A number of 2017 Chevrolet, Buick, GMC and Cadillac models will join the current Cadillac XTS and Chevrolet Spark EV in using the new air conditioning refrigerant R-1234yf. R-1234yf is an environmentally friendly alternative to R-134a refrigerant, which is a greenhouse gas that has been cited as contributing to climate change. R-1234yf has a 99.7% lower Global Warming Potential (GWP) than R-134a. It is the industry accepted solution for a low GWP refrigerant.

The following 2017 models are currently targeted to receive R-1234yf in the North American market: Chevrolet Camaro, Cruze, Malibu, Colorado, Silverado, Tahoe and Suburban; GMC Acadia, Canyon, Sierra and Yukon models; Cadillac ATS, CTS and XT5; and Buick Cascada and LaCrosse. There will be more vehicles added for the 2018MY.

The US Environmental Protection Agency’s (EPA) motor vehicle greenhouse gas regulations require improvements in overall fuel economy and the use of R-1234yf will play a considerable role in helping GM vehicles achieve these targets under the new regulations. The new refrigerant has been tested and studied extensively by many organizations, including SAE International, the US EPA, regulatory and scientific organizations globally as well as every major automotive manufacturer. All of these groups agree that R-1234yf is a safe and environmentally friendly alternative to R-134a.

Preference settings for column width and order
GDS 2 Update Released
continued from page 1

Vehicle Selection
The Vehicle Selection screen is now integrated with a new version of device explorer, which allows users to switch the J234 device type (MDI) more efficiently. The Device Type tab has been moved from the Preferences settings to the Vehicle Selection screen. If any connection issues are detected, it will display an error message.

The device explorer is launched using the Select Device button. It also makes connections to the MDI/MDI 2 if the device is connected via USB.

When a device is connected, the device type name will be displayed at the top of the Vehicle Selection screen and in the lower right of the status bar. If an MDI or MDI 2 is connected, the device type name and a serial number is shown.

To select a different device, disconnect the device by clicking the Disconnect button.

Data Display
Under the Data Display applications, the order of parameters is retained for the duration of a diagnostic session. Click the Reset Parameter Order button to resort the parameter list in the default order.

A new Change Scale button has been added under the Line Graph tab. A new editor allows users to type in min/max values (Y axis value) for each line graphed parameter.

DTC Applications
In the DTC applications, DLC Pin information has been added to the output. If the J2534 device does not support the required pins, the status indicates that the pins are not supported.

The HTML report for the vehicle-wide DTC test lists all electronic control units (ECU) being tested, even if DTCs are not stored. New timestamp information also is included in the Report Creation Date.

The HTML reports also have the following new information listed in the header: VCI Serial Number, Vehicle Session Creation Date, Test Start Time, and Slider Position Time.

To ensure you are using the updated GDS 2 software, open GDS 2 through TIS2Web.

For assistance, contact the Techline Customer Support Center (TCSC) at 1-800-828-6860 (English) or 1-800-503-3222 (French).

Thanks to Chris Henley

Windows 10 Incompatibility Update
GM is actively working to certify all Techline applications for compatibility with Windows 10 in a timely manner with a goal of ensuring users will be eligible to receive the free upgrade to Windows 10. While Microsoft is actively encouraging users of Windows 7 and 8.1 to upgrade to Windows 10 at this time, they have announced support for the previous versions until 2020 and 2023 respectively.

The GM Dealer Infrastructure Guidelines currently call for not updating to the new Windows 10 operating system until GM communicates applications are compatible.

Decline License Agreement for Automatic Updates
If for any reason the Windows 10 update is automatically pushed to a computer in the dealership, the Microsoft End User License Agreement (EULA) must be accepted before the installation will be completed. Click DECLINE to abort the Windows 10 update. This will ensure the computer will remain in compliance with the GM Dealer Infrastructure Guidelines.

If you have upgraded a computer to Windows 10 within the last 30 days, uninstall instructions for Windows 7 and Windows 8.1 users were included with the recent GlobalConnect message Windows 10 Incompatibility with Dealer Applications.

Thanks to Lisa Scott
Differences in Refrigerants

While R-1234yf is very similar to R-134a, there are some important differences. R-1234yf is considered a mildly flammable gas and should not be serviced near any open flame or significant source of energy (e.g., welding). Like all automotive refrigerants, it is illegal to release R-1234yf into the atmosphere. In the case of an unintentional release, the immediate area should be ventilated; taking additional care to ventilate pits or low areas as the refrigerant is heavier than air and can collect in these areas.

R-1234yf has thermodynamic properties similar to R-134a, so system diagnosis is similar to R-134a systems. Refer to the appropriate Service Information for the latest diagnostic and repair procedures.

PAG Oils

There are multiple refrigerator PAG oils released by GM Engineering to service GM vehicles built with R-1234yf. Be sure that the correct PAG oil as specified in the Service Information is the only PAG oil used during repairs. R-1234yf PAG oils cannot be mixed with or substituted for one another.

Special Tools

Existing R-134a equipment cannot service R-1234yf due to fitting differences, refrigerant mixing and safety requirements. The following tools needed to properly service R-1234yf systems will be shipped to U.S. dealerships in March and April. Cadillac and a limited number of Chevrolet dealerships already have these tools.

<table>
<thead>
<tr>
<th>Tool Number</th>
<th>Description</th>
<th>Specifications</th>
</tr>
</thead>
</table>
| GE-50300-A  | Recovery/Recycle/Recharge Machine for R-1234yf A/C Systems | • Certified to SAE J2843 as required by the EPA  
• Performs gas analysis prior to gas recovery or fill with recovery/fill lockout if gas is contaminated (< 98% R-1234yf)  
• VIN retrieved via integrated VCI cable (optional Bluetooth available) connected to vehicles OBD2 connector or manually entered  
• Integrated data recorder with printer |
| GE-50957    | Contaminated Refrigerant Recovery Machine | • Certified to SAE J2851 as required by EPA  
• Required for recovery of contaminated refrigerant systems |
| GE-50078    | Electronic Refrigerant Leak Detection for R-1234yf (and R-134a) | • Certified to SAE J2913 for use on R-1234yf systems (certified to SAE J2971 for R-134a systems)  
• SAE J2843 certified equipment (GE-50300A) requires a SAE J2913 leak detector to perform the mandated gross leak check |
| GE-50744    | R-1234yf PAG Oil Injection Hose | • To replace PAG oil in R-1234yf systems with belt-driven AC compressors (use with GE-45037 and the oil specified in the Service Information) |
| GE-45268-130| R-1234yf Fitting Kit - Refrigerant Flush Kit | • To replace POE oil in R-1234yf systems with electric AC compressors (use with GE-45037 and the oil specified in the Service Information) |
| GE-50745    | R-1234yf POE Oil Injection Hose | • Required to adapt GE-45268 Flushing Kit to R-1234yf |

Forward Lamp Harness Water Intrusion

On some 2016 Camaros equipped with the 3.6L engine (RPO LGX) and without the Track Performance package (RPO Y4Q), the engine cooling fan may intermittently stop working and the Check Engine lamp may illuminate. DTCs P0480 (Cooling Fan Speed Output Circuit) or P0691 (Cooling Fan Speed Output Circuit Low Voltage) may set. These conditions may be caused by water intrusion into the forward lamp wiring harness.

If the engine is continually running with an inoperative cooling fan, the engine may overheat, causing severe engine component damage.

If the harness is stretched or side loaded, where the cooling fan module connector plugs in, water may be allowed to wick down the harness, past the weather pack seals, and into the connector. Over time, the terminals inside the connector as well as the harness may become corroded. As the corrosion builds, the engine cooling fan may become inoperative.

Inspect the forward lamp wiring harness to cooling fan module connector for moisture and corrosion. If any is found, the fan control module and forward lamp harness should be replaced. If no moisture or corrosion is found, refer to the appropriate Service Information for additional diagnostic information.

TIP: If the harness is replaced, only one harness is needed per vehicle. Use the appropriate harness based on the vehicle headlamp type.

Thanks to Matt Bierlein
Storing and Using Special Tools in the Dealership

It’s simple but true: time is money. If a service department isn’t organized, technicians can waste a lot of valuable time searching for essential and special tools or using the improper tools for proper repairs. Tools are an investment. Organizing, storing and maintaining those tools can make a positive impact on the dealership’s productivity.

Feedback from dealership surveys regarding tool organization indicated that 77% of service managers and 90% of technicians felt their dealership could improve how their tools were organized.

GM offers several ways for dealerships to get organized, including a variety of storage systems and in-dealership tool management assistance along with the GM Special Tools Organization website managed by Bosch. The best practices found with a successful tool organization program are:

- Assigning a tool organization supervisor
- Using a managed tool organization system, such as the GM Special Tools Organization website
- Dedicating accessible storage space
- Implementing a physical tool storage system
- Following a regular tool maintenance program

Return on Investment

How much productivity is lost by searching for special tools? On gmtoolsandequipment.com, there is a Return on Investment (R.O.I.) calculator that helps determine that. Click the Return on Investment link on the left side of the page to view the calculator. Fill in the estimated time spent looking for a tool and the number of technicians in the service department to see how much annual savings can be found with a proper tool organization system.

For example, if three technicians spend just two less minutes per day looking for tools, it can lead to an annual savings of more than $16,000.

Storage Options

Using the right storage system makes it possible to never misplace a tool again or spend valuable time digging through piles of tools.

When determining the kind of tool storage system that will work best in your dealership, consider the how much space is available, security of the area, how accessible it is, and the amount of tools in inventory.

GM Dealer Equipment offers tool storage cabinet systems, case and shelf systems for larger items or multiple tools, tool peg-board systems, and mobile cart systems.

Tool Organization Services

The tool organization services available through Bosch range from complete planning and configuration to tool inventory set up, installation, and data entry of your inventory into the tool organization system.

These services include the assistance of organization specialists who are available to come to the dealership and identify, inventory, sort and organize all special tools in a simple, efficient, easy-to-use system.

For more information, go to gmtoolorg.service-solutions.com or click the link under Service Workbench in GlobalConnect.

(©) Thanks to Chuck Berecz
Auto Heated and Auto Heated/Ventilated Seats Diagnostic Tips

The 2016 ATS, CT6, CTS, Escalade models, SRX, and XTS feature available automatic heated seats. The 2017 XT5 features available automatic heated and ventilated seats. These models are also equipped with automatic climate controls.

In order to properly diagnose these seat features, it’s important to understand how they operate.

The auto thermal seat function activates the heating or ventilation based on outside air temperature and the cabin air temperature control error, which is the difference between the cabin air target temperature and actual cabin air temperature. If the cabin is very cold, a high seat heating level is activated. When the cabin warms up, the seat heating level is automatically decreased. The functionality is the same for a cool-down scenario. When the heating or cooling is completed, the seats stay on at a minimum level.

The auto thermal seat function initializes when the ignition is turned on. The system is given some time to stabilize — 30 seconds for 2016 models and increased to 10 minutes for 2017 models. After the stabilization period, seat levels are only allowed to decrease.

If the temperature set points are changed by the seat occupants or if the outside air temperature changes, automatic seat levels will not be increased.

Sound from Steering when Driving over Bumps

There may be a rattle or clunk sound coming from the front of some 2015-2016 Colorado and Canyon models when driving over bumps. Upon inspection, this sound may be isolated to the lower steering intermediate shaft.

A redesigned intermediate shaft has been released to address this condition. Replace the lower steering intermediate shaft with new part number 84039333. Refer to the appropriate Service Information.

Before removing the steering intermediate shaft from the steering column, the steering wheel must be secured in position before disconnecting the steering column, intermediate shaft and steering gear. Do not rotate the steering wheel or move the front tires or wheels. Any movement may cause possible damage to the SIR coil.

TIP: Prior to steering intermediate shaft reassembly, remove the plastic insert located at the bottom of the steering intermediate shaft.

(*) Thanks to Ken Cole

GM TechLink is published for all GM retail technicians and service consultants to provide timely information to help increase knowledge about GM products and improve the performance of the service department.

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General Motors service tips are intended for use by professional technicians, not a “do-it-yourselfer.” They are written to inform those technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions and know-how to do a job properly and safely. If a condition is described, do not assume that the information applies to your vehicle or that your vehicle will have that condition. See a General Motors dealer servicing your brand of General Motors vehicle for information on whether your vehicle may benefit from the information. Inclusion in this publication is not necessarily an endorsement of the individual or the company.

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New TAC Phone Prompts Speed Service

Nothing is more valuable to technicians than time. That’s why the GM Technical Assistance Center (TAC) phone prompts are designed to quickly get callers to the appropriate group when calling.

Based on feedback from Detroit-area dealers, Dealer Fixed Operations Advisory Board (DFOAB) dealers, and Service Manager Surveys, TAC recently made the following changes to the phone prompts:

• Removed unnecessary layers and selections
• Clearly identified the need for a TAC Consultant (for vehicle “diagnostics” support) versus a Techline Consultant (for vehicle “programming” support)
• Reordered the prompts to be similar to TAC call volume, so higher volume call types are at the beginning of the phone prompts
• Renamed several prompts to include the names of common call types, such as radio, OnStar, transmission, steering, and suspension.
• Removed dedicated phone prompts for older vehicle support and listed the names of the typical Medium Duty Truck models supported by TAC

These enhancements will be included in phase 1 of the TAC call prompt updates that will be implemented in mid-March. Additional enhancements/ phases are also being considered.

Printable Phone Prompts Chart

All of the updates are highlighted in the prompt chart, which can be printed as a quick reference. The latest TAC phone prompt chart is also accessible via the Service Forms section of the GlobalConnect Service tab and the latest version of Bulletin #08-00-89-014.

Action Centers

TAC Action Centers are put in place to provide special support to the launch of new GM models. Specially trained TAC consultants handle Action Center calls. As these TAC cases are created, Action Center facilitators work closely with GM Brand Quality, Engineering, and Manufacturing to understand the causes of each case.

When a new TAC Action Center is created to support the launch of a new model, a related GlobalConnect message is sent to dealerships announcing the new model launch and TAC Action Center. For assistance on one of these new models, select the #2 Action Center Prompt to be routed to a specially trained TAC consultant.

Thanks to Jamie Parkhurst and Elizabeth Belland

Being Prepared

Gather the following information before calling TAC:

• Have a completed work order, including VIN and details about the concern.
• Be aware of the total amount of days down and times in for the current concern.
• Understand and attempt to duplicate the concern.
• Have all DTCs recorded and diagnosed, including all values and measurements.
• Search all Service Information, including all published diagnostic documents, flow charts, bulletins and PIs.
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