



# Service Bulletin

File in Section: -

Bulletin No.: PI1200A

Date: May, 2014

## PRELIMINARY INFORMATION

**Subject:** 2014 Chevrolet Camaro Z/28 New Model Features and Service Guide

**Models:** 2014 Chevrolet Camaro Z/28

This PI has been revised to update the Brakes section and add the Vehicle Car Wash information. Please discard PI1200.



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This is a special bulletin to introduce the 2014 Chevrolet Camaro Z/28. The purpose of this bulletin is to make you familiar with the vehicle's features and describe the action your Service Department will need to take to ensure that your dealership is able to fully service this vehicle. There are special instructions which will need to be followed during PDI.

More than 190 parts are unique to the Camaro Z/28 when compared to SS models.

The Z/28 is offered in five (5) exterior colors: Red Hot, Black, Silver Ice Metallic, Ashen Gray Metallic and Summit White.

The Standard Z/28 package includes one speaker in the driver's door. The only single production option available is a package that adds air conditioning and the six audio speakers that are standard on the Camaro SS.

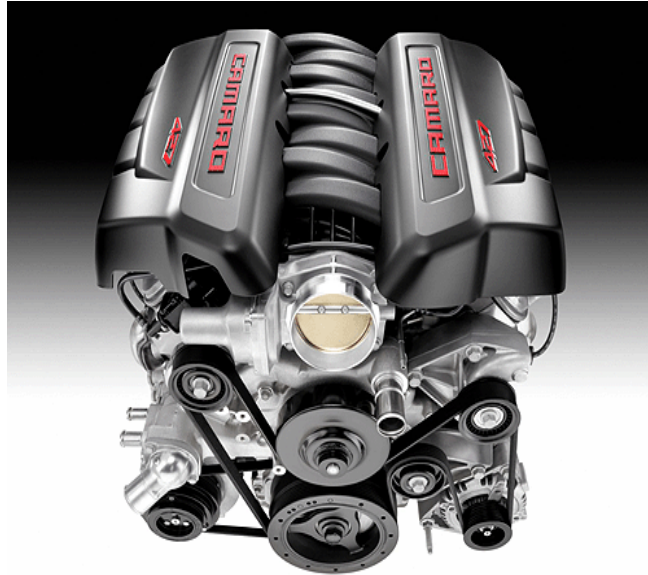
**Accessories available for the Z/28 are:**

- SIA – Wicker Bill Spoiler
- PCN – winter/summer mat package (LPO Only)
- VYW – floor mats, premium carpet
- RWH – vehicle cover, indoor
- VQL – alternative finish fuel door

**Available (not essential) tools for the Z/28 are:**

- CH-48897–Brake Rotor Scale - Accurate measurement of the brake rotor mass is required to ensure safe operation and braking system performance.
- EN-41558-10–Crankshaft Sprocket Remover Bolts
- EN-47812–Installer Bolt – Harmonic Balancer

**Powertrain:**



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**Engine:**

The Camaro Z/28 is equipped with a naturally aspirated 7.0-liter V8 engine (LS7), with dry-sump oiling that is rated at 505 horsepower and 481 lb.-ft of torque. The engine is built by hand at the new Performance Build Center within GM's Bowling Green Assembly Plant.

**Air intake system:**

The LS7 uses a unique open air box intake system to make the most of high RPM airflow into the engine. It features a K&N conical air filter and delivers the highest airflow performance of any production Camaro filter system. The air cleaner seals around the bottom of the hood, reducing the chance of recirculated hot air being drawn into the engine.



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**Engine Oil and Oil Filter Replacement:**

**Note:** Z/28 utilizes a dry sump oil system. This vehicle will come equipped with factory fill 5W-30 Mobil 1™ oil and an oil fill cap identifying that 5W-30 Mobil 1™ oil is recommended to top off the engine or for an oil change.

Engine oil capacity is 10.5 qt. (8.5 L). The dry-sump system enables high lateral acceleration without a loss in oil pressure or delivery.

Check the oil level only after the engine has been thoroughly warmed up. After the engine is shutoff, between 5 and 15 minutes, check the oil level. This ensures that the oil level reading obtained will be accurate.

**Caution:** *This engine uses a special high performance oil filter. Use of any other filter may lead to filter failure and/or severe engine damage. Use oil filter PF64, General Motors P/N 12640445 or equivalent.*

To properly change the engine oil and oil filter, refer to Engine Oil and Oil Filter Replacement in SI.

The engine oil is cooled by an integral liquid-to-liquid system, similar to that found on the Corvette ZR1.

**Note:** Z/28 performance parts have a break-in period. For the first 1,500 miles (2,414 km) avoid full-throttle starts and abrupt stops, do not exceed 4,000 engine RPM, avoid driving at any one constant speed, and do not drive above 80 mph (129 km/h). Following these break-in period guidelines will result in better performance in the long run.

### **Transmission - TREMEC (TR6060) 6-Speed Manual:**

A close-ratio six-speed manual transmission is the only transmission offered. The transmission features:

- Close-ratio gearing.
- Combination of double-cone and triple-cone synchronizers on all gears:
  - Double-cone synchronizers have two friction surfaces to affect gear acceleration.
  - Triple-cone synchronizers have three friction surfaces. The greater the friction surface, the easier the transmission is to shift.
- Short-throw shifter. The shifter has a more aggressive motion ratio and incorporates a revised shift knob.

The Transmission is cooled by a high-capacity liquid-to-liquid oil cooler system, similar to the Camaro ZL1.

### **Differential:**

The power is distributed to the rear wheels via a Torsen limited-slip differential featuring a helical gear set, rather than traditional clutch packs, for optimal traction.

### **Rear Differential Cooler:**

The rear differential cooler is the same as Camaro ZL1. It can reduce the temperature by over 100°F (37°C) and maintains cool, stable performance throughout the most aggressive racetrack sessions.

**Note:** Regularly scheduled maintenance and fluid changes are STRONGLY recommended. For Z/28 track and competition driving, replace the axle fluid every 6 hours.

## **Chassis:**

### **Suspension:**

100% of the un-sprung mass (suspension, wheels, tires and brake system) is unique for the Camaro Z-28 when compared to SS models, dramatically enhancing the balance and overall driving feel of the Z/28.

The front suspension includes double-ball joint multi-link struts, direct-acting 25mm solid stabilizer bar, progressive-rate coil springs and inverted monotube shock absorbers.

The rear suspension incorporates a 4.5-link independent design with progressive-rate coil springs over monotube shock absorbers and a 26mm solid stabilizer bar.

The Z/28 is one of the first production cars fitted with race-proven, spool-valve dampers (shock absorbers). These dampers allow four-way damping control, enabling engineers to precisely tune both bump and rebound settings for high-speed and low-speed wheel motions. The wide tuning range also allows dramatically greater damper stiffness without a significant change in ride quality.

Additional chassis changes include stiffer spring and bushing rates for improved cornering response.

### **Performance Track Management (PTM):**

Exclusive to GM, PTM is a feature that tailors the performance of Z/28 to match the driver's skills and driving conditions. This advanced system integrates steering effort calibrations, traction control, and stability control. Five PTM performance levels or modes are available:

- Mode 1 – Traction Control set for wet or damp conditions, with stability control on. Steering efforts set to Tour.
- Mode 2 – Intended for entry level drivers - Traction Control set for dry conditions, with stability control on. Steering set to Tour.
- Mode 3 – Intended for an entry level driver that has become familiar with the track - Traction Control set on Sport, stability control set to Mode 2. Steering effort set to Sport.
- Mode 4 – Intended for intermediate level drivers familiar with the track - Traction Control set on Sport, stability control off. Steering efforts set to Sport.
- Mode 5 – Intended for expert level driver familiar with the track - Traction Control set on Race, with stability control off. Steering efforts set to Track.



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### **Brakes:**

Z/28 is equipped with four-wheel disc brakes with ABS, featuring Brembo Carbon Ceramic Matrix™ ventilated two-piece front and rear rotors. The large 394 x 36 mm front rotors are paired with six-piston calipers. The 390 x 32 mm rear rotors are paired four-piston calipers.

With standard front brake cooling ducts, the Z/28 is capable of continuous track use.

**Tip:** Due to the floating design of the brake rotor, the front brake rotor cannot be refinished. If the front brake rotor is found to be at or below the minimum specification, it must be replaced.

### **Camaro Z/28 - “Green” brake condition performance**

Any brake system has a normal break-in period before optimum performance is realized. The Camaro Z/28 brakes are no different. If aggressive street braking is performed, it should be noted that some “green” fade may occur on subsequent stops. This will feel like longer than expected pedal travel for the desired deceleration. This is normal and considered part of the burnishing process.

### **Brake noise – light grinding or growl sound**

You may experience a subtle grinding or growl sound during light brake apply. This noise may be heard coming from the front or rear brakes and is typically heard during slow stops. This is normal and part of having new carbon ceramic brakes. The condition can be eliminated by performing the “Street High Performance Brake Burnishing Procedure.”

### **Street High Performance Brake Burnishing Procedure**

Perform this procedure on dry pavement only, in a safe manner, and in compliance with all local and state ordinances/laws regarding motor vehicle operation.

1. From a stop, accelerate as rapidly as possible without activating traction control to a speed of 60 mph (100 km/h).
2. Use enough pedal force to completely stop the vehicle in four to five seconds. If ABS activates, braking is too hard.
3. Repeat Steps 1 and 2 five times. This should take about 10 minutes.
4. After completing the five stops, cool the brakes by driving for 5 miles (8 km) at 60 mph (100 km/h).

**Note:** When pads have optimum burnish, there may be a white chalky appearance visible on the brake pad edge near the rotor surface. This will be more apparent on front pads. Run this procedure in a safe manner and in compliance with all local and state ordinances/laws regarding motor vehicle operation. Run this procedure only on dry pavement. As with all high performance brake systems, some amount of brake squeal is normal. The new vehicle break-in period should be completed before performing the brake burnish procedure or damage may occur to the powertrain/engine.

### **Tires:**

The Z/28 is equipped with Pierelli 305/30ZR19 PZero Trofeo R tires and are believed to be the widest front tire on any production car. The tires are competition oriented tires that are DOT approved for street use. Competition oriented tires use a special tread pattern and compound that provide more grip than normal road tires. The minimum tread depth will be reached earlier than typical tires, resulting in reduced tire life.



**Warning:** *Driving on wet roads, in heavy rain, or through standing water with Competition Oriented tires may cause hydroplaning and loss of control.*

- This is a race tire. The wear performance of this tire is going to be markedly different than most tires, not just reduced tire life.
- The Z/28 tire package will have significantly reduced tread life.
- The special tread pattern and compound will have decreased performance in cold climates, heavy rain, and standing water.
- Competition oriented performance summer tires have rubber compounds that lose flexibility and may develop surface cracks in the tread area at temperatures below 20° F (-7° C).
- Always store Ultra High performance summer tires indoors and at temperatures above 20° F (-7° C) when not in use.
- If the tires have been subjected to 20° F (-7° C) or less, let them warm up in a heated space to at least 50° F (10° C) for 24 hours or more before being installed or driving a vehicle on which they are installed.
- Do not apply heat or blow heated air directly on the tires.
- ALWAYS inspect tires before use.
- Tires with cosmetic cracking to the tire surface or sidewall will not be covered under the new vehicle tire warranty.
- Only use GM approved tire and wheel combinations. Unapproved combinations may change the vehicle's performance and handling characteristics.
- The Z/28 uses a specific TPM sensor, it is the same sensor used on the ZL1 and the 1LE. See the electronic parts catalog for ordering information.
- The Z/28 tires cannot be rotated. They are corner specific by design.
- Do not perform wheel alignment for tire wear.

#### **Wheels:**



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The Z/28 uses 19-inch forged aluminum wheels. Wheels are staggered:

- 19 x 11 inch aluminum (front)
- 19 x 11.5 inch aluminum (rear).

These wheels have tires mounted to them that contain a special rim protector. The rim protector, built into each tire, puts rubber over the aluminum of the outer rim for protection when parking.

#### **Steering:**

The Z/28 uses electric power steering with variable-ratio, variable-effort rack-and-pinion steering. The steering wheel turns, lock-to-lock is 2.5.

#### **Alignment:**

**Important:** Using these wheel alignment settings may result in accelerated tire wear when compared to other Camaro models. Only use these wheel alignment settings for this vehicle, they are specific for the Z/28 and optimize the tire and suspension systems. Excessive tire wear is not covered under the vehicle warranty.

The Z/28 package is set with racing and competitive driving wheel alignment settings.

#### Front:

- Caster: 5.9 +/- 0.50 deg.
- Camber: -1.5 +/- 0.5 deg.
- Total or Sum Toe: 0.1 +/- 0.20 deg.

#### Rear:

- Camber: -1 +/- 0.50 deg.
- Total or Sum Toe: -0.1 +/- 0.20 deg.
- Thrust Angle: 0 +/- 0.20 deg.

### Body:

#### Lighting:

The Z/28 is equipped with halogen headlamps, the High Intensity Discharge or HID, headlamps and fog lights have been eliminated.

#### Front Fascia and Splitter:

The front fascia has a large lower “splitter” to reduce front lift and forces air through the larger lower grille. The larger openings, splitter and hood extractor all combine for a significant increase in cooling capacity for the powertrain. The Z/28's front splitter is a large aero panel that provides downforce at the front of the car, enhancing cornering capability and high-speed stability. Designed to withstand 250 pounds of downforce at its tip, it is matched with an aero closeout panel under the front of the engine compartment that also enhances aero characteristics – along with molded-in aero features forward of the front wheels.



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The Z/28 is equipped with a “Flow Tie” (flow thru Chevrolet bow tie emblem) on the front grille. This design allows for better air flow and extra cooling.

#### Rocker moldings and wheel flare moldings:

Specific rocker moldings provide aggressive styling and improved aerodynamic performance, while unique wheel flare moldings cover the Z/28's wide tires. Deflectors at the bottom-front corners of the front wheel flares contribute to the car's downforce-producing aerodynamics.

#### Front wheelhouse liners:

Unique wheelhouse liners with closeouts work with the vehicle underbody to make the most of airflow.

**Note:** The ground clearance of Z/28 is lower compared to the Camaro SS and similar to a Camaro ZL1. Drivers must use caution when approaching curbs to avoid damage.

#### Underbody Belly Pan:

The Z/28 underbody incorporates a belly pan that helps reduce front lift.

**Tip:** The underbody belly pan will need to be removed before performing service work, including oil and filter changes.

#### Thinner rear window glass:

Reducing the thickness of the rear window glass from 3.5 mm to 3.2 mm saved 400 grams.

**Lightweight rear seat:**

Although it looks like the rear seat in the SS, the Z/28's rear seat is 4.7 kilograms lighter due to reduced seat foam and a fixed seat back design with no folding/pass-through feature.

**Vehicle Car Wash:**

We do not recommend anything other than hand washing the Z/28 as damage can occur to the tires, wheels, front fascia, and rockers if driven through an automatic carwash. If the vehicle is washed in a touch-less carwash, a few words of advice;

- Do not attempt to use a car wash that has tracks that guide the vehicle through.
- Do not attempt to use the car wash if there are locating features that protrude above the surface by more than 3 in (75 mm).
- Use care when exiting the wash. As with any brake system, soaps or waxes found in the automatic carwash can spray onto the brakes. When this occurs, it may affect your ability to stop or accelerate. (See owner manual, Driving and Operating, section 9-10 "Driving on Wet Roads"). If you would be inclined to use a touch-less wash, a recommendation is to apply light brake pressure as you exit the wash.

**Interior:****Bluetooth:**

The Z/28 is equipped with RPO UPF – Wireless Interface, short range, voice recognition. This option does not allow you to call a contact when paired to your Bluetooth phone device.

**Seats:**

The front seats are Recaro seats with microfiber inserts. The seats feature aggressive bolsters for high-performance driving, and seat cutouts inspired by the five-point harnesses found on racing seats. Both front seats incorporate manual fore/aft adjustment. Bolster adjustment is not available.

**Note:** The suede microfiber inserts require unique care when cleaning.

The rear seats of the Z/28 have been modified by eliminating the seat-back pass-through, and uses high density foam in place of the rigid structure of the seat back and steel mesh of the seat bottom.

**Tire- Inflator Kit:**

With the exception of Rhode Island and New Hampshire, where it is required by law, the tire inflator kit has been eliminated on the Z/28.

**Battery:**

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The Z/28 uses a smaller, lighter 770 CCA battery.

**Steering Wheel:**

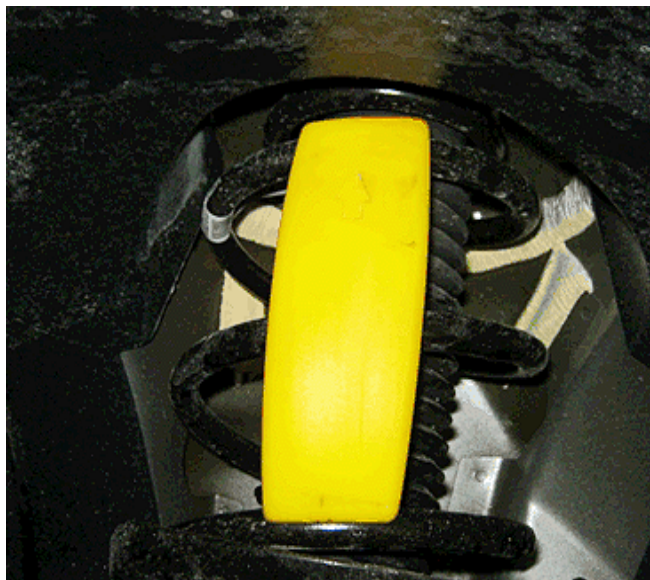
The flat-bottom steering wheel of Z/28 provides room for heel/toe operation and makes getting in and out of the car easier. The rim section has also been thickened and tuned to give the driver a more connected feel.

**Quality Pre-Delivery Inspection (PDI)**

Please be sure to review the PDI and CSDS forms published for this vehicle. There are several special inspections items highlighted for this vehicle vs. others. Additionally, the CSDS form has important customer education pieces that we have learned during our Captured Test Fleet process. Report any product issues via Field Product Report.

Refer to the latest version of Corporate Bulletin 02-00-89-002 titled "Information for Dealers on How to Submit a Field Product Report." Canadian dealers should refer to the latest version of Corporate Bulletin Number 10-00-89-006.

- Install front splitter – The front splitter is shipped inside the vehicle from the assembly plant. Installation instructions are included with the front splitter and can also be found online in SI. Installation time is included in the PDI time for the Camaro Z/28.



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- Remove the spring spacers from the front suspension and place them in the glove box for the customer. If the car is to be on a trailer for any reason, the spacers need to be placed back in the front springs to obtain ground clearance.
- Hand wash the car. Due to the larger width wheels, most car wash tracks will not accommodate the wider wheels.
- Do NOT apply wax or polish to the flat black portion of the hood or extractors.
- Premium Fuel Only.