

## Installation instructions for FC9 & FC18 Forward Controls for 1985-2007 Yamaha V-Max

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 FC20. 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).



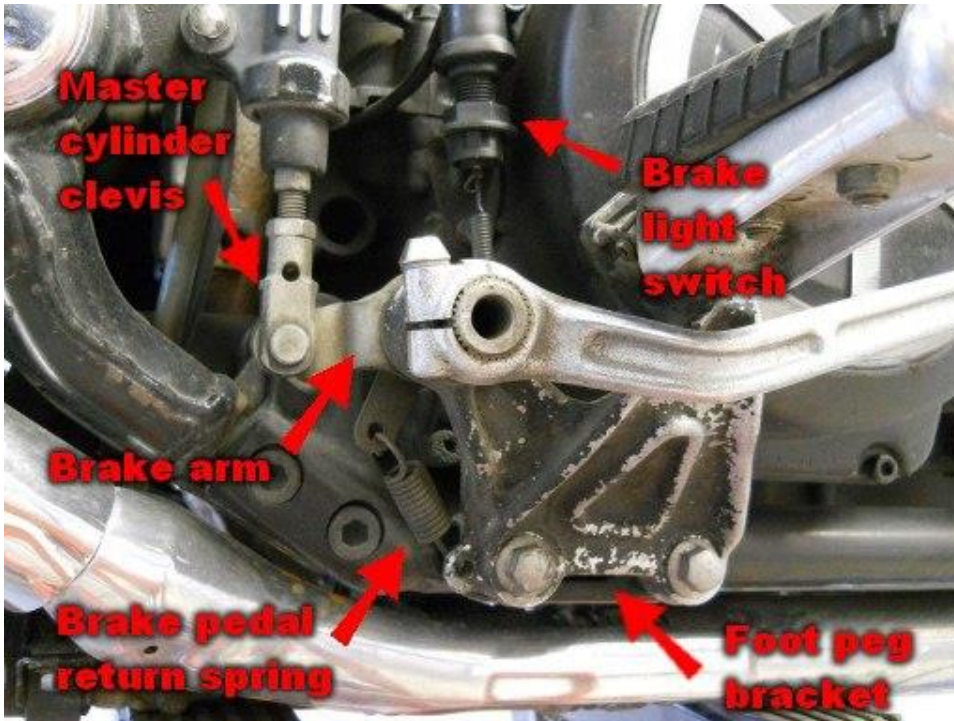
**FC9 Components**

- |   |                                |
|---|--------------------------------|
| 1 - FC9 left side                       | 16 - Toe peg (x2)              |
| 2 - .5" Spacer (x4)                     | 17 - Shifter pedal             |
| 3 - M8-1.25x110 socket head bolt (x4)   | 21 - M6-1.0 nut (x5)           |
| 4 - M6-1.0x25 socket head bolt (x5)     | 22 - M8-1.25 lock nut (x4)     |
| 5 - M8-1.25x40 socket head bolt (x2)    | 23 - 5/16-24 nut (x2)          |
| 6 - 3/8-16x2 button head bolt (x2)      | 24 - 3/8-16 Nut (x2)           |
| 7 - 3/8-16x1.25 button head bolt        | 25 - 1/2" Retaining ring       |
| 8 - M10-1.25x40 socket head bolt (x2)   | 26 - FC9 right side            |
| 9 - Brake arm mount                     | 27 - 1/2" washer               |
| 10 - Brake pedal                        | 28 - 5/16" washer              |
| 11 - 5/8 OD x 1/2 ID Bronze sleeve (x2) | 29 - M6 Spherical rod end (x3) |
| 12 - SLV1 (x2)                          | 30 - Linkage (x2) (not shown)  |
| 13 - Brake arm spindle                  |                                |
| 14 - Brake arm                          |                                |
| 15 - 1.5" spacer (x4)                   |                                |

**Note: FC18 Components are the same except the Left & Right Side Plates shown below in the instructions.**

## Brake side

See picture A to familiarize yourself with some of the stock components and their names.



Picture A

Remove the bolt holding the brake pedal on the brake arm and remove the brake pedal. Disconnect the brake pedal return spring from the foot peg bracket. Remove the two bolts that hold the foot peg bracket to the frame and remove the foot peg bracket. Locate the clevis attached to the bottom of the master cylinder. Remove the cotter pin, washer and clevis pin from the clevis. Remove the brake light switch spring from the brake arm. Set the brake arm aside.



Picture A2

Remove the two bolts that hold the master cylinder to the frame. Insert two M8-1.25x40 socket head bolts (part #5) into the master cylinder. Place a .5" Spacer (part #2) onto the bolts at the back side of the master cylinder and reattach it to the frame as shown in picture A2.

Insert a 3/8-16x1.25 button head bolt (part #7) into the backside of the top hole of the Brake arm mount (part #9). Place a 5/16" washer (part #28) onto the 3/8-16x1.25 button head bolt then thread on a Brake arm spindle (part #13) and tighten. Apply some axle grease to the Brake arm spindle. See picture B.



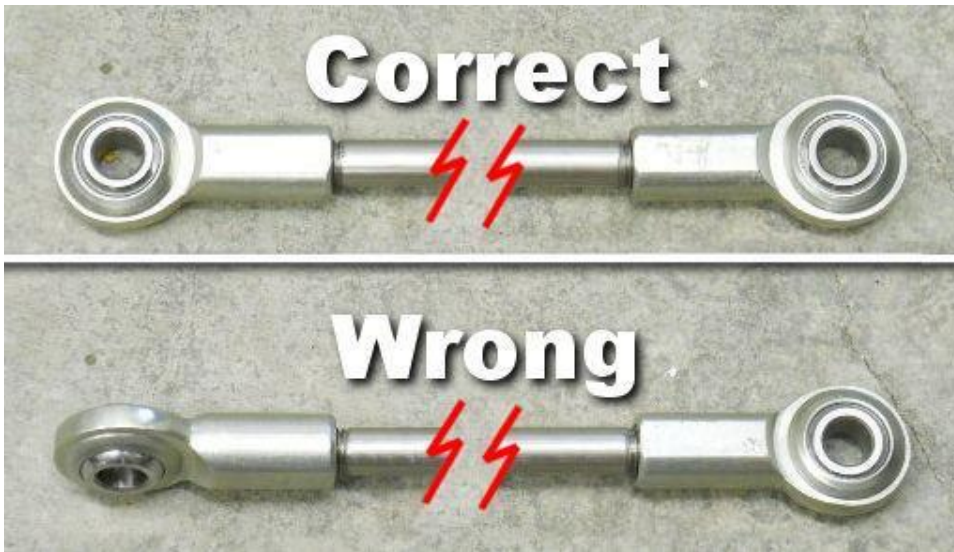
**Picture B**

Hook one end of the brake pedal return spring into the small bottom hole of the Brake arm (part #14) and the other end of the spring into the small hole on the Brake arm mount. Slide the Brake arm onto the Brake arm spindle, then a 1/2" washer (part #27) then secure with a 1/2" Retaining ring (part #25). Attach the Brake arm to the master cylinder clevis with the clevis pin, washer and cotter pin previously removed. Attach the brake switch spring to the Brake arm. Insert two M10-1.25x40 socket head bolts (part #8) into the Brake Arm Mount. Slide a .5" Spacer onto each of the M10-1.25x40 socket head bolts at the back side of the Brake Arm Mount and attach it to the frame. Press down on the back end of the Brake arm mount while tightening the M10-1.25x40 socket head bolts to create tension on the break return spring. See picture C.



**Picture C**

Thread the M6 spherical rod ends (part #29) all the way on to the brake linkage (part #30) making sure they're lined up with each other as shown in picture D. (Note: On the FC18 kit, one of the ends on each linkage is a left hand thread so you will need to use the left hand threaded Spherical Rod End on those ends.)



**Picture D**

Attach one end of the Brake Linkage to the Brake Arm with an M6-1.0x25 socket head bolt (part #4) and secure with an M6-1.0 nut (part #21) as shown in picture E.



**Picture E**

Attach the FC9 right side (part #26) to the frame using two M8-1.25x110 socket head bolts (part #3) and two 1.5" spacers (part #15) and secure with two M8-1.25 lock nuts (part #22). Attach a foot peg to the FC9 right side. See picture F.



**FC9 Picture F**



**FC18 Right Side**

Apply grease to the outside surface of both SLV1's (part# 12) and the inside and outside of both the 5/8x1/2 Bronze Sleeves (part# 11).

Place a SLV1 into a 5/8x1/2 Bronze Sleeve and insert them into the Brake Pedal (part# 10) as shown in picture G.

Also do this on the Shifter pedal (part# 17) and set it aside.



**Picture G**

Use a 3/8-16x2 Button head bolt (part #6) to connect the Brake pedal to the FC9 right side and secure with 3/8-16 Nut (part #24). Attach a Toe peg (part #16) to the top of the brake pedal and secure with a 5/16-24 nut (part #23). Attach the other end of the Brake linkage to the Brake pedal with an M6-1.0x25 socket head bolt (part #4) and secure with an M6-1.0 nut. See picture H.



**Picture H**

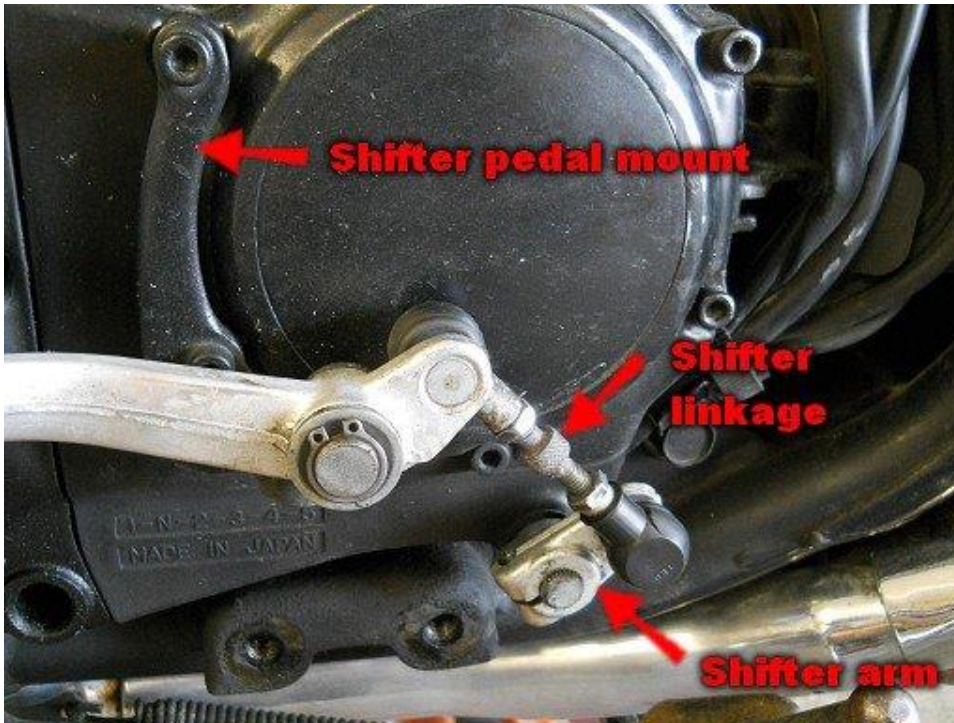
The brake light switch may need to be adjusted. To test, turn your key on and observe your brake light while pressing and releasing the brake pedal a few times. If the brake light works as desired, no adjustment is necessary. If it stays on all the time, turn the adjustment nut shown in picture A to loosen the spring tension on the brake light switch. Hold the brake light switch in one hand to keep it

from turning, while using a wrench to turn the nut. If it does not come on at all, tighten the tension on the brake light switch. With a little trial and error you will find the right position.

This completes the brake side

Shifter side

Remove the foot peg bracket by removing the two bolts as done on the other side. See picture I to familiarize yourself with some of the stock components and their names.



Picture I

Loosen the two nuts on the shifter linkage and rotate the linkage to remove it.

Remove the retaining ring from the shifter pedal and remove it.

Remove the two bolts holding the shifter pedal mount and remove it.

Install two M6-1.0x25 socket head bolts into the case, in place of the longer bolts you removed from the shifter pedal mount. These can be painted black first if so desired. Remove the bolt from the shifter arm. Pull the Shifter arm off of the spline, reorient the shifter arm and slide it back on to the spline, as shown in picture J. Replace the bolt that was in the shifter arm and tighten.



Picture J

Attach the FC9 left side (part #1) to the frame in the same manner as the other side using two M8-1.25x110 socket head bolts and two 1.5" spacers and secure with two M8-1.25 lock nuts. Attach a foot peg to the top hole of the FC9 left side.

Attach the Shifter pedal (with sleeves already in) to the FC9 left side in the same manner and with the same hardware as previously done on the other side as shown in picture L.



**FC9 Picture L**



**FC18 Left Side**

Attach a toe peg to the top of the Shifter pedal and secure with a 5/16-24 nut.

Thread an M6-1.0 nut about  $\frac{3}{4}$  of the way onto both ends of the new Shifter linkage. Thread one end of the linkage into the ball joint attached to the shifter arm.

Thread the other end into an M6 spherical rod end. Insert an M6-1.0x25 socket head bolt into the M6 spherical rod end and thread it into the Shifter pedal. Secure with an M6-1.0 nut.

The position of the Shifter pedal can be adjusted by removing the shifter arm from the spline and rotating it a notch or two, clockwise or counterclockwise. Fine adjustment can also be accomplished by threading the Shifter linkage in or out. You will need to remove the M6 spherical rod end from the Shifter pedal to do this. After adjustment is finished, make sure to tighten the M6-1.0 nut against the spherical rod end and ball joint to secure it.

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!