



# TECH TIPS



## CODE P1351 ON GM'S '95 S & T TRUCKS

In 1995, GM used multiple engine management systems in their S & T series trucks. This tip pertains to a limited number of vehicles, but if you run across this "head scratcher," it's nice to know about. The system we are referring to is the VCM type used on the 4.3 W engines that used the HVS (identified by its flat cap) ignition system. There are two codes to monitor the integrity of the IC (what we used to call EST) circuit #423; P1351 (ckt high voltage) and P1361 (ckt low voltage). We will be dealing with the first one here, since that one seems to be the more common problem. This is one of the first systems to use the PCM to trigger the ignition module instead of the older EST system that was able to "stand alone" without input from the PCM.

Per GM information, P1351 will set if the voltage on ckt 423 goes higher than 4.9 volts and engine speed is less than 250 rpm. There is no time frame listed, but experience indicates that it takes about 3 seconds for it to set. We have received a number of these calls with the diagnosis being failed modules or poor terminal contact. Under "action taken" when the codes sets is the usual reaction about turning on the MIL and recording freeze-frame & fail records. What the manual doesn't tell you is that it also can disable injector pulse! The strategy appears to be similar to Toyota's IGF. In this situation, if you diagnose the lack of injector pulse without verifying the presence of spark, spraying fuel into the intake will not get the car started because there's no spark to ignite it. There seems to be two different program strategies in use; one being if the fault is present during that key cycle, the other being if the code is present in memory. In the first case, cycling the key off for a

few seconds will get your pulse back if the fault is no longer present.

The second case requires you to clear the code before pulse will return. We have had a few occasions where the truck would have a long cranking time due to one of the common low fuel pressure or clogged injector problems and had this code set. The tech could "prime" the fuel system, shorten the cranking time, and get around the problem. The bottom line is when trying to diagnose one of these vehicles with no injector pulse, check for that code P1351. At that point make at least a quick check for a good, steady spark. If spark is present, see what happens when you clear the code. If pulse returns and you notice a long cranking time, (more than 3-4 seconds) go after the possible causes of that first.

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Fig.1

