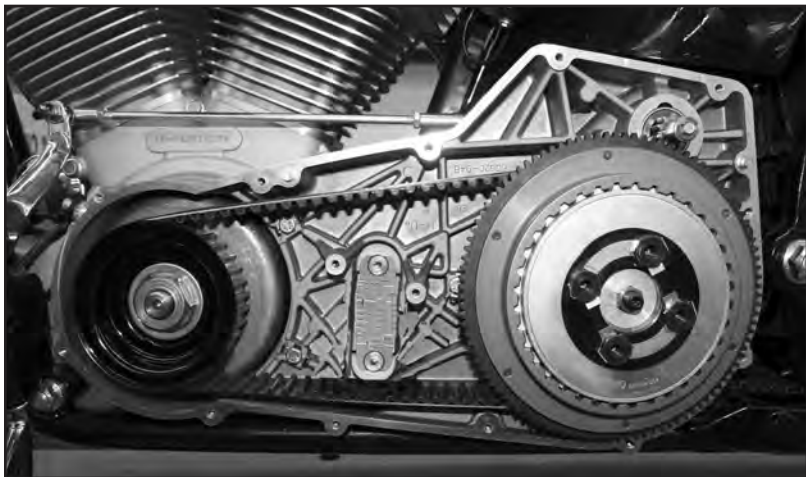


BRUTE III EXTREME™
ENCLOSED BELT DRIVE
INSTALLATION INSTRUCTIONS



11mm 1-3/4" Wide

Fits 1990-2006 Softail® Models
&
1990-2005 DynaGlide® Models

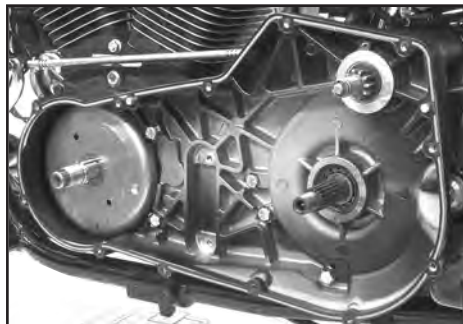
It is common knowledge that a belt drive primary provides advantages & service that a standard chain drive primary cannot. For dependable, high-performance, long lasting service nothing beats a modern Primo® primary Belt Drive! A long standing tradition of "Quality & Performance" has made Primo® Belt Drive systems the most popular in the world! That same quality & performance is now available in the Brute III EXTREME™ belt drive for Evolution Big-Twin and Twin Cam 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. Pictured is a 1995 Harley-Davidson® Dyna-Glide primary. Remove the factory bearing race from the transmission mainshaft using the Jims tool part # 34902-84.



Install the sealed bearing (PP-216)

2

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



Install Allen head bolt

NOTE: Replace the OEM hex-head bolt (Dyna Glide only) with the button-head Allen bolt provided in the kit. **TORQUE THE BUTTON-HEAD BOLT TO 29 FOOT POUNDS.**

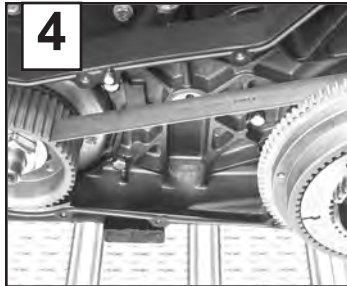
3



Check pulley alignment with a straight-edge

Install front pulley (together with front inside guide plate) & rear pulleys without the belt & check alignment as shown (straight edge flush with rear of ring-gear lines-up with outer edge of front pulley) remove pulleys and proceed with installation. If alignment isn't satisfactory see photo 8. The provided .100" washer can be used to space the front pulley outward as needed.

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 .020", .030", .050", .075" & .100" thick dimensions, or sets of "one-of-each."

Optional pulley shims,
PART # PX-1
Includes one of each
.020", .030", .040",
.050" and .100"

Check for proper belt clearance

5

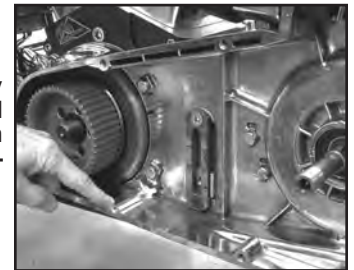
After ensuring proper pulley alignment, again check the areas indicated in the photo for belt and/or pulley clearance. Always check rear-pulley and belt clearance here before operating the motorcycle.



Check primary belt clearance here

5A

This inner primary (Early Evo) has had a tab removed to allow belt clearance in the area indicated. Most installations require some grinding on the inner and outer primaries.



Apply grease to the main-shaft splines

Apply a thin coat of the special Primo grease supplied in the kit to the splines of the transmission main-shaft to act as both a corrosion inhibitor, & lubricant. The grease also acts as a cushion for the splines on the transmission main-shaft during operation.

5B



Install rear pulley & belt.

6

Install the rear pulley (clutch basket) & belt. Apply Rivera blue thread lock to the main-shaft threads as shown. **INSTALL THE CLUTCH HUB NUT & TIGHTEN TO 70-80 FOOT POUNDS OF TORQUE.** (The center adjustment screw with o-ring will prevent transmission oil from leaking thru the main-shaft into the clutch pack).



Install washer as needed.

7

A .100" washer may be needed behind the front pulley on some Dyna-Glide & Softail applications.



Use thread-lock here.

Install front pulley, washer & inner/outer guides. Use 1-2 drops of blue thread-lock on the threads of the motor shaft. **INSTALL & TIGHTEN NUT TO FACTORY SPECS (150-165 FOOT POUNDS)** using a quality torque wrench.

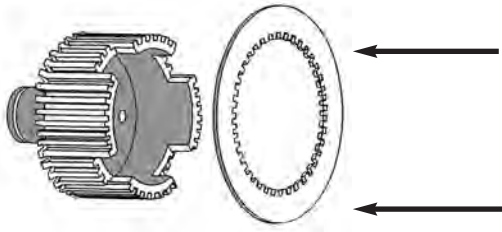
8



CLUTCH HUB INFORMATION

9a

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.

9b

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.

10



Install the pressure plate

Install the pressure plate as shown. Apply a generous dab of high quality anti-seize to each of the Pro-Clutch studs (as shown).

11



Install the locking tabs & retainer, & adjust the clutch.

Install the diaphragm spring, spring retainer (beveled side inward against the spring) locking tabs, and shouldered nuts as shown. **TIGHTEN THE NUTS EQUALLY UNTIL THEY BOTTOM & THEN TIGHTEN TO 30 INCH POUNDS OF TORQUE.** Bend a tab over each nut to keep it tight! Spring adjustment (and clutch pack height) is established prior to shipping.

12



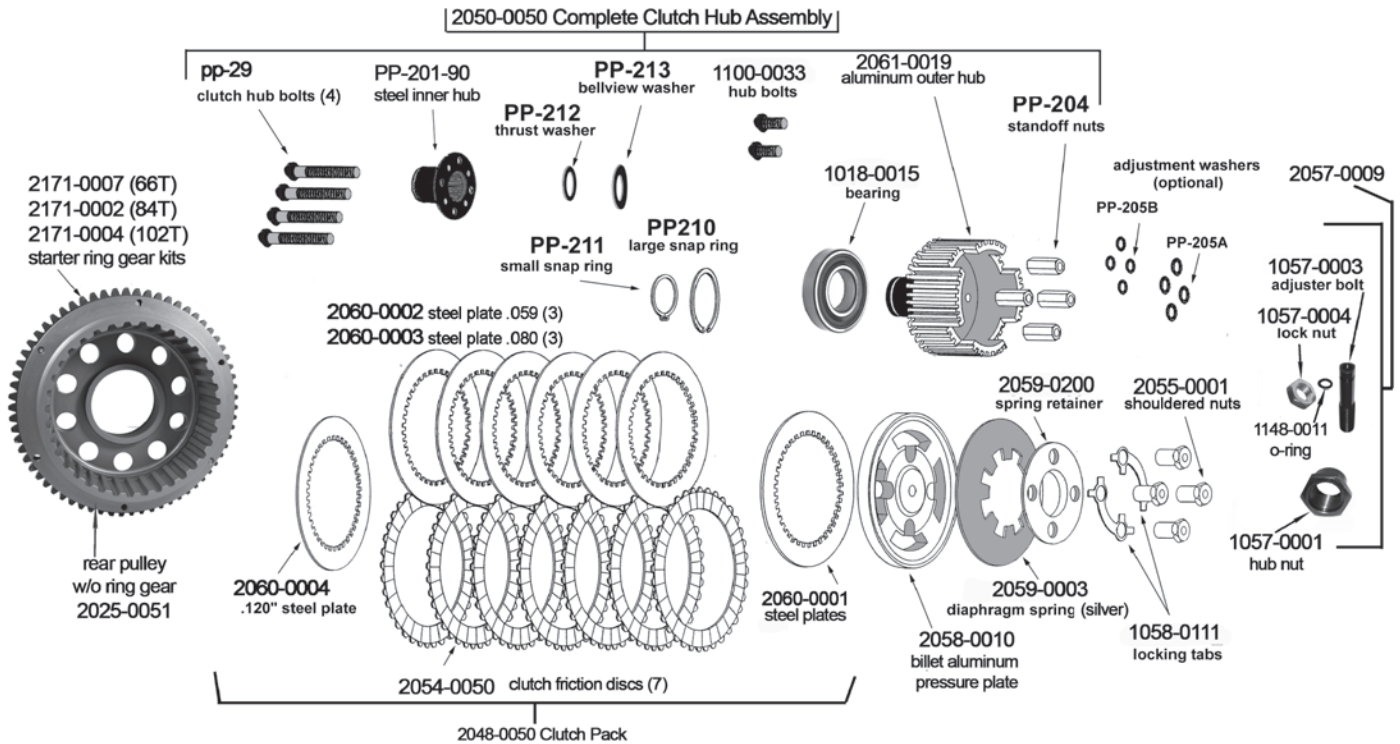
Bend the locking tabs over as shown! Belt should have 1/2" - 3/4" of up & down play when the drive train is cold. Re-install the outer primary cover and check belt clearance. Install a louvered or vented derby or inspection cover, and you're ready to ride. Check belt tension after the drive train reaches 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!
BELT SHOULD HAVE
1/4" - 3/4" UP & DOWN
PLAY WHEN THE DRIVE
TRAIN IS COLD!

After installing a new belt drive, always check the clearance between the OUTER PRIMARY COVER, & the belt drive assembly PRIOR TO OPERATING THE MOTORCYCLE, as it may be necessary to modify the primary covers to avoid collision with any part of the belt drive. See figures 5 & 5a.

EXPLODED VIEW OF THE CLUTCH SHELL ASSEMBLY



(BRUTE III EXTREME™)

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, try to eliminate forward and back-bending of the belt.

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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