Bottom Bracket Installation Procedure

To install the Phil bottom bracket cartridge, the following are required: The bottom bracket cartridge, mounting rings, the tube of thread locking compound provided with the mounting rings, and at least one mounting ring wrench.

Install the bottom bracket cartridge using the following three steps:

1. Installation Preparation

This ensures that the bottom bracket shell will properly accommodate the cartridge.

A. Check the interior of the bottom bracket shell for adequate clearance for the cartridge. File away protruding objects that could come in contact with the cartridge such as frame tube ends, cable guide screws, etc.

B. Clean the threads on both sides of the bottom bracket shell thoroughly with a non-oily solvent such as denatured or rubbing alcohol. Allow the threads to dry completely.

2. Spindle Alignment Procedure

This is performed to determine the proper positioning of the cartridge in the bottom bracket shell. This is performed prior to fixing its position via the thread locking compound on the mounting rings. Our mounting rings enable the cartridge to be positioned within a five millimeter band of a "normal" centered position. If it is known that the spindle will be aligned properly in its centered position, the alignment procedure may not be necessary, and the steps in the frame installation procedure may be followed.

A. Place the bottom bracket cartridge in the shell with the "*l*" of the "*Phil*" logo toward the chainring side of the frame. In other words, install the cartridge so that the rider would view the logo correctly, were it visible. Thread the mounting rings into each side of the bottom bracket by hand. The counter-bored side must face inward to nest the cartridge. On British, Swiss, older Raleigh, and Chater Lea threaded bottom bracket shells, the chainring side of the frame has left-hand threads. The left-hand threaded mounting ring is indicated by a red surface on its counter-bored side.

B. With the mounting ring wrench, tighten the rings against the cartridge using approximately 25 ft-lbs of torque. The rings should feel snug against the cartridge and should protrude about the same amount from each end of the bottom bracket shell. A properly mounted cartridge will be held securely in the frame and its spindle will turn smoothly.

C. Clean and lightly oil the ends of the spindle, the square holes in the crankarms, and the crankarm mounting bolts. Install the crankarms securely on the spindle.

D. Check the chainring-to-frame clearance, and the chainline, and both crankarm-to-frame clearances.

E. If the spindle needs to be shifted left or right, remove the crankarms, loosen the mounting ring on the side that must be shifted out, and tighten the ring on the other side. Re-install the crankarms and, again, check the clearances and alignment.

F. Once the proper alignment is determined, measure the amount of threads visible outside of the bottom bracket shell. If more than 5mm of thread is visible, this cartridge may be inappropriate for the frame and crankarm configuration. For technical support, refer to your professional bicycle dealer or to our own technical support department. Remove the crankarms and mounting rings.

3. Frame Installation Procedure

A. Apply the thread locking compound, supplied with the mounting rings, to the threads on each mounting ring. Thread the rings into the bottom bracket shell and onto the cartridge, placing them in the positions measured during the spindle alignment procedure. With the mounting ring wrench, apply approximately 25 ft-lbs of torque to secure the rings against the cartridge.

B. Be careful to wipe off any thread locking compound that may touch the frame paint as it may discolor some types of paint.

C. Install the crank arms and tighten thoroughly.