



INSTRUCTIONS

-J01563

REV. 10-24-01

Kit Number 32704-01

SCREAMIN' EAGLE SELECTABLE MAP IGNITION SYSTEM

General

This ignition system contains an ignition module and controller to replace the original-equipment ignition module on carbureted Twin Cam engines, except balanced Twin Cam 88 engines.

Harley-Davidson recommends using a dynamometer during ignition-system adjustment.

CAUTION

Harley-Davidson recommends that a Harley-Davidson dealer perform this ignition-system installation and adjustment. Incorrect installation or adjustment may result in poor engine performance and/or engine damage.

CAUTION

Do not install these ignition components on any model other than those specified above. Doing so may result in poor engine performance, electrical-system damage, and/or engine damage.

CAUTION

This Screamin' Eagle ignition system is intended for high-performance applications only. This engine-related performance part is not legal for use on pollution-controlled motor vehicles. Use of this Screamin' Eagle ignition system may reduce or void the Limited Warranty coverage.

CAUTION

This Screamin' Eagle ignition system allows the engine to reach 7500 RPM. It is extremely important that the rider use the tachometer to avoid harmful RPMs and possible engine damage. Engine-related Performance Parts are intended for the experienced rider only.

CAUTION

Do not exceed 6000 RPM on all Twin Cam 88 engines that use stock valve springs. Exceeding 6000 RPM on these vehicles may cause engine damage.

CAUTION

Do not exceed 6200 RPM on balanced Twin Cam 88 engines equipped with performance valve springs, regardless of additional engine modifications. Exceeding 6200 RPM on these vehicles may cause engine damage.

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.

Kit contents:

QTY	DESCRIPTION
1	Adjustable MAP ignition module
1	Hand-held controller

NOTE

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

Installation

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 cables, negative cable first.
2. Disconnect the ignition module from the wire harness. Refer to the table below and your Service Manual for ignition-module location.

Model	Ignition Module Location
Dyna Glide	On the back side of the electrical panel (left side of motorcycle)
FLHT/FLT, carbureted	Behind the right side cover
Softail	Under the seat

3. Remove and unplug the module. Save the fasteners for installation.
4. Connect the new module to the wire harness. The harness connectors are designed to fit specific plugs on the module.
5. Fasten the new module with fasteners removed in step 3.

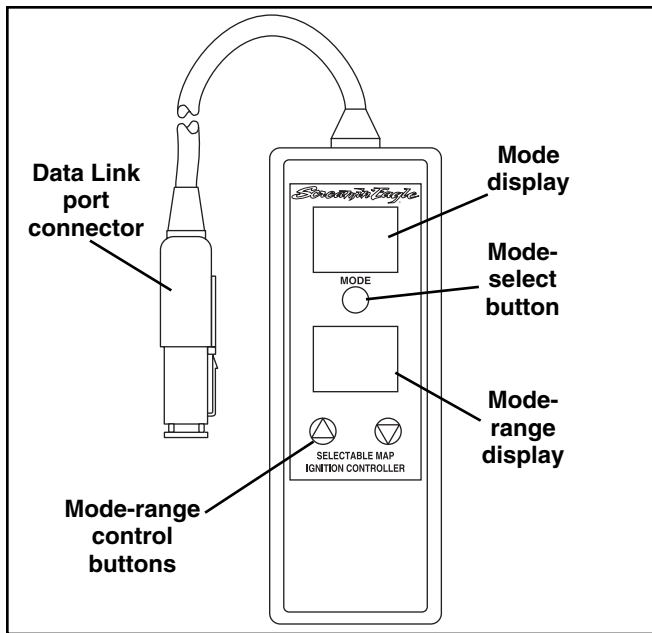


Figure 1. Hand-Held Controller

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 resulting in death or serious injury.

6. Reconnect battery cables, positive cable first.

Hand-Held Controller

See Figure 1. The top LED display on the controller indicates the mode (CS, SA, or ES) and the bottom LED display indicates the mode range. A Mode Select button allows you to select an ignition-modification mode, and two mode-range control buttons allow you to change the value of a selected mode. The controller plugs into the vehicle's Data Link port.

CS – Curve Selection Mode

This mode provides four numeric curve selections, each corresponding to the graphs and tables in this instruction sheet. Each curve's numeric value is generally intended for these applications: The module is initially set to curve number 1.

CAUTION

Do not use Curve 1 on high-compression engines. Curve 1 on high-compression engines may cause engine damage.

Curve	Typical Application
1	Designed for engines with stock-compression.
2	Retards all curves in the MAP, and WOT ignition timing, by 5 degrees. Select this for engines with mild modifications.
3	Retards all curves in the MAP, and WOT ignition timing, by 12 degrees. Select this for engines with high-performance modifications (cams, increased compression, increased displacement, etc.) with up to 10.5:1 compression ratio.

- Retards all curves in the MAP, and WOT ignition timing, by 15 degrees. Select this for engines with high-performance modifications (cams, increased compression, increased displacement, etc.) exceeding 10.5:1 compression ratio.

SA – Spark Advance Mode

This mode shifts the advance table up or down within the range of -9 to +6 degrees, in whole-degree increments, to set the initial spark timing. The module is initially set to zero degrees.

ES – Engine Speed Mode

This mode sets maximum engine RPM within the range 5500 to 7500 RPM, in increments of 500 RPM. The module is initially set to 6000 RPM. Select RPM based upon engine valve-train modifications.

Adjustment

WARNING

Do not attempt to adjust ignition parameters while riding the vehicle. Adjusting parameters while riding the vehicle may distract the rider, resulting in loss of control and causing death or serious injury.

- Plug the hand-held controller into the vehicle Data Link port. See the service manual for your model motorcycle for data link port location.
- Use the mode-select button to set the controller to CS mode.
- Turn the ignition key to the ON position but do not start the vehicle.
- Set the Engine Stop switch to RUN.

CAUTION

Do not use Curve 1 on high-compression engines. Curve 1 on high-compression engines may cause engine damage.

- See the CONTROLLER section and the graphs and tables in this instruction sheet. On the hand-held controller, select the ignition curve that best suits your vehicle. For curve selection, consider factors such as, but not limited to:
 - engine modifications including cams, compression, valve train, and heads
 - fuel octane rating (minimum 91 octane recommended)
 - ambient air temperature
 - altitude
- Set the hand-held controller to ES mode.
- Use the mode-range control buttons on the controller to set the maximum engine speed, in RPM, for the vehicle. Consider valve-train modifications when setting maximum engine speed.

CAUTION

Do not exceed 6000 RPM on all Twin Cam 88 engines that use stock valve springs. Exceeding 6000 RPM on these vehicles may cause engine damage.

CAUTION

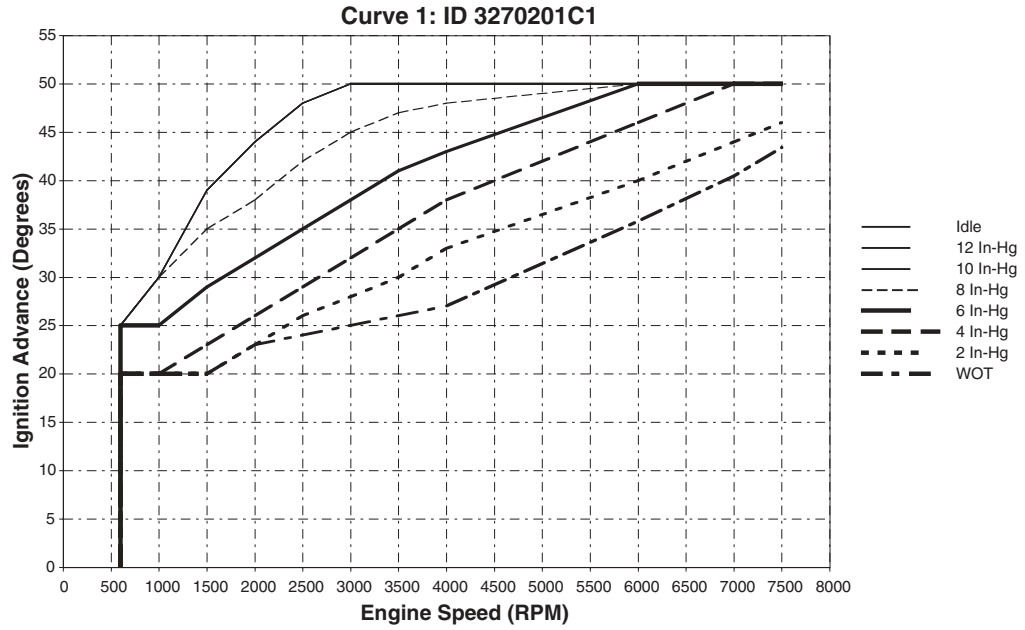
Do not exceed 6200 RPM on balanced Twin Cam 88 engines equipped with performance valve springs, regardless of additional engine modifications. Exceeding 6200 RPM on these vehicles may cause engine damage.

8. Disconnect the hand-held controller from the vehicle.
9. Test drive the vehicle while checking for detonation (pinging) and overall engine-performance.
10. If detonation occurs, retard the timing or use a fuel with a higher octane rating.
11. Repeat ADJUSTMENT steps until ignition timing is accurate.

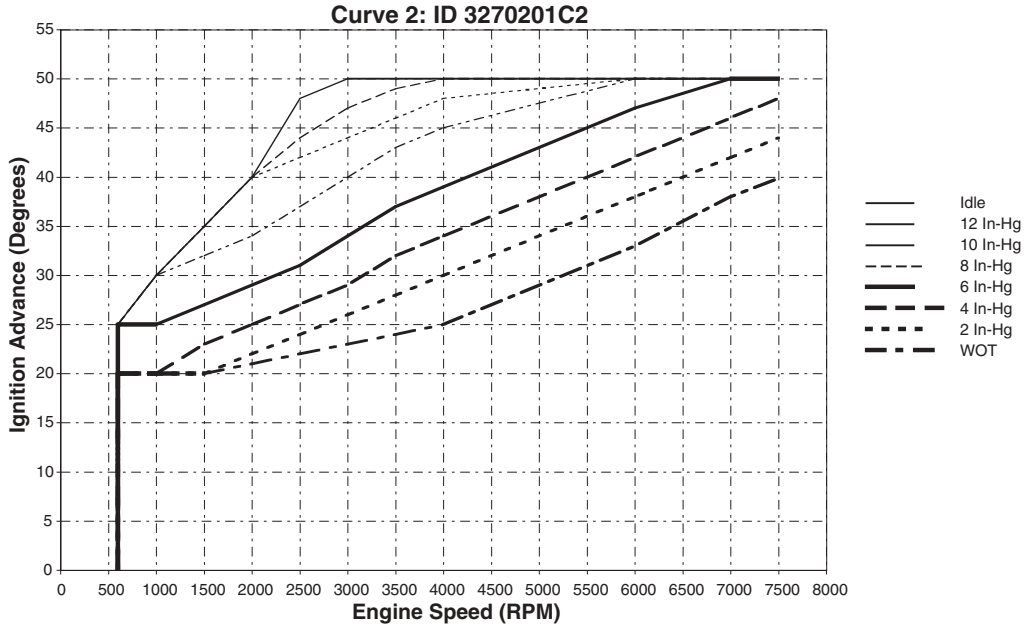
Scan-Tool Diagnostics

When you use Scanalyzer (HD-41325) or a Digital Technician (HD-44750) for diagnostics, one of the following curve identifiers appears in the System ID field, depending upon which curve is active:

Curve	Identifier
1	3270201C1
2	3270201C2
3	3270201C3
4	3270201C4

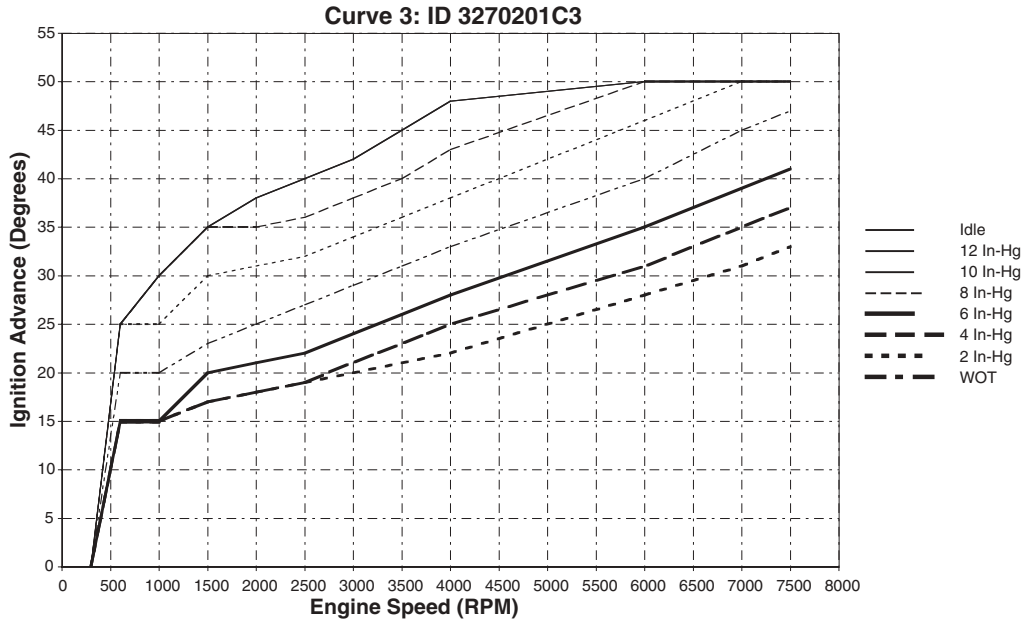


Manifold Vacuum (In-Hg)	599	600	1000	1500	2000	2500	3000	3500	4000	6000	7000	7500
Idle	0	25	30	39	44	48	50	50	50	50	50	50
12 In-Hg	0	25	30	39	44	48	50	50	50	50	50	50
10 In-Hg	0	25	30	39	44	48	50	50	50	50	50	50
8 In-Hg	0	25	30	35	38	42	45	47	48	50	50	50
6 In-Hg	0	25	25	29	32	35	38	41	43	50	50	50
4 In-Hg	0	20	20	23	26	29	32	35	38	46	50	50
2 In-Hg	0	20	20	20	23	26	28	30	33	40	44	46
WOT	0	20	20	20	23	24	25	26	27	36	41	44



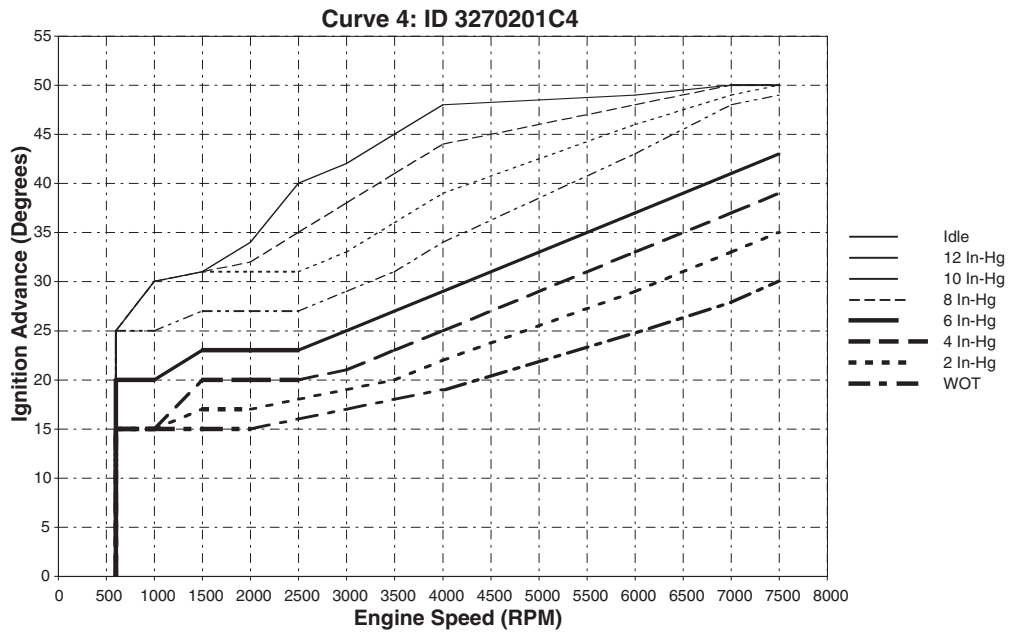
Manifold Vacuum (In-Hg)	599	600	1000	1500	2000	2500	3000	3500	4000	6000	7000	7500
Idle	0	25	30	35	40	48	50	50	50	50	50	50
12 In-Hg	0	25	30	35	40	44	47	49	50	50	50	50
10 In-Hg	0	25	30	35	40	42	44	46	48	50	50	50
8 In-Hg	0	25	30	32	34	37	40	43	45	50	50	50
6 In-Hg	0	25	25	27	29	31	34	37	39	47	50	50
4 In-Hg	0	20	20	23	25	27	29	32	34	42	46	48
2 In-Hg	0	20	20	20	22	24	26	28	30	38	42	44
WOT	0	20	20	20	21	22	23	24	25	33	38	40

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Manifold Vacuum (In-Hg)	599	600	1000	1500	2000	2500	3000	3500	4000	6000	7000	7500
Idle	0	25	30	35	38	40	42	45	48	50	50	50
12 In-Hg	0	25	30	35	38	40	42	45	48	50	50	50
10 In-Hg	0	25	30	35	35	36	38	40	43	50	50	50
8 In-Hg	0	25	25	30	31	32	34	36	38	46	50	50
6 In-Hg	0	20	20	23	25	27	29	31	33	40	45	47
4 In-Hg	0	15	15	20	21	22	24	26	28	35	39	41
2 In-Hg	0	15	15	17	18	19	21	23	25	31	35	37
WOT	0	15	15	17	18	19	20	21	22	28	31	33

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Manifold Vacuum (In-Hg)	599	600	1000	1500	2000	2500	3000	3500	4000	6000	7000	7500
Idle	0	25	30	31	34	40	42	45	48	49	50	50
12 In-Hg	0	25	30	31	32	35	38	41	44	48	50	50
10 In-Hg	0	25	30	31	31	31	33	36	39	46	49	50
8 In-Hg	0	25	25	27	27	27	29	31	34	43	48	49
6 In-Hg	0	20	20	23	23	23	25	27	29	37	41	43
4 In-Hg	0	15	15	20	20	20	21	23	25	33	37	39
2 In-Hg	0	15	15	17	17	18	19	20	22	29	33	35
WOT	0	15	15	15	15	16	17	18	19	25	28	30