

## INSTALLATION INSTRUCTIONS FOR CENTRI-FORCE™ CLUTCH



### **IMPORTANT SAFETY PRECAUTIONS**

**WARNING: DO NOT START THE MOTORCYCLE UNLESS THE TRANSMISSION IS IN NEUTRAL OR THE CLUTCH LEVER IS HELD IN, OR SERIOUS INJURY MAY OCCUR. WHILE STOPPED, PUT THE TRANSMISSION IN NEUTRAL OR HOLD THE CLUTCH LEVER IN. FAILURE TO FOLLOW THESE PRACTICES MAY CAUSE SERIOUS INJURY OR SERIOUS DAMAGE TO THE MOTORCYCLE.**

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# Centri-Force™ Installation For Brute IV or V

## Warnings:

1. Wear safety glasses when drilling or tapping.
2. Disconnect battery ground cable when working on the motorcycle primary drive.
3. Rivera recommends having a experienced mechanic perform the necessary machining & mechanical operations.

## The Centri Force kit for BRUTE IV (2058-0042) includes:

One 2058-0040 Centri-Force™ Pressure Plate Assembly  
Six PP-415 Chrome ¼-20 x ½" Bolts  
One PP-416 ¼-20 x ½" Tap  
One PP-417 ¼" Transfer Punch  
One PP-418 Drill Bit  
One PP-220 Friction Disc  
Three PP-221-A .047 Steel Drive Plates  
Four PP-135 bolts 5/16X18/1" button head allen  
Four 2100-0105 lock nuts

## *The standard clutch pack on the Brute IV has:*

One .120 steel drive plate (PP-026)  
Six .080 steel drive plates (PP-221)  
One .047 steel drive plate (PP-221-A)  
Seven friction plates (PP-220-K)

## *The new clutch pack that will be used with the Centri-Force™ will contain:*

Five .080 steel drive plates (PP-221)  
Three .047 steel drive plate (PP-221-A)  
Eight friction plates (PP-220-K)

## The Centri Force kit for BRUTE V (2058-0043) includes:

One 2058-0041 Centri-Force™ Pressure Plate Assembly  
Six PP-415 Chrome ¼-20 x ½" Bolts  
One PP-416 ¼-20 x ½" Tap  
One PP-417 ¼" Transfer Punch  
One PP-418 Drill Bit  
One PP-220 Friction Disc  
One PP-221 .080 Steel Drive Plate  
Four PP-135 bolts 5/16X18/1" button head allen  
Four 2100-0105 lock nuts

## *The standard clutch pack on the Brute V has:*

One .120 steel drive plate (PP-026)  
Five .080 steel drive plates (PP-221)  
Three .047 steel drive plate (PP-221-A)  
Eight friction plates (PP-220-K)

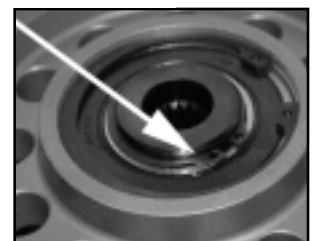
## *The new clutch pack that will be used with the Centri-Force™ will contain:*

Six .080 steel drive plates (PP-221)  
Three .047 steel drive plate (PP-221-A)  
Nine friction plates (PP-220-K)

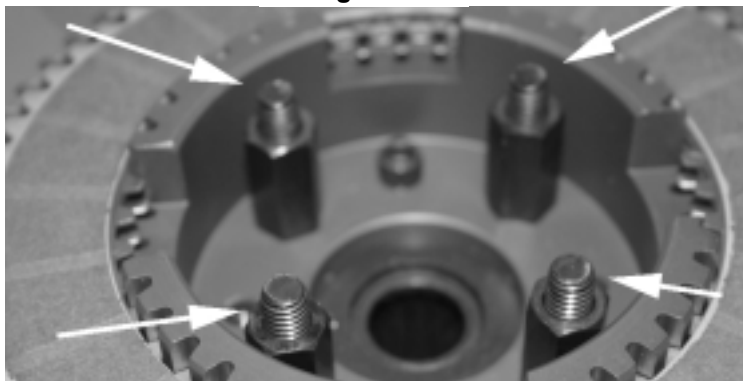
## INSTALLATION

To install the Centri-Force™ Pressure Plate on the Primo Brute IV or V Open Belt Drive you must first remove the clutch basket from the motorcycle. Remove the pressure plate, spring, spring retainer and all clutch fibers and steels. Remove the small snap ring (See figure 1) and press out the clutch hub (Brute IV & V). Remove the four long nuts & bolts. Replace them with the supplied PP-135 (5/16X18X1) bolts (4), and the supplied 2100-0105 (5/16-18) lock nuts (4). (See Figure 2)

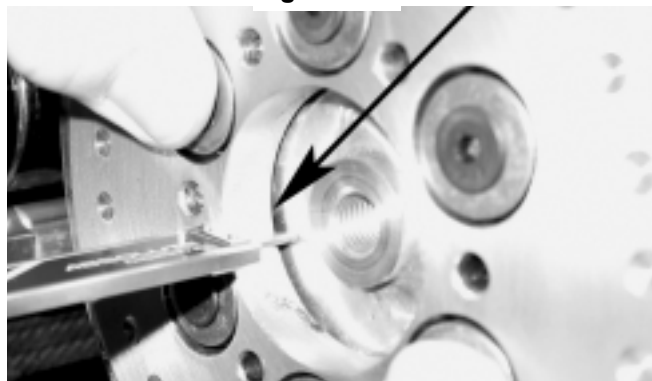
Figure 1



**Figure 2**



**Figure 3**



Place the basket on a sturdy surface and lay the Centri-Force™ pressure plate on the face of the basket with the guide positioned around the outside edge of the basket. Using masking tape, tape the Centri-Force™ pressure plate in place to prevent movement. Slide the supplied transfer punch (point side down) into each of the six counterbored attachment holes found the perimeter of the Centri-Force™ pressure plate and lightly tap with a hammer. Using a good drill press, drill a small hole with 1/8" pilot drill, 3/4" deep into each of the six indentations made with the transfer punch. Using the supplied drill bit (PP-418), finish drilling the holes to a depth of 3/4". Thread the holes using tapping lubricant and the supplied 1/4-20 tap and then thoroughly clean the drilled & tapped holes with forced air. Press in the clutch hub assembly and reinstall the snap ring.

Re-install the front pulley, belt & rear pulley (clutch basket), and install the new Centri-Force clutch plates as follows: One .080" steel drive plate in first, followed by a friction. Alternate steel, friction, ending with a **friction** plate up against the Centri-Force™ pressure plate. Do NOT use the .120 steel and be sure to only use the amount of steels and fibers specified above. In addition, You will NOT use the original pressure plate, diaphragm spring or spring retainer, nuts and lock tabs. The Centri-Force™ pressure plate assembly replaces those items. Bolt the Centri-Force™ pressure plate onto the face of the clutch basket with the supplied 1/4-20 x 1/2" bolts into the newly drilled & tapped holes. You are now ready to adjust the Centri-Force™ pressure plate.

Note: Adjusting the Centri-Force™ pressure plate is relatively easy; however we recommend that it be done by an experienced motorcycle mechanic.

### **ADJUSTMENT FOR CABLE ACTUATED CLUTCH**

After all the clutch fibers, steel drive plates and Centri-Force™ pressure plate are installed, you must make sure that you have at least .060 - .070" of clearance. This clearance can be measured by using the extension 'depth' end of a dial caliper. Insert the extension into the well in the center of the Centri-Force™ pressure plate so the end is contacting the surface of the pressure plate. Press down on the six external pressure plate springs so that the pressure plate is forced away from the housing and against the clutch pack, then measure the gap between the surface of the pressure plate and the inside surface of the housing. (See Figure 3.). If this measurement is not correct, you may need to purchase extra steels to get to the proper specification.

If you want your motorcycle to idle faster, and you find that the Centri-Force™ pressure plate is engaging to soon, you will need to get more clearance between the pressure plate and the housing, if you have a slower idle and you need the clutch to engage quicker you will need less clearance between the pressure plate and the housing.

You can also get the clutch to engage later by adding spring washers to each of the six spring posts, or get the clutch to engage sooner by removing a spring washer from each of the six spring posts.

Take all the adjustment out of the clutch cable so that the clutch lever is up against the handlebar grip. Turn the center clutch adjusting screw in until you see the clutch lever just start to move away from the handlebar grip, then lock down the clutch adjustment screw jam-nut tightly. The clutch is now adjusted and ready for operation.

### **ADJUSTMENT FOR HYDRAULIC ACTUATED CLUTCH**

After all the clutch fibers, steel drive plates and Centri-Force™ pressure plate are installed, you must make sure that you have at least .060 - .070" of clearance. This clearance can be measured by using the extension 'depth' end of a dial caliper. Insert the extension into the well in the center of the Centri-Force™ pressure plate so the end is contacting the surface of the pressure plate. Press down on the six external pressure plate springs so that the pressure plate is forced away from the housing and against the clutch pack, then measure the gap between the surface of the pressure plate and the inside surface of the housing. (See Figure 3.). If this measurement is not correct, you may need to purchase extra steels to get to the proper specification.

If you want your motorcycle to idle faster, and you find that the Centri-Force™ pressure plate is engaging too soon, you will need to get more clearance between the pressure plate and the housing, if you have a slower idle and you need the clutch to engage quicker you will need less clearance between the pressure plate and the housing.

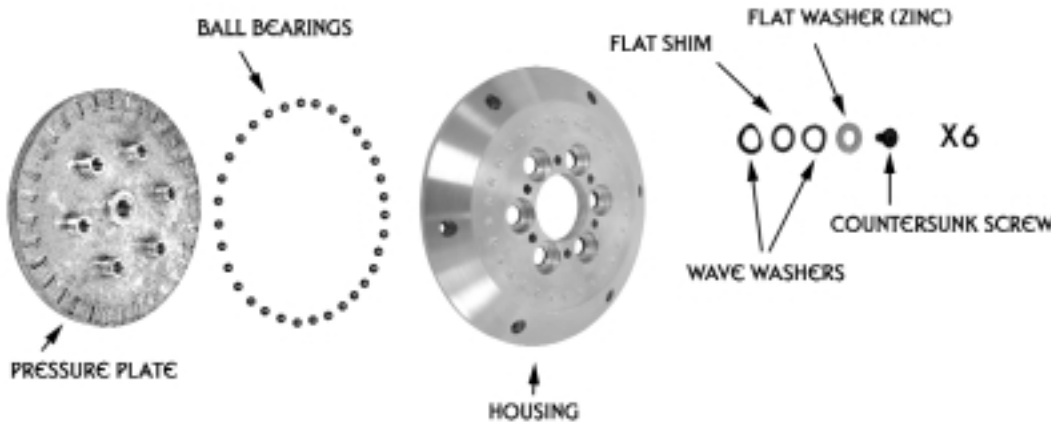
You can also get the clutch to engage later by adding spring washers to each of the six spring posts, or get the clutch to engage sooner by removing a spring washer from each of the six spring posts.

To bleed the clutch hydraulic actuator unit, turn the center adjustment screw until it bottoms out the slave cylinder piston, then turn out the center adjustment screw 2 to 2 ½ turns only. This will prevent the slave cylinder piston from popping out of the bore.

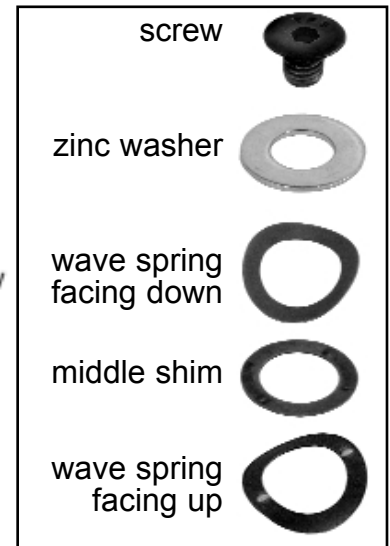
## DISASSEMBLY & ASSEMBLY

Remove the six bolts from the Centri-Force™ pressure plate housing. Under each countersunk bolt are a large zinc plated flat washer, 2 spring washers and 1 shim. Carefully remove Centri-Force™ housing from the pressure plate to expose the 32 ball bearings. Assemble in reverse; DO NOT use thread lock on the 6 bolts. Prior to completing assembly, the housing and the pressure plate must be indexed. On the back side of the pressure plate there is a small thru hole. On the back side of the housing there is a small dimple. Line the dimple on the housing with the thru hole on the pressure plate and then complete assembly. (See Figure 4).

Figure 4



## ASSEMBLY ORDER



## OPERATION

**CAUTION:**

Always put the motorcycle in **NEUTRAL** before starting the motorcycle, and when coming to a complete stop. Although it is possible to start the bike when in gear and to idle in gear without utilizing the clutch lever, it is dangerous and could result in injury to person or damage to motorcycle. Always pull in the clutch lever when coming to a stop and when at a stand still. To shift the motorcycle during operation, simply unload the Centri-Force™ actuated clutch by coming completely off the throttle, complete the shift, then throttle back up. The Centri-Force™ pressure plate allows you to accelerate slowly or hard without effort and clutch pull is dramatically reduced or eliminated, making it the perfect solution for riders who find it difficult to pull in their clutch lever.

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