

**2010 MICHIGAN STATE SKILLS USA CHAMPIONSHIPS
TASK & MATERIALS LIST**

SKILL OR LEADERSHIP AREA: AUTOMOTIVE SERVICE TECHNOLOGY

**SECTION I
GENERAL INFORMATION**

TASKS TO BE PERFORMED:

1. Engine Mechanical: Diagnosis and repair of cylinder head, valve train, engine block, lubrication, cooling, ignition, and fuel systems.
2. Suspension, Steering & Alignment: Diagnosis and repair of steering & suspension system and wheel alignment.
3. Brakes: Diagnosis and repair of the hydraulic, drum and disc brakes systems and ABS systems. Station sponsored by Chrysler
4. Electrical Systems: Diagnosis and repair of the battery; starting, charging, lighting systems and accessories.
5. Drivability: Diagnosis and repair of on-board engine management systems. Station sponsored by General Motors
6. Drive Train: Diagnosis and repair of transmission, transaxle, and rear axles.
7. Environmental, Health, and Safety: Identify and perform safe shop practices, interpret Material Safety Data Sheet information.
8. Electronic Service Information: Locate bulletins, repair procedures, and service specifications using electronic service information system.
9. New Vehicle Prep: perform new car preparation according to manufacturer's recommendation. Identify areas of concern, reference service information, document recommended repairs, and perform safe shop practices. Station sponsored by Daimler Chrysler
10. Written test: Designed to test contestant's knowledge of 8 ASE areas. The score will be factored into the overall contest score. Written test is taken during the contest in 2007.

<u>CONTEST</u>	<u>ORIENTATION</u>	<u>CONTEST</u>	<u>DEBRIEFING</u>
Specialists - All	8:00 AM	12:40 – 2:10 PM	2:10 PM
Master Contest	8:00 AM	8:20 AM – 12:00 PM	12:00 PM

Note: Time is subject to change depending on number of contestants. Check schedule at time of registration. **Briefings and contests will begin promptly at the scheduled times.** Students arriving late will not be allowed to compete.

STUDENTS MUST SUPPLY: (This applies to all automotive contests.)

- * 1 page resume
- * Safety glasses with side shields or goggles
- * Appropriate dress consisting of one or two-piece work clothes
- * 2(two) #2 pencils

STUDENT DRESS CODE: Due to the professional nature of this contest, contestants are required to wear apparel appropriate to the trade.

- Leather work shoes are required - no athletic shoes allowed.
- Only shirts with a collar are acceptable, **NO TEE SHIRTS-no exception**. Shirts are to be tucked into trousers.
- Basic work-style jeans will be acceptable, however trousers are preferable.
- Any necklaces or bracelets must be removed and long hair is to be tied back.
- No name and/or school identifying clothing

It is the responsibility of the instructors to ensure their students are properly prepared and supervised for these events. Students will not be allowed to compete if they do not have the proper shoes or if their attire presents a safety issue. All contestants called into briefing room will be inspected by the Resolution Team* prior to contest briefing. **ANY CONTESTANT NOT APPROPRIATELY DRESSED WILL RECEIVE A 20% DEMERIT FROM THEIR FINAL SCORE.**

All contestants and instructors are expected to act with courtesy and respect to all contest staff and fellow contestants. **ANYTHING LESS MAY RESULT IN REMOVAL/EXCLUSION FROM CONTEST.**

***The Resolution Team will consists of one senior advisor (20 years or more) and one additional advisor who is a contest coordinator and/or is selected by the Automotive Service Technology Technical Committee.**

SPECIAL INSTRUCTIONS:

Contestants will be required to locate service information and specifications in OEM Service Manuals throughout the contest. They will be expected to know how to use them.

Contestants should be familiar with the SAE J1930 Emissions/Electronic Systems terms and abbreviations.

EQUIPMENT SUPPLIED BY TECHNICAL COMMITTEE:

Contestants will not have to bring hand tools and equipment to the contest. They will have some options on the following equipment:

Computer Scanners - Tech 2's will be provided or you may bring your own. (It must be capable of reading 2010 GM vehicles)

Digital Volt/Ohm Meter (DVOM) - Fluke Model #87 will be provided, however, due to the difficulties students exhibit when using DVOM's that they are unfamiliar with, the Technical Committee recommends that students bring their own. (It must have a minimum of 10 MegaOhm input impedance)

Battery/Starting & Charging System Testers - VAT-40 or equivalent will be provided or you may bring your own (providing it has similar capability to the one listed above)

NOTE: Conductance testers (i.e. Midtronics, Snap-on MicroVAT) are fast becoming a standard tool in the industry. These testers will be used during the 2007 contest

Brake Measuring and Flaring Tools - Rotor/Drum measuring tools will be provided in both English and Metric. ISO and Double Flaring tools will be provided or you may bring your own.

Micrometers - English/metric micrometers will be provided or you may bring your own. Calibration of all your equipment is your responsibility. **NO DIGITAL MICROMETERS PERMITTED.**

Ammco Brake Lathes - Bench style units with drum and rotor capability will be provided.

Torque and Angle Indicator - Torque wrenches and Snap-on TA360's will be provided or you may bring your own.

IMPORTANT: The Technical Committee has observed that many students seem to have difficulty using tools and equipment they are unfamiliar with. Therefore, students are permitted to bring their own equipment, provided it is clearly labeled with the students name and/or your school's identification. . Equipment that cannot be hand carried through the contest must be dropped off well in advance of the contest briefing so it can be placed at the station for the student to use. Calibration of your equipment is your responsibility.

SPECIAL NOTE FOR SPECTATORS: Instructors, students, parents, or other spectators will **NOT** be allowed in contest area. This is necessary because of the confined area, contest traffic, and to minimize the distraction to contestants. To view the contest, please make arrangements with an AST Technical Committee Member.

Cameras and / or video camera policy: **NO VIDEO TAPING BY TEACHERS, ADVISORS, OR PARENTS WILL BE ALLOWED DURING THE CONTEST.** Anyone wanting video of the contest should make arrangements ahead of time by contacting the Technical Committee. Photographs during the contest will also be restricted. Special arrangements will be made for photo opportunities following the contest.

SECTION II

CONTEST OVERVIEW FOR MASTER TECHNICIAN CONTEST

ELECTRICAL SERVICE INFORMATION (ESI)

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skill and knowledge of an entry level technician by:

- * Locating service information on a Mitchell-On-Demand based ESI system.
- * Performing several vehicle/complaint type inquiries
- * Correctly identifying diagnostic and repair procedures

Tools and Equipment to be used:

- * IBM computer (provided)

ENVIRONMENTAL, HEALTH, AND SAFETY PROCEDURES

DESCRIPTION OF CONTEST:

This contest is designed to test basic skill and knowledge of an entry-level technician by:

- * Correctly identifying unsafe conditions in a service bay area
- * Locating information found in various sections of Material Safety Data Sheets (MSDS)
- * Interpret information found on common shop chemical labels
- * Demonstrating proper lifting techniques
- * Identifying correct personal protective equipment

Tools and equipment to be used:

- * MSDS
- * Typical equipment used in service bay area

ENGINE MECHANICAL

DESCRIPTION OF CONTEST:

This contest is designed to test basic skill and knowledge of an entry-level technician by:

- * Performing several engine repair procedures
- * Locating service procedures and specifications in service manual
- * Correctly using precision measurement tools

Tools and equipment to be used:

- * Straightedge
- * Feeler gauge set
- * Valve spring compressor
- * Torque wrench & angle indicator
- * Micrometer - English and Metric
- * Necessary hand tools
- * Reference materials

DRIVABILITY

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skills and knowledge of an entry-level technician by:

- * Identifying fuel and emission components
- * Identifying OBD II diagnostic trouble codes
- * Using diagnostic charts
- * Performing diagnostic procedures on a late model General Motors fuel injection system

Tools and equipment to be used (will be provided):

- * Service manual
- * Diagnostic Scan Tool (TECH 2)
- * Digital Volt/Ohm Meter
- * 12 Volt Test light
- * Jumper wires

ELECTRICAL

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skills and knowledge of an entry-level technician by:

- * Doing fundamental on car battery, starter, charging system tests
- * Bench testing and troubleshooting of electrical components
- * Finding procedures and specifications in a service manual
- * Reading and interpreting wiring diagrams
- * Identifying electrical system components
- * Interpret scope waveforms and patterns (students will not be required to set up the scope, only to look at and interpret what is on the screen) (College Students Only*)

Tools and equipment to be used:

- * *Oscilloscope (Snap-on Vantage or equivalent) *
- * VAT40 or equivalent
- * Digital Volt/Ohm Meter
- * 12-volt test lights
- * Jumper leads

SUSPENSION, STEERING AND ALIGNMENT

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skill and knowledge of an entry-level technician by:

- * Identifying suspension and steering components
- * Diagnosing front and rear suspension alignment angles
- * Interpret tire wear patterns and alignment readings

Tools and equipment to be used:

- * Necessary hand tools
- * Reference materials

DRIVETRAIN

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skill and knowledge of an entry-level technician by:

- * Identifying drivetrain components including automatic and manual transmissions, transaxles, and rear axles.
- * Finding procedures and specifications in a service manual
- * Taking measurements of drive train components
- * Interpreting transmission diagnostic flow charts

Tools and equipment to be used:

- * Necessary hand tools
- * Service manuals
- * Dial indicator
- * Torque wrench

BRAKES

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skill and knowledge of an entry-level technician by:

- * Performing service procedures on hydraulic brake components
- * Measuring brake system components
- * Servicing brake assemblies
- * Properly flaring brake tubing
- * Identifying/diagnosing ABS system components
- * Adjusting parking brake on rear brake caliper
- * Set up Rotor/Drum with & without hub

Tools and equipment that will be provided:

(Students may bring their own flaring and measuring tools - see “IMPORTANT” note under section titled Equipment supplied by Technical Committee.

- * Rotor and drum measuring tools
- * Disc and drum service tools
- * Brake line flaring tools
- * Reference material
- * DVOM

NEW VEHICLE PREPARATION

DESCRIPTION OF CONTEST:

This contest is designed to test the basic skill and knowledge of an entry-level technician.

Contestant will:

- Perform new vehicle prep.
- Find and use correct procedures from service information
- Analyze conditions and determine corrective procedure
- Demonstrate proficiency in the area of Environmental Health and Safety

Tools and equipment that will be provided:

* Reference material

Revised 1/13/10

SCORECARD Automotive Service Technology

Contestant Number

Items Evaluated	Possible Points								
AC System Diagnosis	75								
Engine Performance	75								
Alignment	75								
Environment, Health & Safety	75								
Customer Service	75								
Electrical Circuit Testing	75								
Electric Diagnosis	75								
Drive train	75								
ASB Brakes	75								
Automatic Transmission Service	75								
Engine Mechanical	75								
Electronic Service Information	75								
ASE Written Test	100								
Résumé Penalty	0 or -50 only								
Clothing Penalty	0 to -50								
Total Possible Points	1000								

Date: _____

Judges' Signatures: _____

ASE REGISTRATION INSTRUCTIONS

To access the course go to <http://www.cengage.com/delmar/>

If you already have an account with delmarlearning.com, you must complete the following steps:

1. Click "Log in" and enter your username and password.
2. Click "Add a Learning Code" located at the top of the page.
3. Type in the Learning Code [] and click "Add".
4. Click on course to begin.

If you need to create an account with delmarlearning.com, please complete the following steps:

1. Go to <http://www.cengage.com/delmar/> and Click [Create an Account](#) (top right)

The screenshot shows the Delmar Cengage Learning website interface. At the top left is the logo "DELMAR CENGAGE Learning". To the right is a search bar with a "Search" button. Below the search bar are links for "Create an Account" and "Sign in", which are circled in red. A navigation bar contains links for "Home", "Contact Us", "Tech Support", "Find Your Rep", "College Stores", "United States", and "Change your country". Below this is a banner for "Delmar: The leader in skills based solutions for educational institutions, businesses and professionals". The main content area features a "MEDICAL TERMINOLOGY FOR HEALTH PROFESSIONS" advertisement with a "Learn More" button. To the left is a "Browse Our Disciplines" menu with various categories. To the right is a sidebar with sections for "Houghton Mifflin College Division", "Online Product Solutions", "Custom Solutions", "Consultative Services", "Stay Up-to-Date", and "Contribute to our Products".

2. This will take you to the registration page.

Fill out the registration information by creating a profile and log in information and click "Submit".

The screenshot shows a Windows Internet Explorer browser window with the address bar displaying http://www.delmarlearning.com/registration/dl_Registration1.aspx. The page title is "Registration Step 1". The main heading is "My Account Registration". Below the heading, there is a sub-heading "My Account Registration" in red. The text below reads: "Register here and we'll create an account where you'll be able to access or add your purchased eProducts." Below this, there is a section for "* Required Fields". The form is divided into two columns: "Create Profile" and "Your Log in Information".

Create Profile

- * First Name:
- * Last Name:
- * Address:
- * City:
- * State:
- * Postal Code:
- * Country:
- * Phone Number:
- * E-mail:

Your Log in Information

- * User Name:
- * Password:
Minimum six characters
- * Verify Password:

Submit

Already have an account? [Log in here.](#)

We respect your [privacy!](#)
We will not share or sell your information.

3. Type in the Learning code. Click "Submit".

The screenshot shows a web browser window titled "Registration step 2 - Windows Internet Explorer". The address bar displays "http://www.delmarlearning.com/registration/dl_Registration2.aspx". The page content includes a welcome message "WELCOME ABC ---", instructions to select an option, and two options. Option 1 is "View Catalog" with a description. Option 2 is for users with an Access Code or Learning Code. The "Learning Code" field is circled in red. A "Submit" button is located at the bottom right of the form area.

Registration step 2 - Windows Internet Explorer

http://www.delmarlearning.com/registration/dl_Registration2.aspx

Registration step 2

WELCOME ABC ---

To complete your registration, please select one of the following options.

OPTION 1:

View Catalog Click here to shop the catalog or make a credit card purchase.

OR

OPTION 2:

If you have an Access Code and/or Learning Code, please enter the code(s) below:

Note: You may have only one code to enter, or you may have 2 codes to enter.

Access Code: **What's an Access Code?**
An access code is a pre-purchased alphanumeric code that will add specific products to your account.

AND/OR

Learning Code: **What's a Learning Code?**
A learning code is either issued to you by an instructor or training professional. It may provide access to the products as well as provide your instructor or trainer access to your reports.

Submit

This will bring up this screen.
Registration is now complete on delmarlearning.com.

Click on course to begin.

To Access your Course on Future Visits:

1. Go to <http://www.cengage.com/delmar/>
2. Click **Sign in**
3. Enter your User Name and Password
4. Access your products

By purchasing this course, the instructor and your students receive full technical support from Delmar Learning. If the instructor or students have any problems setting up their accounts, please call our Delmar Technical Support Department at 1-800-648.7450 between the hours of 8:30 am and 6:30 pm EST. They can also e-mail Technical Support at Delmar.Help@cengage.com. They will need to include the name of the web site they are using, along with their full name, and a specific description of the problem.

SYSTEM REQUIREMENTS

- Windows 2000, Windows XP SP2, or Windows Vista operating system
- Graphics adapter with 800 x 600 display resolution, 16 bit depth or greater
- Recommended display resolution 1024 x 768
- Firefox 2 or Internet Explorer 6 or 7 browser (IE is recommended)
- Not Mac Compatible

For optimum performance, please use Internet Explorer version 6 or 7 to access this site. If you have a version lower than 6, click the link below to download a newer version. [Internet Explorer](#)

To use Firefox, version 2 is required. To upgrade your browser, click the link below to download the newer version. [Firefox](#)

Glossary: Audio

To play audio in the glossary, you must have a player installed that will play mp3 files.

Additional Plugins:

Adobe Reader <http://www.adobe.com>
Adobe Flash <http://www.adobe.com>
Java <http://www.java.com>
Real Player <http://www.real.com>
Windows Media Player (used for audio files) <http://support.microsoft.com>

Pop-p blockers must be disabled while using the course.

If you or your students have problems accessing the course, please contact us through our support line below. We hope your experience is a success.

800-648-7450 option 5 then #5

8:30am EST to 6:30pm EST.

Or

E-mail: Delmar.Help@cengage.com

Thank you.