Installation Instructions for FC2 Forward Controls for the 85-86 Magna

PLEASE NOTE!!!!! There have been 2 significant changes to these instructions……

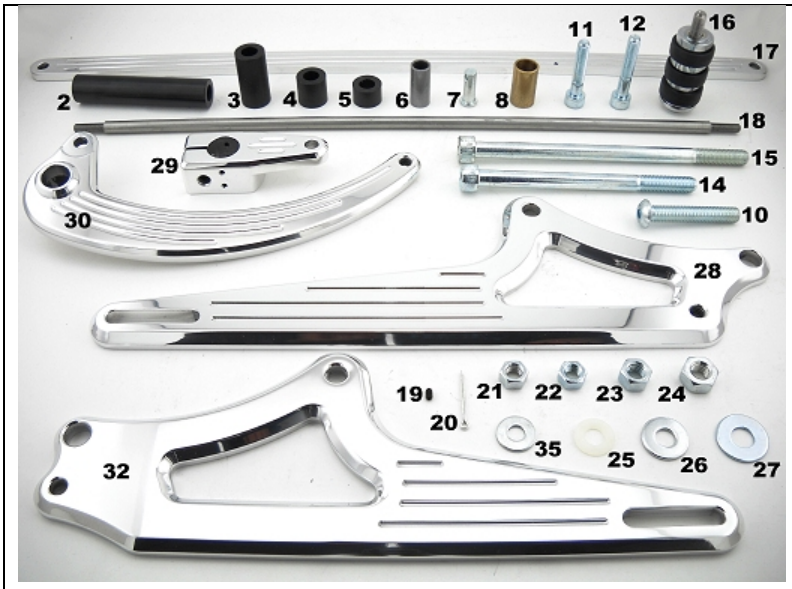
1. **We no longer use the brake linkage shown or the pins to connect it. Your kit will include a linkage and spherical rod ends and bolts to connect it, similar to the shifter side.**

2. **The Shifter pedal upgrade is now INCLUDED with this kit so you will also need to reference our PDL2 Shifter Pedal kit instructions as well.**

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 sales@refinedcycle.com.

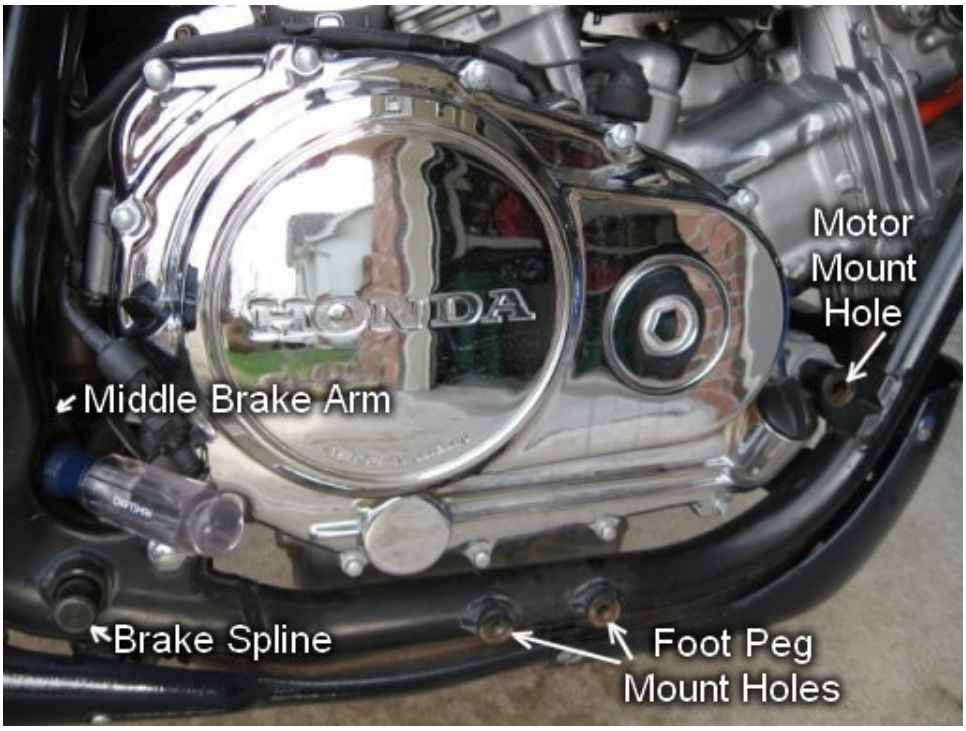


Components list for the 85-86 Magna

2- 3.6" spacer
3- 1.5" spacer
4- .75" spacer
5- .50" spacer
6- SLV1
7- No longer used
8- 5/8” x 1/2” Bronze OR Steel Sleeve
10- 3/8-16x2” button head bolt
11- M8-1.25 x 40mm bolt
12- M8-1.25 x 45mm bolt (qty. 2)
14- M10-1.5 x 130mm bolt
15- M10-1.5 x 170mm bolt
16- Toe peg
17- Brake linkage (changed to threaded rod)
18- Shifter linkage
19- #6 Set screw (qty. 4)
20- No longer used
21- 5/16” nut
22- 8mm nut
23- 3/8” nut
24- 10mm nut (qty. 2)
25- No longer used
26- No longer used
27- 3/8” Zinc washer
28- Brake side FC2 plate
29- Brake arm
30- Brake pedal
32- Shifter side FC2 plate
35- 1/4” Zinc Washer (qty. 2)

<u>Additional parts added to the kit…</u>
Left Hand M6 Nut
Right Hand M6 Nut (qty. 3)
Left Hand Spherical Rod End
Right Hand Spherical Rod End
M6-1.0x25 Bolt (qty. 2)
M6 Washer (qty. 2)
#8-32 Screw and Nut

Begin by unhooking the brake switch spring from the stock brake pedal. Press the brake pedal down enough to place a large screwdriver behind the middle brake arm to keep it forward as shown in picture A. This will help maintain the correct rotation of the brake spline.



Picture A

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

Remove the entire foot peg mount assembly by taking out the two bolts that hold it to the frame and remove the lower motor mount bolt and nut.

Insert an M8-1.25 x 40mm bolt (part #11) into the slot at the back of the Brake side FC2 plate (part #28) then into the .5" spacer (part #5) and thread the bolt half way into the front foot peg mount hole.

Insert the M10-1.5 x 130mm bolt (part #14) into the top hole of the FC2 plate then into the 1.5" spacer (part #3) then into the motor mount hole. Go back and completely tighten the M8 bolt first then thread a 10mm nut (part #24) onto the M10 bolt and tighten. See picture B.

Picture B

Apply grease to the outside surface of the SLV1 (part #6) and the inside and outside of the 5/8x1/2 Bronze Sleeve (part #8).

Place the SLV1 into the 5/8x1/2 Bronze Sleeve and insert them into the Brake Pedal (part #30) as shown in picture C.

Picture C

Use a 3/8-16x2 Button head bolt (part #10) to connect the Brake pedal to the Brake side FC2 plate and secure with 3/8 nut (part #23).

Thread the Toe peg (part #16) into the hole at the top of the brake pedal and secure with the 5/16 nut (part #21).

Next install the foot peg. The angle of the brake pedal will be determined by the angle of your foot peg clevis since it will rest against it. Tighten in the position desired as shown in picture D.

Picture D

Orient the Brake linkage (part# 17) with the small spring hole toward the rear and attach it to the brake pedal by inserting the clevis pin (part #7) first into the linkage, then into a Nylon washer (part#25) then into the brake pedal, then into a 1/4 Zinc washer (part #35) and secure with a Cotter pin (part #20) as shown in picture E.

Picture E

Start the 4 Set screws (part #19) into the Brake arm (part #29) but make sure they do not protrude through the other side as in picture F.

Picture F

Hold the brake arm firmly and insert a large flat head screw driver into the end and carefully tap the handle 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). See picture G.

Picture G

The brake spline slides easily in and out of its hole so make sure the spline is all the way out then place the brake arm onto the spline and orient it approximately as shown in picture H, BUT leave the screw driver in the brake arm for now.

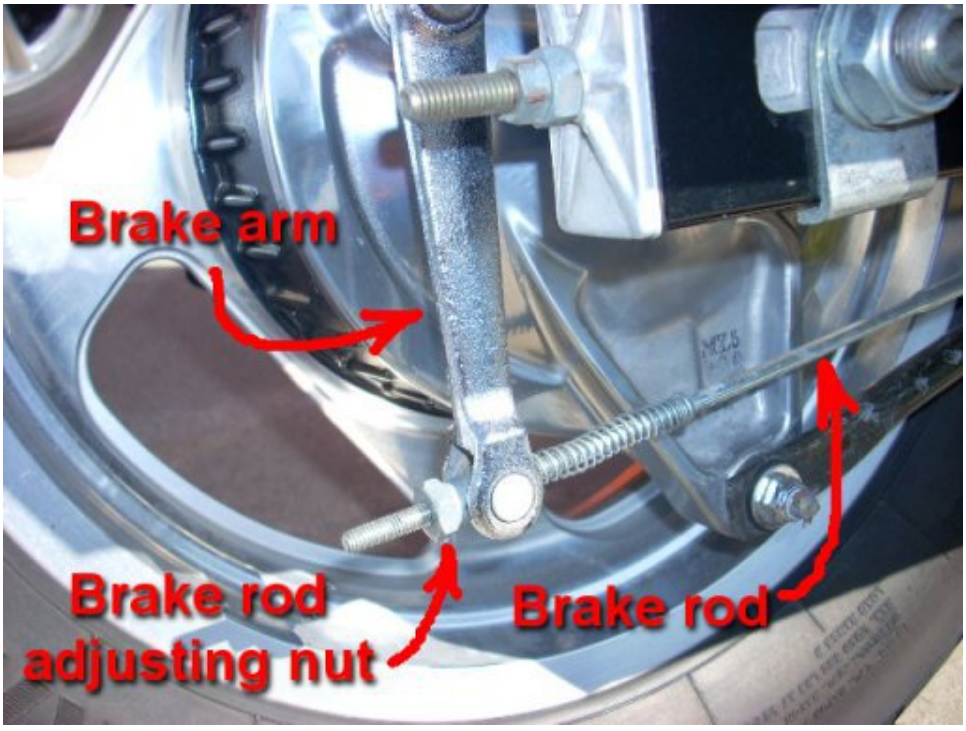
Hold the brake lever forward, about 1/2" away from the foot peg clevis. Connect the brake linkage to the brake arm with clevis pin, washers and cotter pin in the same way as the other end. Make sure you have the brake arm all the way on the spline as shown in picture H and remove the screw driver from the bottom of the brake arm.

Thread the bolt that came out of the stock brake pedal into the brake arm and tighten. 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.

Picture H

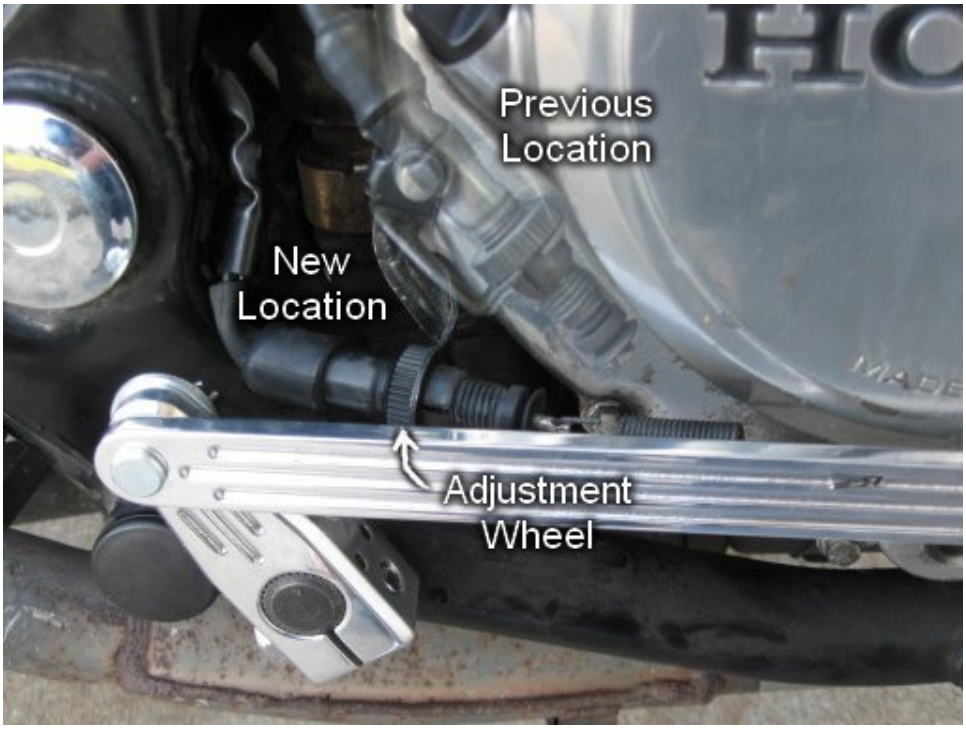
Now remove the screwdriver holding the middle arm. The brake pedal should come back and rest against the foot peg clevis.

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. See picture I.



Picture I

Once the brakes are adjusted correctly, the brake light switch mount will need to be bent down to allow a straight line of movement for the spring as shown in picture J.



Picture J

This can be done best by removing the bolt that holds the brake light switch mount on and using a bench vise to bend it but you can also use pliers to bend it while it is still on the bike. Bend carefully as not to break this mount, they are no longer available from Honda. You can purchase replacement mounts from RefinedCycle.com however.

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 lose, 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. You may also need to do a little more bending to get the angle correct. 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.

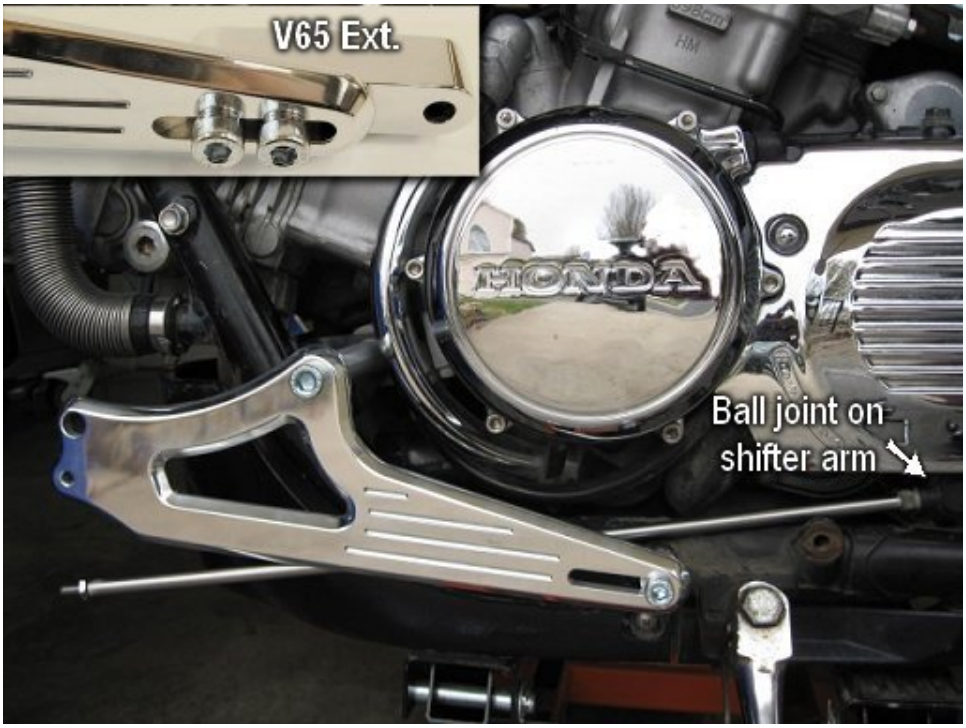
Shifter Side…

In the same way as before, remove the foot peg mount. Loosen the nuts at either end of the stock shifter linkage. The rear nut is a left hand thread so turn it the opposite direction to loosen. Now rotate the linkage rod to unscrew from both ends as shown in picture K. Remove the nuts from both ends and thread them all the way onto the Shifter linkage (Part #18). Make sure to put the left hand threaded nut onto the correct end.

Picture K

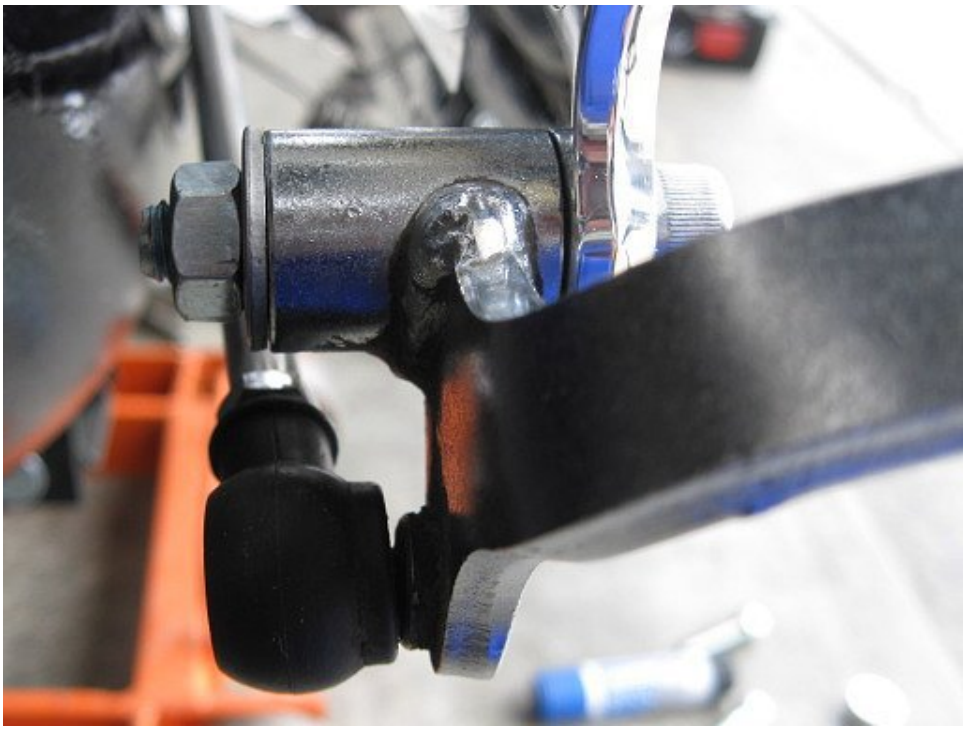
Note: If you also purchased the Shifter Pedal kit, stop here and read the installation instructions for it before continuing.

Install the Shifter side FC2 plate (part #32) in the same manner as before, except you will use an M8-1.25 x 45mm bolt (part #12) and a .75" spacer (part #4) plus two 5/16 zinc washers (part #26) (to increase the spacing) at the rear. You will use an M10-1.5 x 170mm bolt (part #15) and a 3.6" spacer (part #2) plus one 3/8 zinc washers (part #27) at the front. Place washers against the back side of the FC2 plate to hide them. Tighten the M10 bolt with a 10mm nut as on the other side.
Now thread the shifter linkage (left hand thread end) into the ball joint connected to the shifter arm as shown in picture L.



Picture L

Remove the shifter pedal from the stock foot peg mount and thread the other end of the shifter linkage into the ball joint of the shifter pedal. Install shifter pedal onto the back side of the Shifter side FC2 plate using an M8-1.25 x 45mm bolt (part #12), the stock washer from the shifter and an 8mm nut (part#22) as shown in picture M.



Picture M

Install your foot peg as previously instructed. If the shifter lever is in a comfortable position for both down and up shifting, tighten the nuts at both ends of the shifter linkage and you are done. If the lever is too low or too high, (especially on the V65) you will need to remove the cover over the shifter arm (if there is a cover on your model) and adjust its angle by removing it from the spline and rotating it to get the desired angle for the shifter pedal.

Make fine adjustments by rotating the linkage and then tighten the nuts. 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!