

## Installation instructions for FC19 Forward Controls for Yamaha Star Raider 1900

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.

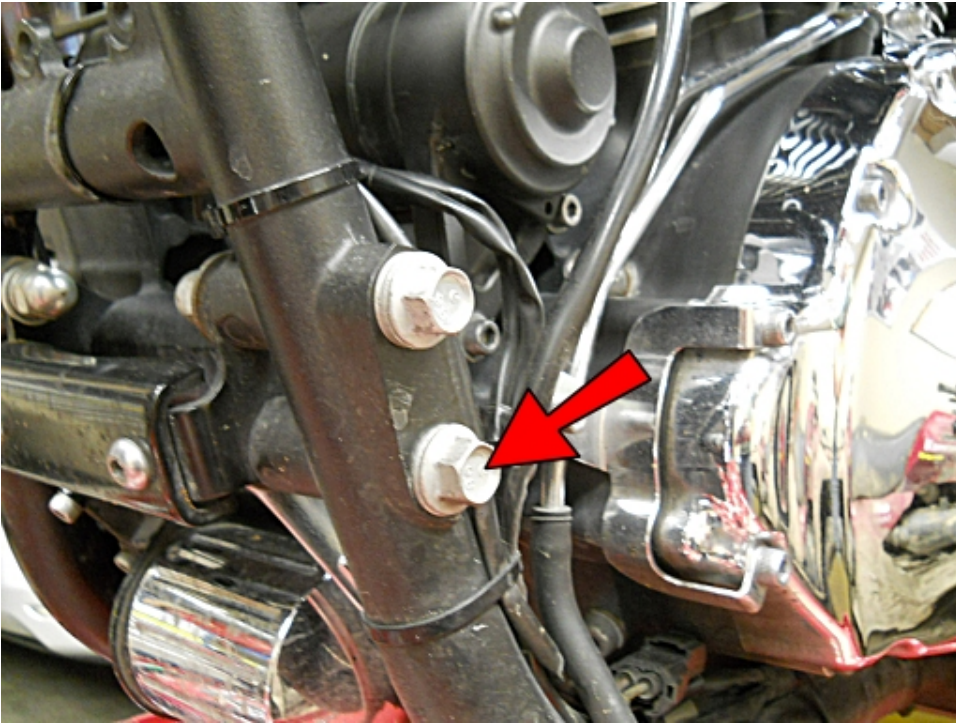
This picture shows the components of the FC19. Parts will be referred to by the names & numbers shown here. If you are missing anything please email [RefinedCycle@gmail.com](mailto:RefinedCycle@gmail.com).



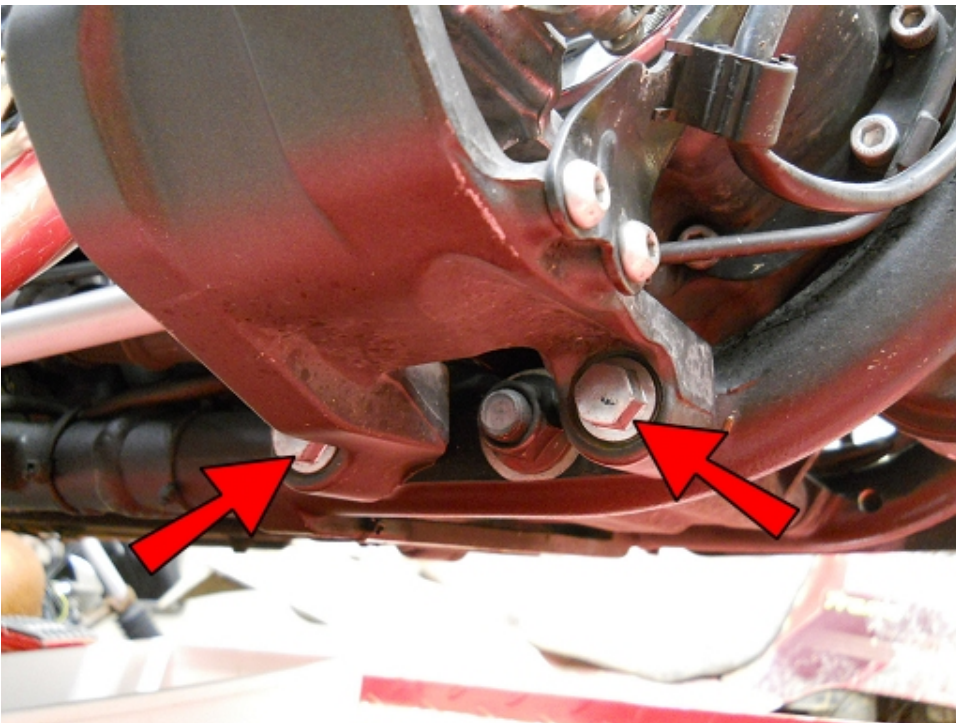
**FC19 Components**

1 - STOF10	22 - Right Control Plate
2 - ARM19	23 - 1.5" Spacer (qty. 4)
3 - STOF9	24 - 1" Spacer (qty. 4)
4 - 2.8" Spacer (qty. 2)	25 - 1/2" Spacer
5 - 3/8-16x2 BHCS (qty. 3)	26 - Shifter Pedal
6 - M8-1.25x30 SHCS	27 - Brake Pedal
7 - M6-1.0x18 Bolt	28 - Shifter Linkage
8 - SLV1 (qty. 3)	29 - Brake Switch Mount
9 - 1/2" Bronze OR Steel Sleeve (qty. 3)	30 - 3/8 Washer (qty. 6)
10 - M6-1.0x25 SHCS	31 - 5/16 Washer (qty. 5)
11 - M6-1.0x30 Bolt	32 - 1/4 Washer (qty. 6)
12 - M8-1.25x60 SHCS (qty. 6)	33 - M6 Washer (qty. 5)
13 - M10-1.25x70 SHCS	34 - M10 Nut (qty. 2)
14 - M10-1.25x100 SHCS	35 - 3/8 Nut (qty. 2)
15 - M10-1.25x170 SHCS (qty. 2)	36 - M8 Nut (qty. 6)
16 - Toe Peg (qty. 2)	37 - 5/16 Nut (qty. 2)
17 - M8 LH Male Spherical Rod End	38 - M6 Nut (qty. 3)
18 - M6 Spherical Rod End (qty. 2)	39 - 3/8 Acorn Nut
19 - M6 Stud	40 - M8 Acorn Nut
20 - 3/64 Cotter Pin	41 - M6 Acorn Nut (qty. 3)
21 - Left Control Plate	42 - #8-32 Screw (qty. 2)

## Brake Side...

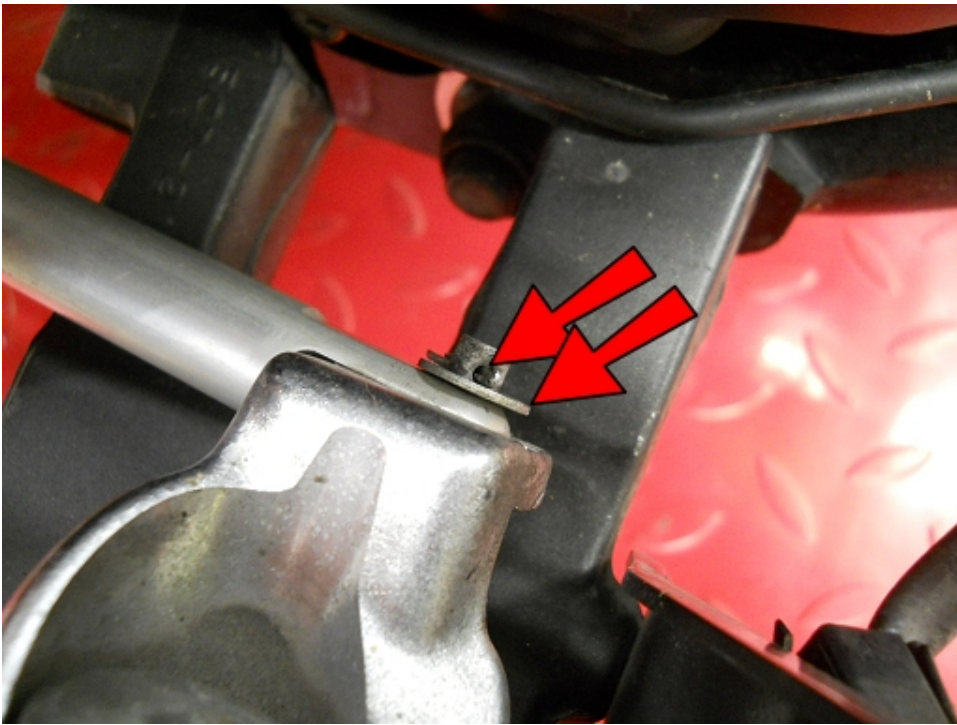


Remove this bottom bolt from both sides of the bike.



Remove these 2 bolts.





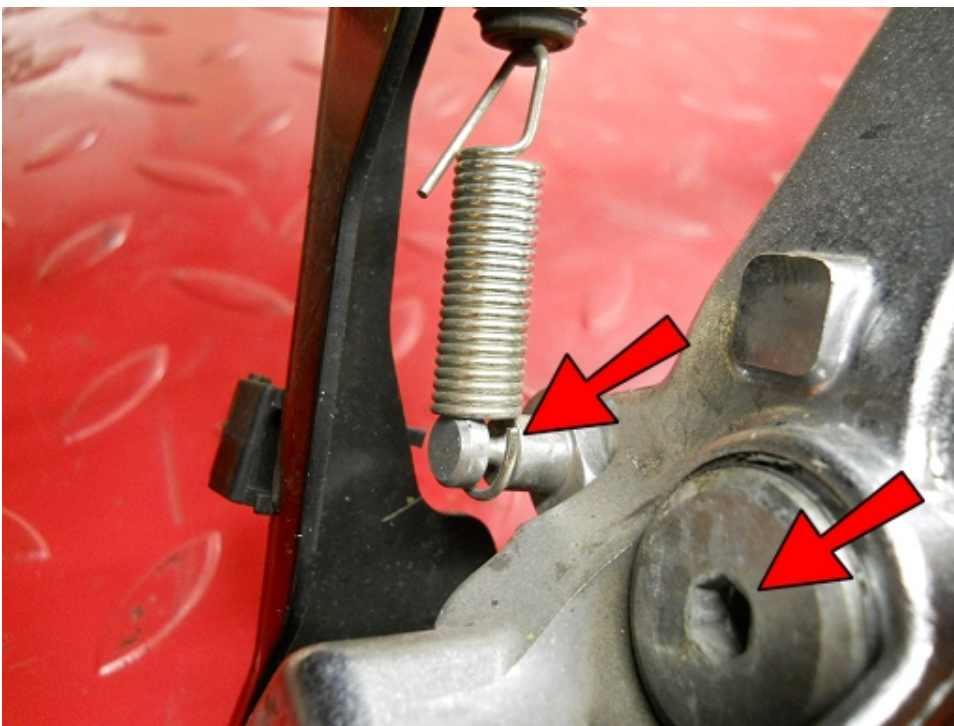
Remove this cotter pin and washer.



Remove the clevis pin holding the linkage.

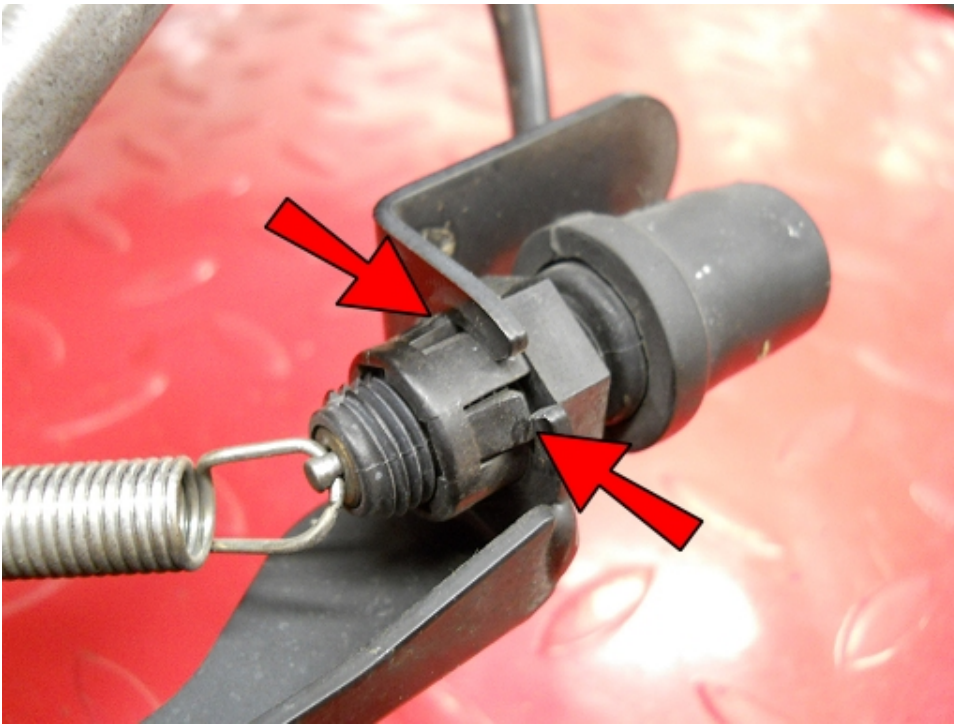


Use a small screwdriver to pry open this wire clip.



Remove this end of the spring, then remove the brake pedal bolt.





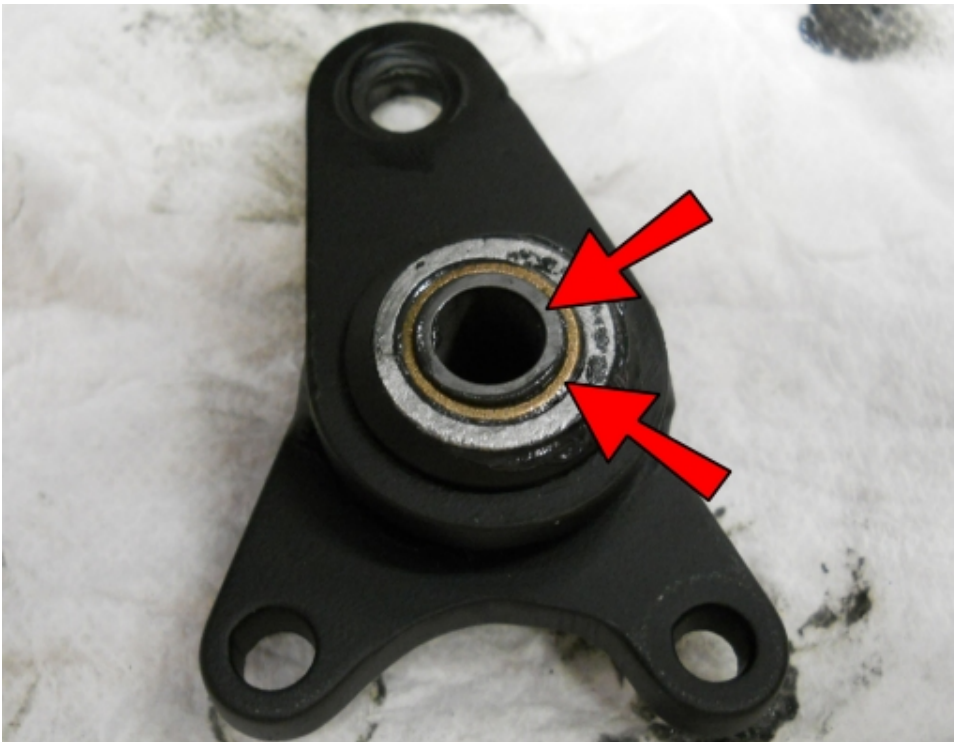
Use a small screwdriver to push in these plastic tabs to remove the brake switch from it's mount.



Attach the new Brake Switch Mount to the STOF10 with #8-32 Screws.

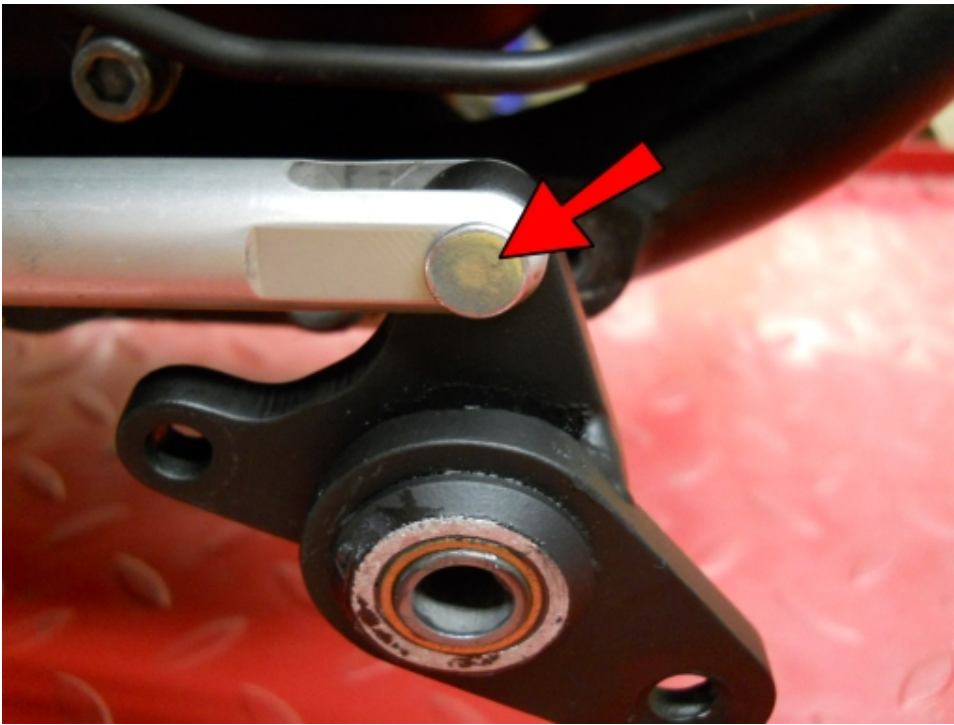


Make sure the inside of the ARM19 is clean and apply some axle grease to it and a SLV1 and a 1/2" Bronze Sleeve.

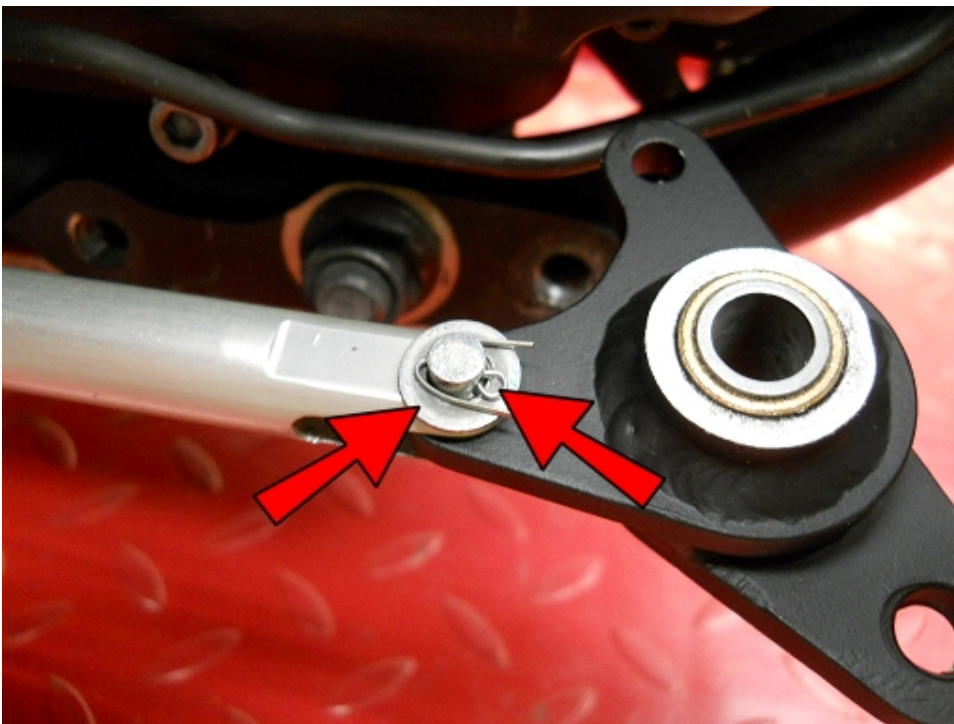


Insert the Sleeves into the ARM19.

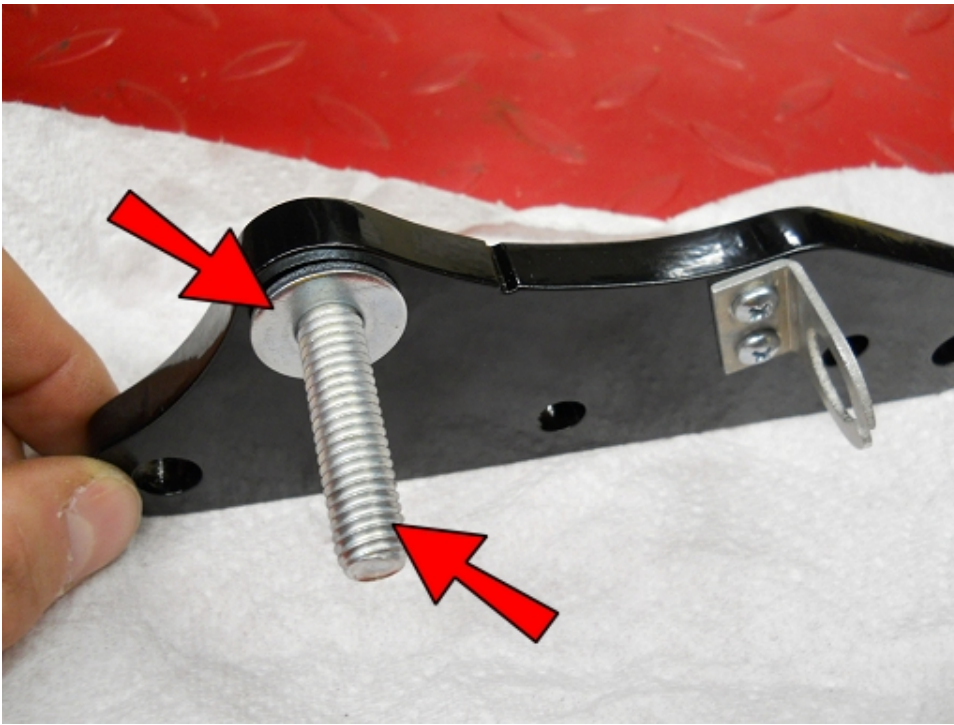




Insert the ARM19 into the brake linkage and re-insert the clevis pin previously removed. Note: If it is a tight fit, you can slightly pry the linkage apart so that it easily fits.



On the other side replace the washer previously removed and secure with a 3/64 Cotter Pin. Trim it off after bending it around the clevis pin.

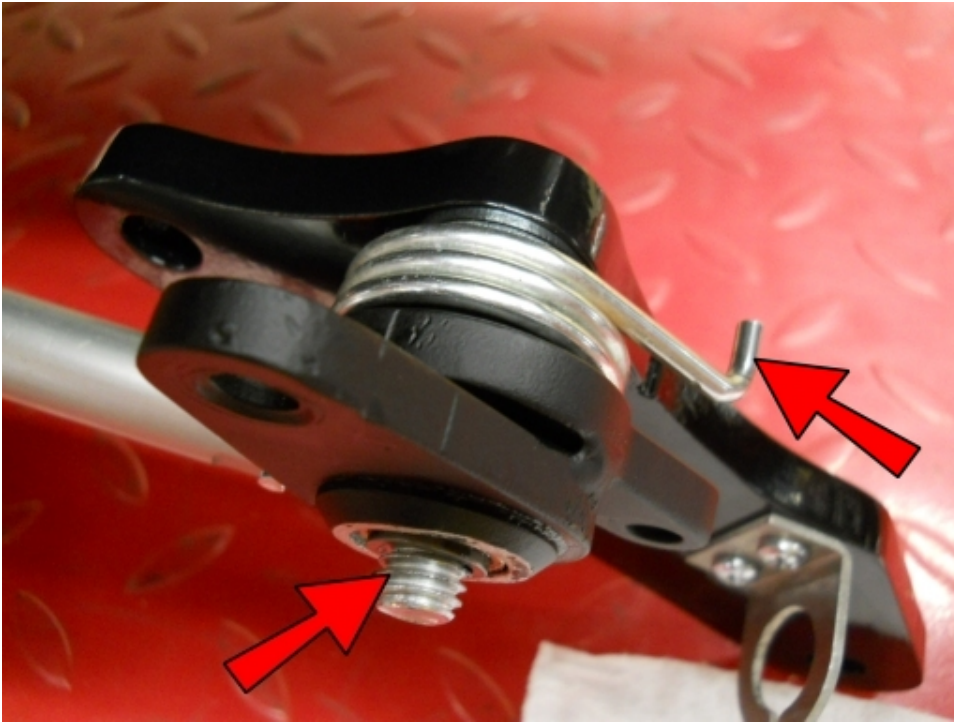


Insert a 3/8-16x2 BHCS and place a 5/16 Washer on the other side.

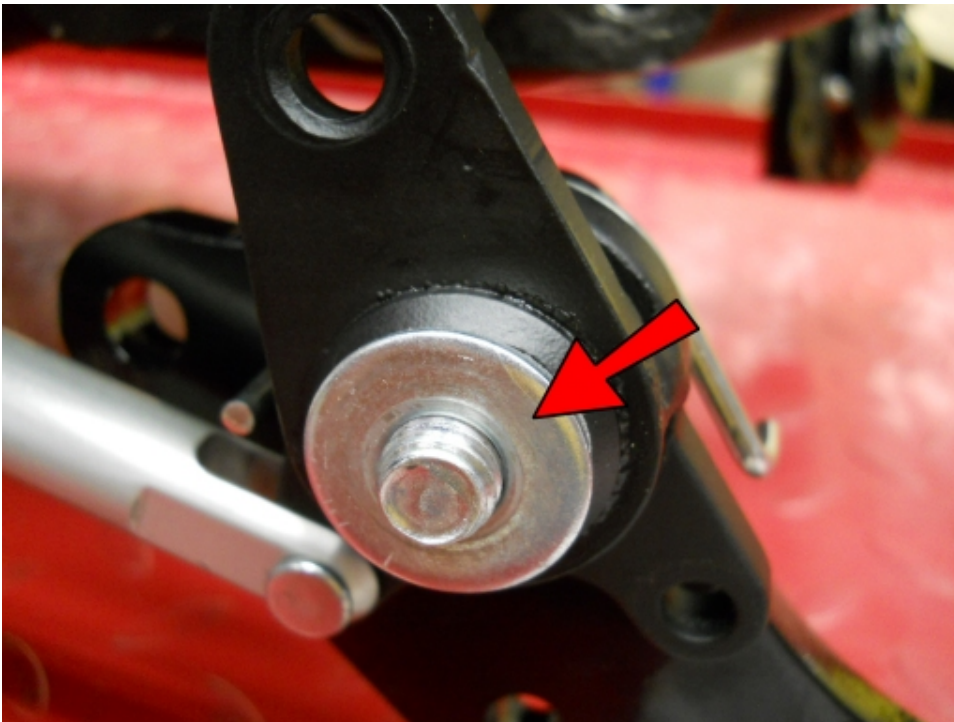


Place the original brake spring onto the ARM19 with the longer arm of the spring toward the front of the bike. Note: The next picture may also help with spring orientation.

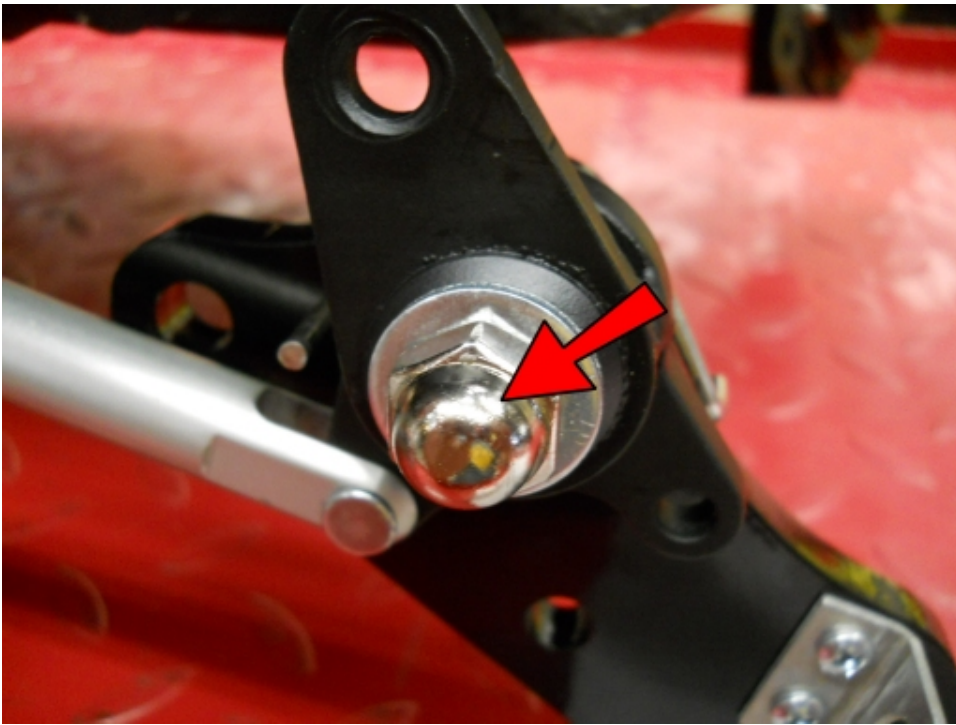




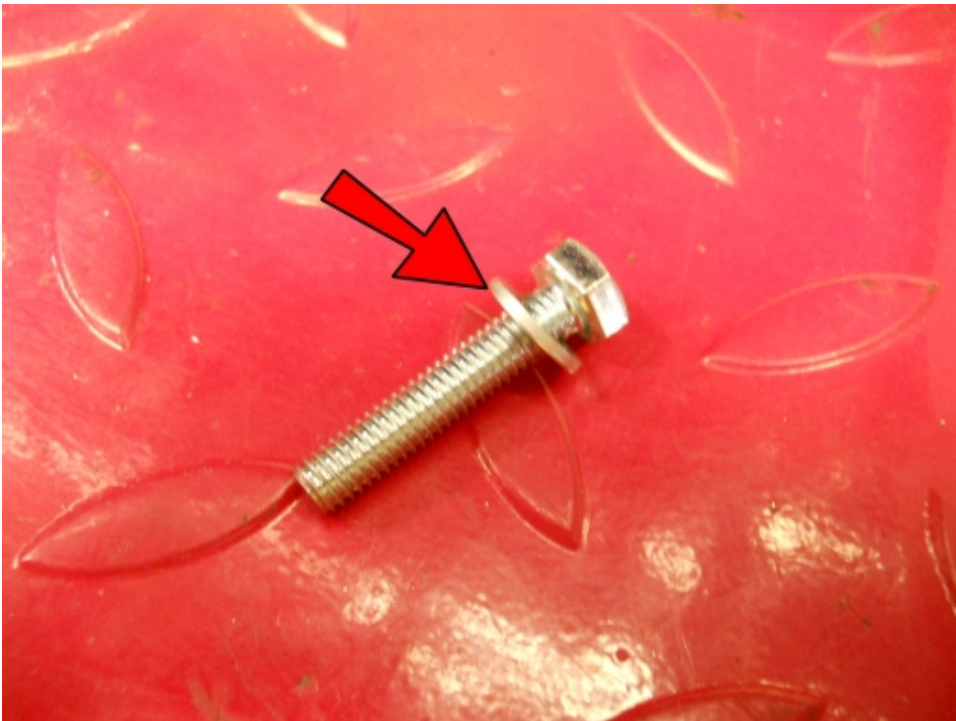
Place the ARM19 and spring onto the 3/8-16x2 BHCS previously inserted into the STOF10. Make sure the longer arm is what will rest against the STOF10.



Place a 5/16 Washer on.

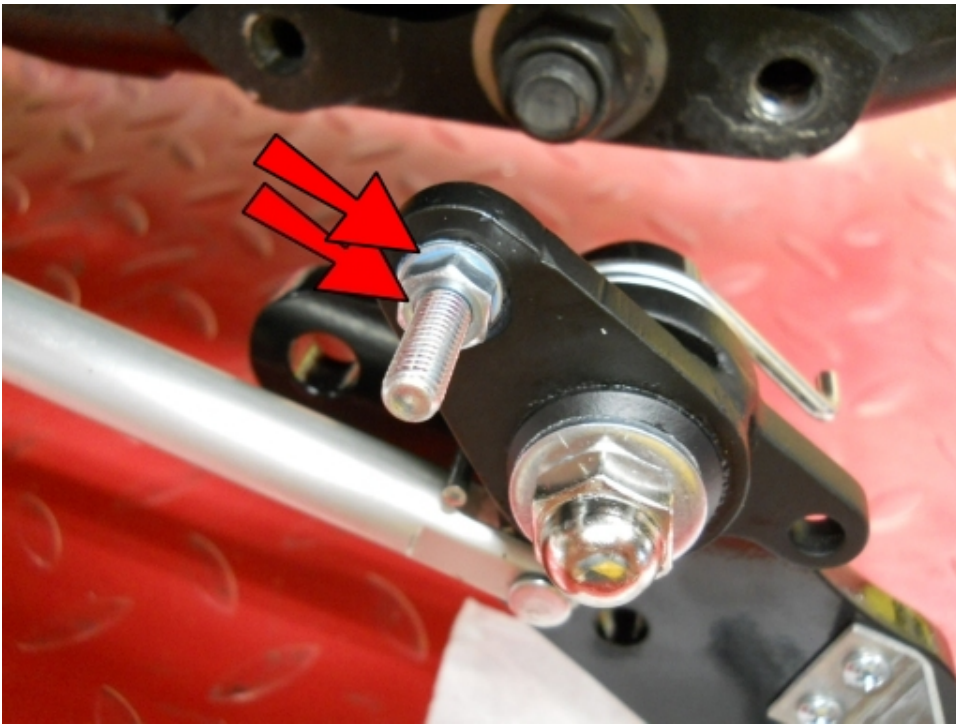


Secure with a 3/8 Acorn Nut.



Place an M6 Washer onto the M6-1.0x30 Bolt.





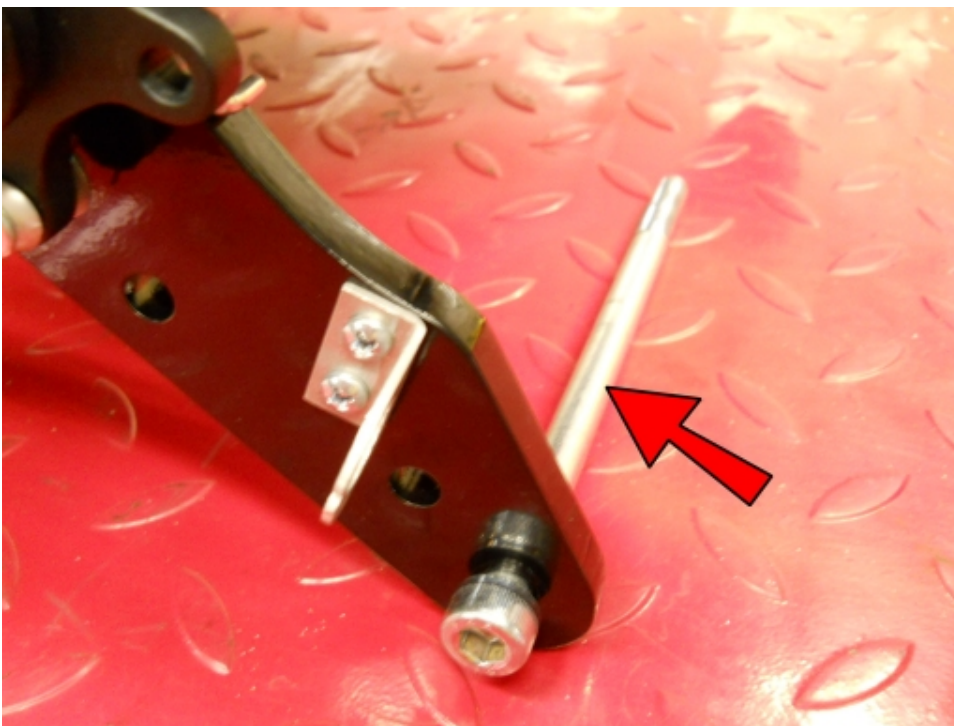
Insert it into the ARM19 and secure with another M6 Washer and an M6 Nut. Tighten.



Place another M6 Washer on.

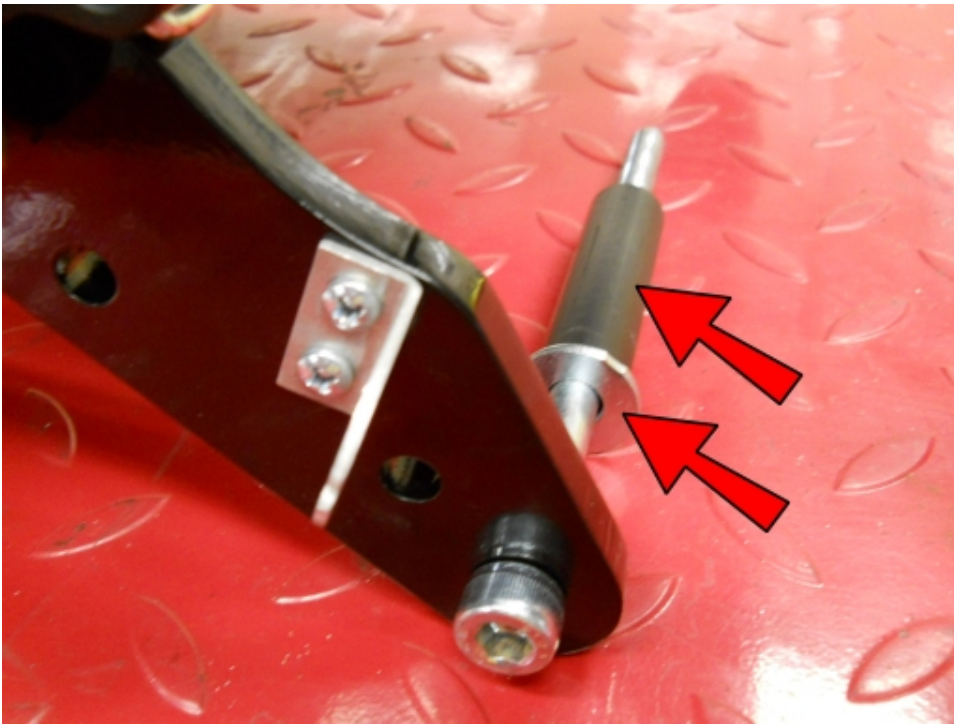


Put an M6 Spherical Rod End on and secure with a M6 Acorn Nut.

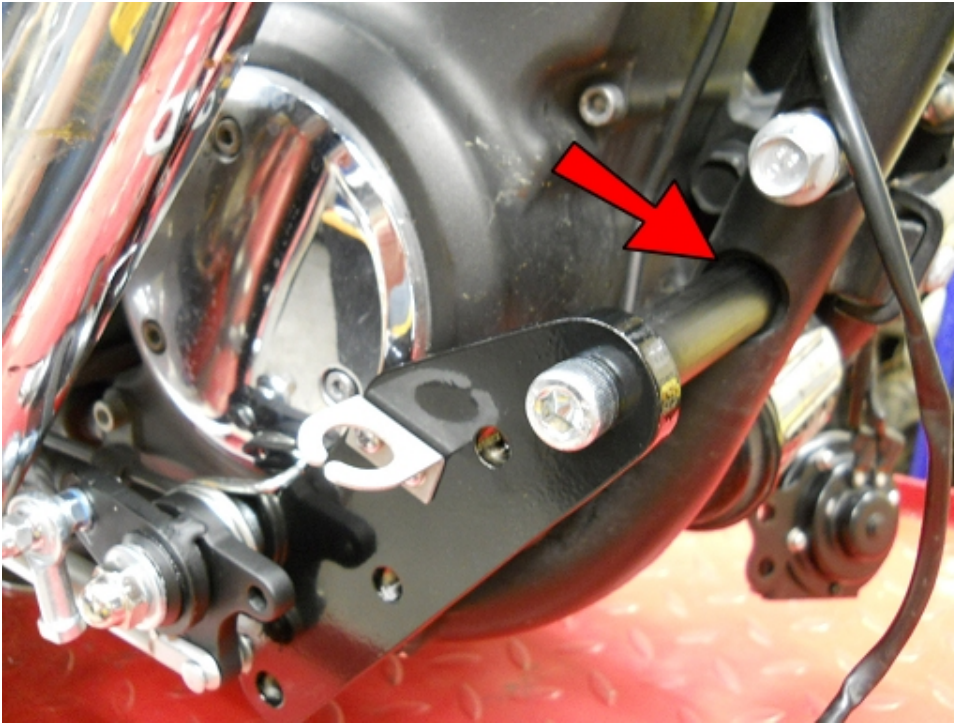


Insert an M10-1.25x170 SHCS into the STOF10.

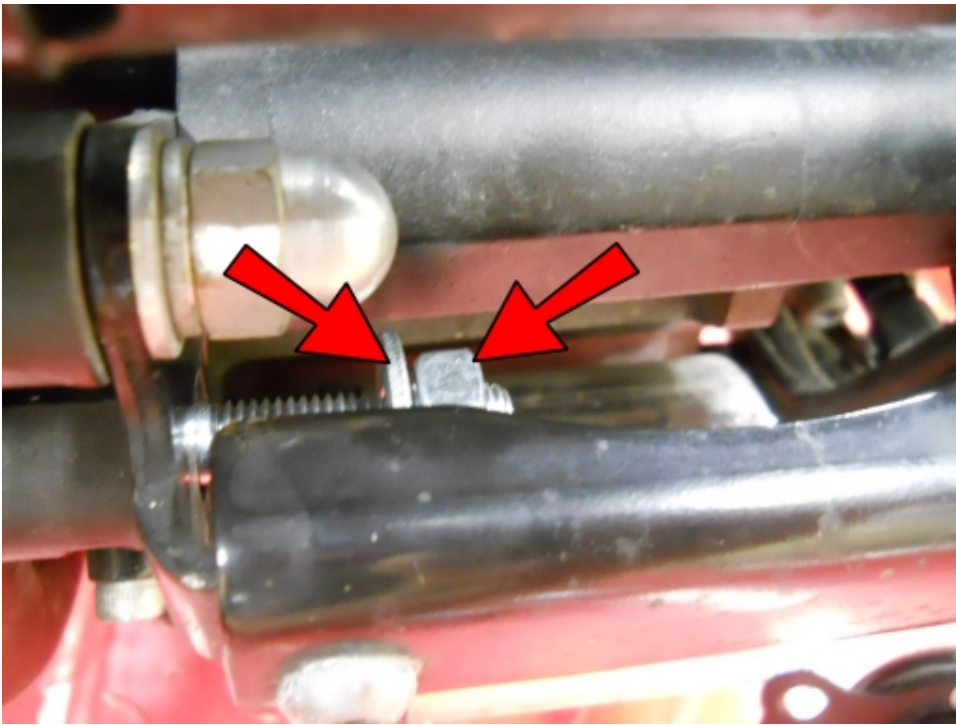




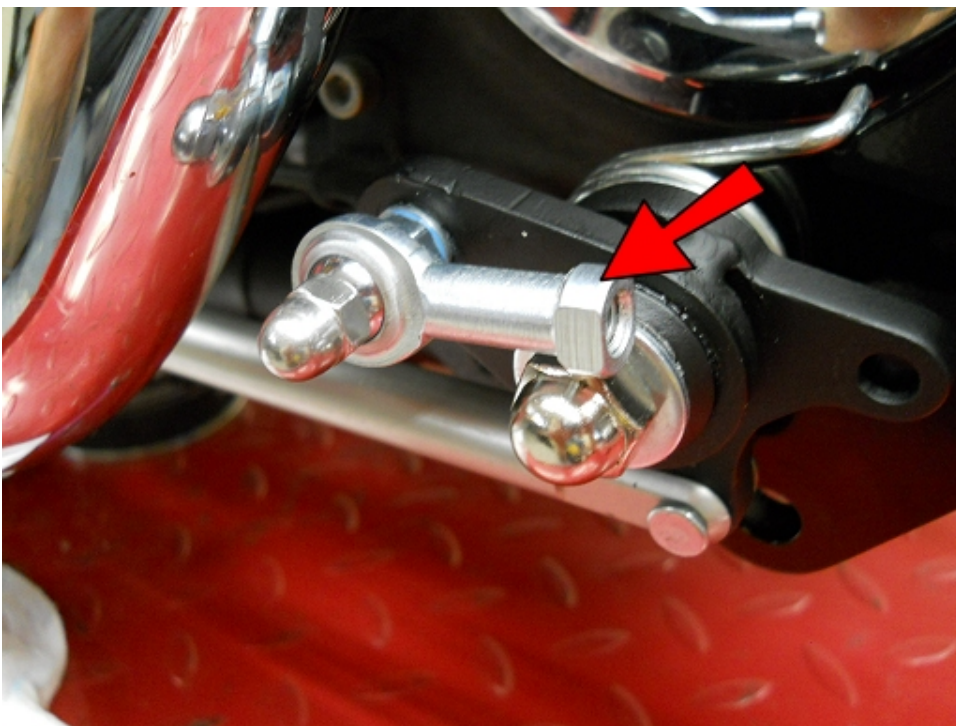
Place a 3/8 Washer and a 2.8" Spacer onto the back side.



Insert here.

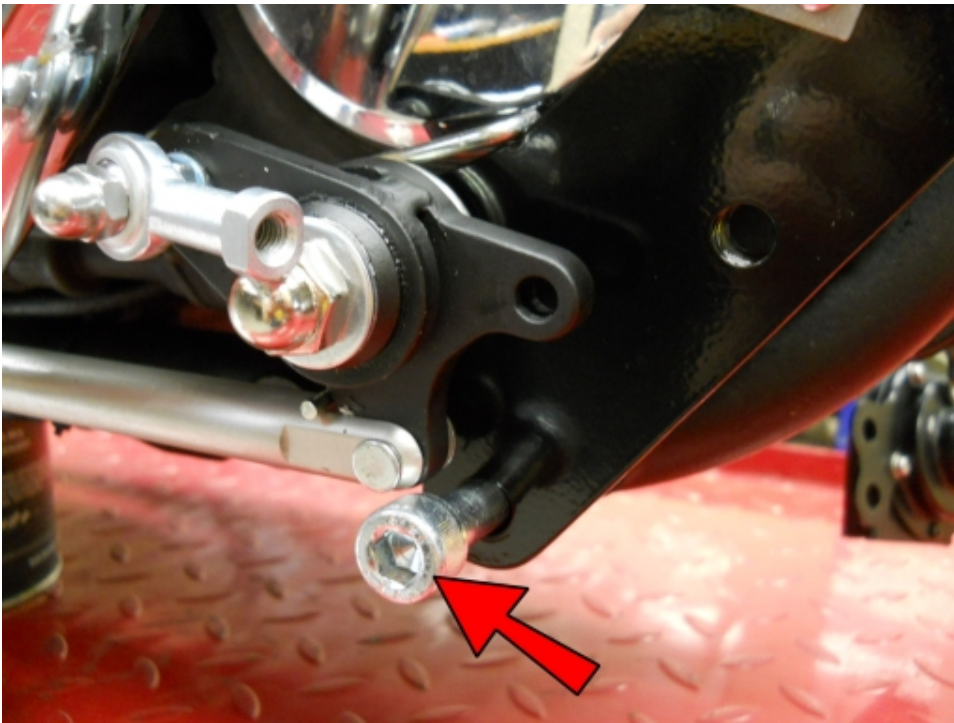


Place a 3/8 Washer on and start an M10 Nut on.

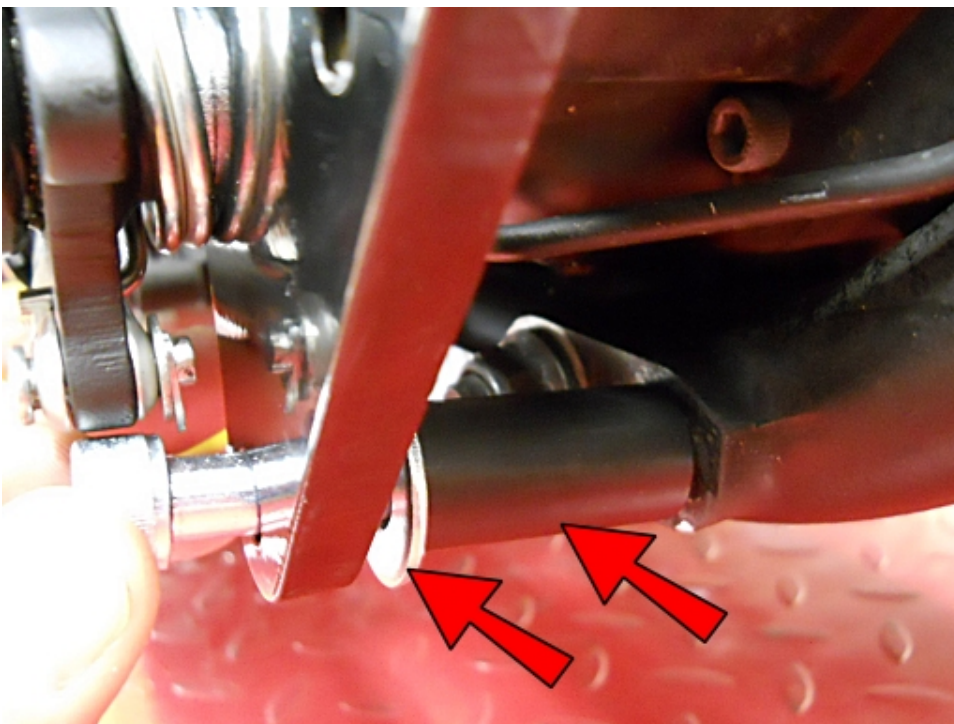


Flip the M6 Spherical Rod End around so it rests on the Acorn Nut as shown.

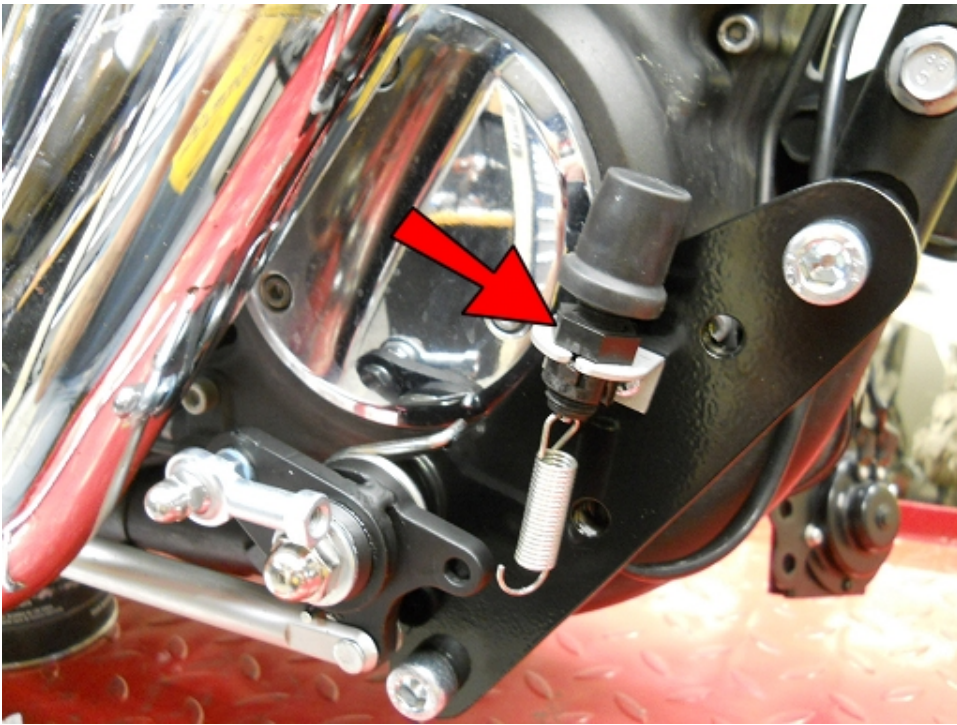




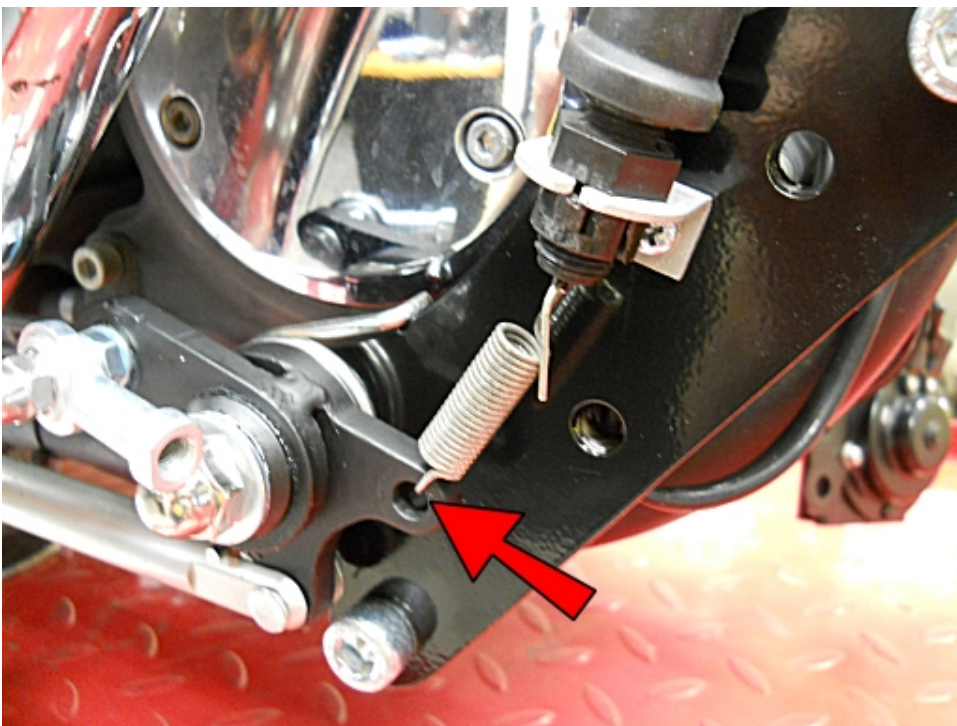
Insert the M10-1.25x70 SHCS into the STOF10.



Place a 3/8 Washer and a 1.5" Spacer onto the back side, line up with the hole in the frame, thread the bolt in and tighten. Now tighten the M10-1.25x170 SHCS and Nut you previously started.

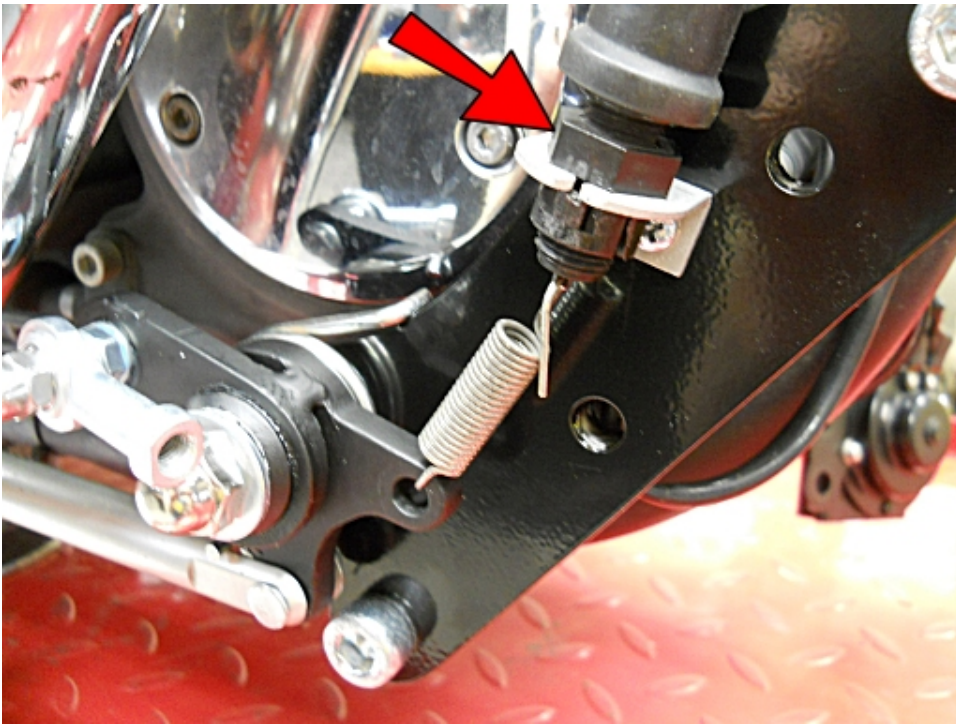


Insert the brake switch into the Mount.

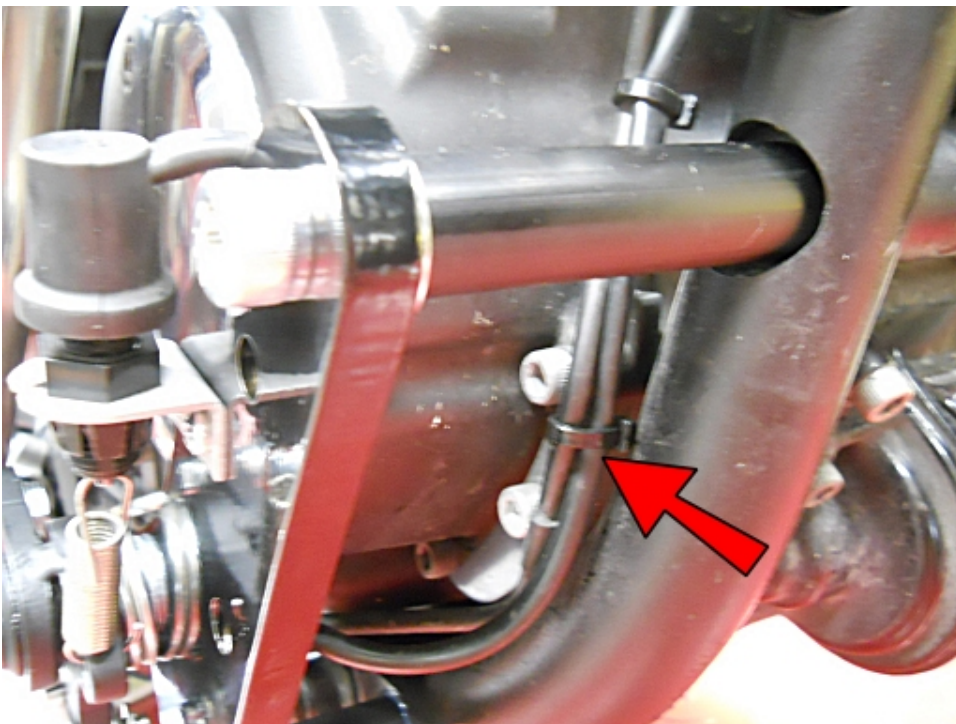


Hook the spring into the ARM19.

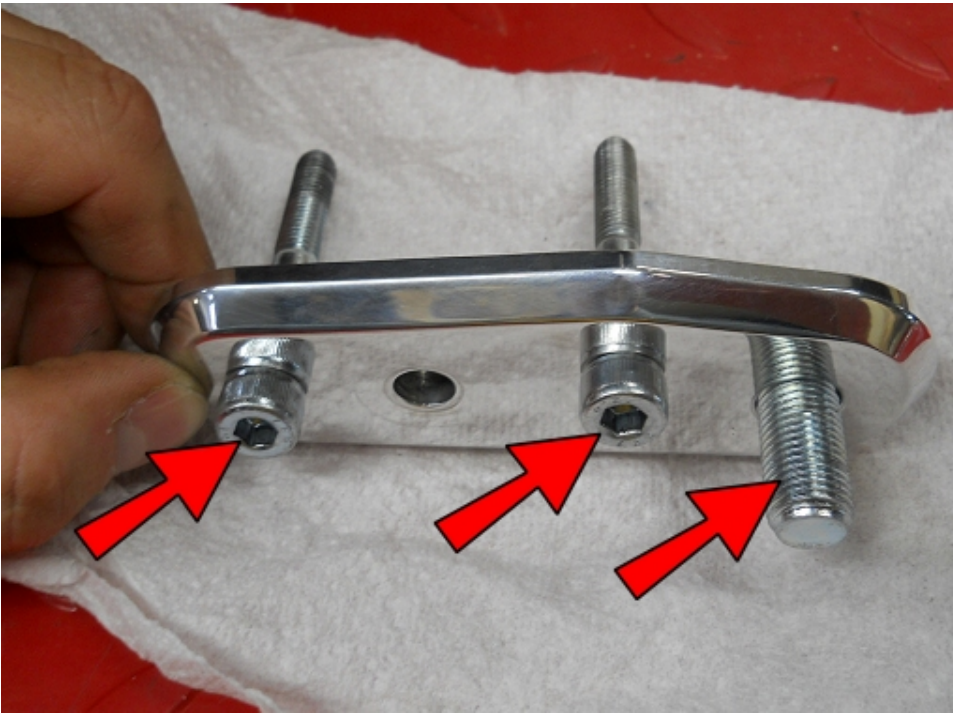




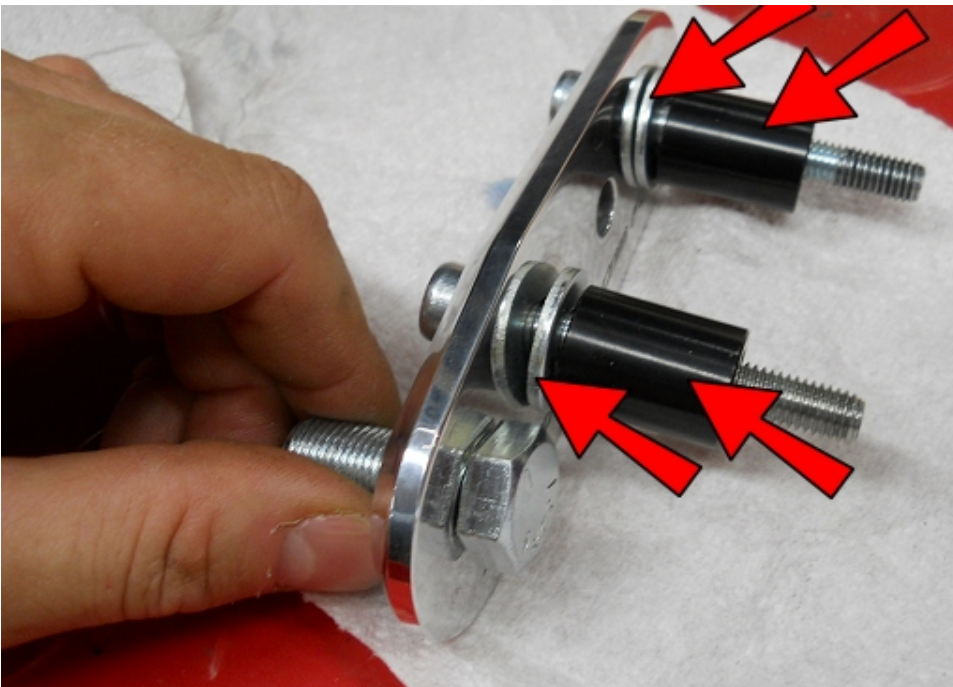
The brake light switch may need to be adjusted. Do this by turning the adjustment wheel. Hold the brake light switch in one hand to keep it from turning while turning the wheel. If the spring tension is too tight, your brake light will be on all of the time. If it is too loose, it will not come on when the brake is applied. To test, turn your key on and observe your brake light while twisting the ARM19 forward and releasing 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 spring. With a little trial and error you will find the right position.



Tuck the brake switch wire back and wire tie as desired.

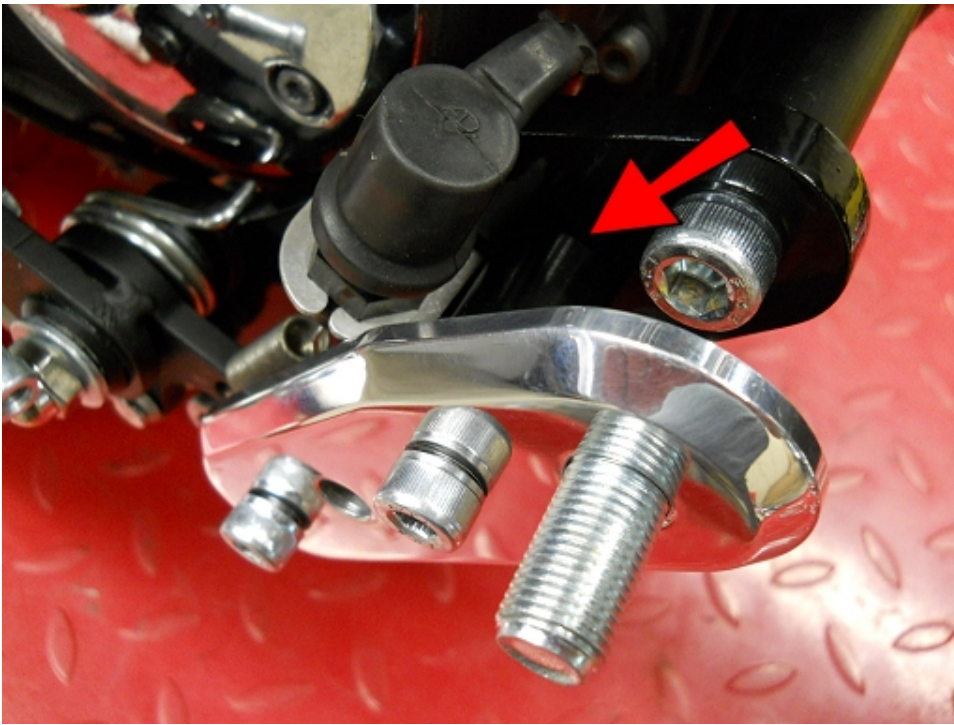


Insert two M8-1.25x60 SHCS's and a foot peg bolt into the Right Control Plate as shown.

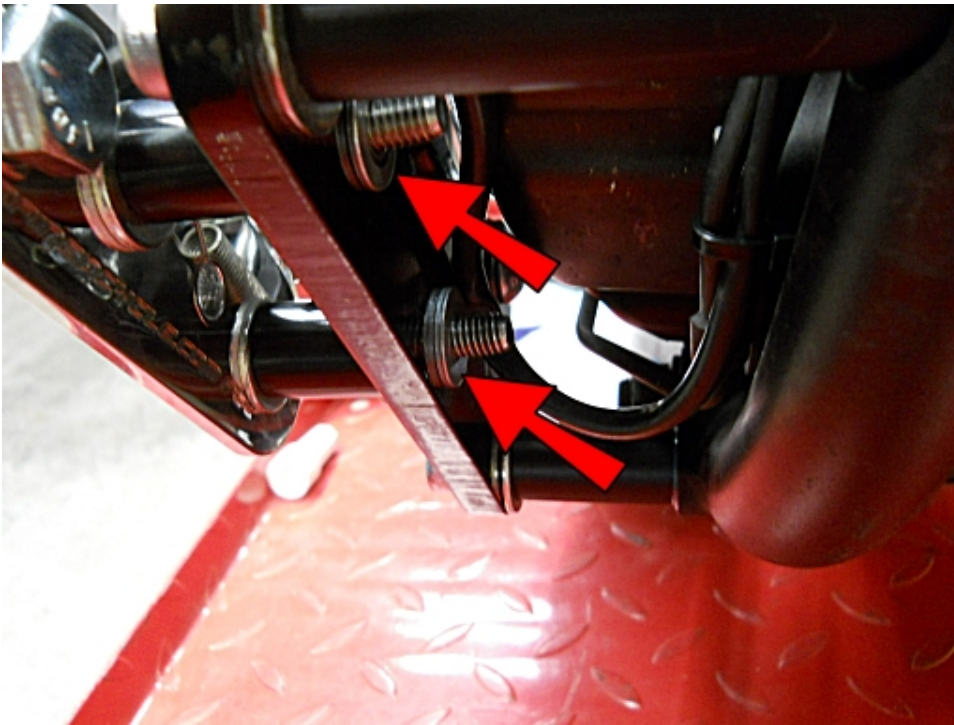


Place a 5/16 Washer and a 1" Spacer onto each M8-1.25x60 SHCS.

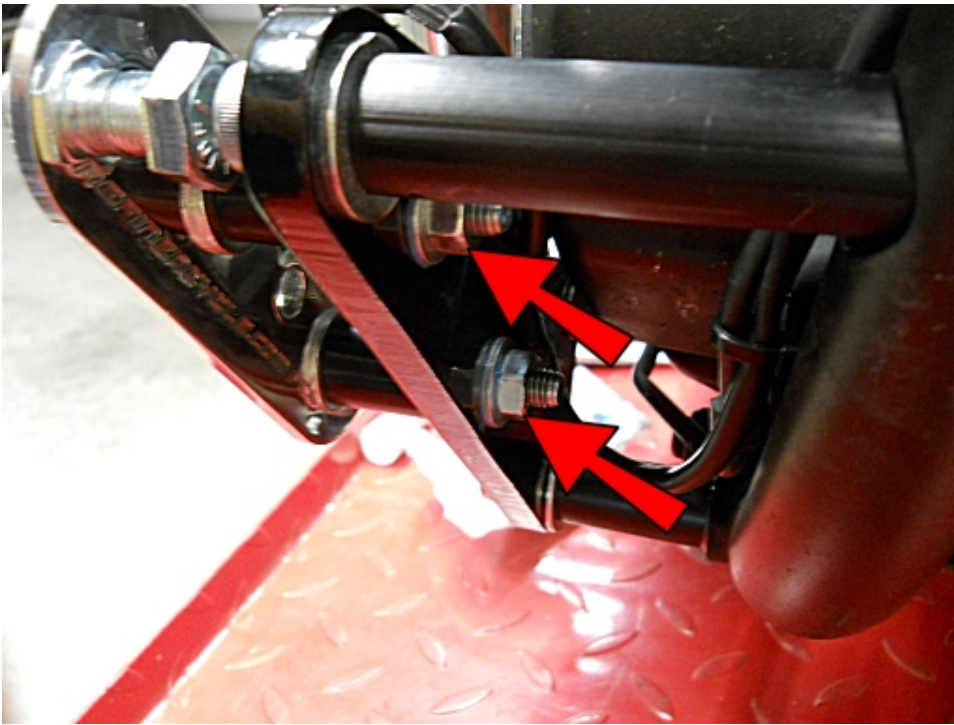




Connect the Right Control Plate to the STOF10.



Place 5/16 Washers on the back.



Secure with 3/8 Nuts.



The inside of the pedals will probably have polish compound in them.

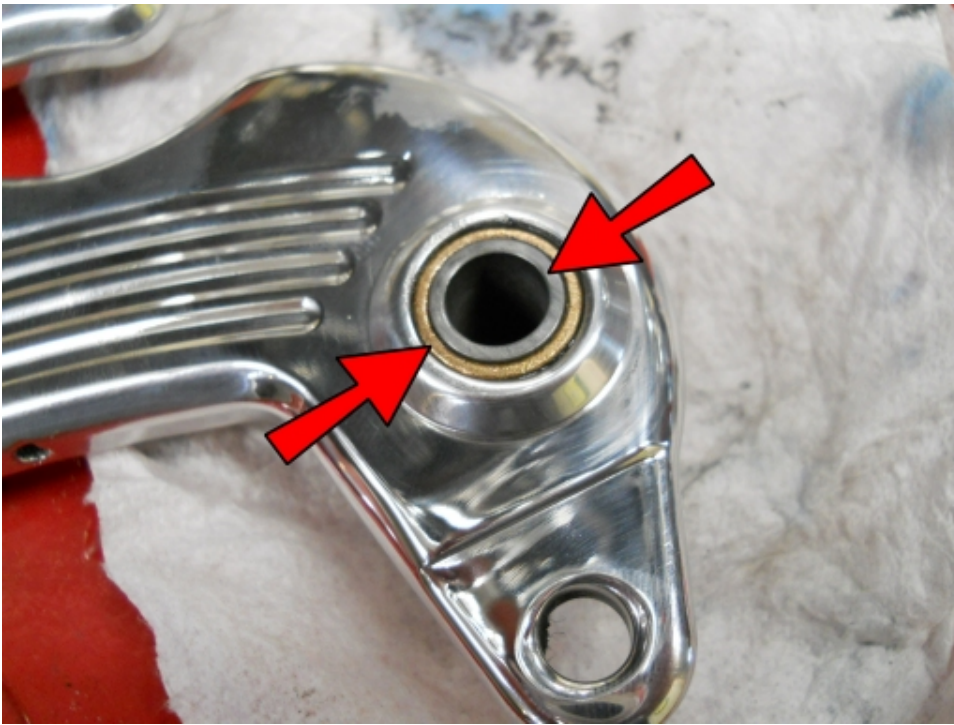




Use a paper towel or cloth to clean the inside of the hubs of the Shifter and Brake Pedals.



Apply grease to both SLV1's and 1/2" Bronze Sleeves and the Shifter and Brake Pedals.



Insert the sleeves into the Shifter and Brake pedals as shown.

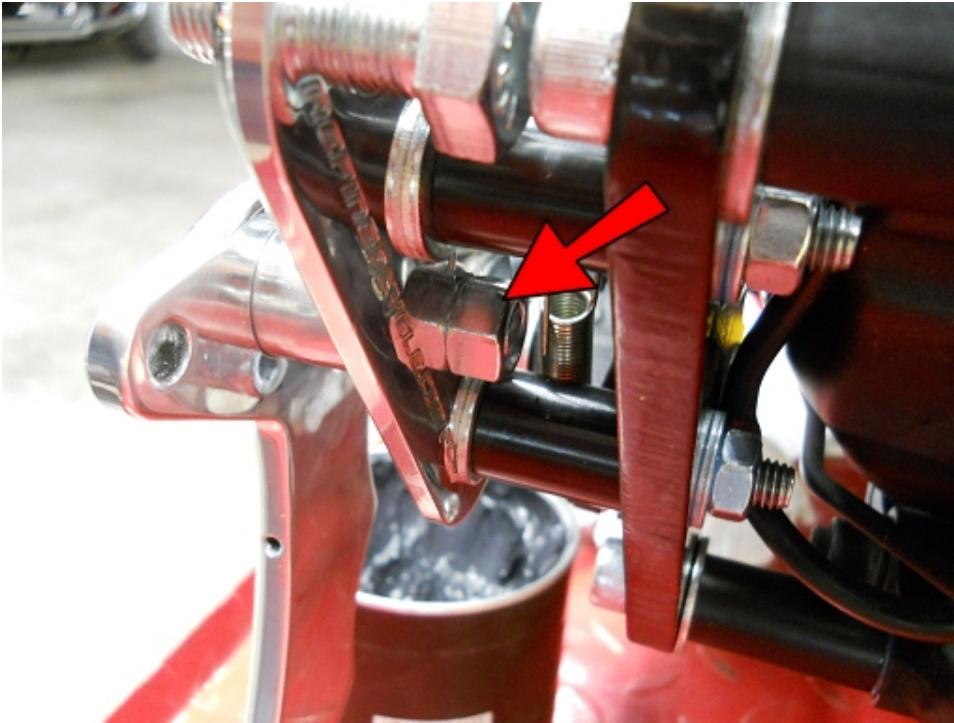


Insert 3/8-16x2 BHCS into the Brake Pedal.

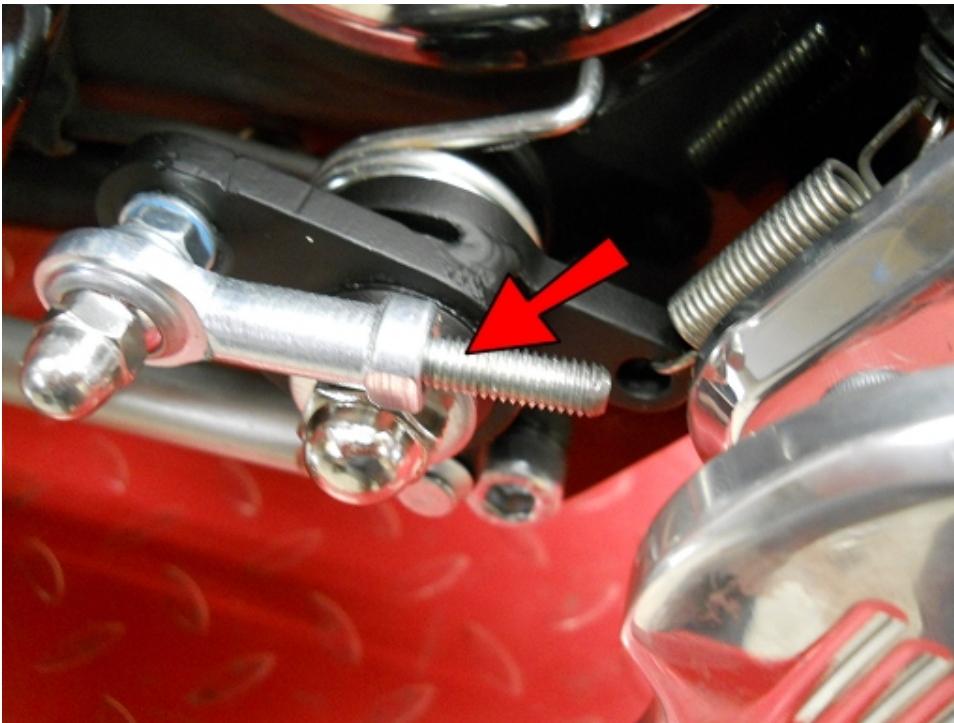




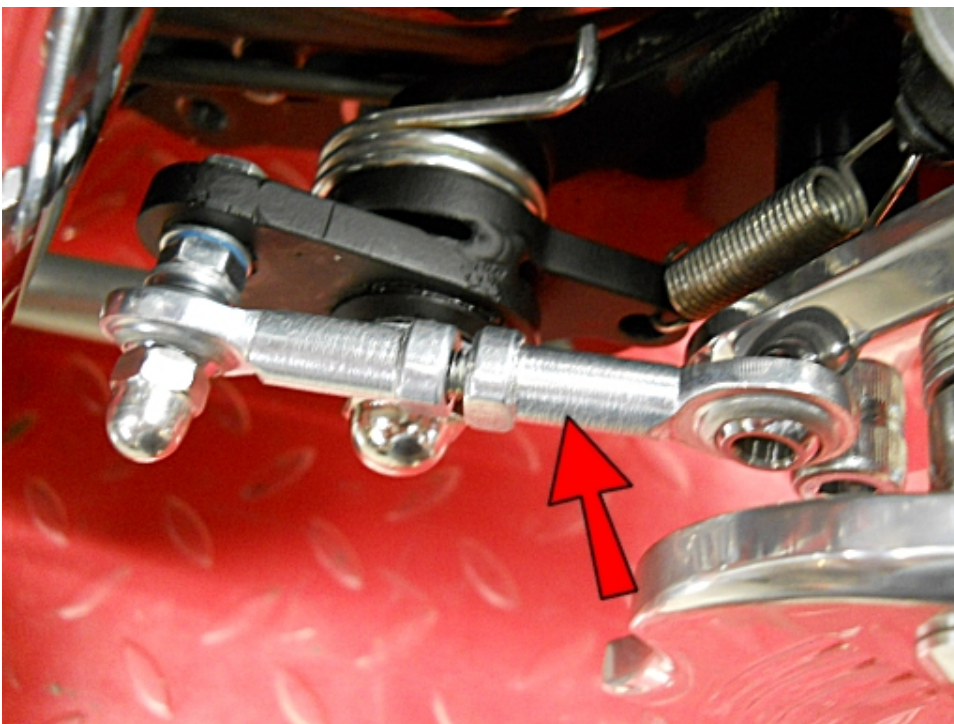
Place TWO 5/16 Washers on.



Connect the Brake Pedal to the Right Control Plate and secure with a 3/8 Nut.

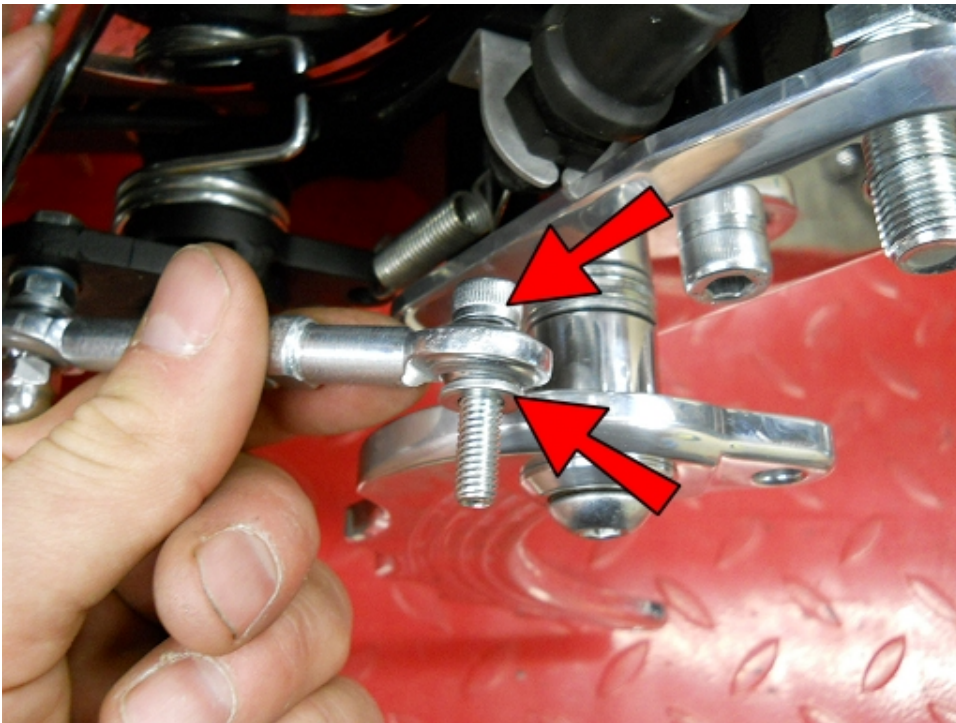


Thread the M6 Stud about half way into the M6 Spherical Rod End.

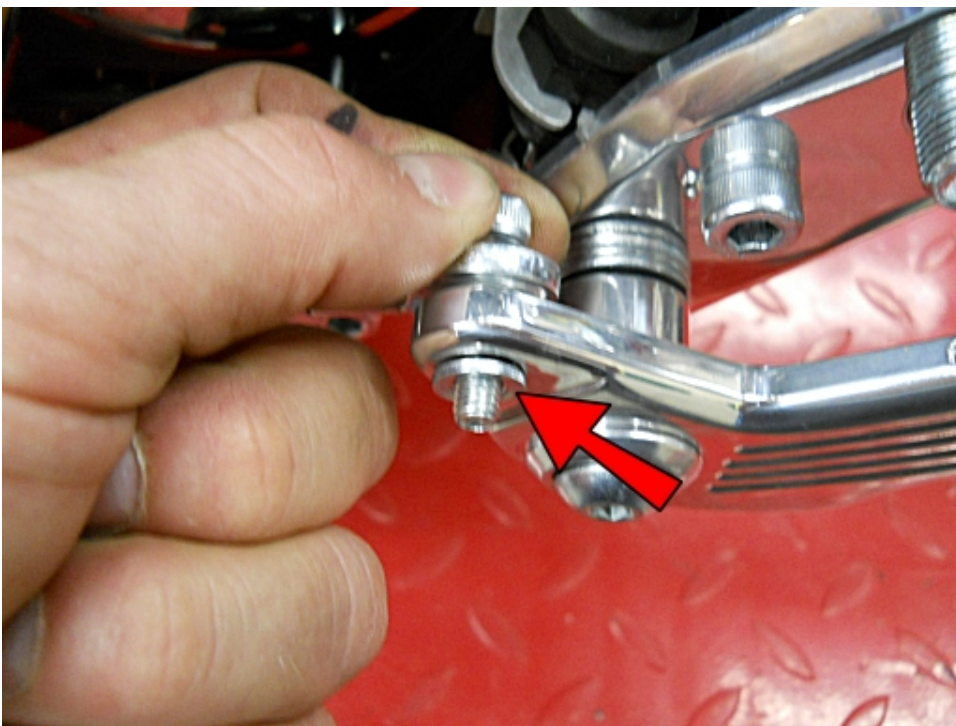


Thread the other M6 Spherical Rod End almost all of the way onto the M6 Stud.

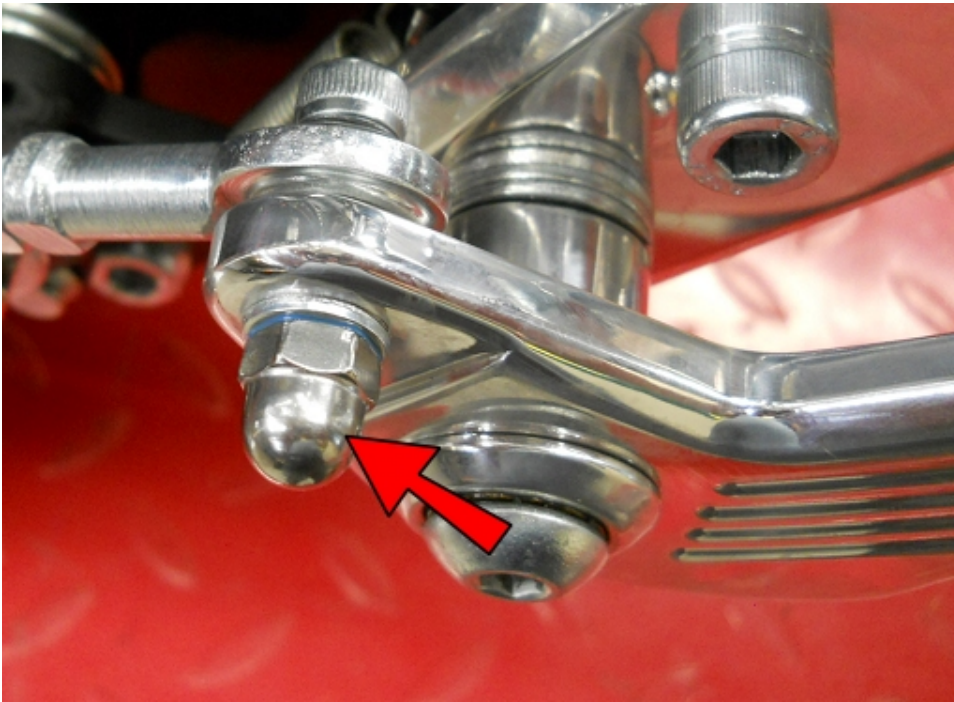




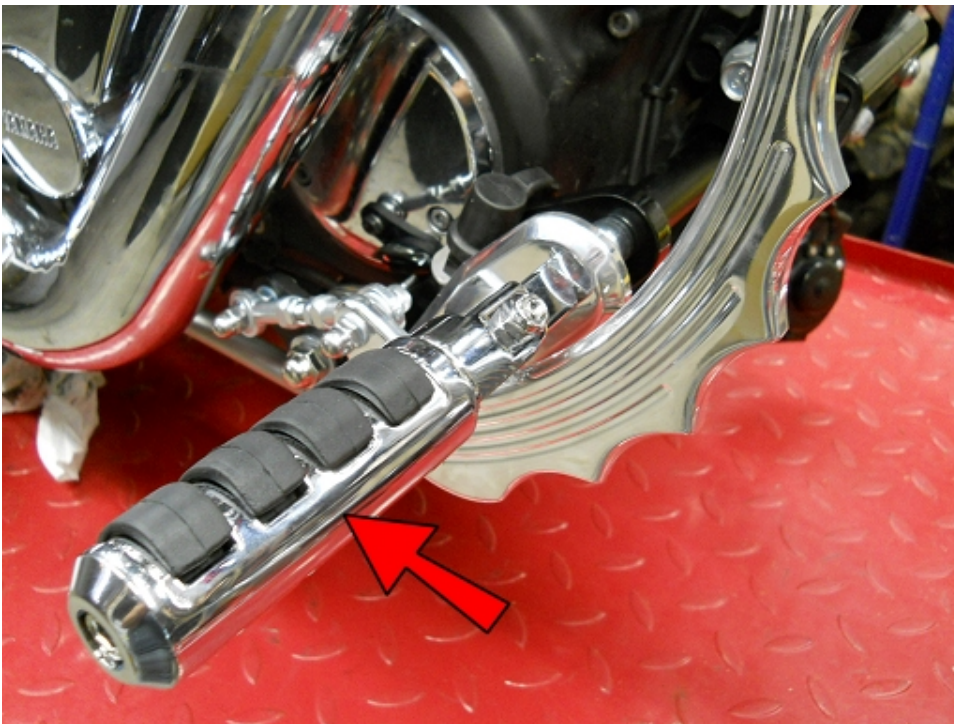
Insert an M6-1.0x25 SHCS into the M6 Spherical Rod End and place an M6 Washer on.



Insert that into the Brake Pedal and place another M6 Washer on.



Secure with an M6 Acorn Nut.

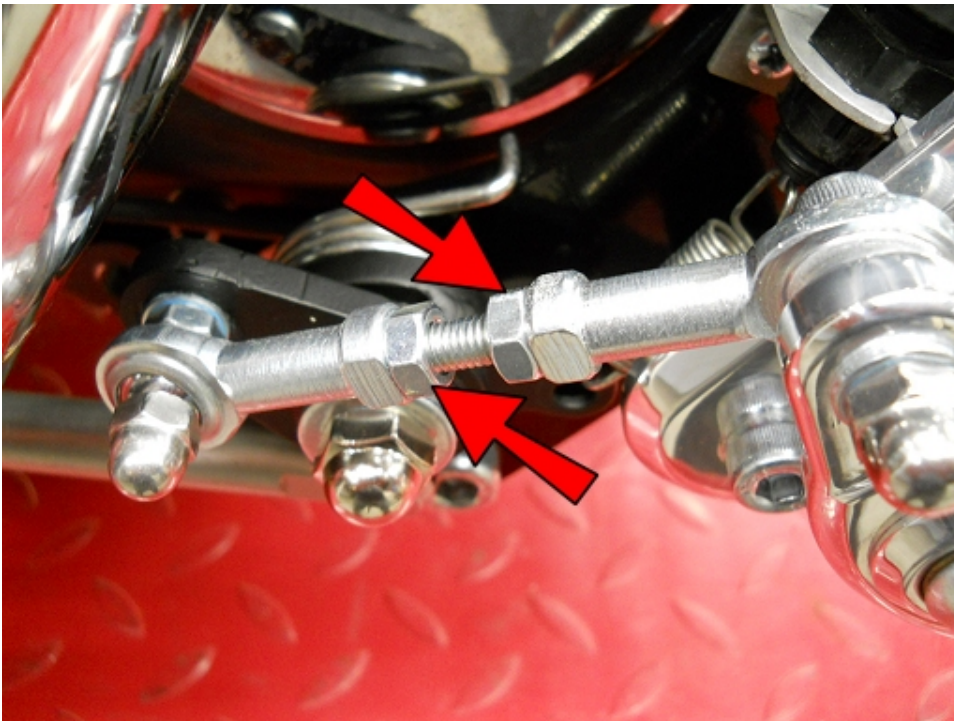


Connect a foot peg.





Connect a Toe Peg and Secure with a 5/16 Nut.



Note: If you would like your Brake Pedal lower, disconnect the M6 Spherical Rod End from the Brake Pedal and thread the M6 Spherical Rod Ends out to make the overall linkage longer. If you move it very far out, use the supplied extra M6 Nuts to tighten against the ends of the M6 Spherical Rod Ends as shown here. **IMPORTANT:** Make sure there is enough thread in the M6 Spherical Rod Ends to provide a secure connection!

This completes the Brake Side.

## Shifter Side...

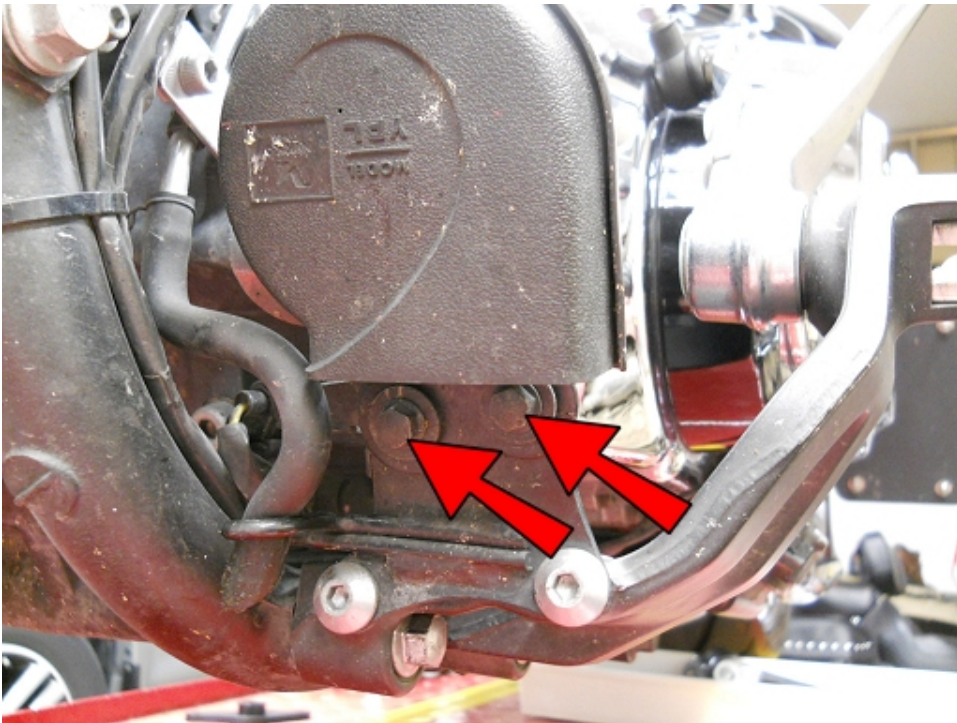


Loosen the locking nuts at both ends of the shifter linkage. Note: The front one is a LEFT hand thread.

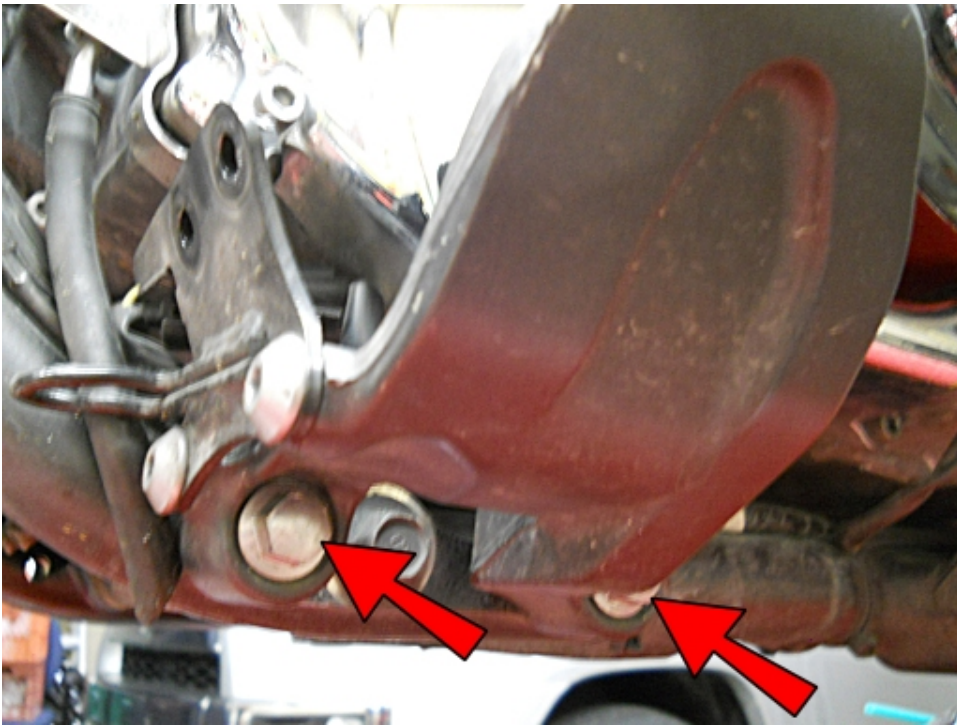


Twist the linkage to unthread it all the way from the rod ends.

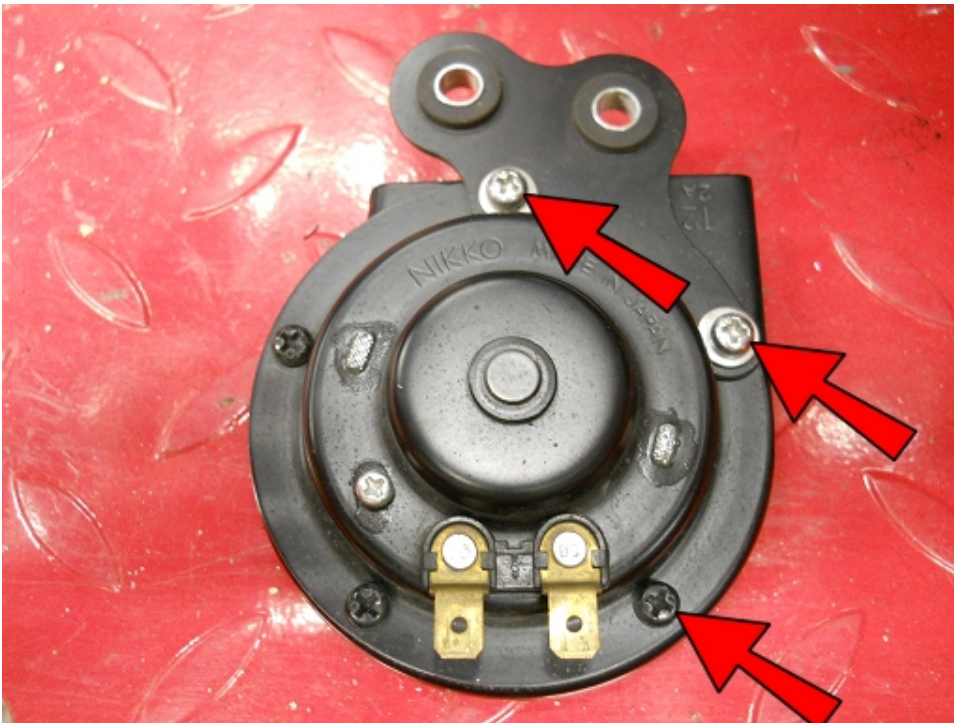




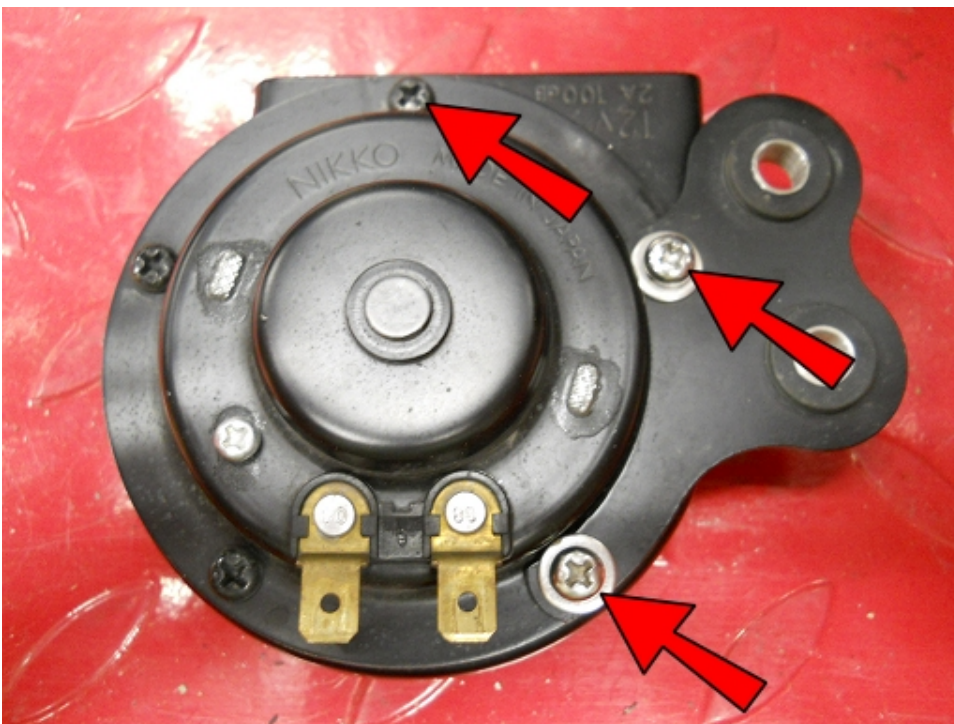
Remove these 2 bolts and disconnect the 2 horn wires.



Remove these 2 bolts.

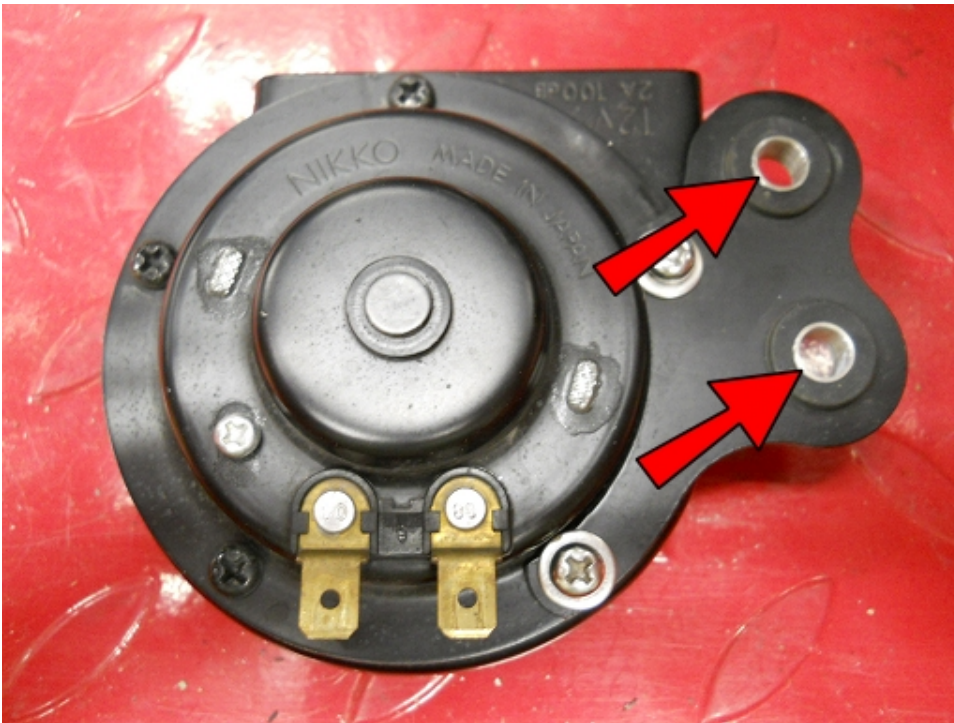


Remove these 3 screws.

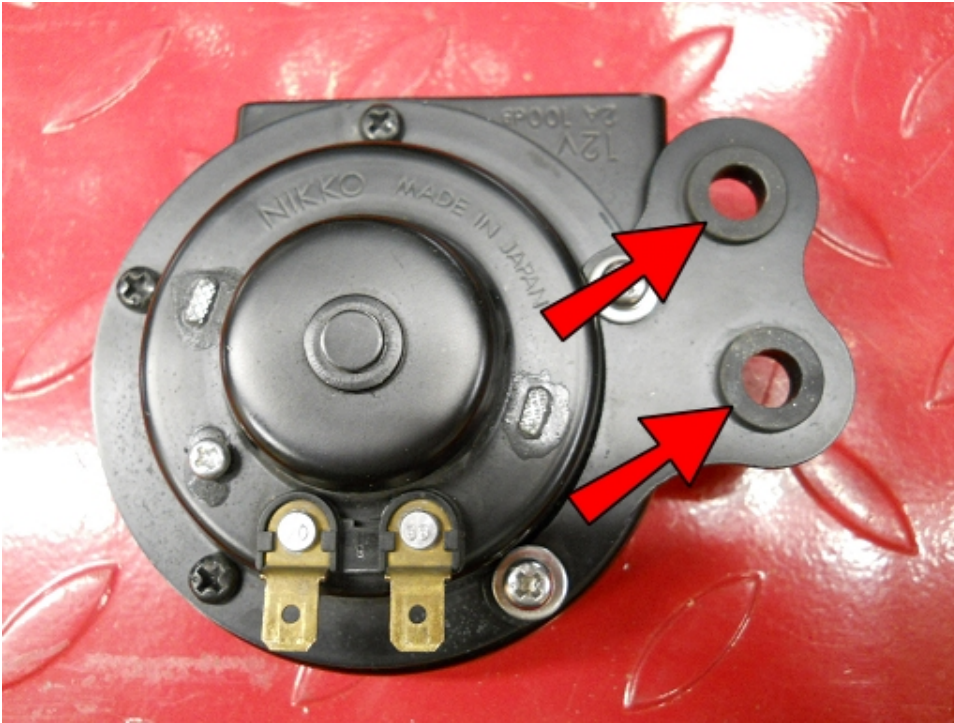


Orient the mount as shown here and replace the appropriate screws.





Remove these steel sleeves.



Remove these rubber grommets.



Insert two M8-1.25x60 SHCS's into the STOF9.



Place 1.5" Spacers onto the M8-1.25x60 SHCS's.

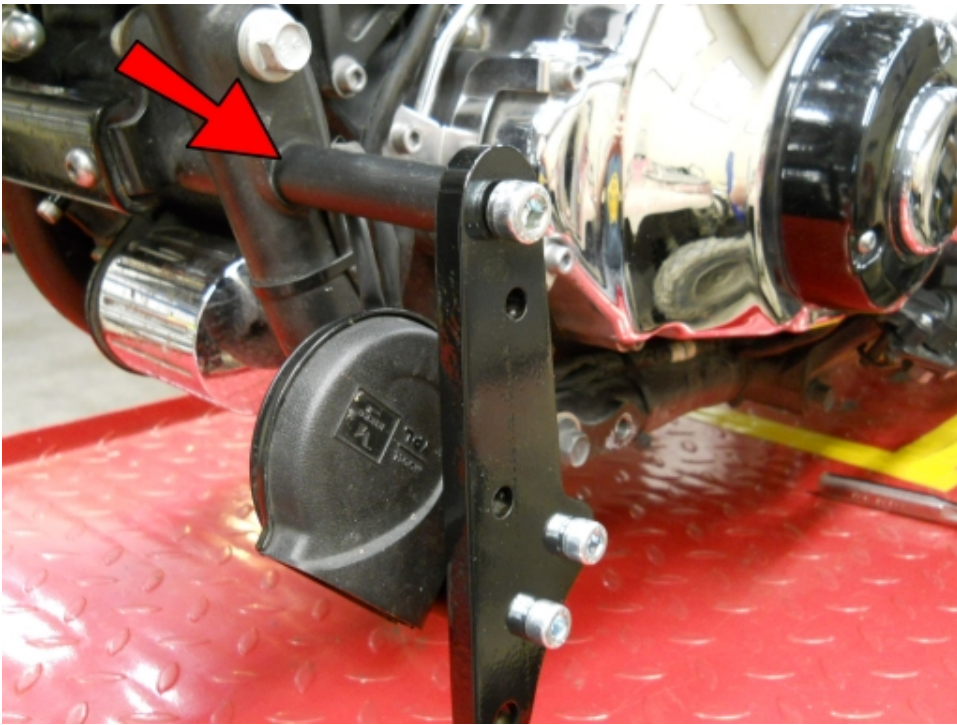




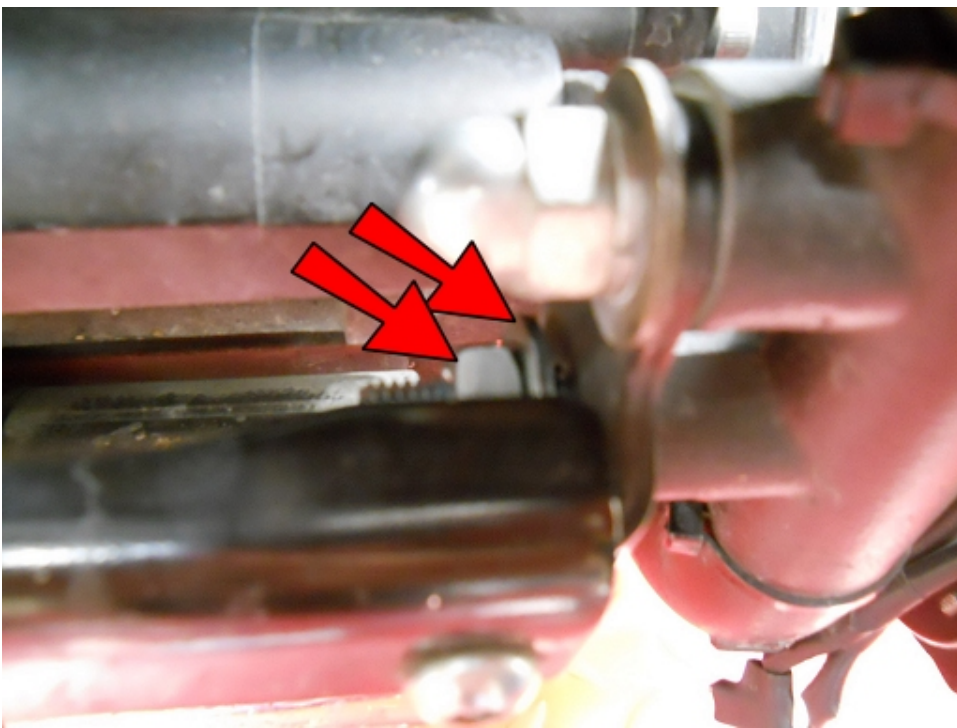
Attach the horn and secure with M8 Nuts.



Insert an M10-1.25x170 SHCS and place a 2.8" Spacer on it.

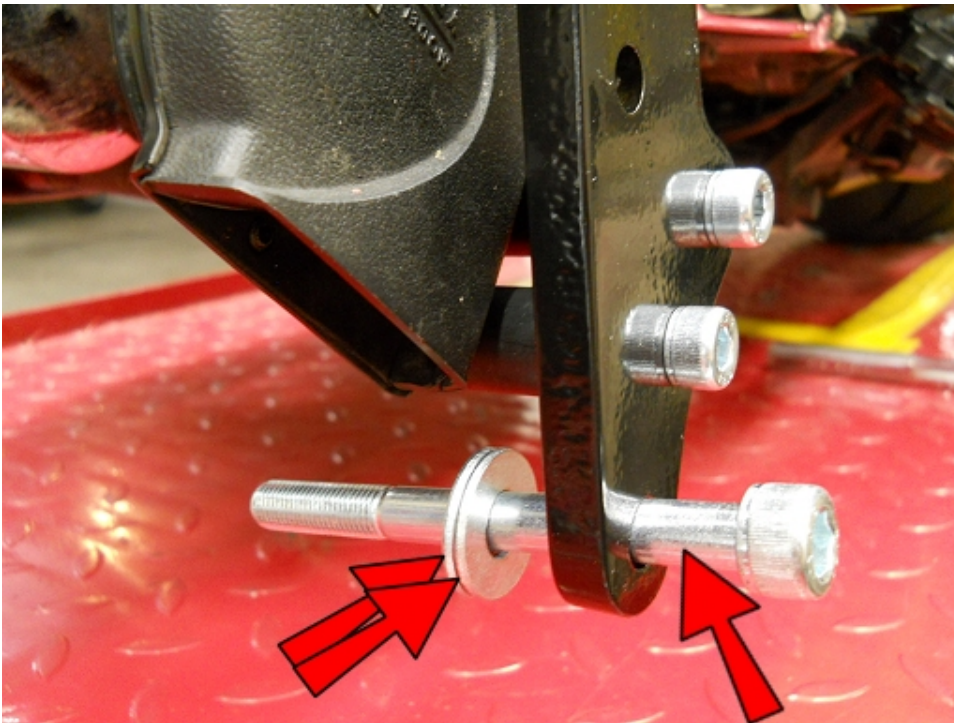


Insert here.

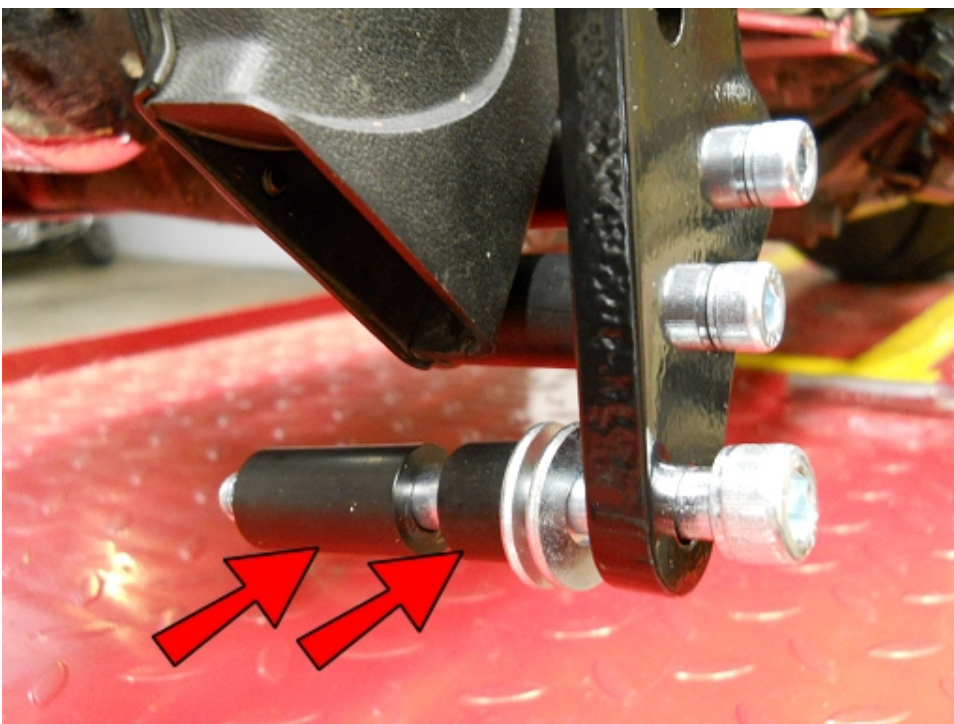


Place a 3/8 Washer on and start an M10 Nut on.

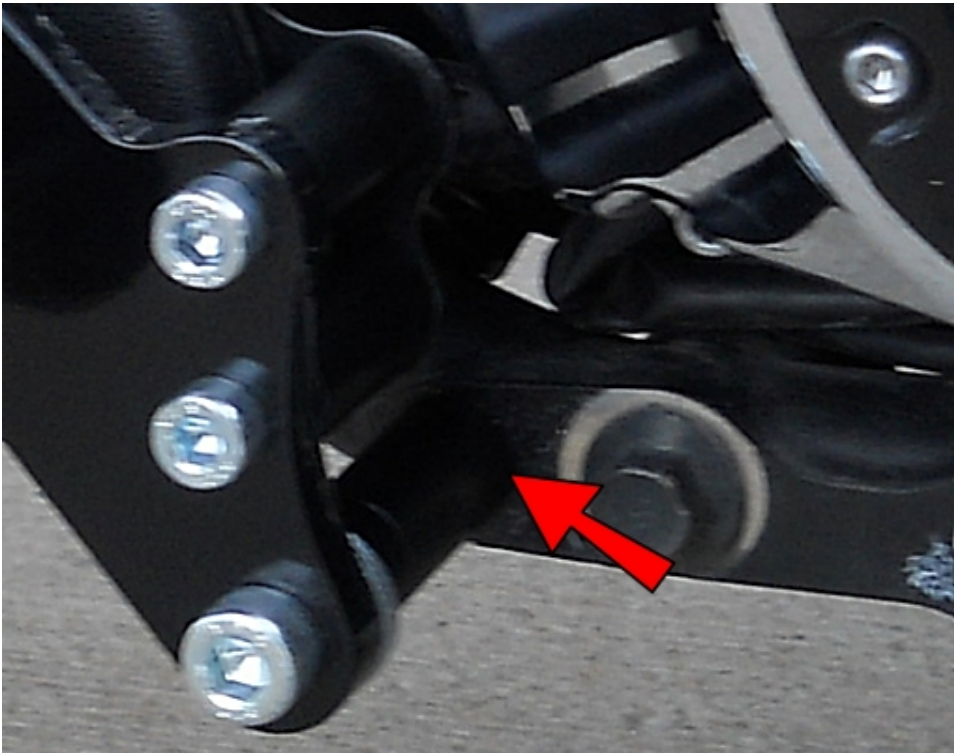




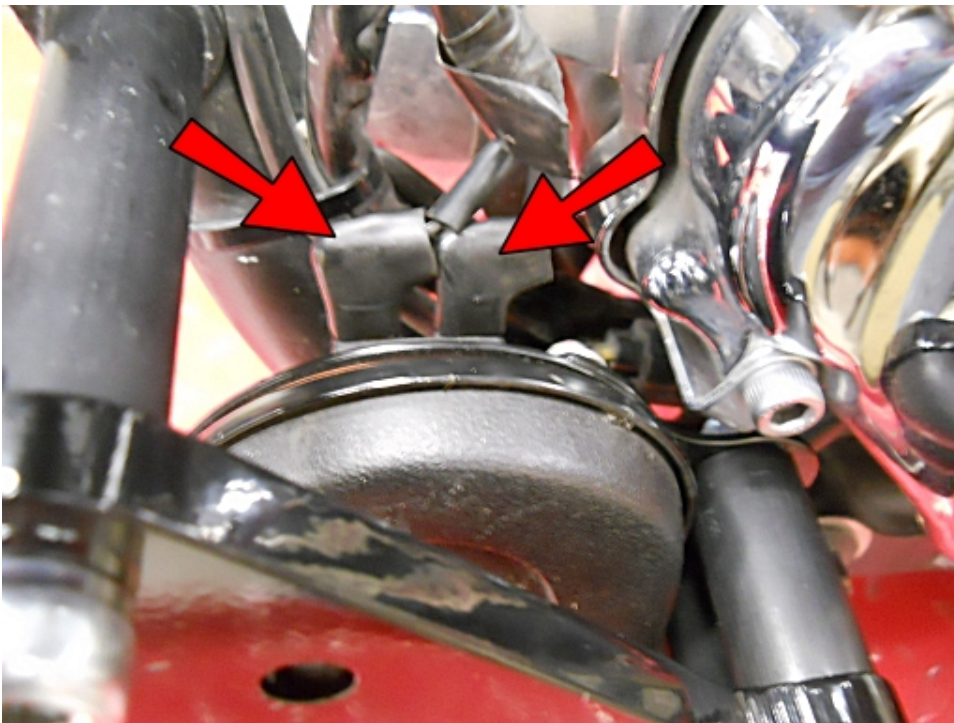
Insert a M10-1.25x100 SHCS and slide TWO 3/8 Washers on the back side.



Put on a .5" Spacer and a 1.5" Spacer.

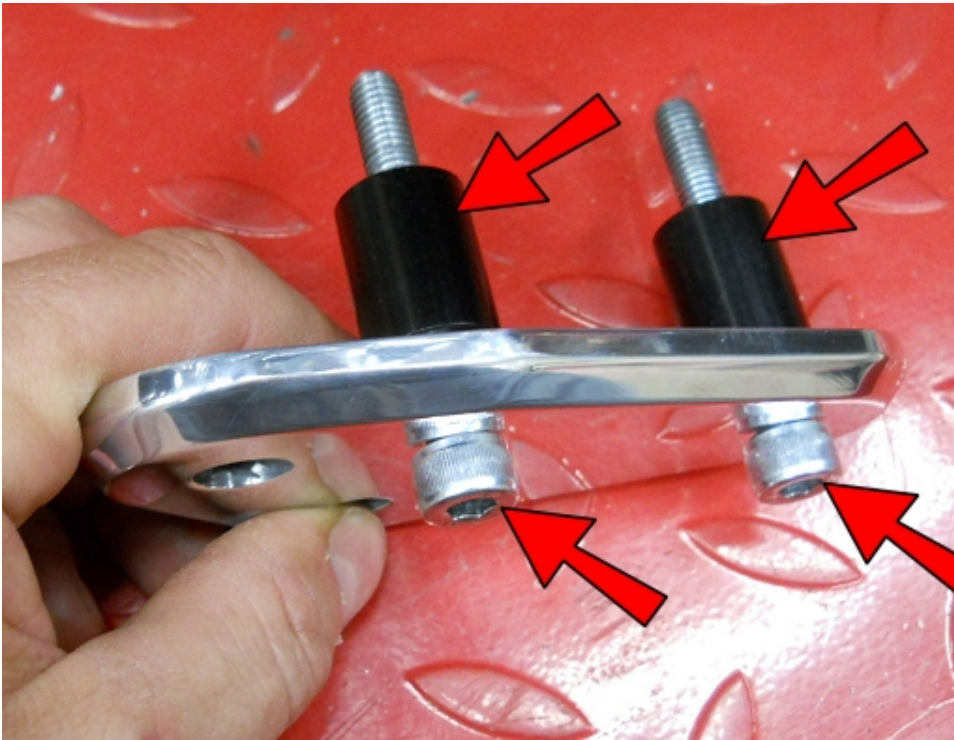


Secure the bolt into the frame, then tighten the M10-1.25x170 SHCS and Nut started previously.

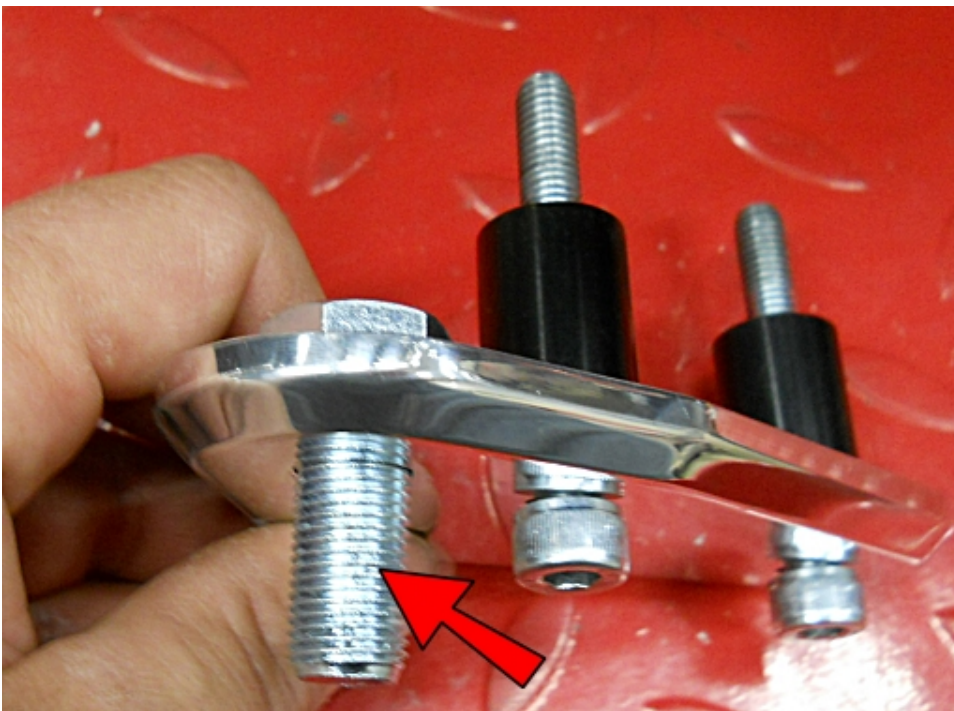


Replace the horn wires.

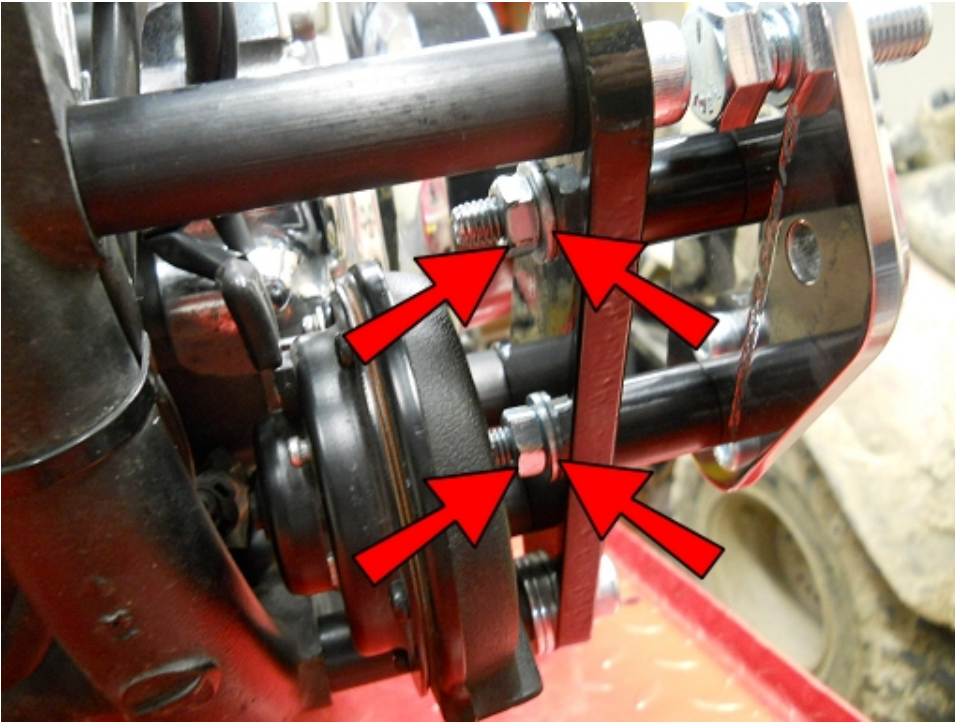




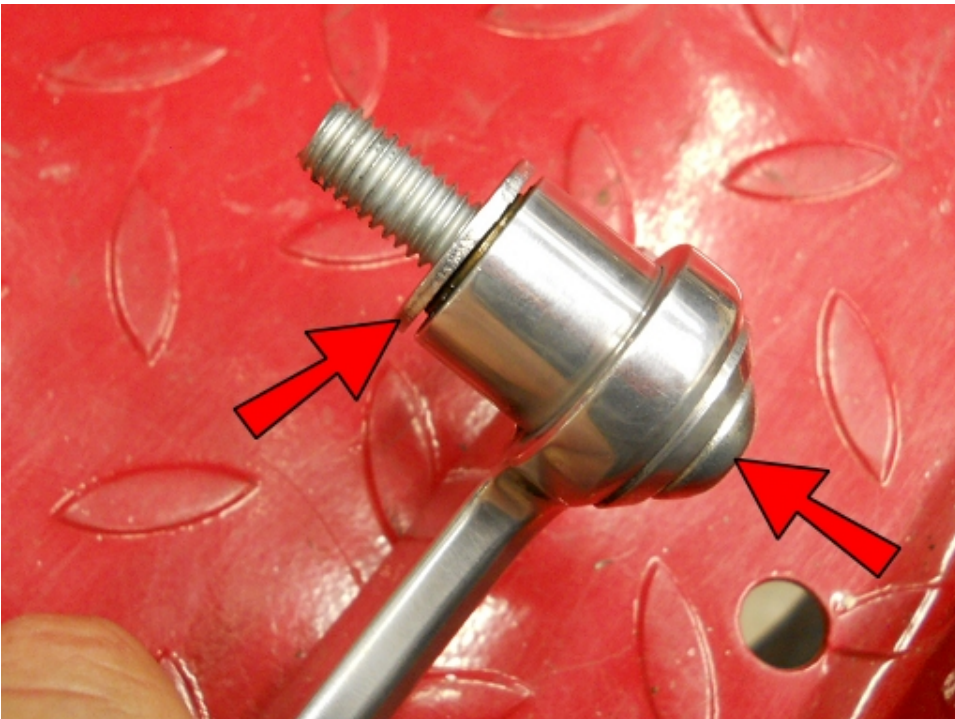
Insert M8-1.25x60 SHCS's into the Left Control Plate then slide 1" Spacers on the back side.



Insert a foot peg bolt.

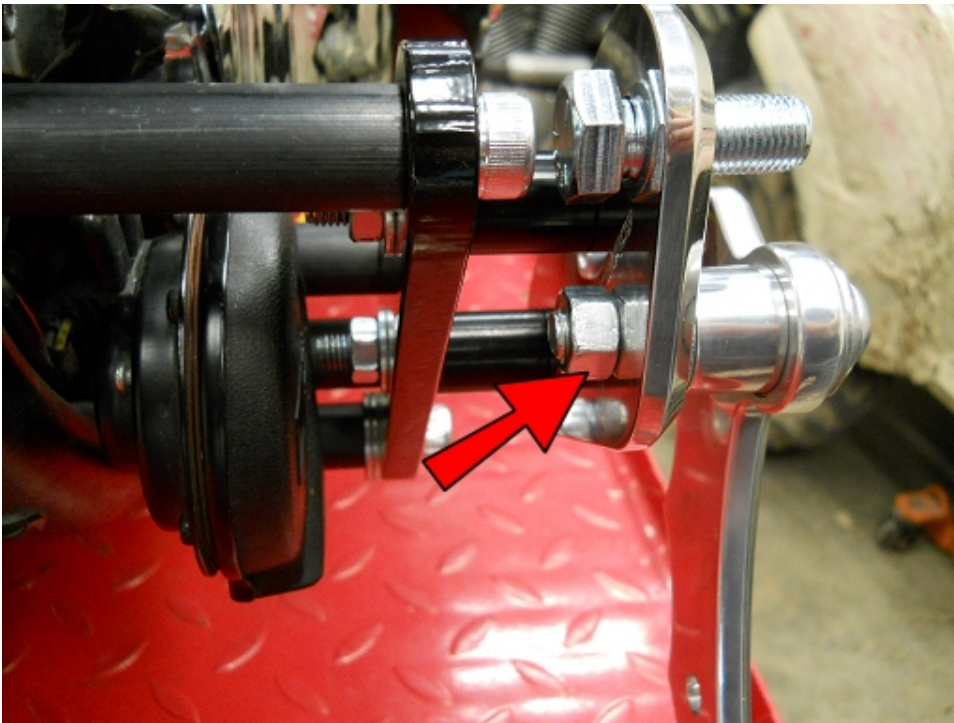


Secure the Left Control Plate to the STOF9 with 1/4 Washers and M8 Nuts.

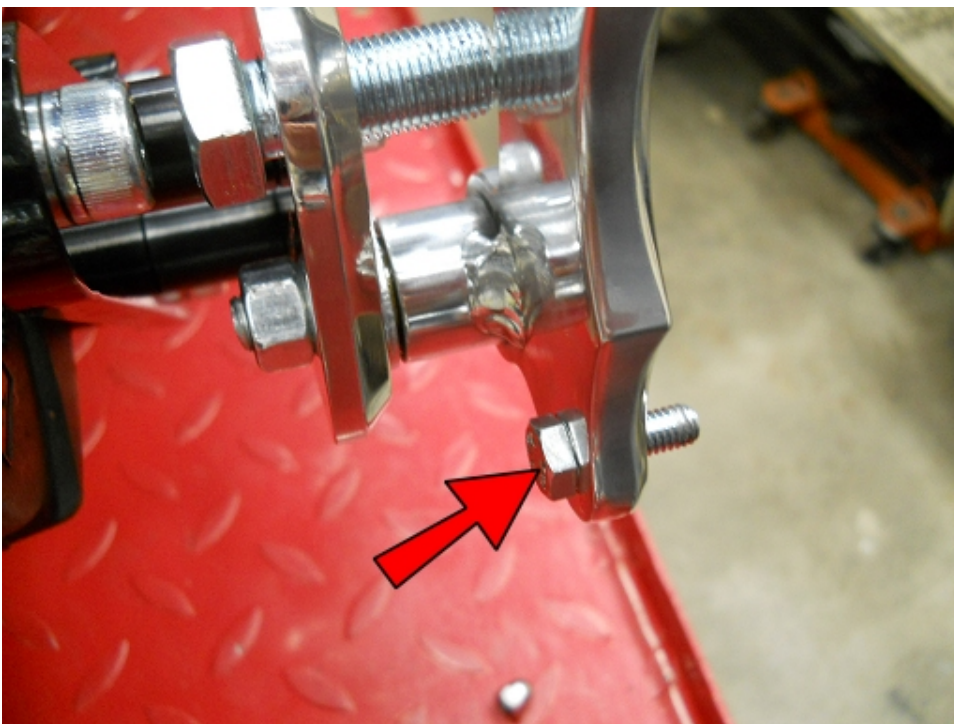


Insert a 3/8-16x2 BHCS into the Shifter Pedal that you previously put the greased sleeves into. Then slide a 5/16 Washer on.

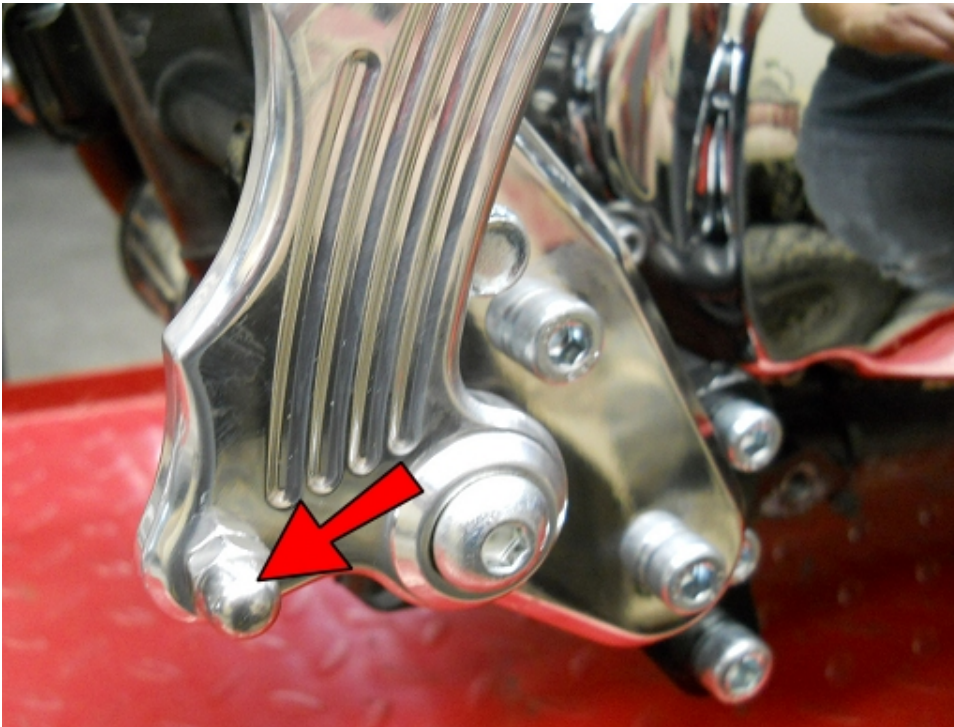




Secure to the Left Control Plate with a 3/8 Nut.



Thread the M6-1.0x18 Bolt into the back side of the Shifter Pedal.

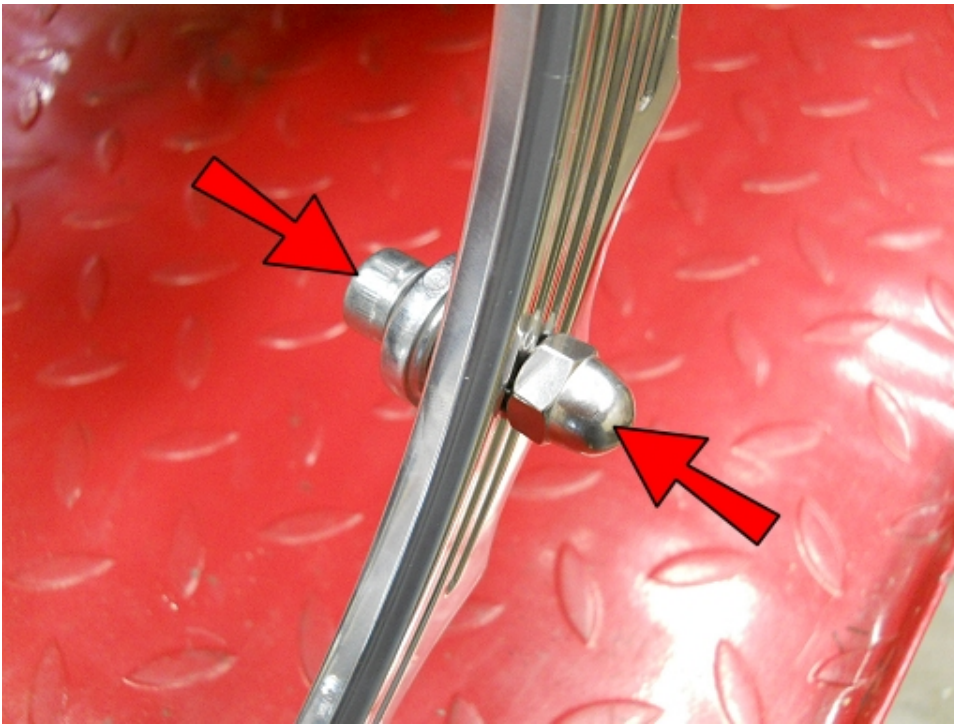


Thread on an M6 Acorn nut and tighten.



Remove the LH M8 Nut from the old shifter pedal ball joint and thread it onto the M8 LH Male Spherical Rod End.





Connect the M8 LH Male Spherical Rod End to the Shifter Pedal with an M8-1.25x30 SHCS and secure with an M8 Acorn Nut.



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

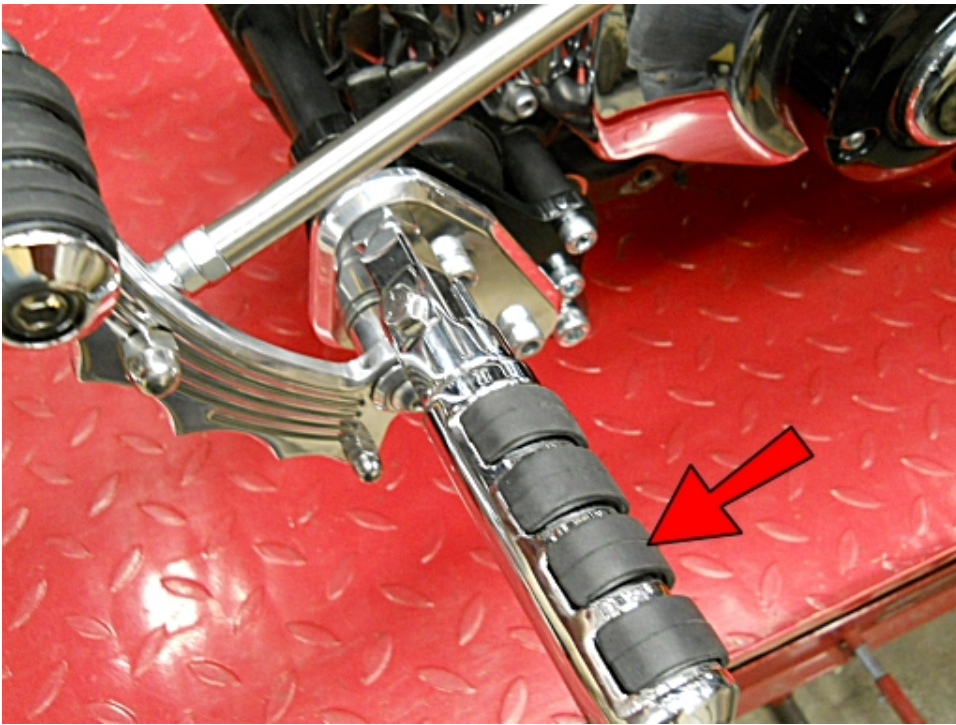


Start the Shifter Linkage just a 1/4 turn onto the ball joint.



Now start it onto the M8 LH Male Spherical Rod End at the other end and thread it most of the way on to desired Shifter Pedal angle.





Connect a foot peg.



Once you have tested and are happy with the Shifter Pedal angle, tighten the nuts against the Linkage at both ends.

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!