

Egyptian Air Force Trains Onsite

On January 8, 2007, two members of the Egyptian Air Force began extensive training onsite with ATech Training, Inc, in an effort to begin a new automotive training program.



L-R Gene Brown, Instructor, ATech Training, Inc.; Major Ehab Mohamed Hassanin and Major Ayman Mohamed Toubar, Egyptian Air Force ; Laura Lyons, CEO, ATech Training, Inc.

Currently the Egyptian Air Force does not have an active training program for automotive technicians and relies on the U.S. Air Force for such training. The Egyptian Air Force purchased a complete lab of ATech trainers. Both Major Ayman Mohamed Toubar and Major Ehab Mohamed Hassanin were sent to ATech for extensive training. They learned the operation of the trainers and new teaching methods for the program. This training consisted of 160 hours total with 96% of this time spent in hands-on training.

In 160 hours they covered the ATech 1801 Trainer with the 1810 W and 1820W computer based instruction. That led the natural progression to the Smarter Car Boards and then to the ATech 3601 Trainer to learn Engine Control Systems using the 3610, 3620, and 3630 computer based instruction. From the 3601 training they moved onto to learning the operation of OBD II on first, the GM OBD II Trainer and then the ATech Model 650 Engine Trainer with fault insertion.

The completion of the training will enable the Egyptian Air Force to develop a successful automotive and diesel training program.

Please note our updated mailing address:

ATech Training, Inc.
12290 Chandler Drive
Walton, KY 41094

What's Wrong With This? Winners and Follow-up

The winners drawn from the group of correct answers are;

- AutoTap Scan Tool - Dr. John D. Kelly, Weber State University
- 2815 Software - Glen C. Elsener, Gateway Community College
- 3631 Software - Darrell Hanan, Scott Community College

This contest was fun for everyone. So we are going to do it again. If anyone finds a major mistake in training materials from any company, send it to newsletters@atechtraining.com. If your item is selected to appear in the newsletter, you will win an AutoTap scan tool, 2815 software, or 3631 software. Your choice.

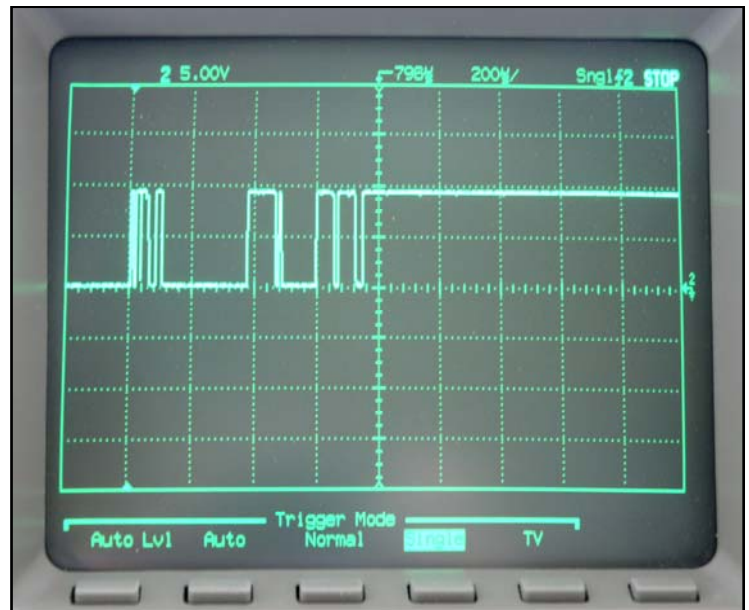


Figure 1

In last month's newsletter I discussed the "turn on" characteristics of the incandescent lamp. At the end of the article I explained that a debounced switch was needed to apply the voltage to the circuit. Many people were not aware that mechanical switches bounced. In the figure above is an oscilloscope trace capturing the typical bouncing of a switch. The scope is set at 200 microseconds per division and illustrates that the switch bounces for approximately 800 microseconds before it actually closes.

In a typical application of turning on a light, the bouncing would not be a problem. But if the switch is providing an input to a high speed processor, it can cause serious problems. This is another of those unseen things like the resistance change of an incandescent lamp as it heats up.

In the discussion of the sine wave mistake, I intro-

What's Wrong With This Follow-Up, Contd.

duced the phase angle relationships that exist between voltage and current in the reactive devices, capacitors and inductors. This phase angle relationship is extremely important because without it we would have no radio, television, radar, cell phones, computers, cars, and many other devices.

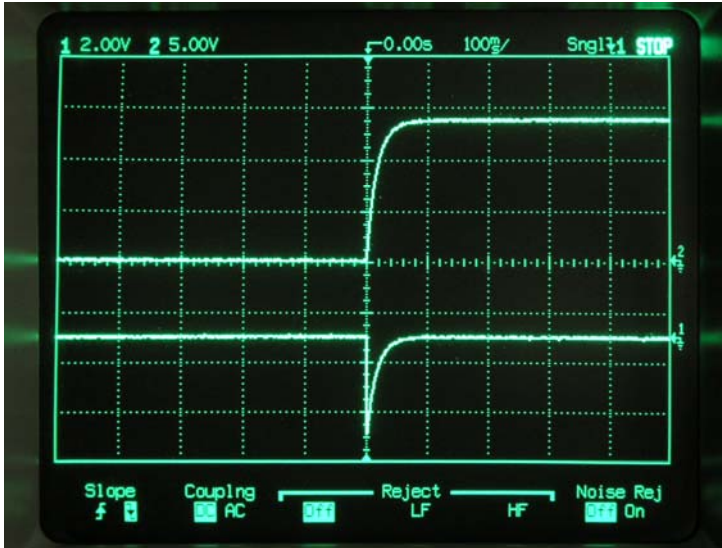


Figure 2

The 90° relationship in the capacitor is extremely interesting because it indicates that current leads the voltage. In other words, there is current flow before there is voltage! Is that possible? I have captured the voltage and current waveform in the following two figures. Figure 2 shows the voltage waveform on channel 2 and the current waveform on channel 1. The current amplitude is negative because of the connection points of the scope. The scope is set to 100 milliseconds per horizontal division which gives an applied voltage of ~ 14 volts. The current is ~ 3 milliamps. From the trace, the current appears to reach its maximum value before the voltage starts to rise.

Figure 3 shows the same waveform greatly expanded; from 100 milliseconds/division to 5 microseconds/

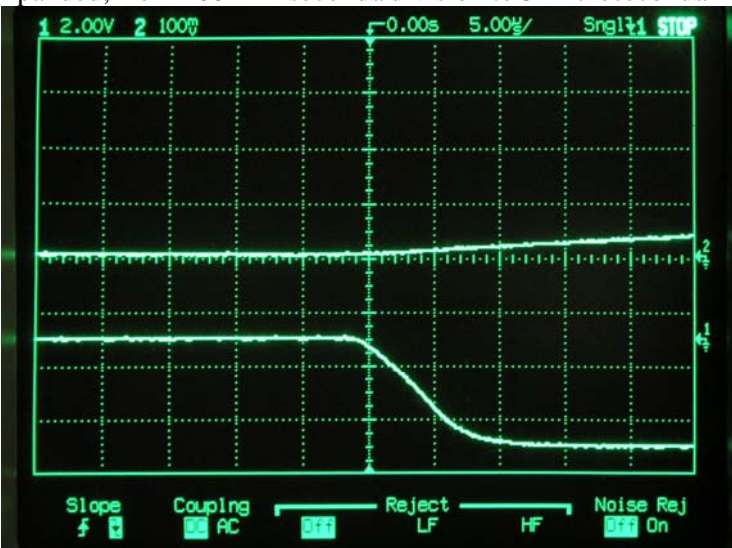


Figure 3

division - a factor of 20000. The current waveform still appears to start before the voltage! Explanations?

Figure 4 illustrates the current and voltage relationships of a capacitor in a circuit with an ac sine wave source. Notice the relationship of current maximum to voltage zero.

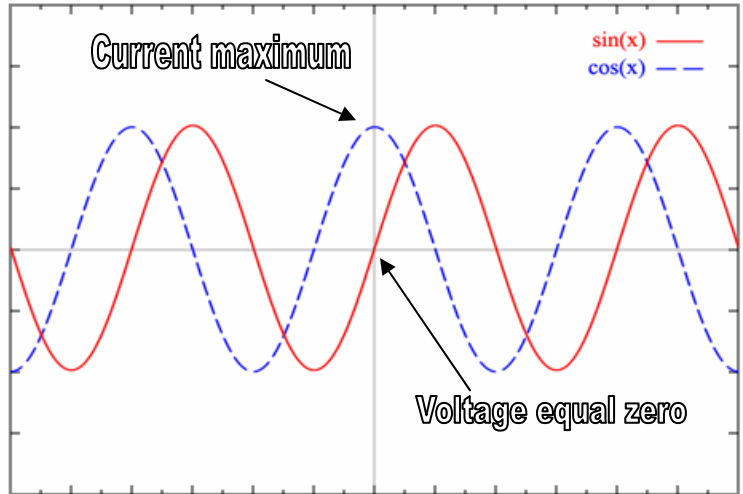


Figure 4

Cheat 'em If You Can

ATech is involved in many quote and bid opportunities each year. It has recently come to our attention that, what used to be a rather uncommon practice has now become the "norm" for some companies.

A practice that some businesses refer to as "determine what the customer will pay" and which I refer to as "cheat 'em if you can" is being used in many places. As more and more organizations discover ATech's honesty, product quality, and service, we receive more requests for us to bid on projects. What we have found is, if a company believes it will be the only bidder on a project, the price bid is increased by as much as 30% over their normal price. While this is illegal in most states, that doesn't seem to bother them probably because very few are ever prosecuted.

How does your organization avoid being cheated? If a company will not give you a standard price list for their products, you will undoubtedly pay more than the standard price if the opportunity presents itself to the supplier.

Just recently we encountered a more flagrant example. A bid request was received and the trainers were listed with reference model designations. We lost the bid by over \$30,000.00. Two items were actually bolts for repair of trainers but they were listed as trainers not repair items. Their value was \$5.00 and \$10.00. When are 5 and 10 dollar repair items bid with trainers costing thousands of dollars? When the intent is fraud and deception. The dollar amount involved in this fraud makes the action a felony and someone may end up in prison

In all cases where ATech discovers this type of activity, we are notifying the State's Attorney General.

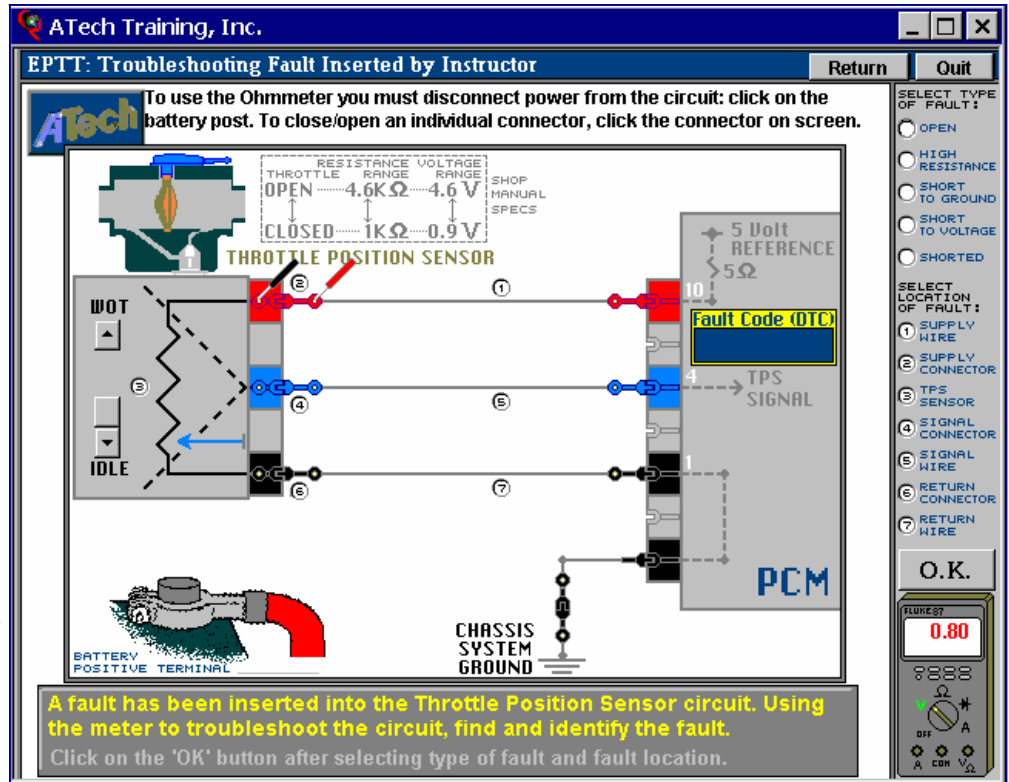
Computer Based Troubleshooting Skill Development

ATech Model 3631

The 3631 software is the vehicle for both beginners and advanced technicians to practice using their electrical knowledge to troubleshoot actual engine control circuits. Every level of technician can dramatically improve their troubleshooting skills by utilization of the Training and then the Advanced mode of the ATech 3631.

The 3631 program consists of a troubleshooting section that will insert random faults into engine control circuits to be diagnosed. The ATech 3631 has over 60 faults in 5 different circuits. The circuits are Fuel Pump Relay, Engine Coolant Temp, Fuel Injector, Intake Air Temp, and Throttle Position Sensor. The software also has two modes of operation—Training and Advanced.

In the Training mode, measurements are allowed inside components as noted in figure 1. The Advanced mode creates the more realistic situation of only being able to back-probe connectors. If a probe is placed at a connection point inside a component, the program will move it outside the component and give a warning message and distinctive sound indicating that the measurement point is not available. This is illustrated

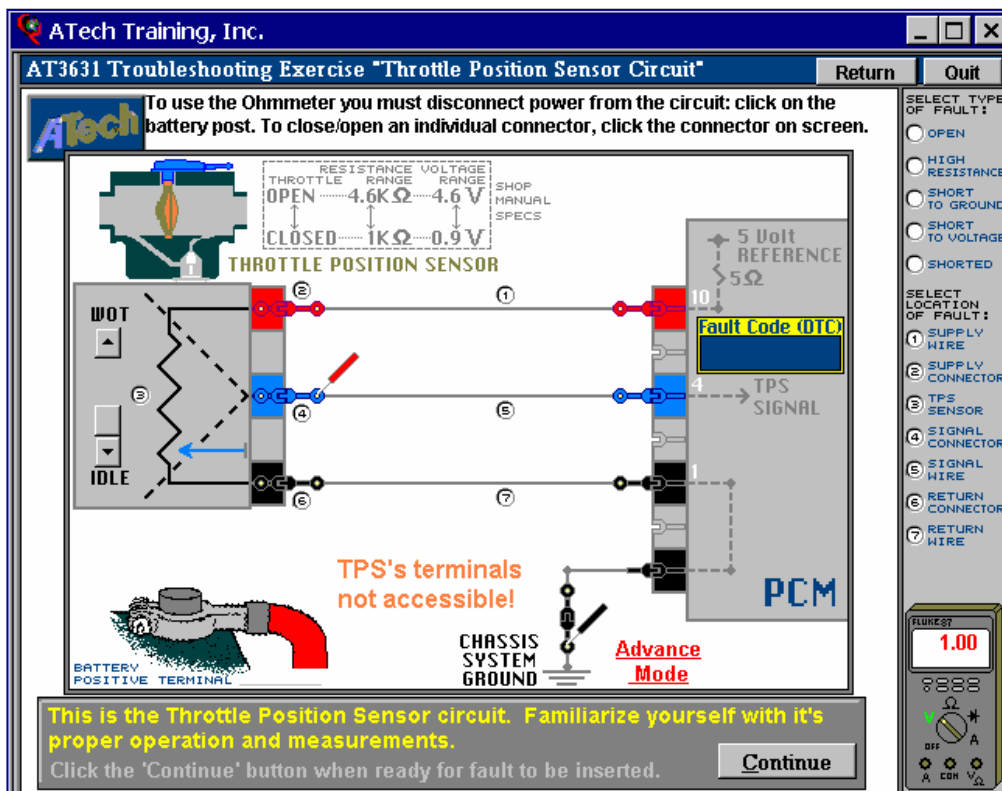


Training Mode—Figure 1

in Figure 2.

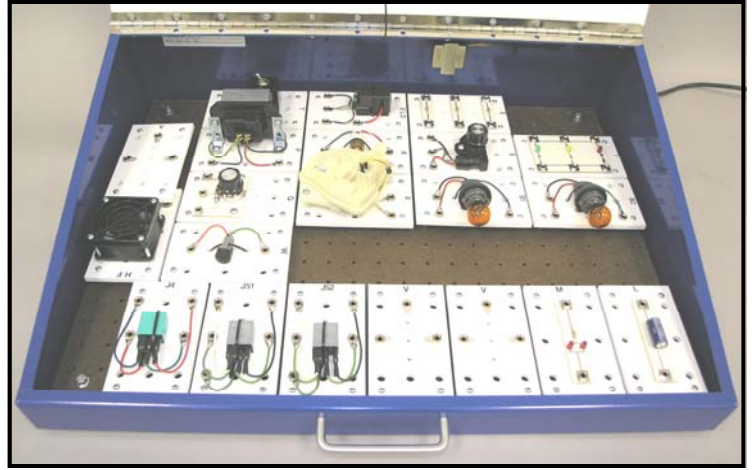
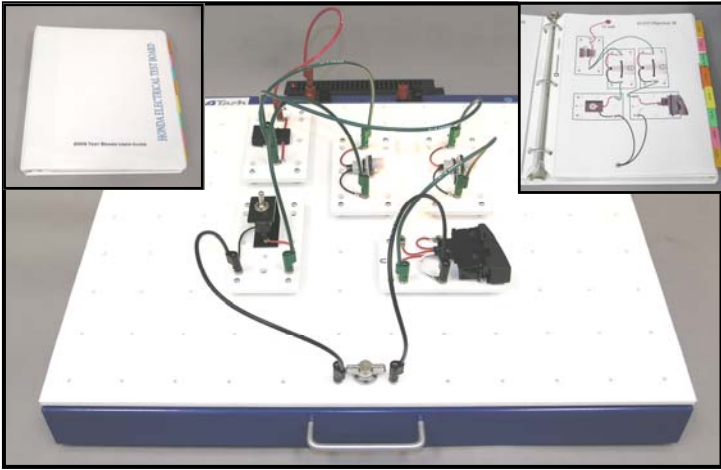
The ATech 3631 has a new feature which will keep records for the instructor on all users. This system works in conjunction with the instructor management program (IMP), and can be used as a stand-alone feature or on a network server. The IMP allows a single fault or multiple sequential faults to be sent over the network to one, all, or selected student computers. Sending a single fault to all computers is an excellent way to create class discussion during group troubleshooting. Project the circuit with a computer projector and the class can discuss each measurement and the appropriate next step can be evaluated. Then each student station can perform it individually.

Whether you are just starting out in automotive service or experienced in the field you will find the ATech 3631 to be challenging. At the same time you will enjoy trying to troubleshoot, understand, and explain all the possible problems. In non-networked situations, the ATech 3631 has the ability to manually insert faults, with choices from an easy to use menu.



Advanced Mode—Figure 2

Honda's Electrical Program Available!



A Tech is proud to announce the release of the Honda Electrical Training System produced by A Tech to Honda's specifications. At Honda's request, this trainer will be made available with courseware to schools.

Honda has agreed to supply the courseware at no charge with the trainer. The only additional cost for the trainer will be the CD duplication costs to A Tech.

For public automotive training programs, purchase of the trainer also includes access to Honda's on-line training. Honda has always been highly supportive of public automotive training programs. This is just another example of that commitment.

Complete specifications are available from A Tech Training, Inc. www.atechtraining.com.

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YOUR CAREER CONNECTION TO A FUTURE WITH HONDA

There are an estimated 180 million Honda and Acura vehicles on the road today and every single one need maintenance and repair. Each owner wants to find a trustworthy technician and feel confident in his or her work to fix their vehicle right the first time. That is why there is Honda PACT. Honda's Professional Automotive Career Training (PACT) gives people the opportunities and training needed to succeed.

The demand for qualified automotive technicians is at an all-time high. Every dealership is looking for candidates who have the background to diagnose and repair the mechanical as well as the computer systems found on Honda products. Although it is not easy, Honda PACT can help you get there!

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Response to Fred Hines' recent Automotive Teacher Crisis? article in the January 2007 ATech-AIPC Auto Teacher News.

My name is Jack Greer, I am Chair of the Automotive Technology Department at Southern Illinois University Carbondale. The Department delivers a Bachelors of Science degree in Automotive Technology. The program began in 1952 and offered an Associate of Applied Science degree in Automotive Technology, and in 1996 the State required SIUC to discontinue the A.A.S. degree and offer only the B.S. degree.

I would like to suggest you add an "eighth" point in your plan to address the teacher shortage situation – recruit high school/future college students for a career in education.

Two years ago SIUC started a program where students can double major in automotive technology and education. The five year degree allows our graduates to sit for the Illinois high school teacher certification exam. The first two students from this program are graduating in May. Graduates can teach in community colleges with just a B.S. in automotive technology, and a respectable number of high school and community college automotive teachers in Illinois graduated from the SIUC Automotive Department. We are the only University in the Midwest offering this type of program.

I am suggesting that increasing the number of people seeking a career in education and finding ways to offer this type of program at other institutions will help to address the shortage in the future.

I agree with the idea that we have a teacher shortage crisis. In Illinois it is common for an automotive high school program to close after a teacher retirement. The industry cannot afford to lose these programs.

If there is anything I, SIUC, or the SIUC automotive faculty can help with, please feel free to ask.

For a Program of Study guide and a program brochure visit: <http://siucautomotive.com/curriculum.html>

Thanks,

Jack S. Greer, Chair
Automotive Technology Department
Southern Illinois University Carbondale
College of Applied Sciences and Arts
Mail Code 6895
Carbondale, IL 62901
PH: 618-453-4024

Automotive Technology Curriculum

IML of the University of Missouri-Columbia offers a complete line of Automotive Technology curriculum material designed to help instructors organize classroom presentations, shop activities, and assessments.

The Automotive Technology curriculum is a nine-module series available in print and on CD-ROM. Both offer an Instructor Guide, Student Reference, Student Workbook, and Test Packet for each module.

Benefits of IML's curriculum include:

- Complete coverage of all NATEF tasks
- Student tracking
- Priority Item Crosswalk connecting job sheets to skills on the NATEF Task List

The CD-ROM version provides access to all four components—instructor and student texts, workbook, and tests—in PDF format, as well as the following features:

- Customizable Microsoft Word files
- Colorized graphics
- Microsoft PowerPoint presentations for each lesson

IML's Automotive Technology curriculum reflects nearly 20 years of development, enhancement, and updates.

Contact ATech or visit the ATech website for more information. http://www.atechtraining.com/IML_curriculum.htm.

ATech Training is a Training Partner of IML and is an ASE Certified Training Provider

Federal Funding Denied to Non-Certified Programs?

“A growing number of states mandate that their high school automotive programs be NATEF certified. Some preliminary discussion has taken place on rules allowing only NATEF-certified schools to be eligible for federal funding.”

The above statement is a direct quote from a federally funded activity concerning certification. While NATEF certification is a great goal, it is not practical for many programs. Some are one instructor shops, others just do not have the funding for equipment. This may turn into another mandate which will result in more program closings.

Want to be heard on this? Send your comments to kjewell@autoipc.org. They will be forwarded to the appropriate group.

AIPC's Teacher Shortage Efforts

The Automotive Industry Planning Council's new website is on-line.



Automotive Industry Planning Council

12290 Chandler Drive
Walton, KY 41094
(859) 485-7229

[Home](#)

[Award Applications](#)

[Newsletters](#)

[Teacher Certification](#)

[College Credit](#)

[Interest In Teaching?](#)

[Post A Position](#)

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New items added to the website to address the teacher shortage:

[Teacher Certification](#)

Teacher Certification requirements for all fifty states. Each state's material also includes a link to the appropriate location on the state's education website for more complete information.

[College Credit](#)

Information from schools that offer related degree programs for automotive instructors. Many offer credit for ASE certifications and allow all or most of the additional work to be accomplished on-line. Information is also included on national testing services that can result in transferable college credit.

[Interest In Teaching?](#)

Individuals interested in becoming teachers can leave their relevant information in a private data base which will be cross referenced to possible openings. No information will be released to any potential employer without the consent of the originating individual.

[Post A Position](#)

Anyone can provide information about a position or future position (i.e. retirement). Administrators, department heads, or instructors can also post opportunities for substitute teachers. The position information will be reviewed and verified before it is placed on the website.

[Employment Opportunities](#)

After verification, open or future open teaching positions at schools will be listed.



SUMMER WORKSHOP

Skyline College
Automotive Technology Department
3300 College Drive
San Bruno, CA 94066
June 18-22,2007; M-F: 9-5 PM

Intended Participants:

This class is designed for all automotive instructors who want to increase their knowledge of the selected topics, improve their teaching techniques and diagnostic skills, and to meet their NATEF training requirements.

Topics:

OBD II Diagnostics: Includes Drive Cycles and Monitors, Making Sense of MODE 6, and Evaporative Emission Systems. A presentation will be given by the Foundation for Community Colleges and Smog Check Referee Program (Bring your questions regarding Engine Changes, Aftermarket Parts, etc.). The week will include extensive hands-on assignments that include testing and diagnosing a variety of vehicles.

Cost:

Each student must register for 1.5 units, forty hours, of college credit and the cost is \$32 (Non-Resident fees are \$175 per unit plus \$20 per unit Enrollment Fee). Materials (Binders and Book), refreshments, and lunches will be paid for by a variety of industry sponsors. This is approximately a \$150 savings per person, so take advantage of this excellent opportunity and enroll early.

Enrollment:

Seating is limited to 24 students! Reserve a seat now by completing the information at the bottom of this page. A waiting list will be established and registration information will be sent out at a later date.

What to bring with you:

Ear protection is required because there will be up to four dynamometers running at the same time. Don't forget the family and a warm jacket and because there are a lot of things to do in the San Francisco Bay area and the weather can change quickly.

Where to Stay:

There are a variety of excellent hotels in the area and every attempt will be made to get a discounted rate. RV Parking will be available on campus. The San Francisco Airport is four miles away and the Oakland Airport is a thirty minute drive.

Complete the following form and fax it to 925-676-0890, or mail it to: Skyline College, attn: Rick Escalambre, 3300 College Drive, San Bruno, CA 94066, escalambre@smccd.net.

Name: _____

School/Training Program: _____

Mailing Address, City, and Zip Code: _____

Email: _____

Contact Phone Number: _____

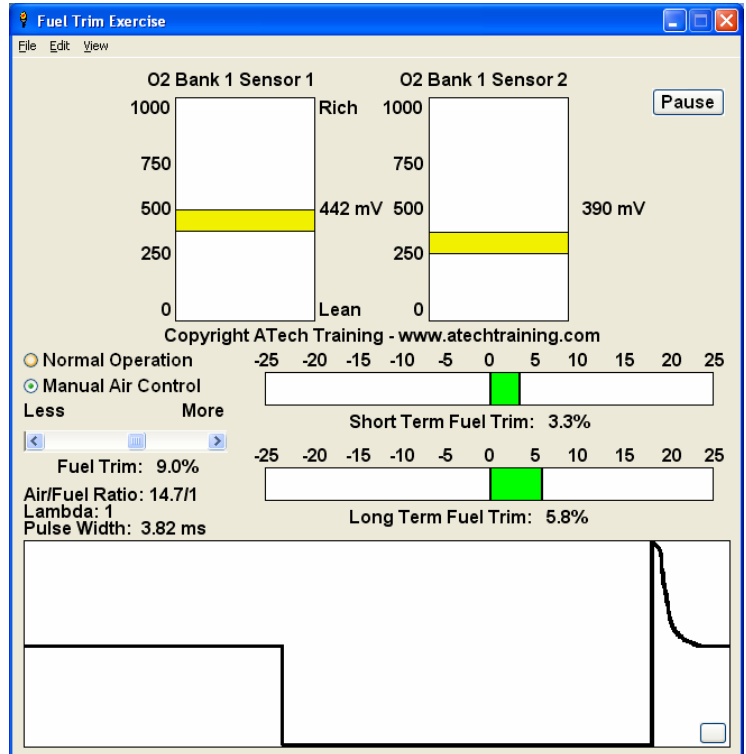
Programs Under Assault

“Nationwide, a huge number of automotive technicians have had no traditional high school or community college automotive education, but have still managed to gain most or all of the skills that most high schools and colleges teach and do just as well as most of those who have had a traditional H.S and/or J.C. education. That should tell us something.”

This statement was posted on an international forum of educators. It was directed at the United States high school and college programs. I challenged the individual to produce actual numbers based on research to support his assertion of “a huge number”. He obviously had none and tried to redirect the discussion. It was disappointing that only a couple of educators came forward and challenged his statement.

How do you feel about the worth of your program? Is he right, that aspiring technicians would do just as well without the high school and college programs? Let us know, send you comments to fines@autoipc.org.

Free Fuel Trim Simulation Program



This is a “Discovery” based program . The program starts with only two relationships and adds others as requested. The small button in the bottom right corner of the display adds another item when requested.

The program is available at : www.atechtraining.com/fueltrimdsc.htm.



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ATech Training Inc.

ATech Training is a member of:




Automotive Industry Planning Council



Extremely Important!

If you know of automotive programs at any level, high school, community college, university, that have closed in your State in the last 5 years, send the information with details to kjewell@autoipc.org.

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