



Technical Bulletin

3/04

Valve Spring Change For 1997-2002 Ford 4.0L VIN E & K Engines

The AERA Technical Committee offers the following information on a revised valve spring for 1997-2002 Ford 4.0L VIN E & K engines. Some vehicles equipped with this engine may exhibit a check engine light "ON" with diagnostic trouble codes (DTC) P0300 (Random Misfire) or P0301.

The DTC will set when the engine is operated at high RPM's (4800 RPM and higher). The Misfire code results due to system interaction of higher than expected transient exhaust system backpressure (under heavy acceleration) coupled with valve spring resonance points experienced at these engine speeds. This interaction may cause the exhaust valve to hang open at engine speeds of 4800 RPM and higher.

To help alleviate this possible condition, Ford has developed a revised valve spring for all intake and exhaust valves. After removing the valve covers, carefully replace the 12 existing intake and exhaust valve springs F77Z-6513-M and replace with new service intake and exhaust valve springs 2L2Z-6513-AA.

NOTE: All "12" valve springs ("6" intake and "6" exhaust) must be replaced in order to maintain/ensure proper valve train dynamics.

Many AERA machine shops report replacing the valve springs with the revised spring to circumvent any possible DTC's in the future after a valve job. AERA is currently aware of one aftermarket supplier currently conducting R & D for this new valve spring.