



INSTRUCTIONS

-J02116

REV. 10-24-01

Kit Numbers 32839-00A

SCREAMIN' EAGLE SELECTABLE-CURVE RACE-IGNITION MODULE

General

These ignition modules fit 1998 and later XL 883 and 1200 models, except 1200 Sport.

Module installation on single-fire/single-coil models requires installing the tach-adaptor wiring harness, part number 32021-01, sold separately.

IMPORTANT COMPATIBILITY NOTE

This ignition module requires a coil with a primary resistance of 2.5-3.5 ohms. Harley-Davidson recommends 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 reach 8000 RPM. It is extremely important that the rider use the tachometer to avoid harmful, excessive RPMs. See your Harley-Davidson dealer for product recommendation.

Kit contents

QTY	DESCRIPTION
1	Screamin' Eagle Ignition Module

NOTE

Faulty ignition-module operation may result from wiring harness problems. If this Screamin' Eagle ignition system malfunctions, 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.

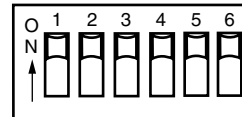
NOTE

Ignition modules being replaced under warranty must be submitted with all wire terminals intact. Warranty claims are 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.

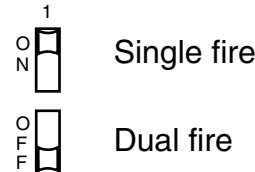
WARNING

A Service Manual is required to install this kit. The rider's safety depends upon the correct installation of this kit. If the procedure is not within your capabilities or you do not have the correct tools, have your Harley-Davidson dealer perform the installation. Improper installation of this kit could result in death or serious injury.

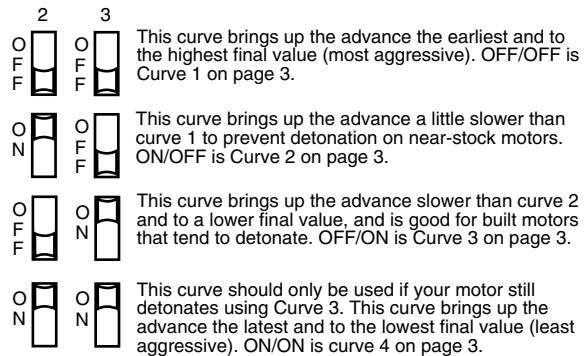
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Switch 1: Firing Mode



Switches 2 and 3: Advance Curve



Switches 4, 5, and 6: RPM Limit

RPM Limit	SW4	SW5	SW6
6250	Off	Off	Off
6500	On	Off	Off
6750	Off	On	Off
7000	On	On	Off
7250	Off	Off	On
7500	On	Off	On
7750	Off	On	On
8000	On	On	On

Mode-Switch Configuration

NOTE

A Service Manual for your model motorcycle is available from your Harley-Davidson dealer.

Configuring the Mode Switches

Before installing the module, configure the switches on the front of the module. Six mode switches, located on the front of the module, allow you to custom-configure the module. Make sure each switch is in the proper position before you start the motor. Refer to the mode descriptions later in this instruction sheet.

Installation

CAUTION

Spiral-core or metal-core spark plug wires may cause ignition malfunction. Use only spark plug wires with 2000 – 7000 ohms-per-foot resistance. Harley-Davidson recommends 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 the outer and inner timer covers. Refer to the XLH Service Manual.
3. Remove the screws from the module plate.
4. See Figure 1. Remove and disconnect the ignition-module connector, a 6-pin Deutsch connector, from the T-stud on the frame.

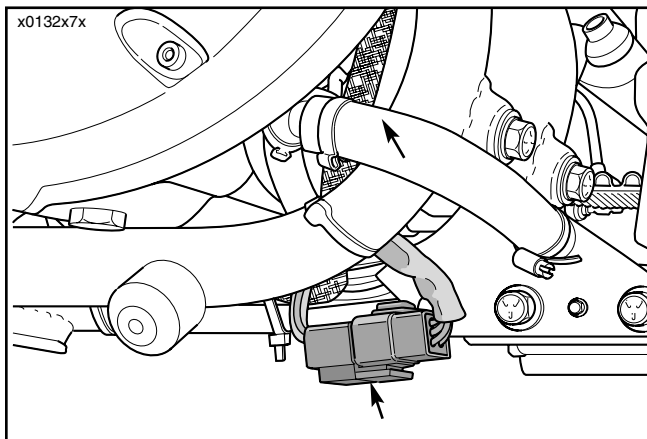


Figure 1. Ignition Module Connector

5. See the XLH Service Manual. Remove the pins from the female Deutsch-connector body. Save the connector body for installation.
6. Cut the cable strap fastening the harness to the frame.
7. See Figure 2. Remove the module plate and wires.
8. Place the new ignition module plate into position in the gearcase nose-cone and route the wires back to the connector location.
9. Fasten the module to the module plate.

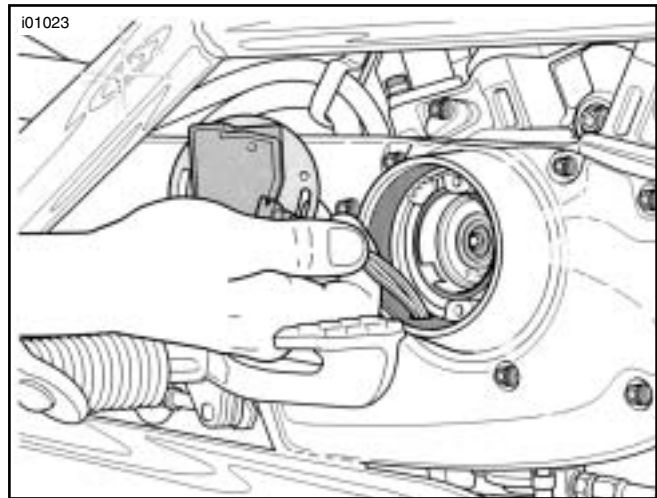


Figure 2. Removing the Module Plate

10. See Figure 4. Install pins, as shown for your model year and coil configuration, into the Deutsch connector body saved in step 5.
 - **On dual-fire/single-coil models**, refer to the Service Manual for Deutsch-connector assembly.
 - **On single-fire/single-coil models**, use butt-splice connectors to fasten the pink, blue, and white module wires to the coil wires as shown. Refer to the Service Manual for butt-splice and Deutsch-connector assembly. Install the tach-adaptor wire harness, part number 32021-01, sold separately.
11. Mate the 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.

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

14. Lower the rear wheel of the motorcycle and install the spark plugs.
15. Verify timing with a timing light. Refer to the procedures in the XLH Service Manual
16. Install the inner and outer timing covers.

Mode Descriptions

ADVANCE CURVE

Which advance curve to choose depends upon several factors such as modifications to engine, type of gasoline, air ambient temperature, and altitude. Consider starting with curve 2, which is similar to the curve used in the stock ignition module. If pinging occurs, 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, run the most aggressive curve possible without engine pinging.

RPM LIMIT

The RPM limit is crucial to engine life and performance. This mode limits the peak RPM of the engine. When the peak RPM is exceeded during engine operation, the ignition system loses electrical impulses until the RPMs return to a range below the peak.

CAUTION

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

FIRING MODE

See *INSTALLATION*.

Diagnostic LED

When power to the ignition is turned on, a diagnostic LED on the front of the module illuminates for 1/4 second, indicating that the microprocessor in the ignition module is functioning. If the pickup is near a firing point, the LED illuminates continuously.

When ignition power is ON and the engine is cranked over, the LED blinks ON and OFF. This indicates that the pickup is generating timing pulses and the module is receiving the pulses.

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 shifts up or down.

CAUTION

Advancing the pickup increases final timing. Excessive advance may cause pinging and hard starting. Adjust the pickup one or two degrees at a time and note engine-performance changes.

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 always follows the slower RPM curve as shown in Figure 3.

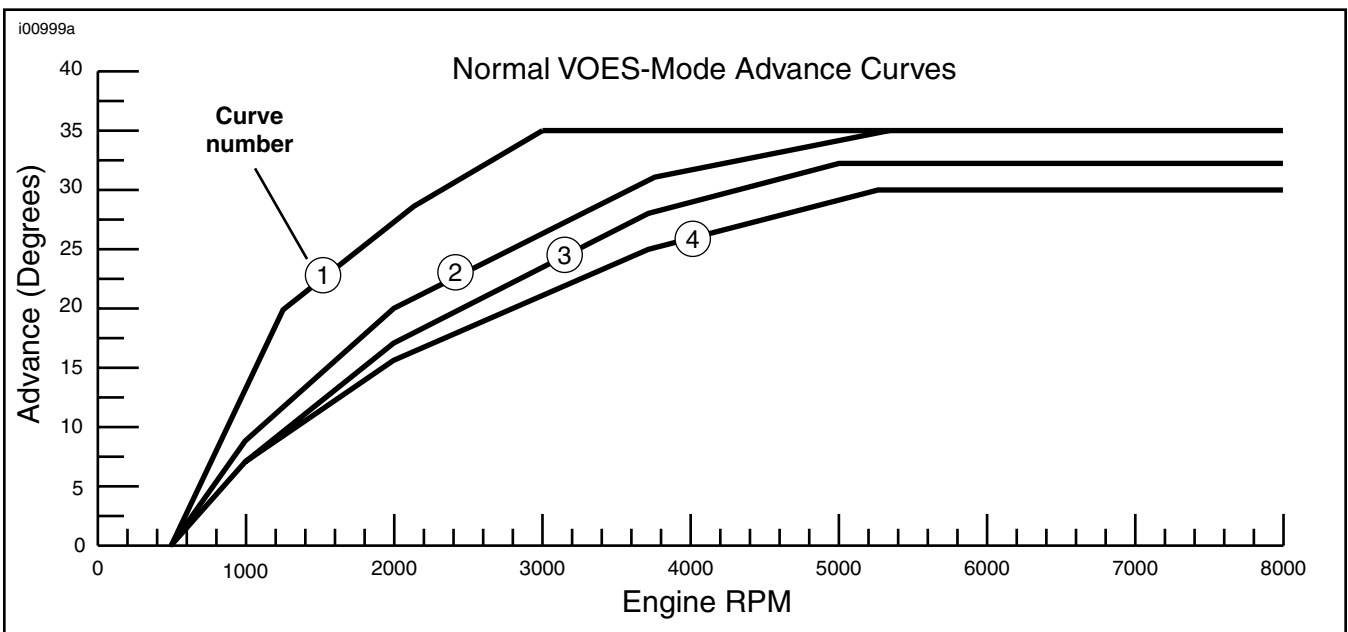


Figure 3. Engine-Advance Graph

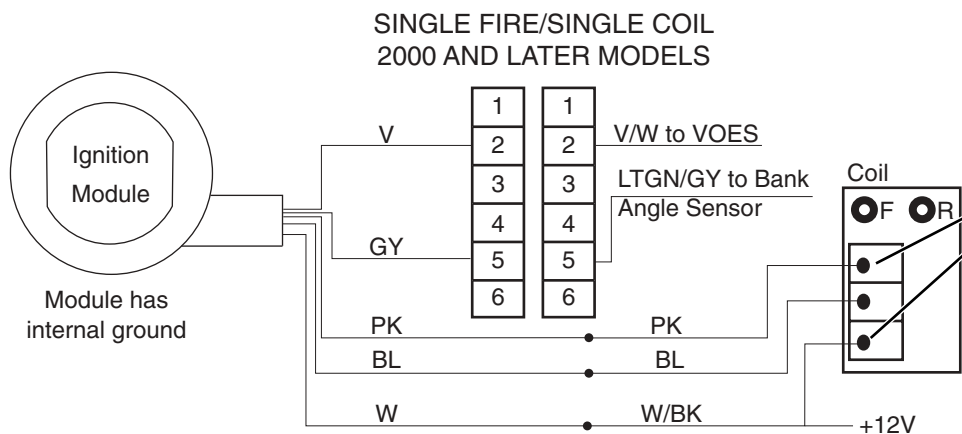
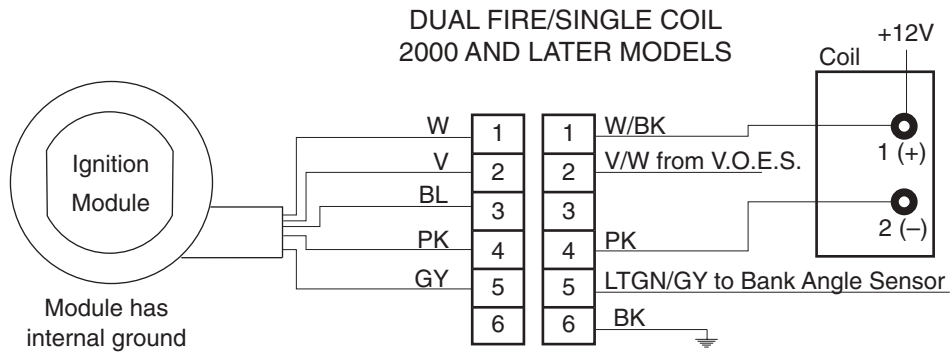
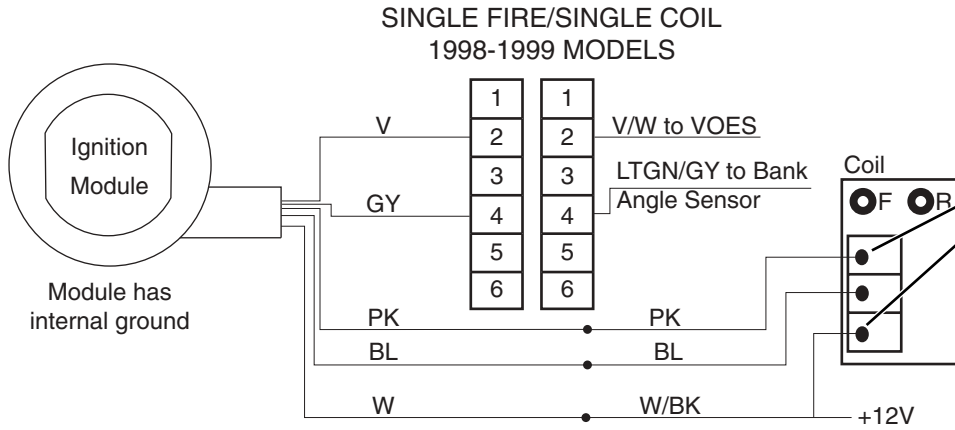
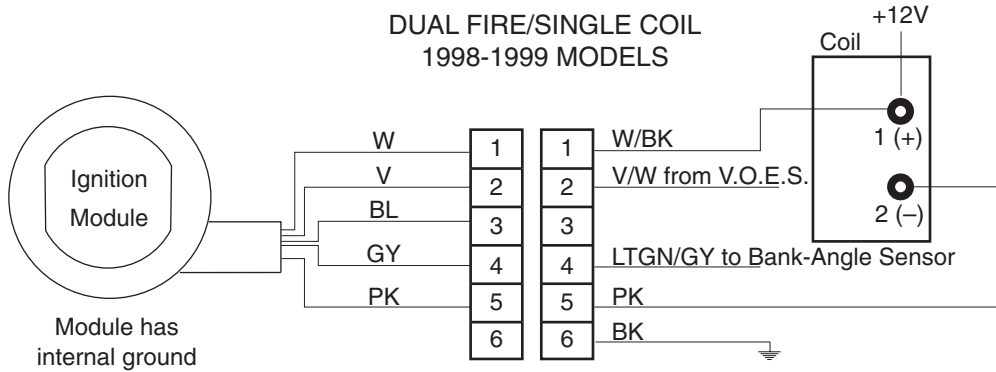


Figure 4. Ignition-Module Wiring Diagrams