QSX MODULE

INSTALLATION GUIDE

Universal - Four channel, Denso style
coil stick connectors Kawasaki / Yamaha

PARTS LIST   4-140

1	QSX MODULE	**1**	SCREWDRIVER
1	CLUTCH LOCKOUT WIRE	**2**	DECALS

PLEASE READ ALL DIRECTIONS BEFORE STARTING INSTALLATION

PRECAUTIONS

Ensure that the ignition supply is switched off at all times unless instructed otherwise within this manual.

When removing or adding electrical cables to the vehicle battery or wiring harness always remove the ground (negative) cable/terminal before the positive cable/terminal. Replace the ground cable/terminal last to avoid shorting the electrical system.

When mounting the components ensure that the units are protected from excessive vibration, heat and environmental elements, and that they are securely mounted.

Be careful not to bend or pull the wires exiting the module as this could compromise the weather proofing causing water to enter the module.

When routing electrical cables ensure the cables cannot become trapped or pinched which could result in malfunction and secure with cable ties where necessary.

FITTING THE CONTROL MODULE

The QSX module should be positioned so it does not exceed an operating temperature of 160°F and must be installed where it is protected from excessive vibration and harsh environmental elements. Under the seat area or passenger seat is an ideal position.

1   Locate a suitable flat surface for the control unit to adhere to.

    Note: Do not actually fix the control unit into position until you have installed the rest of the components and have routed the relevant cables.
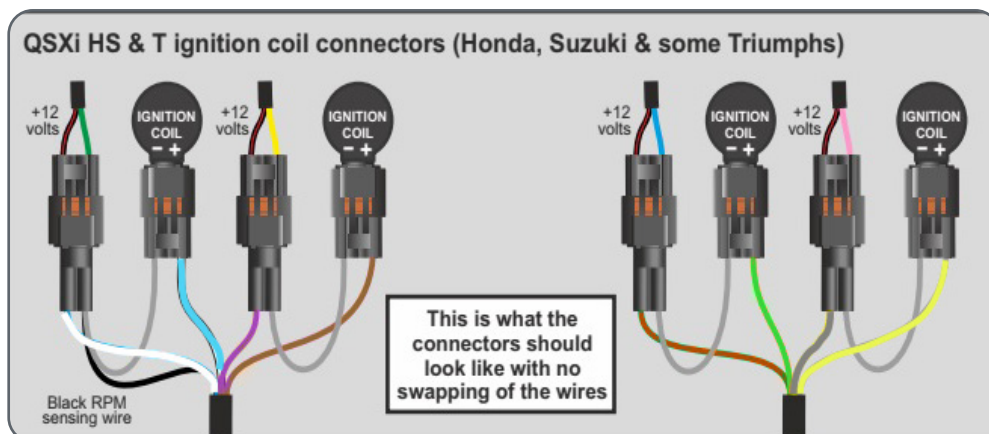
2   Once you have completed the rest of the installation you can then finally fix the control unit into position using the supplied Velcro mounting pads.

    Make sure you de-grease and warm up the mounting surfaces prior to peeling the backing off of the Velcro pads and securing into position. Cold surfaces result in poor adhesion

3   Route the harness through the vehicle so that the connectors from the QSX module end up near the ignition coils.

4   One at a time unplug the stock wiring harness from each ignition coil and connec the QSX harness in-line of each ignition coil.

    Coil #1 (left) - BLUE / WHITE wires of QSX
    Coil #2   - BROWN / VOILET wires of QSX
    Coil #3   - GREEN / ORANGE wires of QSX
    Coil #4 (right)- YELLOW/ GREY wires of QSX

QSXi HS & T ignition coil connectors (Honda, Suzuki & some Triumphs)

This is what the connectors should look like with no swapping of the wires

Black RPM sensing wire

5   Plug the quickshifter sensor into the 2 pin connector of the QSX module harness.

     If you are using a linear type quickshift sensor you may want to connect the ORANGE 'brake switch lock-out wire' to the +12v source of the rear brake light. This will prevent the engine from stalling when selecting neutral and the bike is stationary.
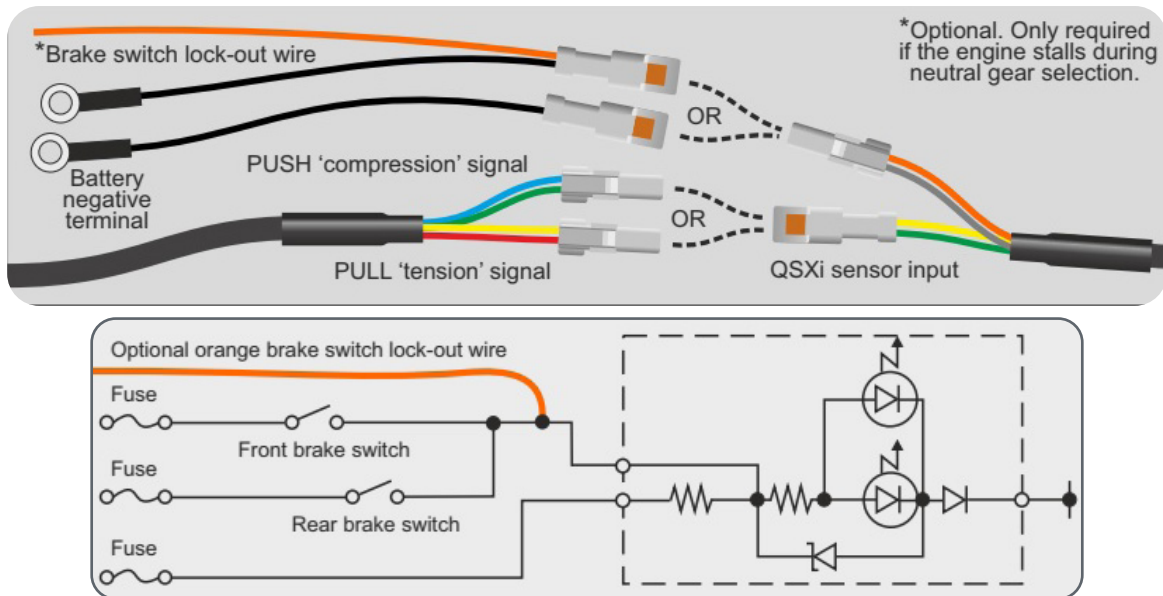
TUNING ADJUSTMENTS

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

GENERAL GUIDELINES:

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

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

PUSH THE LIMIT.

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