The All-New 2016 Malibu

Completely redesigned from the ground up, the 2016 Malibu midsize sedan (VIN Z) boasts new styling, advanced safety technologies and a variety of connectivity features.

The new Malibu is available in L, LS, LT and Premier trim levels as well as a Hybrid model.

New features include:
- Available OnStar 4G LTE
- Available wireless phone charging
- Active safety technologies include Forward Collision Alert and Rear Cross Traffic Alert. Automatic Parking Assist also is available.
- New Chevrolet MyLink with Android Auto and Apple CarPlay compatibility
- New Teen Driver feature, which allows parents to view their kids’ driving statistics, such as maximum speed, warning alerts and more

Although 300 pounds lighter than its predecessor, the Malibu’s wheelbase is four inches longer, creating more interior space. An important goal was to make the Malibu the most mass-efficient car in its class, with the mass savings spread throughout the vehicle. The increased use of aluminum in the vehicle, such as an aluminum hood that is 5.6 pounds (2.5 kg) lighter than the current model’s aluminum hood and more aluminum chassis and suspension components, deliver weight savings. This provides a greater overall balance between a more responsive driving experience and efficient operation, resulting in decreased fuel consumption.

**Turbocharged Engines**

An all-new Ecotec 1.5L 4-cylinder turbocharged engine (RPO LFV) serves as the Malibu’s standard engine and is part of a new global family of small-displacement gas engines designed with greater power density to deliver consistent performance and efficiency. It produces 160 horsepower and 184 lb.-ft. of torque and

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is mated to the Hydra-Matic 6T40 6-speed automatic transmission (RPO MNH).

The available 2.0L 4-cylinder turbocharged engine (RPO LTG) offers a higher degree of performance while maintaining efficiency, generating 250 horsepower and 260 lb.-ft. of torque. This engine is paired with the Aisin AF50 8-speed automatic transmission (RPO MRC).

**TIP:** Premium fuel is recommended with the 2.0L engine but not required. When towing, use only unleaded gasoline with an octane rating of 89 or higher. Using gasoline with a lower octane rating while towing may damage the engine.

Both engines feature a DOHC design with continuously variable valve timing, high-pressure direct injection, coil-on-plug ignition and electronic throttle control.

Along with fuel-saving Stop/Start technology that temporarily turns off the 1.5L engine when the Malibu comes to a stop, the vehicle employs active grille shutters that enhance aerodynamics when cooling and A/C loads are relatively low and high levels of front-end airflow are not required. If greater airflow is needed, the grille system opens one or both shutters. The actuators are powered by an ignition circuit that is active when the key is in the Run position. The vehicle may have to be driven for up to 13 minutes at speeds greater than 25 mph before a shutter begins to move. If low ambient temperature is detected, the shutters will remain in the closed position.

**TIP:** Vehicles with active grille shutters cannot be dinghy towed.

**Hybrid Engine/Drive Unit**

The Malibu Hybrid delivers an exceptional level of fuel efficiency — 48 mpg in the city — with an all-new powertrain that uses technology from the 2016 Volt. A direct-injection 1.8L 4-cylinder engine is mated to a two-motor drive unit (slightly modified from the Volt unit) to power the Malibu. The drive unit provides additional power to assist the engine during acceleration for 182 horsepower of total system power.

The engine also features Chevrolet’s first application of Exhaust Gas Heat Recovery (EGHR) technology, which uses exhaust heat to warm the engine and cabin. EGHR improves engine warm-up and ensures consistent fuel economy performance in cold weather.

Additional fuel economy benefits come from Exhaust Gas Recirculation (EGR).

An 80-cell, 1.5 kWh lithium-ion battery pack provides electric power to the hybrid system and can propel the Malibu Hybrid up to 55 miles per hour on electricity alone. The gas-powered engine activates automatically at higher speeds and higher loads to provide more power.

In addition to the drive unit, the Malibu Hybrid shares the Volt’s blended regenerative braking system, which provides maximum kinetic energy recovery during braking to help maintain the battery charge.

**Brakes**

The Bosch ABS 9.0 brake system’s Electronic Brake Control Module (EBCM) and Brake Pressure Modulator Valve are serviced separately. The modulator valve employs a four-circuit configuration to control hydraulic pressure to each wheel independently. Vehicle performance enhancement systems include ABS, Electronic Stability Control (RPO FX3), Hill Start Assist and Traction Control.

**Safety Technologies**

The safety features on the all-new Malibu are many. These features assist drivers on the road as well as when parking the vehicle. The available safety technologies include:

- Rear Vision Camera
- Forward Collision Alert with Following Distance Indicator
- Intelligent Brake Assist
- Forward Automatic Braking
- Front Pedestrian Braking
- Lane Keep Assist with Lane Departure Warning
- Lane Change Alert with Side Blind Zone Alert
- Automatic Parking Assist
- Front and Rear Parking Assist
- Rear Cross Traffic Alert
- Adaptive Cruise Control
- IntelliBeam Headlamps
- Hill Start Assist

**Chevrolet MyLink and Infotainment Options**

The Chevrolet MyLink system is now standard on the LS, LT and Premier trims. The Malibu offers four different infotainment options with availability based on model and packages.

The Malibu’s all-new Teen Driver feature — available with the 8-inch MyLink radio — allows parents to restrict certain vehicle functions, such as radio volume, to support safer driving.

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system is activated based on the key used and gathers driving statistics, such as maximum speed, warning alerts, distance driven, overspeed warnings, Forward Collision Alerts, Forward Collision Avoidance Braking and Stability Control activations, viewable via a Report Card.

When the vehicle is started with a registered key, the Driver Information Center (DIC) displays a message that Teen Driver is active.

Special Tools
The Aisin AF50-8 special tools will be shipped to dealers in June 2016 after the warranty exchange period.

Chevrolet dealerships received special tools earlier this year for the Spark and Volt that are applicable to the 1.5L turbocharged engine (RPO LFV).

For additional information on the all-new 2016 Malibu, refer to Bulletin #15-NA-085.

Thanks to Dallas Walton and Sherman Dixon

New GM Accessories Information Center Website

The new GM Accessories Information Center gives technicians easy access to all the details on a variety of vehicle accessories — from ambient lighting to wheel lock kits — all in one place.

The new website, www.gm-aic.com, is available through GM GlobalConnect and enables users to look for all accessories by division, model, year and trim level, or to search by part number. If you’re not sure about the applications of a particular accessory, the Accessories Information Center is a good place to start.

Search Results
Searching by model will provide a list of available accessories, including interior, exterior, performance, security and wheel accessories.

The part search information results provide the current part status, marketing information, engineering information and the model applications.

For example, the search results for part number 92248560, ground effects package, reveals that the package applies to several 2010-2013 Camaro models.

Catalogs and Marketing Materials
In addition, divisional and model accessory materials and information are readily obtainable by clicking the Accessories Reference Catalogs link on the home page. It includes associated accessory information, marketing materials, model launch kits and reference catalogs for most 2014 and later GM cars and trucks.

Training Assistance
Training videos and PDFs covering installation procedures also can be downloaded from the website by clicking the Tools menu and selecting Training. The available information can help with the installation of various accessory items, such as ground effects and ladder racks.

Customize Your Experience
Just like customization that GM accessories provide, the website also can be customized for each user, so the home page of the features the topics that mean the most to you, such as Training or Accessories Search.

Click the Customize Homepage link at the bottom of the home page to display a menu of website module. The selected modules will appear across the bottom of the home page.

Thanks to Matt Singer and Mike Magyar
Using GM-Approved Battery Chargers and Booster Packs

Occasionally, a vehicle in for service or in dealership inventory may require a jump start for a dead battery. One case at a GM dealership recently illustrated the importance of proper battery maintenance and using GM-approved battery chargers or booster packs.

Several vehicles returned to the dealership with both low-beam headlamps burned out. The cars had low mileage, but had been recently jump started after being in dealership inventory for several months. It was found that the non-approved booster pack used to jump start the cars was exceeding 20 volts at the headlamps, which caused the bulbs to be stressed during the jump start. Typically, the bulbs failed a few drive cycles later.

GM testing confirmed the condition using the same booster pack, showing the high voltage spike as the cause of the burned out headlamps.

The use of non-approved battery chargers and boosters can also damage control modules and other electrical components. This damage is not covered by the new vehicle warranty. Warranty claims for component damage caused by non-approved equipment at the dealership may be debited.

These conditions also may be seen when a vehicle is brought in for service after a roadside assistance event. It’s recommended to communicate to local roadside service companies the importance of using the proper battery jump starters.

Maintaining Batteries

For information on maintaining vehicle batteries in dealership inventory and the proper use of equipment during jump-starting procedures, refer to Bulletin #09-00-89-002: Properly Maintaining Vehicles in Dealer Inventory and Bulletin #15-06-03-001: Cold Weather and Long Stand Time Battery Maintenance and Testing Tips.

Battery Chargers

The EL-50313 Midtronics GR8 is an essential tool shipped to all dealerships for warranty repairs. It creates a printout that can be attached to the repair order.

There are several other battery chargers/testers that are GM-approved and offered through GM Dealer Equipment. Convenient devices to use outside the service garage are new GM-approved micro jump starters. These portable jump starters are small enough to fit in a pocket or tool box and feature a 12V lithium-polymer power supply to start an engine as well as charge electronic devices, such as a phone or tablet.

For more information, go to www.gmdesolutions.com.

In Canada, go to the Dealer Equipment & Services (DES) Canada website at http://www.des-canada.ca.

Thanks to Jon Nowak
Rear Auxiliary Heater Lines Rattle

There may be a rattle or buzz sound from the rear of the vehicle on some 2015-2016 Tahoe, Suburban, Yukon models and Escalade models. The sound may be due to the rear auxiliary heater/evaporator lines contacting each other and may be most noticeable while driving at 35 to 40 mph or while in gear at a stop.

Road test the vehicle to achieve operating temperature. Remove the right rear inner fender well and inspect the rear auxiliary heater/evaporator lines for contact.

If the lines are contacting each other, loosen the retaining clamps and reposition the lines to gain more clearance. Retighten the retaining clamps.

Thanks to Jim Will

System Software Makes Accessory Installation Easier

The installation of some Limited Production Option (LPO) accessories is now made easier at the dealership thanks to the system software being installed in the vehicle during production.

The GM Accessories Remote Start kit for the 2016 Malibu (VIN Z), for example, does not require any programming if the vehicle was ordered with the kit (RPO S6P).

If the vehicle was built with RPO S6P, it was produced with the correct system software so a call to the Techline Customer Support Center (TCSC) for a calibration is not required. Completing installation of the remote start kit only involves learning the new transmitters (key fobs) to the vehicle. Refer to the accessory installation instructions in the appropriate Service Information for more information.

TIP: Before installation, verify the vehicle has the correct software by checking the VIN and the required RPOs in the Investigate Vehicle History system.

Looks for other models in the future to also have the system software installed for LPO accessories. The Sport Light Bar Kit for 2016 full-size trucks is another example.

With this new built-in functionality, it’s recommended to always check the IVF system before installing accessories or calling TCSC.

Thanks to Matt Singer and Dallas Walton

Battery Discharged Overnight

The battery may discharge overnight on some 2015-2016 Colorado and Canyon models. It may be possible to duplicate a 150 mA or 450 mA draw.

If this condition is found, inspect connector X301 (Headliner to Body Harness) near the Center High-Mounted Stop Lamp (CHMSL) for bent pins. Repair or replace the terminals as needed.

Thanks to Ken Cole
Poor Heater Performance

Some 2015-2016 Colorado and Canyon models may have poor heater performance with the HVAC system only blowing cold air. Relearning the HVAC doors may temporarily eliminate this condition.

Remove the temperature actuator and inspect for a cracked or broken shaft on the temperature valve. If the shaft is cracked in only one place, install a #4 hose clamp over the temperature valve shaft. It is not necessary to remove the door to add the clamp.

If the shaft is cracked in more than one place or it is broken and has more than one piece missing, the temperature valve must be replaced.

Thanks to Ken Cole

Transmission Adaptive Functions

Some owners of low-mileage 2016 Buick, GMC, Cadillac and Chevrolet cars and trucks equipped with the new 8L90 or 8L45 automatic transmission (RPOs M5U, M5T, M5N, M5X) may comment that shifting feels too firm (harsh) or that it slips or flares.

These transmissions use an adaptive function that’s designed to refine shift feel and improve shift quality. This results in the transmission automatically adapting the shift points based on vehicle operation over time.

The purpose of the adaptive function is to automatically compensate the shift quality for the various vehicle shift control systems. The adaptive function is a continuous process that will help maintain optimal shift quality throughout the life of the vehicle.

How the Adaptive Function Operates

The Hydra-Matic 8-speed RWD transmission employs a line pressure and volume control system during upshifts to compensate for new transmission build variation as well as the normal wear of components. Over time, the variation from new and normal wear of the apply components within the transmission can cause shift time (the time required to apply a clutch) to be longer or shorter than desired.

To compensate for these changes, the Transmission Control Module (TCM) adjusts the pressure commands to the various pressure control (PC) solenoids to maintain the originally calibrated shift timing. The automatic adjusting process is referred to as adaptive learning and helps ensure consistent shift feel while increasing transmission durability.

The TCM monitors the A/T input speed sensor (ISS) and A/T output speed sensor (OSS) during commanded shifts to determine whether a shift is occurring too fast (harsh) or too slow (soft). It then adjusts the corresponding PC solenoid signal to maintain the set shift feel.

Adjusting Adapts for Correct Shift Feel

The transmission adapts can be reset and relearned on most vehicles. Shift feel can be corrected as well.

If a transmission replacement is required, reset the adapts using the Transmission Service Fast Learn procedure. This procedure is completed in the service bay using GDS 2 and driving the vehicle is not required. After performing the procedure, evaluate the shifts and further learn pressures and volumes if required.

If there is a specific shift concern on the transmission, the Service Fast Learn should not be performed. Complete the appropriate driving learn procedure to further learn clutch pressures and volumes for specific shift concerns.

For details on these adaptive learn procedures, refer to Bulletin #16-NA-019. This sequence is MY 2016 specific and varies from MY 2015.

Thanks to Mark Gordon