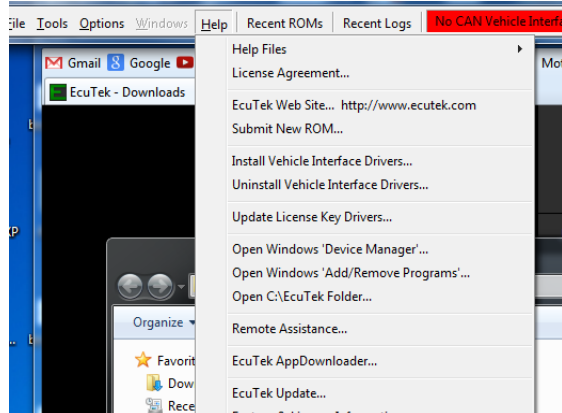
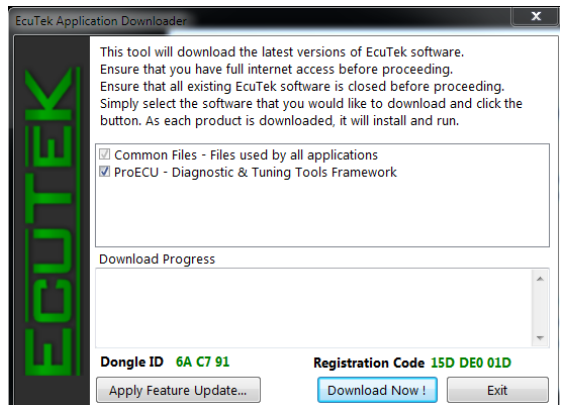
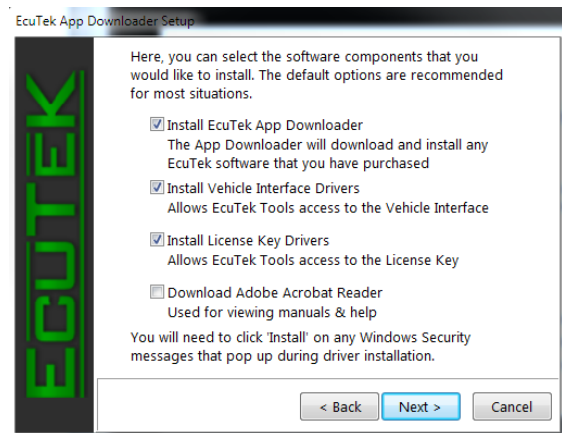
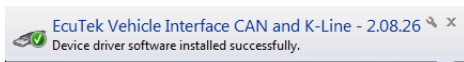




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## EcuTek ProECU Hardware/Programming Kit Instructions

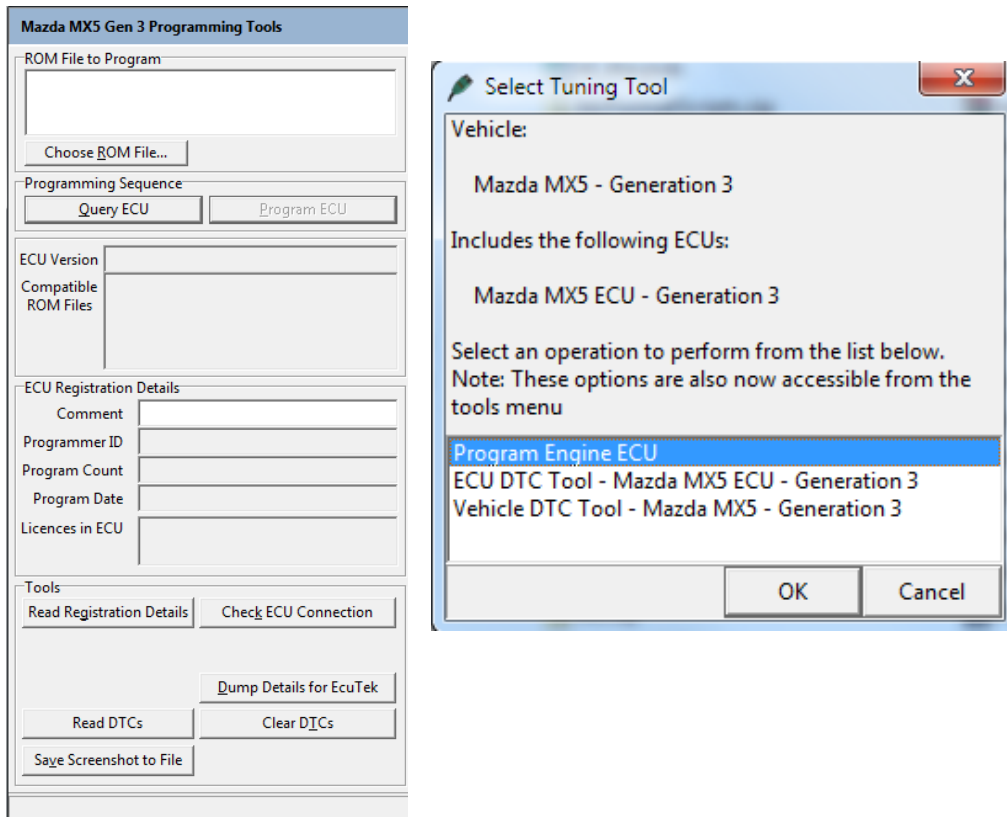
1. DO NOT PLUG ANYTHING IN UNTIL INSTRUCTED.
2. Go to <http://www.ecutek.com/downloads>
3. Download by selecting "save."
4. Select "AppDidInstaller.exe" in the "downloads" directory where it saved (or hit "run" after download.) You will be greeted with this screen:
5. Plug in the USB dongle and interface as directed, allow windows to install drivers.
6. If not already started, run App Downloader and select "ProECU."
7. Select "Download Now!" and it will install the selected software.
8. Run ProECU, a small bar will appear on your screen.
9. When you receive your kit, we will assign a license to the dongle ID. You will need to run EcuTek Update to download this license.
10. Once installed, make sure to review the help documents within ProECU by selecting "Help."
11. Run EcuTek Update. You may have to run EcuTek update more than once.
12. After updates, launch ProECU, connect your vehicle to the laptop via the included OBDII cable, and go to "Tools -> Detect Vehicle."
13. On occasion this may not work correctly. Double check that it selects the correct vehicle.





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Otherwise select "Tools -> Manually Select Vehicle" and choose your vehicle/year.  
14. Select "Program Engine ECU" and hit "OK"



15. That will bring up a dialog of options. At this point you can do the following:
- Select "Query ECU" to read you stock file and revision.
  - You may need to "Enter Utility Mode" to read and program the ECU.
  - "Read Registration Details" to see if you already have an EcuTek License in the ECU.
  - "Check ECU Connection" to assure everything is plugged in correctly.
  - "Dump Details for EcuTek"
    - This is in cases where the ECU may be a novel revision, and will need to be "dumped" so that we can have a definition created to make you a file. These files are stored in C:\EcuTek\RomDumps folder. Once completed send that file to [sales@xero-limit.com](mailto:sales@xero-limit.com) In these cases it may take 1-7 business days to make a revision. There is no need to do this for known files.
  - Read and Clear DTCs: This is what will read and clear the check engine lights.
  - "Save Screenshot" this is helpful in the rare case something goes awry in any part of the process. Please use this should there be any errors along with sending the .log file.



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16. If you are asked to “select a file compatible with this ECU”, then either take a screen shot or e-mail us the ECU code you see so we can send you the appropriate revision. In those cases it is not necessary to “Dump Details for EcuTek” as we already have that ROM.
17. Once you receive a file to use, select "Choose Rom File" from this window. If you double click on the file we send you it should appear by default. If you get the “no license available” message go back to feature update and install the license. If you have issues here give us a call or e-mail.
18. For the flashing you must make sure your battery is fully charged and your laptop/battery is in good order and not about to restart for an automatic update! If anything happens during a flash, please take a screen shot, and along with that send c:/ecutek/proecu-xxx.log to [sales@xero-limit.com](mailto:sales@xero-limit.com) so we can assist you. While reads can take 5-30 minutes, flashes should take 3-5. Follow all prompts exactly.

Otherwise fill out the below details, and we'll get you a file as soon as we can (may take 1-7 days). Please provide the following information:

- Year, make, model, trans type, trim level of vehicle
- Modifications (SC/Turbo/Intake/Exhaust/etc...)
- Octane most frequently used
- Intended use/tune desired: Street/Track/Max Power/Rev limit increase

This way we can best factor in margin of safety with optimal HP output for your given locale/setup.

## Datalogging

Despite our best efforts, between production variances, aftermarket modifications, wear/tear, and sensor drift; vehicles will need some revising to run optimally. Our base tunes will get you within the ballpark, and often land you within 1-5 % of optimal power figures. However at times, variation between vehicles is enough that we need to alter the mapping to assure consistent gains and adequate safety margin. For this reason datalogging has always been highly advised and revisions are provided free of charge if needed, so long as you keep a consistent setup. To datalog do the following:

1. Open up the file you were sent by double clicking. This will open up ProECU.
2. You will see the following screen where you can datalog.
3. With the car running, select “Map Access” to connect to the ECU in real time and gather data.
4. The parameter list is then displayed with the values being reported by the ECU. Once you hit “Log to File” it will begin recording, hit it again to stop recording. These logs are stored in C:\EcuTek\MapAccessLogs\ directory.

| Name   | Units  | Cur... |
|--|--------|--------|
| ▼ Logged Parameters  |        |        |
| <input checked="" type="checkbox"/> Accelerator Pedal          | %      | n/a    |
| <input checked="" type="checkbox"/> AFR                        | Lambda | n/a    |
| <input checked="" type="checkbox"/> AFR                        | AFR    | n/a    |
| <input checked="" type="checkbox"/> Atmospheric Pressure       | Bar    | n/a    |
| <input checked="" type="checkbox"/> Coolant Temperature        | °C     | n/a    |
| <input checked="" type="checkbox"/> Engine Load                | %      | n/a    |
| <input checked="" type="checkbox"/> Engine Load Absolute       | g/rev  | n/a    |
| <input checked="" type="checkbox"/> Engine Speed               | RPM    | n/a    |
| <input checked="" type="checkbox"/> Fuel Trim Long Term        | %      | n/a    |
| <input checked="" type="checkbox"/> Fuel Trim Short Term       | %      | n/a    |
| <input checked="" type="checkbox"/> Ignition Timing            | °      | n/a    |
| <input checked="" type="checkbox"/> IMRC Control               |        | n/a    |
| <input checked="" type="checkbox"/> Intake Air Temperature     | °C     | n/a    |
| <input checked="" type="checkbox"/> Knock Correction           | °      | n/a    |
| <input checked="" type="checkbox"/> Manifold Absolute Pressure | kPa    | n/a    |
| <input checked="" type="checkbox"/> Mass Air Flow              | g/s    | n/a    |
| <input checked="" type="checkbox"/> Mass Air Flow Sensor       | V      | n/a    |
| <input checked="" type="checkbox"/> O2 Rear Sensor Fuel Trim   |        | n/a    |
| <input checked="" type="checkbox"/> Throttle Angle             | °      | n/a    |
| <input checked="" type="checkbox"/> Throttle Angle Actual      | °      | n/a    |
| <input checked="" type="checkbox"/> Vehicle Speed              | kph    | n/a    |
| <input checked="" type="checkbox"/> VVT Intake                 | °      | n/a    |



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5. You will then e-mail us this file to [sales@xero-limit.com](mailto:sales@xero-limit.com) so we can review it and make changes.
6. Note that with different vehicles you will see different parameters. Generally the less parameters are logged, the quicker the sample rate. However the default settings are usually adequate from both respects.

#### **Driving During Datalogging:**

Easy on the throttle! Quick changes mean enrichments and data being offset. Use gradual transitions. Allow the ECU to learn and warm-up the first few miles. Hit "Log to File" after a few miles/minutes so that we are not capturing transition states. Do several WOT runs. This means for NA cars 2<sup>nd</sup>/3<sup>rd</sup> gear, but 3<sup>rd</sup> sometimes 4<sup>th</sup> for Forced Induction, as the traction problems and sampling rates benefit from a longer gear. Vary speeds, gears, loads and RPM to make sure we capture airflows at the various levels. Please follow all applicable local laws, or use a track/dyno if needed. If the vehicle is forced induction, assure AFRs are no more than 13 for more than a few seconds at full load. Otherwise let off. Normally aspirated setups do not need to worry about this for the tuning process. Files 2-3 miles in length are adequate.