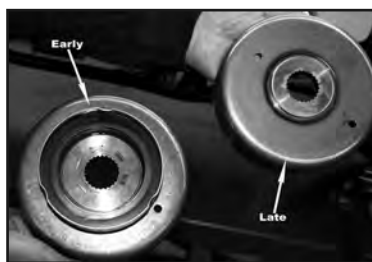




# BRUTE III EXTREME 2007™ ENCLOSED BELT DRIVE INSTALLATION INSTRUCTIONS



8mm 2" Wide  
Fits 2007 up Softail® Models  
&  
2006 up DynaGlide® Models



**NOTE:** On all 2007 and many 2008 models it will be necessary to replace the OE stator rotor with OE stator rotor part # 30041-08.

It is common knowledge that a belt drive primary provides advantages & service that a standard chain drive primary cannot. For dependable, high-performance, long lasting service nothing beats a modern Primo® primary Belt Drive! A long standing tradition of "Quality & Performance" has made Primo® Belt Drive systems the most popular in the world! That same quality & performance is now available in the Brute III EXTREME 2007™ belt drive for '06 Dyna & '07 Later Softail® motorcycles (fully enclosed primary drive). The wet clutch nightmare is over, no more leaky primary, no more draining the primary for inspection or maintenance. Carefully read & follow these instructions for a quick, convenient installation. If you have questions call (562) 907-2600.

### IMPORTANT SAFETY NOTICE....

When performing any motorcycle work such as installing a belt drive, secure the motorcycle in an upright position with convenient access to the primary drive. If you are working with the motorcycle on a lift make sure it is securely fastened to prevent it from falling.

**REMOVE THE BATTERY PRIOR TO STARTING THIS INSTALLATION.**

### Strip the primary

1

Drain the primary case, remove both the inner & outer primary covers, & all OEM chain drive components from the primary chaincase. Thoroughly clean the inner & outer primary covers to remove all traces of primary fluid. Remove the factory bearing race from the transmission mainshaft using the Jims tool part # 34902-84.

(Shown is a 2007 Harley-Davidson® Softail®).



### Install the sealed bearing (1018-0021)

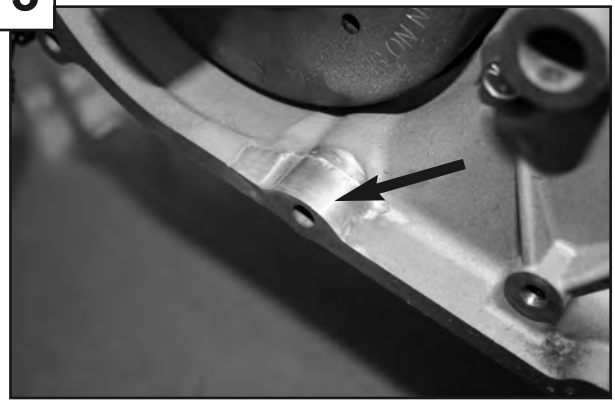
2

Install Primo's one-piece, sealed bearing included in the kit.



### RELIEVE INNER PRIMARY BOSS

3



**NOTE:** In some cases it may be necessary to remove material from the inner primary to clearance for the belt. The belt must never come in contact with the inner primary surface.

### Check pulley alignment with a straight-edge

Install front pulley (without front inside guide) & rear pulley without the belt & check alignment as shown (straight edge flush with rear of rear pulley guide lines up with outer edge of front pulley) remove pulleys and proceed with installation. If alignment isn't satisfactory use shims to space only the front pulley. The rear pulley will NEVER have shims behind it.

4

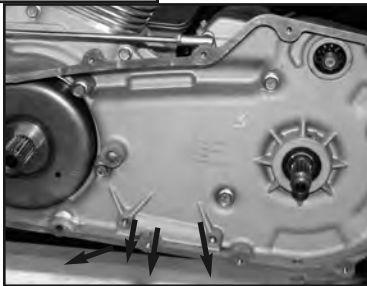


Shims are manufactured from high quality steel, precision ground for parallel & flat surfaces to ensure perfect pulley alignment. Correct pulley alignment & correct belt tracking are a must for long belt life. These shims make pulley alignment easy. Shims are available in .025", .050", .070", & .100" thick dimensions, or a kit of one-of-each size (1101-0500).

### Check for proper belt clearance

5

After ensuring proper pulley alignment, again check the areas indicated in the photo for belt and/or pulley clearance. Rear pulley and belt clearance should be checked before operating the motorcycle.



This outer primary has been relieved in the areas indicated by arrows to allow for adequate belt clearance. Most installations require some grinding on the inner and outer primaries. Now remove front & rear pulleys for final installation.

5A



### Apply grease to the main-shaft splines

Apply a thin coat of the grease to the splines of the transmission mainshaft to act as both a corrosion inhibitor, & lubricant. The grease also acts as a cushion for the splines on the transmission mainshaft during operation.



5B

### Install rear pulley & belt.

Install the rear pulley (clutch basket) & belt. Apply 3 drops blue thread lock to the mainshaft threads. Install the clutch hub nut HEX IN FIRST & TORQUE TO 80-90 FOOT POUNDS. (The center adjustment screw with o-ring will prevent transmission oil from leaking thru the main-shaft into the clutch pack).



6



### Use thread-lock here.

### Grease sprocket shaft

Apply a thin coat of the grease to the splines of the motor sprocket shaft to act as both a corrosion inhibitor, & lubricant.



7

Install front pulley, 9/16-12 X 3" grade 8 bolt & cup washer. Use 1-2 drops of red thread lock on the threads of the bolt. **INSTALL & TIGHTEN BOLT TO FACTORY SPECS (155-165 FOOT POUNDS)** using a quality torque wrench.

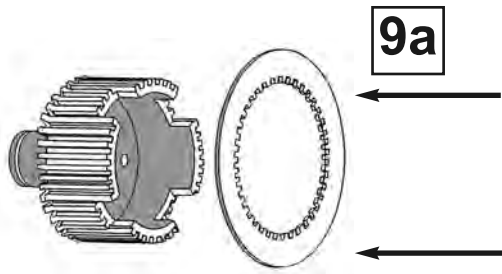


8



## CLUTCH HUB INFORMATION

Install the .120" thick steel plate at the rear of the clutch pack as shown. The clutch pack can then be installed.



**.120" thick Steel Plate plate first.**

After installing the .120" steel drive plate, Install the rest of the clutch pack per steps 10 and 11.



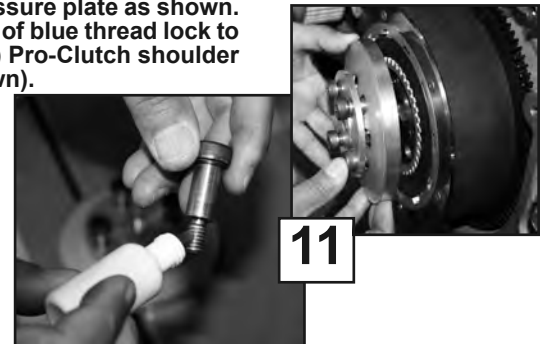
**Friction Plate plate second...**

Friction plate 2nd, then alternate steel, friction, steel, friction. The clutch plates should be installed in the same order as delivered. The clutch pack height is pre-set prior to shipment, & should not be altered without consulting a Primo technician.



**Install the pressure plate**

Install the pressure plate as shown. Apply 3 drops of blue thread lock to each of the (4) Pro-Clutch shoulder bolts (as shown).



**Install the pressure plate assembly & adjust the clutch.**

Install the diaphragm spring, spring retainer (beveled side inward against the spring) and shoulder bolts as shown. Tighten the 4 shoulder bolts equally until they bottom & then torquen to 35-45 FOOT POUNDS. Spring adjustment (and clutch pack height) is established prior to shipping.



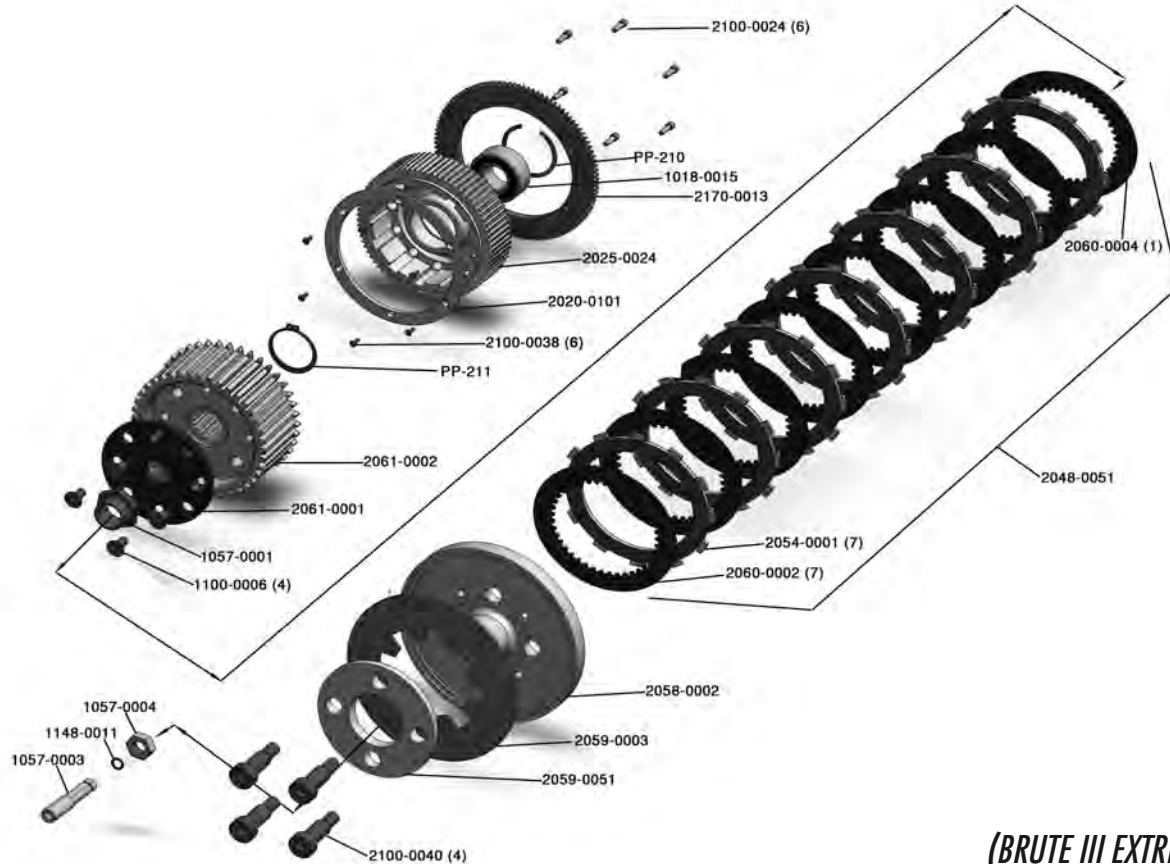
Belt should have 1/2" - 3/4" of up & down play when the drive train is cold. Re-install the outer primary cover and double check belt clearance. Install a louvered or vented derby cover (belt drive must have air flow), and you're ready to ride. Check belt tension after the drive train reaches normal operating temperature (15-20 minutes of riding at 55 MPH in ambient air temperature of 68 degrees). The belt should feel snug but not excessively tight!



**ATTENTION!**  
**ADJUST THE CLUTCH**  
**THIS WAY!!!**

Turn out the cable adjustment until the clutch lever rests against the grip. Start the center adjusting screw in the threaded hole on the pressure plate & then turn the center screw in until the clutch lever just starts to move away from the grip, then turn the center screw out 1/4 of a turn and lock the center adjusting screw jam nut firmly against the pressure plate. Now adjust a black clutch cable so you have approx. 1/8" free play from the clutch cable ferrule to the clutch lever perch and on a braided clutch cable you will have almost no free play.

# EXPLODED VIEW OF THE CLUTCH BASKET ASSEMBLY



*(BRUTE III EXTREME 2007™)*

## IMPORTANT INFORMATION

### LIMITED WARRANTY:

All pulleys are warranted to be free from defects in material and workmanship under normal use for a period of one year from actual date of purchase. Seller's liability shall be limited to repair or replacement of any materials found to be defective, free of charge at its plant or authorized service depots, of specific manufactures components. It is further warranted that products that were designed for a specific purpose, shall perform for that purpose when installed exactly as defined in the Installation Instructions accompanying the unit. In no event shall Rivera Primo Inc. or seller be liable for consequential or special damages asserted to be attributed to malfunction of our product, for any reason including, but not limited to, damage asserted to be from improper installation of our purchased Primary Belt Drive components.

This warranty shall not apply to any products which have been subjected to abuse, neglect or accident, nor shall it apply to any product which has been repaired or modified by any person not specifically authorized in writing by the manufacturer.

THERE IS NO WARRANTY ON BELTS. Due to the differing conditions and circumstances under which all belts are installed and used, Gates Rubber Company will not warranty any belt for length of service. Regardless of belt type, keeping your system free of debris and other objects is most important. Remember too, improper handling of the belt can shorten service life. Do not crimp the belt. Do not twist the belt. Do not pry the belt onto the application. If you're shipping or storing, do not crimp the belt in any way.

### LIMITATION OF LIABILITY:

THERE ARE NO IMPLIED WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE OF ANY SHIPMENT AND THERE IS NO IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS EXCEPT THAT THE MATERIAL SOLD HEREUNDER SHALL BE OF SELLER'S STANDARD QUALITY, and buyer assumes all risk and liability for all loss, damage or injury to person or property resulting from the use of said material in manufacturing processes or in combination with other substances, or otherwise. Except as otherwise provided herein quality shall be in accordance with seller's specifications. Final determination of the suitability of the material for the use contemplated by buyer is the sole responsibility of buyer, and seller shall have no responsibility in connection with such suitability.

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