DYNATEK
dyna performance electronics

2801323 REV. A

User Manual

2007 Harley-Davidson Twin Cam Touring Models

Part Number DFCH-9

F.I. CONTROLLER

Congratulations on your purchase of this Dynatek product.
Please take a moment to read these instructions completely before installing the FI controller. The installation will only take a few minutes, but proper setup for your specific bike will take longer

Parts List

- ☐ FI Controller
- ☐ Installation Guide
- ☐ Wire tap
- ☐ Wire ties
- ☐ Velcro® Strip
- ☐ Alcohol Swab
- ☐ O2 Eliminators

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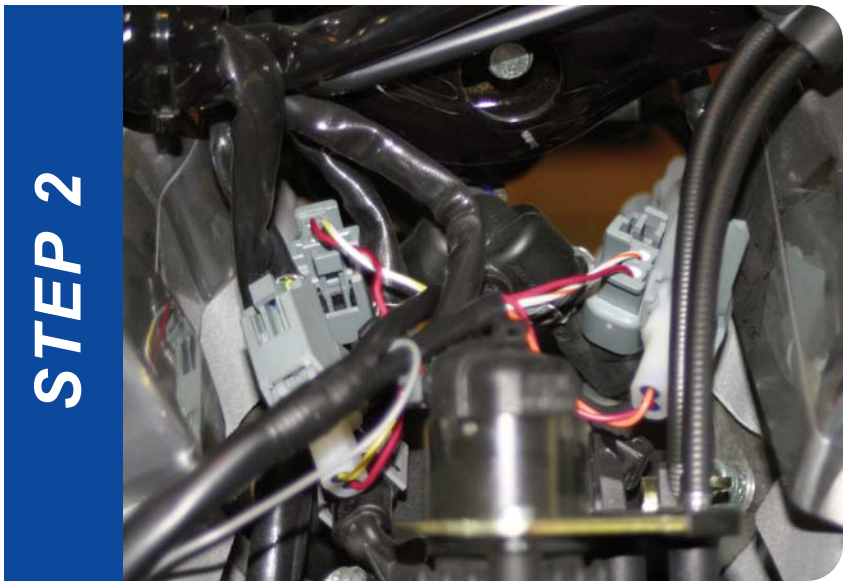
STEP 1

Remove the seat. Remove or raise the fuel tank. The tank needs to be raised enough to give access to the fuel injectors and TPS wires.

STEP 2

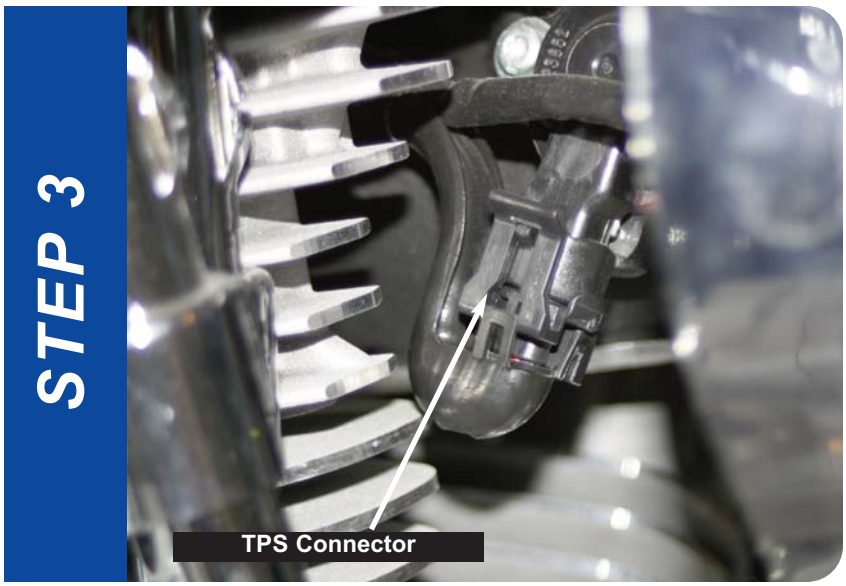
Unplug the front injector. On the FI Controller, there are 2 pairs of injector connectors. Plug the pair with the orange wires into the front cylinder injector harness and front cylinder injector.

Repeat this using the other connector pair and the rear cylinder injector.



STEP 3

Locate the TPS connector behind the throttle body.



STEP 4

Unplug the connector from the TPS. Crimp the wire tap onto the wire that is grey with a purple stripe.

This wire should be in position "C" on the connector. Plug the grey wire from the FI Controller into the wire tap.

STEP 5

Run the wiring harness for the FI Controller from the engine to the seat. Make sure that it will not get damaged when you reinstall the tank.

Use one of the wire ties to tie the wires to the frame, away from the cylinder head.

STEP 6

Place the FI Controller where you plan on mounting it permanently. In most cases, this will be next to the ECU, on the right hand side of the bike. Connect the ground lug (black wire) to a grounding point on the bike.

Use the Velcro tape to mount the FI Controller in position. Use alcohol swab to clean mounting surface prior to attaching Velcro.

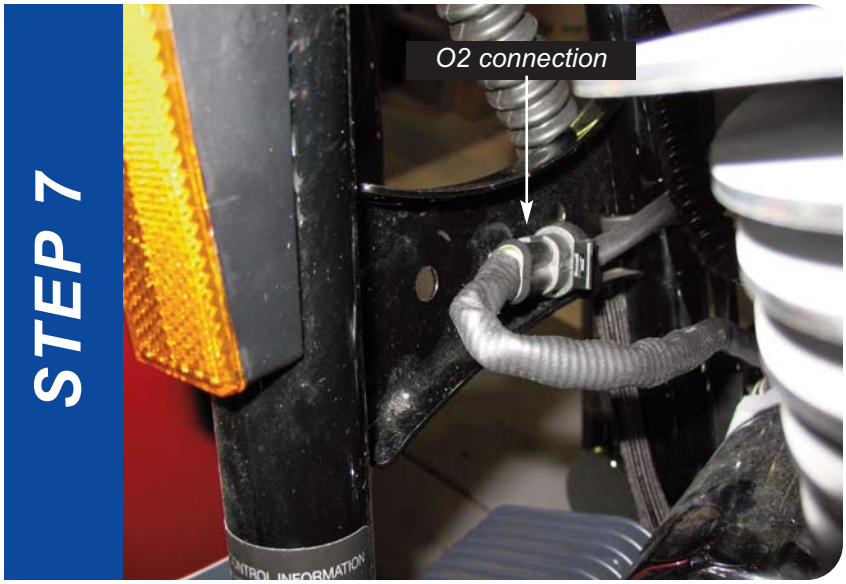
Reinstall fuel tank and seat.

STEP 7

Disconnect the front O2 sensor from the main wiring harness.

This connection is located on the frame forward of the front cylinder.

Connect one of the Dynatek O2 eliminators to the main wiring harness.



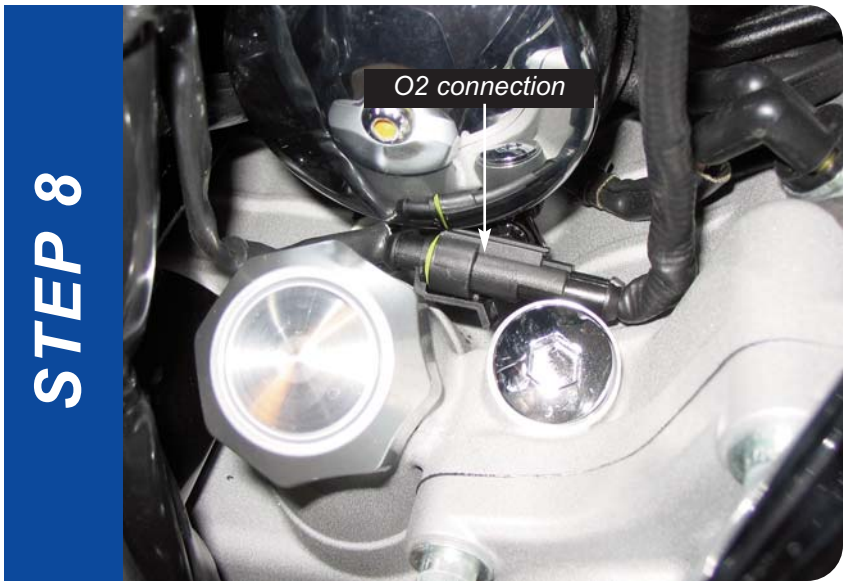
STEP 8

Disconnect the rear O2 sensor from the main wiring harness.

This connection is located near the oil fill plug.

Connect one of the Dynatek O2 eliminators to the main wiring harness.

Note: The stock O2 sensors can be removed from the exhaust if desired.



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Controls

The FI Controller is preprogrammed with 4 base fuel curves. The curves are selected using the switch labeled BASE. These curves adjust fuel delivery based on throttle position and RPM, providing the right amount of fuel under all conditions. The 4 fuel curves correspond to varying levels of performance modifications. The levels of modification are broken down into the following groups.

Base Curve 1 - Stock or basic modifications. This includes slip on exhausts, intakes, air boxes, and air filters.

Base Curve 2 - Bolt on modifications. This includes full exhaust systems.

Base Curve 3 - Motor modifications. This includes cams, big bore kits.

The fourth curve has all of the fuel adjustment values zeroed out. This curve is selected by moving the rotary switch to any position other than Base 1, Base 2 or Base 3. This curve is useful for those wanting to just modify the fuel delivery with the potentiometer adjustment, without having any other adjustments.

In addition to the 4 curves, there are 3 potentiometers that allow you to fine tune the curve you select. These potentiometers allow you to adjust the fuel curve from +20% to -20% in 3 different RPM ranges. The RPM ranges are:

LOW Idle - 2000 RPM
MID 2000 - 4000 RPM
HIGH 4000 - 6000 RPM

To add fuel, turn the potentiometer clockwise. To subtract fuel, turn the potentiometer counterclockwise. With the potentiometer pointed straight up at the thick tick mark (towards the Dynatek logo), that is 0% adjustment. Fully counterclockwise is -20%, and fully clockwise is +20%. Adjusting the potentiometer between these points will result in adding or subtracting an amount of fuel proportional to how far the knob was moved from zero.

Calibration

To select the right curve, start by making sure that all 3 of the RPM pots are set to zero adjustment. Then select the base curve which corresponds to the bikes level of modification. This should make the bike run better at all RPMs. The AF ratio if measured on a dyno should be much smoother throughout the RPM range than without the FI Controller. If it feels worse or the AF ratio gets too lean at any RPM compared to stock, try a different curve.

Once you have selected the correct curve, then you can fine tune any problems with the map by using the potentiometers. With the arrows on the pot straight up and down, the pots are at 0% adjustment. To add more fuel, turn the pots clockwise. To subtract fuel, turn the pots counterclockwise. Do not attempt to adjust while riding!

Troubleshooting

If the STATUS LED does not come on when the ignition is switched on, there is no power to the FI Controller. Make sure that you have the ground hooked up properly either directly to the battery ground, or to a lug on the frame that is grounded.

If the LED comes on, but does not run on one or both cylinders, double check all connections at the injector, making sure the connectors are seated properly.

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