA Digital Signature

In early 2009 Cummins ECM's were manufactured with higher levels of security consisting of an RSA Digital Signature on the calibrations. Dealer flashed ECM's may have been updated with this additional security and all service replacement ECM's are manufactured this way. (*Search for Service Bulletin Number: 18-007-09).*

EFILive has developed a method to turn off the OBD-II Digital Signature validation. This short guide will outline the steps required to allow modified tunes to be programmed in to late model 6.7L ECM's.

Supported Controllers

The Cummins BootRSA Patch User Guide is only applicable for the following vehicles:

Controller	Flash Method
CM2200 (CMD)	In vehicle flashing only.
CM2100 (CMC)	In vehicle flashing only.

The EFILive ECM flash process will manage RSA Digital Signature removal during bench flashing for CM2100 and CM2200, and all flashing for CM2350B.

Software Requirements

You have to be running the following (or higher) software versions.
1. EFILive V8.2.17 or later
2. FlashScan V2 / AutoCal Firmware - V2.07.134
3. EFILive V7.5.21 or later

The latest software versions are available for download from EFILive's website.

Does my ECM have an active RSA Digital Signature?

For the CM2200 ECM (*2010-2012*) the answer is yes, ALL ECM's will have this active and must be patched.

For the CM2100 ECM (*2007-2009*) if the ECM has the Bootloader Revision 1000601 then the RSA Digital Signature check is active, any other number and it probably does not have this protection active. If your CM2100A ECM was replaced any time after 2009 then it is likely the anti-tuning protection will be active.

Bootloader RSA Patch Process

Patching CM2100 ECM's In Vehicle

For the CM2100 ECM (*2007-2009*) customers will need to:

1. Read the tune from the ECM.
2. Confirm it has the 1000601 Bootloader as shown on the previous page.

   NOTE: If your ECM does not have bootloader version 1000601 then there is no need to continue, your ECM probably has no tuning protection active.

3. Save this file as you will need to flash this tune back in once the patch is done.
4. Locate the file **'CM2100A_BootRSA_Patch_xxxx.ctz'**. By default this is installed to the directory: **\My Documents\EFILive\V8\Tune\CMC**.
   Select the file 'xxxx' (Auto or Manual) to use based on the transmission type the vehicle has.

   This is a generic file it *must not* be left in the ECM permanently once flashed.

5. Using the V8 software, Full Flash the tune -
   'CM2100A_BootRSA_Patch_xxxx.ctz'.
6. Once the flash has completed, turn the ignition off.
7. The ECM can now be flashed with either the file you first read from the ECM (essentially your base tune), or a modified version of that base tune.

Reminder: You should not leave the tune 'CM2100A_BootRSA_Patch_xxxx.ctz' in the ECM as your permanent tune as it may not be suitable for your vehicle.

'CM2100A_BootRSA_Patch_xxxx.ctz' is locked to prevent accidental editing.

Patching CM2200A ECM's In Vehicle

For the CM2200 ECM (*2010-2012*) customers will need to:

1. Locate the file **'CM2200A_BootRSA_Patch_ xxxx.ctz'**. By default this is installed to the directory: **\My Documents\EFILive\V8\Tune\CMD**.
   Select the file 'xxxx' (Auto or Manual) to use based on the transmission type the vehicle has.

   This is a generic file it _must not_ be left in the ECM permanently once flashed.

2. Using the V8 software, Full Flash the tune -
   'CM2200A_BootRSA_Patch_ xxxx.ctz'.
3. Once the flash has completed, turn the ignition off.
4. The ECM can now be flashed with either a stock or modified file.

Reminder: You should not leave the tune 'CM2200A_BootRSA_Patch_ xxxx.ctz' in the ECM as your permanent tune as it may not be suitable for your vehicle.

'CM2200A_BootRSA_Patch_ xxxx.ctz' is locked to prevent accidental editing.

Configuring Patch File for AutoCal

For AutoCal to be able to flash any tune file, the **Remote License** must be set by the FlashScan V2 that is linked to the AutoCal.
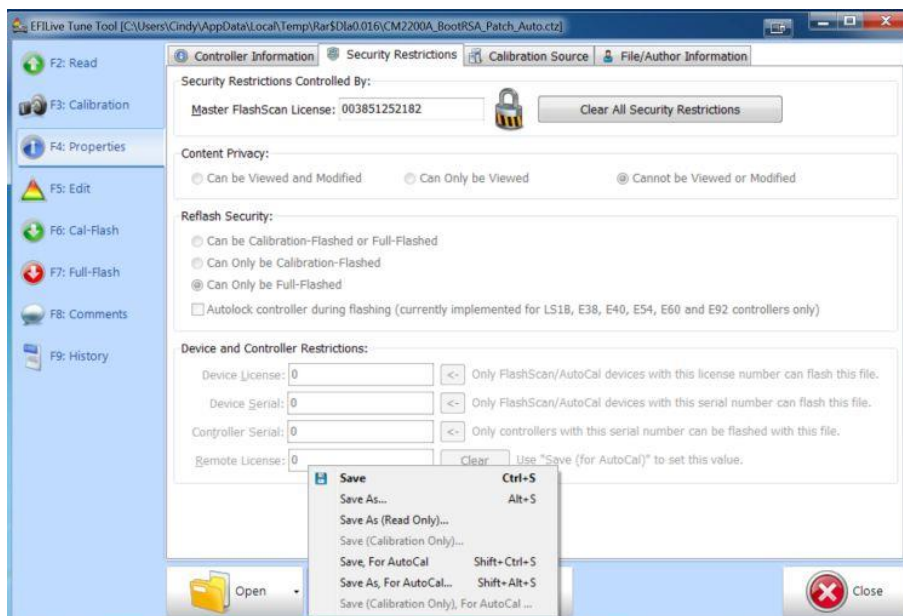
There are two ways to set the remote license, either via Quick Setup, or via the opening the tune file.

The following instructions detail how to set the Remote License when the patch file already contains security settings.

1. With your FlashScan V2 connected to your PC, open EFILive V8 Scan and Tune.
2. Locate and open the correct **'xxxxxx_BootRSA_Patch_xxxx.ctz'**
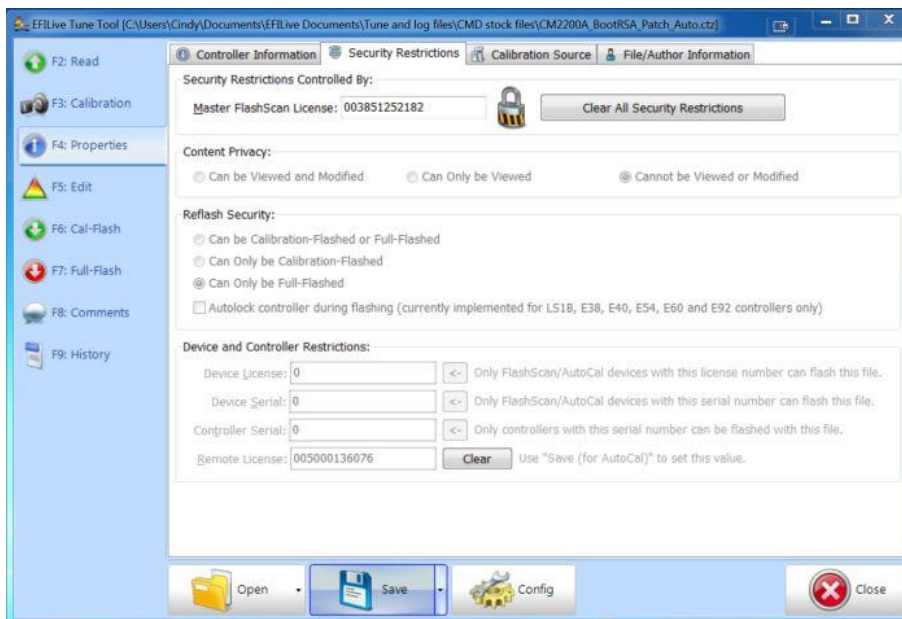3. Tick **'I understand the warning.'** check box, and select Continue.

4. From the **[F4: Properties]** window, select the **Security Restrictions** tab.
5. Using the Save icon drop down menu, select the **Save for AutoCal** or **Save As for AutoCal option**.

6. Confirm that the tune file is now linked to Remote AutoCal, and tick **'I understand the warning.'** check box, and select Continue.

7. From the **[F4: Properties]** window, select the **Security Restrictions** tab, you will now see that the remote license has been set.

8. File is now suitable for flashing by AutoCal devices linked to your FlashScan V2.