

Tips on Adjusting the Cam Tuner

With the Cam Tuner set to zero, the engine should run just like it did without the Cam Tuner installed. With larger cams installed, the engine should run too rich at idle. As you increase the setting on the Cam Tuner from zero, the engine should run leaner. The idea is to set the Cam Tuner for the correct fuel mixture at idle.

You will achieve the correct mixture when the short term (ST) and long term (LT) trims are equal and opposite. The readings for bank one and bank two should be similar. For simplicity let's just talk about bank one. If the LT trim is zero, the object is to adjust the Cam Tuner so that the ST is zero. If the LT is -10, adjust for a ST of +10. If the LT is +5, adjust for a ST of -5. When properly adjusted the ST and LT number should add up to zero.

The ST number will bounce around so you have to set it according to the average value. It is generally considered acceptable to have the ST set to the target value +/- 5%. The stock ECU can easily tune itself if you get the tune to within 5%.

If you put on the Cam Tuner and get a lean code, I would recommend that you check your fuel trims. If they are not in balance, adjust the Cam Tuner. If they are close, I recommend that you clear adaptation in the ECU. You can do it by disconnecting the battery cable for 20 minutes. You can tell if the adaptation is cleared by check LT after you restart the engine. If adaptation is cleared, the LT will be zero.

If you do all this and still have codes or running issues, I recommend driving the vehicle for at least 50 miles to see if the self adaptation of the ECU brings it in line.

When the engine is tuned correctly you should see the AFR cycle back and forth at light load. It should range from around 14.0:1 to 15.5:1 or so in a back and forth pattern under the conditions of idle, cruise and moderate acceleration. Under hard acceleration, you should see a constant richer mixture going to a solid 12.5:1 or richer at high RPM. On deceleration, the ECU will go into fuel cut and you should see a very lean mixture of 20:1 or leaner.