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Mode \$06 Diagnostics

One of the most interesting aspects of our OBD II and Catalytic Converter training classes is the need to constantly update the material. It is, as they say, “the nature of the BEAST”. Advances in technology create an environment where we must expand, change and even remove certain subject matter based on its relevance. We must be able to adapt not only to changes in vehicle systems and components but also to advances in the diagnostic equipment used to monitor, test and repair today’s vehicles.

Diagnostic Mode \$06 has clearly become one of those areas. Although it has been a topic of our technical training for some time, not until recently have we noticed a great deal of interest when we come to this part of the training. It is a telltale sign that technicians are continuing to embrace diagnostics and are willing to learn as much as they can about all the information available.

What is it?

Mode \$06 is a request for on-board monitoring test results of non-continuously monitored systems. It is raw test data sometimes referred to as engineering data. These monitored systems and components are split into two groups, Continuous and Non-Continuous. Continuous Monitors include Comprehensive Component, Fuel System and Misfire. Non-continuous monitors include Catalyst, Evaporative, Oxygen Sensor and EGR to name a few. ([chart 1](#))

| QUICK TEST RESULTS | |
|--------------------------|---------------|
| ===== | |
| Readiness Test (Mode 1): | |
| Comprehensive Comp: | Ready |
| Fuel System: | Ready |
| Misfire Monitor: | Ready |
| | |
| Oxygen Sensor: | Ready |
| Oxygen Sensor Heater: | Ready |
| Catalyst: | Ready |
| Evaporative System: | Ready |
| EGR System: | Not Available |
| Secondary Air System: | Not Available |

Chart 1



The Issues and Solutions?

Mode \$06 information is displayed in a Hexadecimal format which at first sight has no value to the technician. It is comprised of acronyms such as TID / MID / CID, a minimum and/or maximum value as well as a measured value. Early versions of Mode \$06 had very little support information and in many cases required the technician to login to the manufactures website for a fee. In researching the website, they would hope to find some definitive information as well as a conversion formula that would allow them to make sense of the data on the scan tool.

Today, many of the Scan Tool manufactures are programming this conversion information into their tools and therefore we can get the necessary information at a glance and make a qualified diagnosis. When a measured value falls outside a given threshold, there is a problem with that component. Our example shows a good functioning catalytic converter. (chart 2)

| Non-Continuous Tests (Mode 6) | |
|--------------------------------|--------|
| CAT SWITCH FREQUENCY RATIO 1/1 | |
| Maximum limit | 192 |
| Measured value | 0 |
| Minimum limit | --- |
| Result | Passed |
| ECU ID | 10 |

Chart 2

The Value?

Mode \$06 gives the technician a tremendous advantage when diagnosing intermittents or finding problem areas that have not yet reached the failure point. An example may be a vehicle that has set a P0420 but the normal diagnostic path has not revealed the root cause of the problem. Mode \$06 may point us towards an O2 sensor that is near failure, directly affecting the converters ability to function properly. Because Mode \$06 is raw data, the information displayed on the scan tool is exactly what the PCM is looking at to determine if a monitor passes or fails. Unlike some data stream, it is not left up to interpretation.

With each new model year comes new technology and new challenges. Our goal is to bring to our customers the best and most up-to-date diagnostic information available. We will continue to explore new and innovative ways of getting this information to you. Whether it is through this Tech Bulletin, our Website, Instructor Led Training or our Tech Line, we will continue to strive to bring you the latest information available.

Visit www.magnaflow.com and click on Tech Support to view our complete library of Tech Bulletins.

Cleaning up the environment...one converter at a time

Gary

