

CYCLE ELECTRIC INC

Installation Instructions

CE-32A, CE-32AL

The CE-32A will fit Big Twins 84-98

The CE-32AL will fit 89-99 Softail (The CE-32AL comes with a low voltage regulator specially tuned for Softails)

The CE-32A may fit 70-83 models if proper rotor spacing can be achieved. When installing on 1988-erlyer models use the CE-8120 shim kit (not included) to achieve proper rotor shimming. 1970-1984 shovels inner primary may not have clearance. . See installing CE-32A on 1988 and earlier models

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 strait 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= primary chain alignment.)
C can be a positive or negative number but should not exceed +/- .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 adjustor 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. (Some engine cases such as S&S do note use a plug clamp.)
- 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 1989-later CE-32A, CE-32AL

Note: If installing a 32-A on a 1988 or earlier models see special instructions for rotor shimming

- 1- Install small diameter .095" shim supplied with kit on output shaft before rotor.
 - 2- Install rotor on output shaft.
 - 3- 1989-1990. 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 Softail 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 +/- .030", reuse the same variable thickness spacers between the thick shim and output shaft extension.

If dimension C was more than +/- .030", use thicker or thinner shims as necessary to get C within +/- .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.

Installing CE-32A on 1988 and earlier models.

Using the CE-8120 shim kit

When installing a 32-amp stator on 1988 and earlier models it is necessary to reshim the rotor to compensate for the thicker stator. Using the CYCLE ELECTRIC INC CE-8120 shim kit should provide proper shimming on all 1988-erlyer models.

Shimming without CE-8120 shim kit

On wet clutch models, switching the rotor shims (large .219" inside rotor and small .095" shim outer rotor) will achieve satisfactory shimming. On dry clutch models this may cause the rotor to hit the primary chain. When checking for clearance, be sure compensator sprocket nut is torqued and primary chain is properly aligned. If primary chain still contacts rotor, switch shims back to stock location (small .095" inside large .219" outside) and use variable thickness shims under rotor to achieve clearance between rotor and stator. .060" should be enough. To check for clearance between stator and rotor, use a straight edge on top of shims and check for clearance between the straight edge and stator. Minimum clearance should be .040". When putting extra shims under the rotor, the same amount must be removed from between rotor and output shaft extension to maintain primary chain alignment. On ridged mount motor models, there may not be enough room between rotor and primary case to use 32A stator

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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