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REF: Electrical System

Misc Aftermarket Electrical Items 3

Sub Documents

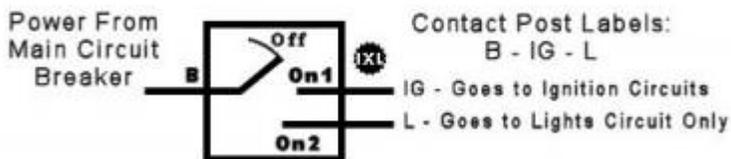
- [LED VOES Indicator Light Install](#)

Replacing A Key Switch

Check the Electrical Section of [IH](#) or [EVO](#) for the OEM configuration of the Keyswitch.

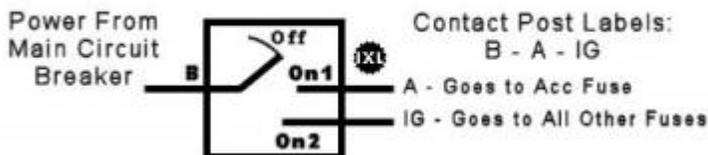
If you have to replace a keyswitch, realize that the 3-position keyswitches that are commonly available have the same internal operations but there are two different ways they are labelled:

Older Style 3-Position Keyswitch



1)

Newer Style 3-Position Keyswitch



2)

If you buy an older style switch (with B - IG - L functions) realize that you can use that switch on the later models, but the labels will not be correct for how you must connect it.

If using the early switch on a later model, you will connect the wires as follows:

| Using Older Style 3-position Keyswitch on Newer Style Wiring | | |
|--|---------------------------|--------------------|
| Switch Label | Connection From/To | Typical Wire Color |
| B | FROM Main Circuit Breaker | RED wire |
| IG | TO Accessory Fuse Only | RED/Gray wire |
| L | TO All Other Fuses | RED/Black wire |

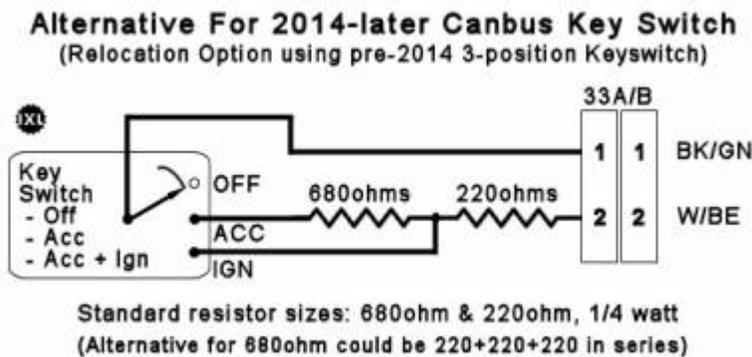
Alternative to CANbus Key Switch

(This is a proposed solution - It has not been implemented & tested.)

For 2014-later models, if you would like to use an older-style key switch (for relocation or other reasons) to operate your bike, instead of the CANbus key switch, the following circuit will implement a functional equivalent.

The stock Canbus Keyswitch uses two resistors to notify the BCM what mode you want. For Accessory Mode, an 800 ohm resistor is used & for the Ignition Mode a 200 ohm resistor is used. But an 800 ohm resistor is not a stock value and the 200 ohm resistor is not a common value (although it is available).

So, this alternative circuit uses stock resistor values, therefore, instead of creating 800 ohms for ACC Mode this will present 900 ohms to the BCM and for the Ignition Mode, instead of 200 ohms, it will present 220 ohms to the BCM. These are relatively minor differences and should still allow this circuit to replace the CANbus Key Switch and the bike will function correctly.



Be sure to carefully solder your connections and cover with shrinkwrap.

(Just an aside - You could buy just (4) 220-ohm resistors. Solder (3) in series to create 660-ohms (instead of the 680-ohm resistor in the shown circuit) and use the final 220-ohm resistor as shown.)

Alternative (CANbus) Handlebar Switches

The below referenced thread is about removing the circuit boards that are CANbus controllers from the Handlebar Control Housings and placing them (while being connected) below the seat. This allows alternative switch housings to be used on the handlebars with appropriate wire connections to the moved circuit boards.

It should get you started (although it is not a full tutorial). It should also be helpful for eliminating the on-handlebar controls (that is, removing them, visually, without replacing them).

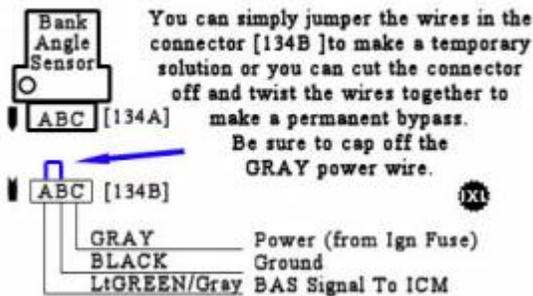
[Different Handlebar Switches With CAN Bus](#)

BAS Bypass Mod

1998-2003 Models - BAS Bypass Mod

The sensor is sometimes unreliable, either failing to allow the bike to start or by not shutting down on tipover. Some have chosen to bypass the unit, disconnecting the sensor and shorting the LtGreen/Gray Wire to the Black Wire in the wiring harness connector, while also capping the solid Gray wire (which is the power from the Ignition Fuse). This might activate a Check Engine Light error on the 1200S models (only). Some have used a voltage-divider, rather than a shorting jumper, to prevent the CEL error. From the BAS signal line (LtGn/Gy) on the harness connector, connect a 1K resistor to the 12v power line (Gray) and another 1K resistor to the ground line (Black) - This keeps the BAS signal line near 6.4v. ⁴⁾

BAS Bypass -Bank Angle Sensor Defeat



2004-2013 Models - BAS Bypass Mod

An interesting bypass of the Bank Angle Sensor (BAS) on models with a TSM/TSSM (2004+ Sportsters) is presented at this other forum location. There may be other unwanted side effects of this modification since it is specifically related to his use of a racing sidecar. Attempt this at your own risk.

<https://www.1130cc.com/threads/bank-angle-sensor.75342/#post-1037531>

Go To Technical Menu

1) 2)

Illustration by IXL2Relax

3)

Illustration created by IXL2Relax at the XLForum

4)

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-electrical/sportster-motorcycle-electrical-and-ignition/164485-bank-angle-sensor-bypass?t=1768777>

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