



QS PRO Quickshifter

Spade type terminal dual coil installation guide

(For single coil installs, see instructions on Page 2)

The spade terminal coil kits are pretty easy, so do not worry and do not try to over-think this!

All bikes with dual spade coils we know of have 2 wires to them. One is “common”, meaning it is the same color for both coils. This wire with the same color we call “common” for this installation.

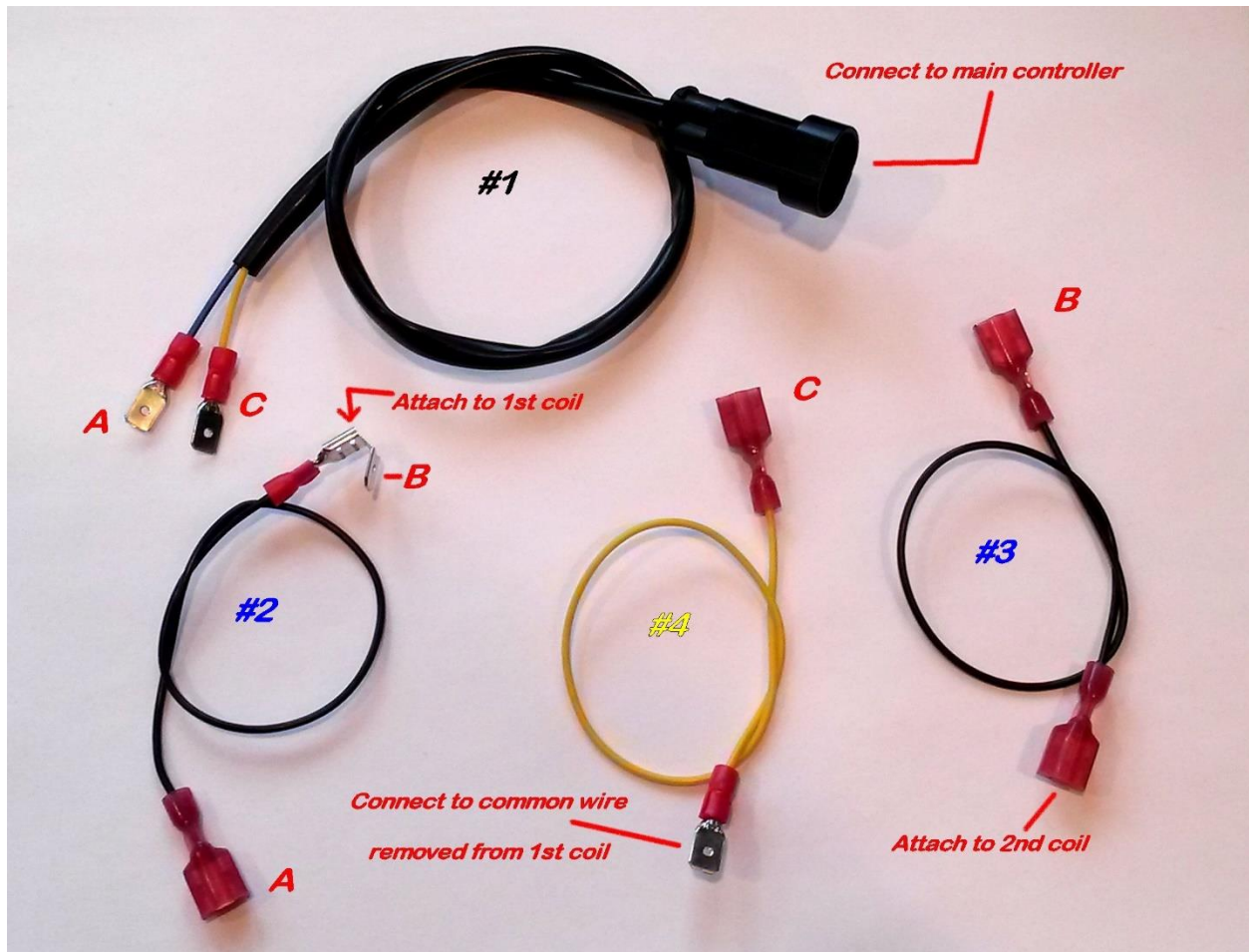
The other wire is different on each coil; these are the ECU connections. You do not remove the ECU wires, only the common wires are used for the installation.

We have attached a photo of the kit below, showing each wire and labeling where to place the connections. Also, here is the way it is done:

HELPFUL HINT! Read all the instructions, while looking at the image below and your bike so you understand what you need to do and THEN begin the installation. It will save you lots of headaches!

- 1) Remove the common color wire from both coils. Do not remove the other (ECU) wires from either of the coils, only the common color.
- 2) Using our main BLUE wire (#2) with the piggyback terminal, connect our female end to the BLUE male end of the main (#1) controller wire (A to A).
- 3) Connect the female piggyback end to the first coil male terminal where the common color wire you removed was attached.
- 4) Using our other BLUE wire (#3), connect the female end of this wire to the male piggyback connector (B) on the first coil wire (#2).
- 5) Connect the other female end of BLUE wire #3 to the 2nd coil male terminal, where the common wire you removed was attached.
- 6) The common color wire you removed from the 2nd coil is simply taped off; it is not used at all. Make sure this common color wire you removed is covered and safely stored.
- 7) Going back to the first coil, connect the common color female wire you removed from the first coil to the male end of our YELLOW (#4) wire.
- 8) Lastly, connect the female end of our YELLOW (#4) wire to the male YELLOW end of the main (#1) connector to the controller.

When all done and you are sure of your correct installation, be sure to insulate and tape over all exposed connections and connectors to avoid any electrical problems.



SINGLE COIL INSTALLATION INSTRUCTIONS

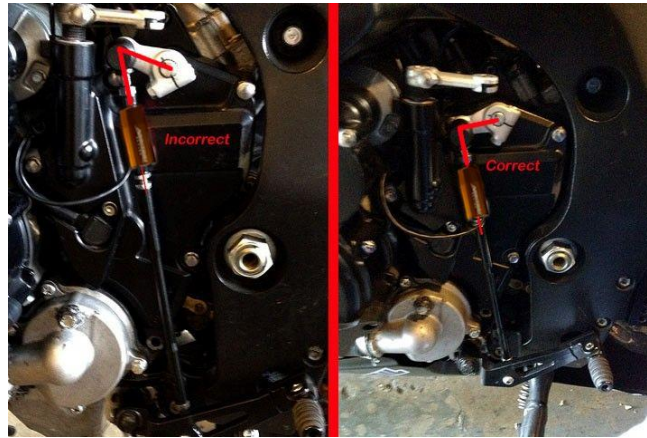
NOTE: Our BLUE wire #2 is NOT USED for a single coil installation

- 1) Remove the ground wire from the coil.
- 2) Using our BLUE wire (#3), connect to the BLUE female end to the male connector of the main (#1) controller wire, BLUE to BLUE (B to A).
- 3) Connect the other female end of BLUE wire #3 to the male terminal of the coil where you removed the ground wire from.
- 4) Connect the female ground wire you removed from the coil to the male end of our YELLOW (#4) wire.
- 8) Lastly, connect the female end of our YELLOW (#4) wire to the YELLOW male end of the main (#1) connector to the controller.

When all done and you are sure of your correct installation, be sure to insulate and tape over all exposed connections and connectors to avoid any electrical problems.

Next, the sensor installation:

- 1) Install the QS Strain Gauge sensor onto the correct length shift rod and re-assemble your shift linkage and footrest to correct specifications. Proper shift linkage assembly is key to proper operation and smooth shifting! Keep all your linkage connections, both ends, as close to 90 degrees as possible, or shifting problems can occur



- 2) Regarding the shift rod installation: Be sure, inspect and check that there is no interference of any parts of your shift assembly with any other parts, anywhere in the stroke. The sensor or any part of the shift rod cannot come in contact with anything during the shift. Please check all gears, up and down and make sure you are not rubbing on the frame, shift pedal, etc.

***** If your shift rod is horizontal, mount the sensor so that the wire going into the sensor is on top – meaning as you sit on the bike you look straight down at the wire. If your shift rod is vertical, then have the sensor mounted so that the wire going into the sensor is facing your shin as you sit on the bike. This will help with setup and smoothness!**

- 3) You must have two heim (rose) joints, one at each end. The heim joints **MUST BE FREE** to move and rotate in both directions. When the shift rod is installed, you should be able to take the shift rod between your thumb and index finger, and rotate (spin) the shift rod anywhere from 5-15 degrees in both directions from normal center. The shift rod must **NOT** have any “twist” force on it, but instead be “floating” between the heim joints even when weight is applied to the footrests. If you do not know how to install shifter linkage, please ask us or find a source, because loose, mis-installed linkages are a huge amount of the reasons we get calls for help.
- 4) Be sure you are using the exact and correct bolts for attaching thru the heim joints at each end. The bolts should have “shoulders”, the non-threaded section that is specific and correct for the inner diameter of the heim joint bearing you are using. If the bolts are wrong size, the “gap” of the smaller bolt to the bearing may cause the shift rod to not move correctly, freely and/or in a linear motion, and the sensor will pick up the movement of the rod at this loose bolt point as false shift signals and not operate correctly.

**** Remember, loose or mis-installed linkage will cause vibration in the setup, and the strain gage sensor will pick up these vibrations and believe you want to shift and send false kill signals.**

- 5) Run the wiring towards coil loom connector, safely away from any potential interference or damage, locating the QS PRO Controller for easy access during setup. Attach controller to motorcycle in a safe location that will not cause interference with any operation of the machine.

VERY CRITICAL – The wire going into the sensor **MUST HAVE** some slack so that as you move the shift lever up or down the wire has extra length to move with it. If you tighten the wire too much, when you move the shift lever you will pull the wires from their connections inside the sensor and destroy the shifter. **Doing so is a NON-WARRANTY failure.**



Test the operation of the shift lever up and down before using to be SURE there is enough wire for the sensor, as well as not too much to cause any interference or safety issue.

- 6) Attach the 2-pin coil loom connector to the 2-pin Controller connector, and the 3-pin sensor connector to the 3-pin Controller connector BEFORE you power the controller. *If you power the controller before attaching the sensor, the shifter will not “see” the sensor and not function.* IF you do this by mistake, make sure you have the sensor connected and simply remove the red + (power) wire for :30 seconds and then re-attach (reset).

***** Make all of your connections to the controller (coil loom and sensor) BEFORE you attach power. The LAST wires you attach are the red + and black - power wires**

- 7) We strongly recommend you attach the positive wire (red) to an “on/off” fuse in your fuse box (such as the tail light fuse) so that the QS PRO only comes on when the bike is on. If not able, to the positive terminal of the battery. Attach the ground wire (black) ONLY to the negative (earth) terminal of the battery, making sure you have a GOOD, very clean and solid ground. Most bolts on motorcycles are insulated and are NOT good ground locations, do not use these or any ground failure that destroys the QS PRO will not be covered under warranty. The MOST common reason for calls to our customer support is for problems with the ground wire. Please be sure of this attachment point to the negative terminal on the battery and that the connection is clean and solid.
- 8) Re-check all connections, clearances, tensions on wires and be sure that there will be no interference with motorcycle operation or potential for wire damage.

PLEASE! - DO NOT over tighten the wires with zip tie’s to the machine. Zip ties are very hard plastic with very sharp edges, and due to normal vibration, heat expansion, cold contraction, riding, etc., will CUT through wires beneath the outer sheathing, and cause the shifter to not function. Wires need to have some freedom to vibrate, move and flex with the motorcycle, any damage to the wires from improper installation is a NON-WARRANTY failure. BE CAREFUL...!

All the connectors on the QS PRO are automotive quality, waterproof connectors – but always be aware of where you are mounting so as to avoid as much “cross electrical interference” as possible, or excessive potential for water damage. As with all the wiring on your motorcycle, never use high pressure washers directly on any electrical components.

- 9) See SETUP instructions for proper QS PRO sensitivity, shift direction and kill time setup procedure.

TIPS and WARNINGS

- A) Remember, horizontal shift linkage have the sensor wire on top, facing upwards. Vertical shift linkage have the sensor wire facing back, towards your shin as you sit on the bike. (see #2 above)
- B) Make ALL your connections to the controller BEFORE you attach the red + and black – power and ground wires. (see #6 above)
- C) If you are attaching the + and – wires to the battery, DO NOT USE A BATTERY CHARGER with the shifter attached. If you attach the charger to the battery, with our + wire attached to the battery as well, you are also “charging” the QS PRO. Our shifter is not designed to be charged by a battery charger! Doing this is NOT a warranty situation, please be sure to disconnect the QS PRO before attaching a charger, or follow the instructions in #7 using a fused circuit for the red positive + wire.
- D) If the shifter has been working and suddenly starts having trouble, a quick and easy reset may be all you need to do. Simply remove the red + wire and black – wire for 2 minutes, re-attach and do the “driveway” test outlined below. This will reset the shifter memory, and might be all you need to do before calling us for help.
- E) Remember! You must have the coil loom connected and the sensor connected to the controller BEFORE you attach the red and black wires to power and ground. If you make a mistake, please be sure both the coil loom and sensor are connected, remove the + and – wires for 2 minutes, and re-attach.
- F) As always, we are here to help! So don’t get angry or frustrated if you are stuck or need to ask a question. Call us toll free, Monday – Friday, 9-5 CST, or email us ANYTIME at info@Annitori.com. We watch email even during strange hours, so we will get back with you as soon as we can and help you get rolling again.

Testing the QS PRO for shift signal

(The “driveway test”)

After you complete the install and before you take your first test ride, or anytime you are wondering, you can make sure you have a kill signal by doing a simple test while just sitting on your bike in your driveway.

To test, start the bike, hold the clutch in and shift to 6th gear. **Do not have the bike on a stand**, simply sit on the bike with both wheels on the ground. **KEEP THE CLUTCH IN – DO NOT RELEASE THE CLUTCH AT ANY TIME DURING THIS TEST!** You are not driving the motorcycle, only sitting on the bike in your driveway and doing these static tests.

Then hold about 5k rpm's so you can hear the steady sound of the exhaust very easily. **DO NOT LET THE CLUTCH OUT!**

Now, move the shift lever as if you are going to shift from 6th into 7th gear. You should hear a "burp" in the exhaust note. Sounds like a misfire because we are killing your coils; it is the sound of the kill signal. You can do it multiple times to be sure you hear the sound, it is very distinct and easy to hear.

If you have "both" directions (PUSH and PULL) enabled, you can do the same test for the other direction. Shift into 1st gear, hold the 5,000 rpm's (do not let the clutch out!) then shift down again as if you are going to "zero" gear. Is there a kill signal?

Quick and easy way to test if your installation is complete and the shifter is working!

Let us know if you have any questions!

Toll Free: 1-888-963-1212 (9am – 5pm, Central Standard Time, Monday - Friday)

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