



Owner's Manual

TWIN CAM STAND-ALONE IGNITION
P/N ASM5012



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MANUAL P/N EI5012
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CHAPTER 1 INTRODUCTION

1.1 General Information

Your Thunder Heart Performance Twin Cam Performance Ignition Module/Coil Combo System allows the use of a twin cam engine in a custom bike without the need for the factory harness. This kit includes an ignition module/coil combo, ignition wires, Smart Link programming software, interface cable, and assorted connectors and terminals to complete the installation.

Note: This system is designed for custom installations, and is not designed to directly replace the factory ignition

1.2 Additional Components Recommended

For a complete installation, the following items are recommended:

DESCRIPTION	OEM P/N	QTY
Crank Position Sensor	32707-01	1
2-Pin Deutsch Connector Housing, Male	72112-94BK	1
Socket Lock	72152.94	1
Deutsch Connector Socket, Female	74191-98	2
Deutsch Terminal Crimp Tool	42879	1

CHAPTER 2 SYSTEM INSTALLATION

2.1 Coil/Module Mounting

The coil/module are typically mounted to the motor mount between the heads. The spark plug wires included with this kit are designed for such a mounting location, however they have enough length to accommodate other mounting positions.

A spacer is included so that the module can be mounted directly to the coil. However, the module may also be mounted "remotely" from the coil.

Due to the coil and module's unique mounting pattern, a custom mount required. Use the supplied mounting template as a guide to make your mount:

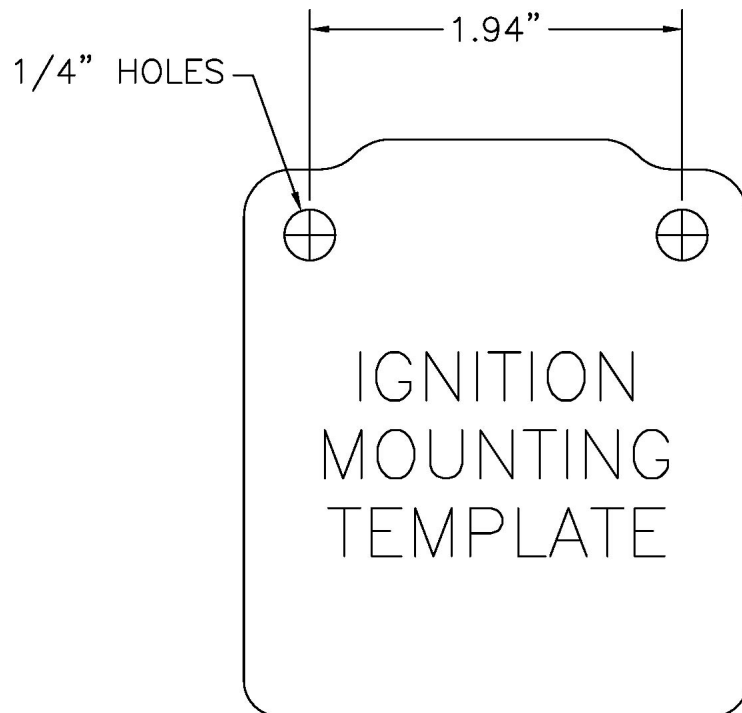
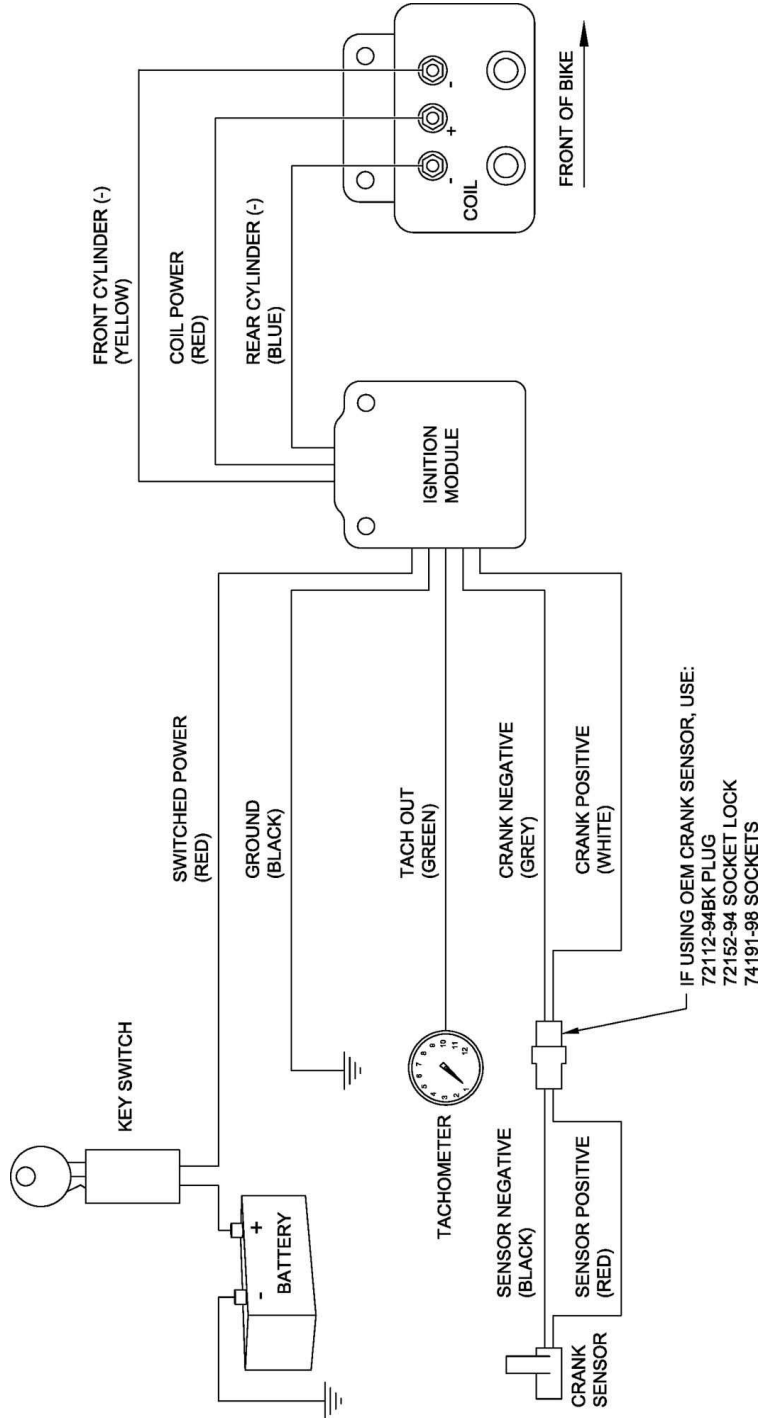


Figure 1—Module Mounting Template

2.2 Electrical Connections

Use the following wiring diagram to plan how you wish to wire the ignition on your bike:



SWITCHED POWER (RED)	Connect to a switched 12v+ power source (such as the ignition switch)
GROUND (BLACK)	Connect to a good frame or engine ground. Terminate with the (supplied) 1/4" ring lug and heat shrink.
TACH OUT (GREEN)	Connect to the signal wire of an aftermarket tachometer.
CRANK NEGATIVE (GREY)	Connect to the negative wire on the crank sensor (OEM black wire). Use appropriate OEM terminals and connector if desired.
CRANK POSITIVE (WHITE)	Connect to the positive wire on the crank sensor (OEM red wire). Use appropriate OEM terminals and connector if desired.
FRONT CYLINDER (-) (YELLOW)	Connect to the negative side of the coil that corresponds to the front cylinder. Terminate with the (supplied) #10 ring lug and heat shrink.
COIL POWER (+) (RED)	Connect to the center terminal on the coil (+). Terminate with the (supplied) #10 ring lug and heat shrink
REAR CYLINDER (-) (BLUE)	Connect to the negative side of the coil that corresponds to the rear cylinder. Terminate with the (supplied) #10 ring lug and heat shrink.

CHAPTER 3 IGNITION MODULE PROGRAMMING

The ignition module can be programmed one of two ways: with the built-in selector switch, or with the SmartLink cable and software.

3.1 Programming Using the Rotary Switch

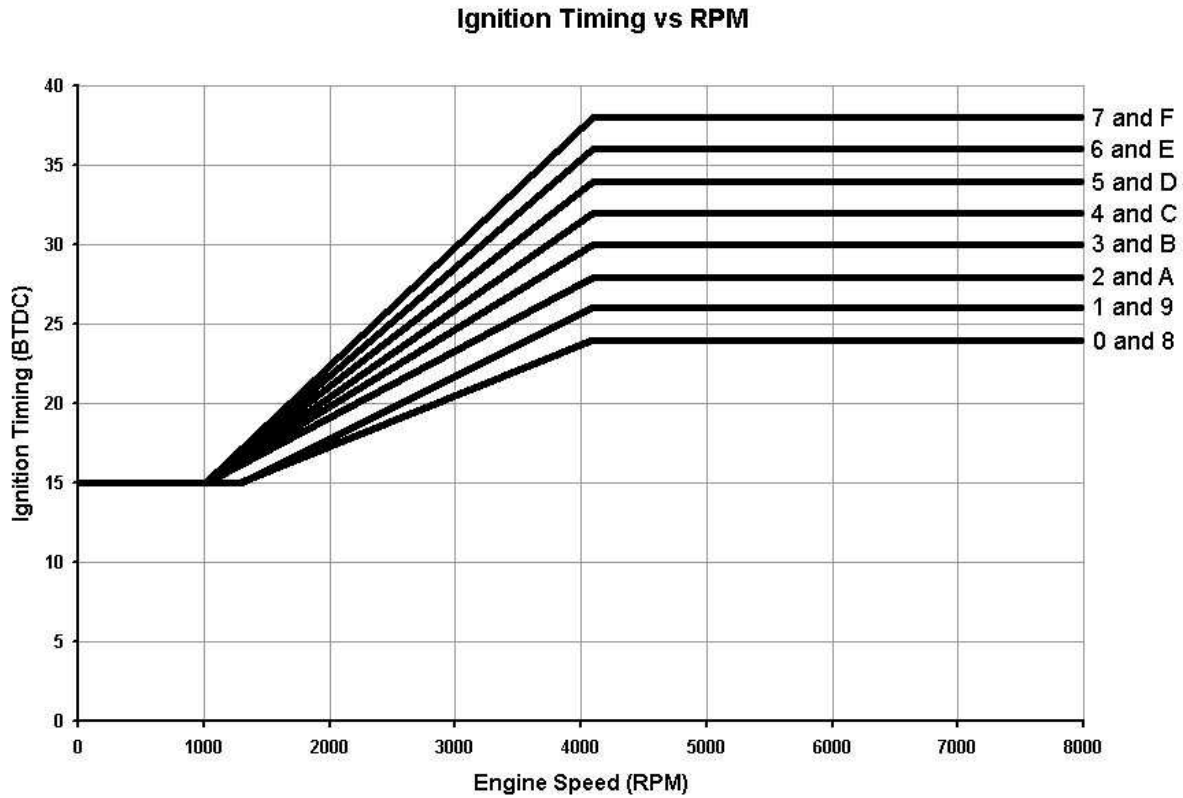
The built-in rotary switch can be used to program the ignition without using a laptop. Use the switch to select between 16 pre-programmed advance curves ("0" through "F").

To select a specific pre-programmed curve, follow these steps:

1. Make sure the motorcycle is switched OFF.
2. Using a small screwdriver, rotate the switch so the arrow points to the desired character. The curve that corresponds to that character will be selected inside the module the next time the motorcycle is started.
3. Start and test ride the motorcycle.

Preprogrammed Curves

The following curves are pre-programmed into module. There are 8 different advance curves, and two different rev limit settings:



Position	Rev Limit RPM
0	5984
1	5984
2	5984
3	5984
4	5984
5	5984
6	5984
7	5984
8	6240
9	6240
A	6240
B	6240
C	6240
D	6240
E	6240
F	6240

3.2 Ignition Programming with SmartLink Software

To input a custom program into the Digital Ignition Module, the SmartLink Software and Interface Cable (available separately) must be used. Please refer to the instructions supplied with that kit.

IMPORTANT! USING THE SOFTWARE, SET THE “MAP SELECT LOCK” VALUE TO “1”. THIS “LOCKS OUT” THE ROTARY SWITCH ON THE MODULE FROM OVERRIDING WHAT YOU PROGRAMMED INTO THE MODULE VIA THE SMARTLINK III SOFTWARE. OTHERWISE, THE IGNITION WILL IGNORE YOUR CUSTOM PROGRAM AND DEFAULT TO THE SELECTED SWITCH CURVE THE NEXT TIME THE IGNITION IS POWERED UP.

TROUBLESHOOTING

Below are common behaviors, their causes, and remedies.

Behavior	Cause	Remedy
Engine does not start, or backfires when starting	FRONT CYLINDER (-) (YELLOW) and REAR CYLINDER (-) (BLUE) wires are switched	Switch FRONT CYLINDER (-) (YELLOW) and REAR CYLINDER (-) (BLUE) wires
	Front cylinder and rear cylinder spark plug wires are switched	Switch front and rear cylinder spark plug wires
Engine runs, but will not rev cleanly (or at all), and may stop running altogether	CRANK NEGATIVE (GREY) and CRANK POSITIVE (WHITE) wires are switched	Switch CRANK NEGATIVE (GREY) and CRANK POSITIVE (WHITE) wires

WARRANTY

Thunder Heart Performance Corp. will repair or replace any parts that have manufacturing defects only under the following conditions:

- The customer must return the product to the original place of purchase.
- The product must be returned within one year of the original distribution sale date.
- All returns must be accompanied with a copy of the receipt.
- The product must be individually tagged with a completed description of the problem or defect.
- All returned items must be packaged and shipped in the same manner as Thunder Heart originally shipped them to the dealer.

Thunder Heart Performance Corp. reserves the right to repair or replace the product at Thunder Heart's discretion. We do not offer refunds or credit for the returned product. In addition, any product that is misused or otherwise damaged by the end customer will be billed for any repair or replacement costs associated with the damage.