

Installation Instructions for FC2 Forward Controls for the Magna 1100

It is highly recommended that you use a thread lock compound such as Loctite brand on all threads to keep them from vibrating loose.

Please read these instructions **entirely before** starting.

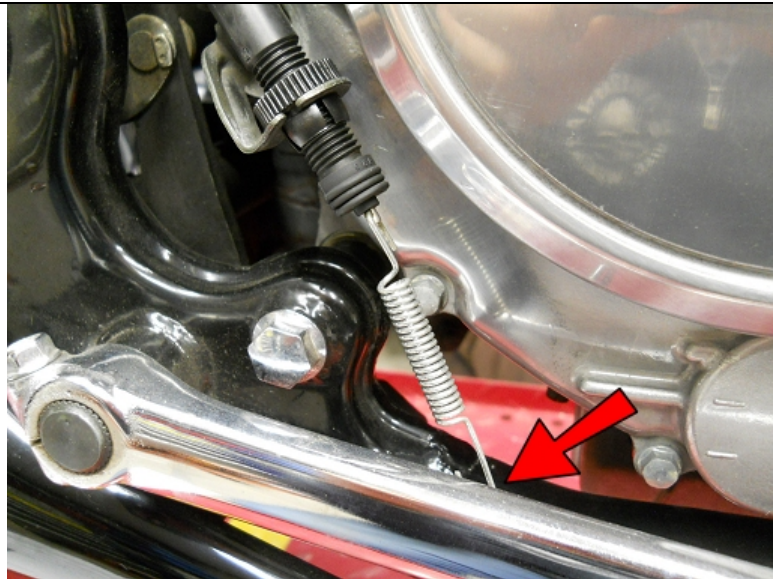
This picture shows the components of the FC2 kit. Parts will be referred to by the names & numbers shown here. If you are missing anything please email RefinedCycle@gmail.com.



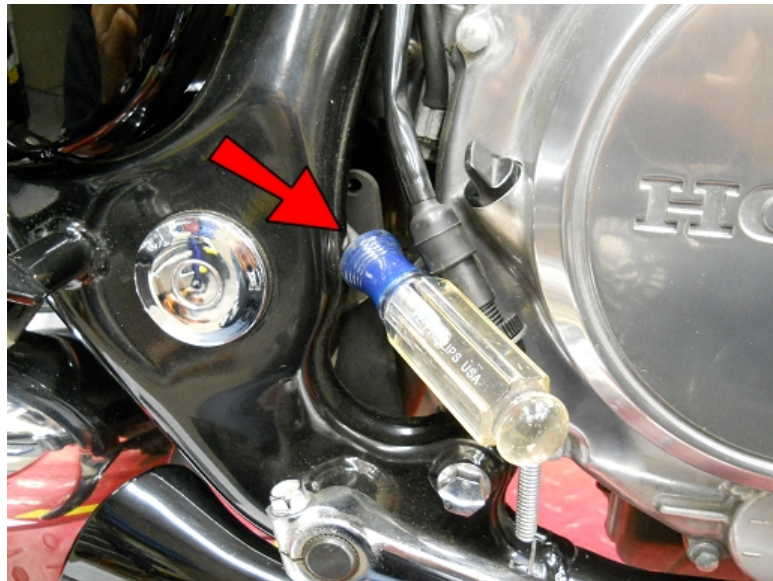
Components List

1- M8-1.25 x 60mm Bolt	19- 1.5" Spacer
2- 3/8-16x2" Button Head Bolt (qty. 2)	20- M6 Spherical Rod End
3- M8-1.25 x 30mm Bolt (qty. 3)	21- Brake Side Plate
4- M6 Acorn Nut	22- Shifter Side Plate
5- 3/8" Nut (qty. 2)	23- Shifter Pedal
6- 3/8" Zinc Washer (qty. 2)	24- Brake Pedal
7- #6 Set Screw (qty. 4)	25- Toe Peg (qty. 2)
8- Nylon Washer (qty. 2)	26- V65 Extension
9- 5/16" Zinc Washer (qty. 2)	27- Brake Switch Mount
10- 5/16" Nut (qty. 2)	28- 3.6" Spacer
11- M10 Nut (qty. 2)	29- 2.8" Spacer
12- M10-1.5 x 170mm Bolt (qty. 2)	30- Shifter Linkage
13- Cotter Pin (qty. 2)	31- Brake Linkage
14- Brake Arm	32- #8-32x1/2" Screw
15- Clevis Pin (qty. 2)	33- #8-32 Nut
16- M6-1.0x25 Bolt	
17- SLV1 (qty. 2)	
18- 5/8" x 1/2" Bronze OR Steel Sleeve (qty. 2)	

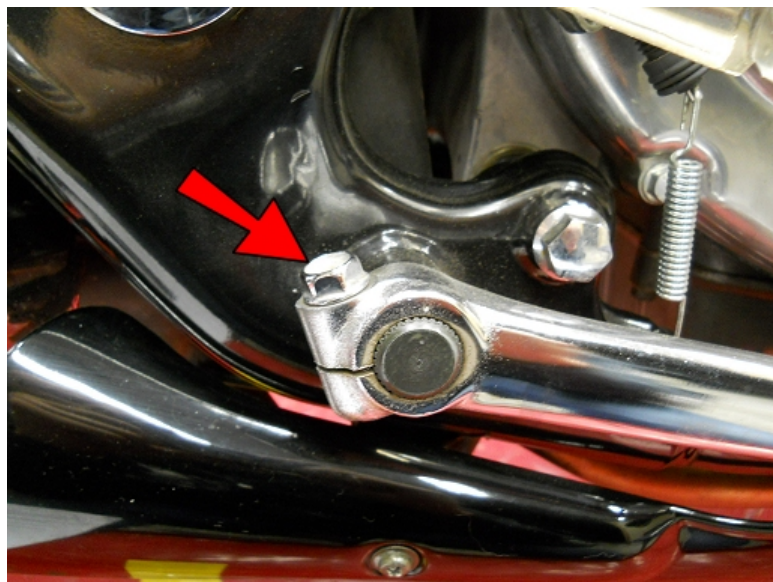
Note: Left & Right Plates will vary in appearance depending on your kit.



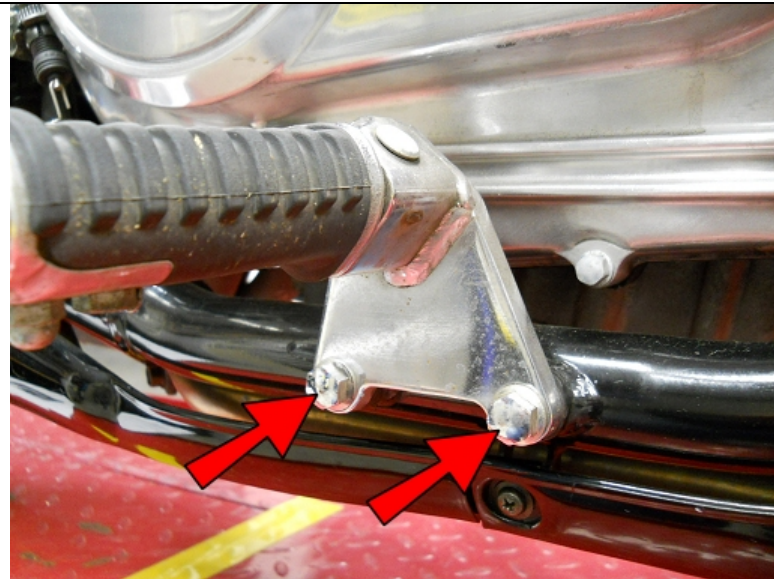
Unhook the brake switch spring from the stock brake pedal.



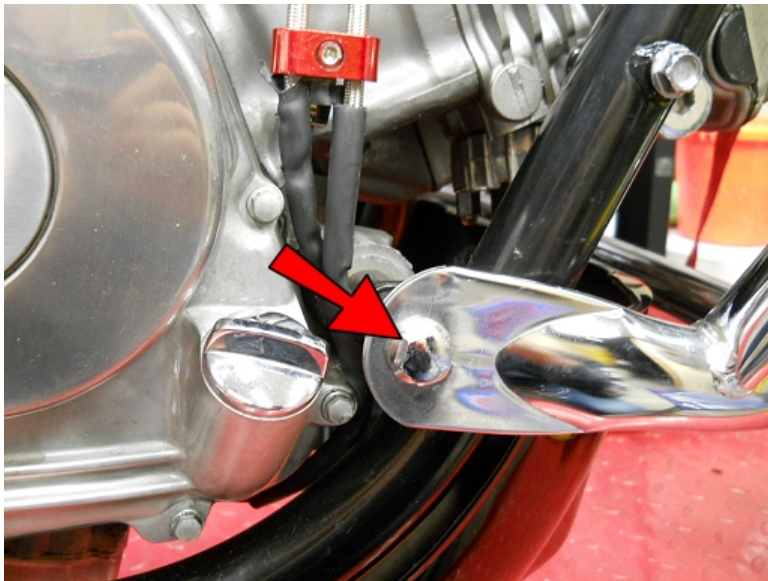
Press the brake pedal down, then place a large screwdriver behind the middle brake arm to keep it forward as shown.



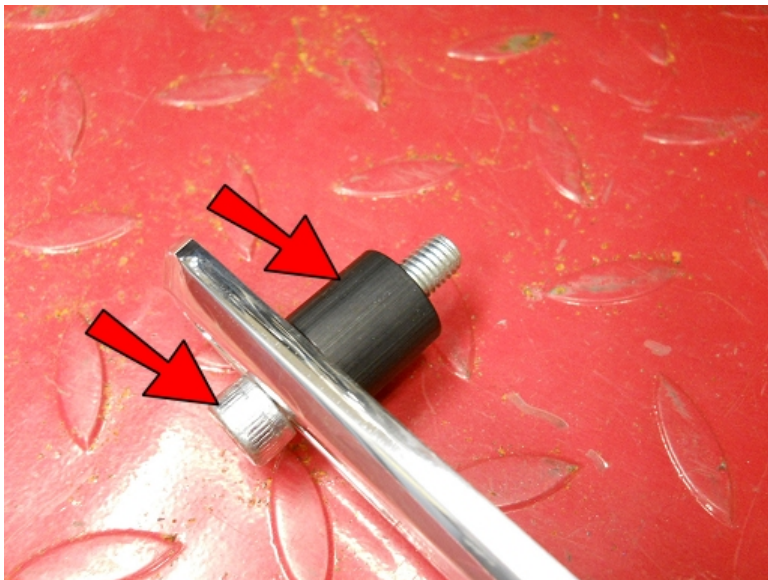
Remove the bolt at the back of the brake pedal and gently wiggle the brake pedal to remove it from the brake spline.



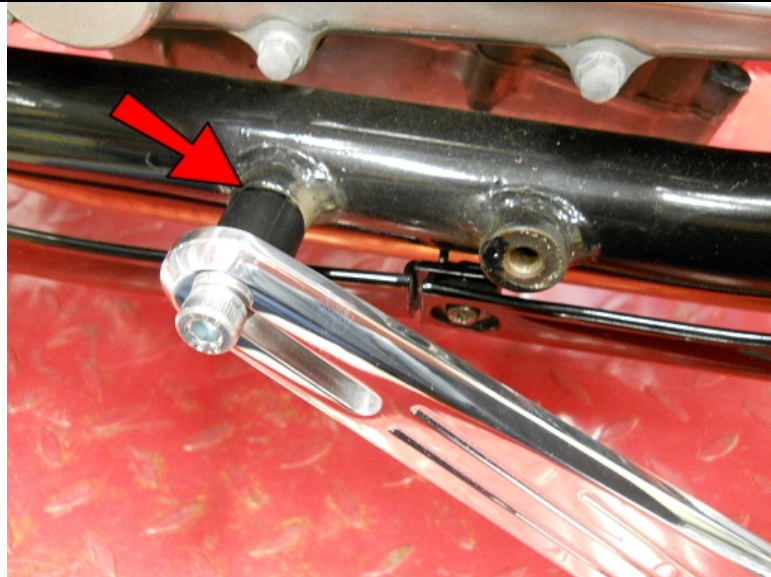
Remove these 2 bolts.



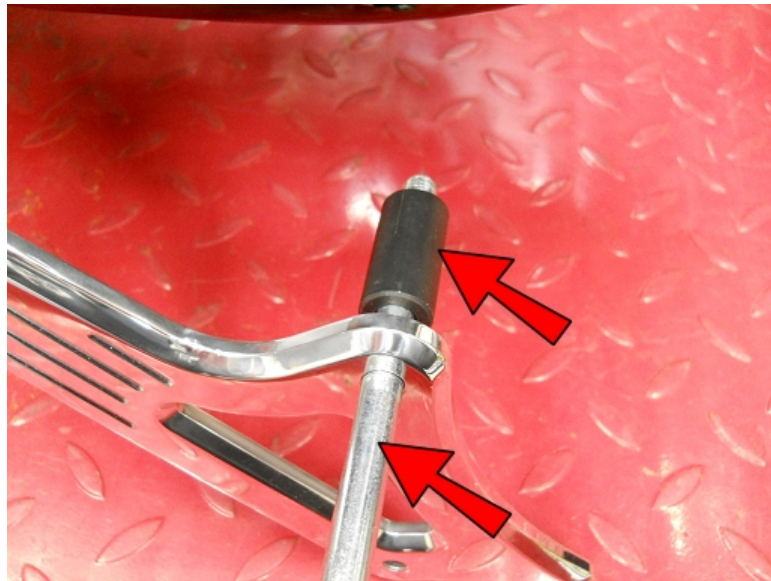
Remove this motor mount bolt and IF you have a case guard as shown here remove it entirely. You will not be able to use it with forward controls.



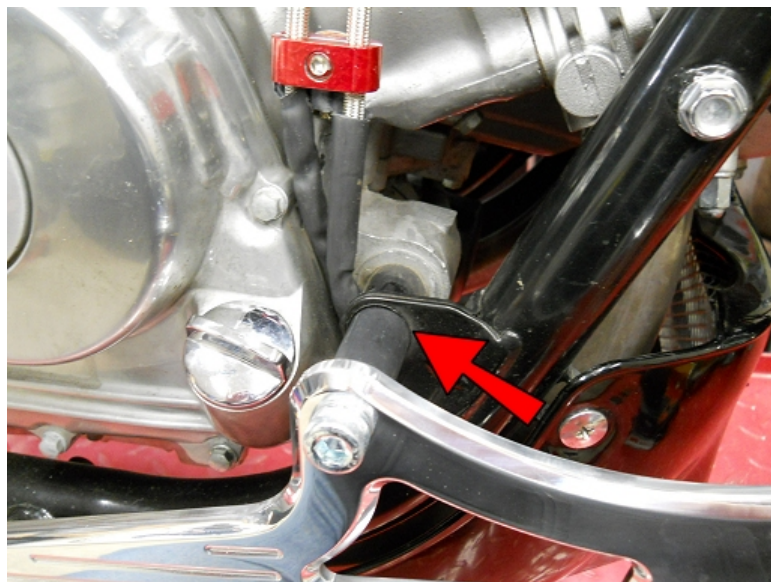
Insert an M8-1.25 x 60mm bolt into the rear slot of the Brake Side Plate then place a 1.5" Spacer on the bolt.



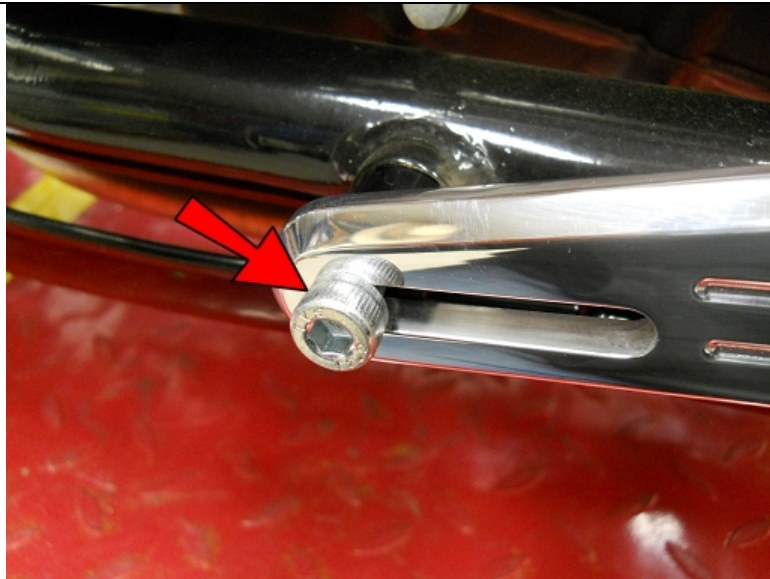
Thread the bolt half way into the rear foot peg mount hole.



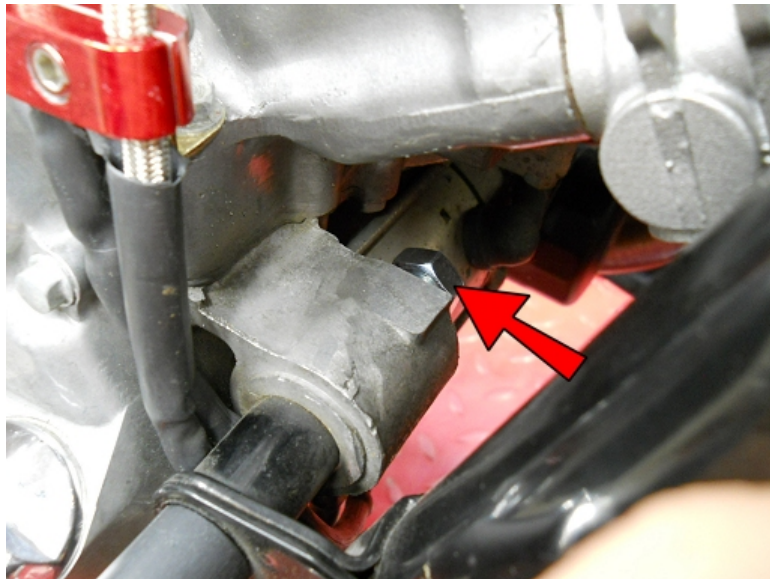
Insert an M10-1.5 x 170mm Bolt into the top hole of the Plate then place a 2.8" Spacer on the bolt.



Insert the M10 Bolt into the motor mount hole. If the motor has shifted any, it may help to gently tap the bolt into the hole with a hammer.



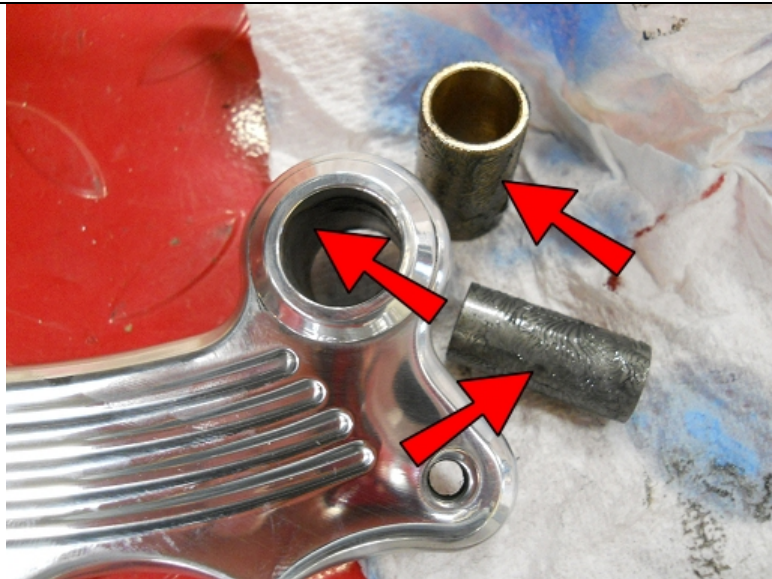
Go back and completely tighten the M8 bolt.



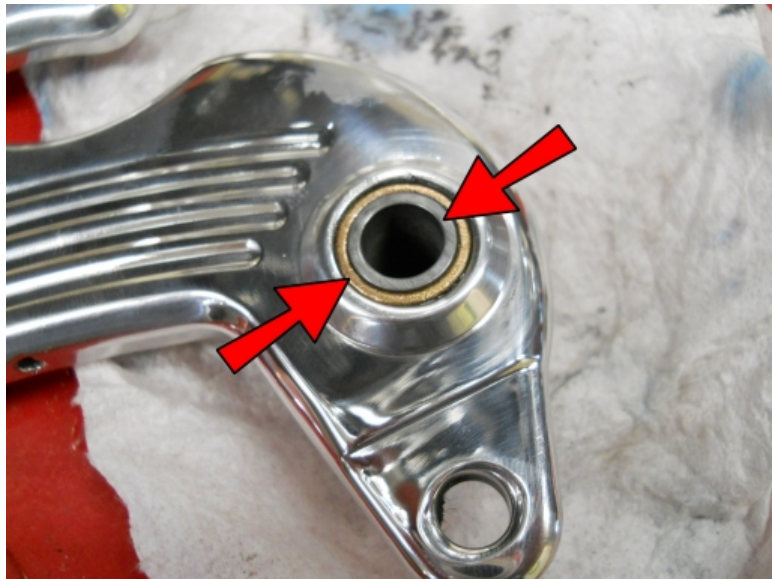
Now secure the M10 Bolt with a 3/8" Zinc Washer and an M10 Nut on the back side of the motor mount.



The inside of the Brake and Shifter Pedals will likely have some polishing compound residue. Use a cloth or paper towel and make sure the inside is ABSOLUTELY clean. This can affect how well your Pedals will rotate.



Apply grease to the inside of the hub of both Pedals, the outside surface of the SLV1's and the inside and outside of the 5/8x1/2 Bronze Sleeves.



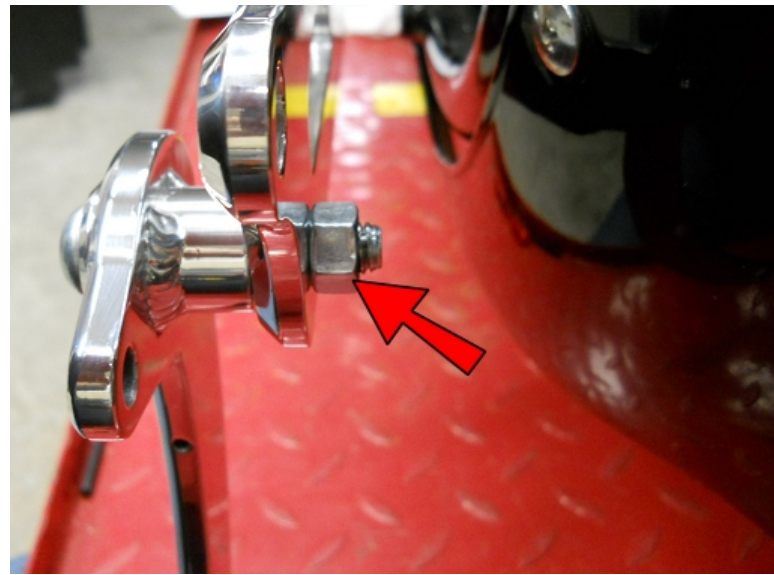
Place a SLV1 into the 5/8x1/2 Bronze Sleeves and insert them into the Brake and Shifter Pedals.



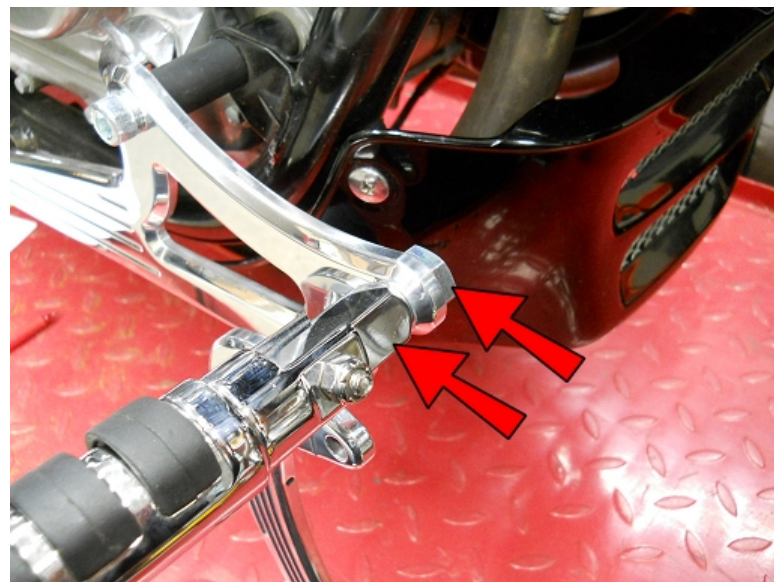
Insert a 3/8-16x2" Button Head Bolt into the Brake Pedal.



Connect the Brake Pedal assembly to the Plate.



Secure with a 3/8" Nut.



Attach a Foot Peg and Secure with included bolt.



Thread a #8-32 Nut onto a #8-32x1/2" Screw.



Thread the Screw into the hole in the Brake Pedal.



Orient the Brake linkage with the small spring hole toward the rear and attach it to the brake pedal by inserting the clevis pin first into the linkage, then into a Nylon washer, then into the brake pedal, then into a 5/16 zinc washer and secure with a Cotter pin.



Start the 4 Set screws into the Brake arm and assure they do not protrude through the other side into the large hole.



Hold the brake arm firmly and insert a large flat head screw driver into the end and carefully tap the handle of the screwdriver on a hard surface to spread the spline opening apart. The goal here is to spread the hole just far enough apart to easily slide the brake arm onto the brake spline. Note: This can be easy OR the most frustrating part of the install if the hole is not spread apart enough, (but only just enough, not too much).



For the next steps below, you may find it helpful to place a large screwdriver behind the frame and use the edge of the motor as a pry point, to put pressure on the back side of the middle brake arm to keep it from sliding in as you install our Brake Arm.



1. Place the Brake Arm all of the way on the spline.

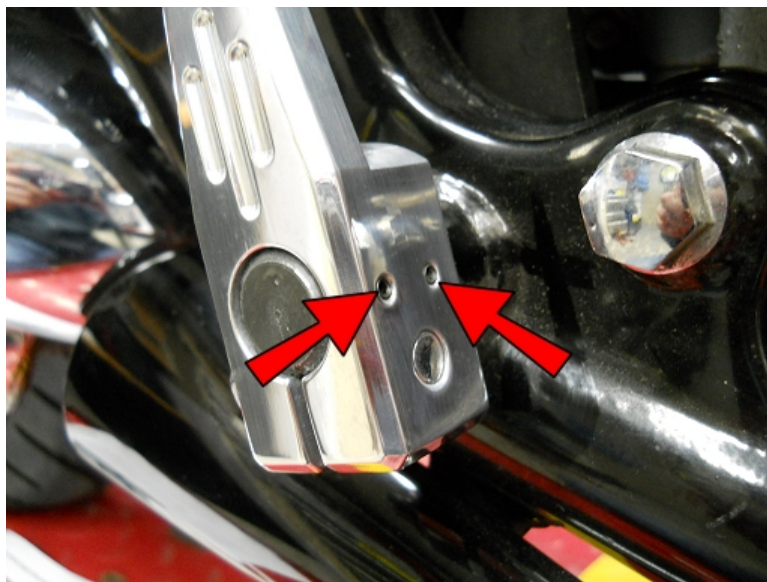
2. Hold the Brake Pedal up as far counter-clockwise as it will go so it rests against the foot peg.

3. With the hole still pried apart it should be pretty easy to rotate the Brake Arm to match up the hole in the top with the linkage.

4. Remove the screwdriver or chisel from the Brake Arm..

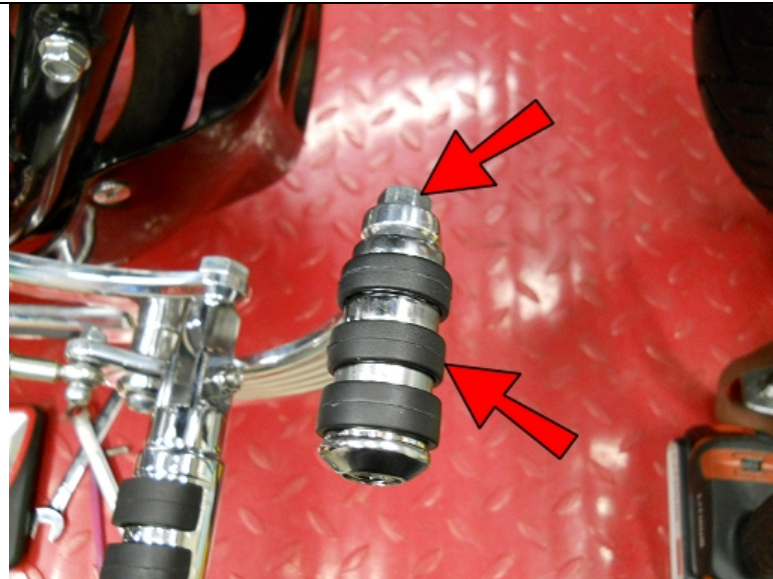
5. Attach the linkage to the brake pedal by inserting the clevis pin first into the linkage, then into a Nylon washer, then into the brake arm, then into a 5/16 zinc washer and secure with a Cotter pin.

6. Thread the bolt that came out of the stock brake pedal into the Brake Arm and tighten well. If the threads don't catch, tap the head of the bolt lightly to get it started.

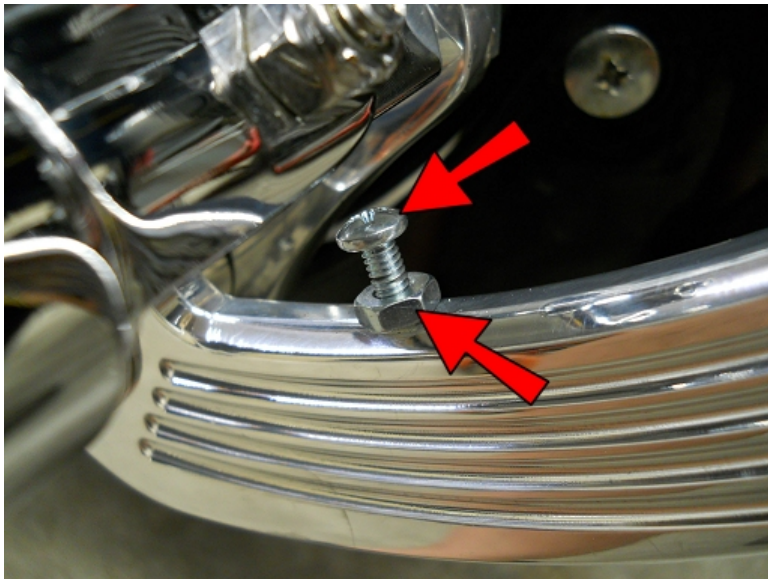


Tighten all 4 set screws in the Brake Arm AFTER tightening the bolt in the above step.

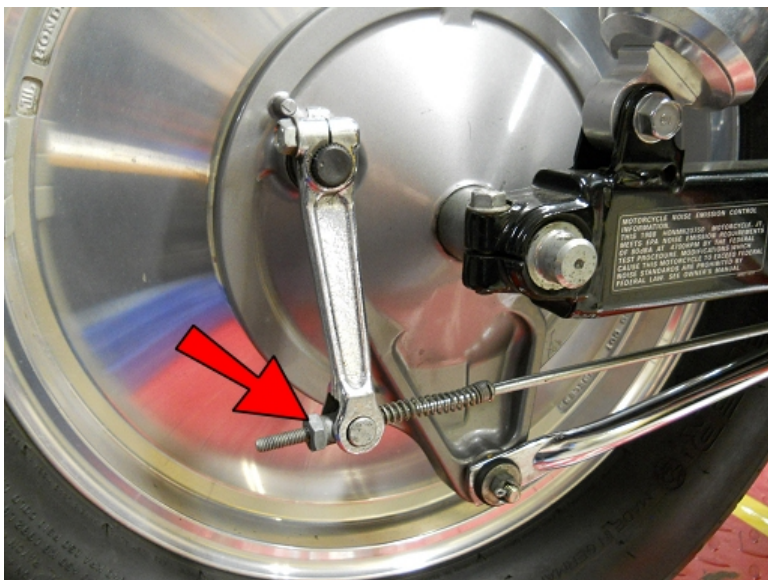
Push the Brake Pedal forward and remove the screwdriver holding the brake arm. The Brake Pedal should rest tightly against the foot peg clevis.



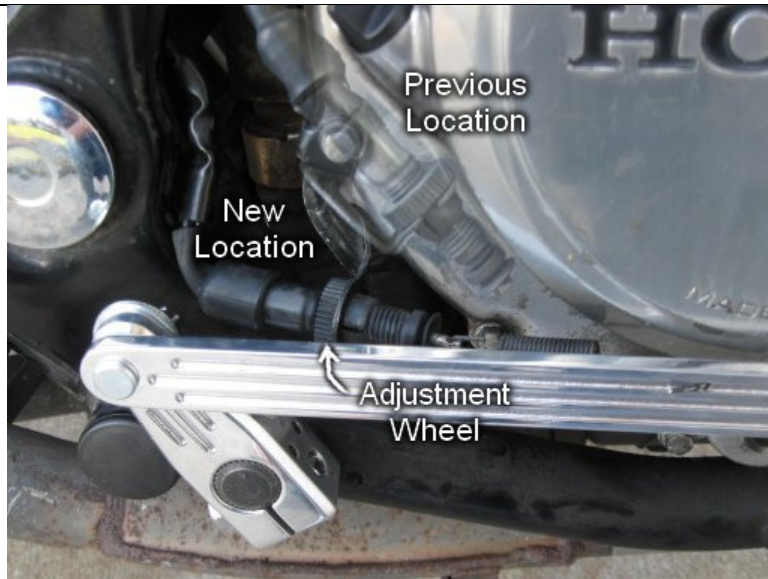
Install a Toe Peg and Secure with a 5/16" Nut.



If desired, adjust the angle of the Brake Pedal by unscrewing the #8 Screw, then tighten the Nut against the Brake Pedal to secure.



Adjust the brakes by going to the rear of the bike, and tighten or loosen the brake rod adjusting nut if needed. You want enough tension to allow a small, comfortable amount of movement to actuate the brake but do not over tighten, as this will keep the brakes from releasing fully.

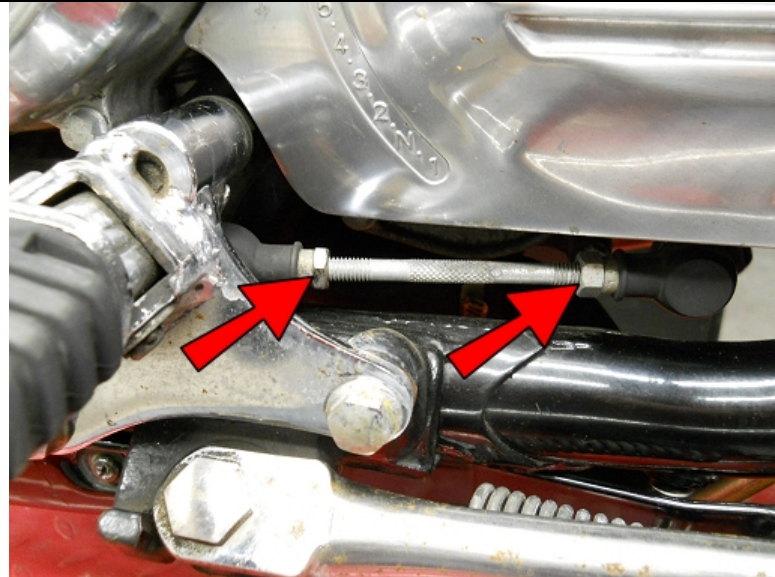


Remove the brake light switch by pressing in the plastic tabs on the adjustment wheel and gently pulling it out of the mount.

Remove the case bolt shown as "previous location" and remove the hose stay if it has one. Place that bolt into the small hole in the new Brake Switch Mount and insert your brake switch into the larger hole in the brake switch mount then replace this assembly into the case making sure to align in a straight line of movement for the spring. Note: This picture is from a V45 and will differ slightly.

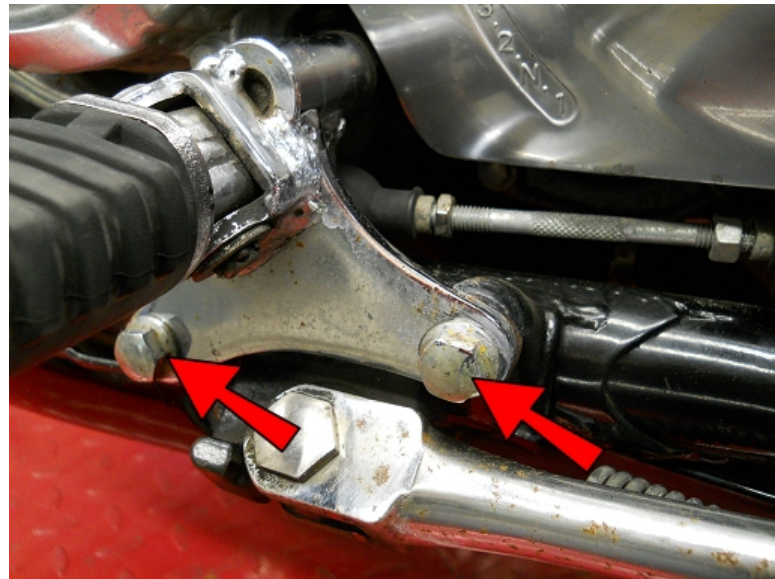


You will also need to bend the spring hook to allow it to fit into the hole on the brake linkage. If the spring tension is too tight, your brake light will be on all the time. If it is too loose, it will not come on when the brake is applied. If it is angled incorrectly it may stick. To test, turn your key on and observe your brake light while pressing and releasing the brake pedal a few times. If the brake light works as desired, no adjustment is necessary. If it stays on all the time, turn the adjustment wheel to loosen the spring tension on the brake light switch and retry. If it does not come on at all, tighten the tension on the brake light switch. If you need more slack in the wire open up the side cover and reroute the wire under the frame cross bar. If you have extra slack wire tie it in a safe place being careful to keep it away from hot or moving parts. With a little trial and error you will find the right position.

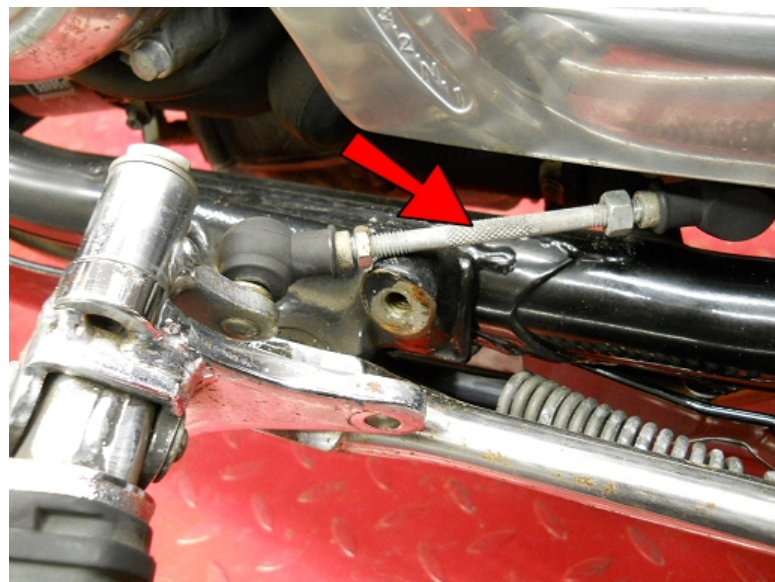


Shifter Side...

Loosen these nuts. The rear nut is a left hand thread.



Remove these bolts.



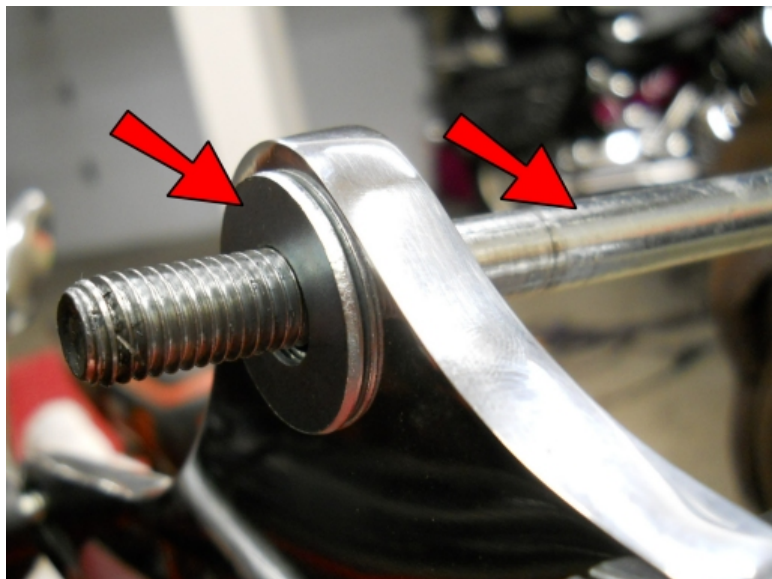
Rotate the linkage rod to unscrew from both ends.



Remove this motor mount bolt and nut.



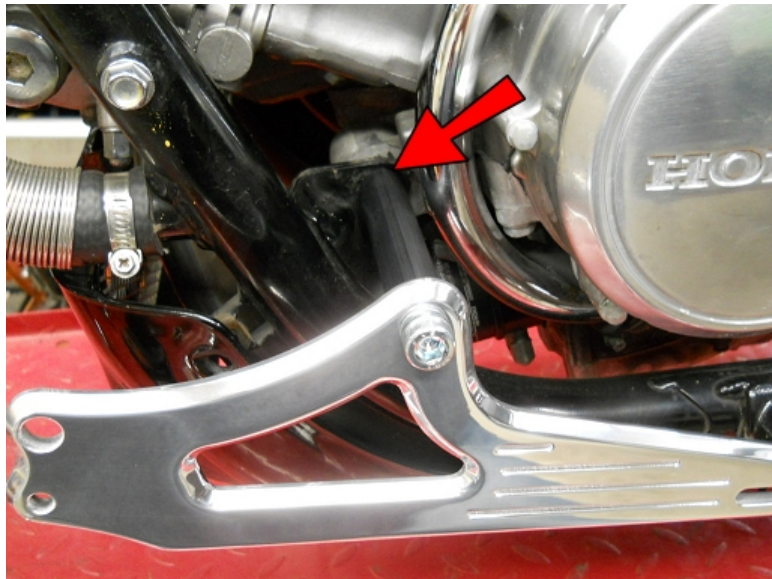
Insert two M8-1.25 x 30mm bolts into the slot at the rear of the Shifter side plate and thread them half way into the two threaded holes of the V65 Extension with the other hole toward the rear. Insert the other M8-1.25 x 30mm bolt into the V65 Extension and thread into the front stock foot peg mount hole.



Insert an M10-1.5 x 170mm Bolt into the top hole of the Shifter Side Plate then place a 3/8" Zinc Washer onto the bolt.



Slide a 3.6" Spacer onto the bolt.



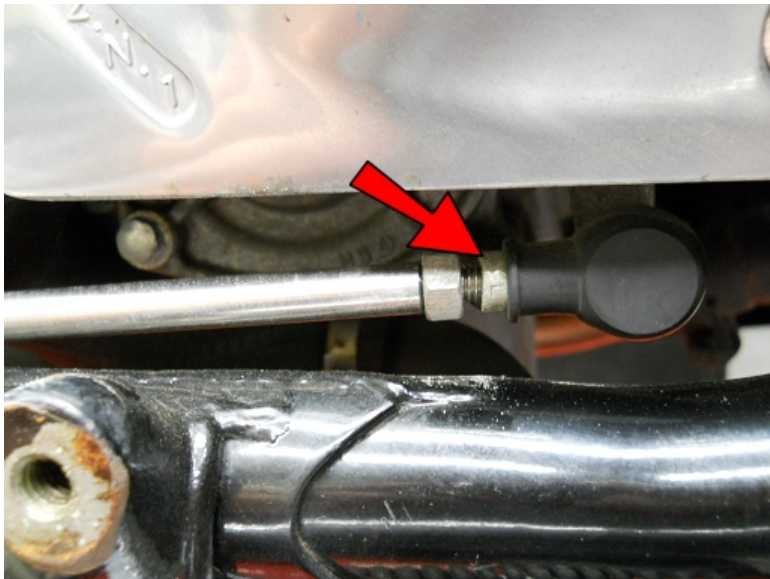
Insert into the motor mount hole and secure with an m10 Nut, then go back and tighten the 3 rear M8 Bolts.



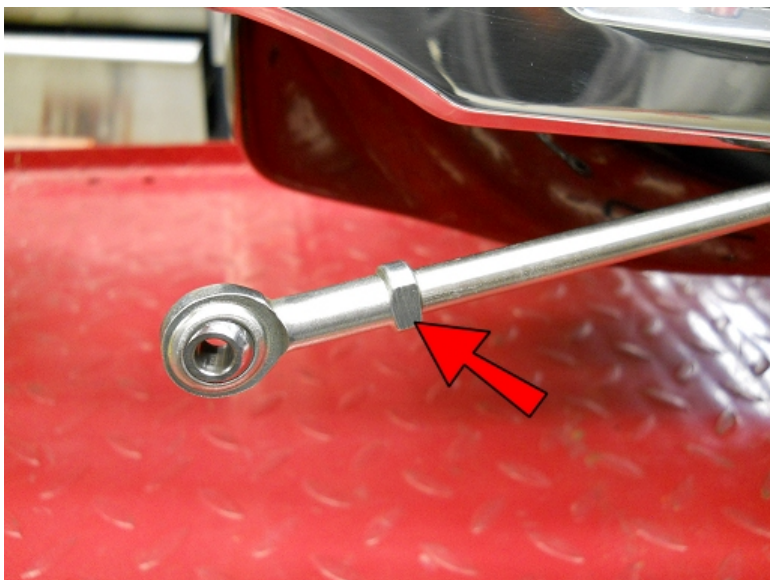
Remove the M6 Left Hand Nut from the linkage.



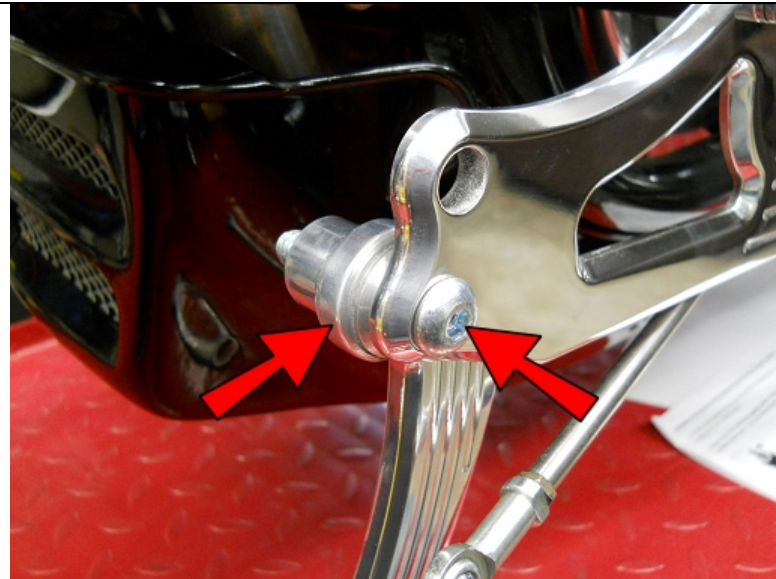
Thread that nut all the way onto the new Shifter Linkage on the Left Hand Threaded end.



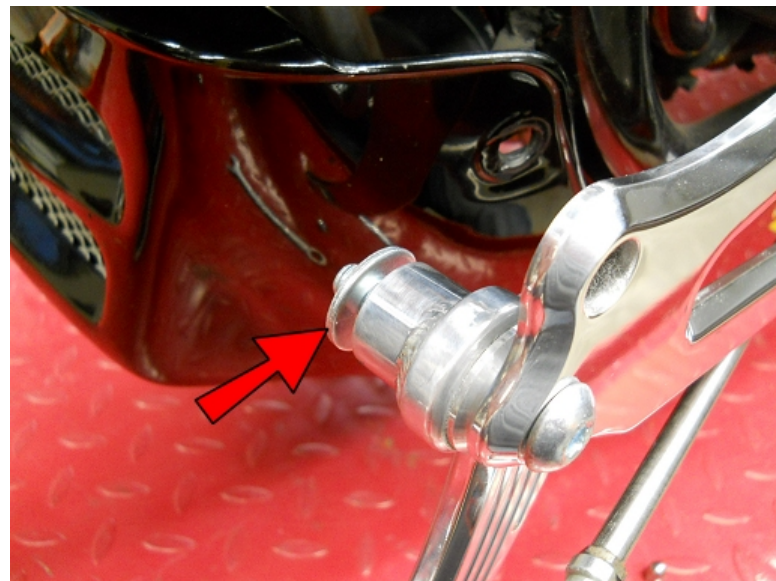
Thread that same end into the ball joint connected to the shifter arm.



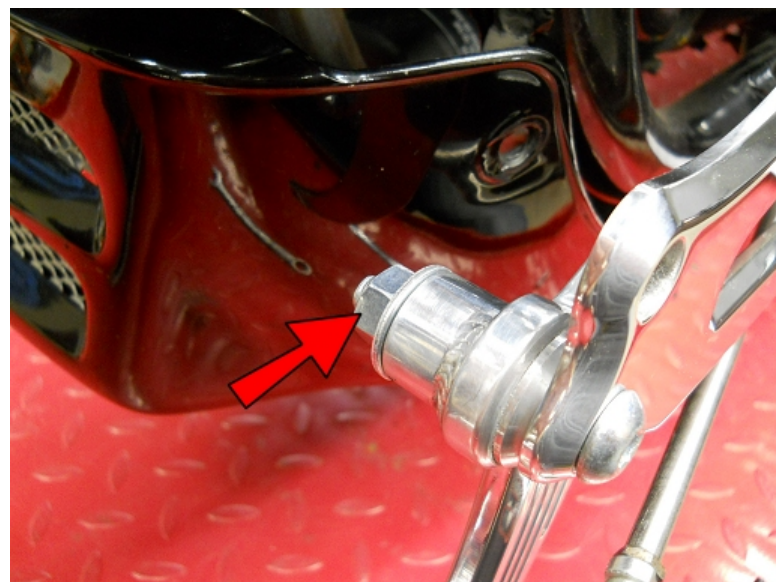
Thread an M6 Spherical Rod End all of the way onto the other end.



Insert a 3/8-16x2" Button Head Bolt here, then into the Shifter Pedal assembly.



Place a 5/16" Zinc Washer on the Bolt.



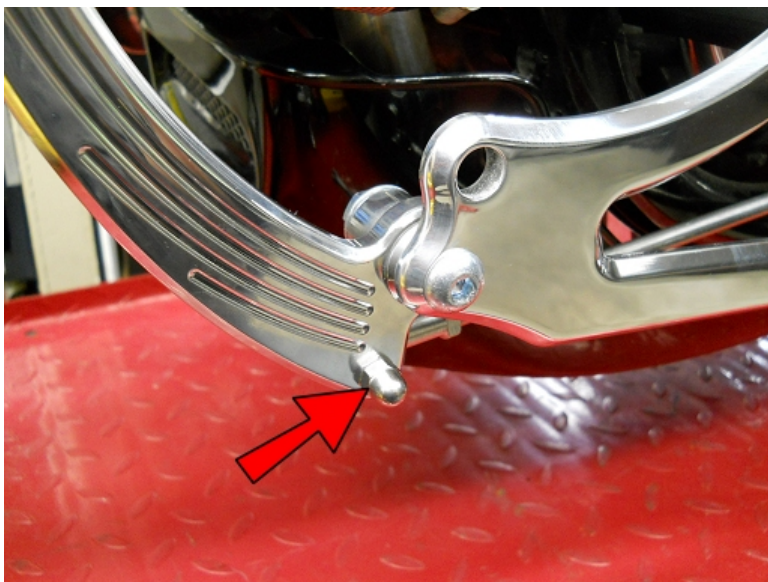
Secure with a 3/8" Nut.



Insert an M6-1.0x25 Bolt.



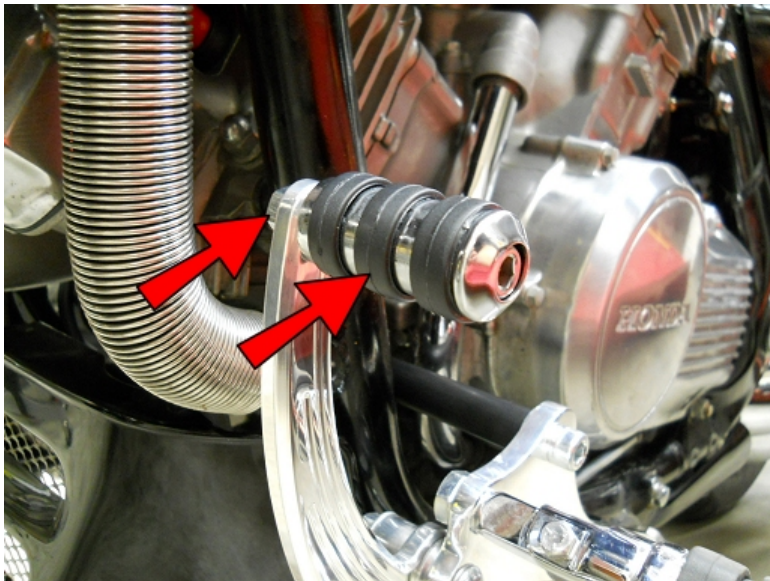
Connect the Linkage to the back of the Shifter Pedal.



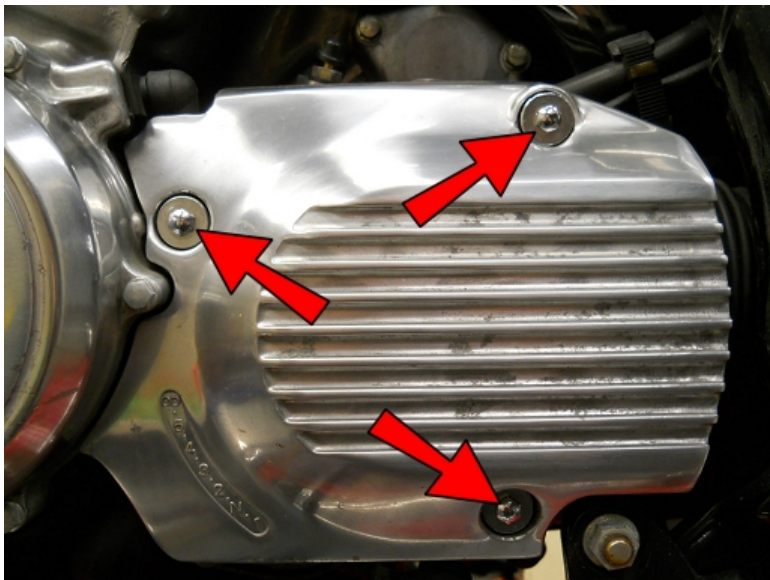
Secure with an M6 Acorn Nut.



Connect the Foot Peg.

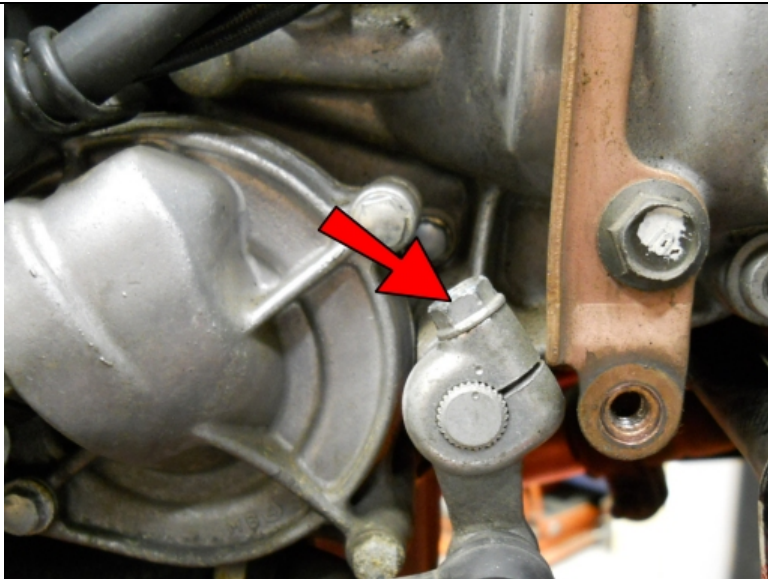


Connect the Toe Peg and secure with a 5/16 Nut.

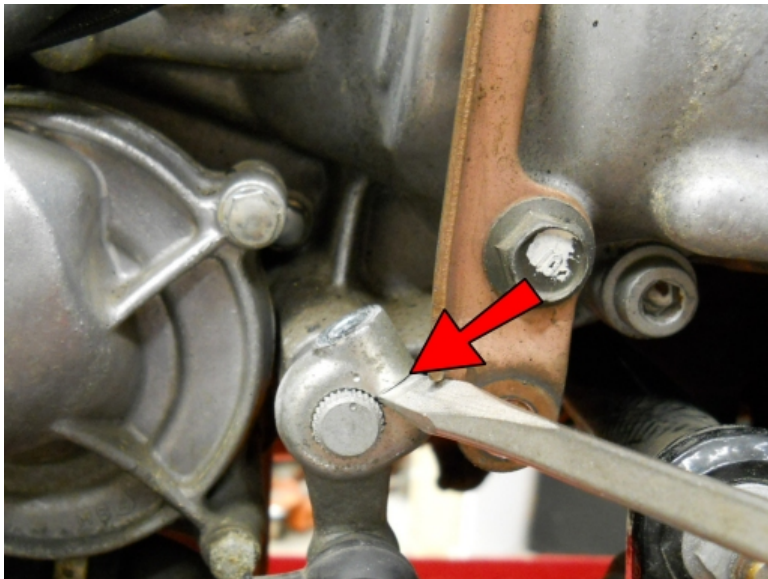


You may find the Shifter Pedal is at too high an angle. If so, follow these steps.

Remove these 3 bolts if your model has this cover.

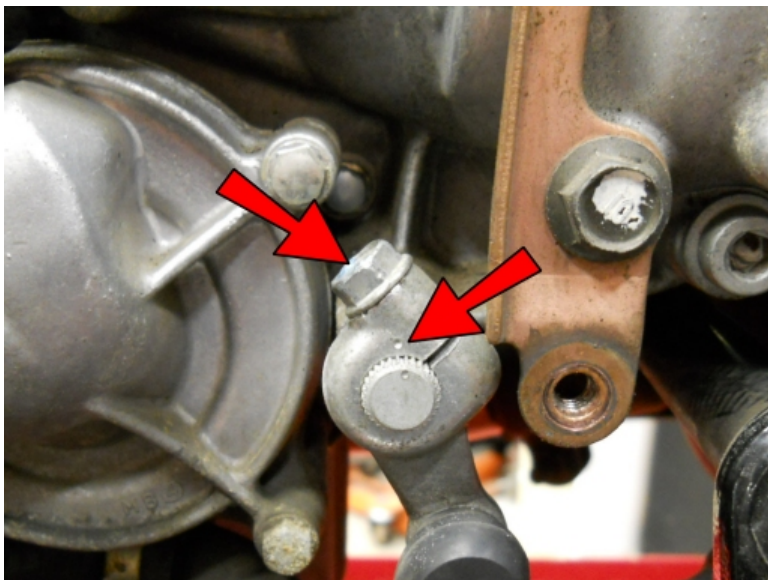


Remove this bolt from the shifter arm.



Using a screwdriver to help loosen the shifter arm, slide it carefully off of the spline, noting the position of the tiny alignment marks.

Rotate the shifter arm 1 notch counterclockwise then replace it onto the spline. Place the bolt back into the top and tighten. Replace cover.



If the shifter lever is in a comfortable position for both down and up shifting, tighten the nut at the end of the shifter linkage and you are done.

If the lever is too low or too high, you can make fine adjustments by rotating the linkage and then tighten the nut. Make sure enough of the rod is threaded into both ends to allow a secure connection.

That's it!

It is recommended that at this point you double check that ALL connections are tight and take the bike for a test ride and make any other adjustments necessary for the optimal position of your shifter and brake pedals.

Enjoy the ride!