

Frequently Asked Questions

1. Once installed, is the ECM locked to a specific bike or VIN?

- a. No, the ECM is not locked to a specific bike or VIN number, all you would need to do to transfer the unit to another bike is swap the old VIN number out for the new one as described in our Quick Start Guide.

2. Is installation difficult? Do I need to modify the factory wiring harness?

- a. No major modifications are needed. It's designed to be plug-and-play; you replace your factory ECM and oxygen sensors with those provided. No changes to the factory wiring harness are required.

3. What is "Speed Density" tuning vs. other methods?

- a. Speed Density tuning uses manifold absolute pressure (MAP) / intake air temperature along with VE (volumetric efficiency) tables to calculate airflow and thereby fuel delivery. It tends to adapt better to changing conditions (altitude, temp, mods).

By contrast, Alpha-N tuning uses throttle position and RPM (less direct measurement of intake airflow) and can be simpler but less precise under certain mods or environmental changes.

4. Do I lose my ride modes or cruise control functionality?

- a. Quite the contrary, we have fully customizable ride modes, and by default cruise control works as intended and we have additional options for adjustment if you are the kind of person that likes to tinker.

5. My bike cranks but the engine will not fire, below are some steps you can take:

- a. Please verify that your battery is well charged
- b. Verify that your fuel line is connected and you have gas that is not old in the tank
- c. Verify that your injector and map sensor settings are correct in Tunerstudio if using something other than factory components.
- d. Impact ECMs come pre-loaded with a program that should fire and run 98% of engine combos, however, if your bike does not fire up follow our **"No Start Troubleshooting Guide"**

6. My bike cranks over for a long time before the engine finally fires.

- a. Reference our Quick Start Guide and make sure you have properly configured your Fuel Injector settings and that you have calibrated your Twist Grip Sensor and Throttle Body
- b. In Tunerstudio, navigate to the **"Controller Menu → ACR Settings"**, under the **"Disable after revolutions"** text box make sure your value is set anywhere from **"2-4"**. This dictates how long your ACRs stay open.

7. How do I raise my Rev Limiter?

a. You can easily raise your Rev Limiter by navigating to **"Setup Menu → Limits & Protection → Limits & Fallbacks"** and then changing the value for **"RPM Hard Limit(RPM)"**, by default this value is set to 6500 RPM.

8. The Twist Grip Is Way Too Sensitive, can I change this?

- a. Yes, follow our **"Throttle Progressivity Adjustment Guide"**
- b. Add some Twist Grip Dampening under **"Sensors Menu → Twist Grip Sensor"** and adjust the **"TGS Dampening"** field. Note: .001 is the most amount of dampening possible and 1 is equivalent to no dampening. .009 is usually a happy value to start from.

9. Will I need a dyno tune after installation, or is there a stock map?

- a. Yes, the ECU comes with ready-built base calibrations. Depending how heavily modified your bike is (exhaust, cam, intake, boost, etc.), a dyno tune or professional tuning is highly recommended to maximize performance and reliability. It supports live tuning, so adjustments are possible after initial mapping.

10. Does Impact ECU compensate for changing altitude / environmental conditions?

- a. Yes, it has built-in barometric compensation so the ECU can automatically adjust fueling based on elevation changes. This helps maintain proper air/fuel mixture when riding through mountains or varying altitudes.