

# AutoTeacher News

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## The OBD II Fraud

OBD II is becoming a hot topic with both Secondary and Post Secondary Automotive Training Programs primarily due to “post dealership warranty” repairs. In other words the vehicles are no longer under warranty and they are now appearing at independent repair facilities. This places new burdens on these training programs in dealing with the complexities of OBD II. Training equipment is definitely needed.

Many public/private school automotive instructors are being misled by “tech ed” training equipment vendors. The automotive training area is just one of their many areas. ATech only supplies automotive products. We have designed many OBD II system demonstrators for the OEMs. They operate in a totally realistic manner without fault codes. Effective OBD II system demonstrators can not be designed by using the methods of the 1980s.

One of the techniques used by the “tech ed” companies to make their engine control training products appear to be OBD II is to mislabel OBD I products. Common terms used to mislead instructors are “**OBD II compatible**”, “**OBD II like**”, or “**includes OBD II components**”. When you hear/read these terms you should immediately become suspicious. The key questions to ask a vendor are;

**\*Does this training system:**

- 1. Operate in “closed loop” mode without fault codes (DTCs)?**
- 2. Allow short term and long term fuel trim to operate the same as in the vehicle?**
- 3. Allow a student to perform a “drive cycle” and set all I/M flags without fault codes?**

Let’s discuss each of these questions in detail to see how it impacts the training provided to the student.

Does the trainer operate in “closed loop”?  
“Closed Loop” operation means the engine computer (PCM) responds to fuel control oxygen sensor input signals to maintain an air/fuel ratio of 14.7 to 1. This can not be accomplished by simply connecting a user operated potentiometer to supply an input signal to the PCM. Under OBD I an engine control trainer could be built that ran continually in open loop. It would not set fault codes because the EPA did not require close monitoring of the loop status. Typically, instructors

knew very little about engine control systems at the time. If the training system did not set fault codes, they assumed it was operating in a normal manner. Knowledgeable observation with a Scan Tool would have proven otherwise. Under the more stringent requirements of OBD II, this trainer will set fault codes and operate in “**Limp Home Mode**”. “Limp Home Mode” refers to an operational mode that all OBD II systems have. It is intended to get the vehicle home any way possible. Emissions are of little concern.

Some vendors are trying to take advantage of many instructor’s lack of knowledge of OBD II by implying that the Malfunction Indicator Light (MIL) illuminating is an indication of OBD II operational modes. For example, the operations manual from one vendor states, “Shortly after the trainer is started, the MIL will illuminate indicating open loop operation” This is absolute fraud. The MIL only illuminates as an indication of improper operation. When it does come on, a fault code will be stored and the system will resort to some form of “limp home mode” It will not be able to demonstrate any normal system operations or perform a “drive cycle”

The importance of normal operation of short term and long term fuel trim cannot be over emphasized. Fuel trim is one of the least understood engine control operations. But, it is also one of the most important in diagnostic procedures. ATech, with the assistance of the OEMs, has developed a proprietary system to allow its OBD II system demonstrators to have the same fuel trim operation as the vehicle. If a student does not understand fuel trim operation, they will never be able to fix the more difficult repair problems. Don’t let you students graduate without a thorough knowledge in this area.

The term **I/M flags** means Inspection/Maintenance flags. These can be read on a scan tool as System Status. The flags are indicators of the non continuous monitors that the EPA requires the PCM to run to analyze the condition of the emission control system. Some of them are Oxygen Sensor Heater, Oxygen Sensor operation, Catalytic Convertor Efficiency, Evaporative System Operation, and Exhaust Gas Recirculation System Operation. To perform the tests

## The OBD II Fraud cont'd

the vehicle must be driven in a prescribed manner called a “Drive Cycle”. One uninformed instructor explained to me how he was going to have his students perform the “Drive Cycle” by driving a vehicle around the parking lot. He had been told this was possible by one of the “tech ed” vendors. It is difficult to perform a “Drive Cycle” on a test track, almost impossible and unsafe on an expressway, and unless your parking lot looks like the “Salt Flats”, absolutely impossible to perform in a parking lot. This is why one of the requirements for the OBD II System Demonstrators that ATech builds for the OEMs is that they must be able to perform the “drive cycle” without faults. OBD II is not about having an oxygen sensor connected to a PCM. It is about a complicated set of interrelated signals and responses.

There is no reason to buy one of these fraudulent systems from a “tech ed” vendor. If they cannot or will not answer the questions given in this article, don’t buy an OBD II trainer from them. If they say yes it will, **get it in writing**. Also don’t buy the arguments that the OBD II system demonstrators are too complex for lower level students or you should start your students on an OBD I trainer because they are simpler. All of the parts and operations of an OBD I system are on an OBD II system. The same oxygen sensors supply signals to the PCM. The same fuel injectors inject fuel into the cylinders. The fundamental operations of fuel injection and control are all part of an OBD II system. But, the OBD II system must go much farther. It must deal with the interactions of all the signals and actually perform tests to verify that the emission parts are operating properly.

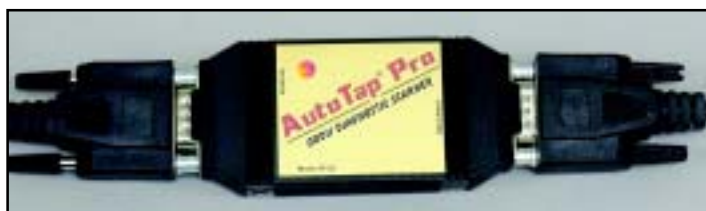
On a personal note, it is extremely unusual for me to discuss other vendor’s products but **fraud is fraud**. It is very difficult to obtain money for training equipment in the public education system. I know, I worked 17 years teaching and as a Department Head. If you do obtain some to spend on OBD II training products, be very careful in your selection. Once you buy, it is extremely difficult if not impossible to send the unit back and that money is probably gone forever. Remember it may be ten years before you get some more funds.

## AutoTap Scan Tool

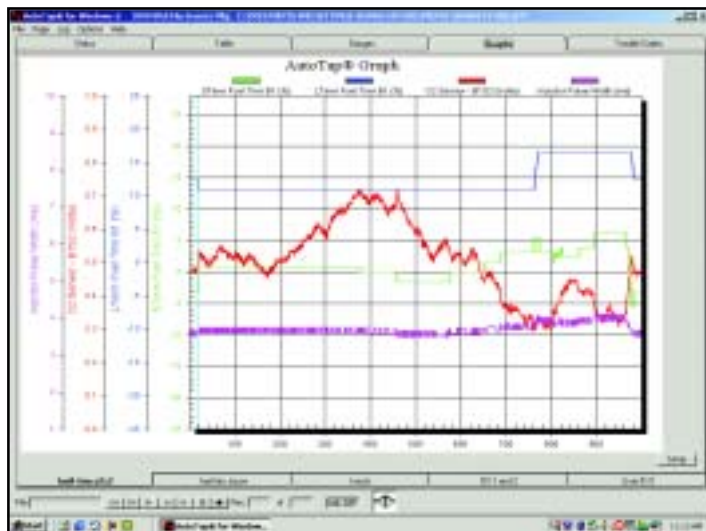
Use your PC or Palm to quickly diagnose and fix problems on 1996 and newer OBDII equipped cars and light trucks.



- Read Diagnostic Trouble Codes
- Read Freeze Frame Data
- Clear the Check Engine Light
- View emissions readiness monitors
- View and log real-time sensor data, including manufacturers enhanced data for GM, Ford and Chrysler



**Diagnostic Scanner**



**Four Signal Graph**

## ATech - AutoTap Educator Program

**Automotive Technical Instructors may Purchase a \$489.95 AutoTap Pro OBD II Diagnostic Scanner for just \$249.95 for Classroom Instructional Use!**

If you instruct in automotive technical training at a state accredited educational institution in the United States or Canada, you are eligible to participate in the ATech - AutoTap educator purchase program. Visit the ATech website for details: [www.atechtraining.com](http://www.atechtraining.com)

# ATech's Invitational Training Retreat



**The First Day**

ATech occasionally invites instructors from schools across the Country to a "Training Retreat". The most recent one was unusual in that it included public school instructors and Industrial Training instructors and providers. The combination worked extremely well as each group had their perspective of training needs and problems. Discussion among the members provided some valuable insight as to common training needs and techniques.

Participants included:

- Merle Saunders - Vale High School, Vale, Oregon
- Steve Maish - Centennial High School, Peoria, Arizona
- Gary Hoskins - Performance Plus Training, Bessemer, Alabama
- Ron Bush - Tennessee Tech Center, Jackson, Tennessee
- Lyle Taylor - US Grant Career Center, Bethel, Ohio
- John Arndt - Advocate Fleet Services, Naperville, Illinois
- David Skinner - NCVECS - Colorado State University, Fort Collins, Colorado
- Al Engeldahl - Industrial Training, Chicago, Illinois
- Steve Hull - Tarrant County Community College, Fort Worth, Texas
- Dan Perrin - Trident Technical College, Charleston, South Carolina

The general purpose of these retreats is to evaluate training equipment, develop teaching materials, and discuss problems of Automotive Training at all levels. Specifically, this session dealt with the application of "Hands - On" training to Engine Control System Troubleshooting and OBD II applications. All expenses were paid for the group including transportation, meals and lodging.

A tour of the ATech facility was given and then the group was loaded into a limo for transportation to the "Training Retreat" location. Thanks to members of the group for attending and participating. It was two days of hard work but I believe well worth it.



**Belterra Riverboat Casino (Retreat Location)**

## Training Retreat cont'd

## Students Win Competition Using ATech OBD II Trainer



**ATech Manufacturing Tour**



Left to Right: Kevin Stachler, Mike Heindl

Students from the Miami Valley Career Technology Center (MVCTC) in Clayton, Ohio recently won the Southwest Ohio Regional Tech Prep Showcase utilizing an ATEch OBDII Trainer. Mike Heindl and Kevin Stachler's presentation explained the theory and operation of the GM OBDII ignition system, and the use of a Snap-on scanner in diagnosing ignition system problems. The contest judges were impressed by the students' depth of knowledge, and ability to explain the operation of the components making up the OBII system.

Mike and Kevin are two of eighty students in the ASE certified/AYES automotive technology program at MVCTC. Students in the two-year program rotate on a semester basis through four areas where they receive instruction in 8 ASE certification areas. Students routinely set-up and operate ATEch trainers while studying various automotive systems. The program's instructors, Keith Boothe, Tony Gebhart, Dave Jessup, and Ron Watts, teach their area of expertise, exposing the students to high-level instruction in everything from basic maintenance to engine troubleshooting, and even transmission rebuilding. Academic support from Math instructor Charles Brads, Physics instructor Jeff Toms, and Technical Writing instructor Sandy Hartley makes this a complete program for the aspiring automotive technician.

Kevin and Mike will deliver their presentation once again, when they compete in the Ohio SkillsUSA-VICA Championships on April 26.



**Loading the Limo**



**Engine Control System Troubleshooting**



**The Riverboat**



## GM ASEP / BSEP

### In This Month's Newsletter

The training section of this month's newsletter features the **General Motors ASEP and BSEP** programs. These are post secondary programs which offer an excellent training experience and a direct path to dealership job opportunities.

On page 6, NATEF and ASE have launched a new **General Services Technician Certification Program** which is going to generate much discussion. Certification standards are one thing that have no shortage of critics. You can either help them work or help them fail. Your choice.

Page 7 is dedicated to **NACAT** (North American Council of Automotive Teachers). Al Goodyear, Executive Manager, has written two articles describing the benefits and opportunities of NACAT participation. I would encourage all teachers to strongly consider joining NACAT and attending their conferences. They are a dedicated, hard working group willing to share information and assist anyone in improving their program. Plus their conferences are fun. Who but NACAT would have a conference in Alaska?

Fred Hines - Industrial Co-chairman

### The Troubleshooter Program

The AIPC/ATech Troubleshooter Training Program has been very successful. The program has had many downloads and instructors are using it in many innovative ways. Both regular classes and evening technician upgrade classes have found it effective. The program has been used as a pretest for transfer students, a post test for students finishing the electrical area, and as a self evaluation for practicing technicians. If you think your electrical/electronics training section is doing the job, let your students try to identify the faults in these circuits.

Some instructors have asked for additional support materials, for example - student activity sheets. If instructors would like to develop those or other support materials and wish to share them with all instructors, send them to [fhines@autoipc.org](mailto:fhines@autoipc.org). They will be placed on the AIPC website for everyone to download.

The GM ASEP and GM BSEP process streamlines the path to becoming a certified service technician within a two-year period, where students alternate between formal classroom training and hands-on work experience in a GM dealership.



Classroom instructors are trained by General Motors, and are in-tune with the latest trends in technology. GM provides new vehicles, training components, and aids for students to work on and learn from in a closely supervised and structured environment.

General theory and basic information are given practical applications. Students learn how to identify problems, analyze them and apply solutions. Theory and practical application come together as students spend their work terms in an actual dealership, working on real vehicles for real customers.

GM ASEP and GM BSEP offers not only challenges, but also rewards!

#### Classroom Benefits:

The work experience will create an opportunity to apply the theory acquired in the classroom, while establishing a solid foundation for further development of skills and knowledge.

#### Dealership Benefits:

Students are paid employees of the dealership, giving them the opportunity to earn as they learn. Upon graduation, the students receive an associate's degree in Automotive Technology (or similar).

#### Am I eligible for these programs?

Candidates must be high school graduates and get accepted into a participating college. Candidates must obtain and maintain a GM dealership-sponsor (the college will support you in securing a sponsor) and provide productive and responsible employment at the dealership during the internship. Candidates will be required to wear your dealership-provided work uniform during school and at work.

#### How do I enroll?

Locate a college which offers GM ASEP or GM BSEP programs and contact the Program Coordinator. He/she will provide you with the application form specifically for his/her school and other program details.

## NATEF Launches General Service Technician Program

**Leesburg, VA, March 20, 2003** - Just as one size doesn't fit all when it comes to clothing, employers have varying needs when they are hiring entry-level technicians. Some need generalists while others need specialists. In response to industry and education requests, the National Institute for Automotive Service Excellence and its education foundation, the National Automotive Technicians Education Foundation (NATEF), are pleased to announce the rollout of the General Service Technician Program. This new program will serve as an additional option for secondary programs that choose to certify as articulated programs.

This new certification track for secondary training programs is designed to graduate entry-level technicians with as broad a skill set as possible. ASE President Ronald H. Weiner said, "The General Service Technician Program is intended to serve high school programs in areas where local employers prefer to hire graduates who have broad skills and a general understanding of all automotive systems rather than skill sets with greater depth in fewer automotive systems".

The basic requirements for the new General Service Technician Program certification are rigorous. One hundred percent of the tasks on the task list are required to be taught over a minimum period of 500 hours. Instructors must have current ASE certification in Suspension & Steering (A4), Brakes (A5), Electrical/Electronic Systems (A6), and Engine Performance (A8). Additionally, they must attend at least 20 hours of in-service industry training annually. And all General Service Technician Programs must have an articulation agreement with an ASE-certified post-secondary program to encourage students to continue their education beyond high school.

"The General Service Technician Program is a win-win for industry and education", said Al Duebber, NATEF Chair and owner of Duebber's Automotive Service Center in Cincinnati, Ohio. "Graduates will have the opportunity to build a solid foundation in electrical/electronics and have a general understanding of all automotive systems, which is extremely important to many employers."

Programs that wish to become ASE-certified as a General Service Technician Program must demonstrate that they meet strict industry standards. The process and cost for certification are the same as for other programs administered by NATEF. Specific information on the standards, including the task and

tool lists, can be found on the NATEF web site at [www.natef.org](http://www.natef.org).

Founded in 1983, NATEF is a non-profit foundation within the National Institute for Automotive Service Excellence (ASE) organization. The primary mission of NATEF is to improve the quality of automotive technician training programs through voluntary certification. NATEF is responsible for the program evaluation process, and makes recommendations for ASE program certification based on the evaluation. The State Departments of Education in all 50 states support ASE certification of automotive programs. For more information on NATEF, contact Mary Hutchinson, Executive Director, at 703-669-6643 or via e-mail at [mhutchinson@asecert.org](mailto:mhutchinson@asecert.org)



## AIPC 2003 Awards Program

The 2003 Guidelines and Application are available on the AutoIPC website, [www.autoipc.org](http://www.autoipc.org). Registration is required at the website to receive the documents in an email. Ensure that the email address you enter is correct. In year 2002, 99% of the problems with receiving the documents was due to an incorrect email address. The first year for registration was 2002 and proved to be very valuable in tracking submissions from schools and obtaining input on improving the process.

The entry process requires some time and effort, but the materials you produced for NATEF certification are an excellent resource. You must perform a thorough self evaluation of your program and involve other members of your school, including the administration. The improvements in your program that will result from going through the process are worth the effort.

The prizes for this year's program have not been determined as they depend on donations and commitments received by AIPC during the year. If you know of any organizations or individuals who might participate in supplying items for the winners, please email [fines@autoipc.org](mailto:fines@autoipc.org) with the information. Additional funding for operations is also being solicited.

# The North American Council of Automotive Teachers

## NACAT

NACAT concluded its 2002 fiscal year on August 31. This represented over 25 years of continuous operation and an all-time membership of over 800. Our members are mostly automotive teachers, located in U.S. and Canada secondary and post-secondary schools. However, there are members in England, Australia, New Zealand, and Mexico, as well as other countries from time to time.

Some of NACAT's recent activities are listed below.

- A continuation of the NACAT-led program to enlist school counselors in an effort to encourage better students to apply for our programs. This is now a partnered program with AYES. A revised book and participation in counselor conventions is ongoing.
- The NACAT annual conference is held every year in the first week in July. The 2002 conference was at the Southern Alberta Institute of Technology (SAIT). It was spectacular, with many excellent seminars and family events, plus a varied and informative trade show. The 2003 conference will be held in Seward, Alaska, hosted by Alaska Vocational Technical Center. This conference has been in the planning for some time and promises to be unique, and a once-in-a-lifetime event.
- The NACAT mission is to aid in the improvement of automotive education. NACAT News, the organization's newsletter, is published three times a year and is devoted to publishing articles that support the mission.
- NACAT is primarily an interactive organization. Its members represent the educational component of the automotive industry and serve on boards and as consultants to companies and organizations.
- Benefits to members are many, and varied. An outstanding example is free access to Technet - a Snap-On hot line service provided by Car Quest for NACAT members only.

Please visit the NACAT web page at [www.nacat.com](http://www.nacat.com) or contact the national office at **858-487-8126** for information or clarifications.

**Al Goodyear**  
Executive Manager, NACAT

## The NACAT Educational Foundation

In the early 1990's NACAT established the NACAT Educational Foundation, largely through the efforts of Fritz Peacock, a long-time NACAT member. The foundation is designed to make grants and awards in support of the NACAT mission. The foundation is pleased to announce:

- Two annual \$1000 awards for Teacher of the Year and Host School (2002 conference) students.
- Five new awards, funded by the IMACA Foundation, and to be presented at the Alaskan conference. This grant from IMACA is valued at \$100,000, over three years. For detailed information about these awards and how to apply for them after you have become a NACAT member, please visit the NACAT web site, [www.nacat.com](http://www.nacat.com). Click on now for this information.
- Two hundred Sercon recovery, recycling, and recharging machines (SK8134AV) are in the process of being distributed to NACAT schools for the cost of shipping only. This donation from the Technical Chemical Co. of Cleburne, TX is greatly appreciated by NACAT and the NACAT Foundation.

**Al Goodyear**  
Executive Manager, NACAT





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**ATech Training is a member of:**



**Automotive Industry Planning Council**



**Automotive Training Managers Council**

**And actively supports:**



**Free Electrical Troubleshooting Skills Development Program**

AutoIPC (AIPC) and ATech through a collaborative effort have made a free downloadable program available on [www.autoipc.org](http://www.autoipc.org). The program's purpose is to develop electrical troubleshooting skill in both technicians and students. It is free for you to use personally or in your classroom. All other copyright restrictions are maintained.

Two of AIPC's Areas of Concern are: "Reinforcement and support of existing training programs" and "Instructor Professional Development". This skill development program is the initial step in addressing these concerns.

The program is a variation of the ATech Skills For Electrical/Electronic Troubleshooting (SEET) program. The variation allows faulted circuits to be displayed and diagnosed using standard virtual instruments. The program as downloaded contains one faulted circuit. New faults for the circuit and new circuits will be made available periodically on the AutoIPC website for downloading.

Additional faults are available for download on the AIPC website and all registered users have been notified of their availability.