INSTALLATION INSTRUCTIONS

1.4 KW Super Torque Starters

READ THESE INSTRUCTIONS COMPLETELY BEFORE BEGINNING INSTALLATION!

NOTE: Refer to the Factory Shop Manual electrical section for safety instructions prior to preforming any repairs or installations of electrical components.

CAUTION! ALWAYS DISCONNECT THE BATTERY CABLES BEFORE PERFORMING ANY ELECTRICAL SYSTEM REPAIRS OR MODIFICATIONS.THIS WILL PREVENT DAMAGE TO THE ELECTRICAL SYSTEM OR ACCIDENTAL STARTING OF THE MOTORCYCLE IN CASE OF AN ELECTRICAL ARC CAUSED BY SHORTING THE BATTERY POWER TO GROUND.

WARNING! SEVERE DAMAGE TO THE ELECTRICAL SYSTEM OR PERSONAL INJURY MAY OCCUR BY NOT FOLLOWING THE ABOVE SAFETY INSTRUCTIONS.

Step #1 <u>STARTER REMOVAL:</u>

1. Remove the seat. Disconnect the cables at the battery. Remove the ground (-) cable first and then the positive (+) cable.\
2. Drain the oil in the outer primary case and remove the outer primary cover following instructions in the Factory Shop Manual.
3. Bend the tab on the jackshaft bolt lock plate away from the bolt head. Hold the starter pinion gear and remove the jackshaft bolt, then remove the rest of the jackshaft assembly.
4. Disconnect ignition switch wire and battery cable from starter solenoid.
5. Remove the two socket head starter mounting bolts and washers. Note the location of any ground wires that are attached to the starter bolts.
6. Remove the starter motor.

Step #2 <u>STARTER INSTALLATION:</u>

7. Install your Spyke Super Torque starter using the two socket head mounting bolts and washers. Attach the ground wire to the proper mounting bolts. Torque the bolts to 13 to 20 ft. lbs. **NOTE:** If installing a Spyke Stealth Starter, use supplied shouldered bolts for ground cable clearance.
8. Re-install the jackshaft assembly following the instructions in the Factory Shop Manual.
9. Inspect the condition of the outer bushing in the primary cover and the wear pattern of the ring and starter pinion gear. Refer to Factory Shop Manual.
10. Measure and adjust the air gap between the ring gear and the pinion gear. See Fig. #1. The correct gap is .075”-.125”. If the gap is larger than .125”, use the shims

inside the starter coupler. If the air gap is smaller than .075”, the starter coupler must be shortened by removing material from the side of the coupler with the outside bevel.

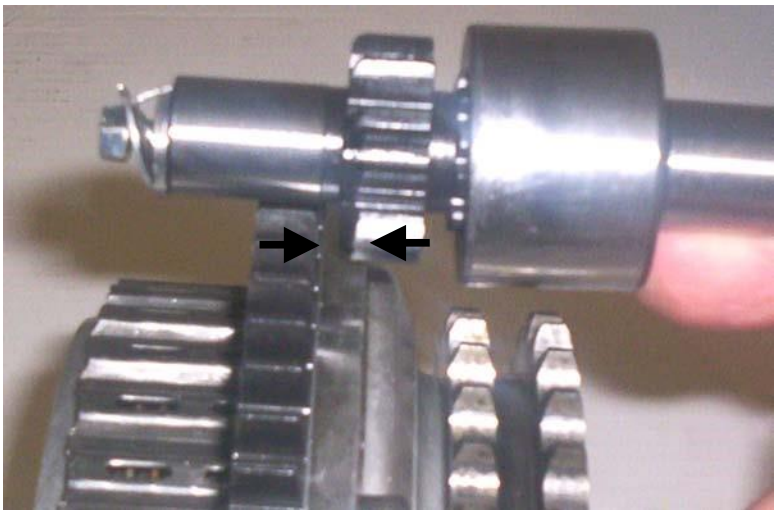


Fig-1 (Adjust air Gap to .075” - .125”)

11. Once gap is adjusted, re-install the jackshaft bolt, lock plate, and thrust washer. Apply anti-seize to the threads of the jackshaft bolt and insert it into the jackshaft. **NOTE:** For 1990-1993 models, use the stepped jackshaft bolt supplied with the Gen III Starter. For 1994 and later models, use the O.E. bolt. Align the lock tab on the lock plate with the slot in the jackshaft. **CAUTION:** Do not use Loctite® or any thread sealer on the jackshaft bolt.
12. Hold the pinion gear to prevent rotation and tighten the jackshaft bolt to 7 – 9 ft. lbs.. Bend the lock tab on the lock plate against a flat on the bolt head of the jackshaft bolt.
13. Install the outer primary cover following instructions in the Factory Shop Manual and re-fill the primary case with the proper amount of primary oil.
14. Attach positive (+) battery cable and ignition switch wire to the starter solenoid. Torque the battery cable nut to 65-85 in. lbs. **CAUTION: Do not over tighten the nut. Hold onto the positive cable as you attach it to the starter to avoid twisting the inside contact. It should be parallel to the bottom of the case. This condition will end up with a poor connection and lost potential to the starter that eventually can cause arching.**
15. Re-install the battery cables to the battery in the reverse order as they were remove in Step 1. And re-install the seat.

NOTE: Spyke recommends replacing the existing relay with a 40 amp automotive style relay. (style # 87104)

NOTE: For improved electrical system operation and to insure that the maximum amps required by the starter are available, Spyke recommends using a two-ground cable wiring system at the battery. The (-) cable from the battery should attach to the ground stud on the frame or bolt directly to the frame. A second cable (4 gauge) should attach from the grounding point on the frame to one of the starter mounting bolts. All connections must be clean and tight and free from any powder coat, paint, or grease.

For technical assistance call 909/547-9058

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LIMITED WARRANTY

PerTronix, LLC. Warrants to the original Purchaser of its solid-state ignition system (product) that the module, trigger rotor and wiring (components) shall be free from defects in material and workmanship for a period of (12) months from the date of purchase.

If within the period of the foregoing warranty PerTronix finds, after inspection, that the product or any component thereof is defective, PerTronix will, at its option, repair such products or component or replace them with identical or similar parts PROVIDED that within such period Purchaser Promptly Notifies PerTronix, in writing, of such defects.