QUICKSHIFTER KIT FOR HARLEY-DAVIDSON BIG TWIN CVO MODELS

FITS 2017-2024 CVO TOURING MODELS

PARTS LIST 4-141

1	SHIFT SENSOR	**1**	GROUND CABLE
1	SHIFT ROD	**2**	ROD ENDS
1	SHIFT KILL MODULE	**1**	NUT

PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION

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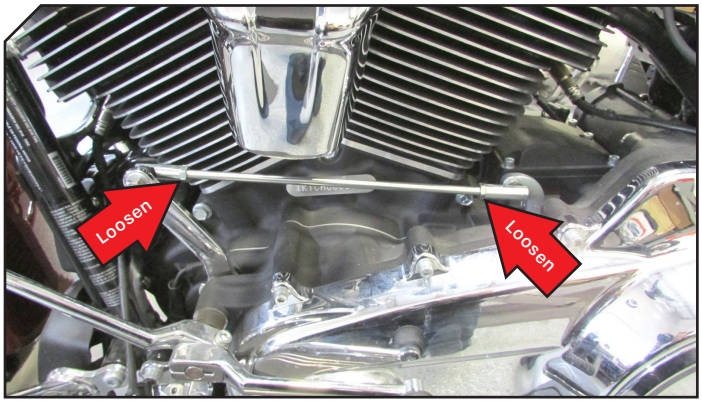
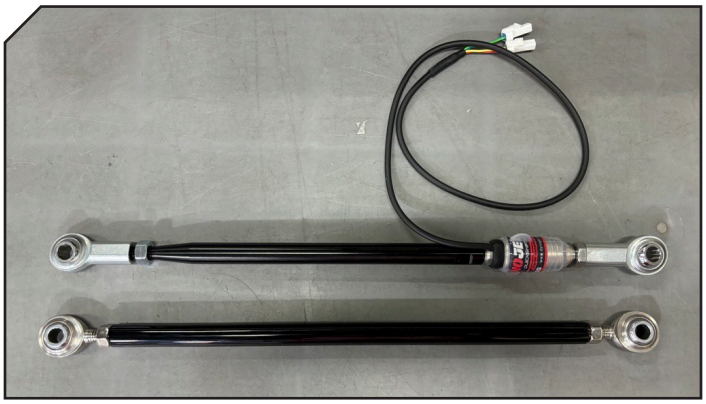
INSTALLATION FOR SHIFT SENSOR

Loosen the lock nuts from the stock shift rod and remove the stock shift rod from the motorcycle.

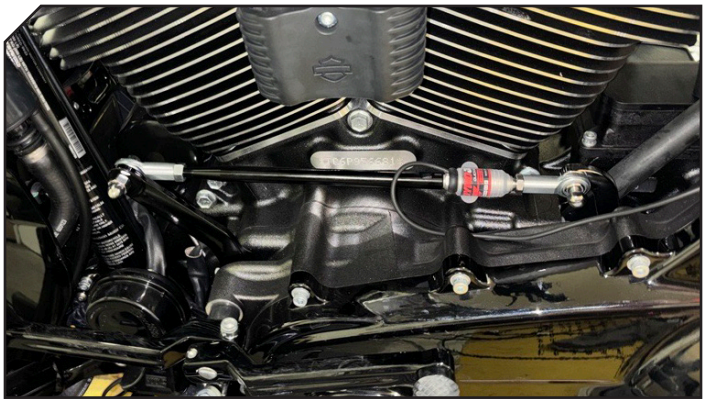


Thread the supplied Dynojet shift rod into the female end of the Dynojet shift sensor and tighten. Put the supplied lock nut onto the Dynojet shift rod/shift sensor assembly.

The overall length of Dynojet shift sensor/tie rod assembly should be the same as the stock shift rod that is being replaced.

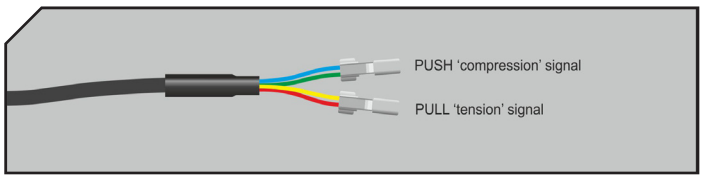


Install the Dynojet shift sensor/shift rod assembly into the bike's shift linkage in place of the stock tie rod. Tighten both lock nuts. Route the cable under the seat.



The shift sensor can operate with PUSH or PULL forces by connecting the corresponding connector. For this application ONLY the PUSH cable (GREEN/BLUE) should be used. The PULL cable (YELLOW/RED) will NOT be connected.

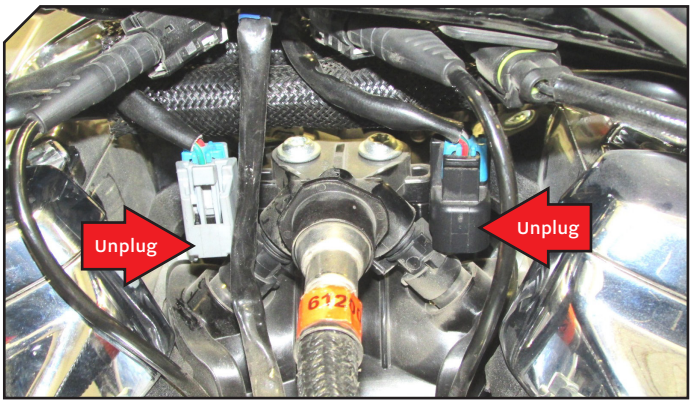
GREEN/BLUE wires = PUSH
RED/YELLOW wires = PULL



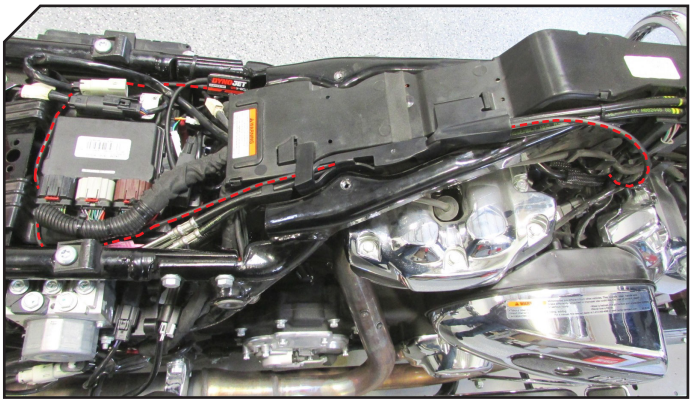
INSTALLATION FOR SHIFT KILL MODULE

Remove the seat and the fuel tank.

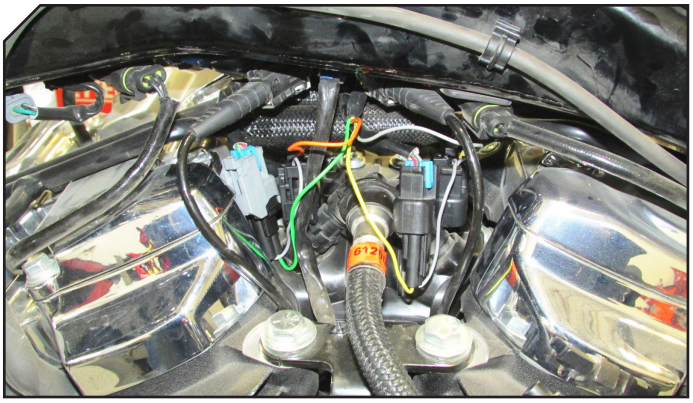
Unplug both fuel injectors.



Route the main cable going from the module to the fuel injector connectors.
In this example, we are installing on a 2018 Touring model and have chosen to store the module beneath the seat near the ECU just inside the left frame rail. Exceptions for model variations and personal preferences may need to be made. Be sure to route the cable away from any hot or moving parts. Try to keep the module free from heat, excessive vibration, and harsh environmental elements.



Plug the Dynojet connectors in-line of the Fuel Injectors and the stock injector connectors.
The pair of Dynojet connectors with BLUE and WHITE wires should go to the FRONT cylinder.
The pair of Dynojet connectors with PURPLE and BROWN wires should go to the REAR cylinder.

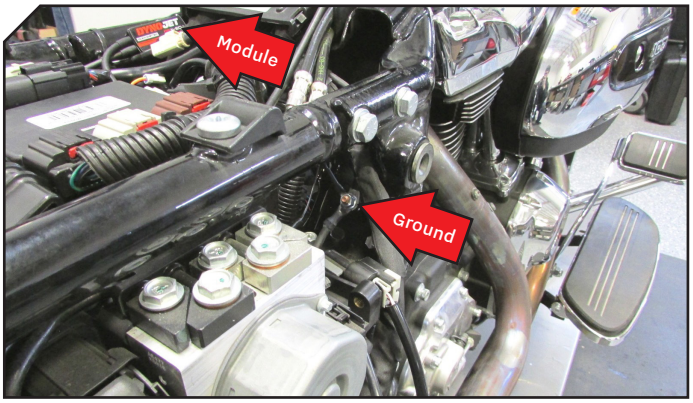


Secure the ring terminal on the ground cable to a suitable chassis ground source within reach of the module.

Connect the ground cable to the module.

Connect the PUSH shift sensor connector with BLUE and GREEN wires to the module.

Reinstall the fuel tank and the seat.

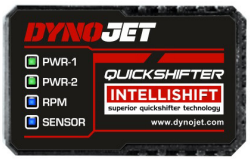


Connecting the ORANGE “lock out” wire of the ground cable is optional. This can go to the brake light power circuit (BLUE/RED wire of the tail light connector). When 12 volts is applied to this wire, the module will NOT kill the engine. This might help prevent engine kills when stationary while searching for neutral or while cycling through gears.

TUNING ADJUSTMENTS

It should not be necessary to alter the FACTORY DEFAULT SETTINGS but it may be possible to improve the `feel' of the QSX System by incrementing and decrementing the BASE SETTINGS to suit a particular rider or vehicle transmission.

Status LEDs



Remove the adjuster cover to access the adjusters

3 x Adjusters

Twin, three and four cylinder engines
(use both **INTERRUPT CHANNEL 1 & 2** to adjust the interrupt duration)

USE ALL 3 ADJUSTERS

FACTORY DEFAULT SETTING

SHIFT FORCE	Centered
INTERRUPT CHANNEL 1	Centered
INTERRUPT CHANNEL 2	Centered

GENERAL GUIDELINES:

If the interrupt duration feels too long and the bike appears to come off power for far too long as you shift gear then you would decrease the interrupt durations using a combination of INTERRUPT CHANNELS 1 & 2. If the interrupt duration feels too short and the bike appears to snatch/clunk into the next gear and tugs you forwards or even doesn't go into gear but you detect an interrupt then you would increase the interrupt durations slightly using INTERRUPT CHANNELS 1 & 2.

Once you have set the interrupt durations you can look to fine tune the shift force to your liking. Adjusting the shift force affects the feel of the gear lever and is used to ensure no false/unwanted shifts/interrupts are experienced, it can also improve the feel of the Quickshifter.

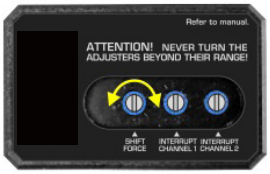
When testing/checking the QSXi Quickshifter settings it is important to shift gear each time from 2nd to 3rd gear and 3rd to 4th gear at the same mid engine RPM at full throttle. This is so you can achieve a consistent condition for tuning/set-up of the QSXi Quickshifter ECU.

Adjusting interrupt duration

Increase or decrease INTERRUPT CHANNEL 1 adjuster one segment at a time until the best feel of 'Quickshifting' is realized.
(NOTE: the adjuster may end up either fully anti-clockwise or fully clockwise depending on the motorcycle and your preference.
Ideally this INTERRUPT CHANNEL 1 adjuster should be as far counterclockwise as possible without making the gear lever feel hard when 'Quickshifting'. If the gear change appears hard and catches the next gear then the interrupt duration is too short, back off the adjuster a little to prevent this.

NOTE: Increasing the interrupt duration on CHANNEL 2 will generally smooth out the shift with a longer, softer shift feel. Reducing the interrupt duration on CHANNEL 2 will speed up the shift with a crisper shift feel.

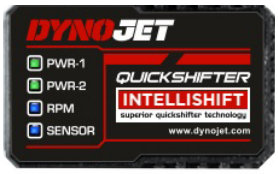
Increase or decrease INTERRUPT CHANNEL 2 adjuster one segment at a time until the Quickshifter feel improves further.



Adjusting the Shift Force

The feel of the sensor shift force is a personal preference so we suggest you start off with the middle shift force setting and then increase/decrease the shift force adjuster to the desired shift force level. Increase or decrease the SHIFT FORCE adjuster one segment at a time until the best feel of 'quickshifting'is achieved

Having the correct sensor shift force can enhance this Quickshifter further so ensure you take the time to experiment with the shift force setting.



Quickshifter system operation

ATTENTION! To get the best results from this QSXi Quickshifter system it is best to 'short shift' from 1st to 2nd gear (change gear as soon as possible once you have pulled away from a standstill). Ensure that the engine is under acceleration load when Quickshifting as this allows the Intellishift feature of the QSXi ECU to provide the best Quickshifts.

To use the QSXi Quickshifter system make a full and positive gearshift with your foot without using the clutch or rolling off the throttle. Be aware that the gear lever must fully return to the rest position before the system resets for the next gear selection.

The **PWR-1** and **PWR-2** LEDs will only illuminate if the ignition coil wires in the connectors are aligned with the +12v wires of the QEM harness.

The **RPM** LED will flash in unison with the engine speed at idle. The LED will appear to be solid when the engine RPM increases.

The **SENSOR** LED will only illuminate when the sensor is engaged. It may take more effort to move the gear lever to the trigger point than expected, this is normal. It is normal that when the bike is stationary it is possible to select a gear without the sensor triggering the LED.

TROUBLE SHOOTING

Engine will not start - Check that the black ring terminal is located onto the battery negative terminal only. Check to see if the positive +12v side of the ignition coil/fuel injector is being interrupted
.

Engine warning light - Check to see if the interrupt duration is set too long as this can cause the engine's ECU to think there is a problem, reducing the interrupt duration can solve this.

No Quickshifter interrupt - Check for correct connection of the QSXi Quickshifter harness connectors to the ignition coils or injectors. Verify the Quickshifter sensor output. Check for severed or trapped wires. Check that the Quickshifter harness connectors have not been greased as this will cause a poor electrical connection.

Engine misfire - Verify the control unit mounting position and check for isolation from vibration. Check plug and play connections and ensure the connectors are firmly connected and that there are no trapped wires. Check the Quickshifter sensor output.

Engine stalls when selecting neutral - If your QSXi system features the 'orange brake switch lock-out wire'then ensure it is connected to the correct brake switch wire in the rear tail unit

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