

V-Twin Mfg.
38 Amp Alternator Charging System Kit
Fits all 1984-99BT Models
VT No. 32-0375

This is a custom application and rider safety depends on proper installation. This product should only be installed by a knowledgeable and trained motorcycle technician. V-Twin Mfg. accepts no responsibility for improper installation.

The 32-0375 is a three phase charging system designed to fit rubber mount EV models where the regulator bracket straddles the front motor mount.

Installation Instructions:

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. This will help determine what variable thickness shims you will need later. 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 Installations:

1. Install stator plug and plug clamp in case. Use lock-tight on clamp screws.

Note: some engine cases do not use plug clamps.

2. Mount stator to engine case with new mounting screws. Screws have thread-locking compound already applied. Torque screws to 30-40 in-lbs.
3. Install stator wires into plug housing. Insert wire in hole #1 #2 and #3. Push in until terminal snaps in. after all three wires are fully inserted install the orange locking clip.

Rotor installation:

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.
4. 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.
5. 1991-later ST and FXD models no spacer washers are used on out side of rotor.
6. 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.
7. Install inner primary if removed.
8. Install compensator sprocket with chain adjuster shoe, and clutch if removed.
9. Adjust primary chain.
10. Check primary chain alignment.
11. 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 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 the old wire is routed. Cut wire ties and remove wire.
4. Unbolt and remove regulator and bracket.

Regulator Installation:

1. Connecting wires to regulator.

Note: When connecting wires, place regulator upside down with something soft under fins so paint won't be scratched.

A) The Regulator B+ wire is 50" long. One end has a yellow marker on it. The other end is labeled B+. Connect the end labeled B+ to the B+ terminal on regulator.

B) This kit comes with two wires labeled GND.

1989 to 92 models use the shorter 32" wire.

1993 to 98 models use the longer 48" wire.

Determine which GND wire you need. Connect the end with the smaller ring terminal labeled GND to the terminal labeled GND on regulator.

Note: For best appearance, position wires to follow the contour of the regulator legs.

C) The AC stator connector has 3 wires labeled AC. Connect one AC wire from the plug to each AC terminal on regulator. It doesn't matter which one goes where.

2. Mounting Regulator - Set the regulator up onto frame cross member so it straddles the motor mount. On 1989-94 models use 1/4-28x 1 1/4 bolts (supplied) to mount regulator. On 1995-98 models slide regulator on 1/4 -20 studs and use stock nuts.
3. Route the B+ wire the same way as old regulator wire. Connect yellow end to silver terminal of circuit breaker.
A) 93-98 route GND wire with B+ wire and connect to the 1/4" ground stud on the frame.
B) 89-92 Route GND wire along lower right frame rail. Follow crossover bracket to the left side. Connect to 5/16" bolt where braided ground cable connects. This bolt also connects your inner primary to frame.
4. Connect AC plug. Rout wires away from motor mount and zip tie to the frame
5. Connect stator to regulator plug.
6. Reconnect battery and start motor. Test battery voltage. All "L" model regulators should run between 13.7 to 14.1 Standard models should run 14.2 to 14.6 depending on what model you have.