AN702 – Reflashing Firmware Through the Axiomatic Electronic Assistant

Introduction

Axiomatic's J1939 devices can be upgraded with new application firmware using the Bootloader Information section.

This application note provides simple, step-by-step instructions on how to upload new firmware provided by Axiomatic onto a J1939 device via CAN, without requiring it to be disconnected from the J1939 network.

Bootloader

1. When the Axiomatic EA first connects to the ECU, the Bootloader Information section will display the following information. To use the bootloader to upgrade the firmware running on the ECU, change the variable "Force Bootloader to Load on Reset" to "Yes".

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2. When the prompt box asks if you want to reset the ECU, select "Yes".
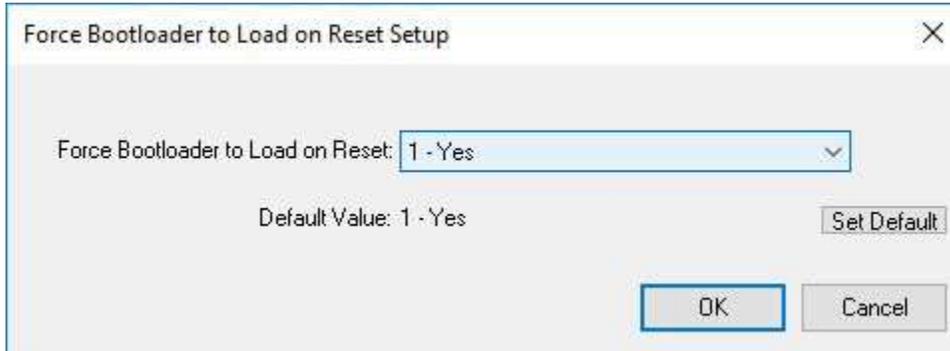
3. Upon reset, the ECU will no longer show up on the J1939 network as an AXnnnnnn device, but rather as J1939 Bootloader #1 (or J1939 Bootloader #2, depending on which CAN interface is being used for reflashing).
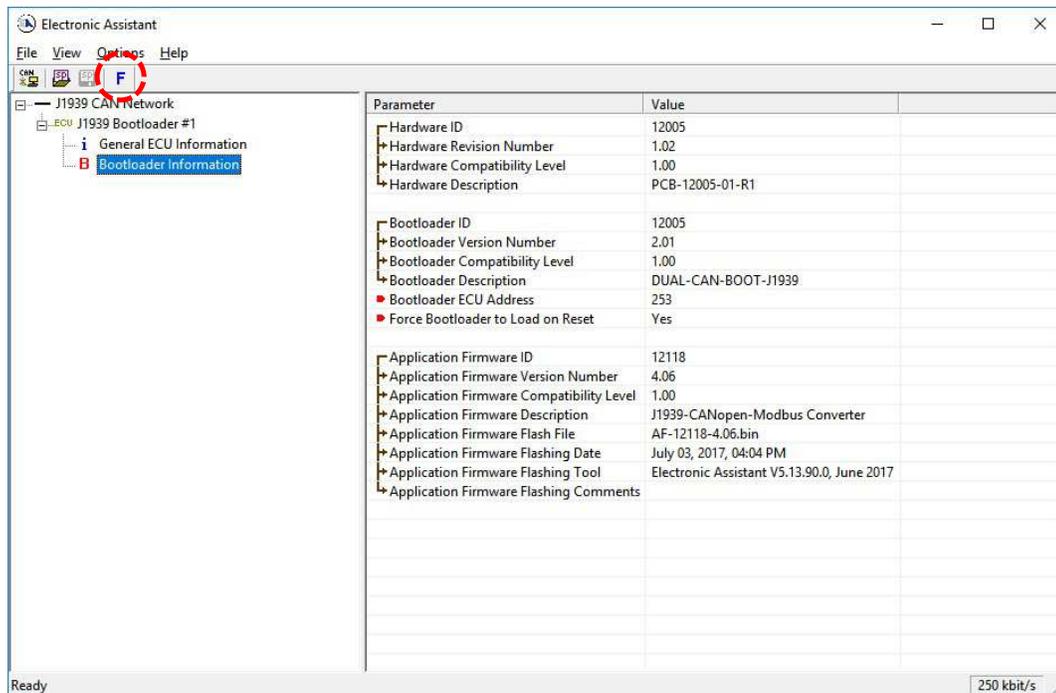
4. When the Bootloader Information section is selected, the same information is shown as when it was running the AXnnnnnn firmware (Application Firmware ID nnnnn), but in this case, the Flashing feature is enabled.

5. Select the 'Flashing' button and navigate to where the .bin file was saved, sent by Axiomatic. (Note: only binary (.bin) files can be flashed using the Axiomatic EA tool).
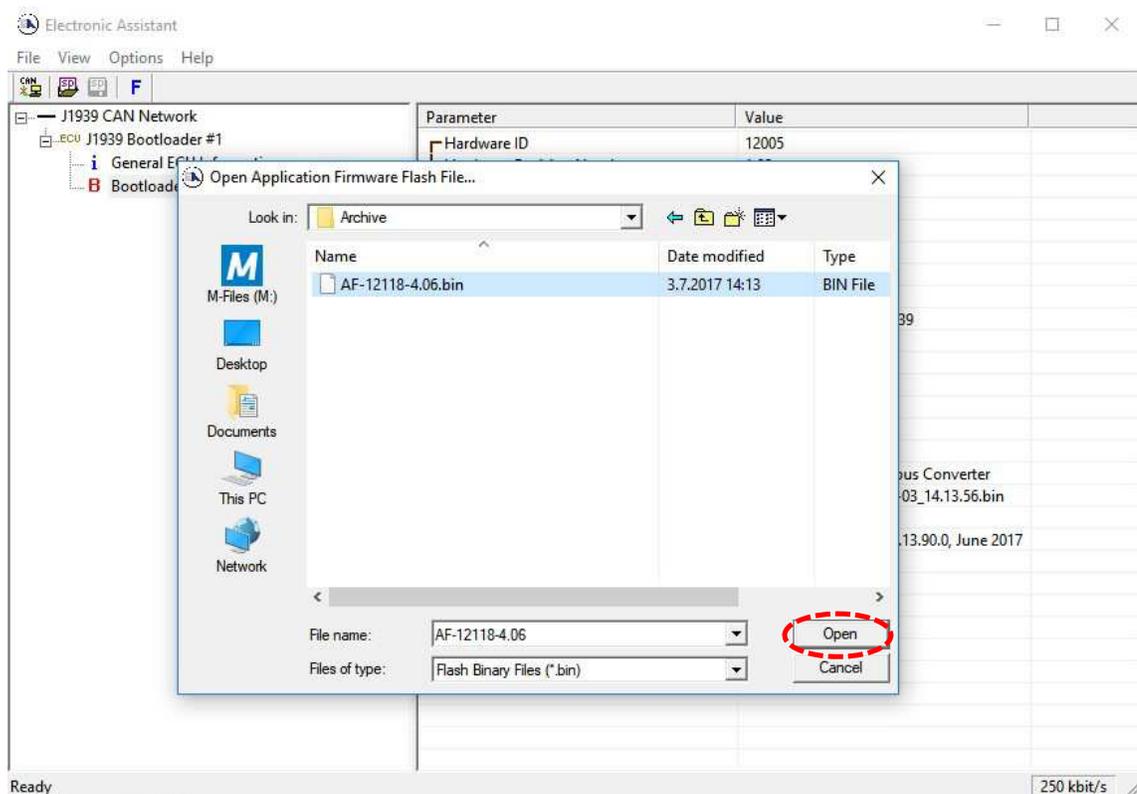
6. Once the Flash Application Firmware window opens, comments such as "Firmware uploaded by [Name]" may be entered if desired. This field can be left blank.

Note: The file does not have to be date/time stamped, as this is done automatically by the Axiomatic EA tool when the new firmware is installed. Please note, that it is always good practice to select the "Erase All ECU Flash Memory" option. This will make sure that the whole application Flash is erased, and proper default settings are written to Flash. Please also note that selecting this option will erase all settings previously programmed to the Protocol Converter. Thus, settings should be saved to the PC before the hardware is reprogrammed.
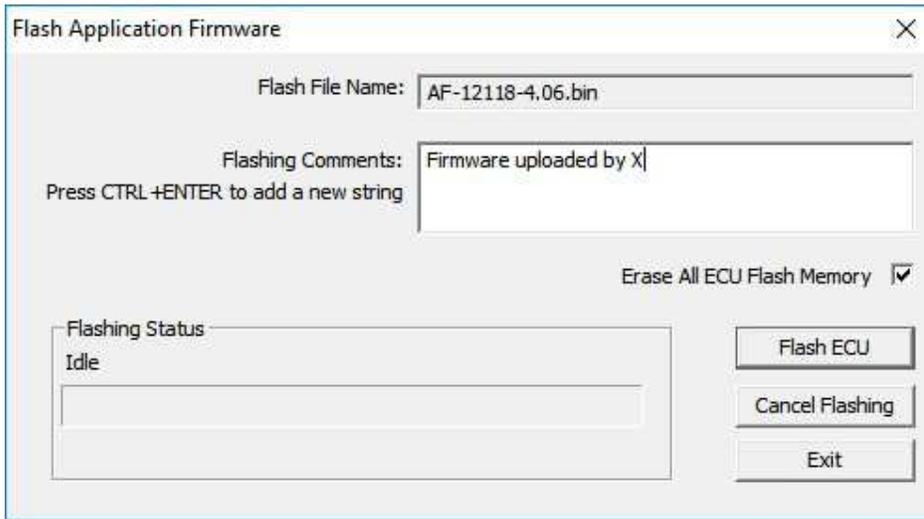
7. A progress bar will show how much of the firmware has been sent as the upload progresses. The more traffic there is on the J1939 network, the longer the upload process will take.
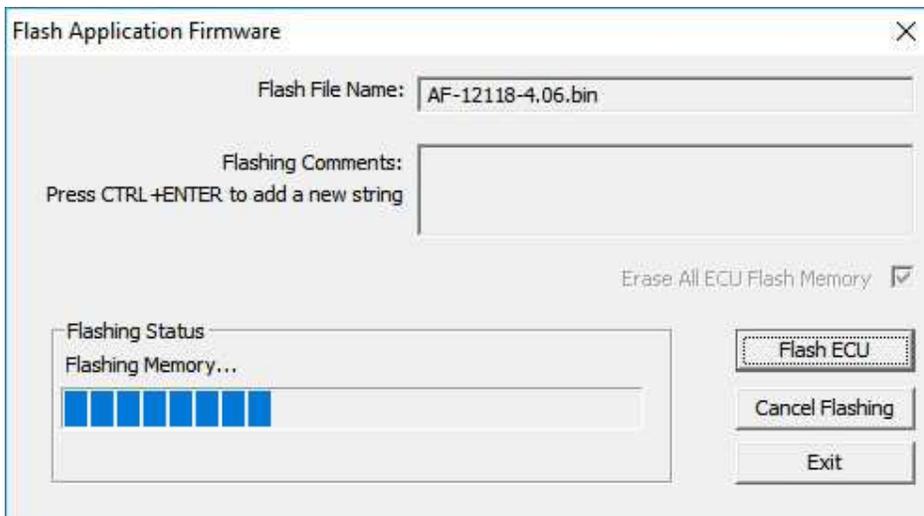
8. Once the firmware has finished uploading, a message will pop up, indicating that the operation was successful. Select to reset the ECU. The new version of the AXnnnnnn application will start running, and the ECU will be identified as such by the Axiomatic EA. The next time the ECU is power cycled, the AXXXXXXX application will run rather than the bootloader function.
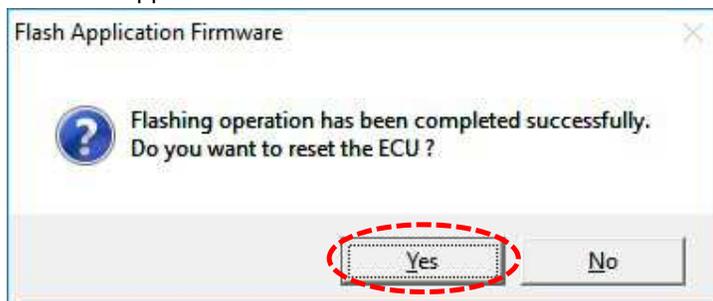
Version	Date	Authors	Comments
1.00	March 25, 2020	Greg Laronde / Sue Thomas	Initial Release
1.01	July 6, 2023	Kiril Mojsov	Legacy Updates & Marketing Review