

Ride Control System Messages

PERF TRACTION 1 – WET ACTIVE HANDLING ON CHASSIS MODE TOUR (ZL1 Coupe and Z/28 Only)

This message displays when this Performance Traction Management (PTM) mode is selected. The TCS and StabiliTrak OFF cluster lights will also be on when this mode is selected. Once this message is acknowledged, **PTM1 – WET ESC = ON** displays on the bottom of the digital speed page. Launch Control is available when this mode is selected. In this mode, the Traction Control and Active Handling System are available but intended for use on wet race track conditions. Adjust your driving accordingly. See “Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)” and “Launch Control (V8 with Manual Transmissions except Z/28)” under *Competitive Driving Mode on page 9-41*.

PERF TRACTION 2 – DRY ACTIVE HANDLING ON CHASSIS MODE TOUR (ZL1 Coupe and Z/28 Only)

This message displays when this Performance Traction Management (PTM) mode is selected. The TCS and StabiliTrak OFF cluster lights will also be on when this mode is selected. Once this message is acknowledged, **PTM2 – DRY ESC = ON** displays on the bottom of the digital speed page. Launch Control is available when this mode is selected. In this mode, the Traction Control and Active Handling System are available but intended for use on dry race track conditions. Adjust your driving accordingly. See “Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)” and “Launch Control (V8 with Manual Transmissions except Z/28)” under *Competitive Driving Mode on page 9-41*.

PERF TRACTION 3 – SPORT 1 ACTIVE HANDLING ON CHASSIS MODE SPORT (ZL1 Coupe and Z/28 Only)

This message displays when this Performance Traction Management (PTM) mode is selected. The TCS and StabiliTrak OFF cluster lights will also be on when this mode is selected. Once this message is acknowledged, **PTM3 – SPORT1 ESC = ON** displays on the bottom of the digital speed page. Launch Control is available when this mode is selected. In this mode, the Traction Control and Active Handling System are available but intended for use on dry race track conditions. Adjust your driving accordingly. See “Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)” and “Launch Control (V8 with Manual Transmissions except Z/28)” under *Competitive Driving Mode on page 9-41*.

PERF TRACTION 4 – SPORT 2 ACTIVE HANDLING OFF CHASSIS MODE SPORT (ZL1 Coupe and Z/28 Only)

This message displays when this Performance Traction Management (PTM) mode is selected. The TCS and StabiliTrak OFF cluster lights will also be on when this mode is selected. Once this message is acknowledged, PTM4 – SPORT2 ESC = OFF displays on the bottom of the digital speed page. Launch Control is available when this mode is selected. In this mode, the Traction Control is available but intended for use on dry race track conditions. The Active Handling System is disabled when this mode is selected. This mode will require more driver skill than modes 1–3. Adjust your driving accordingly. See “Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)” and “Launch Control (V8 with Manual Transmissions except Z/28)” under *Competitive Driving Mode* on page 9-41.

PERF TRACTION 5 – RACE ACTIVE HANDLING OFF CHASSIS MODE TRACK (ZL1 Coupe and Z/28 Only)

This message displays when this Performance Traction Management (PTM) mode is selected. The TCS and StabiliTrak OFF cluster lights will also be on when this mode is selected. Once this message is acknowledged, PTM5 – RACE ESC = OFF displays on the bottom of the digital speed page. Launch Control is available when this mode is selected. In this mode, the Traction Control is available but intended for use on dry race track conditions. The Active Handling System is disabled when this mode is selected. This mode will require more driver skill than modes 1–4. Adjust your driving accordingly. See “Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)” and “Launch Control (V8 with Manual Transmissions except Z/28)” under *Competitive Driving Mode* on page 9-41.

SERVICE STABILITRAK

This message displays if there is a problem with the StabiliTrak[®] system. If this message appears, try to reset the system. Stop; turn off the engine and remove the key from the ignition; open and close the driver door and wait for at least one minute. During this time you should notice the lights on the cluster turn off. After a minute has passed, start the engine again. If this message still comes on, it means there is a problem. See your dealer for service. The vehicle is safe to drive; however, you do not have the benefit of StabiliTrak, so reduce your speed and drive accordingly.

9-6 Driving and Operating

If the vehicle starts to slide, follow these suggestions:

- Ease your foot off the accelerator pedal and steer the way you want the vehicle to go. The vehicle may straighten out. Be ready for a second skid if it occurs.
- Slow down and adjust your driving according to weather conditions. Stopping distance can be longer and vehicle control can be affected when traction is reduced by water, snow, ice, gravel, or other material on the road. Learn to recognize warning clues — such as enough water, ice, or packed snow on the road to make a mirrored surface — and slow down when you have any doubt.
- Try to avoid sudden steering, acceleration, or braking, including reducing vehicle speed by shifting to a lower gear. Any sudden changes could cause the tires to slide.

Remember: Antilock brakes help avoid only the braking skid.

Track Events and Competitive Driving

Track events or competitive driving may affect the vehicle warranty. See the warranty manual before using the vehicle for racing or other competitive driving.

Caution

If you use the vehicle for racing or other competitive driving, the engine may use more oil than it would with normal use. Low oil levels can damage the engine. For information on how to add oil, see *Engine Oil* on page 10-15.

Be sure to check the oil level often during racing or other competitive driving and keep the level at or near the upper mark that shows the proper operating range on the engine oil dipstick.

For track events or competitive driving, it is recommended that the brake fluid be replaced with a high performance brake fluid that has a dry boiling point greater than 279°C (534°F). After conversion to the high performance brake fluid, follow the brake fluid service recommendations outlined by the fluid manufacturer. Do not use silicone or DOT-5 brake fluids.

If operating a Z/28 on a closed course during hot temperatures, reduce the coolant/water mixture to a 30/70 mix and increase under hood airflow by removing the water deflector on the engine side of the hood scoop.

ZL1, 1LE and Z/28: For racing and competitive driving, the vehicle load should be limited to the driver only and no cargo. The tires should be inflated to at least 180 kPa (26 psi).

Because the fluid temperatures may be higher, it is necessary to change the rear axle fluid every 24 hours of racing or competitive driving. See *Recommended Fluids and Lubricants* on page 11-12.

Caution

During a first time track or racing event, high rear axle temperatures can occur. Damage could be caused to the rear axle and would not be covered by the vehicle warranty.

Do not drive as long or as fast the first time the vehicle is driven on the track or raced.

For extended track use, GM recommends installing a rear differential cooler to protect the rear axle. This excludes the ZL1 and Z/28 as it has a rear differential cooler as standard equipment.

1LE comes with an oil control kit that should be installed for track use only, to ensure proper oil control and prevent engine damage. This is not for street use. This kit may also be purchased from your dealer.

Caution

Extended track operation without this kit installed may result in a low oil level and could result in engine damage.

To prepare the Camaro ZL1, 1LE, and Z/28 brake systems for track events and racing, complete the appropriate the high performance brake burnishing procedure described below.

ZL1 and 1LE Brake Burnishing

New brake pads must be burnished before racing or other competitive driving.

Caution

These procedures are specific to the ZL1 or Camaro SS brake package. This procedure should not be run on other Camaro models as damage may result.

Caution

The new vehicle break-in period should be completed before performing the brake burnish procedure or damage may occur to the powertrain/engine. See *New Vehicle Break-In* on page 9-19.

When performed as instructed, these procedures will not damage the brakes. During the burnishing procedure, the brake pads will smoke and produce an odor. The braking force and pedal travel may

9-8 Driving and Operating

increase. After the procedure is complete, the brake pads may appear white at the rotor contact.

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.

Racing/Track Brake Burnishing Procedure

Caution

Brake pedal fade will occur during this track burnish procedure and can cause brake pedal travel and force to increase. This could extend stopping distance until the brakes are fully burnished.

1. Apply the brakes 25 times starting at 100 km/h (60 mph) to 50 km/h (30 mph) while decelerating at 0.4 g. This is a medium brake application. Drive for at least 1 km (0.6 mi)

between applying the brakes. This first step may be skipped if there are more than 320 km (200 mi) on the brake pads.

2. Repeatedly apply the brakes from 100 km/h (60 mph) to 25 km/h (15 mph) while decelerating at 0.8 g. This is a hard brake application, without activating the Antilock Brake System (ABS). Drive for at least 1 km (0.6 mi) between stops. Repeat until the brake pedal travel starts to increase. Depending on conditions, this should take no longer than 25 brake applications.
3. Cool down: Drive at 100 km/h (60 mph) for approximately 15 km (10 mi) without using the brakes.
4. Apply the brakes 25 times from 100 km/h (60 mph) to 50 km/h (30 mph) while decelerating at 0.4 g. This is a medium brake

application. Drive for at least 1 km (0.6 mi) between applications.

Z/28 Brake Burnishing

Caution

These procedures are specific to the Z/28 with ceramic brake rotors. These procedures should not be run on other Camaro models as damage may result.

Caution

The new vehicle break-in period should be completed before performing the brake burnish procedure or damage may occur to the powertrain/engine. See *New Vehicle Break-In* on page 9-19.

When performed as instructed, these procedures will not damage the brakes. During the burnishing procedure, the brake pads will smoke and produce an odor. The braking force and pedal travel may increase. After the procedure is complete, the brake pads may appear white at the rotor contact.

Street High Performance Brake Burnishing Procedure

Perform this procedure on dry pavement only and 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 100 km/h (60 mph).
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 8 km (5 mi) at 100 km/h (60 mph).

As with all high performance brake systems, some amount of brake squeal is normal.

Racing/Track Brake Burnishing Procedure

To prepare the Z/28 brake system for track events and racing, the street high performance brake burnish as described previously should be completed.

In addition to completing the street high performance brake burnishing procedure, the following procedure needs to be completed to make the Z/28 brake system ready for track events and racing.

This procedure should only be run on a track and only on dry pavement.

Caution

Brake pedal fade will occur during this track burnish procedure and can cause brake pedal travel and force to increase. This could extend stopping distance until the brakes are fully burnished.

1. Drive a normal first lap, not too aggressively.
2. Laps 2 and 3 should be gradually driven faster and more aggressively, while allowing for reduced brake output and increased stopping distance due to brake fade.
3. Drive Lap 4 near full speed, while allowing for reduced brake output and increased stopping distance due to brake fade.
4. Laps 5 and 6 should be cool down laps.
5. Lap 7 should be normal driving or an easy out lap.

9-10 Driving and Operating

Z/28 Racing Alignment

If the vehicle has the Z/28 package, the racing and competitive driving wheel alignment settings can be set as follows for increased handling performance:

Z/28 Only: For racing or competitive driving it is recommended that the loading of the vehicle be limited to the driver only, with no other cargo and the tires should be inflated to 221 kPa (32 psi).

Caution

Using these wheel alignment settings may cause excessive tire wear. Only use these wheel alignment settings for racing or competitive driving. Excessive tire wear is not covered under the vehicle warranty.

Front Alignment Specification

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

Rear Alignment Specification

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

Driving on Wet Roads

Rain and wet roads can reduce vehicle traction and affect your ability to stop and accelerate. Always drive slower in these types of driving conditions and avoid driving through large puddles and deep-standing or flowing water.

Warning

Wet brakes can cause crashes. They might not work as well in a quick stop and could cause pulling to one side. You could lose control of the vehicle.

After driving through a large puddle of water or a car/vehicle wash, lightly apply the brake pedal until the brakes work normally.

Flowing or rushing water creates strong forces. Driving through flowing water could cause the vehicle to be carried away. If this happens, you and other vehicle occupants could drown. Do not ignore police warnings and be very cautious about trying to drive through flowing water.

9-42 Driving and Operating

When the TCS/StabiliTrak button is pressed again, the TCS and StabiliTrak systems are on. The appropriate message displays briefly in the DIC.

Performance Traction Management (PTM) (ZL1 Coupe and Z/28 Only)

PTM integrates the TCS, StabiliTrak, and Selective Ride Control systems to provide improved and consistent performance when cornering. The amount of available engine power is based on the mode selected, track conditions, driver skill, and the radius of each corner.



These lights are on when the vehicle is in the PTM Mode.

This optional handling mode can be selected by quickly pressing the TCS/StabiliTrak button on the console two times. The appropriate message displays in the DIC. See *Ride Control System Messages on page 5-38*.

To experience the performance benefit of this system, after entering a curve and at the point where the driver would normally start to increase acceleration, the accelerator pedal can be fully pressed. The PTM system will modify the level of engine power for a smooth and consistent corner exit.



ZL1 Shown, Z/28 Similar

The PTM system contains five modes. To select a mode while in PTM, press the Selective Ride Control/PTM -TOUR or +SPORT button on the center console. Scroll up or down through modes 1–5 by pressing the -TOUR or +SPORT button.

The following is a DIC display description and the recommended usage of each mode.

**PERF TRACTION 1 – WET
ACTIVE HANDLING ON
CHASSIS MODE TOUR (ZL1
Coupe and Z/28 Only)**

- Intended for all driver skill levels.
- Wet or damp conditions only — not intended for use in heavy rain or standing water.
- StabiliTrak is on and engine power is reduced based on conditions.

**PERF TRACTION 2 – DRY
ACTIVE HANDLING ON
CHASSIS MODE TOUR (ZL1
Coupe and Z/28 Only)**

- For use by less experienced drivers or while learning a new track.
- Dry conditions only.
- StabiliTrak is on and engine power is slightly reduced based on conditions.

**PERF TRACTION 3 – SPORT 1
ACTIVE HANDLING ON
CHASSIS MODE SPORT (ZL1
Coupe and Z/28 Only)**

- For use by drivers who are familiar with the track.
- Requires more driving skill than mode 2.
- Dry conditions only.
- StabiliTrak is on and more engine power is available than in mode 2.

**PERF TRACTION 4 – SPORT 2
ACTIVE HANDLING OFF
CHASSIS MODE SPORT (ZL1
Coupe and Z/28 Only)**

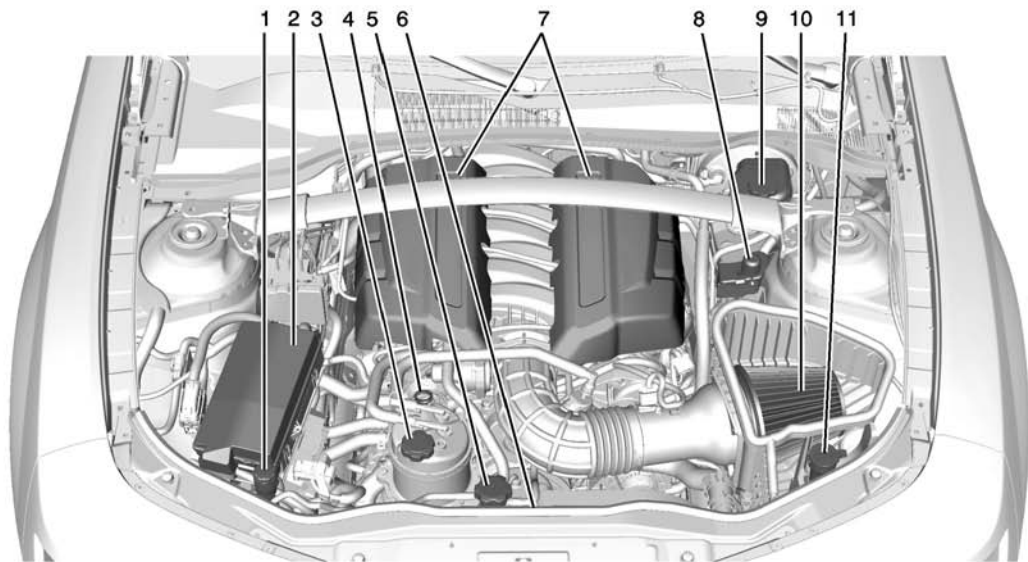
- For use by drivers who are familiar with the track.
- Requires more driving skill than modes 2 or 3.
- Dry conditions only.
- StabiliTrak is off and available engine power is the same as mode 3.

**PERF TRACTION 5 – RACE
ACTIVE HANDLING OFF
CHASSIS MODE TRACK (ZL1
Coupe and Z/28 Only)**

- For use by drivers who are familiar with the track.
- Requires more driving skill than other modes.
- Dry conditions only.
- StabiliTrak is off and engine power is available for maximum cornering speed.

Use mode 5 for most consistent performance during drag strip use.

When the TCS/StabiliTrak button is pressed again, the vehicle exits PTM mode and the TCS and StabiliTrak systems are on.

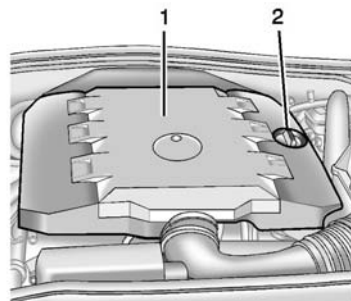


7.0L V8 Engine (Z/28)

1. Engine Coolant Recovery Bottle and Cap. See *Engine Coolant on page 10-30*.
2. Underhood Electrical Center. See *Engine Compartment Fuse Block on page 10-49*.
3. Engine Oil Reservoir and Oil Fill Cap. See *Engine Oil on page 10-15*.
4. Engine Oil Dipstick. See *Engine Oil on page 10-15*.
5. Radiator Fill Cap. See *Engine Coolant on page 10-30*.
6. Engine Cooling Fans (Out of View). See *Cooling System (Except ZL1 and Z/28 Engines) on page 10-26* or *Cooling System (ZL1 Engine Only) on page 10-27* or *Cooling System (Intercooler) on page 10-29* or *Cooling System (Z/28 Engine Only) on page 10-29*.
7. *Engine Cover on page 10-13.*
8. Remote Positive (+) Terminal. See *Battery on page 10-41*.
9. Brake Fluid and Hydraulic Clutch Reservoir. See *Brakes on page 10-38* or *Hydraulic Clutch on page 10-21*.
10. *Engine Air Cleaner/Filter (Except ZL1 and Z/28) on page 10-22* or *Engine Air Cleaner/Filter (ZL1 Only) on page 10-23* or *Engine Air Cleaner/Filter (Z/28 Only) on page 10-24*.
11. Windshield Washer Fluid Reservoir. See *Washer Fluid on page 10-38*.

Engine Cover

3.6L V6 Engine Cover

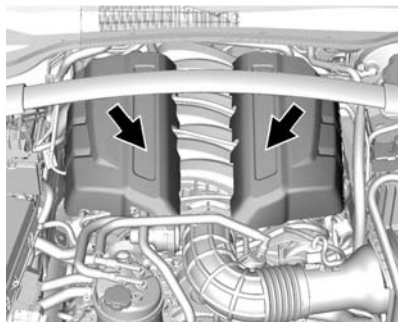


1. Engine Cover
2. Engine Oil Fill Cap

To remove:

1. Remove the engine oil fill cap (2).
2. Lift the engine cover (1) to disengage one front attachment point.

7.0L V8 Engine (Z/28)



To remove the engine covers:

1. Lift the outboard edge of each engine cover to disengage from two of the four attachment points.
2. Lift the inboard edge of each engine cover to disengage from two of the four attachment points.
3. Pull each engine cover forward to remove.

4. Reverse Steps 1–3 to reinstall each engine cover.

Engine Oil

To ensure proper engine performance and long life, careful attention must be paid to engine oil. Following these simple, but important steps will help protect your investment:

- Always use engine oil approved to the proper specification and of the proper viscosity grade. See “Selecting the Right Engine Oil” in this section.
- Check the engine oil level regularly and maintain the proper oil level. See “Checking Engine Oil” and “When to Add Engine Oil” in this section.
- Change the engine oil at the appropriate time. See *Engine Oil Life System* on page 10-20.
- Always dispose of engine oil properly. See “What to Do with Used Oil” in this section.

Checking Engine Oil (Except Z/28)

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground. The engine oil dipstick handle is a loop. See *Engine Compartment Overview* on page 10-6 for the location of the engine oil dipstick.

Obtaining an accurate oil level reading is essential:

1. If the engine has been running recently, turn off the engine and allow several minutes for the oil to drain back into the oil pan. Checking the oil level too soon after engine shutoff will not provide an accurate oil level reading.

Warning

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

2. Pull out the dipstick and clean it with a paper towel or cloth, then push it back in all the way. Remove it again, keeping the tip down, and check the level.

When to Add Engine Oil (Except Z/28)



If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil and then recheck the level. See “Selecting the Right Engine Oil” in

this section for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 12-2*.

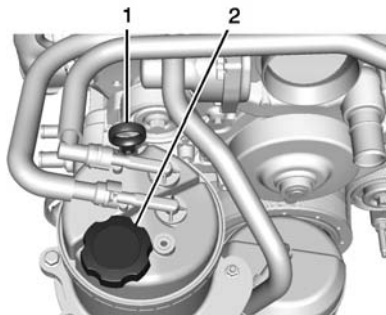
Caution

Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.

See *Engine Compartment Overview on page 10-6* for the location of the engine oil fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back in when through.

Checking Engine Oil (Z/28)



1. Engine Oil Dipstick
2. Engine Oil Fill Cap

It is a good idea to check the engine oil level at each fuel fill. In order to get an accurate reading, the vehicle must be on level ground.

The engine oil dipstick handle is a loop. The dipstick is on the dry sump engine oil tank. See *Engine Compartment Overview* on page 10-6 for the location of the dry sump engine oil tank.

These vehicles have a dry sump engine lubrication system. This high performance system operates differently than a standard engine lubrication system and requires a special procedure when checking the engine oil level. Follow this procedure closely.

The engine oil level must be checked when the engine is warm. Cold oil level in the dry sump tank may not indicate the actual amount of oil in the system. With this system, engine oil is contained in an external tank, separate from the engine. Under normal operating conditions, the oil pan under the

engine does not store any oil. If the vehicle has been parked for an extended period without the engine being started, some oil will seep back into the oil pan, reducing the amount of oil held in the dry sump tank and there could be no engine oil at all showing on the dipstick. This is normal since the dipstick is designed to read the engine oil level only after the engine has run long enough to reach normal operating temperature. Do not add engine oil based on cold engine dipstick readings. The engine oil level on the dipstick will also be inaccurate if checked while the engine is running.

1. To obtain an accurate engine oil level reading, warm up the engine to at least 80°C (175°F). Cold oil will not give a correct oil level reading.
2. Once the engine is warm, turn off the engine. Checking the oil while the engine is running will result in an incorrect oil level reading.

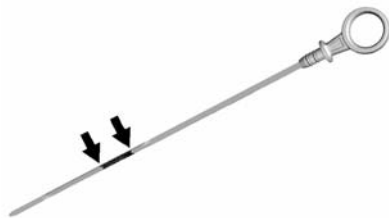
3. Check the oil level between five and 10 minutes after the engine is shut down.

 **Warning**

The engine oil dipstick handle may be hot; it could burn you. Use a towel or glove to touch the dipstick handle.

4. Remove the dipstick from the external engine oil tank and clean it with a lint-free paper towel or a cloth. Re-insert the dipstick into the external oil tank, pushing it all the way in until it stops.
5. Remove the dipstick from the oil tank and read the level on the cross-hatched area.

When to Add Engine Oil (Z/28)



If the oil is below the cross-hatched area at the tip of the dipstick, add 1 L (1 qt) of the recommended oil through the oil fill cap opening in the oil tank and then recheck the level. See “Selecting the Right Engine Oil” for an explanation of what kind of oil to use. For engine oil crankcase capacity, see *Capacities and Specifications on page 12-2*.

Caution

Do not add too much oil. Oil levels above or below the acceptable operating range shown on the dipstick are harmful to the engine. If you find that you have an oil level above the operating range, i.e., the engine has so much oil that the oil level gets above the cross-hatched area that shows the proper operating range, the engine could be damaged. You should drain out the excess oil or limit driving of the vehicle and seek a service professional to remove the excess amount of oil.

See *Engine Compartment Overview on page 10-6* for the location of the external engine oil tank and fill cap.

Add enough oil to put the level somewhere in the proper operating range. Push the dipstick all the way back into the oil tank when through.

Selecting the Right Engine Oil

Selecting the right engine oil depends on both the proper oil specification and viscosity grade. See *Recommended Fluids and Lubricants on page 11-12*.

Specification

Use and ask for licensed engine oils with the dexos1[®] approved certification mark. Engine oils meeting the requirements for the vehicle should have the dexos1 approved certification mark. This certification mark indicates that the oil has been approved to the dexos1 specification. Camaro recommends Mobil 1[®] engine oils that meet the requirements of the dexos1 specification for its dry sump equipped engines.



 **Caution**

Failure to use the recommended engine oil can result in engine damage not covered by the vehicle warranty. Check with your dealer or service provider on whether the oil is approved to the dexos1 specification.

Viscosity Grade

SAE 5W-30 is the best viscosity grade for the vehicle. Do not use other viscosity grade oils such as SAE 10W-30, 10W-40, or 20W-50.

On Z/28, for track events or competitive driving, use Mobil 1[®] 15W-50 engine oil. A warning

message will display at high oil temperatures. See *Engine Oil Messages* on page 5-35.

Cold Temperature Operation: In an area of extreme cold, where the temperature falls below -29°C (-20°F), an SAE 0W-30 oil may be used. An oil of this viscosity grade will provide easier cold starting for the engine at extremely low temperatures. When selecting an oil of the appropriate viscosity grade, always select an oil of the correct specification. See “Specification” earlier in this section for more information.

Engine Oil Additives/Engine Oil Flushes

Do not add anything to the oil. The recommended oils with the dexos specification and displaying the dexos certification mark are all that is needed for good performance and engine protection.

Engine oil system flushes are not recommended and could cause engine damage not covered by the vehicle warranty.

What to Do with Used Oil

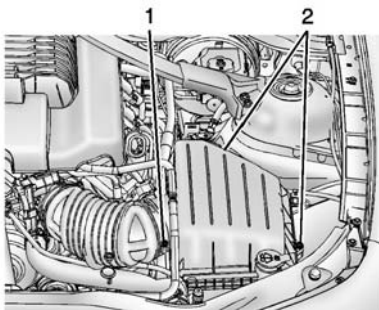
Used engine oil contains certain elements that can be unhealthy for your skin and could even cause cancer. Do not let used oil stay on your skin for very long. Clean your skin and nails with soap and water, or a good hand cleaner. Wash or properly dispose of clothing or rags containing used engine oil. See the manufacturer's warnings about the use and disposal of oil products.

Used oil can be a threat to the environment. If you change your own oil, be sure to drain all the oil from the filter before disposal. Never dispose of oil by putting it in the trash or pouring it on the ground, into sewers, or into streams or bodies of water. Recycle it by taking it to a place that collects used oil.

How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the filter from the vehicle and lightly shake the filter to release loose dust and dirt. If the filter remains covered with dirt, a new filter is required.

To inspect or replace the engine air cleaner/filter:



1. Air Duct Clamp
2. Screws

1. Open the hood. See *Hood* on page 10-5.
2. Disconnect the outlet duct by loosening the screw on the air duct clamp.
3. Remove the two screws securing the cover on the air cleaner/filter housing.
4. Pull straight up on the cover; while holding the cover, remove the air filter.
5. Inspect or replace the air filter. See *Maintenance Replacement Parts* on page 11-14.
6. Reverse Steps 2–5 to reinstall the cover.

Warning

Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine

(Continued)

Warning (Continued)

backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Caution

If the air cleaner/filter is off, dirt can easily get into the engine, which could damage it. Always have the air cleaner/filter in place when you are driving.

Engine Air Cleaner/Filter (Z/28 Only)

See *Engine Compartment Overview* on page 10-6 for the location of the engine air cleaner/filter.

⚠ Caution

If water is sprayed and enters the engine air cleaner/filter intake and housing, the engine could be damaged. The repairs would not be covered by the vehicle warranty.

When to Inspect the Engine Air Cleaner/Filter

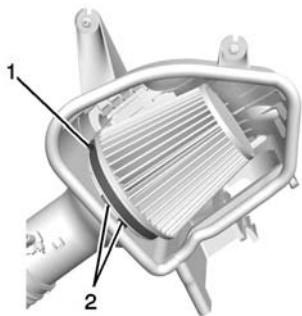
Inspect the air cleaner/filter at the scheduled maintenance intervals and replace it at the appropriate interval. See *Maintenance Schedule on page 11-3* for more information. If driving in dusty/dirty conditions, inspect the filter at each engine oil change.

How to Inspect the Engine Air Cleaner/Filter

To inspect the air cleaner/filter, remove the filter from the vehicle and lightly shake the filter to release

loose dust and dirt. If the filter remains covered with dirt, a new filter is required.

To inspect or replace the engine air cleaner/filter:



1. Air Cleaner/Filter Clamp
 2. Air Cleaner/Filter Alignment Tabs
1. Open the hood. See *Hood on page 10-5*.
 2. Loosen the screw on the air cleaner/filter clamp (1).

3. Remove the filter by moving it outward while tipping it upward from the mass air flow sensor air tube.
4. Inspect or replace the air filter. See *Maintenance Replacement Parts on page 11-14*.
5. Using the same air filter/cleaner clamp (1), install the air cleaner/filter. Make sure that the air cleaner/filter alignment tabs (2) are set properly, and tighten the screw on the clamp.

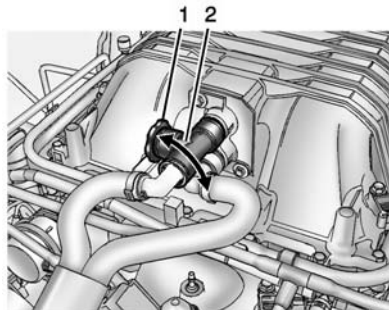
⚠ Warning

Operating the engine with the air cleaner/filter off can cause you or others to be burned. The air cleaner not only cleans the air; it helps to stop flames if the engine backfires. Use caution when working on the engine and do not drive with the air cleaner/filter off.

Cooling System (Intercooler)

Intercooler ZL1 Only

The 6.2L LSA supercharged V8 engine has an intercooler cooling system.

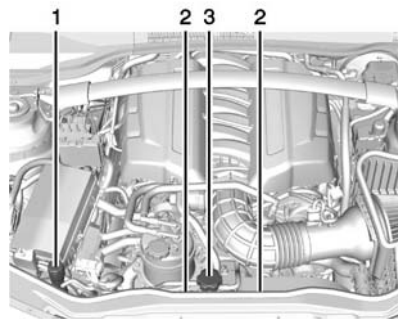


1. Intercooler Fill Cap
 2. Intercooler Fill Neck
1. Open the hood and remove the engine cover. See *Engine Cover* on page 10-13.

2. Turn the intercooler fill neck (2) to the vertical position.
3. Remove the intercooler fill cap (1).
4. Check to see if coolant is visible near the top of the opening.
5. If coolant is not visible, see dealer for service.
6. Reverse Steps 1–3 to install intercooler fill cap and turn the intercooler fill neck.

The intercooler cooling system has a special procedure for draining and adding coolant. Because this procedure is difficult, see the dealer for service if the intercooler is low on coolant. The procedure can also be found in the service manual. To purchase a service manual, see *Service Publications Ordering Information* on page 13-11.

Cooling System (Z/28 Engine Only)



7.0L V8 Engine

1. Engine Coolant Recovery Bottle
2. Electric Cooling Fans (Out of View)
3. Radiator Cap

10-34 Vehicle Care

4. If there is no coolant visible or the level is low, slowly fill the system through the radiator cap opening with a 50/50 mixture of DEX-COOL and clean drinkable water.

Wait 30 seconds for coolant to settle and continue filling if the level drops.

Do not spill coolant on the accessory drive belts.

If a spill occurs, rinse the belt with fresh water.

5. Start the engine.
6. With the engine idling, continue to add coolant through the radiator cap opening until full.
Wait 30 seconds for the coolant to settle and top off, if the level drops.
7. Once the system is full, put the radiator cap back on by turning clockwise.

8. With the engine still running, raise the engine to 2500 rpm for 30–40 seconds.
9. Turn the engine off.
10. Repeat Steps 2–7 then turn the engine off.
11. Allow engine to cool for 45 minutes. Top off coolant through the radiator cap opening and reinstall the radiator cap.
12. Reinstall the engine cover. See *Engine Cover* on page 10-13.



13. Check the coolant level in the engine coolant recovery bottle and fill it until the level is at the top symbol on the dipstick.

6.2L V8 and 7.0L V8 Engine Fill Procedure

1. Locate the radiator cap. See *Engine Compartment Overview* on page 10-6.



2. Cover the radiator cap with a thick cloth and turn it slowly counterclockwise and remove.

3. If there is no coolant visible or the level is low, slowly fill the system through the radiator cap opening with a 50/50 mixture of clean, drinkable water and DEX-COOL coolant until full.

Wait 30 seconds for coolant to settle and top off if the level drops.

Do not spill coolant on the accessory drive belts.

If a spill occurs, rinse the belt with fresh water.

4. Start the engine.
5. With the engine idling, top off the coolant through the radiator cap opening until full.

Wait 30 seconds for the coolant to settle and top off, if the level drops.

6. Once the system is full, put the radiator cap back on by turning clockwise.
7. Turn the engine off.



8. Check the coolant level in the engine coolant recovery bottle and fill it until the level is at the top mark on the dipstick.

Caution

If the pressure cap is not tightly installed, coolant loss and possible engine damage may occur. Be sure the cap is properly and tightly secured.

Engine Overheating

The vehicle has an indicator to warn of engine overheating.

There is an engine coolant temperature gauge on the vehicle instrument panel. See *Engine Coolant Temperature Gauge* on page 5-12.

If the decision is made not to lift the hood when this warning appears, but instead get service help right away. See *Roadside Assistance Program* on page 13-5.

If the decision is made to lift the hood, make sure the vehicle is parked on a level surface.

Then check to see if the engine cooling fans are running. If the engine is overheating, both fans should be running. If they are not, do not continue to run the engine and have the vehicle serviced.

If there is no sign of steam, idle the engine for three minutes while parked. If the warning is still displayed, turn off the engine until it cools down.

Power Steering Fluid (L99, LS3, ZL1 and Z/28)

The vehicle has electric power steering and does not use power steering fluid.

Power Steering Fluid (LFX)



The power steering fluid reservoir is under the engine cover on the driver side toward the front of the engine compartment. See *Engine Compartment Overview* on page 10-6.

When to Check Power Steering Fluid

It is not necessary to regularly check power steering fluid unless you suspect there is a leak in the system or an unusual noise is heard. A fluid loss in this system could indicate a problem. Have the system inspected and repaired.

How to Check Power Steering Fluid

Check the level after the vehicle has been driven for at least 20 minutes so the fluid is warm.

To check the power steering fluid:

1. Turn the ignition key to LOCK/OFF and let the engine compartment cool down.
2. Remove the engine cover. See *Engine Cover* on page 10-13.
3. Wipe the cap and the top of the reservoir clean.
4. Turn the cap counterclockwise and pull it straight up.

5. Wipe the dipstick with a clean rag.
6. Replace the cap and completely tighten it.
7. Remove the cap again and look at the fluid level on the dipstick.



When the engine is hot, the level should be at the hot MAX level. When the engine is cold, the fluid level should be between MIN and MAX on the dipstick.

What to Use

To determine what kind of fluid to use, see *Recommended Fluids and Lubricants* on page 11-12. Always use the proper fluid.

Some driving conditions or climates can cause a brake squeal when the brakes are first applied or lightly applied. This does not mean something is wrong with the brakes.

Properly torqued wheel nuts are necessary to help prevent brake pulsation. When tires are rotated, inspect brake pads for wear and evenly tighten wheel nuts in the proper sequence to torque specifications. See *Capacities and Specifications on page 12-2*.

Brake pads should be replaced as complete sets.

Brake Pedal Travel

See your dealer if the brake pedal does not return to normal height, or if there is a rapid increase in pedal travel. This could be a sign that brake service might be required.

Brake Adjustment

Every time the brakes are applied, with or without the vehicle moving, the brakes adjust for wear.

Replacing Brake System Parts

The braking system on a vehicle is complex. Its many parts have to be of top quality and work well together if the vehicle is to have really good braking. The vehicle was designed and tested with top-quality brake parts. When parts of the braking system are replaced, be sure to get new, approved replacement parts. If this is not done, the brakes may not work properly. For example, installing disc brake pads that are wrong for the vehicle, can change the balance between the front and rear brakes — for the worse. The braking performance expected can change in many other ways if the wrong replacement brake parts are installed.

Z/28 Brake Pad and Rotor Wear

The Z/28 has electronic brake pad wear sensors. When the pads are worn, a message displays in the Driver Information Center. See *Brake System Messages on page 5-33*.

Visual Inspection

Periodic visual inspection of the brake pads is required to determine when to replace the brake pads.

- Brake pads can be visually inspected through the wheel by inspecting the outer brake pads at each wheel.
- Brake pads should be replaced when the pad lining is worn to 2 mm of pad thickness. New pads are 10 mm thick.
- In addition, brake pad inspection is required any time the tires are removed.

The Z/28 has ceramic brake rotors. Rotors should be visually inspected when the brake pads are replaced. The rotor can be reused if it is within specification. Rotor inspection and measuring methods can be found in the service manual. See *Service Publications Ordering Information* on page 13-11.

Brake Fluid



The brake/clutch master cylinder reservoir is filled with DOT 3 brake fluid as indicated on the reservoir cap. See *Engine Compartment Overview* on page 10-6 for the location of the reservoir.

There are only two reasons why the fluid level in the reservoir might go down:

- The fluid level goes down because of normal brake lining wear. When new linings are installed, the fluid level goes back up.
- A fluid leak in the brake/clutch hydraulic system can also cause a low fluid level. Have the brake/clutch hydraulic system fixed, since a leak means that sooner or later the brakes and/or clutch will not work well.

Do not top off the brake/clutch fluid. Adding fluid does not correct a leak. If fluid is added when the linings are worn, there will be too much fluid when new brake linings are installed. Add or remove brake fluid, as necessary, only when work is done on the brake/clutch hydraulic system.

Warning

If too much brake fluid is added, it can spill on the engine and burn, if the engine is hot enough. You or others could be burned, and the vehicle could be damaged. Add brake fluid only when work is done on the brake/clutch hydraulic system.

When the brake/clutch fluid falls to a low level, the brake warning light comes on. See *Brake System Warning Light* on page 5-19.

What to Add

Use only new DOT 3 brake fluid from a sealed container. See *Recommended Fluids and Lubricants* on page 11-12.

Always clean the brake/clutch fluid reservoir cap and the area around the cap before removing it. This helps keep dirt from entering the reservoir.

Caution (Continued)

with road hazards like potholes, or sharp edged objects, or when sliding into a curb. The warranty does not cover this type of damage. Keep tires set to the correct inflation pressure and when possible, avoid contact with curbs, potholes, and other road hazards.

Competition Oriented Tires

This vehicle may come with 305/30ZR19 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. This special tread pattern and compound

will have decreased performance in cold climates, heavy rain, and standing water.

 **Warning**

Driving on wet roads, in heavy rain, or through standing water with competition oriented tires may cause hydroplaning and loss of control. Use extreme caution and drive slowly on wet roads.

 **Caution**

Competition oriented performance summer tires have rubber compounds that lose flexibility and may develop surface cracks in the tread area at temperatures below -7°C (20°F). Always store ultra high performance summer tires indoors and at temperatures above -7°C (20°F) when not in

(Continued)

Caution (Continued)

use. If the tires have been subjected to -7°C (20°F) or less, let them warm up in a heated space to at least 10°C (50°F) 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. See *Tire Inspection* on page 10-72.

Summer Tires

High Performance Summer Tires

This vehicle may come with 245/45ZR20 and 275/40ZR20, or 245/40ZR21 and 275/35ZR21 high performance summer tires. These tires have a special tread and compound that are optimized for maximum dry and wet road performance. This special tread and compound will have decreased performance in cold climates, and

Recheck the tire pressure with the tire gauge.

Return the valve caps on the valve stems to prevent leaks and keep out dirt and moisture.

Tire Pressure for High-Speed Operation

Warning

Driving at high speeds, 160 km/h (100 mph) or higher, puts an additional strain on tires. Sustained high-speed driving causes excessive heat buildup and can cause sudden tire failure. You could have a crash and you or others could be killed. Some high-speed rated tires require inflation pressure adjustment for high-speed operation. When speed limits and road conditions are such that a vehicle can be driven at high speeds, make sure

(Continued)

Warning (Continued)

the tires are rated for high-speed operation, in excellent condition, and set to the correct cold tire inflation pressure for the vehicle load.

Vehicles with 245/45ZR20 103Y, P245/50ZR19 104W, 275/40ZR20 106Y, 285/35ZR20 (100Y), and 305/35ZR20 (104Y) size tires, have tires capable of high speed use.

Make sure vehicles with 245/45ZR20 103Y, P245/50ZR19 104W and 275/40ZR20 106Y size tires are inflated to the recommended cold inflation pressures before operating the vehicle at speeds over 160 km/h (100 mph). See *Vehicle Load Limits* on page 9-14 and *Tire Pressure* on page 10-65.

Make sure vehicles with 285/35ZR20 (100Y), and 305/35ZR20 (104Y) size tires are inflated to

300 kPa (44 psi) before operating the vehicle at speeds of 160 km/h (100 mph) or higher.

Make sure vehicles with 305/30ZR19 (102Y) size tires are inflated to 340 kPa (50 psi) before operating the vehicle at speeds of 160 km/h (100 mph) or higher.

Return the tires to the recommended cold tire inflation pressure when high-speed driving has ended. See *Vehicle Load Limits* on page 9-14 and *Tire Pressure* on page 10-65.

Tire Pressure Monitor System

The Tire Pressure Monitor System (TPMS) uses radio and sensor technology to check tire pressure levels. The TPMS sensors monitor the air pressure in your tires and transmit tire pressure readings to a receiver located in the vehicle.