UTAH COUNTY TECHNICAL BULLETIN
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WHAT IS CAN and WHAT MAKES IT DIFFERENT?

Originally developed by the Robert Bosch Corporation in the mid-80's for Mercedes Benz, CAN is now EPA mandated to be on all vehicles by model year 2008. A gradual phase-in started with select 2003 and later model year vehicles. The difference between CAN and earlier OBDII systems is mostly speed and simplicity, which are normally at odds with each other. CAN operates between 83.3 Kbps and 500 Kbps (compared to GM Class 2 at 10.4 Kbps), and does so relatively seamlessly. This design allows the intra-vehicle network of electronic control units (ECUs) to communicate and share information lightning-fast while increasing the network's ability to self-diagnose.

Because there is a common communication protocol, it's easier to transfer data. For example, in a Class 2 system, all of the ECUs needed to be continually "awake". In CAN, some ECUs may be communicating while others are "sleeping", or in a low power state, until asked to perform. In effect, communication between any collection (or subsystem) of ECUs can be started or stopped independently of any other collection.

QUICK STATISTICS

The Utah County I/M Program has evolved considerably from the analog infrared meters and the dot-to-dot inspection forms used in the late 80's. We now have nearly 160 certified stations that employ over 600 certified I/M Technicians. In 2004 there were more than 230,000 inspections performed, of which nearly half were OBDII tests. 1995 and older vehicles failed their inspection for either tampering or tailpipe readings at a rate of 22%, and OBDII vehicles failed for MIL illumination just under 5% of the time.

The future of automotive technology and testing is anyone's guess at this time. However, a fairly accurate prediction would be that the vehicle population will continue to grow and the percentage of OBDII vehicles will increase in the coming years.

TECHNICIAN PRACTICAL EXAMS

With over 600 technicians now certified in Utah County our auditors need to perform practical exams throughout the year in order to get all of them done by December 31st. There have been a number of technicians that choose not to do their exams when given the opportunity to do so by their station auditor. Technicians will be given **two** chances to complete their required annual hands-on exam at their station. If a technician or manager refuses two offers from a station auditor to complete a practical exam it will then be the technicians responsibility to schedule an appointment at our Technical Center where the technician will be required to complete a written re-certification exam <u>and</u> a hands-on practical exam.

TEST PREPARATION TRAINING

Mountainland Applied Technology College (MATC) is offering a 15 hour non-credit course to help prepare a beginning auto technician for our Certified I/M Technician course. Completion of this course is equivalent to passing our mechanic pre-test. This course is not required by Utah County and our office will continue to administer the pre-test Monday through Friday, except Holidays, 9:00a.m. to 3:00 p.m. For more information regarding this course or the Advanced Emission Repair course call 863-MATC (6282)

OBDII BYPASS CODES

Technicians may use the following bypass codes without prior authorization on these vehicles. All other bypass codes must be authorized by our office prior to use.

Code 101 - 1996 Subaru, all models. These vehicles always reset readiness with each key off cycle.
Code 110 - 1996-1998* Mitsubishi, all models. These vehicles should be tested normally; many of these systems work fine. If not-ready, use bypass code.
Code 120 - 1996-1998* Volvo, all models. These vehicles do not retain readiness.

* Model year correction since prior list.

Note: Any vehicle that is tested using a bypass code must have a functioning MIL and the light must not be illuminated with the engine running.

TECH TIP # VE0039
MIL Illumination after inspection

We have come across some CAN vehicles (MAZDA) that set a U0101 code and illuminate the MIL after the test has been completed. UART or "U" codes are network trouble codes indicating a communication failure between modules. These vehicles, along with possibly others, treat the emissions analyzer or scan tool as an onboard module. If the data link between modules is disrupted while communicating, the vehicle senses this as a malfunction and subsequently illuminates the MIL.

We have traced the erroneous MIL illumination problem on these vehicles back to **operator error** caused by disconnecting the analyzer lead while the vehicle is either still running or has the key on.

The prompt at the end of the test reads: "OBDII Test Complete, Stop the engine and disconnect the OBD lead." By following the instructions on the analyzer you should not experience any problems.