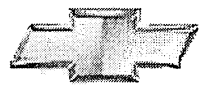


Chevrolet



Equinox



2007

Table of Contents

| | |
|---|----|
| Product Information | 1 |
| 2007 Chevy Equinox: Flexibility And Sophistication Wrapped In A Stylish Package | 1 |
| Interior features | 1 |
| Interior innovation and convenience | 2 |
| Powertrain | 2 |
| Smooth and solid | 2 |
| Safety features | 3 |
| New for 2007 | 3 |
| Model Lineup | 4 |
| Specifications | 5 |
| Overview | 5 |
| Engine | 5 |
| Transmission | 5 |
| Chassis/Suspension | 5 |
| Brakes | 6 |
| Wheels/Tires | 6 |
| Dimensions | 6 |
| Exterior | 6 |
| Interior | 6 |
| Capacities | 7 |
| Vehicle Identification | 8 |
| Vehicle Identification Number (VIN) | 8 |
| VIN Derivative | 9 |
| Engine ID and VIN Derivative Location 3.4L – RPO LNJ | 10 |
| Transmission ID and VIN Derivative Location | 11 |
| Label - Vehicle Certification, Tire Place Card, Anti-Theft and Service Parts ID | 12 |
| Vehicle Certification Label | 12 |
| Tire Placard | 13 |
| Service Parts ID Label | 13 |
| Anti-Theft Label | 13 |
| RPO Code List | 14 |
| Technical Information | 16 |
| Maintenance and Lubrication | 16 |
| Capacities - Approximate Fluid | 16 |
| Cooling System | 16 |
| Engine Oil with Filter | 16 |
| Fuel Tank | 16 |
| Automatic Transaxle - AF33-5 | 16 |
| Maintenance Items | 16 |
| Engine Air Cleaner/Filter | 16 |
| Engine Oil Filter | 16 |
| Passenger Compartment Air Filter Element | 16 |
| Replacement Battery | 16 |
| Spark Plugs | 16 |
| Windshield Wiper Blades | 16 |
| Fluid and Lubricant Recommendations | 16 |
| How to Reset the Engine Oil Life System | 17 |
| Descriptions and Operations | 18 |
| Power Steering System | 18 |
| Torque Sensor | 18 |
| EPS Motor | 18 |
| Power Steering Control Module (PSCM) | 18 |
| Steering Wheel and Column | 18 |
| Vehicle Steering | 18 |

| | |
|--|----|
| Vehicle Security – Some Vehicles | 19 |
| Driver Convenience | 19 |
| Driver Safety | 19 |
| Ignition Lock Cylinder Control Actuator | 19 |
| Suspension Description and Operation | 19 |
| Front Suspension | 19 |
| Rear Suspension | 20 |
| Wheels and Tires | 21 |
| Tire Pressure Monitor Description and Operation | 21 |
| Fastener Tightening Specifications | 21 |
| General Description | 22 |
| Passenger Tire Service Description | 22 |
| Metric Wheel Nuts and Bolts Description | 22 |
| Tire Inflation Description | 22 |
| P-Metric Sized Tires Description | 24 |
| Driveline System Description and Operation | 25 |
| Driveline/Axle – Propeller Shaft | 25 |
| Wheel Drive Shafts Description and Operation | 26 |
| Seal and Clamp | 26 |
| Inner Joint | 26 |
| Outer Joint | 26 |
| Rear Drive Axle Description and Operation | 27 |
| Rear Differential Assembly Fluid | 27 |
| Transfer Case - NVG 900 | 28 |
| Power Take-Off Unit (PTU) Fluid | 28 |
| Power Take-Off Unit (PTU) Operation | 29 |
| Braking System Description and Operation | 30 |
| Hydraulic Brake System Description and Operation | 30 |
| System Component Description | 30 |
| Hydraulic Brake Master Cylinder Fluid Reservoir | 30 |
| Hydraulic Brake Master Cylinder | 30 |
| Hydraulic Brake Pressure Balance Control System | 30 |
| Hydraulic Brake Pipes and Flexible Brake Hoses | 30 |
| Hydraulic Brake Wheel Apply Components | 30 |
| System Operation | 30 |
| Brake Assist System Description and Operation | 30 |
| System Component Description | 30 |
| Brake Pedal | 30 |
| Brake Pedal Pushrod | 30 |
| Vacuum Brake Booster | 30 |
| Vacuum Source | 30 |
| Vacuum Source Delivery System | 31 |
| System Operation | 31 |
| Disc Brake System Description and Operation | 31 |
| System Component Description | 31 |
| Disc Brake Pads | 31 |
| Disc Brake Rotors | 31 |
| Disc Brake Pad Hardware | 31 |
| Disc Brake Caliper Hardware | 31 |
| System Operation | 31 |
| Park Brake System Description and Operation | 31 |
| System Component Description | 31 |
| Park Brake Lever Assembly | 31 |
| Park Brake Cables | 31 |
| Park Brake Cable Equalizer | 31 |
| Park Brake Apply Lever | 32 |

| | |
|---|----|
| Park Brake Actuator/Adjuster | 32 |
| Park Brake Shoe (Rear Disc, Drum-In-Hat System) | 32 |
| System Operation..... | 32 |
| ABS Description and Operation..... | 32 |
| Valve Assembly (BPMV) | 32 |
| ABS Control Module (EBTCM)..... | 32 |
| ABS Operation | 32 |
| Traction Control System (TCS) | 33 |
| Dynamic Rear Proportioning (DRP) | 33 |
| Engine Description and Operation..... | 34 |
| Engine Mechanical – 3.4L..... | 34 |
| General Specifications | 34 |
| General Data | 34 |
| Block | 34 |
| Camshaft | 34 |
| Cooling System..... | 34 |
| Connecting Rod | 34 |
| Crankshaft | 34 |
| Cylinder Head | 35 |
| Lubrication System | 35 |
| Oil Pump | 35 |
| Piston Ring End Gap | 35 |
| Piston Ring to Groove Clearance | 35 |
| Piston Ring Thickness | 35 |
| Piston..... | 35 |
| Pin..... | 36 |
| Valves | 36 |
| Valve Lifters/Push Rods | 36 |
| Valve Springs..... | 36 |
| Fastener Tightening Specifications | 36 |
| Engine Component Description..... | 39 |
| Drive Belt System Description..... | 39 |
| Lubrication | 40 |
| Crankcase Ventilation System Description | 41 |
| General Description | 41 |
| Operation | 41 |
| Results of Incorrect Operation | 42 |
| Functional Check of PCV valve | 42 |
| Engine Cooling | 43 |
| Fastener Tightening Specifications..... | 43 |
| Cooling System Description and Operation..... | 43 |
| General Description..... | 43 |
| Cooling Fan Control..... | 43 |
| Engine Coolant Indicator(s) | 44 |
| Coolant Heater..... | 44 |
| Cooling System | 44 |
| Cooling Cycle..... | 44 |
| Coolant..... | 44 |
| Radiator | 44 |
| Pressure Cap | 45 |
| Surge Tank | 45 |
| Air Baffles and Seals | 45 |
| Water Pump..... | 45 |
| Thermostat..... | 45 |
| Transmission Oil Cooler | 46 |
| Engine Electrical | 46 |

| | |
|---|-----|
| Fastener Tightening Specifications | 46 |
| Battery Usage | 46 |
| Generator Usage..... | 46 |
| Battery Description and Operation..... | 47 |
| Reserve Capacity | 48 |
| Cold Cranking Amperage | 48 |
| Circuit Description | 48 |
| Starting System Description and Operation..... | 48 |
| Circuit Description | 49 |
| Charging System Description and Operation | 49 |
| Generator | 49 |
| Regulator | 49 |
| Circuit Description | 49 |
| Engine Controls | 50 |
| Ignition System Specifications..... | 50 |
| Fastener Tightening Specifications | 50 |
| Exhaust System..... | 51 |
| Fastener Tightening Specifications..... | 51 |
| Exhaust System Description | 51 |
| Resonator | 51 |
| Catalytic Converter..... | 51 |
| Muffler..... | 51 |
| Transmission/Transaxle Description and Operation | 52 |
| Automatic Transmission – AF33-5..... | 52 |
| Transmission General Specifications | 52 |
| Fastener Tightening Specifications | 52 |
| Fluid Capacity Specifications | 54 |
| Transmission General Description | 54 |
| Transmission Adaptive Functions | 55 |
| Automatic Transmission Shift Lock Control Description | 55 |
| Abbreviations and Meanings | i |
| Conversion - English/Metric..... | i |
| Equivalents - Decimal and Metric | ii |
| Fasteners..... | i |
| Metric Fasteners | i |
| Fastener Strength Identification | i |
| Prevailing Torque Fasteners..... | ii |
| All Metal Prevailing Torque Fasteners | ii |
| Nylon Interface Prevailing Torque Fasteners | ii |
| Adhesive Coated Fasteners..... | ii |
| Metric Prevailing Torque Fastener Minimum Torque Development | iii |
| All Metal Prevailing Torque Fasteners | iii |
| Nylon Interface Prevailing Torque Fasteners | iii |
| English Prevailing Torque Fastener Minimum Torque Development | iv |
| All Metal Prevailing Torque Fasteners | iv |
| Nylon Interface Prevailing Torque Fasteners..... | iv |

Product Information

2007 Chevy Equinox: Flexibility And Sophistication Wrapped In A Stylish Package

The Chevy Equinox has quickly established itself as one of the standouts of the compact SUV segment. Sleek crossover styling, available all-wheel drive, innovative interior storage and generous rear-seat legroom comfort contributed to Equinox's rookie-of-the-year status.

For 2007, Chevy makes numerous safety, ride and convenience enhancements to the Equinox.

In the area of safety, for example, the Equinox performance package includes GM's innovative StabiliTrak electronic stability control system, standard four-wheel disc brakes, and tire pressure monitoring (TPM) system. These features are standard on all Equinox models for '07.

StabiliTrak helps drivers maintain control during sudden maneuvers or in low traction conditions by using a comprehensive series of sensors to measure acceleration, deceleration, steering angle and yaw rate. By monitoring these inputs, the system automatically controls the vehicle to help maintain the driver's intended path when a measurable deviation from the intended course is detected. The system maintains control by regulating vehicle acceleration or applying the brakes at any wheel.

The TPM alerts the driver when a significant reduction in pressure occurs in one or more of the vehicle's tires by illuminating a warning light on the instrument panel. The low tire pressure warning remains on until the tire pressure is corrected.

Equinox also provides enhanced occupant protection in the event of a crash, including new roof crush standards for '07. Additionally, Equinox has rollover detection sensors for the head curtain side-impact air bags and Passenger Sensing System for the dual-stage frontal driver and right front passenger air bags. The passenger sensors, located in the seat cushion, adjust the air bag deployment speed based on the occupant's weight. The improvements augment Equinox's numerous standard safety features, including three-point safety belts for all seating positions and the LATCH (Lower Anchors and Tethers for Children) child safety seat retention system, which can accommodate up to three child seats.

Interior features

The technology upgrades are not limited to handling and safety features, however. Also new for '07 is a Driver Information Center. Located in the instrument panel cluster, the DIC includes more than 20 personalization and vehicle information features, such as trip odometer, fuel range, outside temperature display and door locking/unlocking features – all standard.

Customers also have a choice of improved audio systems, all with a standard six-speaker system and an auxiliary input jack for MP3/iPOD playback, including:

- AM/FM stereo with CD player
- AM/FM stereo with CD player and MP3 CD playback
- AM/FM stereo with six-disc in-dash CD changer and MP3 CD playback
- AM/FM stereo with CD player with DVD and MP3 CD playback capability
- AM/FM stereo with CD player with MP3 CD playback plus full-feature navigation with touch screen and voice control

These '07 additions complement an already impressive list of standard features: five-passenger seating, power door locks with remote keyless entry, power windows, air conditioning, tilt steering, rear liftgate with defogger and washer/wiper, flat-folding front passenger seat for longer cargo items, and electric power steering assist.

Other enhancements include the addition of an uplevel Multiflex sliding rear seat with new center armrest with two additional cupholders, new shifter and knob for improved feel, lighted window switches and new steering wheel and stalks for improved ergonomics.

Equinox is significantly larger, more versatile and efficient than most competitive vehicles, while delivering a confident driving experience infused with sophistication not typically found in the segment.

Interior innovation and convenience

Equinox's standard Multiflex sliding rear seat can be moved nearly eight inches (203 mm) fore or aft, as well as reclined. In the aft position, this seat provides generous legroom for three full-size adults and a split seatback with two recline positions. With the seat all the way forward, Equinox offers 67.1 cubic feet (1,900 L) of cargo space. Because the rear seatback has a 60/40 split, Equinox can transport up to two rear passengers along with long cargo items. The front passenger seat folds flat, further extending cargo room length. When folded, the hard front seatback can be used as a table or desktop.

Equinox has a comprehensive list of standard comfort and convenience features, including air conditioning, 16-inch aluminum wheels, flat folding front passenger seat, manual height adjuster on the driver seat, daytime running lamps, folding outside rearview mirrors, power door locks, mirror and windows, remote keyless entry, dual front map lights, cruise control and AM/FM stereo with CD player with six-speaker audio system.

Available features include leather insert seating, heated front seats with either leather insert or cloth trim, leather steering wheel with redundant audio controls, six-way power driver seat with manual lumbar adjustment, self-dimming inside rearview mirror with temperature and compass, redundant radio controls on the steering wheel, power sunroof with shade, three different 17-inch aluminum wheels, OnStar, six-disc CD changer, single-CD with MP3 CD player; and XM Satellite Radio (continental U.S. only).

New exterior colors for 2007 include Granite Gray Metallic, Deep Ruby Metallic, Silverstone Metallic, and inside, a new dark gray cloth interior and uplevel LT fabric debuts.

For 2007, OnStar-equipped Equinox models will feature a new service called OnStar Turn-by-Turn Navigation, the first factory-installed, fully integrated GPS navigation system from OnStar. Turn-by-Turn allows consumers to talk to a live advisor, who in turn sends complete step-by-step directions to customers' vehicles through their OnStar system. These audio directions automatically play through the vehicle's stereo as needed, triggered by the OnStar system's GPS capabilities. This enables drivers to be led to their destination while keeping their hands on the wheel and eyes on the road. For more information about OnStar, see the OnStar Overview in the Product Information Guide corporate book.

Powertrain

The five-passenger Equinox is one of the few compact SUVs equipped with a standard V-6 engine. It is powered by GM's 3.4L V-6, rated at 185 horsepower (138 kW) and 210 lb.-ft. (285 Nm) of torque. This durable overhead valve engine is coupled to an electronically controlled five-speed automatic transmission. It's a powertrain combination that delivers smooth, strong acceleration along with reduced highway cruising engine speeds for excellent fuel economy. EPA fuel economy estimates for FWD models are 19 mpg in the city and 26 mpg on the highway; and for AWD models, 18 mpg in the city and 25 mpg on the highway.

Customers can also opt for an on-demand all-wheel drive system, which delivers power to the front wheels during normal driving conditions but seamlessly transfers power to the rear wheels if front wheel slippage is detected. While primarily intended for on-road use, this AWD system also provides excellent traction and mobility for off-road use.

Smooth and solid

Equinox has the longest wheelbase in its class and is built on a solid body architecture that helps provide a confident driving experience. The structure is complemented by an independent MacPherson strut front suspension and a four-link coil spring layout in the rear, for a smooth, comfortable ride typically associated with larger SUVs. The rear suspension has a trailing arm as well as three additional locating links to facilitate a low, wide load floor and to maximize rear passenger space.

Electric power steering is standard on all models and helps provide precise steering control and performance, as well as enabling improved fuel economy because there is no engine-driven power steering pump. An electronic control unit, calibrated for a variety of desired performance characteristics, controls an electric motor mounted adjacent to the steering column to provide the precise amount of assist needed for any given driving situation. Its variable-ratio steering delivers a responsive feel during highway driving and low effort for easier parking.

All Equinox models also are equipped with vented front disc brakes with dual piston calipers and rear disc brakes. Anti-lock brakes and traction control are now standard.

Safety features

Dual-stage frontal air bags and safety belt pretensioners complement the strong safety cage construction of Equinox. Dual-stage frontal air bags are designed to help reduce the risk of air bag-induced injury. Pretensioners in the outboard front safety belt system deploy at the same time as the frontal air bags to take up slack in the safety belt webbing. Pretensioners also help reduce the amount of occupant movement in the event of a crash to help reduce the risk of injury.

Optional head curtain side air bags act like a protective curtain when deployed, unfolding from the roof rail between the A-pillar and side window header. When the bag deploys in a moderate to severe side impact, it is angled somewhat toward the window to help provide protection for front- and rear-seat outboard passengers.

Rear seats are equipped with the LATCH (Lower Anchors and Tethers for CHildren) system anchors for child safety seats. This system provides two lower anchors and a top tether anchor in all three rear seat positions to be used to secure a child seat to the vehicle seat structure. These anchorages are designed to make it easier to properly install compatible child safety seats.

Chevrolet makes information about child safety seat installation more accessible to consumers shopping for a vehicle. Specific pages on the Chevy web site tell customers exactly how many car seats a vehicle can hold, where the seats can be placed, and where to find the LATCH hardware. The child seat web pages can be accessed from the main vehicle sections of the Chevy site (www.chevy.com) or directly at www.chevy.com/childseats.

New for 2007

- Revised cluster, instrument panel center stack, shifter knob, steering wheel, HVAC and wiper controls
- Uplevel Multiflex sliding rear seat adds center armrest with two additional cupholders
- Driver Information Center , located in instrument panel cluster, includes 20 standard personalization and vehicle information features
- Driver Information Center , located in instrument panel cluster, includes 20 standard personalization and vehicle information features
- Standard StabiliTrak vehicle stability enhancement system
- Head curtain side-impact air bags add rollover detection
- Dual-stage front driver and front passenger air bags with Passenger Sensing System
- Dual-stage front driver and front passenger air bags with Passenger Sensing System
- Standard tire pressure monitoring system
- Standard four-wheel disc brakes
- Available Generation 7 OnStar with new Turn-by-Turn navigation feature
- PASS-Key III theft-deterrent system
- Available remote start
- Improved steering feel, ride and handling and quietness
- Audio system: AM/FM stereo with six-disc in-dash CD changer and MP3 playback
- Audio system: AM/FM stereo with CD player, MP3 playback and DVD entertainment system
- Audio system with navigation, AM/FM stereo with CD/MP3 player
- Rear spoiler, front and rear fascias for improved aerodynamics
- Three wheels: aluminum wheel, clad, pearl chrome; 17-inch aluminum wheel, clad, bright chrome; 17-inch aluminum wheel, polished forged
- Dark gray cloth interior and uplevel LT fabric
- New exterior colors: Granite Gray Metallic, Deep Ruby Metallic, Silverstone Metallic

Model Lineup

| | Engine | Transmission |
|----------------|---------------|------------------------------|
| | 3400 3.4L V-6 | 5-spd auto (Aisin AF33-5) |
| Equinox LS FWD | S | S |
| Equinox LT FWD | S | S |
| Equinox LS AWD | S | S |
| Equinox LT AWD | S | S |

Standard s
Optional o
Not available –

Specifications

| Overview | |
|--|---|
| Models: | Chevrolet Equinox LS FWD, AWD; LT FWD, AWD |
| Body style / driveline: | 5-passenger, 4-door SUV, front-engine, front- or all-wheel drive |
| Construction: | welded galvanized steel monocoque |
| EPA vehicle class: | compact sport utility vehicle |
| Manufacturing location: | Ingersoll, Ontario, Canada |
| Key competitors: | Ford Escape, Jeep Liberty, Honda CR-V, Hyundai Santa Fe, Kia Sorento, Toyota RAV4, Mazda Tribute, Mitsubishi Outlander, Land Rover Freelander |
| Engine | |
| Type: | 3.4L V-6 (RPO LNJ) |
| Displacement (cu in / cc): | 204 / 3350 |
| Bore & stroke (in / mm): | 3.62 x 3.31 / 92 x 84 |
| Block material: | cast iron |
| Cylinder head material: | aluminum alloy |
| Valvetrain: | overhead valves, 2 valves per cylinder, hydraulic roller valve lifters |
| Ignition system: | coil on plug |
| Fuel delivery: | sequential multi-port fuel injection |
| Compression ratio: | 9.5:1 |
| Horsepower (hp / kw @ rpm): | 185 / 138 @ 5200 |
| Torque (lb-ft / Nm @ rpm): | 210 / 285 @ 3800 |
| Recommended fuel: | 87 octane |
| Emissions controls: | heated oxygen sensor, split-brick close-coupled catalytic converter, exhaust gas recirculation, evaporative collection and purging system |
| Estimated fuel economy: | |
| MPG (city / hwy / combined) | FWD: 19 / 26 AWD: 18 / 25 |
| Transmission | |
| Type: | 5-speed automatic |
| Gear ratios: (:1): | |
| First: | 4.58 |
| Second: | 2.98 |
| Third: | 1.95 |
| Fourth: | 1.32 |
| Fifth: | 1.00 |
| Reverse: | 5.02 |
| Final drive ratio: | 2.48 |
| Chassis/Suspension | |
| Front: | independent MacPherson struts |
| Rear: | independent 4-link w/coil springs and trailing arm |
| Steering type: | power rack and pinion |
| Steering ratio: | 19.4:1 |
| Steering wheel turns, lock-to-lock: | 3.8 |
| Turning circle, curb-to-curb (ft / m): | 41.83 / 12.75 |

| Brakes | |
|---------------------------------------|--|
| Type: | power front and rear disc, standard anti-lock brakes |
| Rotor diameter x thickness (in / mm): | front: 11.65 x 1.02 / 296 x 26 |
| | rear: 11.93 x 0.79 / 303 x 20 |
| Wheels/Tires | |
| Wheel size and type: | std: LS 16-inch x 6.5-inch steel; LT 16-inch x 6.5-inch aluminum opt: 17-inch x 7-inch aluminum. |
| Tires: | std: LS/LT: Bridgestone P235/65R16 all-season steel-belted radial blackwall tires |
| | opt on LT: Bridgestone P235/60R17 all-season steel-belted radial blackwall tires |

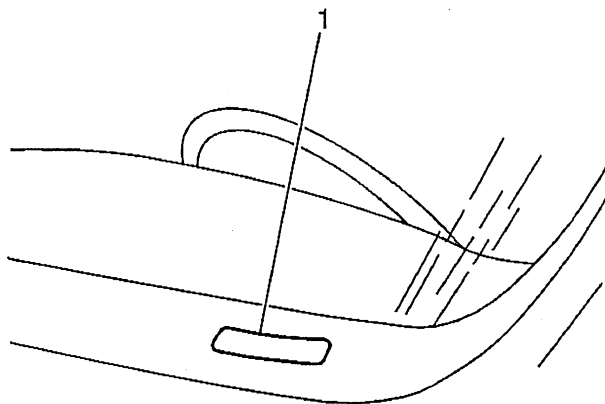
Dimensions

| Exterior | |
|--------------------------------------|----------------------------|
| Wheelbase (in / mm): | 112.5 / 2857 |
| Overall length (in / mm): | 188.8 / 4795 |
| Overall width (in / mm): | 71.4 / 1814 |
| Overall height (in / mm): | 67.0 / 1703 |
| Track (in / mm): | front: 61.6 / 1565 |
| | rear: 61.8 / 1570 |
| Approach angle (deg): | 23.1 |
| Departure angle (deg): | 33.4 |
| Breakover ramp angle (deg): | 14 |
| Minimum ground clearance (in / mm): | 7.9 / 201 |
| Ground to rear load floor (in / mm): | FWD: 28.6 / 726 |
| | AWD: 28.6 / 726 |
| Curb weight, base (lb / kg): | FWD: 3741 / 1697 |
| | AWD: 3885 / 1762 |
| Weight distribution (front / rear): | FWD: 56 / 44; AWD: 56 / 44 |
| Interior | |
| Seating capacity: | 5 |
| Head room (in / mm): | front: 40.9 / 1038 |
| | rear: 40.1 / 1018 |
| Leg room (in / mm): | front: 41.2 / 1048 |
| | rear: 40.2 / 1021 |
| Shoulder room (in / mm): | front: 55.7 / 1414 |
| | rear: 55.9 / 1420 |
| Hip room (in / mm): | front: 51.1 / 1298 |
| | rear: 51.4 / 1305 |

| Capacities | |
|-----------------------------------|------------------|
| EPA interior volume (cu ft / L): | 138.6 / 3919 |
| Passenger Volume (cu ft / L) | 106.4 / 3013 |
| Cargo volume (cu ft / L): | |
| Maximum behind rear seat: | 35.7 / 1011 |
| Maximum behind front seat: | 67.1 / 1900 |
| GVWR, standard (lb / kg): | FWD: 5070 / 2300 |
| | AWD: 5070 / 2300 |
| Payload, base (lb / kg): | FWD: 1329 / 603 |
| | AWD: 1188 / 539 |
| Trailer towing maximum (lb / kg): | 3500 / 1588 |
| Fuel tank (gal / L): | FWD: 20.5 / 77.6 |
| | AWD: 16.6 / 62.8 |
| Engine oil (qt / L): | 4.5 / 4.26 |
| Cooling system (qt / L): | 10.6 / 10 |

Vehicle Identification

Vehicle Identification Number (VIN)



The vehicle identification number (VIN) plate is the legal identifier of the vehicle. The VIN plate is located on the upper LH corner of the instrument panel (I/P) and can be seen through the windshield from the outside of the vehicle.

The last five digits of the assembly plant sequential number are stamped onto the rear side of the front sill (tie bar). This number is the same as the last five digits on the VIN plate. The VIN plate also has bar code characteristics.

| Position | Definition | Character | Description |
|----------|-----------------------|-----------|--------------------------------------|
| 1 | Country of Origin | 2 | Canada |
| 2 | Manufacturer | C | CAMI |
| 3 | Make | 1 2 | Chevrolet Equinox Pontiac Torrent |
| 4 | GVWR/Brake System | -- | GVWR 2 300 kg (5070 lbs)/Hydraulic |
| 5 | Line/Carline/Series | 1LF | FWD 6 CYL. Automatic |
| 6 | | 1LG | AWD 6 CYL. Automatic |
| 7 | Body Type | 3 | Four Door, Utility |
| 8 | Engine Type | F | 3.4L V6 SFI 60 Degree V (RPO LNJ) |
| 9 | Check Digit | -- | Check Digit |
| 10 | Model Year | 7 | 2007 |
| 11 | Plant Location | 6 | Ingersoll, Ontario, Canada |
| 12-17 | Plant Sequence Number | -- | Plant Sequence Number |

VIN Derivative

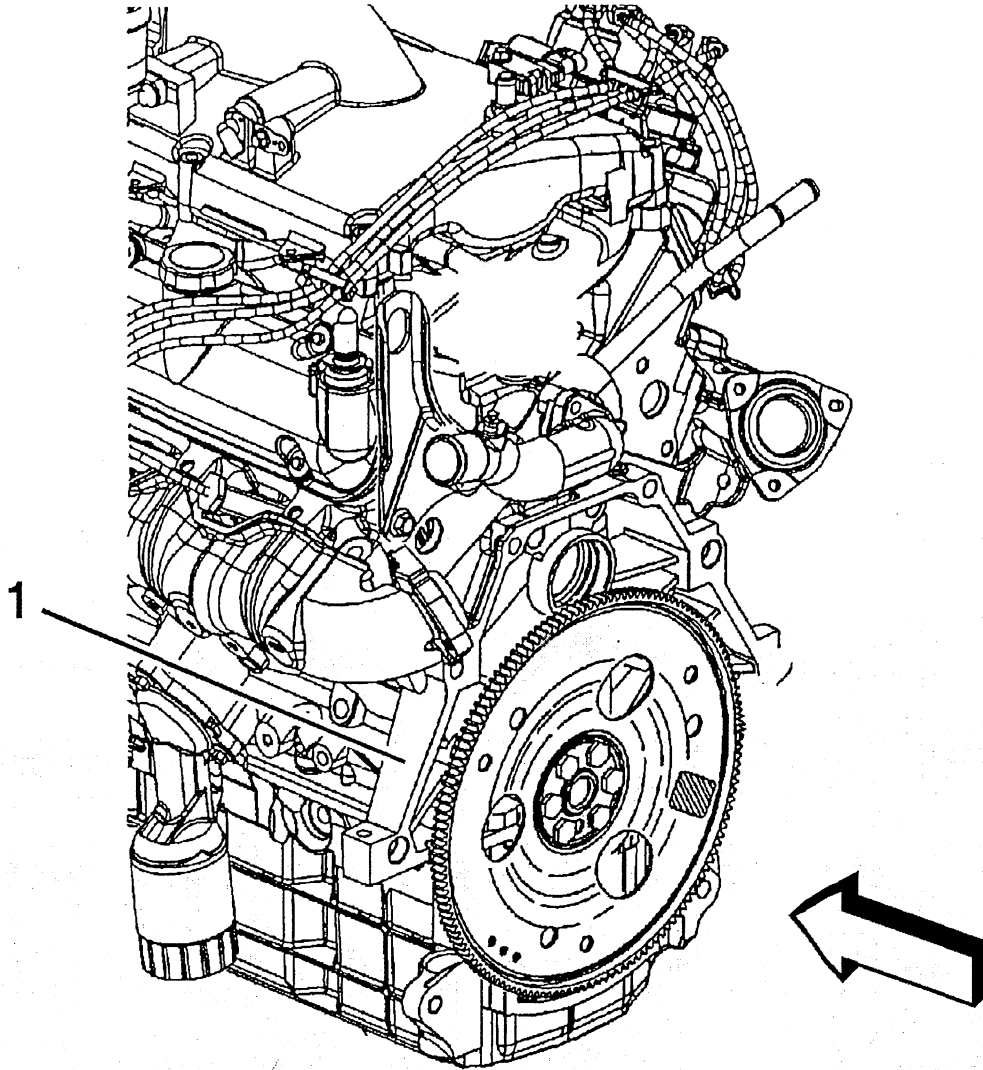
All engines and transmissions are stamped or laser etched with a partial vehicle identification number (VIN), which was derived from the complete VIN. A VIN derivative contains the following nine positions:

| Position | Definition | Character | Description |
|----------|------------------------|-----------|----------------------------|
| 1 | GM Division Identifier | 1 | Chevrolet |
| 2 | Model Year | 7 | 2007 |
| 3 | Assembly Plant | 6 | Ingersoll, Ontario, Canada |
| 4-9 | Plant Sequence Number | -- | -- |

A VIN derivative can be used to determine if a vehicle contains the original engine or transmission, by matching the VIN derivative positions to their accompanying positions in the complete VIN:

| VIN Derivative Position | Equivalent VIN Position |
|-------------------------|-------------------------|
| 1 | 3 |
| 2 | 10 |
| 3 | 11 |
| 4-9 | 12-17 |

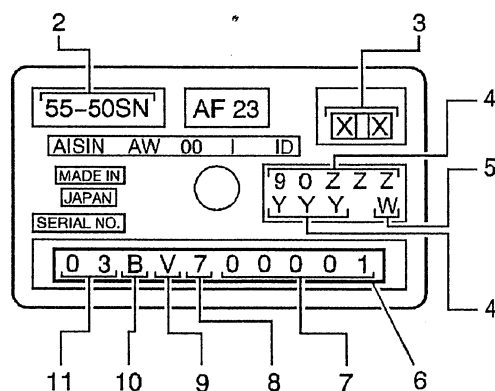
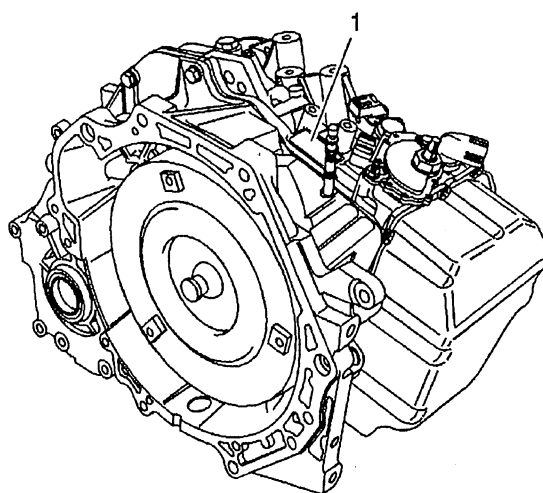
Engine ID and VIN Derivative Location 3.4L – RPO LNJ



The Vehicle Identification Number - VIN derivative (1) for 3400 LNJ is stamped or laser etched on the left side rear of the engine block. The Vehicle Identification Number - VIN derivative is 9 digits long and can be used to determine if a vehicle contains the original engine.

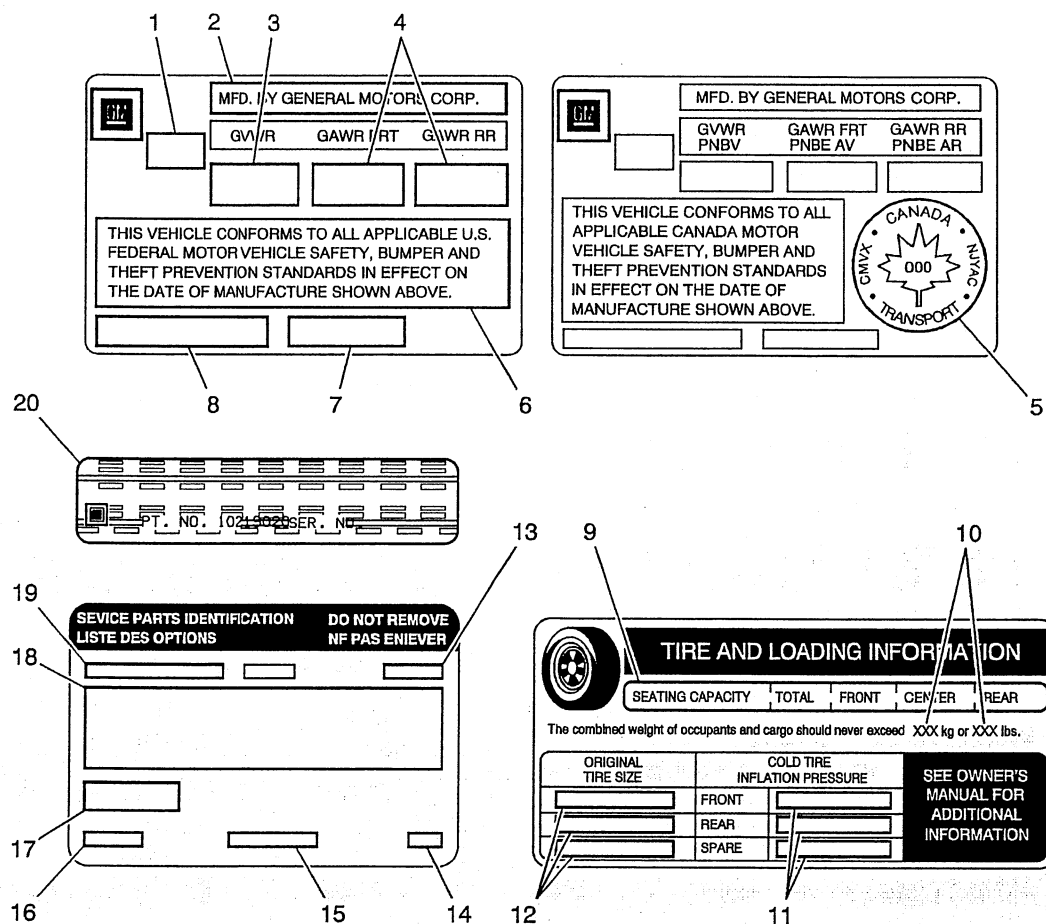
- The first digit identifies the division.
- The second digit identifies the model year.
- The third digit identifies the assembly plant.
- The fourth through ninth digits are the last six digits of the Vehicle Identification Number - VIN.

Transmission ID and VIN Derivative Location



- (1) Transmission I.D. Location
- (2) Model Number
- (3) GM I.D. Code
- (4) GM Part Number
- (4) GM Part Number
- (5) Calibration Code
- (6) AW Production Unit Number
- (7) Serial Number During the Month of Manufacture
- (8) Assembly Line Code
- (9) Model of Transaxle, V = 55-50SN
- (10) Month of Manufacture, A = Jan, B = Feb, etc
- (11) Year of Manufacture, 03 = 2003

Label - Vehicle Certification, Tire Place Card, Anti-Theft and Service Parts ID



| Callout | Description |
|---|--|
| Vehicle Certification Label | |
| The vehicle certification label is located on the driver door and displays the following assessments: | |
| Gross Vehicle Weight Rating (GVWR) | |
| Gross Axle Weight Rating (GAWR), front and rear | |
| The gross vehicle weight (GVW) is the weight of the vehicle and everything it carries. The GVW must not exceed the GVWR. Include the following items when figuring the GVW: | |
| The base vehicle weight (factory weight) | |
| The weight of all vehicle accessories | |
| The weight of the driver and the passengers | |
| The weight of the cargo | |
| 1 | Name of Manufacturer |
| 2 | Gross Vehicle Weight Rating |
| 3 | Gross Axle Weight Rating (Front, Rear) |
| 4 | Canadian Safety Mark (w/RPO Z49) |
| 5 | Certification Statement |
| 6 | Vehicle Class Type (Pass Car, etc.) |
| 7 | Vehicle Identification Number |
| 8 | Date of Manufacture (Mo/Yr) |

| Callout | Description |
|--|--|
| Tire Placard | |
| The tire placard label is located on the driver door and displays the following assessments: | |
| 9 | Specified Occupant Seating Positions |
| 10 | Maximum Vehicle Capacity Weight |
| 11 | Original Equipment Tires Size |
| 12 | Tire Pressure, Front, Rear, and Spare (Cold) |
| Service Parts ID Label | |
| The vehicle service parts identification label is located in the instrument panel (I/P) compartment. The label is use to help identify the vehicle original parts and options. | |
| 13 | Vehicle Identification Number |
| 14 | Engineering Model Number (Vehicle Division, Line and Body Style) |
| 15 | Interior Trim Level and Decor |
| 16 | Exterior (Paint Color) WA Number |
| 17 | Paint Technology |
| 18 | Special Order Paint Colors and Numbers |
| 19 | Vehicle Option Content |
| Anti-Theft Label | |
| 20 | <p>The Federal law requires that General Motors label certain body parts on this vehicle with the VIN. The purpose of the law is to reduce the number of motor vehicle thefts by helping in the tracing and recovery of parts from stolen vehicles.</p> <p>Labels are permanently affixed to an interior surface of the part. The label on the replacement part contains the letter R, the manufacturer's logo, and the DOT symbol.</p> <p>The anti-theft label must be covered before any painting, and rustproofing procedures, and uncovered after the procedures. Failure to follow the precautionary steps may result in liability for violation of the Federal Vehicle Theft Prevention Standard and possible suspicion to the owner that the part was stolen.</p> |

RPO Code List

The production/process codes provide the description of the Regular Production Options (RPOs) used on the vehicle. The RPO list is printed on the Service Parts Identification Label. The following is a list of the RPO abbreviations and the description of each:

| RPO | Description |
|-----|--|
| AG1 | Adjuster Front Steering Power, Multi-Directional, Driver |
| AJ1 | Window Tinted Deep, All Except Windshield and Doors |
| AK5 | Restraint System Seat, Inflatable, Driver and Passenger |
| AP9 | Net Convenience |
| AR9 | Seat Front Bucket, Deluxe |
| ASF | Restraint Roof Side, LH and RH, Inflatable |
| ATY | Seat RR Not Installed (Seat Belts, Labels, MTG Hardware) |
| BA6 | Compartment Stowage, RR, Package Shelf |
| B58 | Covering Floor Mat, Front and Rear, Carpeted Insert |
| CF5 | Roof Sun, Glass, Sliding, Electrical |
| C4Q | GVW Rating 2300 Kg (5070 lbs) |
| C60 | HVAC System Air Conditioner Front, Manual Controls |
| DF5 | Mirror Inside Rearview Light Sensitive, Compass, Outside Temperature Display |
| DG7 | Mirror O/S LH and RH, Remote Control, Electric, Color |
| DH3 | Mirror Inside Rearview Light Sensitive, Compass, Outside Temperature Display, Vehicle Communication System Control |
| DT4 | Ashtray Cigarette Lighter |
| D22 | Mirror Outside LH and RH, Remote Control, Electric |
| FE1 | Suspension System Soft Ride |
| FE2 | Suspension System Ride, Handling |
| F67 | Ratio Transaxle Final Drive 2.70 |
| JM4 | Brake System Power, Front Disc, Rear Drum, Cast Iron, Antilock, Front and Rear Wheel |
| J41 | Brake System Power, Front Disc, Rear Drum, Cast Iron |
| KA1 | Heater Seat, Front |
| KG3 | Generator 145 Amp |
| K05 | Heater Engine Block |
| K34 | Cruise Control Automatic, Electronic |
| LNJ | Engine Gas, 6 Cyl, 3.4L, SFI, V6, SGM |
| MX0 | Merchandised Trans Auto Provisions O/D |
| M09 | Transmission Auto 5-Speed, AISIN, AF33 (Tiptronic) |
| M45 | Transmission Auto 5-Speed, AOpel, AF33 (Tiptronic) |
| NE1 | Certification Emission, Geographically Restricted Registration for Vehicles Up to 14,000 lbs GVW (Use 2003 Mdl Yr) |
| NK5 | Steering Wheel Standard |
| NP5 | Steering Wheel Leather Wrapped |
| N75 | Wheel 17 x 7, Aluminum, Custom |
| PY0 | Wheel 16 x 6.5, Aluminum |
| QB5 | Wheel 16 x 6.5, Steel |
| KKG | Tire All P235/65R16-101S BW R/PE ST TL AL2 |
| QLJ | Tire All P235/60R17-100S BW R/PE ST TL AL2 |
| SSG | Graphic Switch Function Symbol |
| T96 | Lamp Fog, Front |
| UC6 | Radio AM/FM Stereo, Seek/Scan, RDS, Multiple Compact Disc, Auto Tone Control, Clock, ETR |
| UE1 | Communication System Vehicle, GPS 1 |
| UH8 | Cluster Instrument, Cool Temp, Trip Odometer, Tachometer |
| UK3 | Control Steering Wheel |

2007 Chevrolet Equinox Restoration Kit

| RPO | Description |
|------------|--|
| US8 | Radio AM/FM Stereo, Seek/Scan, CD, Auto Tone, Clock, ETR, MP3, RDS |
| UW6 | Speaker System 6, Custom |
| U1C | Radio AM/FM Stereo, Seek/Scan, CD, Clock, ETR |
| U19 | Speedometer Inst, Kilometers and Miles, Kilo Odometer |
| U2K | Digital Audio System S-Band |
| U65 | Speaker System 7, Premium |
| VH9 | Envelope Owner Info Man |
| VK3 | License Plate Front Mounting Package |
| VR6 | Hook Tie-Down Shipping |
| VXE | Ornamentation Additional Homologation Badging Requirements |
| V1K | Bar Luggage Carrier, Center Cross |
| V92 | Trailer Provisions |
| Z49 | Export Canadian Modify Mandatory Base Equipment |

Technical Information

Maintenance and Lubrication

Capacities - Approximate Fluid

| Application | Specification | |
|-------------------------------------|---------------|--------------|
| | Metric | English |
| Cooling System | 10.0 liters | 10.6 quarts |
| Engine Oil with Filter | | |
| 3.4L Engine | 3.8 liters | 4.0 quarts |
| Fuel Tank | 63.5 liters | 16.7 gallons |
| Automatic Transaxle - AF33-5 | | |
| Automatic - Drain and Refill | 7.1 liters | 7.5 quarts |
| Automatic - Complete Overhaul | 7.8 liters | 8.2 quarts |

Maintenance Items

| Part | GM Part Number | ACDelco Part Number |
|--|----------------|---------------------|
| Engine Air Cleaner/Filter | 22676970 | A1627C |
| Engine Oil Filter | 25010792 | PF47 |
| Passenger Compartment Air Filter Element | 15781507 | CF137 |
| Replacement Battery | 15104967 | 75-6YR |
| Spark Plugs | 12568387 | 41-101 |
| Windshield Wiper Blades | | |
| Driver's Side - 24 inches (60.0 cm) | 22703508 | -- |
| Passenger's Side - 19 inches (47.5 cm) | 22703507 | -- |
| Rear - 15.2 inches (38.6 cm) | 19120327 | -- |

Fluid and Lubricant Recommendations

| Usage | Fluid/Lubricant |
|--|---|
| Engine Oil | Engine oil which meets GM Standard GM6094M and displays the American Petroleum Institute Certified for Gasoline Engines starburst symbol. GM Goodwrench® oil meets all the requirements for your vehicle. |
| Engine Coolant | 50/50 mixture of clean, drinkable water and use only DEX-COOL® Coolant. |
| Hydraulic Brake System | Delco® Supreme 11 Brake Fluid or equivalent DOT-3 brake fluid. |
| Windshield Washer | GM Optikleen Washer Solvent. |
| Automatic Transaxle | Use only T-IV Automatic Transmission Fluid (GM Part No. U.S. 88900925, in Canada 22689186). |
| Key Lock Cylinders | Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474). |
| Carrier Assembly -- Differential (Rear Drive Module) and Transfer Case (Power Transfer Unit) | VERSATRAK Fluid (GM Part No. U.S. 12378514, in Canada 88901045). |
| Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor, and Release Pawl | Lubriplate Lubricant Aerosol (GM Part No. U.S. 12346293, in Canada 992723) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB. |
| Hood and Door Hinges, Rear Folding Seat | Multi-Purpose Lubricant, Superlube (GM Part No. U.S. 12346241, in Canada 10953474). |

| Usage | Fluid/Lubricant |
|---------------------------|---|
| Weatherstrip Conditioning | Dielectric Silicone Grease (GM Part No. U.S. 12345579, in Canada 992887). |

How to Reset the Engine Oil Life System

The Engine Oil Life System calculates when to change your engine oil and filter based on vehicle use. Anytime your oil is changed, reset the system so it can calculate when the next oil change is required. If a situation occurs where you change your oil prior to a change engine oil light or CHANGE ENGINE OIL SOON message being turned on, reset the system.

1. Turn the ignition key to RUN with the engine off.
2. Fully press and release the accelerator pedal three times within five seconds. The change engine oil light will flash while the system is resetting.
3. When the light stops flashing, turn the key to LOCK.

If the light or message comes back on and stays on when you start your vehicle, the engine oil life system has not reset. Repeat the procedure.

Descriptions and Operations

Power Steering System

The Electric Power Steering (EPS) system reduces the amount of effort needed to steer the vehicle. The system uses the power steering control module (PSCM), torque sensor, power steering motor rotational sensor, power steering motor, discrete battery voltage supply circuit, and the GMLAN serial data circuit to perform the system functions. The PSCM and power steering motor are each serviced separately from the steering column assembly. However, the motor rotational sensor is serviced as part of the power steering motor, and the torque sensor is serviced as part of the steering column assembly. The PSCM also monitors vehicle speed from the engine control module (ECM) via the GMLAN serial data circuit. At low speeds more assist is provided for easy turning during parking maneuvers. At higher speeds less assist is provided for improved road feel and directional stability.

Torque Sensor

The PSCM uses a combination of the torque sensor, motor rotational sensor, vehicle speed, and calculated system temperature inputs to determine the amount of assist needed. As the steering wheel is turned and torsional twist is applied to the steering column shaft, the torque sensor's input and output shaft sinusoidal voltage signals are processed by the PSCM to detect and calculate the steering torque. Additionally, the difference between the angle of the steering column output and input shafts detected by the torque sensor and the sinusoidal voltage signals of the motor rotational sensor are both processed by the PSCM to detect and calculate the steering wheel angle.

EPS Motor

The PSCM responds to the change in the sinusoidal voltage signals of the torque and motor rotational sensors by commanding current to the power steering motor. The motor is attached to the base of the steering column housing and assists steering through a worm and reduction gear attached to the steering column shaft. A DC/DC converter is applied to the battery voltage input within the PSCM to boost the pulse width modulated (PWM) motor drive circuit. The motor is a brushless, 3-phase motor with a rated maximum phase current of 35 amps-rms.

Power Steering Control Module (PSCM)

The PSCM uses a combination of commanded motor voltage and current levels to calculate an estimated power steering system temperature. Neither the PSCM nor the power steering motor are designed to handle around 60 amps continuously and will enter into overload protection mode if the system is exposed to exclusive static steering conditions. If the steering wheel is turned to its maximum rotation point and held at this position for an extended period of time, the PSCM will reduce the amount of current commanded to the power steering motor, which reduces the amount of steering assist as well as system temperature. The PSCM has the ability to detect malfunctions within the power steering system. Any malfunction detected will cause the SERVICE POWER STEERING message to be displayed on the driver information center (DIC).

Steering Wheel and Column

The steering wheel and column has 4 primary functions:

- Vehicle steering
- Vehicle security
- Driver convenience
- Driver safety

Vehicle Steering

The steering wheel is the first link between the driver and the vehicle. The steering wheel is fastened to a steering shaft within the column. At the lower end of the column, the intermediate shaft connects the column to the steering gear.

Vehicle Security – Some Vehicles

Theft deterrent components are mounted and designed into the steering column. The following components allow the column to be locked in order to minimize theft:

- The ignition switch
- The steering column lock
- The ignition cylinder

Driver Convenience

The steering wheel and column may also have driver controls attached for convenience and comfort. The following controls may be mounted on or near the steering wheel or column.

- The turn signal switch
- The hazard switch
- The headlamp dimmer switch
- The wiper/washer switch
- The horn pad/cruise control switch
- The redundant radio/entertainment system controls
- The tilt or tilt/telescoping functions
- The HVAC controls

Driver Safety

The energy-absorbing steering column compresses in the event of a front-end collision, which reduces the chance of injury to the driver. The mounting capsules break away from the mounting bracket in the event of an accident.

Ignition Lock Cylinder Control Actuator

If the vehicle is equipped with a floor mounted console gear shifter, it has a ignition lock cylinder control actuator system in the steering column. The ignition lock cylinder control actuator's purpose is to prevent the ignition key from being turned to the OFF position when the transmission is in gear and the vehicle may still be moving. The column ignition lock system consists of a ignition lock cylinder control actuator , and a Park position switch that is located in the automatic transmission (A/T) shift lock control switch. The ignition lock cylinder control actuator contains a pin that is spring loaded out to mechanically prevent the ignition key cylinder from being turned to the Lock position when vehicle transmission is not in the Park position. If vehicle power is lost, and/or the transmission is not in the Park position the operator will not be able to turn the ignition key to the Lock position and will not be able to remove the ignition key from the column.

Suspension Description and Operation

Front Suspension

The front suspension has 2 primary purposes:

- Isolate the driver from irregularities in the road surface.
- Define the ride and handling characteristics of the vehicle.

The front suspension absorbs the impact of the tires travelling over irregular road surfaces and dissipates this energy throughout the suspension system. This process isolates the vehicle occupants from the road surface. The rate at which the suspension dissipates the energy and the amount of energy that is absorbed is how the suspension defines the vehicles ride characteristics. Ride characteristics are designed into the suspension system and are not adjustable. The ride characteristics are mentioned in this description in order to aid in the understanding of the functions of the suspension system. The suspension system must allow for the vertical movement of the tire and wheel assembly as the vehicle travels over irregular road surfaces while maintaining the tire's horizontal relationship to the road.

This requires that the steering knuckle be suspended between a lower control arm and a strut assembly. The lower control arm attaches from the steering knuckle at the outermost point of the control arm. The

attachment is through a ball and socket type joint. The innermost end of the control arm attached at 2 points to the vehicle frame through semi-rigid bushings. The upper portion of the steering knuckle is attached to a strut assembly. The strut assembly then connects to the vehicle body by way of an upper bearing. The steering knuckle is allowed to travel up and down independent of the vehicle body structure and frame.

This up and down motion of the steering knuckle as the vehicle travels over bumps is absorbed predominantly by the coil spring. This spring is retained under tension over the strut assembly. A strut is used in conjunction with this system in order to dampen out the oscillations of the coil spring. A strut is a basic hydraulic cylinder. The strut is filled with oil and has a moveable shaft that connects to a piston inside the strut. Valves inside the shock absorber offer resistance to oil flow and consequently inhibit rapid movement of the piston and shaft. Each end of the shock absorber is connected in such a fashion to utilize this recoil action of a spring alone. Each end of the strut is designed as the connection point of the suspension system to the vehicle and acts as the coil spring seat. This allows the strut to utilize the dampening action to reduce the recoil of a spring alone. The lower control arm is allowed to pivot at the vehicle frame in a vertical fashion. The ball joint allows the steering knuckle to maintain the perpendicular relationship to the road surface.

Front suspensions systems utilize a stabilizer shaft. The stabilizer bar connects between the left and right lower control arm assemblies through the stabilizer link and stabilizer shaft insulators. This bar controls the amount of independent movement of the suspension when the vehicle turns. Limiting the independent movement defines the vehicles handling characteristics on turns.

Rear Suspension

The rear suspension system on this vehicle is of the independent link type. The rear suspension system performs the following functions:

- Maintains the relationship of the rear axle to the body
- Controls the torque reaction on acceleration and braking

The rear coil springs are retained between the spring seat in the lower control arm. Rubber insulators isolate the coil spring at both top and bottom.

The suspension system consists of the following components:

- Support assembly
- Coil springs
- Stabilizer shaft, insulators, and stabilizer links
- Toe link
- Upper control arm
- Lower control arm
- Trailing arm
- Knuckles
- Wheel bearing/hub
- Shock absorbers

Wheels and Tires

Tire Pressure Monitor Description and Operation

The Tire Pressure Monitor (TPM) system warns the driver when a significant loss of tire pressure occurs in any of the 4 tires, and (w/UK3) allows the driver to display the individual tire pressures, and their locations on the driver information center (DIC).

The system uses the powertrain control module (PCM), body control module (BCM), instrument panel cluster (IPC), DIC, passenger door module (PDM) (w/YE9/5B5), remote control door lock receiver (RCDLR) (w/o YE9/5B5), a radio frequency (RF) transmitting pressure sensor in each wheel/tire assembly, and the serial data circuit to perform the system functions.

When the vehicle is stationary and the sensor internal roll switches are open for at least 30 seconds, the sensors go into stationary mode. In this mode, the sensors sample tire pressure once every 20 seconds and transmit a stationary mode transmission once every 60 minutes. As vehicle speed increases, centrifugal force closes the sensor internal roll switch causing the sensors to go into drive mode. In this mode, the sensors sample tire pressure once every 30 seconds and transmit a drive mode transmission once every 60 seconds. The PDM/RCDLR receives and translates the data contained in each sensor RF transmission into sensor presence, sensor mode, and tire pressure. The PDM (w/UK3) then sends the tire pressure and tire location data to the DIC via the serial data circuit, where they are displayed as follows:

- LF TIRE XX PSI
- RF TIRE XX PSI
- RR TIRE XX PSI
- LR TIRE XX PSI

The sensors continuously compare their current pressure sample with their last pressure sample and will transmit in re-measure mode whenever a 1.6 psi change in tire pressure has occurred. When the TPM system detects a significant loss of tire pressure, the CHECK TIRE PRESSURE message is displayed on the DIC and the low tire pressure indicator is displayed on the IPC. Both the DIC message and IPC indicator can be cleared by adjusting the tire pressure to the recommended kPa/psi. Refer to Label - Vehicle Certification, Tire Place Card, Anti-Theft and Service Parts ID. The sensor pressure range is 0-703 kPa (0-102 psi). The sensor pressure accuracy from -10 to +70°C (+14 to +158°F) is plus or minus 14 kPa (2 psi).

The PDM/RCDLR has the ability to detect malfunctions within the TPM system. Any malfunction detected will cause the DIC to display the SERVICE TIRE MONITOR message.

Fastener Tightening Specifications

| Application | Specification | |
|---------------|---------------|-----------|
| | Metric | English |
| Wheel Nut | 140 N·m | 100 lb ft |
| Wheel Nut Cap | 5 N·m | 44 lb in |

General Description

The factory installed tires are designed to operate satisfactorily with loads up to and including the full rated load capacity when these tires are inflated to the recommended pressures.

The following factors have an important influence on tire life:

- Correct tire pressures
- Correct wheel alignment
- Proper driving techniques
- Tire rotation

The following factors increase tire wear:

- Heavy cornering
- Excessively rapid acceleration
- Heavy braking

Passenger Tire Service Description

| Speed Symbol | Maximum Speed (km/h) | Maximum Speed (mph) |
|--------------|----------------------|---------------------|
| S | 180 | 112 |
| T | 190 | 118 |
| U | 200 | 124 |
| H | 210 | 130 |
| V | 240 | 149 |
| Z | Over 240 | Over 149 |

Metric Wheel Nuts and Bolts Description

Metric wheel/nuts and bolts are identified in the following way:

- The wheel/nut has the word Metric stamped on the face.
- The letter M is stamped on the end of the wheel bolt.

The thread sizes of metric wheel/nuts and the bolts are indicated by the following example: M12 x 1.5.

- M = Metric
- 12 = Diameter in millimeters
- 1.5 = Millimeters gap per thread

Tire Inflation Description

When you inflate the tires to the recommended inflation pressures, the factory-installed wheels and tires are designed in order to handle loads to the tire's rated load capacity. Incorrect tire pressures, or under-inflated tires, can cause the following conditions:

- Vehicle handling concerns
- Poor fuel economy
- Shortened tire life
- Tire overloading

Inspect the tire pressure when the following conditions apply:

- The vehicle has been sitting at least 3 hours.
- The vehicle has not been driven for more than 1.6 km (1 mi).
- The tires are cool.

Inspect the tires monthly or before any extended trip. Adjust the tire pressure to the specifications on the tire label. Install the valve caps or the extensions on the valves. The caps or the extensions keep out dust and water.

The kilopascal (kPa) is the metric term for pressure. The tire pressure may be printed in both kilopascal (kPa) and psi. One psi equals 6.9 kPa.

Inflation Pressure Conversion (Kilopascals to PSI)

| kPa | psi | kPa | psi |
|------------------------------------|-----|-----|-----|
| 140 | 20 | 215 | 31 |
| 145 | 21 | 220 | 32 |
| 155 | 22 | 230 | 33 |
| 160 | 23 | 235 | 34 |
| 165 | 24 | 240 | 35 |
| 170 | 25 | 250 | 36 |
| 180 | 26 | 275 | 40 |
| 185 | 27 | 310 | 45 |
| 190 | 28 | 345 | 50 |
| 200 | 29 | 380 | 55 |
| 205 | 30 | 415 | 60 |
| Conversion: 6.9 kPa = 1 psi | | | |

Tires with a higher than recommended pressure can cause the following conditions:

- A hard ride
- Tire bruising
- Rapid tread wear at the center of the tire

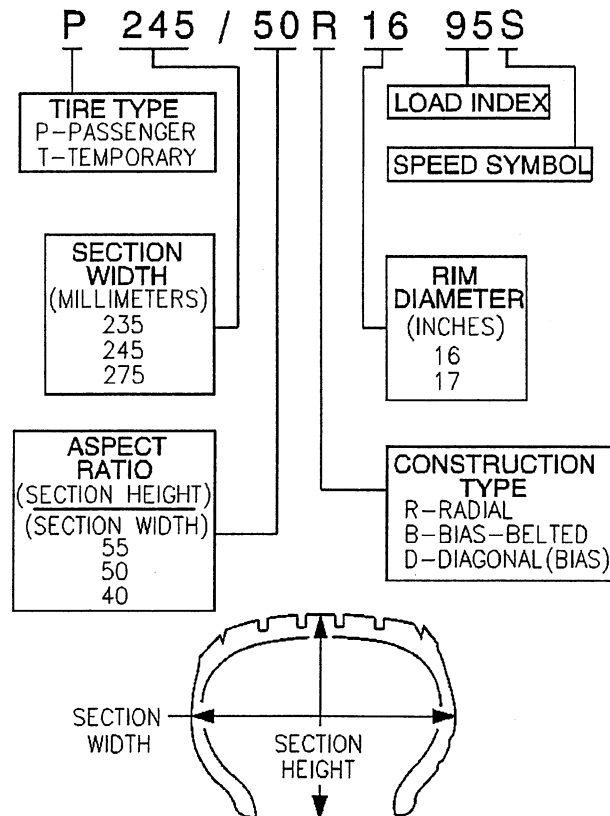
Tires with a lower than recommended pressure can cause the following conditions:

- A tire squeal on turns
- Hard steering
- Rapid wear and uneven wear on the edge of the tread
- Tire rim bruises and tire rim rupture
- Tire cord breakage
- High tire temperatures
- Reduced vehicle handling
- High fuel consumption
- Soft riding

Unequal pressure on the same axle can cause the following conditions:

- Uneven braking
- Steering lead
- Reduced vehicle handling

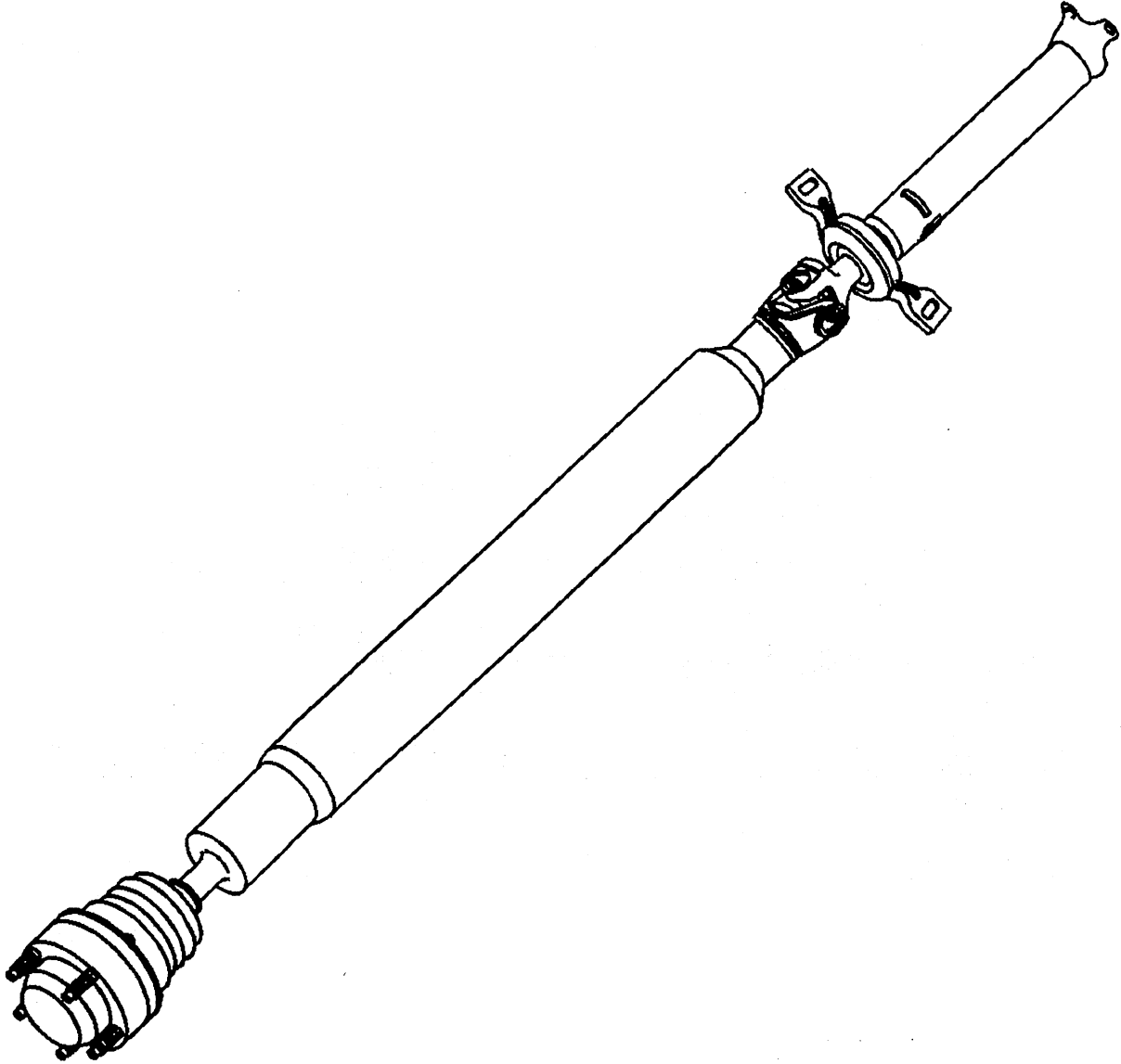
P-Metric Sized Tires Description



Most P-metric tire sizes do not have exact corresponding alphanumeric tire sizes. Replacement tires should be of the same tire performance criteria (TPC) specification number including the same size, the same load range, and the same construction as those originally installed on the vehicle. Consult a tire dealer if you must replace the P-metric tire with other sizes. Tire companies can best recommend the closest match of alphanumeric to P-metric sizes within their own tire lines.

Driveline System Description and Operation

Driveline/Axle – Propeller Shaft



The propeller shaft assembly is a 2-piece design. The front shaft consists of a plunging A-type constant velocity joint at the front and a universal joint and yoke at the rear.

The rear shaft consists of a center bearing and a center yoke, which are pressed onto the rear half of the propshaft and retained by a snap ring. The front and rear shafts are joined together at the yokes with a universal joint. The rear shaft attaches to the axle with a flange which is attached to the rear shaft with a universal joint.

The center bearing provides support where the front and rear shafts mate and is bolted to the underbody. The front constant velocity joint is bolted to the power take-off unit (PTU), and the rear universal joint flange is bolted to the rear differential.

Wheel Drive Shafts Description and Operation

Drive axles are flexible assemblies consisting of an inner and outer constant velocity (CV) joint connected by an axle shaft. The inner joint is completely flexible, and can move in and out. The outer joint is also flexible, but cannot move in and out. These drive axles are used to transmit rotational force from the rear axle differential to the rear tire and wheel assemblies.

Seal and Clamp

The drive axle assemblies use inboard and outboard joint seals made of thermoplastic material, and clamps made of stainless steel. The functions of the seals are as follows:

- The seals protect the internal parts of the inboard and outboard joints.
 - They protect the joint lubricating grease from surrounding detrimental atmospheric conditions (such as extreme temperatures, ozone gas, etc.).
 - They protect the joint lubricating grease from foreign materials (such as stones, dirt, water, salt, etc.).
- The seals facilitate angular and axial movement of the inboard joint.
- The seals facilitate angular movement of the outboard joint.

The function of the clamps is as follows:

Provide a leak proof connection at both the housing and the axle shaft for the inboard and outboard joints.

The thermoplastic material performs well against normal handling, operational wear and conditions. This material however, is not strong enough to withstand abusive handling or damage due to objects such as sharp tools or the sharp edge of any other surrounding component on the vehicle.

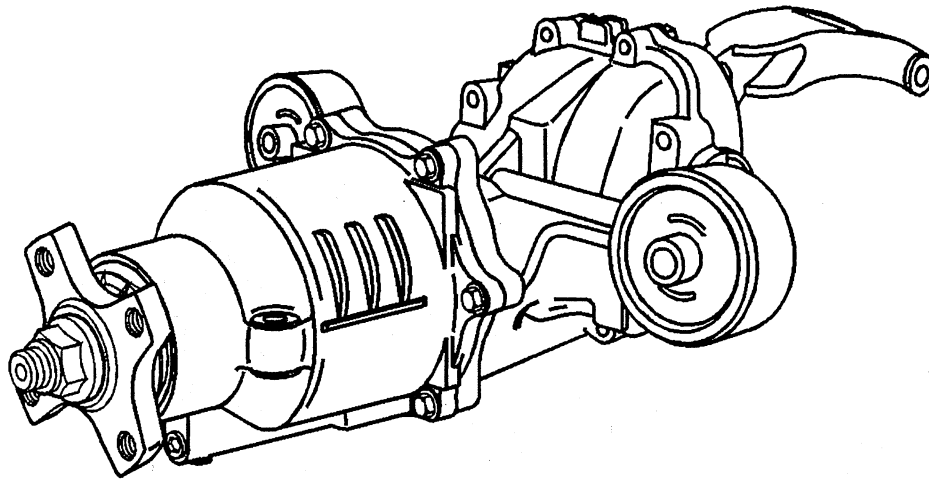
Inner Joint

The inner joints are of the tripod design without an over-extension limitation retainer. The inner joints incorporate a male spline which interlocks with the transaxle using snap rings.

Outer Joint

The outer joints are of the Rzeppa constant velocity joint design. The shaft end which mates with the wheel bearing and hub assembly, incorporates a helical spline to assure a tight, press-type fit. This design assures that no end play will exist between the hub bearing and the drive shaft assembly for added durability and reduced bearing noise.

Rear Drive Axle Description and Operation



The rear drive module (RDM) in this vehicle consists of an aluminum housing which contains a gerotor fluid pump, clutch pack and a differential. It has a common fluid reservoir.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shafts.

The on-demand system operates as follows: only when front wheel slippage is encountered torque/power is proportioned to the rear wheels. As long as there is no front-to-rear speed difference; there is no torque/power to the rear wheels.

When front-to-rear wheel slippage does occur, the rear differential (gerotor) pumps fluid stored in the sump to a piston which actuates a clutch pack, which then distributes torque/power to the rear wheels.

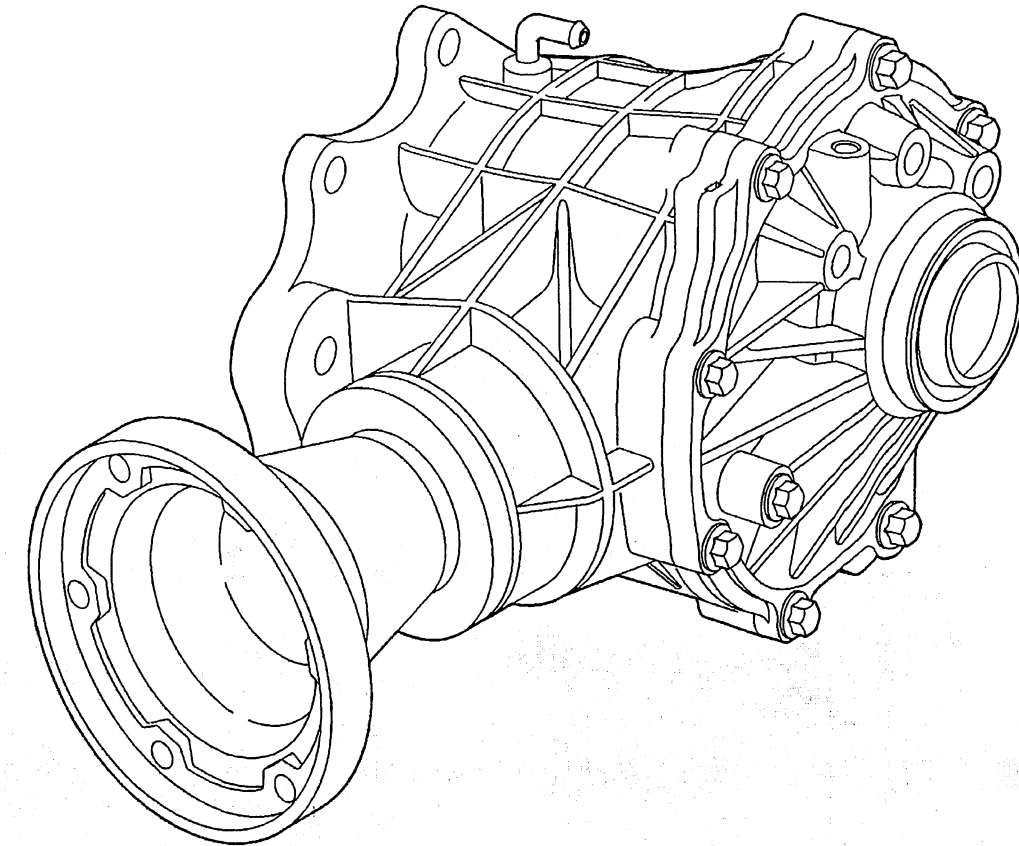
The system has an integral protection device that reduces rear wheel torque when excessive heat is generated, thus protecting the rear wheel drive module (RDM).

Rear Differential Assembly Fluid

The rear differential assembly uses a specifically developed synthetic hypoid fluid which is intended for a lifetime service interval. However, proper fluid level must be maintained to ensure proper rear differential assembly operation.

The fluid level range for proper rear differential assembly operation is 700-800 ml. New service replacement units will be shipped dry (without fluid). Fill new units with 750 ml of GM VERSATRAK fluid.

Transfer Case - NVG 900



The transfer case (PTU) in this vehicle consists of an aluminum housing and a ring and pinion power transfer system.

The PTU transfers torque/power to the rear differential, gerotor pump design, via a two-piece propshaft assembly.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shafts.

The on-demand system operates as follows: only when front wheel slippage is encountered torque/power is proportioned to the rear wheels, as long as there is not front-to-rear speed difference; there is no torque/power to the rear wheels.

When front-to-rear wheel slippage does not occur, the rear differential, gerotor, pumps fluid stored in the sump to a piston that actuates a clutch pack, which then distributes torque/power to the rear wheels.

Power Take-Off Unit (PTU) Fluid

Important

Use only GM Versatrak fluid.

The PTU uses a specifically developed synthetic hypoid gear lubricant, which is intended for lifetime service. Full fluid level is at the bottom of the fill plug hole.

Power Take-Off Unit (PTU) Operation

Motion is transferred from the engine crankshaft/flywheel through the transaxle. A ring and pinion design transfer case is mated to the right side of the transaxle.

The transfer case transfers torque/power to the rear differential via a two-piece propeller shaft assembly. The transfer case consists of an aluminum housing, a clutch pack/hydraulic pump assembly and a ring and pinion assembly.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shaft assemblies. The rear differential consists of an aluminum housing, a clutch pack/hydraulic pump assembly and a ring and pinion assembly.

The system operates as follows:

On-demand drive is provided to the rear wheels only when slippage is detected at the front wheels, there is no front-to-rear speed difference and no rear wheel drive torque. In the event there is front-to-rear wheel speed difference/slippage, a rotation speed difference between the gerotor pump components, rotor and housing, occurs. In those instances, the rotor draws fluid from the sump and through the internal passages of the differential carrier, sending pressurized fluid to a piston, actuating the rear clutch pack.

Braking System Description and Operation

Hydraulic Brake System Description and Operation

System Component Description

The hydraulic brake system consists of the following:

Hydraulic Brake Master Cylinder Fluid Reservoir

Contains supply of brake fluid for the hydraulic brake system.

Hydraulic Brake Master Cylinder

Converts mechanical input force into hydraulic output pressure.

Hydraulic output pressure is distributed from the master cylinder through two hydraulic circuits, supplying diagonally-opposed wheel apply circuits.

Hydraulic Brake Pressure Balance Control System

Regulates brake fluid pressure delivered to hydraulic brake wheel circuits, in order to control the distribution of braking force.

Pressure balance control is achieved through dynamic rear proportioning (DRP), which is a function of the ABS modulator.

Hydraulic Brake Pipes and Flexible Brake Hoses

Carries brake fluid to and from hydraulic brake system components.

Hydraulic Brake Wheel Apply Components

Converts hydraulic input pressure into mechanical output force.

System Operation

Mechanical force is converted into hydraulic pressure by the master cylinder, regulated to meet braking system demands by the pressure balance control system, and delivered to the hydraulic brake wheel circuits by the pipes and flexible hoses. The wheel apply components then convert the hydraulic pressure back into mechanical force which presses linings against rotating brake system components.

Brake Assist System Description and Operation

System Component Description

The brake assist system consists of the following:

Brake Pedal

Receives, multiplies and transfers brake system input force from driver.

Brake Pedal Pushrod

Transfers multiplied input force received from brake pedal to brake booster.

Vacuum Brake Booster

Uses source vacuum to decrease effort required by driver when applying brake system input force.

When brake system input force is applied, air at atmospheric pressure is admitted to the rear of both vacuum diaphragms, providing a decrease in brake pedal effort required. When input force is removed, vacuum replaces atmospheric pressure within the booster.

Vacuum Source

Supplies force used by vacuum brake booster to decrease brake pedal effort.

Vacuum Source Delivery System

Enables delivery and retention of source vacuum for vacuum brake booster.

System Operation

Brake system input force is multiplied by the brake pedal and transferred by the pedal pushrod to the hydraulic brake master cylinder. Effort required to apply the brake system is reduced by the vacuum brake booster.

Disc Brake System Description and Operation

System Component Description

The disc brake system consists of the following components:

Disc Brake Pads

Applies mechanical output force from the hydraulic brake calipers to friction surfaces of brake rotors.

Disc Brake Rotors

Uses mechanical output force applied to friction surfaces from the disc brake pads to slow speed of tire and wheel assembly rotation.

Disc Brake Pad Hardware

Secures disc brake pads firmly in proper relationship to the hydraulic brake calipers. Enables a sliding motion of brake pads when mechanical output force is applied.

Disc Brake Caliper Hardware

Provides mounting for hydraulic brake caliper and secures the caliper firmly in proper relationship to caliper bracket. Enables a sliding motion of the brake caliper to the brake pads when mechanical output force is applied.

System Operation

Mechanical output force is applied from the hydraulic brake caliper pistons to the inner brake pads. As the pistons press the inner brake pads outward, the caliper housings draw the outer brake pads inward. This allows the output force to be equally distributed. The brake pads apply the output force to the friction surfaces on both sides of the brake rotors, which slows the rotation of the tire and wheel assemblies. The correct function of both the brake pad and brake caliper hardware is essential for even distribution of braking force.

Park Brake System Description and Operation

System Component Description

The park brake system consists of the following:

Park Brake Lever Assembly

Receives, multiplies, and transfers park brake system apply input force from operator to park brake cable system.

Releases applied park brake system when lever is returned to at-rest, lowered, position.

Park Brake Cables

Transfers input force received from park brake lever, through park brake cable equalizer, to park brake apply levers.

Park Brake Cable Equalizer

Evenly distributes input force to both the left and right park brake units.

Park Brake Apply Lever

Multiplies and transfers input force to park brake actuator/adjuster.

Park Brake Actuator/Adjuster

Uses multiplied input force from apply lever via the cables to expand park brake shoe toward the friction surface of the drum-in-hat portion of the rear brake rotor.

Threaded park brake actuators/adjusters are also used to control clearance between the park brake shoe and the friction surface of the drum-in-hat portion of the rear brake rotor.

Park Brake Shoe (Rear Disc, Drum-In-Hat System)

Applies mechanical output force from park brake actuator/adjuster to friction surface of the drum-in-hat portion of the rear brake rotor.

System Operation

Park brake apply input force is received by the park brake lever assembly being applied. The input force is multiplied by the lever assembly, transferred, and evenly distributed, through the park brake cables and the park brake cable equalizer, to the left and right park brake apply levers. The park brake apply levers multiply and transfer the apply input force to the park brake actuators. The park brake lever assembly releases an applied park brake system when it is returned to the at-rest, lowered, position.

ABS Description and Operation

The purpose of the Antilock Brake System (ABS) is to minimize wheel slip during heavy braking. The ABS performs this function by monitoring the speed of each wheel and controlling the brake fluid pressure to each wheel independently during an braking event. This allows the driver to maintain directional stability while minimizing stopping distance.

Valve Assembly (BPMV)

The valve assembly provides brake fluid pressure modulation for each of the individual wheel circuits, as required, during an ABS/traction control system (TCS) event. During an ABS event, the valve assembly can maintain or reduce brake fluid pressure that is applied by the master cylinder. The valve assembly cannot increase pressure beyond what is applied by the master cylinder (driver). The valve assembly contains a motor-driven pump, ABS inlet and outlet valves, as well as TCS prime and isolation valves. With exception of the ABS control module (EBTCM), the valve assembly is not serviceable and should never be disassembled.

The valve assembly is an addition to the four-circuit diagonally-split hydraulic system found on vehicles without ABS.

ABS Control Module (EBTCM)

The ABS control module monitors the speed of each wheel to detect wheel slip. If wheel slip is detected, the module commands the appropriate valve positions in the valve assembly to modulate brake pressure in some or all of the hydraulic circuits. This action prevents wheel slip and provides optimum braking. In addition, the ABS control module performs a continuous diagnostic routine to detect malfunctions. If the module detects an electrical malfunction, it can disable ABS/traction control module (TCS)/dynamic rear proportioning (DRP), illuminate the appropriate telltale, and store a Diagnostic Trouble Code (DTC).

The ABS control module contains a solenoid for each ABS/TCS valve it operates and a relay for the solenoid circuit and pump motor circuit respectively. The relays and solenoids are not serviceable.

ABS Operation

During an ABS event, the ABS control module will control the hydraulic pressure in the individual wheel circuits to prevent any wheel from slipping. The control module can decrease or hold hydraulic pressure by energizing the appropriate valve solenoid. A rapid pulsation is felt in the brake pedal and a ticking or popping noise can be heard as control module commands valve solenoids in response to wheel speed changes.

When the ABS control module detects wheel slip, it holds pressure by closing both the inlet valve from the master cylinder and the outlet valve. If pressure hold is not enough to control wheel slip, the ABS control module releases pressure by opening the outlet valve and allowing some pressure bleed-off into the accumulator. The accumulator stores this fluid until the motor-driven pump returns fluid to the master cylinder.

The control module opens the inlet valve to allow master cylinder pressure to the wheel circuits again when no wheel slip is detected.

Traction Control System (TCS)

The Traction Control System (TCS) compares front wheel speeds to rear wheel speeds to determine if drive wheels lose traction. The TCS activates when drive wheel speed exceeds speed of non-drive wheels by a calibrated value. This allows the driver to maintain acceleration and directional stability while accelerating on low traction surfaces.

The TCS limits wheel slip during acceleration when one or more of the drive wheels lose traction. The brake switch must be off for TCS to operate.

The ABS control module monitors wheel speed output and compares drive wheel to non-drive wheel values to detect wheel slip. During a TCS event, the ABS control module sends a requested torque value to the powertrain control module (PCM). The PCM initiates an engine torque reduction routine to slow down the drive wheels. This routine consists of ignition timing reduction, fuel injector cut-off and transmission shift control. The PCM also sends a torque delivered value to the ABS control module. If the engine management routine is insufficient to achieve the desired wheel speed, the ABS control module will then use the TCS isolation valves and prime valves to slow down the drive wheels. The isolation valves close to isolate the wheel circuit from the master cylinder and the prime valves open to allow the motor-driven pump to access master cylinder fluid so it can build pressure to apply the desired brake.

If the ABS control module detects a malfunction, it will disable TCS and will command the body control module (BCM) to turn the TRAC LED Off. The driver can also disable TCS, if desired, by depressing the TRAC switch. When the driver depresses the TRAC switch, the ABS control module will disable TCS and will command the BCM to turn the TRAC LED Off.

Dynamic Rear Proportioning (DRP)

Dynamic rear proportioning (DRP) is an electronic brake proportioning feature that replaces the mechanical proportioning valve in the base brake system. DRP uses existing ABS components to regulate the vehicle's rear brake pressure and provide optimum front-rear brake balance in all braking situations.

Engine Description and Operation

Engine Mechanical – 3.4L

General Specifications

| Application | Specification | |
|---|--------------------|--------------------|
| | Metric | English |
| General Data | | |
| Engine Type | 60 degree V-6 | |
| Displacement | 3.4L | 204 cu in |
| RPO | LNJ | |
| VIN | F | |
| Bore | 92 mm | 3.62 in |
| Stroke | 84 mm | 3.31 in |
| Compression Ratio | 9.6:1 | |
| Firing Order | 1-2-3-4-5-6 | |
| Spark Plug Gap | 1.52 mm | 0.60 in |
| Block | | |
| Camshaft Bearing Bore Diameter - Front and Rear | 51.03-51.08 mm | 2.009-2.011 in |
| Camshaft Bearing Bore Diameter - Middle #2, #3 | 50.77-50.82 mm | 1.999-2.001 in |
| Crankshaft Main Bearing Bore Diameter | 72.1535-72.0695 mm | 2.840-2.841 in |
| Crankshaft Main Bearing Bore Out-of-Round | 0.008 mm | 0.00031 in |
| Cylinder Bore Diameter - Production | 92.020-92.038 mm | 3.622-3.623 in |
| Cylinder Bore Diameter - Service | 92.020-92.038 mm | 3.622-3.623 in |
| Cylinder Bore Out-of-Round - Diametral - Production | 0.020 mm | 0.0008 in |
| Cylinder Bore Out-of-Round - Diametral - Service | 0.025 mm | 0.001 in |
| Cylinder Bore Taper - Production | 0.020 mm | 0.0008 in |
| Cylinder Bore Taper - Service | 0.025 mm | 0.001 in |
| Cylinder Head Deck Height | 224 mm | 8.818 in |
| Cylinder Head Deck Surface Flatness | 0.05 mm per 152 mm | 0.0019 in per 6 in |
| Valve Lifter Bore Diameter | 21.417-21.455 mm | 0.843-0.844 in |
| Camshaft | | |
| Camshaft Bearing Inside Diameter | 47.523-47.549 mm | 1.871-1.872 in |
| Camshaft Journal Diameter | 47.45-47.48 mm | 1.868-1.869 in |
| Camshaft Journal Out-of-Round | 0.025 mm | 0.001 in |
| Camshaft Lobe Lift - Exhaust | 6.9263 mm | 0.2727 in |
| Camshaft Lobe Lift - Intake | 6.9263 mm | 0.2727 in |
| Cooling System | | |
| Capacity | 12.4 liters | 13.1 quarts |
| Thermostat Full Open Temperature | 91 C | 195 F |
| Connecting Rod | | |
| Connecting Rod Bearing Clearance | 0.18-0.062 mm | 0.0007-0.017 in |
| Connecting Rod Bore Diameter | 53.962-53.978 mm | 2.124-2.125 in |
| Connecting Rod Bore Out-of-Round | 0.008 mm | 0.0002 in |
| Connecting Rod Length - Center to Center | 144.75-144.81 mm | 5.69-5.70 in |
| Connecting Rod Side Clearance | 0.25-0.37 mm | 0.010-0.015 in |
| Crankshaft | | |
| Connecting Rod Journal Diameter | 50.768-50.784 mm | 1.9987-1.9994 in |
| Connecting Rod Journal Out-of-Round | 0.005 mm | 0.0002 in |
| Connecting Rod Journal Taper | 0.005 mm | 0.0002 in |

| Application | Specification | |
|---|--------------------|-------------------|
| | Metric | English |
| Connecting Rod Journal Width | 21.92-22.08 mm | 0.863-0.869 in |
| Crankshaft End Play | 0.060-0.210 mm | 0.0024-0.0083 in |
| Crankshaft Main Bearing Journal Width | 23.9-24.1 mm | 0.941-0.949 in |
| Crankshaft Main Bearing Clearance - Except #3 | 0.019-0.064 mm | 0.0008-0.0025 in |
| Crankshaft Main Bearing Clearance - #3 Thrust Bearing | 0.032-0.077 mm | 0.0012-0.0030 in |
| Crankshaft Main Journal Diameter | 67.239-67.257 mm | 2.6473-2.6483 in |
| Crankshaft Main Journal Out-of-Round | 0.005 mm | 0.0002 in |
| Crankshaft Main Journal Taper | 0.005 mm | 0.0002 in |
| Crankshaft Rear Flange Runout | 0.04 mm | 0.0016 in |
| Cylinder Head | | |
| Combustion Chamber Depth - at Measurement Point | 2.2 mm | 0.087 in |
| Surface Finish - Maximum | 2.8 Ra | |
| Surface Flatness - Block Deck | 0.08 mm per 152 mm | 0.003 in per 6 in |
| Surface Flatness - Exhaust Manifold Deck | 0.1 mm | 0.004 in |
| Surface Flatness - Intake Manifold Deck | 0.1 mm | 0.004 in |
| Valve Guide Bore - Exhaust | 8.01 mm | 0.315 in |
| Valve Guide Bore - Intake | 8.01 mm | 0.315 in |
| Valve Guide Installed Height | 16.6 mm | 0.654 in |
| Lubrication System | | |
| Oil Capacity - with Filter | 4.3 liters | 4.5 quarts |
| Oil Capacity - without Filter | 3.8 liters | 4.0 quarts |
| Oil Pressure - @ 1850 RPM | 207-241 kPa | 30-35 psi |
| Oil Pump | | |
| Gear Diameter | 38.05-38.10 mm | 1.498-1.500 in |
| Gear Pocket - Depth | 30.52-30.58 mm | 1.202-1.204 in |
| Gear Pocket - Diameter | 38.176-38.226 mm | 1.503-1.505 in |
| Gears Lash | 0.094-0.195 mm | 0.0037-0.0077 mm |
| Relief Valve-to-Bore Clearance | 0.038-0.089 mm | 0.0015-0.0035 in |
| Piston Ring End Gap | | |
| First Compression Ring | 0.15-0.36 mm | 0.006-0.014 in |
| Second Compression Ring | 0.48-0.74 mm | 0.0188-0.0291 in |
| Oil Control Ring | 0.25-0.77 mm | 0.0098-0.0303 in |
| Piston Ring to Groove Clearance | | |
| First Compression Ring | 0.04-0.086 mm | 0.002-0.0033 in |
| Second Compression Ring | 0.04-0.08 mm | 0.002-0.0031 in |
| Oil Control Ring | 0.07-0.095 mm | 0.0028-0.0037 in |
| Piston Ring Thickness | | |
| First Compression Ring | 1.164-1.190 mm | 0.046-0.047 in |
| Second Compression Ring | 1.460-1.490 mm | 0.0574-0.0586 in |
| Oil Control Ring - Maximum | 2.960 mm | 0.116 in |
| Piston | | |
| Piston Diameter - production - cylinder 1-4 | 91.985-92.003 mm | 3.621-3.622 in |
| Piston Diameter - service limit - cylinder 1-4 | 91.945 mm | 3.619 in |
| Piston Diameter - production - cylinder 5-6 | 91.99-92.028 mm | 3.621-3.623 in |
| Piston Diameter - service limit - cylinder 5-6 | 91.945 mm | 3.619 in |
| Piston Pin Bore Diameter | 23.005-23.010 mm | 0.9057-0.9059 in |
| Piston Ring Groove Width - First | 1.23-1.25 mm | 0.048-0.049 in |
| Piston Ring Groove Width - Second | 1.53-1.55 mm | 0.060-0.061 in |

| Application | Specification | |
|---|---------------------|-----------------------|
| | Metric | English |
| Piston Ring Groove Width - Oil Control | 3.03-3.055 mm | 0.119-0.120 in |
| Piston to Bore Clearance - production - 1-4 | 0.17-0.053 mm | 0.0006-0.0020 in |
| Piston to Bore Clearance - service limit- 1-4 | 0.093 mm | 0.0036 in |
| Piston to Bore Clearance - production - 5-6 | -0.008-0.048 mm | -0.0003-0.0018 in |
| Piston to Bore Clearance - service limit- 5-6 | 0.093 mm | 0.0036 in |
| Pin | | |
| Piston Pin Clearance to Connecting Rod Bore - Press Fit | -0.047 to -0.019 mm | -0.0019 to -0.0007 in |
| Piston Pin Clearance to Piston Pin Bore | 0.008-0.016 mm | 0.00031-0.00063 in |
| Piston Pin Diameter | 22.994-22.997 mm | 0.9053-0.9054 in |
| Valves | | |
| Valve Face Angle | 45 degrees | |
| Valve Seat Angle | 46 degrees | |
| Valve Seat Depth - Intake - from deck face | 7.9-8.1 mm | 0.311-0.318 in |
| Valve Seat Depth - Exhaust - from deck face | 8.9-9.1 mm | 0.350-0.358 in |
| Valve Seat Runout | 0.037 mm | 0.0015 in |
| Valve Seat Width - Intake | 1.55-1.80 mm | 0.061-0.071 in |
| Valve Seat Width - Exhaust | 1.70-2.0 mm | 0.067-0.079 in |
| Valve Stem-to-Guide Clearance | 0.026-0.068 mm | 0.0010-0.0027 in |
| Valve Lifters/Push Rods | | |
| Push Rod Length - Intake | 146.0 mm | 5.75 in |
| Push Rod Length - Exhaust | 152.5 mm | 6.0 in |
| Valve Springs | | |
| Valve Spring Free Length | 48.5 mm | 1.89 in |
| Valve Spring Installed Height | 43.2 mm | 1.701 in |
| Valve Spring Load - Closed | 320 N @ 43.2 mm | 75 lb @ 1.701 in |
| Valve Spring Load - Open | 1036 N @ 32 mm | 230 lb @ 1.260 in |
| Valve Spring Total Number of Coils | 6.55 | |

Fastener Tightening Specifications

| Application | Specification | |
|--|---------------|-----------|
| | Metric | English |
| A/C Compressor Bracket Bolt | 50 N·m | 37 lb ft |
| Automatic Transaxle to Engine Bolt | 75 N·m | 55 lb ft |
| Camshaft Position Sensor Bolt | 10 N·m | 89 lb in |
| Camshaft Sprocket Bolt | 140 N·m | 103 lb ft |
| Camshaft Thrust Plate Screw | 10 N·m | 89 lb in |
| Connecting Rod Bearing Cap Bolt | | |
| First Pass | 20 N·m | 15 lb ft |
| Final Pass | 75 degrees | |
| Coolant Drain Plug | 19 N·m | 14 lb ft |
| Coolant Temperature Sensor | 23 N·m | 17 lb ft |
| Crankshaft Balancer Bolt | | |
| First Pass | 70 N·m | 52 lb ft |
| Final Pass | 72 degrees | |
| Crankshaft Main Bearing Cap Bolt/Stud | | |
| First Pass | 50 N·m | 37 lb ft |
| Final Pass | 77 degrees | |
| Crankshaft Oil Deflector Nut | 25 N·m | 18 lb ft |
| Crankshaft Position Sensor Stud-Side of Engine Block | 11 N·m | 98 lb in |
| Crankshaft Position Sensor Shield Nut | 11 N·m | 98 lb in |

| Application | Specification | |
|---|---------------|-----------|
| | Metric | English |
| Cylinder Head Bolt | | |
| First Pass | 60 N·m | 44 lb ft |
| Final Pass | 95 degrees | |
| Drive Belt Tensioner Bolt | 50 N·m | 37 lb ft |
| EGR Valve Pipe to Exhaust Manifold Bolt | 30 N·m | 22 lb ft |
| EGR Valve Pipe to EGR Valve Bolt | 30 N·m | 22 lb ft |
| EGR Valve to Upper Intake Manifold Bolt | 30 N·m | 22 lb ft |
| Engine Electrical Harness Ground Bolt | 25 N·m | 18 lb ft |
| Engine Front Cover Bolt | | |
| Large Bolt | 55 N·m | 41 lb ft |
| Medium Bolt | 55 N·m | 41 lb ft |
| Small Bolt | 27 N·m | 20 lb ft |
| Engine Lift Bracket - Rear | 50 N·m | 37 lb ft |
| Engine Lift and Generator Bracket Bolt | 50 N·m | 37 lb ft |
| Engine Mount Bracket Bolt | | |
| Small Bolt | 25 N·m | 18 lb ft |
| Large Bolt | 55 N·m | 41 lb ft |
| Engine Mount Bracket to Engine Block Bolt | 85 N·m | 63 lb ft |
| Engine Mount Bracket to Oil Pan | 58 N·m | 43 lb ft |
| Engine Mount to Engine Mount Bracket Nut | 53 N·m | 39 lb ft |
| Engine Mount to Engine Oil Pan Bolts | 58 N·m | 43 lb ft |
| Engine Mount to Frame Bolts | 47 N·m | 35 lb ft |
| Engine Mount to Lower Nut | 47 N·m | 35 lb ft |
| Engine Mount Strut Bolt | 48 N·m | 35 lb ft |
| Engine Mount Strut Bracket Bolt, Left | 70 N·m | 52 lb ft |
| Engine Mount Strut Bracket Bolt, Right | 50 N·m | 37 lb ft |
| Engine Mount Strut and Lift Bracket Bolt - Engine Lift Rear | 50 N·m | 37 lb ft |
| Engine Oil Pressure Indicator Switch | 16 N·m | 12 lb ft |
| Engine to Transaxle Brace Bolt | 50 N·m | 37 lb ft |
| Engine Wiring Harness Bracket Bolt | 13 N·m | 110 lb in |
| Exhaust Crossover Pipe Stud/Nut | 25 N·m | 18 lb ft |
| Exhaust Manifold Heat Shield Bolt | 10 N·m | 89 lb in |
| Exhaust Manifold Nut | 16 N·m | 12 lb ft |
| Exhaust Manifold Stud | 18 N·m | 13 lb ft |
| Flywheel Bolt | 71 N·m | 52 lb ft |
| Frame to Body Bolt | 155 N·m | 114 lb ft |
| Fuel Hose/Pipe Retainer Nut | 28 lb ft | 21 lb ft |
| Fuel Injector Rail Bolt | 10 N·m | 89 lb in |
| Fuel Injector Sight Shield Stud | 10 N·m | 89 lb in |
| Generator B+ Lead Nut | 20 N·m | 15 lb ft |
| Generator Bolt | 50 N·m | 37 lb ft |
| Generator Brace Nut | 25 N·m | 18 lb ft |
| Heated Oxygen Sensor | 42 N·m | 31 lb ft |
| Heater Inlet Pipe Nut | 25 N·m | 18 lb ft |
| Heater Inlet Pipe Stud | 50 N·m | 37 lb ft |
| Heater Outlet Pipe Adapter to Engine Front Cover Bolt | 12 N·m | 106 lb in |
| Heater Outlet Pipe to Throttle Body Bolt | 10 N·m | 89 lb in |
| Heater Outlet Pipe to Throttle Body Nut | 10 N·m | 89 lb in |
| Heater Outlet Pipe to Upper Intake Manifold Nut | 25 N·m | 18 lb ft |
| Ignition Coil Bracket Bolt/Nut/Stud | 25 N·m | 18 lb ft |
| Ignition Control Module Bracket Stud | 25 N·m | 18 lb ft |

2007 Chevrolet Equinox Restoration Kit

| Application | Specification | |
|--|---------------|-----------|
| | Metric | English |
| Intake Manifold Coolant Pipe Bolt | 10 N·m | 89 lb in |
| Knock Sensor | 25 N·m | 18 lb ft |
| Left Drive Belt Idler Pulley Bolt | 50 N·m | 37 lb ft |
| Left Engine Mount Strut Bracket to Engine Bolts | 50 N·m | 37 lb ft |
| Left Transaxle Mount to Transaxle Bolt | 50 N·m | 37 lb ft |
| Lower Drive Belt Idler Pulley Bolt | 50 N·m | 37 lb ft |
| Lower Intake Manifold Bolt - Center | | |
| First Pass | 7 N·m | 62 lb in |
| Final Pass | 13 N·m | 115 lb in |
| Lower Intake Manifold Bolt - Corner | | |
| First Pass | 13 N·m | 115 lb in |
| Final Pass | 25 N·m | 18 lb ft |
| MAP Sensor Bolt | 10 N·m | 89 lb in |
| Negative Battery Cable to Inner Fender Body Ground Nut | 12 N·m | 106 lb in |
| Negative Battery Cable to Transaxle Nut | 45 N·m | 33 lb ft |
| Oil Filter | 30 N·m | 22 lb ft |
| Oil Filter Adapter Bolt | 25 N·m | 18 lb ft |
| Oil Filter Bypass Hole Plug | 19 N·m | 14 lb ft |
| Oil Filter Fitting | 39 N·m | 29 lb ft |
| Oil Gallery Plug - 1/4 inch | 19 N·m | 14 lb ft |
| Oil Gallery Plug - 3/8 inch | 33 N·m | 24 lb ft |
| Oil Level Indicator Tube Bolt | 25 N·m | 18 lb ft |
| Oil Pan Bolt | 25 N·m | 18 lb ft |
| Oil Pan Drain Plug | 25 N·m | 18 lb ft |
| Oil Pan Side Bolt | 50 N·m | 37 lb ft |
| Oil Pressure Indicator Switch | 16 N·m | 12 lb ft |
| Oil Pump Cover Bolt | 10 N·m | 89 lb in |
| Oil Pump Drive Clamp Bolt | 36 N·m | 27 lb ft |
| Oil Pump Mounting Bolt | 41 N·m | 30 lb ft |
| Positive Crankcase Ventilation (PCV) Foul Air Pipe Retaining Clip Bolt | 10 N·m | 89 lb in |
| Right Drive Belt Idler Pulley Bolt | 50 N·m | 37 lb ft |
| Right Engine Mount to Engine Mount Bracket Bolt | 50 N·m | 37 lb ft |
| Spark Plug - Initial Installation | 20 N·m | 15 lb ft |
| Spark Plug - After Initial Installation | 15 N·m | 13 lb ft |
| Spark Plug Wire Retainer Support Bolt | 25 N·m | 18 lb ft |
| Steering Intermediate Shaft Pinch Bolt | 34 N·m | 25 lb ft |
| Throttle Body Bolt/Stud | 10 N·m | 89 lb in |
| Timing Chain Dampener Bolt | 21 N·m | 15 lb ft |
| Torque Converter Bolt | 60 N·m | 44 lb ft |
| Transfer Case Mounting Bracket Bolt | 50 N·m | 37 lb ft |
| Upper Engine Mount Strut Bracket to Upper Radiator Support Bolts | 28 N·m | 21 lb in |
| Upper Intake Manifold Bolt/Stud | 25 N·m | 18 lb ft |
| Valve Lifter Guide Bolt | 10 N·m | 89 lb in |
| Valve Rocker Arm Bolt | 42 N·m | 31 lb ft |
| Valve Rocker Arm Cover Bolt | 10 N·m | 89 lb in |
| Water Outlet Bolt | 25 N·m | 18 lb ft |
| Water Pump Bolt | 11 N·m | 98 lb in |
| Water Pump Pulley Bolt | 25 N·m | 18 lb ft |

Engine Component Description

The cylinder block is made of cast alloy iron. The cylinder block has 6 cylinders that are arranged in a V shape. There are 3 cylinders in each bank. The cylinder banks are set at a 60 degree angle from each other.

Starting from the front of the engine, the left bank cylinders are 2, 4, 6. The right bank cylinders are 1, 3, 5.

Four main bearings support the crankshaft. The crankshaft is retained by the bearing caps. The bearing caps are machined with the block for proper alignment and clearances. The main bearing caps are drilled and tapped for the structural oil pan side bolts.

The aluminum cylinder heads have individual intake and exhaust ports for each cylinder. The valve guides are pressed in. The roller rocker arms are located on a pedestal in a slot in the cylinder head. The roller rocker arms are retained on individual threaded bolts.

The crankshaft is cast nodular iron with deep rolled fillets on all 6 crankpins and all 4 main journals. Four steel-backed aluminum bearings are used. The #3 bearing is the end-thrust bearing.

The camshaft is made from a new metal composite design. The camshaft profile is a hydraulic roller design. The camshaft is supported by 4 journals. The camshaft includes an oil pump drive gear.

The pistons are cast aluminum using 2 compression rings and 1 oil control ring. The piston pin is offset 0.8 mm (0.031 in) towards the major thrust side. This placement allows for a gradual change in thrust pressure against the cylinder wall as the piston travels its path. The pins are chromium steel. The pins have a floating fit in the pistons. The pins are retained in the connecting rods by a press fit.

The connecting rods are made of forged steel. Full pressure lubrication is directed to the connecting rods by drilled oil passages from the adjacent main bearing journal.

A roller rocker type valve train is used. Motion is transmitted from the camshaft through the hydraulic roller lifter and from the pushrod to the roller rocker arm. The rocker arm pivots on the needle roller bearings. The rocker arm transmits the camshaft motion to the valve. The rocker arm pedestal is located in a slot in the cylinder head. The rocker arm is retained in the cylinder head by a bolt. The pushrod is located by the rocker arm.

The intake manifold is a 2-piece cast aluminum unit. The intake manifold centrally supports a fuel rail with 6 fuel injectors.

The exhaust manifolds are cast nodular iron.

Drive Belt System Description

The drive belt system consists of the following components:

- The drive belt
- The drive belt tensioner
- The drive belt idler pulley
- The crankshaft balancer pulley
- The accessory drive component mounting brackets
- The accessory drive components
 - The power steering pump, if belt driven
 - The generator
 - The A/C compressor, if equipped
 - The engine cooling fan, if belt driven
 - The water pump, if belt driven
 - The vacuum pump, if equipped
 - The air compressor, if equipped

The drive belt system may use one belt or two belts. The drive belt is thin so that it can bend backwards and has several ribs to match the grooves in the pulleys. There also may be a V-belt style belt used to

drive certain accessory drive components. The drive belts are made of different types of rubbers (chloroprene or EPDM) and have different layers or plys containing either fiber cloth or cords for reinforcement.

Both sides of the drive belt may be used to drive the different accessory drive components. When the back side of the drive belt is used to drive a pulley, the pulley is smooth.

The drive belt is pulled by the crankshaft balancer pulley across the accessory drive component pulleys. The spring loaded drive belt tensioner keeps constant tension on the drive belt to prevent the drive belt from slipping. The drive belt tensioner arm will move when loads are applied to the drive belt by the accessory drive components and the crankshaft.

The drive belt system may have an idler pulley, which is used to add wrap to the adjacent pulleys. Some systems use an idler pulley in place of an accessory drive component when the vehicle is not equipped with the accessory.

Lubrication

Full pressure lubrication, through a full flow oil filter, is furnished by a gear type oil pump. The oil is drawn up through the pickup screen and the tube. The oil passes through the pump to the oil filter.

The oil filter is a full flow paper element unit. An oil filter bypass is used in order to ensure oil supply during the following conditions:

- On a cold start
- If the filter is plugged
- If the filter develops excessive pressure drop

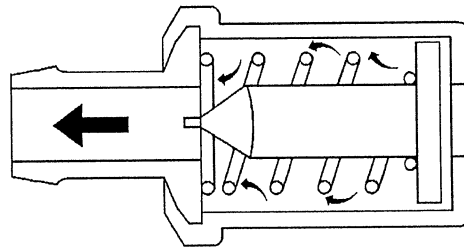
The bypass is designed to open at 69-83 kPa (10-12 psi).

A priority oil delivery system supplies oil first to the crankshaft journals. The oil from the crankshaft main bearings is supplied to the connecting rod bearings by intersecting the passages drilled in the crankshaft. The passages supply the oil to the crankshaft main bearings and the camshaft bearings through the intersecting vertical drilled holes. The oil passages from the camshaft journals supply oil to the hydraulic lifters.

The hydraulic lifters pump oil up through the pushrods to the rocker arms. The cast dams in the crankcase casting direct the oil that drains back from the rocker arms in order to supply the camshaft lobes. The camshaft chain drive is lubricated by indirect oil splash.

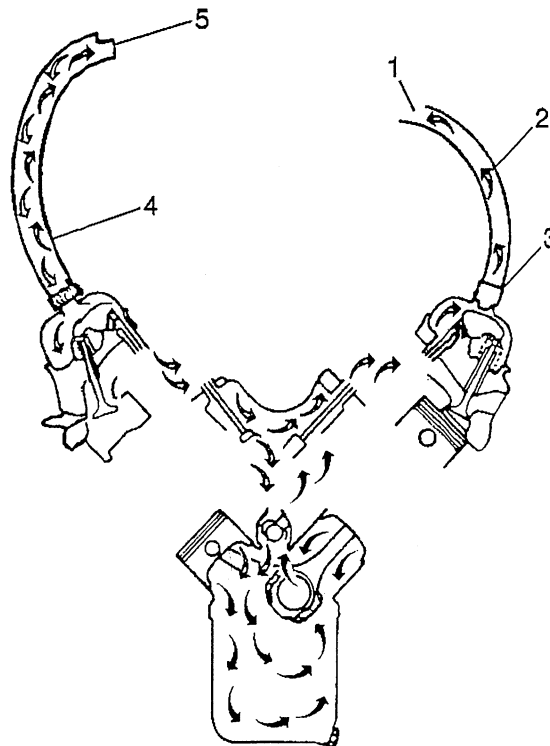
Crankcase Ventilation System Description

General Description



A crankcase ventilation system is used to consume crankcase vapors in the combustion process instead of venting them to atmosphere. Fresh air from the throttle body is supplied to the crankcase, mixed with blow by gases and then passed through a PCV valve into the intake manifold.

Operation



The primary control is through the positive crankcase ventilation (PCV) valve which meters the flow at a rate depending on inlet vacuum. To maintain idle quality, the PCV valve restricts the flow when inlet vacuum is high. If abnormal operating conditions arise, the system is designed to allow excessive amounts of blow by gases to back flow through the crankcase vent into the throttle body to be consumed by normal combustion.

Results of Incorrect Operation

A plugged valve may cause the following conditions:

- Rough idle
- Stalling or slow idle speed
- Oil leaks
- Sludge in engine

A leaking valve would cause:

- Rough idle
- Stalling
- High idle speed

Functional Check of PCV valve

If an engine is idling rough, check for a clogged PCV valve. Replace if required. Use the following procedure:

- Remove PCV valve from intake manifold.
- Shake valve and listen for the rattle of needle inside the valve.
- If valve does not rattle, replace valve.

With this system, any blow-by in excess of the system capacity (from a badly worn engine, sustained heavy load, etc.) is exhausted into the intake manifold and is drawn into the engine.

Proper operation of the crankcase ventilation system is dependent upon a sealed engine. If oil sludging or dilution is noted, and the crankcase ventilation system is functioning properly, check engine for possible cause and correct to ensure that system will function as intended.

Engine Cooling

Fastener Tightening Specifications

| Application | Specification | |
|--|---------------|-----------|
| | Metric | English |
| Condenser to Radiator Bolts | 9 N·m | 80 lb in |
| Coolant Heater | 50 N·m | 37 lb ft |
| Cooling Fan Motor Bolts | 6 N·m | 53 lb in |
| CRFM Bracket Bolts | 10 N·m | 89 lb in |
| Fan Shroud to Radiator Bolts | 9 N·m | 80 lb in |
| Heater Inlet Pipe Nut | 25 N·m | 18 lb ft |
| Heater Outlet Pipe to Throttle Body Bolt | 10 N·m | 89 lb in |
| Heater Outlet Pipe to Throttle Body Nut | 10 N·m | 89 lb in |
| Heater Outlet Pipe to Upper Intake Manifold Nut | 25 N·m | 18 lb ft |
| Manifold Absolute Pressure (MAP) Sensor Bracket Bolt | 10 N·m | 89 lb in |
| Surge Tank to Body Bolts | 9 N·m | 80 lb in |
| Thermal Bypass Fitting Bolt | 12 N·m | 106 lb in |
| Thermal Bypass Pipe Bolt | 10 N·m | 89 lb in |
| Thermostat Housing Bolt | 25 N·m | 18 lb ft |
| Water Pump Bolt | 10 N·m | 89 lb in |
| Water Pump Pulley Bolt | 25 N·m | 18 lb ft |

Cooling System Description and Operation

General Description

Cooling Fan Control

The engine cooling fan system consists of 2 cooling fans and 3 relays. The relays are powered by the battery positive voltage circuit and controlled by a switched ground from the powertrain control module (PCM).

During low speed operation, the PCM supplies the ground path for the low speed cooling fan relay through the low speed cooling fan relay control circuit. This energizes the cooling fan low relay coil, closes the relay contacts, and supplies battery positive voltage from the COOL FAN LO fuse through the cooling fan motor supply voltage circuit to the cooling fan. During high speed operation the PCM supplies the ground path for the cooling fan low relay through the low speed cooling fan relay control circuit. After a 3-second delay, the PCM supplies a ground path for the cooling fan high relay and the s/p cooling fan relay through the high speed fan relay control circuit.

The PCM commands the fan on under the following conditions:

- Engine coolant temperature exceeds approximately 98°C (208°F) Low Fan Speed
- Engine coolant temperature exceeds approximately 102°C (216°F) High Fan Speed
- A/C refrigerant pressure exceeds 361 kPa (52 psi) Low Fan Speed
- A/C refrigerant pressure exceeds 2100 kPa (300 psi) High Fan Speed
- When the engine coolant temperature exceeds 112°C (234°F) at key off, the fan high speed will run for up to 300 seconds. If within that time frame 102°C (216°F) is reached then fan speed will change from high to low speed. If within that time frame 99°C (210°F) is reached then fan speed will change from low to off.

The PCM commands the fan off under the following conditions:

- A/C is requested and engine speed exceeds 6,240 RPM
- Engine coolant temperature exceeds approximately 99°C (210°F) turns the cooling fans from low to off.

Engine Coolant Indicator(s)

LOW COOLANT LEVEL

The IPC illuminates the low coolant warning indicator when any of the following occur:

- The BCM detects a low coolant level condition for at least 30 seconds.
- The IPC performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.

Coolant Heater

The optional engine coolant heater (RPO K05) operates using 110-volt AC external power and is designed to warm the coolant in the engine block area for improved starting in very cold weather -29°C (-20°F). The coolant heater helps reduce fuel consumption when a cold engine is warming up. The unit is equipped with a detachable AC power cord. A weather shield on the cord is provided to protect the plug when not in use.

Cooling System

The cooling system's function is to maintain an efficient engine operating temperature during all engine speeds and operating conditions. The cooling system is designed to remove approximately one-third of the heat produced by the burning of the air-fuel mixture. When the engine is cold, the coolant does not flow to the radiator until the thermostat opens. This allows the engine to warm quickly.

Cooling Cycle

Coolant flows from the radiator outlet and into the water pump inlet. Some coolant flows from the water pump, to the heater core, then back to the water pump. This provides the passenger compartment with heat and defrost capability as the coolant warms up.

Coolant also flows from the water pump outlet and into the engine block. In the engine block, the coolant circulates through the water jackets surrounding the cylinders where it absorbs heat.

The coolant then flows through the cylinder head gasket openings and into the cylinder heads. In the cylinder heads, the coolant flows through the water jackets surrounding the combustion chambers and valve seats, where it absorbs additional heat.

From the cylinder heads, the coolant flows to the thermostat. The flow of coolant will either be stopped at the thermostat until the engine reaches normal operating temperature, or it will flow through the thermostat and into the radiator where it is cooled. At this point, the coolant flow cycle is completed.

Efficient operation of the cooling system requires proper functioning of all cooling system components. The cooling system consists of the following components:

Coolant

The engine coolant is a solution made up of a 50-50 mixture of DEX-COOL and suitable drinking water. The coolant solution carries excess heat away from the engine to the radiator, where the heat is dissipated to the atmosphere.

Radiator

The radiator is a heat exchanger. It consists of a core and two tanks. The aluminum core is a tube and fin crossflow design that extends from the inlet tank to the outlet tank. Fins are placed around the outside of the tubes to improve heat transfer to the atmosphere.

The inlet and outlet tanks are a molded, high temperature, nylon reinforced plastic material. A high temperature rubber gasket seals the tank flange edge to the aluminum core. The tanks are clamped to the core with clinch tabs. The tabs are part of the aluminum header at each end of the core.

The radiator also has a drain cock located in the bottom of the right hand tank. The drain cock unit includes the drain cock and drain cock seal.

The radiator removes heat from the coolant passing through it. The fins on the core transfer heat from the coolant passing through the tubes. As air passes between the fins, it absorbs heat and cools the coolant.

Pressure Cap

The pressure cap seals the cooling system. It contains a blow off or pressure valve and a vacuum or atmospheric valve. The pressure valve is held against its seat by a spring, which protects the radiator from excessive cooling system pressure. The vacuum valve is held against its seat by a spring, which permits opening of the valve to relieve vacuum created in the cooling system as it cools off. The vacuum, if not relieved, might cause the radiator and/or coolant hoses to collapse.

The pressure cap allows cooling system pressure to build up as the temperature increases. As the pressure builds, the boiling point of the coolant increases. Engine coolant can be safely run at a temperature much higher than the boiling point of the coolant at atmospheric pressure. The hotter the coolant is, the faster the heat transfers from the radiator to the cooler, passing air.

The pressure in the cooling system can get too high. When the cooling system pressure exceeds the rating of the pressure cap, it raises the pressure valve, venting the excess pressure.

As the engine cools down, the temperature of the coolant drops and a vacuum is created in the cooling system. This vacuum causes the vacuum valve to open, allowing outside air into the surge tank. This equalizes the pressure in the cooling system with atmospheric pressure, preventing the radiator and coolant hoses from collapsing.

Surge Tank

The surge tank is a plastic tank that the pressure cap mounts onto. The tank is mounted at a point higher than all other coolant passages. The surge tank provides an air space in the cooling system. The air space allows the coolant to expand and contract. The surge tank also provides a coolant fill point and a central air bleed location. During vehicle use, the coolant heats and expands. The coolant that is displaced by this expansion flows into the surge tank. As the coolant circulates, air is allowed to exit. This is an advantage to the cooling system. Coolant without bubbles absorbs heat much better than coolant with bubbles.

Air Baffles and Seals

The cooling system uses deflectors, air baffles and air seals to increase cooling system capability. Deflectors are installed under the vehicle to redirect airflow beneath the vehicle and through the radiator to increase engine cooling. Air baffles are also used to direct airflow through the radiator and increase cooling capability. Air seals prevent air from bypassing the radiator and A/C condenser, and prevent recirculation of hot air for better hot weather cooling and A/C condenser performance.

Water Pump

The water pump is a centrifugal vane impeller type pump. The pump consists of a housing with coolant inlet and outlet passages and an impeller. The impeller is mounted on the pump shaft and consists of a series of flat or curved blades or vanes on a flat plate. When the impeller rotates, the coolant between the vanes is thrown outward by centrifugal force.

The impeller shaft is supported by one or more sealed bearings. The sealed bearings never need to be lubricated. Grease cannot leak out, dirt and water cannot get in as long as the seal is not damaged or worn.

The purpose of the water pump is to circulate coolant throughout the cooling system. The water pump is driven by the crankshaft via the timing chain.

Thermostat

The thermostat is a coolant flow control component. It's purpose is to help regulate the operating temperature of the engine. It utilizes a temperature sensitive wax-pellet element. The element connects to a valve through a small piston. When the element is heated, it expands and exerts pressure against the small piston. This pressure forces the valve to open. As the element is cooled, it contracts. This contraction allows a spring to push the valve closed.

When the coolant temperature is below the rated thermostat opening temperature, the thermostat valve remains closed. This prevents circulation of the coolant to the radiator and allows the engine to warm up.

After the coolant temperature reaches the rated thermostat opening temperature, the thermostat valve will open. The coolant is then allowed to circulate through the thermostat to the radiator where the engine heat is dissipated to the atmosphere. The thermostat also provides a restriction in the cooling system, after it has opened. This restriction creates a pressure difference which prevents cavitation at the water pump and forces coolant to circulate through the engine block.

Transmission Oil Cooler

The transmission oil cooler is a heat exchanger. It is located inside the left side end tank of the radiator. The transmission fluid temperature is regulated by the temperature of the engine coolant in the radiator.

The transmission oil pump, pumps the fluid through the transmission oil cooler line to the transmission oil cooler. The fluid then flows through the cooler where the engine coolant absorbs heat from the fluid. The fluid is then pumped through the transmission oil cooler return line, to the transmission.

Engine Electrical

Fastener Tightening Specifications

| Application | Specification | |
|--|---------------|-----------|
| | Metric | English |
| Air Conditioning (A/C) Evaporator Line to Battery Tray Nut | 15 N·m | 11 lb ft |
| Battery Tray Bolt | 15 N·m | 11 lb ft |
| Battery Hold Down Bolt | 15 N·m | 11 lb ft |
| Battery Negative Cable Terminal Bolt | 17 N·m | 13 lb ft |
| Battery Positive Cable Terminal Bolt | 17 N·m | 13 lb ft |
| Battery Tray Support Bracket Bolt | 25 N·m | 18 lb ft |
| Coolant Surge Tank Bolt | 6 N·m | 53 lb in |
| Generator Battery Positive Terminal Nut | 20 N·m | 15 lb ft |
| Generator Bolt | 50 N·m | 37 lb ft |
| Generator Bracket Bolt | 50 N·m | 37 lb ft |
| Negative Battery Cable to Inner Fender Bolt | 12 N·m | 106 lb in |
| Negative Battery Cable to Transaxle Nut | 45 N·m | 33 lb ft |
| Remote Battery Terminal Nut | 17 N·m | 13 lb ft |
| Starter Solenoid Positive Battery Terminal Nut | 10 N·m | 89 lb in |
| Starter Solenoid S Terminal Nut | 3 N·m | 27 lb in |
| Starter-to-Engine Bolt | 43 N·m | 32 lb ft |
| Torque Converter Shield Bolt | 8 N·m | 71 lb in |
| UHFB Connector Bolt | 4 N·m | 35 lb in |
| Under Hood Fuse Block (UHFB) Battery Positive Terminal Nut | 15 N·m | 11 lb ft |

Battery Usage

| Description | Specification |
|----------------------------|---------------|
| LNJ | |
| Cold Cranking Amperage | 600 A |
| Reserve Capacity Rating | 105 Minutes |
| Amp Hour Rating | 60 AH |
| Replacement Battery Number | 47-7YR |

Generator Usage

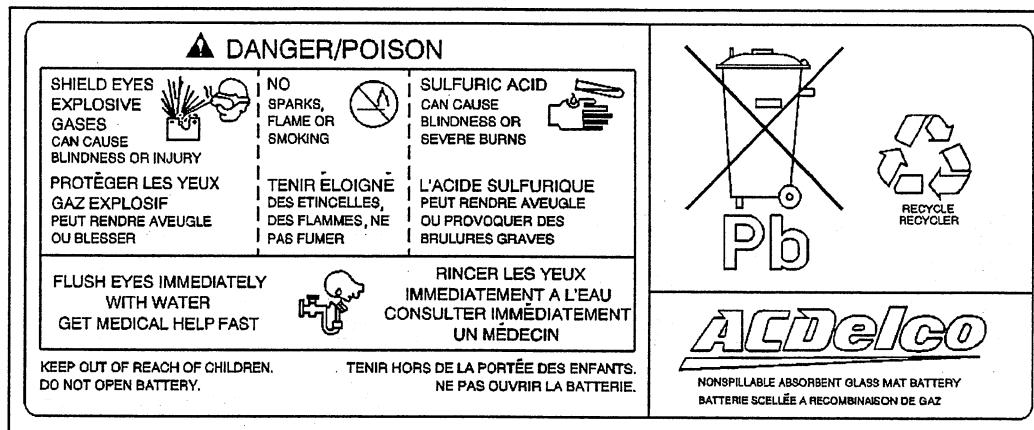
| Application | Specification |
|------------------|---------------|
| Generator Model | Denso SC2 |
| Rated Output | 150 A |
| Load Test Output | 105 A |

Battery Description and Operation

Caution

Batteries produce explosive gases, contain corrosive acid, and supply levels of electrical current high enough to cause burns. Therefore, to reduce the risk of personal injury when working near a battery:

- Always shield your eyes and avoid leaning over the battery whenever possible.
- Do not expose the battery to open flames or sparks.
- Do not allow the battery electrolyte to contact the eyes or the skin. Flush immediately and thoroughly any contacted areas with water and get medical help.
- Follow each step of the jump starting procedure in order.
- Treat both the booster and the discharged batteries carefully when using the jumper cables.



The maintenance free battery is standard. There are no vent plugs in the cover. The battery is completely sealed except for two small vent holes in the side. These vent holes allow the small amount of gas that is produced in the battery to escape.

The battery has three functions as a major source of energy:

- Engine cranking
- Voltage stabilizer
- Alternate source of energy with generator overload.

2007 Chevrolet Equinox Restoration Kit

The battery specification label (example below) contains information about the following:

- The test ratings
- The original equipment catalog number
- The recommended replacement model number

CATALOG NO.

1819

| | |
|--------------------------------|------------------|
| CCA 770 | LOAD TEST 380 |
| REPLACEMENT MODEL 100 – 6YR | |

A battery has 2 ratings:

- Reserve capacity
- Cold cranking amperage

When a battery is replaced use a battery with similar ratings. Refer to the battery specification label on the original battery or refer to Battery Usage .

Reserve Capacity

Reserve capacity is the amount of time in minutes it takes a fully charged battery, being discharged at a constant rate of 25 amperes and a constant temperature of 27°C (80°F) to reach a terminal voltage of 10.5 V. Refer to Battery Usage for the reserve capacity rating of the original equipment battery.

Cold Cranking Amperage

The cold cranking amperage is an indication of the ability of the battery to crank the engine at cold temperatures. The cold cranking amperage rating is the minimum amperage the battery must maintain for 30 seconds at -18°C (0°F) while maintaining at least 7.2 volts. Refer to Battery Usage for the cold cranking amperage rating for this vehicle.

Circuit Description

The battery positive terminal supplies Battery Positive voltage to the under hood fuse block and the rear fuse block. The under hood fuse block provides a cable connection for the generator and a cable connection for the starter.

Starting System Description and Operation

The starter is a non-repairable starter motor. It has pole pieces that are arranged around the armature. Both solenoid windings are energized. The pull-in winding circuit is completed to the ground through the starter motor. The windings work together magnetically to pull and hold in the plunger. The plunger moves the shift lever. This action causes the starter drive assembly to rotate on the armature shaft spline as it engages with the flywheel ring gear on the engine. Moving at the same time, the plunger also closes the solenoid switch contacts in the starter solenoid. Full battery voltage is applied directly to the starter motor and it cranks the engine.

As soon as the solenoid switch contacts close, current stops flowing thorough the pull-in winding because battery voltage is applied to both ends of the windings. The hold-in winding remains energized; its magnetic field is strong enough to hold the plunger, shift lever, starter drive assembly, and solenoid

switch contacts in place to continue cranking the engine. When the engine starts, pinion overrun protects the armature from excessive speed until the switch is opened.

When the ignition switch is released from the START position, the START relay opens and battery voltage is removed from the starter solenoid S terminal. Current flows from the motor contacts through both windings to the ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now opposite the direction of the current flow when the winding was first energized.

The magnetic fields of the pull-in and hold-in windings now oppose one another. This action of the windings, along with the help of the return spring, causes the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter circuit is turned off.

Circuit Description

Moving the ignition switch to the START position signals the powertrain control module (PCM) through the STARTER relay in the underhood BEC that engine crank has been requested. The PCM verifies that theft is not active and grounds the control circuit of the STARTER relay. Battery positive voltage will then flow through the switch side of the STARTER relay to the S terminal of the starter solenoid, cranking the engine. Ground is supplied through the engine block.

Charging System Description and Operation

Generator

The generator features the following major components:

- The delta stator
- The rectifier bridge
- The rotor with slip rings and brushes
- A conventional pulley
- The regulator

The slip ring and the frame are liquid cooled.

The generator features permanently lubricated bearings. Service should only include tightening of mount components. Otherwise, replace the generator as a complete unit.

Regulator

The voltage regulator controls the rotor field current in order to limit the system voltage. When the field current is on, the regulator switches the current on and off at a rate of 400 cycles per second in order to perform the following functions:

- Radio noise control
- Obtain the correct average current needed for proper system voltage control

At high speeds, the on-time may be 10 percent with the off-time at 90 percent. At low speeds, the on-time may be 90 percent and the off-time 10 percent.

Circuit Description

The generator provides voltage to operate the vehicle's electrical system and to charge its battery. A magnetic field is created when current flows through the rotor. This field rotates as the rotor is driven by the engine, creating an AC voltage in the stator windings. The AC voltage is converted to DC by the rectifier bridge and is supplied to the electrical system at the battery terminal.

When the engine is running, the generator turn-on signal is sent to the generator from the PCM, turning on the regulator. The generator's voltage regulator controls current to the rotor, thereby controlling the output voltage. The rotor current is proportional to the electrical pulse width supplied by the regulator. When the engine is started, the regulator senses generator rotation by detecting AC voltage at the stator through an internal wire. Once the engine is running, the regulator varies the field current by controlling the pulse width. This regulates the generator output voltage for proper battery charging and electrical

system operation. The generator F terminal is connected internally to the voltage regulator and externally to the PCM. When the voltage regulator detects a charging system problem, it grounds this circuit to signal the PCM that a problem exists. The PCM monitors the generator field duty cycle signal circuit. The system voltage sense circuit receives B+ voltage that is Hot At All Times through the GEN BAT fuse in the underhood junction block. This voltage is used by the regulator as the reference for system voltage control.

Engine Controls

Ignition System Specifications

| Application | Specification | |
|----------------------------|--|----------|
| | Metric | English |
| Firing Order | 1-2-3-4-5-6 | |
| Spark Plug Gap | 1.52 mm | 0.060 in |
| Spark Plug Torque | 15 N·m | 11 lb ft |
| Spark Plug Type | GM P/N 12568387 AC Delco #41-101 | |
| Spark Plug Wire Resistance | 4,018 ohms per meter (1,225 ohms per ft) | |

Fastener Tightening Specifications

| Application | Specification | |
|---|---------------|-----------|
| | Metric | English |
| Accelerator Pedal Position Sensor Bolt | 25 N·m | 25 lb ft |
| Air Cleaner Assembly Bolt | 10 N·m | 89 lb in |
| Air Cleaner Intake Duct Clamp | 4 N·m | 35 lb in |
| Camshaft Position Sensor Bolt | 10 N·m | 89 lb in |
| Camshaft Position Sensor Nut | 11 N·m | 97 lb in |
| Engine Coolant Temperature Sensor | 23 N·m | 17 lb ft |
| Evaporative Emissions (EVAP) Canister Purge Valve Bolt | 10 N·m | 89 lb in |
| EVAP Canister to Underbody Nut | 9 N·m | 80 lb ft |
| EVAP Hose/Pipe to Strut Tower Nut | 10 N·m | 89 lb in |
| Exhaust Gas Recirculation (EGR) Pipe to EGR Valve Bolt | 30 N·m | 22 lb ft |
| EGR Pipe to Exhaust Manifold Bolt | 10 N·m | 89 lb in |
| EGR Valve Bolt | 30 N·m | 22 lb ft |
| Fuel Filler Tube Bolt | 12 N·m | 106 lb in |
| Fuel Filler Tube Clamp | 5 N·m | 44 lb in |
| Fuel Hose/Pipe Retainer Nut | 28 N·m | 21 lb ft |
| Fuel Rail Bolt | 10 N·m | 89 lb in |
| Fuel Tank Strap Bolt | 25 N·m | 18 lb ft |
| Heated Oxygen Sensor (HO2S) 1 | 42 N·m | 31 lb ft |
| Heated Oxygen Sensor (HO2S) 2 | 42 N·m | 31 lb ft |
| Heater Outlet Pipe to Upper Intake Manifold Nut | 25 N·m | 18 lb ft |
| Ignition Coil/Control Module to Bracket | 4.5 N·m | 40 lb ft |
| Ignition Control Module Bracket Bolt | 25 N·m | 18 lb ft |
| Ignition Control Module Bracket Nut | 25 N·m | 18 lb ft |
| Knock Sensor Bolt | 25 N·m | 18 lb ft |
| Manifold Absolute Pressure Sensor Bolt | 10 N·m | 89 lb in |
| Mass Air Flow Sensor Screw | 4 N·m | 35 lb in |
| Positive Crankcase Ventilation Fresh Air Tube Retainer Bolt | 5 N·m | 44 lb in |
| Propeller Shaft Guard Bolt | 25 N·m | 18 lb ft |
| Spark Plug - Initial Installation | 20 N·m | 15 lb ft |
| Spark Plug - After Initial Installation | 15 N·m | 11 lb ft |
| Throttle Body Bolt | 10 N·m | 89 lb in |
| Throttle Body Stud | 6 N·m | 53 lb in |

Exhaust System

Fastener Tightening Specifications

| Application | Specification | |
|--|---------------|----------|
| | Metric | English |
| Catalytic Converter to Exhaust Manifold Nut | 37 N·m | 27 lb ft |
| Catalytic Converter to Exhaust Manifold Stud | 6 N·m | 53 lb in |
| Exhaust Crossover Pipe Nut | 25 N·m | 18 lb ft |
| Exhaust Manifold Crossover Pipe Stud | 25 N·m | 18 lb ft |
| Exhaust Manifold Heat Shield Bolt | 10 N·m | 89 lb in |
| Exhaust Manifold Nut | 16 N·m | 12 lb ft |
| Exhaust Manifold Stud | 18 N·m | 13 lb ft |
| Exhaust System to Catalytic Converter Nut | 37 N·m | 27 lb ft |
| Front Exhaust Heat Shield Nut | 10 N·m | 89 lb in |
| Fuel Tank Strap Bolt | 25 N·m | 18 lb ft |
| Propeller Shaft Underbody Guard Loop Bolt | 25 N·m | 18 lb ft |

Exhaust System Description

Important

Use of non-OEM parts may cause driveability concerns.

The exhaust system design varies according to the model designation and the intended use of the vehicle.

In order to secure the exhaust pipe to the exhaust manifold, the exhaust system utilizes a flange and seal joint coupling. A flange and gasket coupling secures the catalytic converter assembly to the muffler assembly.

Hangers suspend the exhaust system from the underbody, allowing some movement of the exhaust system and disallowing the transfer of noise and vibration into the vehicle.

Heat shields protect the vehicle from the high temperatures generated by the exhaust system.

Resonator

Some exhaust systems are equipped with a resonator. The resonator, located either before or after the muffler, allows the use of mufflers with less back pressure. Resonators are used when vehicle characteristics require specific exhaust tuning.

Catalytic Converter

The catalytic converter is an emission control device added to the engine exhaust system in order to reduce hydrocarbons (HC), carbon monoxide (CO), and oxides of nitrogen (NOx) pollutants from the exhaust gas.

The catalytic converter is comprised of a ceramic monolith substrate, supported in insulation and housed within a sheet metal shell. The substrate may be washcoated with 3 noble metals:

- Platinum (Pt)
- Palladium (Pd)
- Rhodium (Rh)

The catalyst in the converter is not serviceable.

Muffler

The exhaust muffler reduces the noise levels of the engine exhaust by the use of tuning tubes. The tuning tubes create channels inside the exhaust muffler that lower the sound levels created by the combustion of the engine.

Transmission/Transaxle Description and Operation

Automatic Transmission – AF33-5

Transmission General Specifications

| Name | AF33-5 |
|--|---|
| RPO Codes | M09 or M45 |
| Vehicle Platform Engine/Transmission Usage | L - SUV LNJ 3.4L |
| Transmission Drive | FWD or AWD |
| 1st/Gear Ratio | 4.575 |
| 2nd Gear Ratio | 2.979 |
| 3rd Gear Ratio | 1.947 |
| 4th Gear Ratio | 1.318 |
| 5th Gear Ratio | 1.000 |
| Reverse Ratio | 5.024 |
| Pressure Taps | Line Pressure |
| Transmission Fluid Type | T - IV |
| Transmission Fluid Capacity - Approximate | Complete Overhaul: Dry 7.8L (8.2 qt) |
| Transmission Type: 5 | Five Forward Gears, Clutch to Clutch Shifting |
| Case Material | Die Cast Aluminum |
| Transmission Weight | 90 kg (198 lb) |

Fastener Tightening Specifications

| Description of Usage | Specification | |
|--|---------------|-----------|
| | Metric | English |
| Automatic Transmission Fluid Pump (2) to Transmission Case Assembly (17) | 25 N·m | 18 lb ft |
| Control Valve Body Cover (29) to Transmission Case Assembly (17) | 13 N·m | 10 lb ft |
| Control Valve Body Fluid Passage Cover (37) to Control Valve Body (39) | 10 N·m | 89 lb in |
| Fluid Baffle (803) to Torque Converter Housing Assembly (801) | 5 N·m | 44 lb in |
| Fluid Baffle (803) to Transmission Case Assembly (17) | 5 N·m | 44 lb in |
| Fluid Filter (42) to Transmission Case (17) | 5 N·m | 44 lb in |
| Fluid Level Indicator Bolt | 10 N·m | 89 lb in |
| Fluid Pump Body (202) to Fluid Pump Stator Shaft Assembly (208) | 12 N·m | 106 lb in |
| Fluid Pump Body (202) to Fluid Pump Stator Shaft Assembly (208) | 7 N·m | 62 lb in |
| Fluid Temperature Sensor Clip (49) to Control Valve Body (39) | 10 N·m | 89 lb in |
| Forward Clutch Accumulator Cover (616) to Case Cover (606) | 10 N·m | 89 lb in |
| Lube Fluid Pipe Retainer (805) to Torque Converter Housing (801) | 5 N·m | 44 lb in |
| Lube Fluid Pipe Retainer (84) to Transmission Case Assembly (17) | 5 N·m | 44 lb in |
| Manual Shift Detent Spring (711) to Transmission Case (707) | 5 N·m | 44 lb in |
| Park Pawl Actuator Bracket (708) to Transmission Case Assembly (17) | 10 N·m | 89 lb in |

| Description of Usage | Specification | |
|---|---------------|-----------|
| | Metric | English |
| Park Pawl Bolt/Screw (706) to Transmission Case Assembly (17) | 10 N·m | 89 lb in |
| Rear Valve Body Cover Plate Bolt - Hexagon | 7 N·m | 62 lb in |
| Rear Valve Body Cover Plate Bolt - Hexagon | 7 N·m | 62 lb in |
| Speed Sensor (73) to Transmission Case Assembly (17) | 5 N·m | 44 lb in |
| Torque Converter Housing (10) to Transmission Case Assembly (17) | 29 N·m | 21 lb ft |
| Torque Converter Housing (10) to Transmission Case Assembly (17) | 29 N·m | 21 lb ft |
| Torque Converter Housing (10) to Transmission Case Assembly (17) | 29 N·m | 21 lb ft |
| Torque Converter Housing (10) to Transmission Case Assembly (17) | 29 N·m | 21 lb ft |
| Torque Converter Housing (10) to Transmission Case Assembly (17) - TORX | 29 N·m | 21 lb ft |
| Transmission Case Cover (606) to Transmission Case Assembly (17) | 25 N·m | 18 lb ft |
| Transmission Case Cover (606) to Transmission Case Assembly (17) | 25 N·m | 18 lb ft |
| Transmission Case Cover (606) to Transmission Case Assembly (17) | 25 N·m | 18 lb ft |
| Transmission Case Cover (606) to Transmission Case Assembly (17) | 25 N·m | 18 lb ft |
| Transmission Case Fluid Passage Cover (40) to Transmission Case Assembly (17) | 5 N·m | 44 lb in |
| Transmission Control Module (TCM) Bolts | 25 N·m | 18 lb ft |
| Transmission Fluid Drain Plug (819) to Torque Converter Housing (801) | 39 N·m | 29 lb ft |
| Transmission Fluid Pressure Test Hole Plug | 7 N·m | 62 lb in |
| 3rd Gear Band Anchor Bolt (64) to Transmission Case Assembly (17) | 167 N·m | 123 lb ft |
| 3rd Gear Band Apply Tube Retainer (51) to Transmission Case Assembly (17) | 5 N·m | 44 lb in |
| 4-5 Clutch Apply Pipe Retainer (610) to Transmission Case Cover (606) | 7 N·m | 62 lb in |
| Control Valve Body (39) to Transmission Case Assembly (17) | 10 N·m | 89 lb in |
| Control Valve Body (39) to Transmission Case Assembly (17) | 10 N·m | 89 lb in |
| Control Valve Body (39) to Transmission Case Assembly (17) | 7 N·m | 62 lb in |
| Control Solenoid Valve Retainer (312) to Control Valve Body (39) | 7 N·m | 62 lb in |
| Front Control Valve Body (315) to Middle Control Valve Body (323) | 7 N·m | 62 lb in |
| Front Control Valve Body (315) to Middle Control Valve Body (323) | 7 N·m | 62 lb in |
| Front Control Valve Body (315) to No. 2 Rear Control Valve Body (330) | 7 N·m | 62 lb in |
| Front Control Valve Body (315) to No. 2 Rear Control Valve Body (330) | 7 N·m | 62 lb in |

| Description of Usage | Specification | |
|---|---------------|----------|
| | Metric | English |
| Lock Up Control Solenoid Valve (339) to Front Control Valve Body (315) | 7 N·m | 62 lb in |
| Middle Control Valve Body (323) Pressure Tap | 7 N·m | 62 lb in |
| Middle Control Valve Body (323) to No. 2 Rear Control Valve Body (330) | 7 N·m | 62 lb in |
| No. 2 Rear Control Valve Body (330) to Front Control Valve Body (315) | 7 N·m | 62 lb in |
| Rear Control Valve Body (326) to Middle Control Valve Body (323) | 7 N·m | 62 lb in |
| Rear Control Valve Body (326) to Middle Control Valve Body (323) | 7 N·m | 62 lb in |
| Reverse, 1st Shift Solenoid Valve - S1 (310) to Control Valve Body (39) | 7 N·m | 62 lb in |
| Reverse Shift Solenoid Valve - S5 (305) to Control Valve Body (39) | 7 N·m | 62 lb in |
| 1-2, 2-3, Reverse, Shift Solenoid Valve - S3 (300) to Control Valve Body (39) | 7 N·m | 62 lb in |
| 2-3, 3-4 Shift Solenoid Valve - S2 (308) to Control Valve Body (39) | 7 N·m | 62 lb in |
| 3-4, 4-5 Shift Solenoid Valve - S4 (303) to Control Valve Body (39) | 7 N·m | 62 lb in |

Fluid Capacity Specifications

| Application | Specification | |
|----------------------------|---------------|-------------|
| | Metric | English |
| Complete Overhaul | 7.8 liters | 8.2 quarts |
| Remove drain plug and fill | 4.06 liters | 4.29 quarts |

Transmission General Description

The AF33-5 is a fully automatic, five speed, electronically controlled, transaxle. It consists primarily of a four-element torque converter, three planetary gear sets, friction and mechanical clutches and a hydraulic pressurization and control system.

The TCM commands shift solenoids, within the transmission, ON and OFF to control shift timing. The TCM controls shift feel through the line pressure control solenoid valve. The TCM also controls the apply and release of the torque converter clutch which allows the engine to deliver the maximum fuel efficiency without sacrificing vehicle performance. The hydraulic system primarily consists of a gear type pump, four control valve bodies, case cover, converter housing and case. The pump maintains the working pressures needed to stroke the servo and clutch pistons that apply or release the friction components. These friction components, when applied or released, support the automatic shifting qualities of the transmission. The friction components used in this transmission consist of seven multiple disc clutches and one band. The multiple disc clutches combine with two mechanical sprag clutches, to deliver six different gear ratios through the gear sets. The gear sets then transfers torque through the front differential assembly and out to the drive axles.

The transmission can be operated in any one of the 6 different ranges.

- P - Park position enables the engine to be started while preventing the vehicle from rolling either forward or backward. For safety reasons, the vehicle parking brake should be used in addition to the transmission Park position. Since the front differential assembly and drive axles are mechanically locked to the case through the park pawl and front differential transfer drive gear assembly, Park position should not be selected until the vehicle has come to a complete stop.
- R - Reverse enables the vehicle to be operated in a rearward direction.

- N - Neutral position enables the engine to start and operate without driving the vehicle. If necessary, this position should be selected to restart the engine while the vehicle is moving.
- D - Drive range should be used for all normal driving conditions for maximum efficiency and fuel economy. Drive range allows the transmission to operate in each of the five forward gear ratios. Downshifts to a lower gear, or higher gear ratio are available for safe passing by depressing the accelerator or by manually selecting a lower gear with the shift selector.
- L4 - Low Four range can be used for conditions where it may be desirable to use only three gear ratios. These conditions include towing a trailer and driving on hilly terrain as described above. This range is also helpful for engine braking when descending slight grades. Upshifts and downshifts are the same as in Drive range for first, second and third gears except that the transmission is prevented from shifting above third gear. Low Four can be selected at any vehicle speed but will downshift into third gear only if vehicle speed is low enough not to overrev the engine, calibratable in TCM.
- L2 - Low Two range adds more performance for congested traffic and hilly terrain. It has the same starting ratio, first gear, as Drive and Low Two ranges but prevents the transmission from shifting above second gear. Thus, Low Two can be used to retain second gear for acceleration and engine braking as desired. Low Two can be selected at any vehicle speed but the transmission will downshift into second gear only if vehicle speed is low enough not to overrev the engine, calibratable in TCM. This range is particularly beneficial for maintaining maximum engine braking when descending steep grades.

Transmission Adaptive Functions

The AF33-5 uses a line pressure control system which has the ability to adapt the system line pressure in order to compensate for normal wear of clutch fiber plates, seals, springs, etc. The adapt feature is similar in function to fuel control (integrator/block learn).

The AF33-5 transmission uses the adapt function for garage shifts, upshifts, and TCC application. The TCM monitors the input shaft speed in order to determine if the shift is occurring too fast or too slow and adjusts the pressure control solenoid in order to maintain the correct shift feel.

Automatic Transmission Shift Lock Control Description

The automatic transmission shift lock control is a safety device that prevents an inadvertent shift out of PARK when the ignition is ON. The driver must press the brake pedal before moving the shift lever out of the PARK position. The system consist of the following components:

- The automatic transmission shift lock control solenoid.
- The automatic transmission shift lock control switch.
- The park/neutral position switch.

Abbreviations and Meanings

| Abbreviation | Meaning |
|--------------|---|
| A | |
| A | Ampere(s) |
| ABS | Antilock Brake System |
| A/C | Air Conditioning |
| AC | Alternating Current |
| ACC | Accessory, Automatic Climate Control |
| ACL | Air Cleaner |
| ACR4 | Air Conditioning Refrigerant, Recovery, Recycling, Recharging |
| AD | Automatic Disconnect |
| A/D | Analog to Digital |
| ADL | Automatic Door Lock |
| A/F | Air/Fuel Ratio |
| AH | Active Handling |
| AIR | Secondary Air Injection |
| ALC | Automatic Level Control, Automatic Lamp Control |
| AM/FM | Amplitude Modulation/Frequency Modulation |
| Ant | Antenna |
| AP | Accelerator Pedal |
| APCM | Accessory Power Control Module |
| API | American Petroleum Institute |
| APP | Accelerator Pedal Position |
| APT | Adjustable Part Throttle |
| ASM | Assembly, Accelerator and Servo Control Module |
| ASR | Acceleration Slip Regulation |
| A/T | Automatic Transmission/Transaxle |
| ATC | Automatic Transfer Case, Automatic Temperature Control |
| ATDC | After Top Dead Center |
| ATSLC | Automatic Transmission Shift Lock Control |
| Auto | Automatic |
| avg | Average |
| A4WD | Automatic Four-Wheel Drive |
| AWG | American Wire Gage |
| B | |
| B+ | Battery Positive Voltage |
| BARO | Barometric Pressure |
| BATT | Battery |
| BBV | Brake Booster Vacuum |
| BCA | Bias Control Assembly |
| BCM | Body Control Module |
| BHP | Brake Horsepower |
| BLK | Black |
| BLU | Blue |
| BP | Back Pressure |
| BPCM | Battery Pack Control Module |
| BPMV | Brake Pressure Modulator Valve |
| BPP | Brake Pedal Position |
| BRN | Brown |

| | |
|-----------------|---|
| BTDC | Before Top Dead Center |
| BTM | Battery Thermal Module |
| BTSI | Brake Transmission Shift Interlock |
| Btu | British Thermal Units |
| C | |
| °C | Degrees Celsius |
| CAC | Charge Air Cooler |
| CAFE | Corporate Average Fuel Economy |
| Cal | Calibration |
| Cam | Camshaft |
| CARB | California Air Resources Board |
| CC | Coast Clutch |
| cm ³ | Cubic Centimeters |
| CCM | Convenience Charge Module, Chassis Control Module |
| CCOT | Cycling Clutch Orifice Tube |
| CCP | Climate Control Panel |
| CD | Compact Disc |
| CE | Commutator End |
| CEAB | Cold Engine Air Bleed |
| CEMF | Counter Electromotive Force |
| CEX | Cabin Exchanger |
| cfm | Cubic Feet per Minute |
| cg | Center of Gravity |
| CID | Cubic Inch Displacement |
| CKP | Crankshaft Position |
| CKT | Circuit |
| C/Ltr | Cigar Lighter |
| CL | Closed Loop |
| CLS | Coolant Level Switch |
| CMC | Compressor Motor Controller |
| CMP | Camshaft Position |
| CNG | Compressed Natural Gas |
| CO | Carbon Monoxide |
| CO ₂ | Carbon Dioxide |
| Coax | Coaxial |
| COMM | Communication |
| Conn | Connector |
| CPA | Connector Position Assurance |
| CPP | Clutch Pedal Position |
| CPS | Central Power Supply |
| CPU | Central Processing Unit |
| CRT | Cathode Ray Tube |
| CRTC | Cathode Ray Tube Controller |
| CS | Charging System |
| CSFI | Central Sequential Fuel Injection |
| CTP | Closed Throttle Position |
| cu ft | Cubic Foot/Feet |
| cu in | Cubic Inch/Inches |
| CV | Constant Velocity Joint |
| CVRSS | Continuously Variable Road Sensing Suspension |

| Cyl | Cylinder(s) |
|----------|---|
| D | |
| DAB | Delayed Accessory Bus |
| dB | Decibels |
| dBA | Decibels on A-weighted Scale |
| DC | Direct Current, Duty Cycle |
| DCM | Door Control Module |
| DE | Drive End |
| DEC | Digital Electronic Controller |
| DERM | Diagnostic Energy Reserve Module |
| DI | Distributor Ignition |
| dia | Diameter |
| DIC | Driver Information Center |
| Diff | Differential |
| DIM | Dash Integration Module |
| DK | Dark |
| DLC | Data Link Connector |
| DMCM | Drive Motor Control Module |
| DMM | Digital Multimeter |
| DMSDS | Drive Motor Speed and Direction Sensor |
| DMU | Drive Motor Unit |
| DOHC | Dual Overhead Camshafts |
| DR, Drvr | Driver |
| DRL | Daytime Running Lamps |
| DTC | Diagnostic Trouble Code |
| E | |
| EBCM | Electronic Brake Control Module |
| EBTCM | Electronic Brake and Traction Control Module |
| EC | Electrical Center, Engine Control |
| ECC | Electronic Climate Control |
| ECI | Extended Compressor at Idle |
| ECL | Engine Coolant Level |
| ECM | Engine Control Module, Electronic Control Module |
| ECS | Emission Control System |
| ECT | Engine Coolant Temperature |
| EEPROM | Electrically Erasable Programmable Read Only Memory |
| EEVIR | Evaporator Equalized Values in Receiver |
| EFE | Early Fuel Evaporation |
| EGR | Exhaust Gas Recirculation |
| EGR TVV | Exhaust Gas Recirculation Thermal Vacuum Valve |
| EHPS | Electro-Hydraulic Power Steering |
| EI | Electronic Ignition |
| ELAP | Elapsed |
| ELC | Electronic Level Control |
| E/M | English/Metric |
| EMF | Electromotive Force |
| EMI | Electromagnetic Interference |
| Eng | Engine |
| EOP | Engine Oil Pressure |
| EOT | Engine Oil Temperature |

| | |
|----------|--|
| EPA | Environmental Protection Agency |
| EPR | Exhaust Pressure Regulator |
| EPROM | Erasable Programmable Read Only Memory |
| ESB | Expansion Spring Brake |
| ESC | Electronic Suspension Control |
| ESD | Electrostatic Discharge |
| ESN | Electronic Serial Number |
| ETC | Electronic Throttle Control, Electronic Temperature Control, Electronic Timing Control |
| ETCC | Electronic Touch Climate Control |
| ETR | Electronically Tuned Receiver |
| ETS | Enhanced Traction System |
| EVAP | Evaporative Emission |
| EVO | Electronic Variable Orifice |
| Exh | Exhaust |
| F | |
| °F | Degrees Fahrenheit |
| FC | Fan Control |
| FDC | Fuel Data Center |
| FED | Federal All United States except California |
| FEDS | Fuel Enable Data Stream |
| FEX | Front Exchanger |
| FF | Flexible Fuel |
| FFH | Fuel-Fired Heater |
| FI | Fuel Injection |
| FMVSS | Federal U.S. Motor Vehicle Safety Standards |
| FP | Fuel Pump |
| ft | Foot/Feet |
| FT | Fuel Trim |
| F4WD | Full Time Four-Wheel Drive |
| 4WAL | Four-Wheel Antilock |
| 4WD | Four-Wheel Drive |
| FW | Flat Wire |
| FWD | Front Wheel Drive, Forward |
| G | |
| g | Grams, Gravitational Acceleration |
| GA | Gage, Gauge |
| gal | Gallon |
| gas | Gasoline |
| GCW | Gross Combination Weight |
| Gen | Generator |
| GL | Gear Lubricant |
| GM | General Motors |
| GM SPO | General Motors Service Parts Operations |
| gnd | Ground |
| gpm | Gallons per Minute |
| GRN | Green |
| GRY | Gray |
| GVWR | Gross Vehicle Weight Rating |

Chevrolet Restoration Kit

| H | |
|-------------------|--------------------------------------|
| H | Hydrogen |
| H ₂ O | Water |
| Harn | Harness |
| HC | Hydrocarbons |
| H/CMPR | High Compression |
| HD | Heavy Duty |
| HDC | Heavy Duty Cooling |
| hex | Hexagon, Hexadecimal |
| Hg | Mercury |
| Hi Alt | High Altitude |
| HO ₂ S | Heated Oxygen Sensor |
| hp | Horsepower |
| HPL | High Pressure Liquid |
| HPS | High Performance System |
| HPV | High Pressure Vapor |
| HPVS | Heat Pump Ventilation System |
| Htd | Heated |
| HTR | Heater |
| HUD | Head-up Display |
| HVAC | Heater-Ventilation-Air Conditioning |
| HVACM | Heater-Vent-Air Conditioning Module |
| HVIL | High Voltage Interlock Loop |
| HVM | Heater Vent Module |
| Hz | Hertz |
| I | |
| IAC | Idle Air Control |
| IAT | Intake Air Temperature |
| IC | Integrated Circuit, Ignition Control |
| ICCS | Integrated Chassis Control System |
| ICM | Ignition Control Module |
| ID | Identification, Inside Diameter |
| IDI | Integrated Direct Ignition |
| IGBT | Insulated Gate Bi-Polar Transistor |
| ign | Ignition |
| ILC | Idle Load Compensator |
| in | Inch/Inches |
| INJ | Injection |
| inst | Instantaneous, Instant |
| IP | Instrument Panel |
| IPC | Instrument Panel Cluster |
| IPM | Instrument Panel Module |
| I/PEC | Instrument Panel Electrical Center |
| ISC | Idle Speed Control |
| ISO | International Standards Organization |
| ISS | Input Speed Shaft, Input Shaft Speed |
| K | |
| KAM | Keep Alive Memory |
| KDD | Keyboard Display Driver |
| kg | Kilogram |

| | |
|----------|--|
| kHz | Kilohertz |
| km | Kilometer |
| km/h | Kilometers per Hour |
| km/l | Kilometers per Liter |
| kPa | Kilopascals |
| KS | Knock Sensor |
| kV | Kilovolts |
| L | |
| L | Liter |
| L4 | Four Cylinder Engine, In-Line |
| L6 | Six-Cylinder Engine, In-Line |
| lb | Pound |
| lb ft | Pound Feet Torque |
| lb in | Pound Inch Torque |
| LCD | Liquid Crystal Display |
| LDCL | Left Door Closed Locking |
| LDCM | Left Door Control Module |
| LDM | Lamp Driver Module |
| LED | Light Emitting Diode |
| LEV | Low Emissions Vehicle |
| LF | Left Front |
| lm | Lumens |
| LR | Left Rear |
| LT | Left |
| LT | Light |
| LT | Long Term |
| LTPI | Low Tire Pressure Indicator |
| LTPWS | Low Tire Pressure Warning System |
| M | |
| MAF | Mass Air Flow |
| Man | Manual |
| MAP | Manifold Absolute Pressure |
| MAT | Manifold Absolute Temperature |
| max | Maximum |
| M/C | Mixture Control |
| MDP | Manifold Differential Pressure |
| MFI | Multiport Fuel Injection |
| mi | Miles |
| MIL | Malfunction Indicator Lamp |
| min | Minimum |
| MIN | Mobile Identification Number |
| mL | Milliliter |
| mm | Millimeter |
| mpg | Miles per Gallon |
| mph | Miles per Hour |
| ms | Millisecond |
| MST | Manifold Surface Temperature |
| MSVA | Magnetic Steering Variable Assist, Magnasteer® |
| M/T | Manual Transmission/Transaxle |
| MV | Megavolt |

| | |
|------------------|---|
| mV | Millivolt |
| N | |
| NAES | North American Export Sales |
| NC | Normally Closed |
| NEG | Negative |
| Neu | Neutral |
| NI | Neutral Idle |
| NiMH | Nickel Metal Hydride |
| NLGI | National Lubricating Grease Institute |
| N·m | Newton-meter Torque |
| NO | Normally Open |
| NOx | Oxides of Nitrogen |
| NPTC | National Pipe Thread Coarse |
| NPTF | National Pipe Thread Fine |
| NOVRAM | Non-Volatile Random Access Memory |
| O | |
| O ₂ | Oxygen |
| O ₂ S | Oxygen Sensor |
| OBD | On-Board Diagnostics |
| OBD II | On-Board Diagnostics Second Generation |
| OC | Oxidation Converter Catalytic |
| OCS | Opportunity Charge Station |
| OD | Outside Diameter |
| ODM | Output Drive Module |
| ODO | Odometer |
| OE | Original Equipment |
| OEM | Original Equipment Manufacturer |
| OHC | Overhead Camshaft |
| ohms | Ohm |
| OL | Open Loop, Out of Limits |
| ORC | Oxidation Reduction Converter Catalytic |
| ORN | Orange |
| ORVR | On-Board Refueling Vapor Recovery |
| OSS | Output Shaft Speed |
| oz | Ounce(s) |
| P | |
| PAG | Polyalkylene Glycol |
| PAIR | Pulsed Secondary Air Injection |
| PASS, PSGR | Passenger |
| PASS-Key® | Personalized Automotive Security System |
| P/B | Power Brakes |
| PC | Pressure Control |
| PCB | Printed Circuit Board |
| PCM | Powertrain Control Module |
| PCS | Pressure Control Solenoid |
| PCV | Positive Crankcase Ventilation |
| PEB | Power Electronics Bay |
| PID | Parameter Identification |
| PIM | Power Inverter Module |
| PM | Permanent Magnet Generator |

| | |
|----------|--|
| P/N | Part Number |
| PNK | Pink |
| PNP | Park/Neutral Position |
| PRNDL | Park, Reverse, Neutral, Drive, Low |
| POA | Pilot Operated Absolute Valve |
| POS | Positive, Position |
| POT | Potentiometer Variable Resistor |
| PPL | Purple |
| ppm | Parts per Million |
| PROM | Programmable Read Only Memory |
| P/S, PS | Power Steering |
| PSCM | Power Steering Control Module, Passenger Seat Control Module |
| PSD | Power Sliding Door |
| PSP | Power Steering Pressure |
| psi | Pounds per Square Inch |
| psia | Pounds per Square Inch Absolute |
| psig | Pounds per Square Inch Gauge |
| pt | Pint |
| PTC | Positive Temperature Coefficient |
| PWM | Pulse Width Modulated |
| Q | |
| QDM | Quad Driver Module |
| qt | Quart(s) |
| R | |
| R-12 | Refrigerant-12 |
| R-134a | Refrigerant-134a |
| RAM | Random Access Memory, Non-permanent memory device, memory contents are lost when power is removed. |
| RAP | Retained Accessory Power |
| RAV | Remote Activation Verification |
| RCDLR | Remote Control Door Lock Receiver |
| RDCM | Right Door Control Module |
| Ref | Reference |
| Rev | Reverse |
| REX | Rear Exchanger |
| RIM | Rear Integration Module |
| RF | Right Front, Radio Frequency |
| RFA | Remote Function Actuation |
| RFI | Radio Frequency Interference |
| RH | Right Hand |
| RKE | Remote Keyless Entry |
| Rly | Relay |
| ROM | Read Only Memory, Permanent memory device, memory contents are retained when power is removed. |
| RPM | Revolutions per Minute Engine Speed |
| RPO | Regular Production Option |
| RR | Right Rear |
| RSS | Road Sensing Suspension |
| RTD | Real Time Damping |
| RT | Right |

| | |
|------------------------|--|
| RTV | Room Temperature Vulcanizing Sealer |
| RWAL | Rear Wheel Antilock |
| RWD | Rear Wheel Drive |
| S | |
| s | Second(s) |
| SAE | Society of Automotive Engineers |
| SC | Supercharger |
| SCB | Supercharger Bypass |
| SCM | Seat Control Module |
| SDM | Sensing and Diagnostic Module |
| SEO | Special Equipment Option |
| SFI | Sequential Multiport Fuel Injection |
| SI | System International Modern Version of Metric System |
| SIAB | Side Impact Air Bag |
| SIR | Supplemental Inflatable Restraint |
| SLA | Short/Long Arm Suspension |
| sol | Solenoid |
| SO2 | Sulfur Dioxide |
| SP | Splice Pack |
| S/P | Series/Parallel |
| SPO | Service Parts Operations |
| SPS | Service Programming System, Speed Signal |
| sq ft, ft ² | Square Foot/Feet |
| sq in, in ² | Square Inch/Inches |
| SRC | Service Ride Control |
| SRI | Service Reminder Indicator |
| SRS | Supplemental Restraint System |
| SS | Shift Solenoid |
| ST | Scan Tool |
| STID | Station Identification Station ID |
| S4WD | Selectable Four-Wheel Drive |
| Sw | Switch |
| SWPS | Steering Wheel Position Sensor |
| syn | Synchronizer |
| T | |
| TAC | Throttle Actuator Control |
| Tach | Tachometer |
| TAP | Transmission Adaptive Pressure, Throttle Adaptive Pressure |
| TBI | Throttle Body Fuel Injection |
| TC | Turbocharger, Transmission Control |
| TCC | Torque Converter Clutch |
| TCS | Traction Control System |
| TDC | Top Dead Center |
| TEMP | Temperature |
| Term | Terminal |
| TFP | Transmission Fluid Pressure |
| TFT | Transmission Fluid Temperature |
| THM | Turbo Hydro-Matic |
| TIM | Tire Inflation Monitoring, Tire Inflation Module |
| TOC | Transmission Oil Cooler |

| | |
|----------|---|
| TP | Throttle Position |
| TPA | Terminal Positive Assurance |
| TPM | Tire Pressure Monitoring, Tire Pressure Monitor |
| TR | Transmission Range |
| TRANS | Transmission/Transaxle |
| TT | Tell Tail Warning Lamp |
| TV | Throttle Valve |
| TVRS | Television and Radio Suppression |
| TVV | Thermal Vacuum Valve |
| TWC | Three Way Converter Catalytic |
| TWC+OC | Three Way + Oxidation Converter Catalytic |
| TXV | Thermal Expansion Valve |
| U | |
| UART | Universal Asynchronous Receiver Transmitter |
| U/H | Underhood |
| U/HEC | Underhood Electrical Center |
| U-joint | Universal Joint |
| UTD | Universal Theft Deterrent |
| UV | Ultraviolet |
| V | |
| V | Volt(s), Voltage |
| V6 | Six-Cylinder Engine, V-Type |
| V8 | Eight-Cylinder Engine, V-Type |
| Vac | Vacuum |
| VAC | Vehicle Access Code |
| VATS | Vehicle Anti-Theft System |
| VCIM | Vehicle Communication Interface Mode |
| VCM | Vehicle Control Module |
| V dif | Voltage Difference |
| VDOT | Variable Displacement Orifice Tube |
| VDV | Vacuum Delay Valve |
| vel | Velocity |
| VES | Variable Effort Steering |
| VF | Vacuum Fluorescent |
| VIO | Violet |
| VIN | Vehicle Identification Number |
| VLR | Voltage Loop Reserve |
| VMV | Vacuum Modulator Valve |
| VR | Voltage Regulator |
| V ref | Voltage Reference |
| VSES | Vehicle Stability Enhancement System |
| VSS | Vehicle Speed Sensor |
| W | |
| w/ | With |
| W/B | Wheel Base |
| WHL | Wheel |
| WHT | White |
| w/o | Without |
| WOT | Wide Open Throttle |
| W/P | Water Pump |

| | |
|---------|---------------------------------------|
| W/S | Windshield |
| WSS | Wheel Speed Sensor |
| WU-OC | Warm Up Oxidation Converter Catalytic |
| WU-TWC | Warm Up Three-Way Converter Catalytic |
| X | |
| X-valve | Expansion Valve |
| Y | |
| yd | Yard(s) |
| YEL | Yellow |

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blank.

Conversion - English/Metric

| English | Multiply/ Divide by | Metric |
|---|---------------------|-------------------|
| In order to calculate English measurement, divide by the number in the center column. In order to calculate metric measurement, multiply by the number in the center column. | | |
| Length | | |
| in | 25.4 | mm |
| ft | 0.3048 | m |
| yd | 0.9144 | |
| mi | 1.609 | km |
| Area | | |
| sq in | 645.2 | sq mm |
| | 6.45 | sq cm |
| sq ft | 0.0929 | sq m |
| sq yd | 0.8361 | |
| Volume | | |
| cu in | 16,387.00 | cu mm |
| | 16.387 | cu cm |
| | 0.0164 | L |
| qt | 0.9464 | |
| gal | 3.7854 | |
| cu yd | 0.764 | cu m |
| Mass | | |
| lb | 0.4536 | kg |
| ton | 907.18 | |
| | 0.907 | tonne (t) |
| Force | | |
| Kg F | 9.807 | newtons (N) |
| oz F | 0.278 | |
| lb F | 4.448 | |
| Acceleration | | |
| ft/s ² | 0.3048 | m/s ² |
| ln/s ² | 0.0254 | |
| Torque | | |
| Lb in | 0.11298 | N·m |
| lb ft | 1.3558 | |
| Power | | |
| hp | 0.745 | kW |
| Pressure (Stress) | | |
| inches of H2O | 0.2488 | kPa |
| lb/sq in | 6.895 | |
| Energy (Work) | | |
| Btu | 1055 | J (J= one Ws) |
| lb ft | 1.3558 | |
| kW hour | 3,600,000.00 | |
| Light | | |
| Foot Candle | 10.764 | lm/m ² |

| Velocity | | |
|------------------|--------|---------------|
| mph | 1.6093 | km/h |
| Temperature | | |
| (°F - 32) 5/9 | = | °C |
| °F | = | (9/5 °C + 32) |
| Fuel Performance | | |
| 235.215/mpg | = | 100 km/L |

Equivalents - Decimal and Metric

| Fraction (in) | Decimal (in) | Metric (mm) |
|---------------|--------------|-------------|
| 1/64 | 0.015625 | 0.39688 |
| 1/32 | 0.03125 | 0.79375 |
| 3/64 | 0.046875 | 1.19062 |
| 1/16 | 0.0625 | 1.5875 |
| 5/64 | 0.078125 | 1.98437 |
| 3/32 | 0.09375 | 2.38125 |
| 7/64 | 0.109375 | 2.77812 |
| 1/8 | 0.125 | 3.175 |
| 9/64 | 0.140625 | 3.57187 |
| 5/32 | 0.15625 | 3.96875 |
| 11/64 | 0.171875 | 4.36562 |
| 3/16 | 0.1875 | 4.7625 |
| 13/64 | 0.203125 | 5.15937 |
| 7/32 | 0.21875 | 5.55625 |
| 15/64 | 0.234375 | 5.95312 |
| 1/4 | 0.25 | 6.35 |
| 17/64 | 0.265625 | 6.74687 |
| 9/32 | 0.28125 | 7.14375 |
| 19/64 | 0.296875 | 7.54062 |
| 5/16 | 0.3125 | 7.9375 |
| 21/64 | 0.328125 | 8.33437 |
| 11/32 | 0.34375 | 8.73125 |
| 23/64 | 0.359375 | 9.12812 |
| 3/8 | 0.375 | 9.525 |
| 25/64 | 0.390625 | 9.92187 |
| 13/32 | 0.40625 | 10.31875 |
| 27/64 | 0.421875 | 10.71562 |
| 7/16 | 0.4375 | 11.1125 |
| 29/64 | 0.453125 | 11.50937 |
| 15/32 | 0.46875 | 11.90625 |
| 31/64 | 0.484375 | 12.30312 |
| 1/2 | 0.5 | 12.7 |
| 33/64 | 0.515625 | 13.09687 |
| 17/32 | 0.53125 | 13.49375 |
| 35/64 | 0.546875 | 13.89062 |
| 9/16 | 0.5625 | 14.2875 |
| 37/64 | 0.578125 | 14.68437 |
| 19/32 | 0.59375 | 15.08125 |
| 39/64 | 0.609375 | 15.47812 |
| 5/8 | 0.625 | 15.875 |
| 41/64 | 0.640625 | 16.27187 |

| Fraction (in) | Decimal (in) | Metric (mm) |
|---------------|--------------|-------------|
| 21/32 | 0.65625 | 16.66875 |
| 43/64 | 0.671875 | 17.06562 |
| 11/16 | 0.6875 | 17.4625 |
| 45/64 | 0.703125 | 17.85937 |
| 23/32 | 0.71875 | 18.25625 |
| 47/64 | 0.734375 | 18.65312 |
| 3/4 | 0.75 | 19.05 |
| 49/64 | 0.765625 | 19.44687 |
| 25/32 | 0.78125 | 19.84375 |
| 51/64 | 0.796875 | 20.24062 |
| 13/16 | 0.8125 | 20.6375 |
| 53/64 | 0.828125 | 21.03437 |
| 27/32 | 0.84375 | 21.43125 |
| 55/64 | 0.859375 | 21.82812 |
| 7/8 | 0.875 | 22.225 |
| 57/64 | 0.890625 | 22.62187 |
| 29/32 | 0.90625 | 23.01875 |
| 59/64 | 0.921875 | 23.41562 |
| 15/16 | 0.9375 | 23.8125 |
| 61/64 | 0.953125 | 24.20937 |
| 31/32 | 0.96875 | 24.60625 |
| 63/64 | 0.984375 | 25.00312 |
| 1 | 1.0 | 25.4 |

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Fasteners

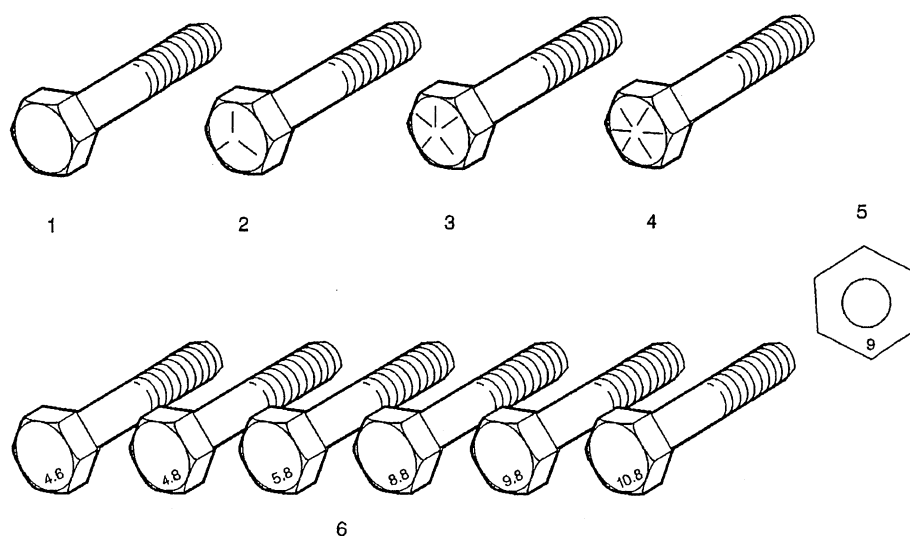
Metric Fasteners

This vehicle provides fastener dimensions using the metric system. Most metric fasteners are approximate in diameter to equivalent English fasteners. Make replacements using fasteners of the same nominal diameter, thread pitch, and strength.

A number marking identifies the OE metric fasteners except cross-recess head screws. The number also indicates the strength of the fastener material. A Posidrive® or Type 1A cross-recess identifies a metric cross-recess screw. For best results, use a Type 1A cross-recess screwdriver, or equivalent, in Posidrive® recess head screws.

GM Engineering Standards and North American Industries have adopted a portion of the ISO-defined standard metric fastener sizes. The purpose was to reduce the number of fastener sizes used while retaining the best thread qualities in each thread size. For example, the metric M6.0 X 1 screw, with nearly the same diameter and 25.4 threads per inch replaced the English 1/4-20 and 1/4-28 screws. The thread pitch is midway between the English coarse and fine thread pitches.

Fastener Strength Identification



1. English Bolt, Grade 2 (Strength Class)
2. English Bolt, Grade 5 (Strength Class)
3. English Bolt, Grade 7 (Strength Class)
4. English Bolt, Grade 8 (Strength Class)
5. Metric Nut, Strength Class 9
6. Metric Bolts, Strength Class Increases as Numbers Increase

The most commonly used metric fastener strength property classes are 9.8 and 10.9. The class identification is embossed on the head of each bolt. The English, inch strength classes range from grade 2 to grade 8. Radial lines are embossed on the head of each bolt in order to identify the strength class. The number of lines on the head of the bolt is 2 lines less than the actual grade. For example, a grade 8 bolt will have 6 radial lines on the bolt head. Some metric nuts are marked with a single digit strength identification number on the nut face.

The correct fasteners are available through GM SPO. Many metric fasteners available in the aftermarket parts channels are designed to metric standards of countries other than the United States, and may exhibit the following:

- Lower strength
- No numbered head marking system
- Wrong thread pitch

The metric fasteners on GM products are designed to new, international standards. The following are the common sizes and pitches, except for special applications:

- M6.0 X 1
- M8 X 1.25
- M10 X 1.5
- M12 X 1.75
- M14 X 2.00
- M16 X 2.00

Prevailing Torque Fasteners

Prevailing torque fasteners create a thread interface between the fastener and the fastener counterpart in order to prevent the fastener from loosening.

All Metal Prevailing Torque Fasteners

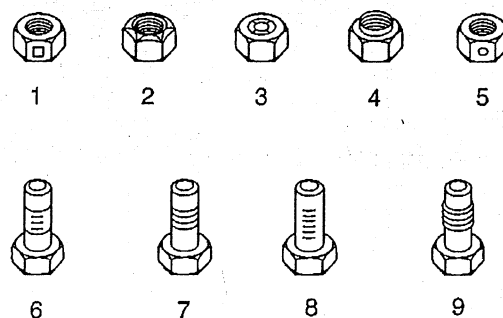
These fasteners accomplish the thread interface by a designed distortion or deformation in the fastener.

Nylon Interface Prevailing Torque Fasteners

These fasteners accomplish the thread interface by the presence of a nylon material on the fastener threads.

Adhesive Coated Fasteners

These fasteners accomplish the thread interface by the presence of a thread-locking compound on the fastener threads. Refer to the appropriate repair procedure in order to determine if the fastener may be reused and the applicable thread-locking compound to apply to the fastener.



1. Prevailing Torque Nut, Center Lock Type
2. Prevailing Torque Nut, Top Lock Type
3. Prevailing Torque Nut, Nylon Patch Type
4. Prevailing Torque Nut, Nylon Washer Insert Type
5. Prevailing Torque Nut, Nylon Insert Type

6. Prevailing Torque Bolt, Dry Adhesive Coating Type
7. Prevailing Torque Bolt, Thread Profile Deformed Type
8. Prevailing Torque Bolt, Nylon Strip Type
9. Prevailing Torque Bolt, Out-of-Round Thread Area Type

A prevailing torque fastener may be reused ONLY if:

- The fastener and the fastener counterpart are clean and not damaged
- There is no rust on the fastener
- The fastener develops the specified minimum torque against its counterpart prior to the fastener seating

Metric Prevailing Torque Fastener Minimum Torque Development

| Application | Specification | |
|--|---------------|----------|
| | Metric | English |
| All Metal Prevailing Torque Fasteners | | |
| 6 mm | 0.4 N·m | 4 lb in |
| 8 mm | 0.8 N·m | 7 lb in |
| 10 mm | 1.4 N·m | 12 lb in |
| 12 mm | 2.1 N·m | 19 lb in |
| 14 mm | 3 N·m | 27 lb in |
| 16 mm | 4.2 N·m | 37 lb in |
| 20 mm | 7 N·m | 62 lb in |
| 24 mm | 10.5 N·m | 93 lb in |
| Nylon Interface Prevailing Torque Fasteners | | |
| 6 mm | 0.3 N·m | 3 lb in |
| 8 mm | 0.6 N·m | 5 lb in |
| 10 mm | 1.1 N·m | 10 lb in |
| 12 mm | 1.5 N·m | 13 lb in |
| 14 mm | 2.3 N·m | 20 lb in |
| 16 mm | 3.4 N·m | 30 lb in |
| 20 mm | 5.5 N·m | 49 lb in |
| 24 mm | 8.5 N·m | 75 lb in |

English Prevailing Torque Fastener Minimum Torque Development

| Application | Specification | |
|--|---------------|------------|
| | Metric | English |
| All Metal Prevailing Torque Fasteners | | |
| 1/4 in | 0.5 N·m | 4.5 lb in |
| 5/16 in | 0.8 N·m | 7.5 lb in |
| 3/8 in | 1.3 N·m | 11.5 lb in |
| 7/16 in | 1.8 N·m | 16 lb in |
| 1/2 in | 2.3 N·m | 20 lb in |
| 9/16 in | 3.2 N·m | 28 lb in |
| 5/8 in | 4 N·m | 36 lb in |
| 3/4 in | 7 N·m | 54 lb in |
| Nylon Interface Prevailing Torque Fasteners | | |
| 1/4 in | 0.3 N·m | 3 lb in |
| 5/16 in | 0.6 N·m | 5 lb in |
| 3/8 in | 1 N·m | 9 lb in |
| 7/16 in | 1.3 N·m | 12 lb in |
| 1/2 in | 1.8 N·m | 16 lb in |
| 9/16 in | 2.5 N·m | 22 lb in |
| 5/8 in | 3.4 N·m | 30 lb in |
| 3/4 in | 5 N·m | 45 lb in |

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available

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*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|--------------------|--------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | AK5 | Air bags , dual-stage frontal, driver and right-front passenger with Passenger Sensing System 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | S ¹ | S ¹ | S ¹ | S ¹ |
| | C67 | Air conditioning , single-zone manual | S | S | S | S |
| | | Armrest , front center console with concealed storage | S | S | S | S |
| | | NEW! Armrest , center, rear with 2 additional cupholders | -- | S | S | S |
| | U1C | NEW! Audio system , AM/FM stereo with CD player, seek-and-scan, digital clock, auxiliary input jack for Ipod/MP3 player and 6 speakers | S | -- | -- | -- |
| | AP9 | Cargo net , full-across rear | -- | S | S | S |
| | | Console , center with armrest and concealed storage | S | S | S | S |
| | | Console , floor with storage bin | S | S | S | S |
| | K34 | Cruise control , electronic with set and resume speed | S | S | S | S |
| | | Cup holders , 3 front and 2 rear | S | S | S | S |
| | | Defogger , rear-window electric | S | S | S | S |
| | | Door locks , power programmable, includes remote keyless entry | S | S | S | S |
| | | Door locks , rear child security | S | S | S | S |
| | | NEW! Driver Information Center , monitors various systems | S | S | S | S |
| B58 | | Floor mats , carpeted front and rear, removable 1 - Fleet and government order types only. | A ¹ | S | S | S |
| | | Instrumentation , electronic with speedometer, single trip odometer, fuel level, engine temperature and tachometer | S | S | S | S |
| | | NEW! Instrument panel trim , warm Sycamore | -- | S | S | S |
| | | LATCH system (Lower Anchors and Top tethers for Children), for child safety seats | S | S | S | S |
| | | Lighting , interior with theatre dimming, center-mounted dome and rear cargo area | S | S | S | S |
| | | LS Interior Trim Package , with Manhattan Cloth | S | -- | -- | -- |

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|-----------------------------|-----------------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | LT Trim Package, with Premium Cloth, cargo net and driver seatback map pocket | -- | S | S | -- |
| | | Mirror, inside rearview manual day/night | S | S | -- | -- |
| | | Power outlets, 3 auxiliary with covers, 12-volt, includes 1 front, 1 rear and 1 in the cargo area | S | S | S | S |
| | AU0 | Remote Keyless Entry, with 2 transmitters, panic button, content theft alarm, activation verification and illuminated entry | S | S | -- | -- |
| | | Safety belts, 3-point, driver and right-front passenger, height-adjustable includes pretensioners | S | S | S | S |
| | | Safety belts, 3-point, rear, all seating positions | S | S | S | S |
| | | Seat, front passenger flat-folding seatback | S | S | S | S |
| | | Seats, front bucket, includes driver manual height seat adjuster | S | S | -- | -- |
| | | Seats, rear Multi-Flex 60/40 split-seatback bench with 2-position recline | S | S | S | S |
| | | Steering column, tilt | S | S | S | S |
| | | Theft-deterrent system, content theft alarm | S | S | S | S |
| | | Visors, driver and front passenger vanity mirrors | S | S | S | S |
| | | Warning tones, headlamp on and key-in-ignition | S | S | S | S |
| | | Windows, power with driver Express-Down and passenger lockout | S | S | S | S |
| | | Antenna, roof-mounted | S | S | S | S |
| | | Body, liftgate with fixed glass | S | S | S | S |
| | | Bumpers, front and rear, body-color with Charcoal lowers | S | S | S | S |
| | | Daytime Running Lamps | S | S | S | S |
| | T96 | Fog lamps, front halogen | -- | -- | S | S |
| AJ1 | | Glass, deep-tinted (all windows except light-tinted glass on windshield and driver- and front passenger-side glass) 1 - Fleet and government order types only. | A ¹ | S | S | S |
| | | Headlamps, halogen composite with automatic exterior lamp control | S | S | S | S |
| | | LS Exterior Appearance, includes body-color bumpers with Charcoal lowers, Charcoal luggage rails, Black door handles and 16" cast aluminum wheels | S | -- | -- | -- |
| | | LT Exterior Appearance, includes body-color bumpers with Charcoal lowers, body-color luggage rails, body-color door handles, body-color outside mirrors and cast aluminum wheels | -- | S | S | S |

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|-----------------------------|-----------------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | Luggage rack side rails, roof-mounted 1 - Body-color. | S | S ¹ | S ¹ | S ¹ |
| | D22 | Mirrors, outside power-adjustable, Black, manual-folding | S | -- | -- | -- |
| | DG7 | Mirrors, outside power-adjustable, body-color, manual-folding | -- | S | S | S |
| | | Moldings, body-color bodyside | S | S | S | S |
| | | Spoiler, rear, integrated | S | S | S | S |
| | QKG | Tires, P235/65R16 all-season, blackwall | S | S | -- | -- |
| | PY0 | Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm) cast aluminum, includes steel spare | S | S | -- | -- |
| | | Wipers, front intermittent | S | S | S | S |
| | | Wiper, rear intermittent with washer | S | S | S | S |
| | | Battery, maintenance-free with rundown protection | S | S | S | S |
| | JL9 | NEW! Brakes, 4-wheel antilock, 4-wheel disc | S | S | S | S |
| | LNJ | Engine, 3.4L 3400 V6 (185 hp [138.0 kW] @ 5200 rpm, 210 lb-ft of torque [283.8 N-m] @ 3800 rpm) | S | S | S | S |
| | C4Q | GVWR, 5070 lbs (2300 kg) | S | S | S | S |
| | | Rear axle, 2.48 ratio | S | S | S | S |
| | | NEW! StabiliTrak, stability control system | S | S | S | S |
| | | Steering, power-assist, electric-variable | S | S | S | S |
| | | Suspension, front independent, strut-type with coil springs | S | S | S | S |
| | | Suspension, rear independent trailing arm with 3 lateral locating links and coil springs | S | S | S | S |
| | | Traction control | S | S | S | S |
| | MX0 | Transmission, 5-speed automatic, electronically controlled | S | S | S | S |

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■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

No deletions allowed to Equipment Groups. Additional options may be added; check ordering information section for compatibility.

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|-----------------------------|-----------------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | | | | |
| ASF | | Air bags , head curtain side-impact, front and rear outboard seating positions with rollover sensor 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | A ¹ | A ¹ | A ¹ | ■ ¹ |
| US8 | | NEW! Audio system , AM/FM stereo with CD/MP3 player, seek-scan, digital clock, auto-tone control, Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers 1 - Upgradeable to (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | A | □ ¹ | □ ¹ | □ ¹ |
| U65 | | Audio system feature , Pioneer premium 7-speaker system with amplifier and subwoofer 1 - Requires (US8) AM/FM stereo with CD/MP3 player, (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | -- | A ¹ | A | ■ |
| | DD7 | Mirror , inside rearview auto dimming with compass | -- | -- | ■ | ■ |
| | | Mirror , inside rearview auto-dimming with compass 1 - Included and only available with (UE1) OnStar. | -- | -- | A ¹ | ■ ¹ |

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|--------------------|--------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | <p>1 - Equipment group 1LS available on 1LF26 and 1LG26 Models.</p> <p>2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26.</p> | | | | |
| UE1 | | <p>OnStar, 1-year of Safe and Sound plan. Includes Automatic Notification of Air Bag Deployment, Stolen Vehicle Location Assistance, Emergency Services, Roadside Assistance, Remote Door Unlock, OnStar Vehicle Diagnostics, Hands-Free Calling, AccidentAssist and Remote Horn & Lights</p> <p>1 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (NP5) leather-wrapped steering wheel, (UK3) steering-wheel mounted audio controls and inside rearview manual day/night mirror. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> <p>2 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (DD7) inside rearview auto-dimming mirror with compass. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> | A ¹ | A ¹ | A ² | ■ ² |
| AP3 | | NEW! Remote vehicle start , includes enhanced Remote Keyless Entry | -- | A | ■ | ■ |
| | AG1 | Seat adjuster , driver 6-way power with manual lumbar adjuster and map pocket | -- | -- | ■ | ■ |
| **2 | | Seat trim , leather seating inserts | -- | -- | A | ■ |
| KA1 | | Seats , heated driver and front passenger | -- | -- | A | ■ |
| | NP5 | Steering wheel , leather-wrapped 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| | UK3 | Steering wheel controls , mounted audio controls 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| V1K | | Luggage rack center rails , roof-mounted, Black 1 - Fleet and government order types only. | A ¹ | A | A | ■ |
| QLJ | | Tires , P235/60R17 all-season, blackwall 1 - Requires (N77) 4 - 17" x 7" bright chrome aluminum wheels. | -- | A ¹ | ■ | ■ |
| | N75 | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum 1 - Upgradeable to (N77) 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum wheels. | -- | -- | □ ¹ | -- |
| N77 | | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum 1 - Requires (QLJ) P235/60R17 all-season blackwall tires. | -- | A ¹ | A | ■ |

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■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

No deletions allowed to Equipment Groups. Additional options may be added; check ordering information section for compatibility.

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|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| ASF | | Air bags , head curtain side-impact, front and rear outboard seating positions with rollover sensor 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | A ¹ | A ¹ | A ¹ | ■ ¹ |
| US8 | | NEW! Audio system , AM/FM stereo with CD/MP3 player, seek-scan, digital clock, auto-tone control, Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers 1 - Upgradeable to (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | A | □ ¹ | □ ¹ | □ ¹ |
| U65 | | Audio system feature , Pioneer premium 7-speaker system with amplifier and subwoofer 1 - Requires (US8) AM/FM stereo with CD/MP3 player, (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | -- | A ¹ | A | ■ |
| | DD7 | Mirror , inside rearview auto dimming with compass | -- | -- | ■ | ■ |
| | | Mirror , inside rearview auto-dimming with compass 1 - Included and only available with (UE1) OnStar. | -- | -- | A ¹ | ■ ¹ |

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|--------------------|--------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | <p>1 - Equipment group 1LS available on 1LF26 and 1LG26 Models.</p> <p>2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26.</p> | | | | |
| UE1 | | <p>OnStar, 1-year of Safe and Sound plan. Includes Automatic Notification of Air Bag Deployment, Stolen Vehicle Location Assistance, Emergency Services, Roadside Assistance, Remote Door Unlock, OnStar Vehicle Diagnostics, Hands-Free Calling, Accident Assist and Remote Horn & Lights</p> <p>1 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (NP5) leather-wrapped steering wheel, (UK3) steering-wheel mounted audio controls and inside rearview manual day/night mirror. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> <p>2 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (DD7) inside rearview auto-dimming mirror with compass. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> | A ¹ | A ¹ | A ² | ■ ² |
| AP3 | | NEW! Remote vehicle start, includes enhanced Remote Keyless Entry | -- | A | ■ | ■ |
| | AG1 | Seat adjuster, driver 6-way power with manual lumbar adjuster and map pocket | -- | -- | ■ | ■ |
| **2 | | Seat trim, leather seating inserts | -- | -- | A | ■ |
| KA1 | | Seats, heated driver and front passenger | -- | -- | A | ■ |
| | NP5 | Steering wheel, leather-wrapped 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| | UK3 | Steering wheel controls, mounted audio controls 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| V1K | | Luggage rack center rails, roof-mounted, Black 1 - Fleet and government order types only. | A ¹ | A | A | ■ |
| QLJ | | Tires, P235/60R17 all-season, blackwall 1 - Requires (N77) 4 - 17" x 7" bright chrome aluminum wheels. | -- | A ¹ | ■ | ■ |
| | N75 | NEW! Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum 1 - Upgradeable to (N77) 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum wheels. | -- | -- | □ ¹ | -- |
| N77 | | NEW! Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum 1 - Requires (QLJ) P235/60R17 all-season blackwall tires. | -- | A ¹ | A | ■ |

| ADDITIONAL OPTIONS | | | | | | |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| ASF | | Air bags , head curtain side-impact, front and rear outboard seating positions with rollover sensor 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | A ¹ | A ¹ | A ¹ | ■ ¹ |
| US8 | | NEW! Audio system , AM/FM stereo with CD/MP3 player, seek-scan, digital clock, auto-tone control, Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers 1 - Upgradeable to (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | A | □ ¹ | □ ¹ | □ ¹ |
| US9 | | NEW! Audio system , AM/FM stereo with MP3 compatible 6-disc in-dash CD changer, seek-and-scan, digital clock, auto-tone control Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers | -- | A | A | A |
| UUC | | NEW! Audio system with DVD entertainment , AM/FM stereo with CD player, MP3 playback and DVD entertainment system, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, 2 wireless headsets with volume control and auxiliary input jack for Ipod/MP3 player 1 - Not available with (CF5) sunroof, power. | -- | A ¹ | A ¹ | A ¹ |
| U3U | | NEW! Audio system with navigation , AM/FM stereo with CD/MP3 player, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, map drive and auxiliary input jack for iPod/MP3 player 1 - Requires (U65) premium Pioneer 7-speaker system and (UE1) OnStar. | -- | A ¹ | A ¹ | A |
| U65 | | Audio system feature , Pioneer premium 7-speaker system with amplifier and subwoofer 1 - Requires (US8) AM/FM stereo with CD/MP3 player, (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | -- | A ¹ | A | ■ |

| ADDITIONAL OPTIONS | | | | | | |
|--------------------|--------------------|---|------------------|------------------|------------------|------------------|
| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | <p>1 - Equipment group 1LS available on 1LF26 and 1LG26 Models.</p> <p>2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26.</p> | | | | |
| U2K | | <p>XM Satellite Radio. With a wide variety of programming, XM has something to excite any driver. Whether you want to be entertained or informed, to laugh, think, or sing, XM has the perfect channel for you - coast-to-coast, and in digital-quality sound. 3 trial months - no obligation</p> <p>1 - Not available with (U1C) AM/FM stereo with CD player. Available in the 48 contiguous United States. Required \$12.95 monthly subscription sold separately. All fees and programming subject to change. Subscription subject to customer agreement. For more information, visit gm.xmradio.com.</p> <p>2 - Available in the 48 contiguous United States. Required \$12.95 monthly subscription sold separately. All fees and programming subject to change. Subscription subject to customer agreement. For more information, visit gm.xmradio.com.</p> | -- | A ¹ | A ² | A ² |
| B58 | | <p>Floor mats, carpeted front and rear, removable</p> <p>1 - Fleet and government order types only.</p> | A ¹ | S | S | S |
| UE1 | | <p>OnStar, 1-year of Safe and Sound plan. Includes Automatic Notification of Air Bag Deployment, Stolen Vehicle Location Assistance, Emergency Services, Roadside Assistance, Remote Door Unlock, OnStar Vehicle Diagnostics, Hands-Free Calling, AccidentAssist and Remote Horn & Lights</p> <p>1 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (NP5) leather-wrapped steering wheel, (UK3) steering-wheel mounted audio controls and inside rearview manual day/night mirror. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> <p>2 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (DD7) inside rearview auto-dimming mirror with compass. Not available with a ship-to of Puerto Rico or the Virgin Islands.</p> | A ¹ | A ¹ | A ² | ■ ² |
| AP3 | | NEW! Remote vehicle start, includes enhanced Remote Keyless Entry | -- | A | ■ | ■ |
| AP8 | | NEW! Remote vehicle starter prep package, includes enhanced remote keyless entry | -- | A | -- | -- |
| **2 | | Seat trim, leather seating inserts | -- | -- | A | ■ |
| KA1 | | Seats, heated driver and front passenger | -- | -- | A | ■ |

| ADDITIONAL OPTIONS | | | | | | |
|-----------------------------|-----------------------------|---|------------------|------------------|------------------|------------------|
| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| CF5 | | Sunroof , power, tilt-sliding with Express-Open and wind deflector 1 - Not available with (UUC) audio system, AM/FM stereo with CD player, MP3 playback and DVD entertainment system. | -- | A ¹ | A ¹ | A ¹ |
| AJ1 | | Glass , deep-tinted (all windows except light-tinted glass on windshield and driver- and front passenger-side glass) 1 - Fleet and government order types only. | A ¹ | S | S | S |
| V1K | | Luggage rack center rails , roof-mounted, Black 1 - Fleet and government order types only. | A ¹ | A | A | ■ |
| QLJ | | Tires , P235/60R17 all-season, blackwall 1 - Requires (N77) 4 - 17" x 7" bright chrome aluminum wheels. | -- | A ¹ | ■ | ■ |
| N77 | | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum 1 - Requires (QLJ) P235/60R17 all-season blackwall tires. | -- | A ¹ | A | ■ |
| QZ7 | | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) polished forged aluminum | -- | -- | A | -- |
| FE9 | | Emissions , Federal requirements | A | A | A | A |
| NE1 | | Emissions , Maine, Massachusetts, New York or Vermont state requirements | A | A | A | A |
| YF5 | | Emissions , California state requirements | A | A | A | A |
| NB8 | | Emissions override , California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Federal emissions requirements | A ¹ | A ¹ | A ¹ | A ¹ |
| NC7 | | Emissions override Federal (for vehicles ordered by dealers in Federal emission states with California, New York, Vermont, Massachusetts or Maine emissions; may also be used by dealers in states of California, New York, Vermont, Massachusetts or Maine to order different state-specific emissions) 1 - Requires (YF5) California state emissions requirements or (NE1) Massachusetts, Maine, New York and Vermont state emissions requirements. | A ¹ | A ¹ | A ¹ | A ¹ |
| K05 | | Engine block heater | A | A | A | A |
| V92 | | Trailer equipment , includes rear receiver hitch and 4-wire connection | A | A | A | A |

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available

■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

No deletions allowed to Equipment Groups. Additional options may be added; check ordering information section for compatibility.

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|-----------------------------|-----------------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| US8 | | NEW! Audio system, AM/FM stereo with CD/MP3 player 1 - Upgradeable to (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | | □ ¹ | □ ¹ | □ ¹ |
| | NP5 | Steering wheel, leather-wrapped | | ■ | ■ | ■ |
| | UK3 | Steering wheel controls, mounted audio controls | | ■ | ■ | ■ |
| | DD7 | Mirror, inside rearview auto dimming | | | ■ | ■ |
| AP3 | | NEW! Remote vehicle start | | | ■ | ■ |
| | AG1 | Seat adjuster, driver 6-way power | | | ■ | ■ |
| QLJ | | Tires, P235/60R17 all-season, blackwall | | | ■ | ■ |
| | N75 | NEW! Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum 1 - Upgradeable to (N77) 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum wheels. | | | □ ¹ | |
| ASF | | Air bags, head curtain side-impact, front and rear outboard seating positions | | | | ■ |
| U65 | | Audio system feature, Pioneer premium 7-speaker system | | | | ■ |
| V1K | | Luggage rack center rails, roof-mounted, Black | | | | ■ |
| | | Mirror, inside rearview auto-dimming | | | | ■ |
| UE1 | | OnStar, 1-year of Safe and Sound plan | | | | ■ |
| KA1 | | Seats, heated driver and front passenger | | | | ■ |
| **2 | | Seat trim, leather | | | | ■ |
| N77 | | NEW! Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum | | | | ■ |

2007 Chevrolet Truck Equinox
INTERIOR

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available

■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | | | | |
| | AK5 | Air bags , dual-stage frontal, driver and right-front passenger with Passenger Sensing System 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | S ¹ | S ¹ | S ¹ | S ¹ |
| ASF | | Air bags , head curtain side-impact, front and rear outboard seating positions with rollover sensor 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information. | A ¹ | A ¹ | A ¹ | ■ ¹ |
| | C67 | Air conditioning , single-zone manual | S | S | S | S |
| | | Armrest , front center console with concealed storage | S | S | S | S |
| | | NEW! Armrest , center, rear with 2 additional cupholders | -- | S | S | S |
| | U1C | NEW! Audio system , AM/FM stereo with CD player, seek-and-scan, digital clock, auxiliary input jack for Ipod/MP3 player and 6 speakers | S | -- | -- | -- |
| US8 | | NEW! Audio system , AM/FM stereo with CD/MP3 player, seek-scan, digital clock, auto-tone control, Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers 1 - Upgradeable to (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | A | □ ¹ | □ ¹ | □ ¹ |
| US9 | | NEW! Audio system , AM/FM stereo with MP3 compatible 6-disc in-dash CD changer, seek-and-scan, digital clock, auto-tone control Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers | -- | A | A | A |
| UUC | | NEW! Audio system with DVD entertainment , AM/FM stereo with CD player, MP3 playback and DVD entertainment system, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, 2 wireless headsets with volume control and auxiliary input jack for Ipod/MP3 player 1 - Not available with (CF5) sunroof, power. | -- | A ¹ | A ¹ | A ¹ |

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| U3U | | NEW! Audio system with navigation , AM/FM stereo with CD/MP3 player, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, map drive and auxiliary input jack for iPod/MP3 player 1 - Requires (U65) premium Pioneer 7-speaker system and (UE1) OnStar. | -- | A ¹ | A ¹ | A |
| U65 | | Audio system feature , Pioneer premium 7-speaker system with amplifier and subwoofer 1 - Requires (US8) AM/FM stereo with CD/MP3 player, (US9) AM/FM stereo with MP3 compatible 6-disc in-dash CD changer or (UUC) AM/FM stereo with CD player, MP3 playback and DVD entertainment system or (U3U) AM/FM stereo with CD/MP3 player and navigation system. | -- | A ¹ | A | ■ |
| U2K | | XM Satellite Radio . With a wide variety of programming, XM has something to excite any driver. Whether you want to be entertained or informed, to laugh, think, or sing, XM has the perfect channel for you - coast-to-coast, and in digital-quality sound. 3 trial months - no obligation 1 - Not available with (U1C) AM/FM stereo with CD player. Available in the 48 contiguous United States. Required \$12.95 monthly subscription sold separately. All fees and programming subject to change. Subscription subject to customer agreement. For more information, visit gm.xmradio.com. 2 - Available in the 48 contiguous United States. Required \$12.95 monthly subscription sold separately. All fees and programming subject to change. Subscription subject to customer agreement. For more information, visit gm.xmradio.com. | -- | A ¹ | A ² | A ² |
| | AP9 | Cargo net , full-across rear | -- | S | S | S |
| | | Console , center with armrest and concealed storage | S | S | S | S |
| | | Console , floor with storage bin | S | S | S | S |
| | K34 | Cruise control , electronic with set and resume speed | S | S | S | S |
| | | Cup holders , 3 front and 2 rear | S | S | S | S |
| | | Defogger , rear-window electric | S | S | S | S |
| | | Door locks , power programmable, includes remote keyless entry | S | S | S | S |
| | | Door locks , rear child security | S | S | S | S |
| | | NEW! Driver Information Center , monitors various systems | S | S | S | S |
| B58 | | Floor mats , carpeted front and rear, removable 1 - Fleet and government order types only. | A ¹ | S | S | S |
| | | Instrumentation , electronic with speedometer, single trip odometer, fuel level, engine temperature and tachometer | S | S | S | S |
| | | NEW! Instrument panel trim , warm Sycamore | -- | S | S | S |

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|-----------------------------|-----------------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | LATCH system (Lower Anchors and Top tethers for Children), for child safety seats | S | S | S | S |
| | | Lighting , interior with theatre dimming, center-mounted dome and rear cargo area | S | S | S | S |
| | | LS Interior Trim Package , with Manhattan Cloth | S | -- | -- | -- |
| | | LT Trim Package , with Premium Cloth, cargo net and driver seatback map pocket | -- | S | S | -- |
| | | Mirror , inside rearview manual day/night | S | S | -- | -- |
| | | Mirror , inside rearview manual day/night 1 - Included and only available with (UE1) OnStar. | A ¹ | A ¹ | -- | -- |
| | DD7 | Mirror , inside rearview auto dimming with compass | -- | -- | ■ | ■ |
| | | Mirror , inside rearview auto-dimming with compass 1 - Included and only available with (UE1) OnStar. | -- | -- | A ¹ | ■ ¹ |
| UE1 | | OnStar , 1-year of Safe and Sound plan. Includes Automatic Notification of Air Bag Deployment, Stolen Vehicle Location Assistance, Emergency Services, Roadside Assistance, Remote Door Unlock, OnStar Vehicle Diagnostics, Hands-Free Calling, AccidentAssist and Remote Horn & Lights 1 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (NP5) leather-wrapped steering wheel, (UK3) steering-wheel mounted audio controls and inside rearview manual day/night mirror. Not available with a ship-to of Puerto Rico or the Virgin Islands. 2 - OnStar services require vehicle electrical system (including battery), wireless service and GPS satellite signals to be available and operating for features to function properly. OnStar acts as a link to existing emergency service providers. OnStar Vehicle Diagnostics available on most 2004 MY and newer GM vehicles. Diagnostic capability varies by model. Visit onstar.com for system limitations and details. Includes (DD7) inside rearview auto-dimming mirror with compass. Not available with a ship-to of Puerto Rico or the Virgin Islands. | A ¹ | A ¹ | A ² | ■ ² |
| | | Power outlets , 3 auxiliary with covers, 12-volt, includes 1 front, 1 rear and 1 in the cargo area | S | S | S | S |
| | AU0 | Remote Keyless Entry , with 2 transmitters, panic button, content theft alarm, activation verification and illuminated entry | S | S | -- | -- |
| AP3 | | NEW! Remote vehicle start , includes enhanced Remote Keyless Entry | -- | A | ■ | ■ |
| AP8 | | NEW! Remote vehicle starter prep package , includes enhanced remote keyless entry | -- | A | -- | -- |

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|--------------------|--------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | Safety belts , 3-point, driver and right-front passenger, height-adjustable includes pretensioners | S | S | S | S |
| | | Safety belts , 3-point, rear, all seating positions | S | S | S | S |
| | | Seat , front passenger flat-folding seatback | S | S | S | S |
| | | Seats , front bucket, includes driver manual height seat adjuster | S | S | -- | -- |
| | AG1 | Seat adjuster , driver 6-way power with manual lumbar adjuster and map pocket | -- | -- | ■ | ■ |
| **2 | | Seat trim , leather seating inserts | -- | -- | A | ■ |
| KA1 | | Seats , heated driver and front passenger | -- | -- | A | ■ |
| | | Seats , rear Multi-Flex 60/40 split-seatback bench with 2-position recline | S | S | S | S |
| | | Steering column , tilt | S | S | S | S |
| | NP5 | Steering wheel , leather-wrapped 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| | UK3 | Steering wheel controls , mounted audio controls 1 - Included and only available with (UE1) OnStar. | A ¹ | ■ | ■ | ■ |
| CF5 | | Sunroof , power, tilt-sliding with Express-Open and wind deflector 1 - Not available with (UUC) audio system, AM/FM stereo with CD player, MP3 playback and DVD entertainment system. | -- | A ¹ | A ¹ | A ¹ |
| | | Theft-deterrent system , content theft alarm | S | S | S | S |
| | | Visors , driver and front passenger vanity mirrors | S | S | S | S |
| | | Warning tones , headlamp on and key-in-ignition | S | S | S | S |
| | | Windows , power with driver Express-Down and passenger lockout | S | S | S | S |

2007 Chevrolet Truck Equinox
EXTERIOR

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available
 ■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | Antenna, roof-mounted | S | S | S | S |
| | | Body, liftgate with fixed glass | S | S | S | S |
| | | Bumpers, front and rear, body-color with Charcoal lowers | S | S | S | S |
| | | Daytime Running Lamps | S | S | S | S |
| | T96 | Fog lamps, front halogen | -- | -- | S | S |
| AJ1 | | Glass, deep-tinted (all windows except light-tinted glass on windshield and driver- and front passenger-side glass) 1 - Fleet and government order types only. | A ¹ | S | S | S |
| | | Headlamps, halogen composite with automatic exterior lamp control | S | S | S | S |
| | | LS Exterior Appearance, includes body-color bumpers with Charcoal lowers, Charcoal luggage rails, Black door handles and 16" cast aluminum wheels | S | -- | -- | -- |
| | | LT Exterior Appearance, includes body-color bumpers with Charcoal lowers, body-color luggage rails, body-color door handles, body-color outside mirrors and cast aluminum wheels | -- | S | S | S |
| | | Luggage rack side rails, roof-mounted 1 - Body-color. | S | S ¹ | S ¹ | S ¹ |
| V1K | | Luggage rack center rails, roof-mounted, Black 1 - Fleet and government order types only. | A ¹ | A | A | ■ |
| | D22 | Mirrors, outside power-adjustable, Black, manual-folding | S | -- | -- | -- |
| | DG7 | Mirrors, outside power-adjustable, body-color, manual-folding | -- | S | S | S |
| | | Moldings, body-color bodyside | S | S | S | S |
| | | Spoiler, rear, integrated | S | S | S | S |
| | QKG | Tires, P235/65R16 all-season, blackwall | S | S | -- | -- |
| QLJ | | Tires, P235/60R17 all-season, blackwall 1 - Requires (N77) 4 - 17" x 7" bright chrome aluminum wheels. | -- | A ¹ | ■ | ■ |
| | PY0 | Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm) cast aluminum, includes steel spare | S | S | -- | -- |

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|-----------------------------|-----------------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | | | | |
| | N75 | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum 1 - Upgradeable to (N77) 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum wheels. | -- | -- | Π ¹ | -- |
| N77 | | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum 1 - Requires (QLJ) P235/60R17 all-season blackwall tires. | -- | A ¹ | A | ■ |
| QZ7 | | NEW! Wheels , 4 - 17" x 7" (43.2 cm x 17.8 cm) polished forged aluminum | -- | -- | A | -- |
| | | Wipers , front intermittent | S | S | S | S |
| | | Wiper , rear intermittent with washer | S | S | S | S |

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available

■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | LS | LT | | LT |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | Battery, maintenance-free with rundown protection | S | S | S | S |
| | JL9 | NEW! Brakes, 4-wheel antilock, 4-wheel disc | S | S | S | S |
| FE9 | | Emissions, Federal requirements | A | A | A | A |
| NE1 | | Emissions, Maine, Massachusetts, New York or Vermont state requirements | A | A | A | A |
| YF5 | | Emissions, California state requirements | A | A | A | A |
| NB8 | | Emissions override, California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Federal emissions requirements | A ¹ | A ¹ | A ¹ | A ¹ |
| NC7 | | Emissions override Federal (for vehicles ordered by dealers in Federal emission states with California, New York, Vermont, Massachusetts or Maine emissions; may also be used by dealers in states of California, New York, Vermont, Massachusetts or Maine to order different state-specific emissions) 1 - Requires (YF5) California state emissions requirements or (NE1) Massachusetts, Maine, New York and Vermont state emissions requirements. | A ¹ | A ¹ | A ¹ | A ¹ |
| | LNJ | Engine, 3.4L 3400 V6 (185 hp [138.0 kW] @ 5200 rpm, 210 lb-ft of torque [283.8 N-m] @ 3800 rpm) | S | S | S | S |
| K05 | | Engine block heater | A | A | A | A |
| | C4Q | GVWR, 5070 lbs (2300 kg) | S | S | S | S |
| | | Rear axle, 2.48 ratio | S | S | S | S |
| | | NEW! StabiliTrak, stability control system | S | S | S | S |
| | | Steering, power-assist, electric-variable | S | S | S | S |
| | | Suspension, front independent, strut-type with coil springs | S | S | S | S |
| | | Suspension, rear independent trailing arm with 3 lateral locating links and coil springs | S | S | S | S |
| V92 | | Trailer equipment, includes rear receiver hitch and 4-wire connection | A | A | A | A |
| | | Traction control | S | S | S | S |
| | MX0 | Transmission, 5-speed automatic, electronically controlled | S | S | S | S |

S = Standard Equipment A = Available -- (dashes) = Not Available

■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

| | | Transmissions | Axles | GVWR lbs. (kg) |
|-------|---------------------|-----------------------------|-------|-----------------------|
| Model | Engine | MX0 5-Speed Automatic | 2.48 | C4Q 5070 (2300) |
| 1LF26 | LNJ 3.4L 3400 V6 | S | S | S |
| 1LN26 | LNJ 3.4L 3400 V6 | S | S | S |
| 1LG26 | LNJ 3.4L 3400 V6 | S | S | S |
| 1LP26 | LNJ 3.4L 3400 V6 | S | S | S |

S = Standard Equipment A = Available -- (dashes) = Not Available

■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

| Decor Level | Seat Type | Seat Code | Seat Trim | Interior | | |
|-------------|--------------------------------|-----------|----------------------|-----------|------------------|------------------|
| | | | | Dark Gray | Light Cashmere | Light Gray |
| LS | Seats, front reclining buckets | AR9 | Manhattan Cloth | 14B | 31B | -- |
| LT | Seats, front reclining buckets | AR9 | Premium Cloth | 14C | 31C | -- |
| LT | Seats, front reclining buckets | AR9 | Leather seat inserts | -- | 312 ¹ | 142 ² |

| Exterior Solid Paint | Color Code | Touch Up Paint Number | Interior | | |
|-------------------------------------|------------|-----------------------|-----------|----------------|------------|
| | | | Dark Gray | Light Cashmere | Light Gray |
| Sandstone Metallic | 15U | WA-231M | -- | A | -- |
| Black | 19U | WA-990A | A | A | A |
| Laser Blue Metallic | 21U | WA-227M | A | A | A |
| Bermuda Green Metallic ³ | 36U | WA-365N | A | A | A |
| NEW! Granite Gray Metallic | 44U | WA-434P | A | -- | A |
| NEW! Deep Ruby Metallic | 66U | WA-431P | A | A | A |
| NEW! Silverstone Metallic | 67U | WA-433P | A | -- | A |
| Black Amethyst Metallic | 71U | WA-366N | A | A | A |
| Summit White | 96U | WA-686H | A | A | A |

1 - Light Cashmere Leather seat inserts available only on 2LT or 3LT.

2 - Light Gray Leather seat inserts available only on 2LT or 3LT.

3 - Extra cost. Not available on 1LS.

S = Standard Equipment A = Available -- (dashes) = Not Available D = ADI Available
 ■ = Included in Equipment Group □ = Included in Equipment Group but upgradeable

*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

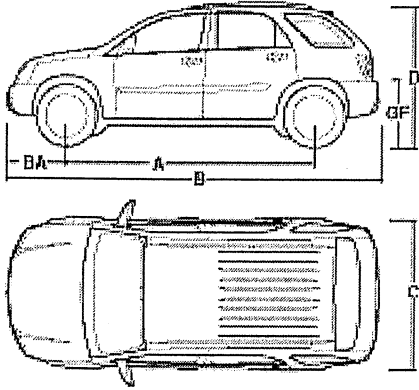
Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|--------------------|--------------------|--|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | 1 - Equipment group 1LS available on 1LF26 and 1LG26 Models. 2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26. | | | | |
| R8G | | OnStar, 1-Year Additional Safe and Sound Service, following the first year of OnStar Safe and Sound Service already included in the price of the vehicle. (RFB) OnStar, 2-Years Business Vehicle Manager Service is compatible 1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8U, R8V, R8W, or R8Z. | A ¹ | A ¹ | A ¹ | A ¹ |
| R8P | | OnStar, 2-Years Additional Safe and Sound Service, following the first year of OnStar Safe and Sound Service already included in the price of the vehicle. (RFC) OnStar, 3-Years Business Vehicle Manager Service is compatible 1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8U, R8V, R8W or R8Z. | A ¹ | A ¹ | A ¹ | A ¹ |
| R8U | | OnStar, 2-Years Commercial Premium Service, in the first year, this is in lieu of the standard OnStar Service included in the price of the vehicle. (RFB) OnStar, 2-Years Business Vehicle Manager Service is compatible 1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8V, R8W or R8Z. | A ¹ | A ¹ | A ¹ | A ¹ |
| R8V | | OnStar, 3-Years Commercial Premium Service, in the first year, this is in lieu of the standard OnStar Service included in the price of the vehicle. (RFC) OnStar, 3-Years Business Vehicle Manager Service is compatible 1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8U, R8W or R8Z. | A ¹ | A ¹ | A ¹ | A ¹ |
| R8W | | OnStar, 1-Year Directions and Connections Service, upgrades the OnStar Safe and Sound Service included in the price of the vehicle in the first year. (RFA) 1-Year OnStar Business Vehicle Manager Service is compatible 1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8U, R8V or R8Z. | A ¹ | A ¹ | A ¹ | A ¹ |

| Free Flow RPO Code | Ref. Only RPO Code | Description | LS | LT | | LT |
|-----------------------------|-----------------------------|---|------------------|------------------|------------------|------------------|
| | | | 1LS ¹ | 1LT ² | 2LT ² | 3LT ² |
| | | <p>1 - Equipment group 1LS available on 1LF26 and 1LG26 Models.</p> <p>2 - Equipment groups 1LT, 2LT and 3LT available on 1LN26 and 1LP26.</p> | | | | |
| R8Y | | <p>OnStar, 2-Years Directions and Connections Service, in the first year, this is an upgrade from the OnStar Safe and Sound Service included in the price of the vehicle. (RFB) 2-Years OnStar Business Vehicle Manager Service is compatible</p> <p>1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8U, R8V, R8W, or R8Z.</p> | A ¹ | A ¹ | A ¹ | A ¹ |
| R8Z | | <p>OnStar, 3-Years Directions and Connections Service, in the first year, this is an upgrade from the OnStar Safe and Sound Service included in the price of the vehicle. (RFC) OnStar, 3-Years Business Vehicle Manager Service is compatible</p> <p>1 - Requires one of the following Fleet or Government order types - FLS, FNR, FRC, FBC, FGO, FEF. Not available with R8P, R8U, R8V or R8W.</p> | A ¹ | A ¹ | A ¹ | A ¹ |
| RFA | | <p>OnStar, 1-Year Business Vehicle Manager Service</p> <p>1 - Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO, FEF. Requires (UE1) OnStar, 1-year Safe & Sound service. Not available with RFB or RFC.</p> | A ¹ | A ¹ | A ¹ | A ¹ |
| RFB | | <p>OnStar, 2-Years Business Vehicle Manager Service</p> <p>1 - Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO, FEF. Requires (UE1) OnStar, 1-year of Safe & Sound service and either R8G, R8U, or R8Y which provide for a total of two years of OnStar service. Not available with RFA or RFC.</p> | A ¹ | A ¹ | A ¹ | A ¹ |
| RFC | | <p>OnStar, 3-Years Business Vehicle Manager Service</p> <p>1 - Requires one of the following Fleet or Government order types: FLS, FNR, FRC, FBC, FGO, FEF. Requires (UE1) OnStar, 1-year of Safe & Sound service and either R8P, R8V, or R8Z which provide for a total of three years of OnStar service. Not available with RFA or RFB.</p> | A ¹ | A ¹ | A ¹ | A ¹ |

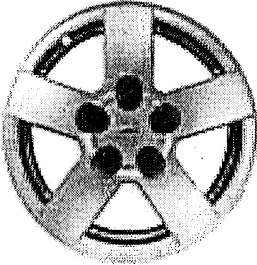
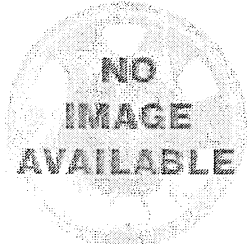

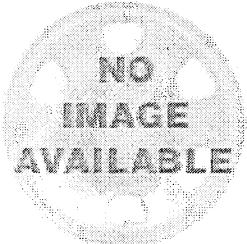
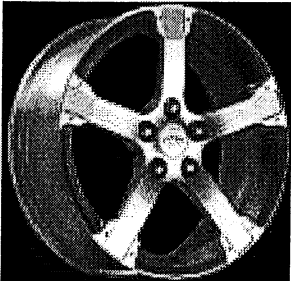
| |
|---|
| Cargo Management |
| Bicycle and Ski Carrier Wall Storage Unit |
| Bicycle/Ski Carrier Lock Package - Includes 2 keys |
| Console Storage Bag - Silver and Gold Bowtie and Equinox Logo, Black |
| Hitch Mounted Bicycle Carrier - Carries 4 Bikes |
| Hitch-Mounted Ski Carrier carries 5 pair of skis or 4 snowboards and 1 pair of skis |
| Rear Cargo Organizer - With Bowtie Logo, 3 Compartments, (30"x35"x5" High), Ebony |
| Roof-Mounted Soft Cargo Carrier - White Chevy Bowtie Logo |
| Exterior |
| Black Bezel Tail Lamps |
| Molded Hood Protector - No Logo, Black |
| Molded Hood Protector - No Logo, Silver |
| Molded Hood Protector - No Logo, Smoke |
| Molded Splash Guards - Equinox Logo, Charcoal Gray |
| Molded Splash Guards - Front No Logo - Charcoal Gray |
| Molded Splash Guards - Front, No Logo, Charcoal |
| Side Window Weather Deflector - Includes Front and Rear |
| Side Window Weather Deflector - Includes Front and Rear, Smoke |
| Tubular Assist Steps - Black with Black Pad, Raised Rectangle |
| Tubular Assist Steps - Smooth, Silver with Black Pad, Raised Rectangle |
| Interior |
| Cargo Security Shade - Ebony |
| Door Sill Plate with Equinox Logo |
| Highway Emergency Kit with GM Accessory Logo |
| Smoker's Package - Includes Lighter |
| Visor CD/DVD Holder - Holds 12 CDs/DVDs |
| Performance |
| Exhaust Tips - Chrome with rolled end |
| Trailer |
| Hitch - Ball Mount Assembly |
| Trailer Package - 3500LB Load Capacity, 400LB Tongue Capacity - Includes Ball Mount |
| Wheels |
| 17 inch Wheel - LF614 Polished |
| 17 inch Wheel - LF966 Chrome |
| Center Cap - With Chevy Bowtie logo, Polished |
| Lug Nut - Polished Multipack (240pc) |
| Tire - 17 inch - BRIDGESTONE DUELER H/T (D684 II) P235/60R17 BW (TPC 1205MS) |
| Wheel Lock Kit - Requires Lug Nut Cap (4 Nuts, 1 Key) |

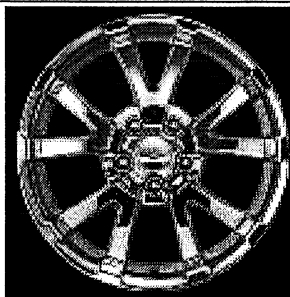
All dimensions in inches (mm) unless otherwise stated.

| | | Specifications | | | |
|---|----|-------------------------------------|------------------|------------------|------------------|
| | | 1LF26 FWD LS | 1LN26 FWD LT | 1LG26 AWD LS | 1LP26 AWD LT |
|  | A | Wheelbase | 112.50 (2858) | 112.50 (2858) | 112.50 (2858) |
| | B | Overall length | 188.80 (4796) | 188.80 (4796) | 188.80 (4796) |
| | C | Body width | 71.40 (1814) | 71.40 (1814) | 71.40 (1814) |
| | D | Overall height | 69.30 (1760) | 69.30 (1760) | 69.30 (1760) |
| | | Front track width | 61.60 (1565) | 61.60 (1565) | 61.60 (1565) |
| | | Rear track width | 61.80 (1570) | 61.80 (1570) | 61.80 (1570) |
| | | Head room, front | 40.90 (1039) | 40.90 (1039) | 40.90 (1039) |
| | | Head room, rear | 40.10 (1019) | 40.10 (1019) | 40.10 (1019) |
| | | Head room, front w/optional sunroof | 39.80 (1011) | 39.80 (1011) | 39.80 (1011) |
| | | Shoulder room, front | 55.70 (1415) | 55.70 (1415) | 55.70 (1415) |
| | | Shoulder room, rear | 55.90 (1420) | 55.90 (1420) | 55.90 (1420) |
| | | Hip room, front | 51.10 (1298) | 51.10 (1298) | 51.10 (1298) |
| | | Hip room, rear | 51.30 (1303) | 51.30 (1303) | 51.30 (1303) |
| | | Leg room, front | 41.20 (1046) | 41.20 (1046) | 41.20 (1046) |
| | | Leg room, rear | 40.20 (1021) | 40.20 (1021) | 40.20 (1021) |
| | BA | Front bumper, to axle | 37.50 (952) | 37.50 (952) | 37.50 (952) |
| | GF | Ground to top of rear load floor | 28.60 (726) | 28.60 (726) | 28.60 (726) |


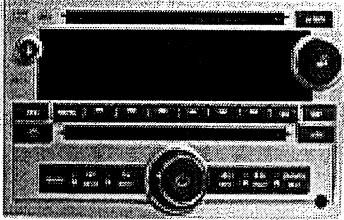
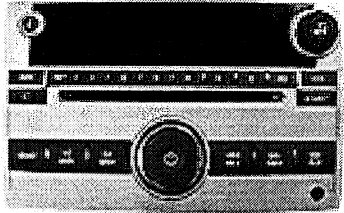
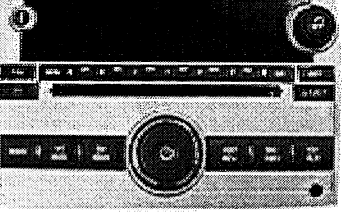

Published dimensions indicated are without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in these dimensions.

| | 1LN26 FWD LT | 1LF26 FWD LS | 1LG26 AWD LS | 1LP26 AWD LT |
|--|-----------------|-----------------|-----------------|-----------------|
| Capacities | | | | |
| Cargo volume, behind 1st row seat, cu. ft. (liters) | 68.6 (1942.8) | 68.6 (1942.8) | 68.6 (1942.8) | 68.6 (1942.8) |
| Cargo volume, maximum behind 2nd row seats, cu. ft. (liters) | 35.2 (996.9) | 35.2 (996.9) | 35.2 (996.9) | 35.2 (996.9) |
| Fuel capacity, approximate, gallon (liters) | 16 (61) | 16 (61) | 16 (61) | 16 (61) |
| Seating capacity (front/rear) | 2/3 | 2/3 | 2/3 | 2/3 |

| | |
|---|---|
|  | <p>PY0 Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm) cast aluminum, includes steel spare</p> |
|  | <p>N75 Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum</p> |
|  | <p>N77 Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum</p> |
|  | <p>QZ7 Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) polished forged aluminum</p> |
|  | <p>ADI Available LF614, 17 inch Wheel - LF614 Polished</p> |



ADI Available
LF966, 17 inch Wheel - LF966 Chrome

| | |
|---|---|
|  <p>No Image Available</p> | <p>US9 Audio system, AM/FM stereo with MP3 compatible 6-disc in-dash CD changer, seek-and-scan, digital clock, auto-tone control Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers</p> |
|  | <p>UUC Audio system with DVD entertainment, AM/FM stereo with CD player, MP3 playback and DVD entertainment system, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, 2 wireless headsets with volume control and auxiliary input jack for Ipod/MP3 player</p> |
|  | <p>U1C Audio system, AM/FM stereo with CD player, seek-and-scan, digital clock, auxiliary input jack for Ipod/MP3 player and 6 speakers</p> |
|  | <p>US8 Audio system, AM/FM stereo with CD/MP3 player, seek-scan, digital clock, auto-tone control, Radio Data System (RDS), auxiliary input jack for Ipod/MP3 player and 6 speakers</p> |
|  <p>No Image Available</p> | <p>U3U Audio system with navigation, AM/FM stereo with CD/MP3 player, seek-and-scan, digital clock, auto-tone control, Radio Data System (RDS), automatic volume, TheftLock, map drive and auxiliary input jack for iPod/MP3 player</p> |

Maximum trailer ratings are calculated assuming standard equipped vehicle, driver and required trailering equipment. The weight of optional equipment, passengers and cargo will reduce the maximum trailer weight your vehicle can tow. 10 to 15% of the trailer weight is the recommended trailer tongue load.

| Automatic Transmission Ratings with Receiver Hitch | | |
|---|--------------------|-------------------------------------|
| Model | (LNJ) 3.4L, SFI V6 | |
| | Axle Ratio | Maximum Trailer Weight lbs. (kg) |
| 1LF26 | 2.70 | 3500 (1588) |
| 1LG26 | 2.70 | 3500 (1588) |
| 1LN26 | 2.70 | 3500 (1588) |
| 1LP26 | 2.70 | 3500 (1588) |
| Trailering capacity may be limited by tow vehicle ability to carry trailer tongue weight. | | |

| Option Code | Description |
|-------------|---|
| **2 | Seat trim, leather |
| AG1 | Seat adjuster, driver 6-way power |
| AJ1 | Glass, deep-tinted |
| AK5 | Air bags, dual-stage frontal, driver and right-front passenger |
| AP3 | Remote vehicle start |
| AP8 | Remote vehicle starter prep package |
| AP9 | Cargo net, full-across rear |
| ASF | Air bags, head curtain side-impact, front and rear outboard seating positions |
| AU0 | Remote Keyless Entry |
| B58 | Floor mats, carpeted front and rear |
| C4Q | GVWR, 5070 lbs (2300 kg) |
| C67 | Air conditioning, single-zone manual |
| CF5 | Sunroof, power |
| D22 | Mirrors, outside power-adjustable, Black |
| DD7 | Mirror, inside rearview auto dimming |
| DG7 | Mirrors, outside power-adjustable, body-color |
| FE9 | Emissions, Federal requirements |
| JL9 | Brakes, 4-wheel antilock, 4-wheel disc |
| K05 | Engine block heater |
| K34 | Cruise control |
| KA1 | Seats, heated driver and front passenger |
| LNJ | Engine, 3.4L 3400 V6 |
| MX0 | Transmission, 5-speed automatic |
| N75 | Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) pearl chrome aluminum |
| N77 | Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) bright chrome aluminum |
| NB8 | Emissions override |
| NC7 | Emissions override Federal |
| NE1 | Emissions, Maine, Massachusetts, New York or Vermont state requirements |
| NP5 | Steering wheel, leather-wrapped |
| PY0 | Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm) cast aluminum |
| QKG | Tires, P235/65R16 all-season, blackwall |
| QLJ | Tires, P235/60R17 all-season, blackwall |
| QZ7 | Wheels, 4 - 17" x 7" (43.2 cm x 17.8 cm) polished forged aluminum |
| R8G | OnStar, 1-Year Additional Safe and Sound Service |
| R8P | OnStar, 2-Years Additional Safe and Sound Service |
| R8U | OnStar, 2-Years Commercial Premium Service |
| R8V | OnStar, 3-Years Commercial Premium Service |
| R8W | OnStar, 1-Year Directions and Connections Service |
| R8Y | OnStar, 2-Years Directions and Connections Service |
| R8Z | OnStar, 3-Years Directions and Connections Service |
| RFA | OnStar, 1-Year Business Vehicle Manager Service |
| RFB | OnStar, 2-Years Business Vehicle Manager Service |
| RFC | OnStar, 3-Years Business Vehicle Manager Service |
| T96 | Fog lamps, front |
| U1C | Audio system, AM/FM stereo with CD player |
| U2K | XM Satellite Radio |
| U3U | Audio system with navigation, AM/FM stereo with CD/MP3 player |
| U65 | Audio system feature, Pioneer premium 7-speaker system |
| UE1 | OnStar, 1-year of Safe and Sound plan |

| Option Code | Description |
|-------------|---|
| UK3 | Steering wheel controls, mounted audio controls |
| US8 | Audio system, AM/FM stereo with CD/MP3 player |
| US9 | Audio system, AM/FM stereo with MP3 compatible 6-disc in-dash CD changer |
| UUC | Audio system with DVD entertainment, AM/FM stereo with CD player, MP3 playback and DVD entertainment system |
| V1K | Luggage rack center rails, roof-mounted, Black |
| V92 | Trailer equipment |
| YF5 | Emissions, California state requirements |

Updates for Equinox

Week of 5/8/2006

Effective 5/8/2006, the following changes will be made to the Vehicle Order Guide:

- Interior section-(U1C) Audio system, AM/FM stereo with CD player, changed the long description to read "seek-and-scan, digital clock, auxiliary input jack for Ipod/MP3 player and 6 speakers"