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Pingel® Electric Speed Shifter™ Kit – 2014-2016 Indian Chief
Designed for Street & Drag Strip Use
#76851 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 Shifter 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. **We strongly recommend that you bench test this unit following the directions included on the separate page.** 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 Shifter 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.

It is your responsibility to maintain the system in good working order by checking the shift linkage for sloppiness and/or binding. If you miss a gear a few times that's your clue that the system needs your attention. If you are a rider that does not have mechanical knowledge take it to someone who does. **Do not keep pushing the button** as this will only burn out the electronics. Pingel will not replace the electronics for free.

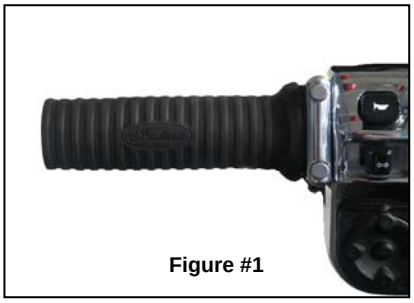
Figure #1

Disconnect negative battery cable before attempting any work on motorcycle

INSTALLATION OF DUAL BUTTON HANDLEBAR CONTROL BRACKET:
Loosen the clutch master cylinder perch and slide it toward the fork 7/16". Retighten the clutch master cylinder perch. Measure from the newly positioned clutch master cylinder perch to the turn signal switch housing and record this length. Disassemble the turn signal switch housing. Inside of the turn signal housing there is a raised portion in the housing that fits into a hole in the handlebar. Using the length recorded earlier, measure from the original hole towards the turn signal switch housing and mark the location for a new hole. Drill the hole the same diameter as the original (center punching the mark will help keep the drill bit in position). Reassemble the turn signal switch housing at the newly drilled location, see figure 1. Route the wires from the dual button handlebar control bracket neatly along the handlebar into the speedometer/tachometer area. Follow the existing wire loom under the fuel tank to underneath the seat. This is the approximate location that the control module will be mounted. **See figure #2**. Wait to secure the wire along its route as another cable will be run in the same area later in the instructions. Excess wire can be coiled and hidden under the seat.

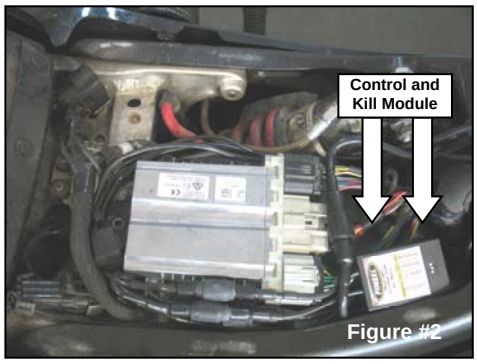

Figure #2

INSTALLATION OF CONTROL MODULE AND WIRE HARNESS:
The mounting location of the control module will be in the rear opening underneath the seat, **see figure #2**. **Note:** The control module is supplied with Velcro to use on the bottom of the box to secure it. 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 three 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 large red and black wires should be cut to the shortest length needed to reach the battery posts which will give maximum power for the Electric Speed Shifter kit. Note: leave the small red wire as long as possible until the next step. Solder the ring terminals provided onto the cut ends of the large red and black wires then attach the red to the positive battery post, the black will be connected to the negative at the end of the installation. The small red lead can be connected to any 12v positive switched wire. Cut the small red wire to proper length and use the blue quick tab connector supplied to make this connection. (Soldering is preferred).

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INSTALLATION OF THE ELECTRONIC ENGINE KILL MODULE:

The electronic engine kill module should also be mounted be in the front opening underneath the seat and may be secured with the supplied Velcro to install on the bottom of the box. Insert the small male plug of the electronic engine kill module into the small female plug located on the fused wiring harness. Plug in the cable (included loose in kit) which has a four pin male rubber plug on one end and is blank on the other end into the small female plug of the electronic engine kill module. Route the loose end of the cable to the signal wires of the ignition coil. Secure a brown wire from the Pingel cable to each of the coil signal wires. We have found that the 1 white wire and 1 black wire are the signal wires, but consult the service manual for your motorcycle model to be certain you are connecting to the correct wires. You can use the blue quick tab connectors provided to make these connections but soldering them is preferred. Secure this cable and the cable run from the handlebar switch with the wire ties provided.

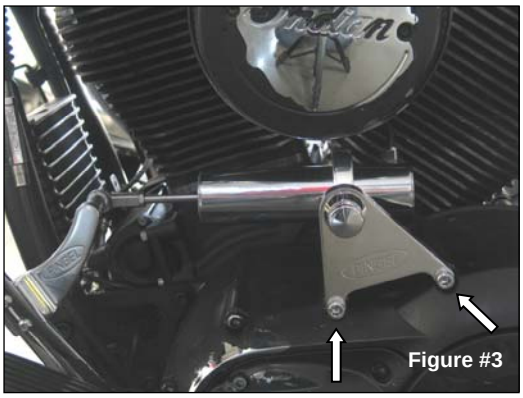
Figure #3

INSTALLATION OF SHIFT ARM BRACKET:

Remove the shift lever from the motorcycle. Place the Pingel shift lever bracket over the backside of the stock shift lever, as shown in **Figure 5**. Be certain to slide the bracket up tight so the pocket on the Pingel shift lever bracket is against the shift lever. Use a 1/4" drill to make one small point mark on the back of the stock shift lever, as shown in **Figure 5**.

Using the top back of a vise, anvil or other stable surface, center punch the one small point marked on the backside of the stock shift lever. Use a 1/4" drill bit and drill the one point that was center punched, as shown in **Figure 6.**

Bolt the Pingel shift lever bracket onto the stock shift lever using the ¼-20 x 1 1/2" bhscs in the top hole and ¼-20 x 1 1/4" bhscs in the bottom hole, securing it with the ¼-20 locknuts. Reassemble the shift lever onto the motorcycle.

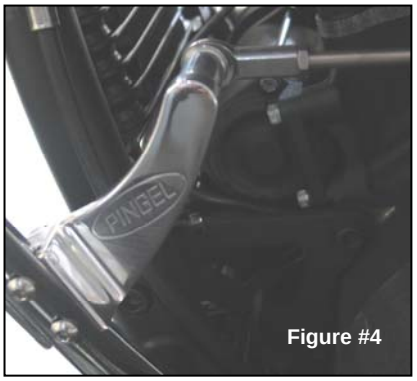

Figure #4

INSTALLATION OF THE ELECTRIC SHIFT CYLINDER AND UP/DOWN ADJUSTMENT:

Remove the two top bolts on the primary cover, see figure #3. Install the electric shift cylinder support bracket to the primary cover by applying thread locker to and inserting the two M10-1.5 x 85mm shcs, through the front hole of the bracket and into the primary cover. Tighten both screws securely. **See figure #3**.

Install the electric shift cylinder onto the shift cylinder support bracket using the Pingel® clamp and (2) ¼-20 x ¾" shcs. Leave these bolts loose for now, as adjustment will be needed next. Note: The next procedure may require two people. Pull and hold the shift lever to the full up shift position and while holding the rod end in its most inward position move the shift cylinder in the clamp until the hole in the rod end aligns with the hole in the shift arm bracket, then tighten the two bolts of the Pingel clamp. Note: You may need to roll the motorcycle back and forth to be certain that it is fully in gear.


Figure #5

ADJUSTMENT OF THE ELECTRIC SHIFT CYLINDER FOR NO SHAFT BIND: To adjust the shift cylinder shaft and rod end for no side bind you must retract the rod end and shaft all the way into the shift cylinder and hold in place. Now move the shift peg so the Pingel shift lever bracket rod end hole lines up with the hole in the rod end. Making sure the flat of the rod end is parallel with the flat on the Pingel shift lever bracket, without putting left or right pressure (as viewed from above) on the rod end gauge the gap between the two to determine the correct amount of washer(s) and/or spacer provided. Once this is established apply thread locker to the ¼-20 x 7/8" bhscs and install it through the rod end of the shift cylinder, the ¼" washer(s) and/or spacer and into the Pingel shift lever bracket on the shift lever, See **Figure #4**. This step is important because if there is any bind in the linkage system the shifter will not work correctly.

ROUTING SHIFT CYLINDER CABLE:
Route the electric cable from the shift cylinder to the control module located in the rear opening underneath the seat. 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.

COMPLETING INSTALLATION:
Your Electric Speed Shifter Kit installation should now be complete. Reconnect the negative battery cable and the shifter ground 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 clutch and check shifter movement by pushing either button on the handlebar control. It will only be necessary to use the clutch when starting, stopping and finding neutral. Upshifting and downshifting will not require the use of the clutch. The operator may use the clutch and foot shifter manually without harm to any components.

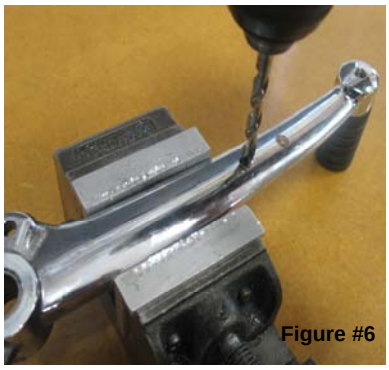
Figure #6

TESTING ENGINE KILL MODULE:
Unplug the electric shift cylinder from the control module. Take note of the positions of the dipswitches on the electronic engine kill module. Position all three of the dipswitches to the off position. Pull in the clutch lever (hold it in until the end of the test), start the motorcycle and put it into neutral. Arm the system by holding one of the buttons for five seconds as explained in the previous instructions. Rev the engine to approximately 1500-2000 rpm and hold it there, push either button and listen for the engine to miss as one of the buttons is pushed. If the miss is not present, your kill is not correctly installed. Recheck your connections, making certain all wires are properly connected per the wiring instructions. Reconnect the shift cylinder to the control module after verifying the kill module is working properly. Return the dipswitches on the kill module to the position noted before the test was started.

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). Also, check that one of the pins has not moved off to the side of their respective sockets when pushing the plug together.

ADJUSTING KILL TIME AND ADJUSTING CYLINDER:
The factory preset kill time may not be correct for every application. Kill adjustment is set by moving the dipswitches on the electronic engine kill module to the desired time on the chart.

If a more aggressive shift is desired, you can go shorter one setting at a time until the shift is missed, then back to the last setting that allowed the motorcycle to shift. If you desire a more low performance, smoother shift or if the motorcycle goes into a false neutral or stays in the same gear, you can adjust the kill time by going longer one setting at a time until the desired shift is achieved.

The preset kill time should be acceptable for most street riding conditions.

For performance riding or racing it may require a shorter kill time setting then the preset time.

If shifting up or down is not achieved, you may need to adjust the up/down positioning of the cylinder and/or readjust the cylinder for no bind as explained earlier in the instructions.

After fine adjustment has been 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 of the shift cylinder location.

Helpful Operating Tips:
Here is an example of what we found works for us: **when upshifting at whatever your shift point RPM is (2000 – 6500) do not drop the RPM to make a shift happen, this will not help. This is the most common mistake people make. RPM must be kept up or increasing to make a shift happen.** When traveling at lower speeds, twist the throttle on slightly when hitting the shift button, to make a smoother shift.

When downshifting, if you keep the rpm's between 1400-2000 you may be able to downshift without wicking the throttle, just a push of the button. If not, a slight crack of the throttle helps to smoothly go into lower gears. Our testing team has found that

downshifting works best when shifting just under the following mph: 4th gear at 40mph, 3rd gear at 30mph, 2nd gear at 20mph and 1st gear at 10mph. **Note:** Downshifting on a corner while leaning the bike may cause loss of control.

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 Shifter Kit still maintains OEM Shifting.

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

Thank you for purchasing a Pingel Enterprise, Inc. product.

Items included: 2014-2016 Indian Chief

1 - Electric shift cylinder support bracket with cylinder clamp (threaded)

1 - Cylinder clamp (thru-holes)

1 – Shift Arm Bracket

1 - Fused wiring harness

1 - 7/8" handlebar dual button control assembly

1 - Control module

2 - M10-1.5 x 85mm SHCS

1 - ¼-20 x 1 1/4" BHSCS

1 - ¼-20 x 1 1/2" BHSCS

1 - ¼-20 x 1" BHSCS

2 - ¼-20 locknuts

4- ¼" washers

1 - Electric shift cylinder

2 - Ring terminals

3 - Blue quick tab connector

10 - 5½" wire ties

1 - Torque-thread locker

1 - Extra 40-amp fuse

1 - Electronic engine kill module

1 - Electronic engine kill module wire leads

1 - Pingel shift arm bracket assembly

Dear Valued Customer,

Pingel Enterprise, Inc. would like to take this opportunity to thank you for purchasing one of our Electric Speed Shifter 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.
We are also requesting photos of your installation. Your photos may be selected for publication in the Pingel catalog or at www.pingelonline.com. Photos may be submitted by emailing them to info@pingelonline.com. When submitting a photo, please include the motorcycle model and year.

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.

THANK YOU for purchasing a PINGEL ENTERPRISE, INC., product. View our entire product line at www.pingelonline.com