National Automotive Technology Competition
at the NY International Auto Show

Competition Rule Book

April 26 & 27, 2011 / Jacob Javits Center

founded and hosted by:

GNYADA
Greater New York Automobile Dealers Association

National Automotive Technology Competition
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Welcome to the 2011 National Automotive Technology Competition and congratulations to all the teams for making it to the finals.

This Competition was originally conceived as a way to demonstrate to the outside world what an exciting, dynamic, modern and technologically advanced industry the retail automobile industry is. We wanted to showcase the great jobs that are available to those with the skills and aptitude to work and study hard.

In addition to raising awareness, the Competition is also about raising standards. Today collectively we have created a Competition that provides a challenge to the schools and the industry to work together so that students choosing to study auto technology get a first class education and a good job upon graduation. This unique school-to-work concept creates a highly competitive, yet exciting and fun event, while helping shape the automotive technicians of the future.

This event and the changes to the industry that it has helped foster could not be achieved without an army of supporters who go above and beyond the call of duty to make sure that the retail industry and those wishing to join it get the best possible start. The dozens of companies and institutions that have donated staff time, resources, expertise, vehicles, and tools for today's Competition are unprecedented. This industry-wide collaboration brings together nearly every major automobile manufacturer, automotive aftermarket supplier, retail automobile dealer, educational institution, and numerous government agencies – all in support of automotive education and training.

These truly great organizations that have literally changed thousands of young lives. Thank you to our sponsors!

- General Motors Corporation
- Snap-on
- Lincoln Technical Institute
- Toyota Motor Sales USA, Inc.
- Hunter Engineering
- Megatech Corporation
- Cengage Learning
- Automotive Training Center
- Universal Technical Institute
- University of Northwestern Ohio
- Ohio Technical College
- New England Institute of Technology
- Permatex

Being here today is a major achievement and an important milestone in a journey to success. Every student taking part in this Competition should be very proud.

Congratulations and good luck!

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Snap-on.com

snap-on is the official tool sponsor of the national automotive technology competition

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THE COMPETITION

Scope

THERE ARE TWO MAJOR COMPONENTS TO THE COMPETITION:

Part I – Workstations
In addition to diagnosing and repairing vehicle problems, contestants will be tested on their knowledge of tools, measuring instruments, specific vehicle components and job interview skills. The Workstations will account for **60%** of the total team score.

Part II – Hands-On
The other **40%** of the total test score is based on each Team's ability to thoroughly repair as many of the vehicle faults as possible and to document their repairs correctly on the Repair Orders.

The total time of the Competition is six hours during the two-day event.

TUESDAY, APRIL 26, 2011
Student teams will spend three hours at the Competition Workstations

WEDNESDAY, APRIL 27, 2011
Student teams will have three hours for the Hands-On portion of the Competition. Teams are responsible for checking all paperwork within the time period. A service manual or a computer (downloaded with manufacturer specific technical information) and other necessary references will be provided. Students **must use** the manufacturer's service technical information in order to complete the diagnostic procedures and receive credit for the repair.

Qualifications

Team members must be high school seniors, eligible to graduate in June of the contest year and have not reached their 19th birthday by January of the contest year. Proof of age and photo I.D. must be presented upon request.

Students who participated in a previous National Automotive Technology Competition are ineligible to compete in the Competition.

Workstations

The Workstations allow the contestants to demonstrate skills and knowledge, which cannot be measured during the on-vehicle portion of the Competition. Each Workstation Judge administers and monitors his/her own tests and collects answers on separate answer sheets (not part of the RO). At each station, teams must read and interpret a written set of instructions, perform the indicated tasks and record their results. The tasks performed follow the ASE Task Lists for five of the ASE automotive test areas, shop safety, and job interview skills.

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- Engine Mechanical (A-1)
- Brakes (A-5)
- Engine Performance (A-8)
- Professional Development – Job Interview
- Steering and Suspension (A-4)
- Electrical / Electronic Systems (A-6)
- Shop Safety

Each workstation may include more than one task.

Snap-on: Information Retrieval Workstation

Using the **Snap-on ShopKey5 Electronic Service Information System**, students look up proper service procedures and other related information on a vehicle. For training purposes, temporary access to the Snap-on ShopKey5 Electronic Service Information System can be obtained by contacting Ken Doran, Snap-on Education Account Manager at ***ken.j.doran@snapon.com***. Access will be granted for 14 consecutive days.

Hunter: Wheel Service / NVH Workstation

The students will demonstrate their understanding of fundamental wheel alignment angles, vehicle geometry and alignment diagnostics. Additionally, students will demonstrate their understanding of basic NVH (Noise, Vibration, and Harshness) fundamentals as it relates to wheel/tire balance and road force diagnostics. Students will perform specified tasks of wheel balance and road force measurement on a **Hunter GSP9700, Gen-III Road Force balancer**. Prior to the National Competition, instructors will be provided access to Hunter University's "Rolling Smooth" interactive training program via Internet. Instructors are encouraged to share this internet learning experience with their classes and competing students as some of the course content will be utilized in this workstation. ***Instructors need to request Hunter University Rolling Smooth access by contacting Doug Woolverton at DougWool@aol.com***. Instructors will also be provided with additional resource information for Competition preparation in response to their request.

BMW: Professional Development - Job Interview

Contestants will participate in a simulated job interview. Each contestant **must submit a resume** and be prepared to complete a job **application**. Each team member will be scored on the quality of their resume and how they conduct themselves at an interview. ***Students who do not come prepared with a resume will not receive credit for this Workstation.***

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Lexus: Wire Harness Repair Workstation

Students will demonstrate the necessary skills involving wire harness repair techniques including:

- Soldering with a connector
- Soldering without a connector
- Crimping with insulated connectors
- Crimping with non-insulated connectors
- Insulating with heat shrink tubing
- Connector terminal removal / replacement

General Motors: Engine Mechanical Performance Diagnosis Workstation

Students are expected to understand the basics of a 4 stoke cycle internal combustion engine. Students will be required to diagnose an engine problem using standard tools and procedures.

General Motors: Brake System Workstation

Students will demonstrate their understanding of a basic disc/drum braking system. The students will be required to inspect and diagnose common brake system concerns, using standard procedures and tools.

Megatech: Emissions Workstation

Students will be expected to demonstrate their knowledge of vehicle evaporative emissions. The students will be expected to diagnose a leak in the system using appropriate equipment.

Toyota: Waveform Workstation

Students are expected to understand waveform voltage and frequency interpretation, as well as waveform type, i.e., analog or digital. Waveforms will be displayed on a Snap-on MODIS tester. Students will only be required to read and interpret the waveform, they will not be required to set up or navigate the tester itself.

Megatech: Electrical

The students are expected to fully understand basic usage of a DVOM and must properly use electrical test equipment to diagnose failed circuits. Contestants will use the **Snap-on Blue Point Multi Meter.**

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CCAR: Environmental Safety Workstation

Access to CCAR's S/P2 e-learning program is provided free of charge to competitors in the National Automotive Technology Competition. BEFORE the competition, instructors are asked to contact CCAR by email at ***natc@ccar-greenlink.org*** to receive their students' log-on information for the S/P2 website. ***Students MUST COMPLETE the S/P2 courses IN ADVANCE of the competition.*** (Please plan on 4 hours to complete the training.) During the competition, students will be required to demonstrate their understanding of basic shop safety and environmental considerations. If you have any questions about how to gain access to the SP2 e-learning program, call toll free 1-888-772-3535.

Hands-On

The National Automitve Technology Competition covers Engine Management, Vehicle Safety and Chassis/Body/Electrical as well as basic mechanical skills. It is designed to challenge the students by measuring:

- Ability to read and record the 3-C's (Concern, Cause, and Correction) on a written Repair Order (RO)
- Problem solving and deductive reasoning capabilities
- Ability to understand wiring diagrams
- Use of resources such as working with a repair manual, electronic/computer recall service information data
- Performance with measuring tools, meters, and other electronic devices
- Diagnostic disciplines
- Reading comprehension with charges and specs
- Professional work habits and attention to detail

Students Never

- Open any fuel lines
- Lift the vehicle off the ground
- Open hydraulic lines or work on faults involving the airbag system

Scoring

Workstations account for **60%** and the Hands-On Portion accounts for **40%** of the final score.

Judges look for key diagnostic steps to be performed during each task, as well as correctness of recorded answers. The emphasis of the competition is on diagnostics and

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properly referencing technical information. Recorded references may account for up to 15% of the on-car score.

It is important to note that time is never a judging factor and it is not used as a tiebreaker. Instead, students are rated on use of service and repair technical information (referencing where the information is found), proper work habits, quality of repair, ability to accurately list replacement parts, and the ability to record the 3-Cs on the repair order.

Dress

- Students are provided with Official Competition Shirts and Hats. Students are required to wear black chinos/Dockers trousers while competing (NO JEANS).
- Students are required to bring safety glasses with side shields or safety rated prescription glasses
- Students are also required to wear proper protective work shoes or boots (NO SNEAKERS) for the competition.

Tools and Parts

- All tools necessary to make repairs are included in the tool set that each student team receives at the competition.
- Special tools, including a manufacturer's scan tool, will be provided and each team's table will have the same or similar special tools displayed.
- Tools are provided only as required by factory service procedures (i.e., noid lights).
- Replacement parts are specified by the technical experts and are available at the Parts Counters in the contest area.
- Only one student per team is allowed at the Parts Counter at any time and that student must bring the RO and defective part to the counter when requesting a replacement. Only one part can be ordered during a visit to the parts counter.
- When asking for any part, even a bulb, the specific number or type must be requested in writing on the Repair Order or the student will be told it is out of stock.

NO EQUIPMENT, TOOLS OR TECHNICAL SERVICE INFORMATION (OTHER THAN THOSE PROVIDED BY THE VEHICLE MANUFACTURER AT THE TEST SITE) WILL BE ALLOWED IN THE COMPETITION AREA.

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Repair Order (RO) Information

- The RO will give the team a brief description of why the vehicle is in the dealership service department.
- All information about the repair must be documented on the Repair Order. Team members must properly complete their team information, parts description, 3-Cs, and manufacturer's technical service references on the RO.
- No credit will be given for work not written on the RO. There is also no credit given for a successful repair if a team fails to indicate on the RO that a replacement part was requested and used.
- Each team is given several ROs to begin the contest and may request more.
- A sample RO is included at the end of this document.

Judging

The Judges who score the contest are automotive industry professionals. They are responsible for managing the Competition area as well as determining the order of finish.

Each Judge will supervise and oversee approximately five stalls. Judges use a Found and Fixed checklist to check the Repair Order for the 3-Cs and shop manual reference information to score each team's performance.

The Judges carefully check the contest vehicles just after they are bugged and again on the morning of the Competition.

The Judges must make certain that the faults are set in a uniform manner and that the factory technical experts (stall monitors) fully understand their role in the Competition which includes:

- Promoting safety practices, i.e., wearing safety glasses and proper footwear
- Being certain no previously prepared notes, tools or equipment are used
- Providing additional repair orders
- Making sure the rules are followed
- Checking to see whether or not each fault set is found and fixed

During the Competition, no instructor is ever allowed to enter the contest area or to communicate with a competitor in any way. Doing so may result in immediate disqualification for the instructor's team.

The Judges must also be sure that the Parts Counter has all the parts necessary to correct the faults that have been set.

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A Judge may issue a warning by placing a red sign on the windshield if a team member or instructor fails to follow contest rules or ignores a Judge's instructions. A second warning to the same team results in an automatic disqualification.

NOTE: All rules are intended to provide a safe, fair, meaningful competition. The Competition Planning Committee or its designees shall have final say in resolution of any concerns that may arise in the course of the competition.

Stall Monitors

- Stall Monitors are vehicle manufacturers' technical experts in the Competition. Their primary function is to set the vehicle faults and monitor contestant activity.
- There is one Stall Monitor assigned for each vehicle.
- Stall Monitors are not permitted to answer contestants' questions. However, they will intercede if there is an unsafe action taking place.
- Stall Monitors are to inform a Judge if a team begins working on a problem that is not part of the contest.

Disqualification

A team may be disqualified for any of the following:

- Failure to follow competition rules and/or stall monitor instructions.
- Use of a cell phone, text messaging, or any communications device during the competition.
- Violating shop safety practices.
- Ineligible team member.
- Display of poor conduct by instructor or team member.
- Communicating with anyone other than a team member, judge, or stall monitor during the competition.
- Use of written materials not supplied by contest committee.
- Accessing technical information from a laptop computer that was not approved by the Competition Planning Committee.

Prizes

Every student entering the 2011 National Automotive Technology Competition will receive Snap-on tools, post-secondary scholarship offers, an official competition racing shirt and hat, and of course, an all expenses paid trip to New York City. In addition, schools may receive donated vehicles and engines delivered to their automotive shops.

The Top 10 Honor Roll Teams earn additional scholarship offers, team and teacher awards from: Automotive Training Center • Lincoln Technical Institute • Ohio Technical College • Universal Technical Institute • University of Northwestern Ohio

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PARTICIPATING MANUFACTURERS

BMW, Ford, GM, Honda, Infiniti, KIA, Lexus, Mazda, Mercedes-Benz, Nissan, Subaru, Toyota

INDUSTRY SPONSORS

ACCES Vocational Rehabilitation
Automotive Service Excellence (ASE)
Automotive Training Center
Automotive Youth Educational Systems (AYES)
Bronx Community College
Cengage Learning – Chilton & Delmar
Consulab Educatech, Inc.
Coordinating Committee for Automotive Repair (CCAR SP2)
Farmingdale State College
Follow-A-Dream Racing
General Motors – ASEP
Hunter Engineering Company
Ingersoll Rand – Industrial Technologies
Lincoln Technical Institute
Megatech Corporation
Melior / Today's Class
Monroe Shocks and Struts
Motor Age Training
National Automotive Technician Education Foundation (NATEF)
New England Institute of Technology
New York Automotive & Diesel Institute
New York City Department of Education
New York State Department of Motor Vehicles
New York State Education Department
Ohio Technical College and the PowerSport Institute
Permatex
Ringers Gloves
Snap-on Tools
Suffolk County Community College
Technical Career Institutes
Toyota T-TEN Program
United Federation of Teachers – UFT
United States Department of Labor
United States Environmental Protection Agency
Universal Technical Institute
University of Northwestern Ohio
Westchester Community College
WyoTech / Corinthian Colleges, Inc.
Zurich

SCHEDULE OF EVENTS

DAY ONE MONDAY, APRIL 25, 2011

Arrive at Sheraton New York Hotel & Towers
52nd Street & 7th Avenue

5:30pm **Shuttle Buses Depart from Sheraton New York Hotel & Towers**

6:30-8pm **Welcome to New York Reception**
Jacob K. Javits Convention Center
Special Events Hall, Level 1

Students will receive official competition racing shirts, hats, and other gifts compliments of GNYADA and competition sponsors. Students get to meet each other and have some fun.

Teachers will be briefed on what to expect at the Competition. Dress casual – students often wear school or sponsor sweaters or jackets.

8-10pm **Attendees can visit the New York International Auto Show**

10pm **Shuttle Buses Depart from the Javits Center to return to Sheraton New York Hotel & Towers**

DAY TWO TUESDAY, APRIL 26, 2011

6:30am **Shuttle Buses depart from Sheraton New York Hotel & Towers**
Teams should wear Official Competition Hats & Shirts received at the Welcome Reception.

7:15–8:45am **Registration and Hot Breakfast Buffet**
Sponsored By: Permatex
Welcome: Andy Robinson, General Manager, Permatex

9am-12pm **National Automotive Technology Competition**
Day 1 – Part 1 – Workstation Challenge

2pm **Guided Bus Tour of New York City for National Teams and their Guests**
Sponsored By: New England Institute of Technology
Registrations Required

At end of tour, buses return to the Sheraton New York Hotel & Towers.

SCHEDULE OF EVENTS *(continued)*

National Automotive Technology Competition 'Night on the Town'
Enjoy the bright lights of NYC at night. The City has thousands of restaurants, museums, theaters, and more. Get together with a group and explore!

DAY THREE WEDNESDAY, APRIL 27, 2011

6:30am **Shuttle Buses depart from the Sheraton New York Hotel & Towers**
Teams should wear Official Competition Hats & Shirts.

7:15–8:30am **Registration and Hot Breakfast Buffet**
Sponsored By: Universal Technical Institute
Welcome: Jerry Ellner
National Director of High School Development
Speaker: Ricky Craven
NASCAR Driver, Three Series Champion

8:45am **Students are permitted into the Competition area to set up at vehicles**

9am **National Automotive Technology Competition**
Day 2 – Part 2 – Hands-On Portion

1pm **National Awards Banquet**
Special Events Hall, Level 1
Jacob K. Javits Convention Center

Sponsored By: GNYADA, LINCOLN TECH, Snap-on, ZURICH

For more information, please visit our website: ***NationalAutoTech.com***

or contact: Mark Schienberg, President, GNYADA *or*
Carole Rogner, Event Planner, Automotive Technology Competition
email: ***carole@gnyada.com*** tel: 718.640.2012

GREATER NEW YORK AUTOMOBILE DEALERS ASSOCIATION
AUTOMOTIVE TECHNOLOGY COMPETITION

STALL NO. [ ]

Association: Surf City Dealers Assn
Technician Name: Jason Ferguson
Technician Name: Don Perez

Vehicle Make: Ford
Model: Focus
Year: 2011

	Parts Used
Customer Complaint: Rear left turn signal does not flash. Cause Of Failure: Rear left turn signal bulb is defective. Correction: Replace bulb. Reference info: Repair manual, Vol. 2, page 65-3	Number on bulb.
Customer Complaint Cause Of Failure Correction Reference info	
Customer Complaint Cause Of Failure Correction Reference info	
Customer Complaint Cause Of Failure Correction Reference info	