

# **CYCLE ELECTRIC INC**

## **Installation Instructions**

### **CE-22A**

The CE-22A will fit all big twins 1970-98

These are generalized instructions and are not intended to be all-inclusive. For more detail on your model see service manual.

### **Alternator Removal**

- 1) Disconnect negative battery terminal.
- 2) Drain primary case oil on wet clutch models.
- 3) Remove outer primary cover.
- 4) Check primary chain alignment. Place a straight edge across the gasket surface on the inner primary. Using a dial caliper, measure the distance from the straight edge to the primary chain as close to the clutch as possible with the chain pushed all the way in. Record this measurement as A. Repeat measuring as close to the compensator sprocket as possible. Label this measurement B. Subtract B from A and note this C.  $A-B=C$ .  
C can be a positive or negative number but should not exceed  $\pm .030$ ".
- 5) Consult appropriate service manual and remove compensator sprocket.  
*Note: After several thousand miles it may be possible to remove the compensator sprocket and chain adjuster shoe without removing the clutch. Caution: Do not put excessive side force on chain.*
- 6) Remove output shaft extension. Take note of all shims and spaces between output shaft extension and rotor.
- 7) Remove rotor and all spacers under rotor.  
Note: It may be necessary to remove the inner primary on earlier models.
- 8) Unplug regulator from stator
- 9) Remove 4 stator mounting screws. Remove 2 stator plug clamp screws. Remove stators.

### **Alternator Installation**

- 1) Install stator plug and plug clamp in case. Use lock-tight 222 purple on clamp screws.
- 2) Mount stator to engine case with new mounting screws (supplied). Screws have thread-locking compound already applied. Torque screws to 30-40 in-lbs.

#### **Rotor installation for All CE-22A**

- 1- Install small diameter .095" shim supplied with kit on output shaft before rotor.
- 2- Install rotor on output shaft.
- 3- 1970-1990 Place large 2.81" O.D. x .219" thick shim (supplied with kit) on output shaft after rotor.  
1991-later FLT and FXR use a .249" shim (use stock 1.75" OD x .249" thick) or add .030" variable thickness spacer, after .219 shim supplied with kit.

1991-later Softtail and Dyna models no spacer washers are used on out side of rotor.

- 4- All models-add necessary variable thickness shims to achieve proper primary chain alignment. If dimension C from step 4 of removal is within  $\pm .030$ ", reuse the same variable thickness spacers between the thick shim and output shaft extension.

If dimension C was more than  $\pm .030$ ", use thicker or thinner shims as necessary to get C within  $\pm$

.030  
If C is positive, use thinner shims. If C is negative, use thicker shims.

If C = -.040 and you add .060 C would = +.020

When C=zero compensator sprocket and clutch sprocket are in line.

- 6- Install inner primary if removed.
- 7- Install compensator sprocket with chain adjuster shoe, and clutch if removed.
- 8- Adjust primary chain.
- 9- Check primary chain alignment.
- 10- Install outer primary and other parts removed.

*Note: Don't forget to add oil on wet clutch models.*

### **Regulator-Remove Old Regulator**

- 1) Disconnect battery negative terminal.
- 2) Disconnect regulator DC wire from  
1970 to early 1984, battery positive terminal or main breaker battery term.  
Late 84-up Acc.side of main breaker (except 84-86 dressers-regulator connects to a terminal stud on the steering head).  
*Note: if you tie a piece of fishing line to the ring terminal of old regulator wire before pulling wire out. You can use this cord to pull the new wire in place.*
- 3) Take note of how old wire is routed. Cut wire ties and remove wire.
- 4) Unbolt regulator and remove.

### **Install New Regulator**

- 1) If using the same wire routing as old regulator compare, output wire lengths and cut new regulator wire to length. Apply ring terminal using proper crimping tool.  
*Note: Improper crimp on solder-less connectors can cause charging system problems. That will leave you on the side of the road. If you do not have a crimping tool, borrow or buy one. **Do not use pliers or rice grips.***
- 2) Mount new regulator. Be sure regulator has a good ground connection from the case of regulator to the frame of motorcycle.
- 3) Route DC+ output wire to main circuit breaker or fuse. On models with circuit breakers, connect wire to silver post of main breaker. If using a fuse connect regulator on opposite side from the battery.  
*Note: It is our opinion everything connected to a battery should run through a fuse or circuit breaker except the starter motor if you have one.*
- 4) Connect AC plug to stator, on rubber mount models keep wires away from front motor mount. It moves and can damage wires.
- 5) Check the routing of all wires to be sure they are not in a vulnerable position. Keep wires away from exhaust pipes and moving parts. Be sure wires are not in the very bottom of lower frame or they will get pinched if you bottom out.  
Replace all wire ties previously cut and add new ones where necessary.
- 6) Reconnect battery and start motor. Test battery voltage. All "L" model regulators should run between 13.7~14.1 Standard models should run 14.2 to 14.6 depending on what model you have.

**Have A Good Ride!!**

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