

## **NEW FUELS CREATE LEAN FUEL MIXTURES**

### **CONDITION**

Over the past several years the chemical properties of motor fuels have changed in the USA to meet cleaner air standards. Current fuels have more alcohol content which results in more oxygen in the combustion mixture causing engines to run at higher temperatures.

### **SOLUTION**

Through dyno testing ATK has developed a new ECU mapping that changes fuel mixture ratios to richen the settings using these new fuels. This results in lower operating temperatures contributing to longer engine life while increasing performance throughout the power band.

### **WARNING**

Failure to change the fuel injection mapping **MAY RESULT IN ENGINE SEIZURE.**

### **ECU UPDATE OFFER**

**ATK Vehicles:** ATK will install and test the new ECU mapping free of charge. Customer is responsible for removal of EFI Computer from vehicle, shipping charges to and from ATK, and reinstallation.

**Cannondale Vehicles:** ATK will install and test the new ECU mapping free of charge. However, there is a \$100 registration fee required by Optimum to retrofit older ECUs. Customer is responsible for removal of EFI Computer from vehicle, shipping charges to and from ATK, \$100 Optimum registration fee, and reinstallation.

### **PROCEDURE**

Fill out the attached form. Remove the EFI Computer from your vehicle and package for shipping including the Free ECU Update Service Request Form. Attach a check for the estimated amount of return shipping plus the \$100 Optimum registration fee if applicable (Cannondale vehicles only). **It is advisable to insure the package for \$300** (replacement value) - ATK is not responsible for equipment that is damaged during shipping. Upon receiving the package ATK inspects contents for damage and completeness. All packages must include the Service Request Form, payment for return shipping, and Optimum registration fee (if applicable) or the ECU will not be serviced. Note: All updated ECUs will have the ATK HEX Codes installed.

### **ATTACHMENTS**

Free ECU Update Service Request Form, Maintenance Procedure for Removal and Reinstallation of EFI Computer.

### **QUESTIONS?**

If you have any questions call ATK Parts at (801) 298-8288 x105. Reference: ECU Update Offer.

*Information is subject to change without notice.*



# FREE ECU UPDATE SERVICE REQUEST

REPAIR ORDER DATE: 13-Oct-06

### CUSTOMER INFORMATION

Name:	
Address:	
City, State, Zip:	
Telephone:	
Fax:	
Email:	
Dealership:	
Payment:	ATK Vehicle - \$0, Cannondale Vehicle - \$100

### VEHICLE INFORMATION

Year, Make, Model:	
VIN:	
Engine Number:	
Current Map:	
Current Exhaust:	
Desired Map: (Circle One) Motorcycle: MX XC Enduro	
ATV: VR MX	

### INSTRUCTIONS:

<b>This form must be filled out and attached to ECU at time of shipping</b>

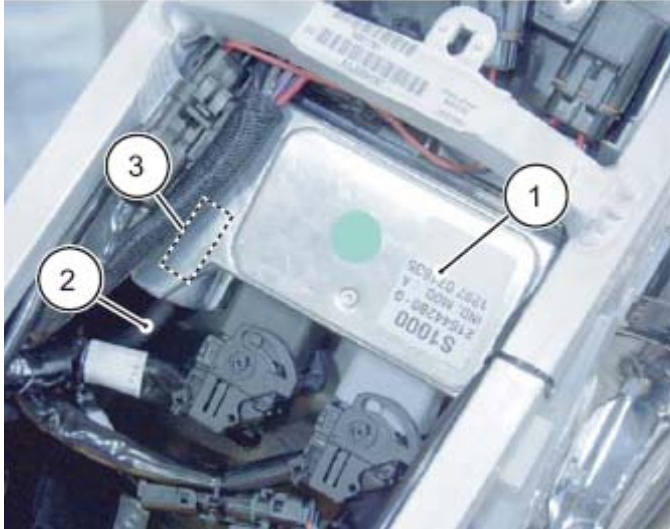
### Please Check Appropriate Choices Below:

- I would like to receive ATK Technical Bulletins by Email.
- I would like to receive information about ATK special offers by Email.
- I would like to receive information about the ATK Riders Group .

## ENGINE CONTROL UNIT (ECU) – Removal and Replacement

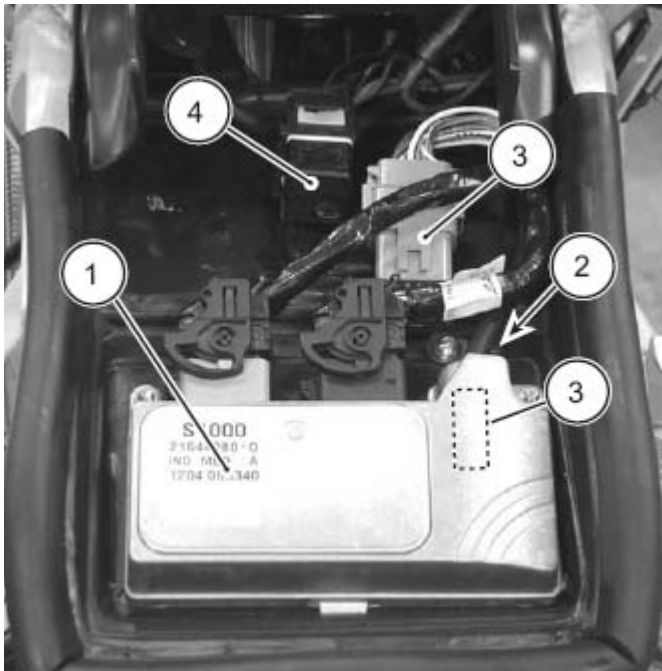
The engine control unit or “ECU” is a kind of computer that calculates ignition timing and fuel delivery for all engine speeds and loads based on its programming. It is sometimes referred to as the “brain” of the fuel injection system. This brain calculates fuel delivery and ignition timing based on information gathered from vehicle sensors (inputs) and the calibration file loaded at the factory.

Motorcycle ECUs are located within the subframe.

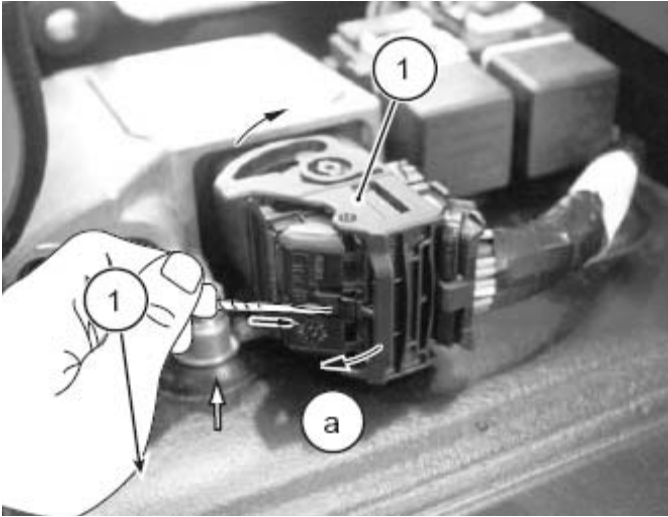


1. ECU
2. Air pressure sensor hose (from airbox and fuel pressure regulator)
3. Internal barometric (air) pressure sensor.

ATV ECUs are located on the electronics tray under the cowl.



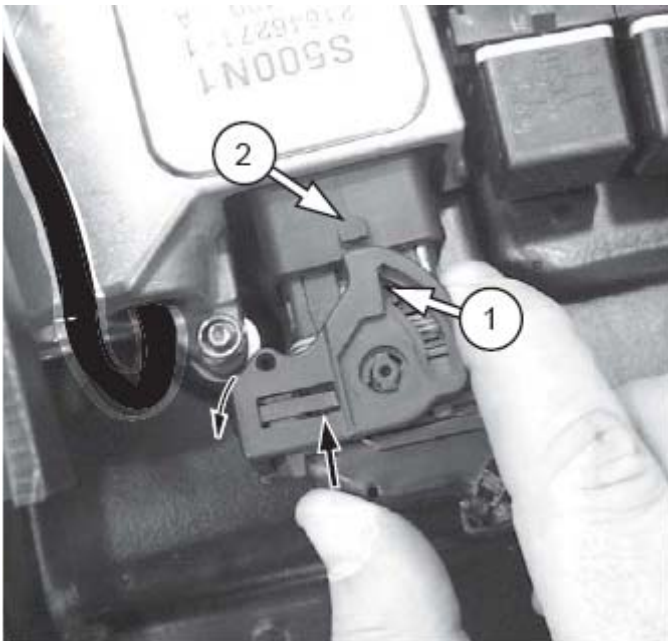
1. ECU
2. Air pressure sensor hose (from airbox)
3. Accessories connector
4. EMS power relay



**NOTE:** MC1000 ECUs have two main harness connector sockets: Remove both connectors from the ECU

### Disconnecting the ECU

1. Disconnect the battery.
2. Press in the latch locking tab and rotate the latch in direction (a) until it stops. Pull the connector from the ECU socket.



**NOTE:** MC1000 ECUs have two main harness connector sockets:

- Connector P1 color is black and connects to the black ECU socket.
- Connector P2 color is grey and connects to the grey ECU socket.

1. Latch
2. Locking tab
3. Align the latch groove and tab on the ECU socket. Rotate the latch in direction (b) until the latch is locked by the locking tab. The latch should operate freely with your fingers; do not force it.

### Reconnecting the ECU

1. Make sure the battery is disconnected.
2. Make sure the main fuse is removed.
  - Inspect for bent terminals/pins, damaged cable terminal/pin joints, water, dirt, or corrosion, and secure wiring. If a terminal or pin is bent, carefully straighten it with a thin-blade screwdriver.
  - Before joining or connecting, check for dirt or corrosion
  - Push male and female ends together squarely to avoid incorrectly locating or bending the terminal pins.
  - Make sure the two halves connect positively.