



INSTRUCTIONS

-J02086

REV. 2-5-01

Kit Numbers 32839-00

SCREAMIN' EAGLE SELECTABLE CURVE RACE IGNITION MODULE

General

These ignition modules fit 1997 and later XL 883 and 1200 models, except 1200 Sport.

IMPORTANT COMPATIBILITY NOTE

When installing this ignition module, you must use a coil with a primary resistance of 2.5-3.5 Ω. We recommend Screamin' Eagle single fire coils Part Numbers 31746-98A, 31748-98A or 31750-98A. The stock dual fire coil Part Number 31614-83A is also acceptable.

CAUTION

This engine related performance part is intended for High Performance or Racing applications and is not legal for sale or use on pollution controlled motor vehicles. This kit may reduce or void the limited vehicle warranty. Engine related performance parts are intended for the experienced rider only.

CAUTION

This Screamin' Eagle ignition module can be set to allow the engine to rev up to 7500 rpm. It is extremely important that the rider use the tachometer and avoid harmful over-revving. See your Harley-Davidson dealer for product recommendation.

This Kit Contains:

QTY	DESCRIPTION
1	Module, Screamin' Eagle Ignition

NOTE

When this system is used, the bank angle sensor is disconnected.

NOTE

Faulty ignition module operation may result from wiring harness problems. If this Screamin' Eagle ignition system malfunction exists, inspect the motorcycle's wiring harness to determine if it is faulty. If the existing wiring harness is faulty, repair or replace it before installing the new ignition module.

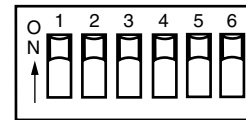
NOTE

Ignition modules being replaced under warranty must be submitted with all wire terminals intact (warranty claims will be rejected for modules submitted with wires cut and/or terminals removed). Regardless of warranty considerations, do not splice the wires of the new ignition modules to the wires of the original module's wiring harness.

Configuring Mode Switches

Before installing module configure switches on the front of module. There are six mode switches located on the front of the module which allow you to custom configure the module. Make sure each switch is in the proper position before you start the motor. Description of the four modes controlled by the switches is provided starting on page 4.

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Switch 1 (VOES)

- Only select ON in special applications such as with nitrous oxide or turbo kits.
- Improves part throttle driveability. Most bikes should be set to OFF.

Switches 2 and 3 (ADVANCE CURVE)

- This curve brings up the advance the earliest and to the highest final value (most aggressive). OFF/OFF is Curve 1 on page 6.
- This curve brings up the advance a little slower than curve 1 to prevent detonation on near-stock motors. ON/OFF is Curve 2 on page 6.
- This curve brings up the advance slower than curve 2 and to a lower final value, and is good for built motors that tend to detonate. OFF/ON is Curve 3 on page 6.
- This curve should only be used if your motor still detonates using Curve 3. This curve brings up the advance the latest and to the lowest final value (least aggressive). ON/ON is curve 4 on page 6.

Switches 4 and 5 (REV LIMIT)

- 6000 rpm
- 6500 rpm
- 7000 rpm
- 7500 rpm

Switch 6 (FIRING MODE)

- Single Fire
- Dual Fire

Configuring Mode Switches

Installation

IMPORTANT INSTALLATION NOTES

- Use of spiral core type spark plug wires, or metal core wires, may cause malfunction of the ignition. You must use spark plug wires with a resistance of 2000-7000 Ω -per-foot (we recommend using Screamin' Eagle spark plug wires. Original Equipment Harley-Davidson spark plug wires are also acceptable).

WARNING

To protect against shock and accidental start-up of vehicle, disconnect the battery cables, negative cable first, 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, negative cable first.
2. Remove outer and inner timer covers following procedures in applicable XLH Service Manual.
3. Remove screws holding module plate in position.

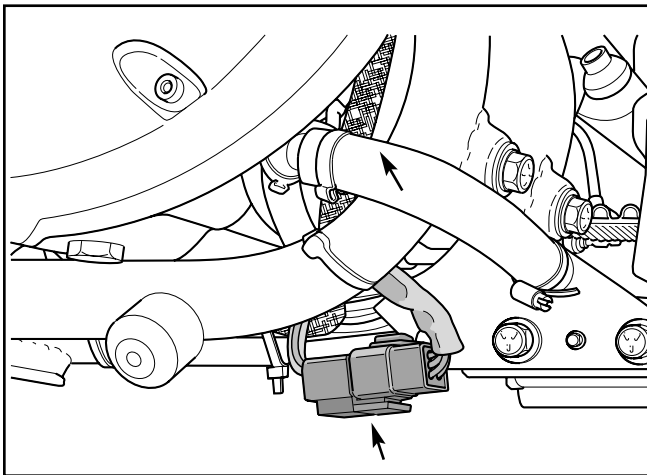


Figure 1. Ignition Module Connector

4. See Figure 1. Remove ignition module connector (6-pin Deutsch connector) from T-stud on frame and disconnect.
5. Remove pins from Deutsch connector body (female side) following procedures in applicable XLH Service Manual. Keep the connector body to reinstall the new module.
6. Cut cable strap securing harness to frame.
7. See Figure 2. Remove module plate and wires.
8. Place new ignition module plate into position in gearcase nosecone and route wires back to connector location.

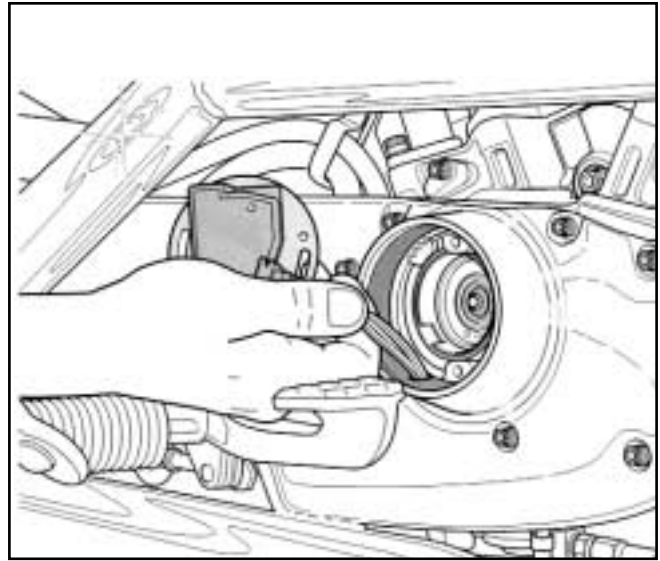


Figure 2. Removing Module Plate

9. Install module plate screws to secure module plate, then install pins into connector half saved from step 5 following Service Manual procedures. Match wire colors on each side of connector. Mate connector halves.

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.

10. Connect battery cables to battery, positive cable first.
11. Statically time engine as follows:
 - a. Remove spark plugs and remove timing window plug from crankcase.
 - b. Raise rear wheel of motorcycle.
 - c. Shift transmission into fifth gear and standing on left side of motorcycle slowly rotate rear wheel in a counterclockwise direction until the front intake valve opens and closes (as viewed through spark plug holes).
 - d. Rotate rear wheel until TDC mark (vertical line) is centered in timing window.
 - e. Loosen module plate screws.
 - f. Turn ignition ON.
 - g. See Figure 3. Slowly rotate module plate until red LED illuminates, then tighten module plate screws to 15-30 **in-lbs** (1.7-3.4 Nm).
12. Lower rear wheel of motorcycle and reinstall spark plugs.
13. Verify timing with timing light following procedures in applicable XLH Service Manual, then reinstall inner and outer timing covers.

Description of Modes

VOES

In the NORMAL mode, when high manifold vacuum is sensed by the VOES switch, the advance is brought in to its final value by 1500 rpm.

The RETARD mode is only for use with motorcycles that require ignition retard under certain conditions, such as motorcycles equipped with nitrous oxide systems, or a turbocharger. In this mode the VOES wire acts as a retard activation line and should not be connected to the VOES switch. To use this function, the VOES wire must be connected to a switch or relay that can ground this input at the desired time during operation. When the VOES wire is grounded, the ignition timing will be limited to 25 degrees final timing regardless of which advance curve is selected. When the VOES wire is not grounded, the ignition timing will follow the “quick” version of the selected advance curve.

ADVANCE CURVE

Which advance curve to choose will depend on several factors like: modifications to engine, type of gasoline used, air temperature, altitude, etc. A good procedure would be to start with curve 2, which is similar to the curve used in the stock ignition module. If you experience any pinging, try curve 3, then curve 4 if necessary. If your motorcycle runs well on curve 2, try curve 1 after several runs and find out if curve 1 is more suitable.

Generally, you should run the lowest number curve (the most aggressive) that you can without causing any pinging.

REV LIMIT

The rev limit is critical to engine life and performance.

CAUTION

To avoid engine damage, ensure that all engine components are designed to handle the stresses of higher rpm applications.

FIRING MODE

See *INSTALLATION*.

WARNING

The use of the Screamin' Eagle Selectable Curve Race Ignition module will disengage the Bank Angle Sensor.

LED

A diagnostic LED is located on the front of the module. The LED can be used to determine if the ignition module and pickup are working. When power is turned on to the ignition, the LED should flash ON for 1/4 second and then turn OFF. If the pickup is near a firing point, the LED will come on continuously. This “Flash Period” indicates that the microprocessor is functioning in the ignition module.

When the ignition power is ON, and the engine is cranked over, the LED on the back of the module will blink ON and OFF. This indicates that the pickup is generating timing pulses and the module is receiving them.

Advanced Tuning Tips

Occasionally, best performance may fall somewhere between the pre-programmed advance curves. By rotating the pickup clockwise (advanced) or counterclockwise (retarded), the entire curve will be shifted up or down.

CAUTION

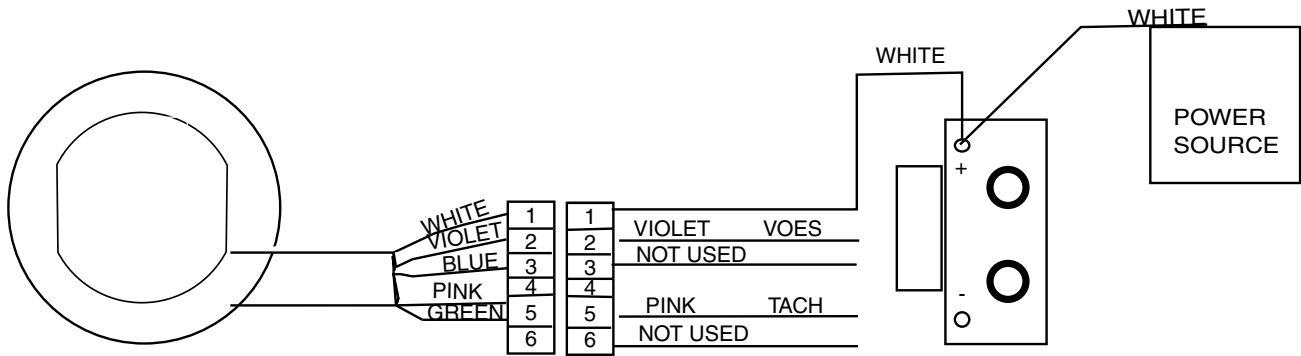
Be aware that if you advance the pickup, your final timing will be increased. Excessive advance may cause pinging and hard starting, so only turn the pickup one or two degrees at a time and note any changes to the motor.

For some racing applications, the advance can be set to always come in quickly by using NORMAL VOES mode and permanently connecting the VOES wire to ground. These curves are similar to what is generated by a mechanical advancer.

For heavy motorcycles, or built motors that tend to detonate, the advance can be brought in more slowly. If the VOES wire is left unconnected, the advance will always follow the slower rpm curve as shown on the chart on page ?.

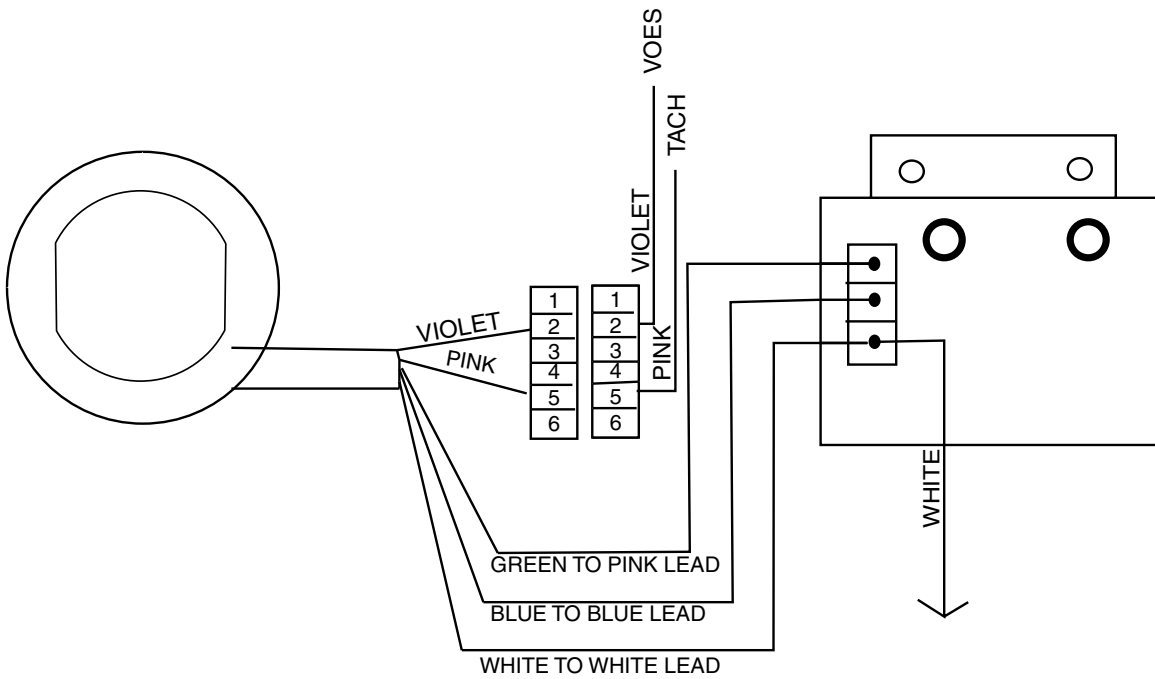
DUAL FIRE/ SINGLE COIL

1998-1999 MODELS



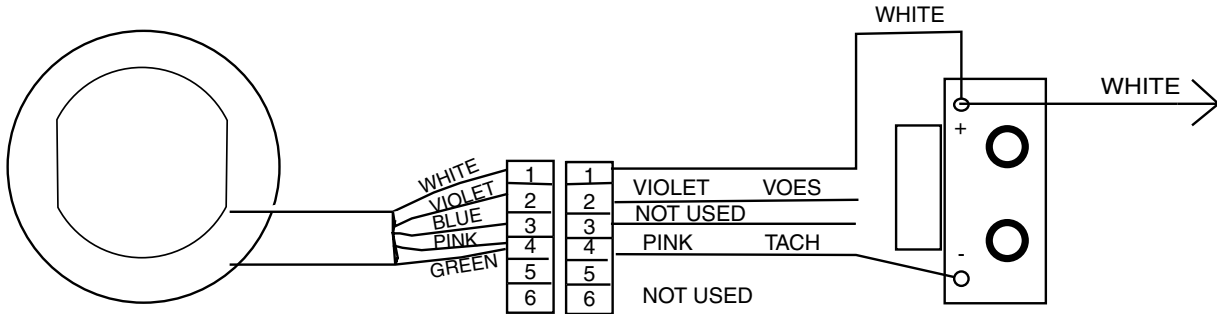
SINGLE FIRE/ SINGLE COIL

1998-1999 MODELS



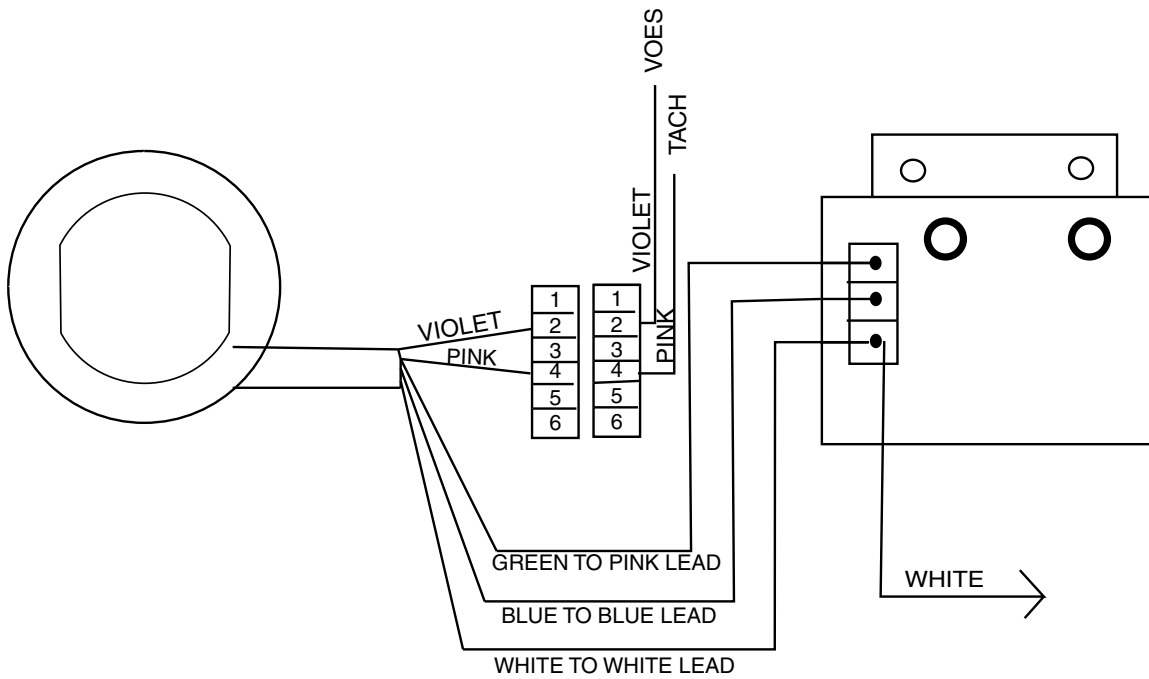
DUAL FIRE/ SINGLE COIL

2000 AND LATER MODELS



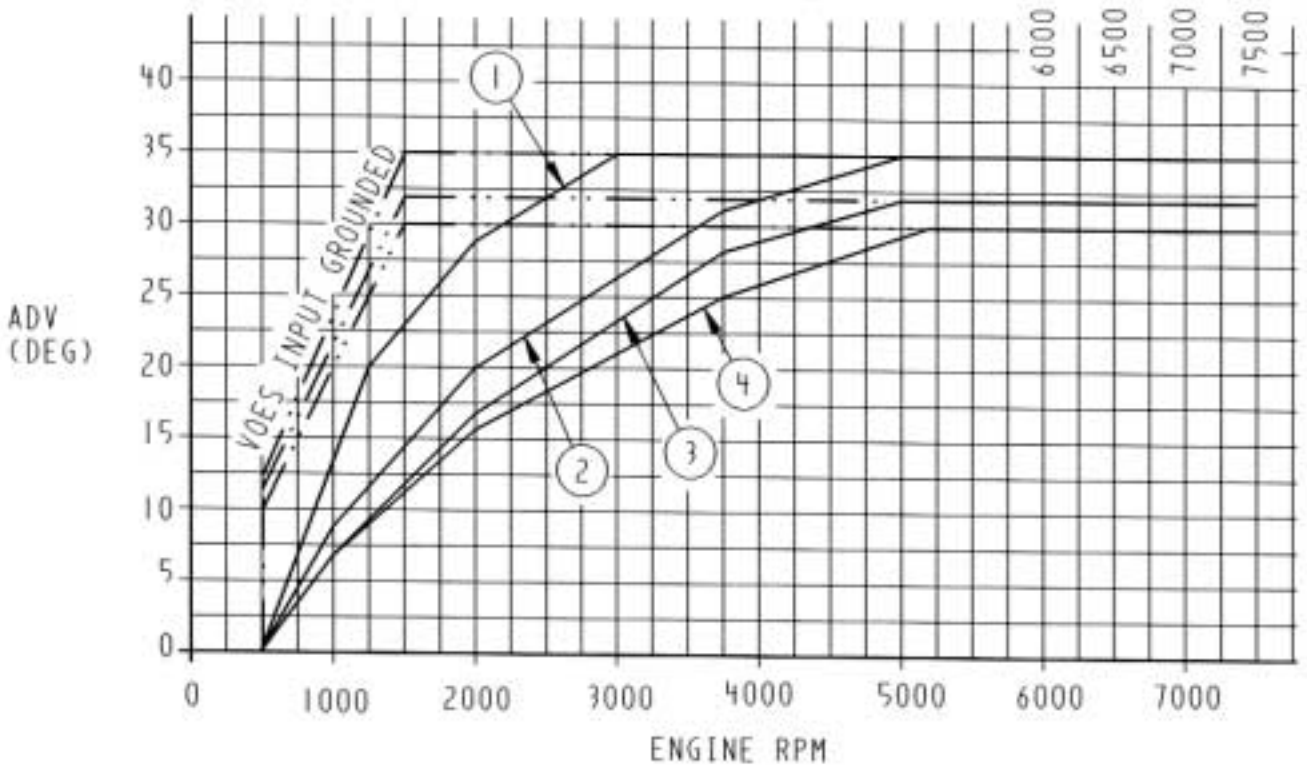
SINGLE FIRE/ SINGLE COIL

2000 AND LATER MODELS



NORMAL VOES MODE ADVANCE CURVES

RPM LIMIT CHOICES



RETARD MODE ADVANCE CURVES

RPM LIMIT CHOICES

