INSTRUCTION SHEET

Buell AMERICAN MOTORCYCLES

-J02050 *Kit Numbers 91437-99Y, 32680-96Y and 91438-01Y* REV. 6-01-00

ECM AND IGNITION MODULE RACE KITS

General

CAUTION

Race Kits are intended for high-performance racing (OFF ROAD USE) applications only. Use of these kits may reduce or void the Limited Warranty coverage. Motorcycles modified with some performance engine parts must not be used on public roads and in some cases may be restricted to closed-course competition. These kits are not legal for sale or use in California on any pollution-controlled motor vehicles. Alterations of emission related components constitutes tampering under USEPA guidelines and can lead to substantial fines and penalties.

Engine related performance parts are intended for the Experienced Rider only.

Fitment

Lightning X1 and Thunderbolt S3 '99 - '01

ECM Race Kit – Part No. 91437-99Y

Cyclone M2 '01

Ignition Module Race Kit – Part No. 91438-01Y

S1, S2, S3, S1W, S2T, S3T '96 - '98, M2 '99 - '00

Ignition Module Race Kit – Part No. 32680-96Y

ECM Race Kit

Description

The ECM race kits for both the X1 and S3 are identical, their location on the vehicle differs.

CAUTION

This ECM Race module will allow the engine to rev up to 6800 rpm. It is extremely important that the rider use the tachometer and avoid harmful over-revving. Engine-related performance parts are intended for the experienced rider only.

Installation

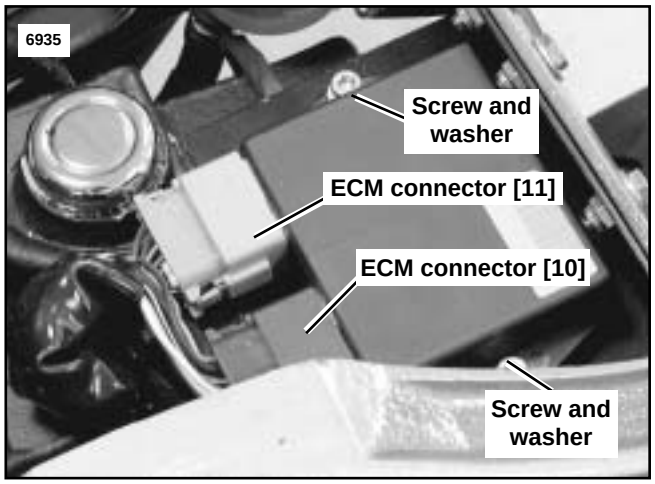

Figure 1. X1 ECM Location

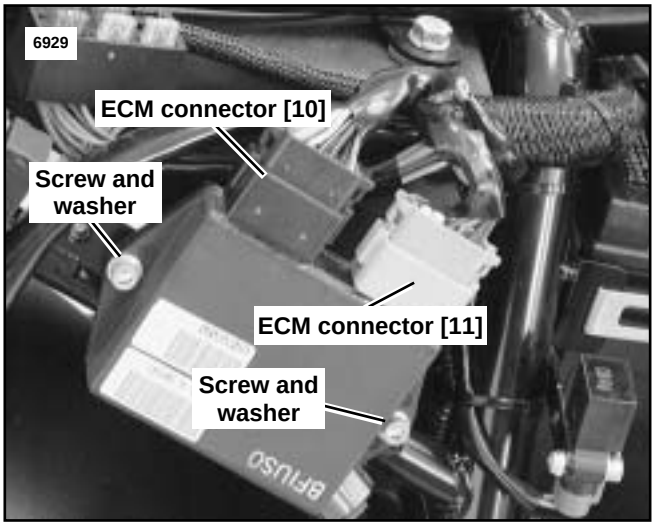

Figure 2. S3 ECM and M2 '01 Ignition Module Location

CAUTION

The Race ECM is to be used only with Buell intake and exhaust components. It is extremely important that the rider avoid harmful over-revving. Engine-related performance parts are intended for the experienced rider only. An adjustable rev-limiter may be installed for added assurance. See your Buell Dealer for product recommendation.

⚠WARNING

To protect against shock and accidental start-up of vehicle, disconnect the negative battery cable before proceeding. Inadequate safety precautions could result in death or serious injury.

⚠WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

1. Disconnect battery cables, negative cable first.

NOTE

A Service Manual for your motorcycle is available from your Buell Dealer.

2. See the Service Manual and remove the seat and, on the S3, the tail section.
3. See Figure 1 or 2. Remove two screws and washers to detach ECM from bracket.
4. Unplug ECM connectors [10] and [11] and remove ECM.
5. Attach new, Race ECM connectors [10] and [11].
6. Align ECM with bracket mounting holes. Install using two screws and washers.

⚠WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

7. Connect battery cables to battery, positive cable first.

NOTE

The throttle position sensor must be re-zeroed. If the sensor is not calibrated, the vehicle may start and may run, but it will not perform to its specified performance.

8. Zero throttle position sensor using SCANALYZER (Part No. HD-41325). See Calibration Procedures in the Service Manual.

⚠WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

9. See Service Manual and install the seat and tail section on the S3 motorcycle.

Ignition Module Race Kit

CAUTION

This Ignition Module Race Kit will allow the engine to rev up to 6800 rpm. It is extremely important that the rider avoid harmful over-revving. Engine-related performance parts are intended for the experienced rider only. An adjustable rev-limiter may be installed for added assurance. See your Buell Dealer for product recommendation.

CAUTION

The Race Ignition Module is to be used only with Buell intake and exhaust components. Other aftermarket components may not be able to withstand the higher rpms and could be damaged. Buell Motorcycle Company is not liable for any damage caused by the use of intake or exhaust components not specified in this Instruction Sheet and not sold by an authorized Buell Dealer.

Installation

⚠WARNING

To protect against shock and accidental start-up of vehicle, disconnect the negative battery cable before proceeding. Inadequate safety precautions could result in death or serious injury.

⚠WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

1. Disconnect battery cables, negative cable first.

NOTE

A Service Manual for your motorcycle is available from your Buell Dealer.

2. Refer to the Service Manual and remove seat and tail section.

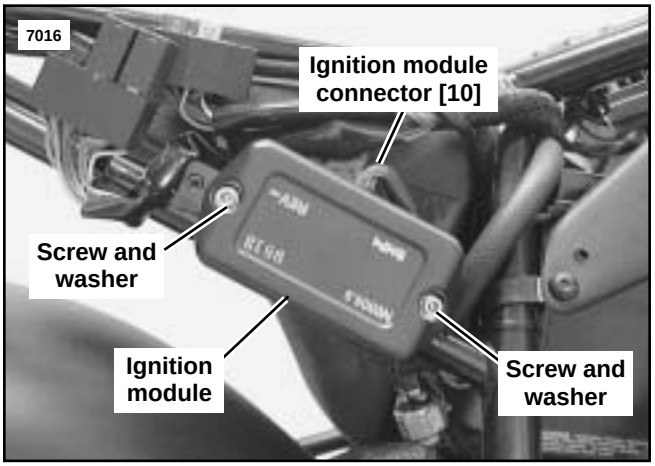

Figure 3. Ignition Module

3. Cut cable strap which secures main wire harness to side frame member.
4. See Figure 3. Disconnect ignition module connector [10] from main wiring harness.
5. Remove two screws and washers to detach ignition module from frame.
6. Fasten Racing Ignition module to frame using two screws and washers.
7. Attach ignition module connector to main wiring harness.
8. Secure main wiring harness to frame member with a new cable strap.

⚠WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

9. Install battery cables, positive cable first.

⚠WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift during vehicle operation and startle the rider, causing loss of control which could result in death or serious injury.

10. Install tail section and seat. Refer to the Service Manual.
11. Test engine for proper ignition system operation.