The All-New

2014 Cadillac CTS

The all-new 3rd-generation Cadillac CTS sedan for 2014 is longer, lower, and leaner than the previous generation. It is now positioned in the heart of the midsize luxury segment to go head-to-head with the world’s finest performance luxury sedans.

The CTS is packed with innovative technology, including:

- Full-speed Adaptive Cruise Control (ACC)
- Panic Brake Assist, Forward Collision Alert (FCA)
- Automatic Collision Preparation (ACP) with brake prefill
- Lane Departure Warning (LDW)
- Side Blind Zone Alert (SBZA)
- Rear Cross Traffic Alert (RCTA)
- Rear Vision Camera (RVC) with Dynamic Guidelines
- Adaptive Forward Lighting (AFL)
- Reconfigurable instrument cluster

continued on page 2

Service Department Requirement for Laptop Computers

With the growing use of the Global Diagnostic System 2 (GDS2) for GM models in the service department, GM now requires a laptop computer for conducting road tests to confirm customer concerns.

The Dealership PC and Infrastructure Guidelines for GM service departments has pending changes to state no less than one laptop computer is required for service departments. GM continues to evaluate future diagnostic and special tools that require a laptop for full functionality.

With their easy mobility, laptop computers enable technicians to perform diagnostics on a road test as well as help reduce the amount of time spent going back and forth between the vehicle and a desktop PC.

Technicians and dealerships looking to purchase a laptop (or notebook) computer should first review the latest recommended PC specs. Dealership PC and Infrastructure Guidelines for the service department are updated a minimum of twice a year. A PDF of the guidelines can be found at www.GMDESolutions.com.

continued on page 2
The All-New 2014 Cadillac CTS – continued from page 1

Its list of features includes the new 420 horsepower Cadillac Twin Turbo V6 — the most powerful engine of its type ever produced by General Motors. It has GM’s first-ever 8-speed automatic transmission and the first electronic limited-slip differential (eLSD) in a CTS.

POWERTRAIN

The CTS is available with a choice of three powerful and efficient direct-injected engines coupled with a 6-speed automatic transmission or an 8-speed automatic transmission along with standard rear-wheel-drive (RWD) or available all-wheel-drive (AWD). The new paddle-shift 8-speed transmission offers efficiency and performance advantages over a 6-speed transmission, including a 1.5-percent improvement in fuel economy.

2.0L 4-Cylinder Turbo

The 2.0L turbocharged 4-cylinder engine (RPO LTG) features dual continuous variable cam phasing, variable valve timing and direct injection. The engine produces 272 hp (203 kW) and 295 lb-ft of torque (399 Nm) and is paired with the Hydramatic® 6L45 6-speed automatic transmission (RPO MYA). It’s available with AWD or RWD.

3.6L V6

The 3.6L V6 engine (RPO LFX) uses variable valve timing and direct injection to help generate 321 hp (239 kW) and 275 lb-ft of torque (373 Nm).

On AWD models, it’s equipped with the Hydramatic 6L45 6-Speed automatic transmission (RPO MYA). RWD models are equipped with the Aisin TL-80SN 8-speed automatic transmission (RPO MGG).

Twin Turbo 3.6L V6

The 3.6L twin turbo V6 engine (RPO LF3) on Vsport models, with variable valve timing and direct injection, produces 420 hp (313 kW) and 430 lb-ft of torque (583 Nm). It’s available only in RWD with the Aisin TL-80SN 8-speed automatic transmission (RPO MGG).

It requires use of premium unleaded gasoline with a posted octane rating of 91 or higher.

The Cadillac twin turbo V6 is the most power-dense six-cylinder engine in the segment. A pair of smaller turbochargers provides more immediate power on demand, with approximately 90 percent of torque available in the 2,500 RPM to 5,500 RPM range, which gives the engine a broad torque curve.

The industry’s first integrated charge air cooler configuration puts the two small turbocharger air paths and related cooling bricks into the intake plenum. This design dramatically reduces the distance communicated to the throttle before the intake.

The CTS interior offers luxury and technology.

continued from page 1

TECHLINE

Service Department Requirement for Laptop Computers


Prior to purchasing a business grade laptop, review page 2 for “what is” versus “what is not” supported for Techline applications.

Techline Support

As a reminder about Techline support in the dealership, Techline applications (TIS2Web, GDS 2, MDI, Tech2Win, etc.) are compatible with the Windows 7 Professional (32 and 64 bit) operating system. Techline applications are not compatible with the Windows 8 Professional operating system. Significant application changes are required to become Windows 8 compatible. If GM approves the use of Windows 8 Professional, it will not occur until sometime next year.

In addition, Techline discontinued support of the Windows XP operating system on January 1, 2011. Computer hardware (desktops and laptops) running XP are below the minimum guidelines. Beginning January 1, 2014, the Techline Customer Support Center (TCSC) will no longer provide any assistance for computers running Windows XP. Dealerships should replace any PCs that have this operating system. Again, for portability, laptop computers are recommended as replacements instead of desktop PCs.

Thanks to Lisa Scott

continued on page 3
pressed air travels from the compressor to the intake plenum to eliminate turbo lag.

Click here to view an animation that shows the airflow circuit of the twin turbo V6.

The vacuum-actuated wastegate control provides smoother, more consistent performance across the RPM band, reduces engine noise and increases engine durability.

Click here to view a complete build of the 3.6L twin turbo V6.

**Engine Oil** – ACDelco dexos1™ synthetic blend SAE 5W-30 is the recommended viscosity grade for all engines. In extreme cold, where the temperature falls below −20°F (−29°C), an SAE 0W-30 oil may be used. An oil of this viscosity grade will provide easier cold starting in extremely low temperatures.

**TIP**: Do not use other viscosity grade oils such as SAE 10W-30, 10W-40, or 20W-50.

**Transmission Fluid** – The new Aisin TL-80SN 8-speed automatic transmission requires the use of a new automatic transmission fluid, WS-ATF, P/N 88863400 (U.S.), P/N 88863401 (Canada).

**BRAKES**

Brembo performance front aluminum brake calipers and Duralife™ brake rotors are standard on all models. Brembo performance front aluminum brake calipers are lighter to reduce unsprung weight for enhanced steering and handling. Stiffer calipers reduce brake wear and offer superior braking performance.

All Duralife brake rotors are vented to dissipate heat. A ferritic nitro carburizing (FNC) treatment makes the Duralife brake rotors more corrosion resistant so they stay new looking longer as well as eliminate brake shudder, reduce brake dust accumulation, and double rotor service life.

Front brake rotors are 12.6 inches (320 mm) on the 2.0L and 13.6 inches (345 mm) on the 3.6L V6sport. Rear brake rotors are 12.4 inches (315 mm) on all models.

**SUSPENSION**

The independent multi-link MacPherson strut front suspension has a double pivot design:

- Replaces conventional wishbone at each of the wheels with a pair of ball joints and lower control arms.
- Separates control of road inputs from handling responses.

- A direct-acting stabilizer bar aids cornering control.

The independent 5-link rear suspension system is the first application of its kind used by Cadillac. It has the following advantages:

- Center link plus upper and lower control arms on each side.
- Separates control of road inputs from handling responses.
- Reduces control on acceleration.

Alloy wheels are available in 17-, 18- and 19-inch sizes. The CTS is factory equipped with run-flat tires. It does not have a spare tire, tire changing equipment, inflator kit or a place to store a tire.

**AUTOMATIC PARKING ASSIST**

The Automatic Parking Assist system steers the vehicle to help park in parallel spaces.

To enable the system, when the vehicle speed is below 18 mph (30 km/h), press the Automatic Parking Assist button on the right side of the center stack. Sensors locate an appropriately sized parallel parking space and then steers the car into the space while the driver controls the brakes and transmission. Instructions are shown on the instrument cluster. The system is set up to search for parking spaces on the right side of the car. To search for spaces on the left side, turn on the left turn signal.

**TIP**: The system cannot detect whether the selected parking space is a legal parking space.

**AUTOMATIC SAFETY BELTS**

The automatic safety belts use a motor coupled to the shoulder belt retractor. The motor performs a reversible, pre-tightening action (retraction) to reduce the slack in the safety belt. The automatic safety belt is designed to provide the driver and front passenger a sense of safety and, in the case of severe braking or a crash, more quickly couples the occupant to the vehicle.

The automatic safety belts monitor vehicle information to determine when to perform each of the following retractions:

- Full retraction for such situations as, but not limited to, panic braking and or skidding
- Dynamic support for lateral and longitudinal dynamics
- Slack removal when the vehicle speed is above the enable speed

**Preconditions for Automatic Safety Belt Retractions**

- Safety belt buckle is latched
- Vehicle speed greater than or equal to 16 mph (25 kph)
- All messages on serial data are received as valid

**Triggers That May Cause Automatic Safety Belt Retractions**

- Emergency braking
- Sudden emergency/panic braking
- High vehicle deceleration detection
- Ice braking detection
- Oversteer and understeer

**TIP**: Automatic safety belt relocations are inhibited when the safety belt is unbuckled. Driver and passenger automatic safety belts operate independently.

**STRUCTURAL COMPONENTS**

Greater use of structural adhesive and aluminum helps reduce the overall weight of the CTS sedan. The CTS uses 387 feet of structural adhesive to hold together and stiffen load-bearing parts and components. Adhesive provides a damping effect, which reduces the transmission of vibration through the body structure. The heavy-duty material, along with traditional metal joining processes like spot welding, also makes a stiffer and more durable joint. The 2014 CTS is 40 percent stiffer than the previous model.

Weight-saving aluminum is used throughout the vehicle, including aluminum bumpers, cast aluminum front strut towers, extruded and stamped aluminum instrument panel structure, extruded and cast aluminum powertrain cradle, aluminum front and rear doors, and an aluminum hood.

Thanks to Jean Hart and Sherman Dixon
Bumper Fascia-to-Hood and Fender Paint Appearance

On the 2014 CTS Sedan, the geometry of the front end provides a sporty definition and highlights the depth of the design. It is intended to show the color variation created by angling the body panels a few degrees. This perception is more apparent with certain high metallic colors.

Paint Process

At the time of vehicle manufacture, the complete sheet metal body of the car is painted at the same time (the body, hood, deck lid and doors). The panels (doors, hood and deck lid) are attached to the vehicle and in the proper position when it goes through the paint process. All of the panels receive the undercoat layers and top coat finishes using the same material, application process and final bake process. This continuity of process ensures a uniform paint application to the entire vehicle and a seamless paint match over the entire vehicle.

The only major exterior panels that do not get painted during this process are the bumper fascias. The bumper fascias receive a flexible paint application using a unique process. All of the paint used in the paint process is matched to a paint color standard to ensure colors are consistent.

Fascia Example

The side-view front end photograph was taken from a normal viewing angle. Note the slight shift in color from the hood to the fascia. Also note the color match from the side surface of the fascia to the fender.

The front-view photograph was taken from a higher angle at the same time under identical conditions. Note the color shift on the front of the fascia compared to the hood and fender.

Do not perform any paint repairs for this condition. Explain to owners that what they are seeing on their vehicle is not a color mismatch, but an intended design feature.

Thanks to Stephen Jacob

Run-Flat Tires

Customers who are unfamiliar with run-flat tires may have questions and concerns. Here are several facts to share with them.

- Run-flat tires can be driven on with no air pressure. There is no need to stop on the side of the road to change the tire.
- There are speed and distance limitations when the tire is without air. To prevent permanent damage, keep vehicle speed below 50 mph (80 km/h). With a light load, the vehicle can be driven up to 60 miles (100 km); with a moderate load, 50 miles (80 km); and with a heavy load, 25 miles (45 km). As soon as possible, contact the nearest authorized GM or run-flat servicing facility for inspection and repair or replacement.
- When a tire has been damaged, or driven any distance while deflated, check with an authorized run-flat tire service center to determine whether the tire can be repaired or should be replaced.

TIP: To maintain the run-flat feature, all replacement tires must be run-flat tires.
- The valve stems on run-flat tires have sensors that are part of the Tire Pressure Monitor System (TPMS). These sensors contain batteries that are designed to last for 10 years under normal driving conditions.

Thanks to Matt Bierlein

Matte Black Hood Graphics

The hood graphic on the 2013-2014 Camaro with the 1LE package is a matte black graphic manufactured and warranted by 3M. To maintain the appearance of the graphic, hand washing or a touchless car wash is recommended.

TIP: Do NOT polish or wax the graphic. Using polish, wax or any solvent-containing products will discolor the graphic.

The hood graphic on this vehicle is not a GM warranty part. Owners are directed to contact their dealership for any warranty claims. The warranty form for this graphic is included in the glove box of the vehicle. The dealership is to arrange an assessment of the claim with 3M.

If the original warranty form from the vehicle’s glove box has been lost or damaged, owners can find a copy of the form as well as additional information about vehicle graphics available on Chevrolet models at www.chevroletgraphics.com (in Canada, go to www.chevroletgraphics.ca).

For sales information regarding vehicle graphics, log onto GM GlobalConnect and select the Sales workbench. Select the section titled “Other Sales Applications,” followed by “Accessory Information Center.”

A new window for the Accessories website will open. At the top of this new page, select “Marketing” from the Sales/Marketing menu.

Select the section titled “Integrated Business Partners (IBP)” followed by the Chevrolet Bow Tie icon. Click the icon for Original Wraps and then select the desired form.

Thanks to Jean Hart
Developing Global Labor Code Times

GM has completed its transition from a 5-digit labor code to a new 7-digit all numeric labor code format. The quickest way to obtain a new Global Labor Code (GLC) and labor time is to use the Labor Time Guide in Service Information as you always have by entering the year, brand and model, and then clicking the Labor Time Guide link.

The switch to new Global Labor Codes resulted in some labor code descriptions being changed to better align with the Service Information repair procedures. The labor times were not reduced, but the changes to some labor code descriptions and the scope of what was included in the repair did cause some time changes.

Time Study Process

The labor study process establishes the time guidelines for all GM warranty repairs by determining how long it takes to perform a specified repair as described in the Service Information repair procedures. Every step in the repair procedure is timed separately. For the total time, all steps associated with the repair are added together.

Each labor study uses regular production vehicles with tools and equipment the same as those typically found in a dealership’s service department. The technicians who perform the repairs are not specialists; they are experienced technicians who have a working knowledge in the technical area of the repairs being performed. Each repair is only done once, not practiced to get a lower time, thus replicating a dealership technician performing the repair for the first time.

Only hand tools are used during the labor study and all fasteners are torqued to specification. Power tools are not used. Special tools are used only when they are called for in the repair procedure.

Starting the Clock

The actual labor time clock begins with the first step of the repair as outlined in the Service Information. After each step is completed, the clock is stopped and the time is recorded. The time for each step is recorded in minutes and seconds.

It’s assumed the technician has a good understanding of the repair, but the clock will continue to run when the technician consults the Service Information for a quick review of the procedure or to check specifications. If two technicians are needed for a procedure, the time is doubled.

Stopping the Clock

Once all steps of the repair procedure have been completed, the step times are totaled up and then marked up an additional 21%.

The 21% markup provides an allowance for the following variables:
- Work markup for preparation and obtain parts, materials and supplies
- Research and read technical information
- Obtain and return special/essential tools
- Repair variation in vehicle age and condition
- Personal allowance

Add it all up and a labor time study includes all the steps in the repair procedure plus a markup for additional variables. The total time plus the markup is then rounded up to the next highest tenth of an hour.

For example, a time study that has an actual repair time of 30 minutes with an added 21% variable allowance, or 6.3 minutes, has a total clock time of 36.3 minutes. This time is rounded up to the next tenth of 42 minutes, which is a labor time of 0.7 of an hour.

In addition, diagnosis time is added to many labor time studies based on the type of repair. Repairs that typically need time for normally diagnosis include an added time. Most add times are 0.3 hour (although some are higher) based on the average time to determine the cause. For unusual repairs, Other Labor Hours (OLH) is available to provide additional compensation.

Time Review Process

Technicians that feel a labor time allowance is incorrect should use the Service Information feedback process. Technicians should provide any relevant information they have regarding the labor time in question.

Regular labor time updates occur monthly. These updates are due to dealership feedback as well new product changes and Engineering updates. These updates can result in increased or decreased times.

Aftermarket Labor Time Guides that are frequently used for customer pay repairs are often compared to GM labor times. They will rarely match the labor times of manufacturers because the aftermarket guides are usually based on a markup to the manufacturers’ times, not an actual time study. Consequently, they will normally have a higher time for the same repair.

Dead Battery or Unwanted Brake Lights

If the vehicle brake lights remain on with the vehicle off and parked and/or the vehicle battery goes dead on some 2010-2014 Lacrosse, SRX, Camaro, Equinox, Terrain; 2011-2014 Regal, Cruze; 2012-2014 Verano, Sonic; 2013-2014 Encore, ATS, XTS, Malibu, Spark, Trax (Canada only); and 2014 Impala, Silverado 1500 and Sierra 1500, a possible cause may be the installation of an aftermarket mechanical theft deterrent device that interacts with the brake pedal.

Aftermarket mechanical theft deterrent devices that mechanically attach to the brake pedal may move the pedal from its released position. Any movement of the pedal from the released position could create the unwanted brake light illumination and/or dead battery conditions.

Prior to replacing any parts, confirm with the customer whether any type of aftermarket mechanical theft-deterrent device that uses or attaches to the brake pedal has been installed.

Thanks to Mark Foucher

Thanks to Christopher Crumb

November 2013
Using the J-35616-210 Test Light

For several model years, the Service Information diagnostic test for the active antenna power supplied by the radio has been to check voltage with a test light. Recently, concerns have been raised in dealerships that a test light does not light when checking these antenna circuits. For reference, antenna power supplied by any module for the antenna is in the range of 25-55 mA.

Here are some measurements of an older test light (circa 1990) compared to the current J-35616-210 test light.

<table>
<thead>
<tr>
<th>Older Test Light</th>
<th>Kent-Moore J-35616-210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulb 12V01A</td>
<td>Bulb 6614F</td>
</tr>
<tr>
<td>0.242 diameter X 0.242 glass X 1.153 long</td>
<td>0.244 diameter X 0.223 glass X 1.180 long</td>
</tr>
<tr>
<td>12.2V, 99.8mA Fluke J39200</td>
<td>12.2V, 45.6mA Fluke J39200</td>
</tr>
<tr>
<td>14.2V, 108.4mA Fluke J39200</td>
<td>14.2V, 49.8mA Fluke J39200</td>
</tr>
</tbody>
</table>

It’s key to point out that the bulb appearance and dimensions are nearly identical. However, older test lights use higher-current bulbs. The typical 100mA draw of these test light bulbs might be enough to overload the antenna power supply, resulting in the “test light doesn’t light” concern. For the antenna power, the J-35616-210 (with the proper bulb) is in the target range of current draw and works well.

If it’s necessary to replace the test light bulb when using the J-35616-210, it’s very important to replace the bulb with the proper replacement (6614F). The use of any other bulb in the test light will change the performance of the tool.

Thanks to Nohr Tillman

Locking Wheel Nut Installation

A high number of locking wheel nut kits are being damaged on the new 2014 Silverado 1500 and Sierra 1500. The locking wheel nuts are installed using a socket with a specially-shaped raised “key” that fits into a corresponding depression in the locking wheel nut.

The “key” portion of the installation socket is designed to be capable of handling torque several times higher than the installation specification. This suggests that the damage to the key or wheel nut is the result of using a high-torque impact wrench to install the wheel nuts. It is almost impossible to apply sufficient torque to cause damage without using an impact wrench.

The product instruction sheet supplied with the locking wheel nut kits states that they should be tightened using only a torque wrench.

A torque wrench is essential for the installation of all wheel nuts, as well as the locking wheel nut kits. GM recommends the following when installing a wheel:

- Do not use an impact driver to tighten wheel nuts.
- Install wheel nuts hand tight using only a socket.
- Snug the wheel nuts in a criss-cross pattern using a hand wrench.
- Complete torquing to specification with a torque wrench.

When removing a wheel, loosen and remove the wheel nuts using a standard wrench.

TIP: Cases of broken wheel nuts, studs, and locking lugs caused by excessive torque are subject to review.

Refer to the bulletin #12-03-10-002 for additional details.

Torque Wrench Calibration

Torque wrenches should be calibrated to ensure their accuracy. Most manufacturers recommend calibration after approximately 5,000 cycles, or once a year.

Torque wrench calibration can be tested in the dealership. Torque wrench testers are available from manufacturers such as Snap-on as well as from Kent-Moore SPX. Be sure the tester is four times as accurate as the wrench being tested. This means a 1% tester is needed for a typical 4% wrench. The tester will indicate the accuracy of the wrench. If it is out of range, calibration is required.

According to the American Society of Mechanical Engineers standard, a torque wrench used in automotive repairs should be accurate within +/− 4% clockwise or +/− 6% counterclockwise, from 20% of its scale to full scale.

Thanks to David MacGillis
IntelliBeam High Beam Control Testing

2007-2014 Escalade models are available with IntelliBeam® High Beam Control (RPO TQ5).

During service, it is not possible to test the IntelliBeam system during daylight hours. The only way to properly test the IntelliBeam system is at night time with the vehicle moving (Vehicle Speed Sensor input).

This is due to the system using a digital light sensor on the back of the rearview mirror. Covering the sensor during daylight conditions will not enable the system to be tested.

The Service Information and the Owner Manual state that there are different sensitivity settings (Demonstration Mode) available for dealer diagnostics. These reference materials indicate that this is done by pushing and holding the auto headlamp button (on the left side of the inside rearview mirror) for 20 seconds until the IntelliBeam indicator light flashes three times. This is incorrect. The different sensitivity settings are not related to dealer diagnosis. These settings are incorporated into the mirror to meet different government standards. Using these different settings affect the performance of the inside rearview mirror and should not be used for IntelliBeam system testing.

If an owner accidentally enters Demonstration Mode, the mirror will return to the default factory setting after cycling the ignition key.

Installing Accessory Cruise Control

When installing cruise control on 2007-2013 Silverado 1500 and Sierra 1500; 2007-2014 Silverado 2500/3500 and Sierra 2500/3500; and 2008-2014 Express and Savana models not originally equipped with the option, it is necessary to contact the Techline Customer Support Center (TCSC) at 1-800-828-6860 (English) or 1-800-503-3222 (French) to determine if a calibration, or VCI, is available for the vehicle.

If a calibration is available, obtain and install the following parts that are intended for a vehicle equipped with cruise control (RPO K34).

- Steering wheel with cruise control buttons
- Steering wheel SIR coil
- Steering column wiring harness
- Calibration or VCI number from TCSC

The dealership will need to fax a copy of the Repair Order that includes the part numbers of the steering wheel with cruise control buttons, SIR coil, and steering column harness that were installed to Techline before calling to obtain the VCI number.

It is the dealership’s responsibility to identify the appropriate part numbers needed to complete this add on option using the Electronic Parts Catalog (EPC). Be sure to turn off all filters when searching EPC and identify the items mentioned previously that include RPO K34.

Do not call ParTech for parts assistance for this request.

Vehicle Will Not Charge

Some 2011-2014 Volts may experience a no charge condition with the Check Engine MIL illuminated and current DTC P0AA6 (Hybrid/EV Battery Voltage System Isolation Lost) and/or P1F0E (Battery Charging Voltage System Isolation Lost) set in the Hybrid Powertrain Control Module 2 (HPCM2).

Potential causes to consider when evaluating the vehicle for P0AA6 are:

- A loss of isolation due to a Hybrid/EV Battery Heater
- Hybrid Battery Contactor Assembly function failure
- A loss of Hybrid/EV Battery Pack coolant (external or internal to the Hybrid/EV Battery Pack)
- A loss of high voltage isolation within the battery cells or battery sections themselves
- Hybrid battery cooling system not filled entirely with GM-approved 50/50 coolant.

Inspect the Hybrid/EV Battery Pack coolant level. If the coolant level is low or there is evidence of a coolant leak, refer to the Hybrid/EV Battery Cooling System Diagnostic in the appropriate Service Information.

TIP: All DTC P0AA6-related failures must include an inspection of the Hybrid/EV Battery Pack drain plug, located on the battery tray, regardless of fluid level at the Hybrid/EV Battery Pack coolant reservoir. If any moisture is found during the drain plug inspection, contact the GM Technical Assistance Center (TAC).

Test the Hybrid/EV Battery Pack coolant concentration using the J-26568 Refractometer. The freeze point should be between -10°F (-23°C) and -40°F (-40°C). In the absence of a J-26568 Refractometer, use a Hydrometer. If outside the proper temperature window, flush and refill with GM-approved 50/50 coolant (Part Number 12378390; in Canada, Part Number 10953456).

To evaluate the Hybrid/EV Battery Heater or Hybrid Battery Contactor Assembly function, first determine if any additional DTCs are currently set. Follow the Service Information for any current codes. If no codes are set, follow the heater testing procedure as defined in the Service Information under Circuit/System Verification for DTC P1EC6 (Hybrid/EV Battery Pack Heater Performance) to confirm the heater is functioning properly.
Rear Speaker Noise with High Bass Levels

A rattle or buzz noise may be heard from the rear speakers on some 2013 ATS models. The noise may be more easily duplicated with the bass set to higher levels.

The rear speakers are generally NOT the cause of this condition. Check the following items for possible causes of rattles or other noises.

- Improper speaker mounting, loose trim, wiring harnesses or other parts that may cause an audible buzz or distortion.

Inspect the rear speaker and the surrounding interior trim for proper and secure mounting. If the speaker trim has come loose, replace the speaker. If the surrounding interior trim is found to be loose or improperly secured, correctly secure the item and add foam to insulate items as needed. Add foam to the subwoofer speaker connector to prevent contact to the under shelf trim. Use 1/2” by 5/16” of Kent Adhesive Backed Shim Stock (foam) P/N P40125 or equivalent.

- Rattle or buzz from the OnStar module.

If foam is not currently in place underneath the OnStar module, place a 1/4” foam pad underneath the module. Use (4) 1” x 6” x 5/16” thick strips of Kent Adhesive Backed Shim Stock (foam) P/N P46510 or equivalent. Do not apply foam beyond the base of the module. Avoid adding foam in the area of the mounting flanges.

- Center safety belt retractor bolt may be contacting deck-lid torque rod inside trunk causing a metallic rattle.

The existing foam torsion spring cover should be centered on the deck lid torque rods. Secure with a zip tie. Add a piece of 3/8” rubber hose (fuel line) to the center belt rear mounting bolt.

- Child tether cover may be loose in package shelf trim.

Add felt to the package shelf trim opening to prevent movement between the trim and the child seat tether cover if felt is not present. Use Kent Adhesive Backed Flocking Tape P/N KT13295 or equivalent.

- Package shelf trim and/or trunk upper trim plastic Christmas tree fasteners to shelf may buzz at attachment holes.

Add foam grommets onto each of the Christmas tree fasteners (if not present) prior to reinstalling back into the package shelf sheet metal holes. Use 1” X 1” block of Kent Adhesive Backed Shim Stock P/N P46510 or equivalent to create a foam washer(s) as needed. Fold the 1” x 1” block over from corner to corner and carefully cut a hole in the center of the block to create a washer/spacer.

- Leading edge of package shelf, behind rear seat back.

Add two 3/4” by 1 ½” long by 7/16” thick of Kent Adhesive Backed Shim Stock (foam) P/N P46505 or equivalent centered between the retaining clips on the leading edge of the package shelf (behind/under the rear seat back).

continued on page 9
Rear Speaker Noise with High Bass Levels – continued from page 8

- Package shelf “J” hooks are loose.
  Check the “J” hooks of the package shelf cover/trim. Use hot glue to secure the “J” hooks as needed.

The EL-50334-6 Audio System Diagnostic CD contains audio tracks that can be used to duplicate and isolate such conditions. Tracks 11 and 12 contain audio sweep tones for testing for speaker and grill rattles.

☐ Thanks to David Antal

Unable to Charge the Hybrid Battery

On some 2011-2014 Volts and 2014 Sparks, the hybrid battery may not charge and the Check Engine MIL may be illuminated.

Check for a current or history DTC P16C1 (Battery Charger Control Module Read Only Memory Performance) or P16C2 (Battery Charger Control Module Random Access Memory Performance) set in the Battery Charging Control Module (BCCM). These codes are usually set as a result of an incomplete BCCM programming event.

If this condition is found, update the BCCM with the latest software in TIS2Web.

☐ Thanks to Paul Radzwilowicz

Oil Filter with Incorrect Label

Some early 2014 Corvette 6.2L engines (RPO LT1) may have an oil filter that has an incorrect label on the can. The filter is correct, only the label is wrong.

The incorrect label says to replace the oil filter with a PF63 filter. The correct service part is a PF64 filter, part number 12640445. Replacement of the filter for the incorrect label is not necessary.

When it is time for an engine oil and filter change, be sure to replace the OE filter with the correct PF64 filter.

TIP: The PF63 filter will fit the engine. However, it is significantly longer and it is possible it could be damaged if the suspension goes to full compression.

☐ Thanks to Richard Renshaw
### Pop Noise from Fuel Tank

An intermittent popping noise may be heard from the rear of some 2010-2014 Camaros shortly after a cold start or an EVAP purge event.

It should be possible to duplicate this condition by commanding a purge and seal on the EVAP system using GDS 2. As the vacuum reaches 3 to 5 inches, the popping noise should be heard.

The condition is caused by the auxiliary fuel module in the left side of the fuel tank changing height (spring loaded leg) as the fuel tank collapses slightly. Replace the auxiliary fuel module with a newly designed part if this condition is found.

(✓) Thanks to Matt Bierlein

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### Car Issues – Fix It Right the First Time

<table>
<thead>
<tr>
<th>Model Year(s)</th>
<th>Vehicle Line(s)/Condition</th>
<th>Do This</th>
<th>Don't Do This</th>
<th>Reference Information/Bulletin</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013-2014</td>
<td>Sonic – Poor A/C performance, DTC B3933</td>
<td>Replace Evaporation Air Temp sensor</td>
<td>Replace A/C compressor.</td>
<td>P1044</td>
</tr>
<tr>
<td>2012-2013</td>
<td>Sonic – Odometer displaying dashes instead of miles or kilometers</td>
<td>Reprogram IP cluster with new software.</td>
<td>Replace IP cluster.</td>
<td>P1054</td>
</tr>
<tr>
<td>2013</td>
<td>ATS – Locking fuel door will not open or difficult to open</td>
<td>Update the BCM software.</td>
<td>Replace the fuel door.</td>
<td>P1045</td>
</tr>
<tr>
<td>2013-2014</td>
<td>ATS – Front seat lateral or vertical movement and/or click-type noise</td>
<td>Lube the seat pan and seat cushion spring hooks.</td>
<td>Replace the seat frame.</td>
<td>P1070</td>
</tr>
<tr>
<td>2011-2014</td>
<td>CTS-V Coupe, CTS Coupe – Information on rear bumper fascia and quarter panel paint appearance</td>
<td>Use this PI to demonstrate perception of rear fascia color variation is by design.</td>
<td>Paint fascia, deck lid, or quarter panels for this condition.</td>
<td>P10218A</td>
</tr>
<tr>
<td>2014</td>
<td>CTS – New model features and service guide</td>
<td>Review this PI to become more familiar with the new 2014 CTS sedan.</td>
<td>Perform warranty repairs on items that are by design.</td>
<td>P1073</td>
</tr>
<tr>
<td>2014</td>
<td>CTS – Information On front bumper fascia to hood and fender panel paint appearance</td>
<td>Use this PI to demonstrate perception of front fascia color variation is by design.</td>
<td>Do not paint fascia, hood or fenders for this condition.</td>
<td>PIC5909</td>
</tr>
<tr>
<td>2014</td>
<td>CTS – Information – Towing/transport recommendations for Cadillac CTS to avoid vehicle damage</td>
<td>Use tow eye provided in car and wheel strap tie-downs when towing the 2014 CTS sedan. Review this with your tow companies.</td>
<td>Pull or tie down using J-hooks or chains under car. Vehicle damage may occur.</td>
<td>P10844A</td>
</tr>
<tr>
<td>2013</td>
<td>Cruze – Hesitation at high ambient temperature conditions</td>
<td>If the customer’s symptoms match this description and there are no DTCs set to aid in the diagnosis, then a programming update to the engine control module may be needed.</td>
<td>Program the ECM if the customer symptoms do not match the PI description. This calibration will not fix other driveability issues.</td>
<td>P1052</td>
</tr>
<tr>
<td>2014</td>
<td>Corvette Stingray – New model features</td>
<td>Please read this for important information to help answer possible customer inquiries</td>
<td>N/A</td>
<td>P1056</td>
</tr>
<tr>
<td>2014</td>
<td>Corvette – Being shipped with a transportation cover</td>
<td>Please make sure to leave the cover on the vehicle for protection during storage and offer the cover to the customer at delivery.</td>
<td>Throw away the transportation cover.</td>
<td>P1066</td>
</tr>
<tr>
<td>2013</td>
<td>SRX, XTS – Unwanted activation of rear heated seats</td>
<td>Confirm issue and inform customer engineering is developing HVAC module software.</td>
<td>Replace any rear heated seat components for false activation.</td>
<td>P11060</td>
</tr>
<tr>
<td>2013-2014</td>
<td>ATS, XTS, SRX, CTS – Engineering Information – Power driver seat inoperative, power outside mirror inoperative</td>
<td>Please contact engineers listed in EI bulletin prior to performing any repairs for memory seat performance issues.</td>
<td>Replace any memory seat components without speaking with engineers.</td>
<td>PIE0269</td>
</tr>
<tr>
<td>Model Year(s)</td>
<td>Vehicle Line(s)/Condition</td>
<td>Do This</td>
<td>Don't Do This</td>
<td>Reference Information/Bulletin</td>
</tr>
<tr>
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</tr>
<tr>
<td>2007-2013</td>
<td>All Lines – Application of anti-corrosion materials</td>
<td>Use only these approved materials and procedures for this repair.</td>
<td>Use paint or undercoating materials.</td>
<td>01-08-51-003D</td>
</tr>
<tr>
<td>2014</td>
<td>Silverado, Sierra – Information on tailgate hinge lubrication</td>
<td>Ensure proper end gate lubrication during regular maintenance.</td>
<td>Overlook end gate lubrication during regular maintenance.</td>
<td>13-08-66-001</td>
</tr>
<tr>
<td>2014</td>
<td>Silverado, Sierra – Information on windshield wiper blade identification</td>
<td>Always check for correct blade location when servicing wipers.</td>
<td>Place blades in incorrect locations.</td>
<td>13-08-43-001</td>
</tr>
<tr>
<td>2013-2014</td>
<td>Terrain, Equinox – Malfunction Indicator Lamp (MIL) on, reduced power mode, DTC set, poor performance/shifts</td>
<td>Check for the ECM wiring harness rubbing at the ECM bracket and repair the affected circuit.</td>
<td>Replace ECM or ECM harness.</td>
<td>P11067</td>
</tr>
<tr>
<td>2014</td>
<td>Silverado, Sierra – Diagnostic tips for difficult to resolve tire/wheel vibration concerns</td>
<td>For difficult to resolve vibrations, the Electronic Vibration Analyzer or MTS4100 must be used along with this information.</td>
<td>Proceed with any tire, wheel, or component replacement unless the frequency, order, and magnitude of the vibration are known.</td>
<td>13-03-10-002</td>
</tr>
<tr>
<td>2012-2014</td>
<td>Traverse, Enclave, Acadia – Waterleak from headliner at A/C outlet vents or dome light above 2nd or 3rd row seating positions</td>
<td>Test fixed glass for leak per bulletin.</td>
<td>Replace the sunroof module.</td>
<td>P11061</td>
</tr>
<tr>
<td>2014</td>
<td>Traverse, Enclave, Acadia – Inaccurate fuel gauge readings</td>
<td>Reprogram ECM.</td>
<td>Replace fuel sender of fuel gauge.</td>
<td>P11038A</td>
</tr>
<tr>
<td>2010-2013</td>
<td>SRX – Auto reversal of front door windows</td>
<td>Reflash the BCM prior to replacing window regulator or motor.</td>
<td>Replace the window motor or regulator.</td>
<td>P11046</td>
</tr>
<tr>
<td>2010-2011</td>
<td>SRX – Snap or pop noise heard on initial brake apply from front of vehicle</td>
<td>Use chassis ears to confirm noise is coming from front control arm rear bushing.</td>
<td>Replace the complete control arm assembly.</td>
<td>P11047</td>
</tr>
</tbody>
</table>