

V-Twin Mfg.
Volt Tech 38 AMP Charging System Kit
VT No. 32-0388

For use on TC88 1999-2003 FXD & 2000 only ST models.

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.

Installation Instructions:

Alternator Removal

1. Disconnect negative battery terminal.
2. Drain primary case oil.
3. Remove outer primary cover.

Note: If you check the primary chain alignment before disassembling it will be easier to determine what variable thickness shims will be needed for reassembly.

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= 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 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.
8. Unplug regulator from stator. Remove the stator plug housing. First remove the blue secondary lock using a small hock or long #6 wood screw in the small hole in the middle. It will pull out. Then using a small screwdriver release the locking tab and remove each wires one at a time.
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 on clamp screws.
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. Insert stator plug terminals in to the stator plug housing removed in step 8. Push in until they click into place. Reinstall blue secondary lock.
4. Install rotor.

Note: Twin Cam models do not use shims under the rotor.

5. Add stock shim removed in step 6.
6. 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.
7. Install output shaft extension.
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 the main breaker.

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. Mount new regulator. Be sure regulator has a good ground connection from the case of regulator to the motorcycle frame.
2. Route DC+ output wire to main circuit breaker. Connect wire to silver post of main breaker.
3. Plug stator to regulator.
4. 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 on the very bottom of the lower frame or they will get pinched if you bottom out. Replace all wire ties previously cut and add new ones where necessary.
5. Reconnect battery and start motor. Test battery voltage. All regulators should run between 13.7~14.6 Standard models.