

## Pingel<sup>®</sup> Electric Speed Shifter Kit for 2005 GSXR 600/750

### Designed for Street Use

# #77204 Installation Instructions

***Read all instructions thoroughly, look at photos and all components before attempting installation. This product is not designed or intended to be used as an assistive device for any particular disability.***

All the components of this Electric Speed Shift Kit have been assembled and tested as a unit before leaving our factory and have been found to be in working order at the time of shipping. Installation of this kit requires detailed knowledge of the motorcycle model, its electronics and mechanics. It is assumed that the installer has access to the proper tools and a working knowledge of them, test equipment (such as a voltmeter), and factory service manuals. The following instructions must be read in their entirety and any questions should be answered prior to attempting installation. Incorrect installation will result in damage to Electric Speed Shift components. If after reading the instructions you do not feel comfortable installing the kit, please find a qualified technician to do the installation. Installation time is 2-3 hours.

**Disconnect negative battery cable before attempting any work on motorcycle.**

#### **INSTALLATION OF DUAL BUTTON HANDLEBAR CONTROL:**

Loosen the clutch master cylinder perch and slide it toward the forks 7/16". Retighten the clutch master cylinder perch. Take a measurement from the newly positioned clutch master cylinder perch to the turn signal switch housing. Record this dimension. Disassemble the turn signal switch housing. Looking at the inside of the turn signal housing you will notice a raised portion in the housing that fits into a hole in the handlebar. Using the dimension recorded earlier, you will now redrill the hole closer to the fork on the handlebar. Drill the new hole the same diameter as the original hole.

Reassemble turn signal switch housing moved to the newly drilled location. Install the dual button handlebar control on to the handlebar as shown in photo and tighten screws located on the backside of the control assembly.

This handlebar control bracket is set up to route the wires externally, but may also have its wires routed internally through the handlebars. This is accomplished by feeding the black cable up through the hole on the center of the bracket and then through a hole in the handlebars.

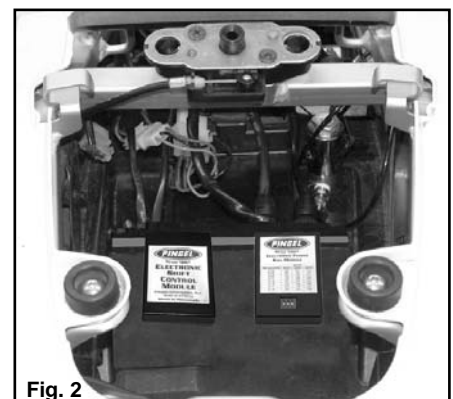
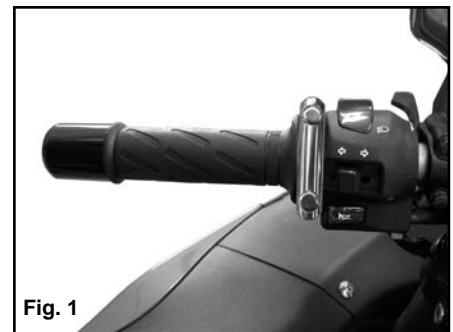
Route wires from the dual button control neatly along handlebar and down under the fuel tank following the clutch hydraulic line. Make sure to secure wires along its routing with wire ties provided. Loosening and lifting the fuel tank will aid in wire routing. The final location of this wire assembly will be under the rear seat. See figure 2.

#### **INSTALLATION OF CONTROL MODULE AND WIRE HARNESS:**

The mounting location of the control module is under the front seat. The control module is supplied with Velcro to install on the bottom of the box to secure it. The wire assembly previously run from the handlebar control will now be connected to the control module. The handlebar connector has 4 pins and should be connected to the appropriate receptacle from the control module.

The large 4-pin connector coming from the control module should be connected to the large 4-pin connector from the fused wire harness. The small 3-pin connector on the fused harness is used for the electronic engine kill module. There are 3 loose wires coming from the fused wire harness; the black (negative) and large red (positive) go directly to the battery, the small red is for switched 12v+ power. The small red lead can be connected to any 12v+ switched power source. Cut the small red wire to proper length and use the blue quick tab connector provided to make this connection (soldering is preferred). The large red and black battery wires can also be cut to proper length, then solder on the ring terminals provided. Attach the soldered on ring terminals to the battery posts, black to the negative and large red to the positive.

The electronic engine kill module is also mounted under the front seat. See instruction sheet included with the electronic engine kill module.



**INSTALLATION OF ELECTRIC SHIFT CYLINDER:**

Remove the 2 bolts that hold on the left foot peg/shift lever bracket. Loosen the jam nut at the shift lever rod end and turn the shift lever off the rod. With the shift lever removed, place the Pingel shift lever bracket over the backside of the stock shift lever, as shown in Figure 3. Use a #25 drill (9/64", if #25 is not available) to make 2 small point marks on the back of the stock shift lever by twisting the drill bit with your fingers, as shown in Figure 3.

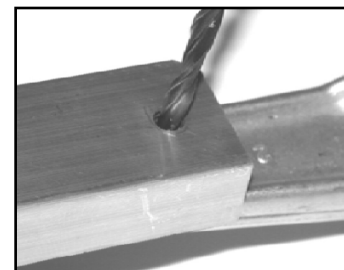
Using the top back of a vise, an anvil or other stable surface, center punch the two small points marked on the backside of the stock shift lever, as shown in Figure 4. Use a 3/16" drill bit and drill the 2 points that were center punched.

Using the thread locker compound supplied, install the shift lever bracket onto the shift lever using (2) 10-24 x 1/2" BHSCS. See Figures 5 & 6.

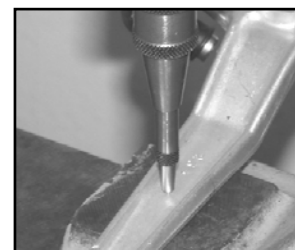
Remove the lower left subframe bolt, (E) in Figure 6. Using the supplied thread locker on all bolts, install the bracket that holds the foot peg/shift lever onto the motorcycle using the 8mm x 25mm button head bolt with washer through the lower hole (H) Figure 6, then through the 0.209" long spacer and into the frame. Install the 8mm x 45mm hex head cap screw with washer through the bottom hole of the shift cylinder support bracket (A) Figure 6, through the 0.342" long support bracket spacer (J) Figure 6, through the top hole of the stock footpeg bracket being sure to install the 0.209" long washers (D) Figure 6 between the footpeg bracket and the frame. Install the 10mm x 70mm hex head cap screw with washer, (E) Figure 6, through the top hole of the shift cylinder support bracket and into the 1.217" long support bracket spacer, (B) Figure 6. This bolt replaces the lower left subframe bolt, as shown in Figure 6. Tighten the bolts on the footpeg bracket and shift cylinder support bracket.

Install the shift cylinder onto the shift cylinder support bracket using the Pingel clamp, (F) Figure 6, and (2) 1/4-20 x 3/4" socket head cap screws. Just snug these bolts for now, as adjustment will be needed. The rod end on the shift cylinder should be able to go past the point of mounting in each direction sidewise. The point of mounting is that flat surface upon which the rod end bolts to the Pingel shift lever bracket allowing for the (2) thin flat 1/4" washers also. It is imperative that there is no side pressure or tension on the electric shift cylinder shaft when it meets its flat surface upon the Pingel shift arm lever washer where it is bolted as this would take away valuable power from the electric shift cylinder resulting in binding and missed shifts. If the rod end does not line up correctly you can either add another thin 1/4" flat washer to the existing washer to move the rod end away from the shift arm lever, or remove one of the thin flat 1/4" washers to move the rod end closer to the shift arm lever. Thread the 1/4-20 x 1" button head socket cap screw through the rod end of the electric shift cylinder, through the two 1/4" flat washers and into the Pingel shift lever bracket, see (I) figure 6.

Before adjusting the electric shift cylinder up and down make certain the motorcycle transmission is in neutral. While holding onto the shift cylinder housing, loosen the two screws on the clamp. Now find the groove in the center of the cylinder shaft. Adjust the cylinder housing up or down so the groove in the shaft is right at the plastic bushing, located on the bottom of the cylinder housing, as shown in Figure 4. Now with the shift cylinder in the correct position, tighten the two bolts of the Pingel clamp.



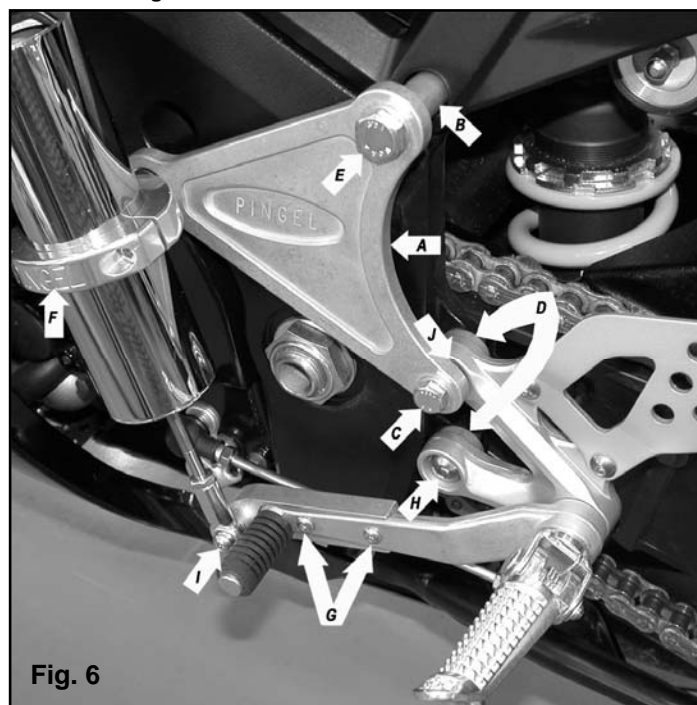
**Fig.3**



**Fig.4**



**Fig. 5**



**Fig. 6**

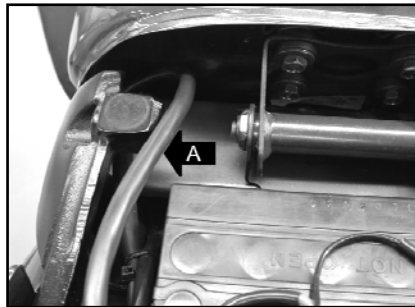
- A: Shift cylinder support bracket
- B: 1.217 long support bracket spacer
- C: 8mm X 45mm HHCS and washer
- D: (2) 0.209 long footpeg bracket spacers
- E: 10mm X 70mm HHCS and washer
- F: Pingel shift cylinder clamp
- G: (2) 10-24 X 1/2 BHSCS
- H: 8mm X 25mm BHSCS with stock washer
- I: 1/4-20 X 1 BHSCS
- J: 0.342 long shift cylinder support bracket to footpeg bracket spacer

Route the electric cable from the shift cylinder to the control module located under the rear seat in the tail section trunk. Start by running under and on the backside of the frame then run under the tank on the left side following the frame. Run up the left side of the battery as shown in (A) Figure 7. Attach the cable by pushing the connector into the receptacle on the control module. Secure all wires away from heat and moving parts with the supplied wire ties.

Your Electric Speed Shift Kit installation should now be complete. Reconnect negative battery cable. In the interest of safety this is the recommended starting procedure: To arm the electric shifter, make sure the motorcycle is in neutral and pull in the clutch lever, then start the engine. With the clutch lever pulled in, push either button on the handlebar control and hold it for five seconds; release the clutch lever slowly (in case the motorcycle is accidentally in gear). The system is now turned on and will shift when either button is pressed. When the key is turned off, the power to the control module is disengaged so this procedure must be performed every time the motorcycle is turned back on. Pull in the clutch lever and check shifter movement by pushing either button on the handlebar control.



A: Center groove on cylinder shaft located at bottom of cylinder housing.



A: Cable assembly coming from backside of frame, under the tank, along leftside of frame.

Fig. 7

Test ride motorcycle. If shifting up or down is not achieved, loosen the Pingel clamp on the shift cylinder and adjust it up or down 1/16" to 1/8" at one time. Retighten the Pingel clamp and test ride the motorcycle. This adjustment is fastidious and patience is required. When the final adjustment is made, remove each clamp bolt and apply thread locker to the end threads, but remove only one clamp bolt at a time so as not to lose your adjustment.

**Be certain that all of the round connectors are properly coupled and tight. If the motorcycle is not shifting or the kill module is not working, check that these plugs are properly seated and that the internal connector pins are making good contact with their sockets (i.e. no pins are bent).**

**Note:** in the wire harness we have installed one 40-amp fuse for constant power. A spare 40-amp fuse is also supplied.

**Prolonged repeated operation of the shifter (actuating the shifter repeatedly in rapid succession beyond normal use) can discharge the motorcycle battery and damage the shift cylinder and/or the control module. The normal battery takes 30-60 minutes to recharge after starting the motorcycle so use the shifter sparingly in this time.**

**This unit is not waterproof. Do not subject it to pressure washing or extreme moisture.**

Installation of the Electric Speed Shift Kit still maintains OEM Shifting.

**If you have any questions please call 608-339-7999**

## Items Included: 2005 GSXR 600/750 #77204

- |   |   |
|---|---|
| 1 - .615" OD x .315" ID x .342" long aluminum spacer              | 1 - 7/8" handlebar two-piece dual button control assembly |
| 2 - 1.00" OD x .315" ID x .209" long aluminum spacer              | 1 - 10mm x 1.25mm x 70mm HHCS                             |
| 1 - .625" OD x .404" ID x 1.217" long aluminum spacer             | 1 - Control module  |
| 2 - 10-24 x 1/2" BHSCS  | 1 - 1/4"-20 x 1" BHSCS                                    |
| 1 - Shift lever bracket   | 3 - 1/4" washer   |
| 1 - Shift cylinder support bracket with cylinder clamp (threaded) | 1 - Shift cylinder  |
| 1 - Cylinder clamp (through-holes)                                | 2 - Ring terminals  |
| 1 - 8mm x 1.25mm x 45mm HHCS                                      | 5 - Blue quick tab connector                              |
| 1 - 8mm x 1.25mm x 25mm BHSCS                                     | 10 - Wire ties  |
| 1 - Fused wiring harness  | 1 - Tube torque-thread locker                             |
| 1 - 8mm washer  | 1 - Extra 40-amp fuse                                     |
| 1 - 10mm washer   | 1 - Electronic engine kill module                         |
|   | 1 - Electronic engine kill module wire leads              |

**Dear Valued Customer,**

**Pingel Enterprise, Inc. would like to take this opportunity to thank you for purchasing one of our Electric Speed Shift Kits.**

**We would also like to know what you think of the product and how your installation went. Your assistance can help us overcome any technical issues that other installers may experience. You can reach us toll free at 1-888-474-6435 or email us at [info@pingelonline.com](mailto:info@pingelonline.com).**

**We are also requesting photos of your installation. Your photos may be selected for publication in the Pingel catalog or at [www.pingelonline.com](http://www.pingelonline.com). Photos may be submitted by emailing them to [info@pingelonline.com](mailto:info@pingelonline.com). When submitting a photo, please include the motorcycle model and year.**

**Thank you again for your purchase!**

### LIMITED WARRANTIES/LIABILITIES

Pingel Enterprise, Inc. assumes no responsibility or liability for damage or injury of any kind arising out of the use or misuse of any products. Pingel Enterprise, Inc.'s sole responsibilities with respect to products sold are to provide the following limited warranty:

**Pingel Products:** Pingel Enterprise, Inc. warrants to the original purchaser that the product shall be free from defects in parts and workmanship under normal use for 30 days from date of purchase. Pingel Enterprise, Inc.'s obligation under this warranty is limited to the repair or replacement of any part found to be defective when returned postpaid to the factory. The product must be returned with evidence of date and place of purchase, and detailed description of the problem. The warranty will not apply if the product has been installed incorrectly, repaired, or damaged by modification, misuse, negligence or accident. The repair or replacement of such part, as needed, is your sole and exclusive remedy. No refunds will be given. Pingel Enterprise, Inc. makes no other warranty, expressed or implied with respect to its products and specifically disclaims any implied warranties of merchantability or fitness of any product for a particular purpose and except as herewith stated assumes no liability with respect to the product.

**Dispute Resolution:** All disputes, claims or controversies of any kind that may arise between you and Pingel Enterprise, Inc. shall be brought in the state court located in Adams County, Wisconsin. You agree that the sole venue and jurisdiction for such disputes shall be the above named court and hereby submit to the jurisdiction of that court.

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