Chevrolet

Express Van



2004

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Product Information

2004 CHEVROLET EXPRESS: STRONG, SMART AND SURPRISING

Chevy Express simply delivers more for customers, whether they're looking for a passenger van, cargo van or a solid foundation for an RV conversion. Advanced safety and reliability features also enhance these hard-working vans for work or play.

Express is strong, with its stable of third-generation Vortec powerplants, standard four-wheel anti-lock disc brakes, 16-inch wheels and an independent front suspension.

Express is smart, with features like its advanced multiplexed electrical system, air filter monitor and a tow/haul switch to improve transmission shifts when pulling a trailer or hauling heavy loads.

And Express is surprising, with a long list of innovations, including a left-side passenger door, available side-access panels and all-wheel drive, the industry's first in a full-size van.

In addition, 15-passenger vans will be equipped with the StabiliTrak vehicle stability enhancement system in an interim change during the 2004 model-year production cycle.

StabiliTrak

StabiliTrak helps drivers maintain control of vehicles during certain difficult driving conditions such as ice, snow, gravel, wet pavement and uneven road surfaces, as well as in emergency lane changes or avoidance maneuvers. The system will be standard on all 15-passenger Express vans.

"By adding this system, we will take what we believe is already a very safe vehicle and make it even better," said Ray Chess, GM vehicle line executive, commercial trucks and vans. "This enhancement underscores GM's leadership in bringing this important safety technology to more customers than any of its competitors."

The vehicle stability enhancement system works by recognizing wheel skid. Sensors detect the difference between the steering wheel angle and the direction the driver is actually turning by "reading" the steering wheel position, the amount of sideways force in play, vehicle speed and the vehicle's response to steering-wheel input.

The system then uses the brakes to enhance control of the vehicle's direction and to help keep it on course. It automatically reduces the engine torque and applies precise amounts of pressure to the front right or left brakes to help keep the vehicle on track. These brake and engine interventions help realign the vehicle's actual path with that being steered by the driver.

"It is important to understand that no system is foolproof," said Robert C. Lange, GM executive director, structure and safety integration. "That is why we will continue to educate our customers on the unique operating characteristics of full-size, extended passenger vans and that they should be operated only by experienced drivers. We also support the advice of the National Highway Traffic Safety Administration that drivers and passengers in vans - and all other vehicles - always use safety belts. And we remind all vehicle occupants to obey state seat-belt use and child-passenger safety laws."

Vortec engines mean power

The advanced technology of Vortec Generation III engines helps Express to top comparable rivals in horsepower and acceleration.

The Vortec 4800 4.8L V-8 cranks out 275 horsepower (201 kw) and is used for heavy-duty applications in the 2500 Series cargo vans.

The Vortec 5300 5.3L V-8 has the ability to provide segment-leading acceleration. Used for light-duty applications, it churns out 285 horsepower (213 kw) and 325 lb.-ft. of torque (441 Nm), and is the standard engine in all-wheel-drive models.

Those seeking more power can opt for the Vortec 6000 - the segment's most powerful V-8. It's fuel-efficient and more than capable of handling heavy-duty trailering/hauling requirements.

An expanded array of models equipped with a Vortec 6000 V-8 offers fully converted, dedicated compressed natural gas (CNG) systems.

The 200 horsepower (149 kw) Vortec 4300 4.3L V-6 with multi-port fuel injection (previously available only in California) is now the base engine for light-duty G-vans in all 50 states. A central fuel injector delivers a separate flow of fuel to six individual hybrid injectors for better performance and improved emissions.

Express also features GM's unique tow/haul mode - a proven technology on Chevy full-size pickups and sport utilities. It reduces the frequency and improves the predictability of transmission shifts when pulling a trailer or carrying a heavy load.

Driving under control

Express offers a four-wheel power disc brake system with ABS as standard equipment. The system features the responsive Hydroboost hydraulic assist power brake booster. Light- and heavy-duty models include Dynamic Rear Proportioning (DRP), which recognizes changes in wheel speed and load variation and adjusts the amount of pressure applied to the rear brakes appropriately.

A three-piece, fully boxed frame increases torsional stiffness on the Express, which contributes to improved ride and handling and better isolation from the road. Large stabilizer bars - 33 mm on light-duty models and 35 mm on vehicles with 8,600-pound (3,901 kg) GVW and above - add stability. Standard 16-inch wheels provide for a more comfortable ride and power rack-and-pinion steering on all light-duty models provides more precise control.

Smart electrical system

An advanced multiplexed communication network transfers data throughout the vehicle to allow the instrument cluster to monitor and report on more than 20 system functions - it even tells a customer when to change oil. The system also supports features such as dual-level air bags (on light-duty models), lockout prevention, retained accessory power and battery-rundown protection. The rundown protection guards against battery drain if interior lights and/or headlamps and parking lamps are left on accidentally.

Plenty of innovation

Convenience is the key to an industry-exclusive 60/40 left-hand-side hinged door for flexible passenger entry/cargo loading capability. Available on regular-length passenger and cargo vans, the innovative feature offers easy access to the second-row seat/cargo compartment and third-row seat/rear compartment.

Express also offers three all-wheel-drive models. Superior traction provided by a viscous-coupled transfer case gives the best on-road, wet- or dry-pavement handling performance available on a full-size van. The system automatically transfers torque from slipping wheels to those with a firmer grip.

The Express Access provides innovative side access panels allowing easy access to cargo areas. These panels operate via remote key fob or internal mechanical release, a definite time saver for the vocational user.

Safety is a priority

Front-seat, dual-stage air bags - standard in all light-duty models up to 7,300-pounds (3,311 kg) GVW - tailor inflation speed to crash severity, minimizing the risk of injury to smaller occupants during low-speed crashes.

Standard safety enhancements include driver and front-passenger belts, three-point lap and shoulder belts in all first- and second-row seating positions, and the LATCH (Lower Anchors and Tethers for CHildren) system for child seats in passenger vans.

Express offers the security and convenience of GM's next-generation OnStar system on passenger and conversion models. OnStar is the leading provider of in-vehicle safety, security and information services in the U.S. and Canada. Using the Global Positioning System (GPS) satellite network and wireless technology, OnStar services include automatic notification of air bag deployment, stolen vehicle location, remote door unlock, emergency services dispatch, roadside assistance, remote diagnostics, route

support, convenience services and OnStar Concierge. OnStar Personal Calling allows drivers to make and receive hands-free, voice-activated phone calls through a nationwide network in cooperation with Verizon Wireless. Virtual Advisor (U.S. only) gives subscribers access to personalized information in a hands-free, voice-activated manner with no screens or displays.

Attention to the details

It isn't always just about power or performance. Express also attends to the details that sometimes can be overlooked. Express has supportive front seats, excellent lighting, quality fit and finish on panels, and safer trim. Express has integrated armrests, door pull handles, window and lock control switches and mirrors. Front doors include storage pockets.

An added storage tray, twin trip odometers, a second power outlet, a third console cupholder, loop-style coat hooks and durable carpeting are also provided. Power exterior rearview mirrors, available on some models, offer integrated turn-signal indicators, along with remote control and are electrically heated. Express continues to offer superb features such as the wide rear cargo-door openings and the low step-in heights.

Express vans also continue to offer a wide selection of high-quality audio system choices, including AM/FM stereo, seek/scan, clock, cassette, single-CD player or six-disc CD changer. On all except the base-model and upfitter-package radios, Radio Data System (RDS) is available. RDS displays a variety of text descriptions, including station call letters, traffic information, or even song and artist information.

Model Summary

	Engines			Transmissions		
	Vortec 4300 4.3L V-6	**Vortec 4800 4.8L V-8**	**Vortec 5300 5.3L V-8**	**Vortec 6000 6.0L V-8**	**4-spd auto (Hydra-Matic 4L60-E)**	**4-spd auto (Hydra-Matic 4L80-E)**
Passenger Van, Conversion Van						
G1500 reg WB	S	-	O	-	S	-
H1500 reg WB	-	-	S	-	S	-
G2500 reg WB	-	S	-	O	-	S
G2500 ext WB	-	S	-	O	-	S
G3500 reg / ext WB	-	-	-	S	-	S
Cargo Van						
G1500 reg WB	S	-	O	-	S	-
H1500 reg WB	-	-	S	-	S	-
G2500 reg / ext WB(7300GVW)	S	-	O	-	S	-
G2500 reg / ext WB(8600 GVW)	-	S	-	O	-	S
H2500 reg WB	-	-	S	-	S	-
G3500 reg / ext WB	-	-	-	S	-	S

Key:
Standard S
Optional O
Not available -

New for 2004

- StabiliTrak vehicle stability enhancement system on 15-passenger vans (interim change)
- Assist handle

Competitors:

- Ford Econoline Van/Wagon
- Dodge Ram Van/Wagon.

Specifications

Overview	
Models:	Chevy Express: full-frame G-Series 8-, 12-, 15-passenger and cargo van (8-, 12-passenger w/ H-Series), RH sliding or swing-out 60/40 doors or optional LH swing-out 60/40 doors,(G-Series available as RV & commercial cutaway)
Body style / driveline:	cargo and passenger van (RH sliding or swing-out 60/40 doors or optional LH swing-out 60/40 doors), front-engine, rear-wheel drive (AWD w/H-Series)
Construction:	full frame
EPA vehicle class:	full-size van
Manufacturing location:	Wentzville, Missouri
Key competitors:	Ford Econoline, Ford E-Series, Dodge/Freightliner Sprinter

Engines	Vortec 4300 4.3L V-6 (LU3)	Vortec 4800 4.8L V-8 (LR4)	Vortec 5300 5.3L V-8 (LM7)	Vortec 6000 6.0L V-8 (LQ4)
Type:	4.3L V-6	4.8L V-8	5.3L V-8	6.0L V-8
Displacement (cu in / cc):	262 / 4293	294 / 4807	327 / 5328	366 / 5967
Bore & stroke (in / mm):	4.00 x 3.48 / 101.6 x 88	3.78 x 3.27 / 96 x 83	3.78 x 3.62 / 96 x 92	4 x 3.62 /
Block material:	cast iron	cast iron	cast iron	cast iron
Cylinder head material:	cast iron	cast aluminum	cast aluminum	cast aluminum
Valvetrain:	OHV, 2 valves per cylinder	OHV, 2 valves per cylinder	OHV, 2 valves per cylinder	OHV, 2 valves per cylinder
Ignition system:	composite distributor, platinum-tip spark plugs, low-resistance spark plug wires	composite distributor, platinum-tip spark plugs, low-resistance spark plug wires	electronic spark control, composite distributor, platinum-tip spark plugs	coil near plug, platinum-tip spark plugs, low resistance spark plug wires
Fuel delivery:	sequential fuel injection	sequential fuel injection	sequential fuel injection	sequential fuel injection
Compression ratio:	9.2:1	9.5:1	9.5:1	9.4:1
Horsepower (hp / kw @ rpm):	200 / 149 @ 4400	275 / 201 @ 5200	285 / 213 @ 5200	300 / 224 @ 4400
Torque (lb-ft / Nm @ rpm):	250 / 339 @ 2800	290 / 386 @ 4000	325 / 441 @ 4000	360 / 488 @ 4000
Recommended unleaded fuel:	87 octane	87 octane	87 octane	87 octane
Maximum engine speed (rpm):	5600	5600	5600	5600
Emissions controls:	3-way catalytic converter, exhaust gas recirculation, positive crankcase ventilation, evaporative collection system	3-way catalytic converter, exhaust gas recirculation, positive crankcase ventilation, evaporative collection system	3-way catalytic converter, exhaust gas recirculation, positive crankcase ventilation, evaporative collection system	3-way catalytic converter, exhaust gas recirculation, positive crankcase ventilation, evaporative collection system
Estimated fuel economy (mpg city / hwy / combined):				
Cargo:	14 / 18 / 16	N/A	14 / 17 / 15	N/A
Passenger:	14 / 18 / 16	N/A	13 / 17 / 15	N/A

Transmissions	**Hydra-Matic 4L60-E**	**Hydra-Matic 4L80-E**
Type:	4-speed electronic automatic with overdrive and torque converter	4-speed heavy-duty electronic automatic with overdrive and torque converter
Gear ratios (:1):		
First:	3.06	2.48
Second:	1.63	1.48
Third:	1:00	1:00
Fourth:	0.70	0.75
Reverse:	2.29	2.08
Final drive ratio:	3.42:1 std with 4.3L, 5.3L on 1500 Series 3.73:1 std with 4.3L on 2500 Series; opt. with 5.3L on 1500 Series and std with 5.3L on 2500 Series; std with 4.8L on 2500 Series and some 6.0L models 4.10:1 opt with 4.8L on 2500 Series and std on 3500 Series; std or opt with 6.0L, depending on the model	

Chassis/Suspension				
	G1500	**H1500**	**G2500 (135-, 155-in WB)**	**G3500 (135-, 155-in WB)**
Front:	independent short/long arm (SLA) coil springs, 33-mm stabilizer bar	Independent short/long arm (SLA) torsion bars, 33-mm stabilizer bar	independent short/long arm (SLA) coil springs, 35-mm stabilizer bar	independent short/long arm (SLA) coil springs, 35-mm stabilizer bar
Rear:	2-stage, semi-elliptic multileaf springs and semifloating rear axle	2-stage, semi-elliptic multileaf springs and semifloating rear axle	2-stage, semi-elliptic multileaf springs and semifloating rear axle (depending on the GVW)	2-stage, semi-elliptic multileaf springs and semifloating rear axle
Steering type (all models):	power, rack and pinion	power, rack and pinion	integral power	integral power
Steering ratio:	17.2:1	17.2:1	17.2:1	17.2:1
Steering wheel turns, lock-to-lock:	3	3	3	3
Turning circle, curb-to-curb (ft / m):				
135-in WB:	43.4 / 13.2	43.4 / 13.2	49.2 / 15	49.2 / 15
155-in WB:	-	-	54.5 / 16.6	54.5 / 16.6

Brakes					
Type (all models):			Hydroboost 4-wheel disc, 4-wheel ABS with Dynamic Rear Proportioning		
	6,200-7,300 lb GVW	**7300 lb GVWR**	**8,600 lb GVW**	**9,600 lb GVW**	**12,000-12,300 lb GVW**
Rotor diameter x thick (in / mm):					
Front:	12 x 1.14 / 305 x 29	12 x 1.14 / 305 x 29	12.8 x 1.5 / 325 x 38	12.8 x 1.5 / 325 x 38	12.8 x 1.5 / 325 x 38
Rear:	13 x 1.18 / 330 x 30	13 x 1.14 / 330 x 29	13 x 1.14 / 330 x 29	13 x 1.14 / 330 x 29	12.8 x 1.18 / 325 x 30
Total swept area (sq in / sq cm):					
Front:	214 / 1378	214 / 1378	246 / 1584	245 / 1584	245 / 1584
Rear:	237 / 1526	237 / 1526	237 / 1526	237 / 1526	235 / 1517

Wheels/Tires	G1500	G2500 (135-, 155-in WB)	G3500 (135-, 155-in WB)
Wheel size & type:	16-inch steel	16-inch steel	16-inch steel
Tires:	P235/75R16 all-season steel-belted radials	LT225/75R16E* all-season steel-belted radials	LT245/75R16E all-season steel-belted radials

* Standard on all G2500, except cargo van with 7,300-lb GVWR, which has a standard LT245/75R16E

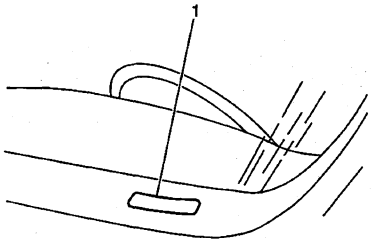
Dimensions

Exterior	G1500 Regular	G2500 Regular	G3500 Regular	G3500 Extended
Wheelbase (in / mm):	135 / 3429	135 / 3429	135 / 3429	155 / 3937
Overall length (in / mm):	224 / 5691	224 / 5691	224 / 5691	244 / 6199
Overall width (in / mm):	79.4 / 2018	79.4 / 2018	79.4 / 2018	79.4 / 2018
Overall height (in / mm):	81.6 / 2072	81.6 / 2072	81.6 / 2072	82 / 2084
Track (in / mm):				
Front:	67.8 / 1721	67.8 / 1721	67.8 / 1721	67.8 / 1721
Rear:	67.8 / 1721	67.8 / 1721	67.8 / 1721	67.8 / 1721
Min. ground clearance (in / mm):				
Front:	8 / 202	8.2 / 207	8.2 / 207	8.1 / 207
Rear:	7.4 / 188	7.1 / 180	7.1 / 180	7.7 / 195
Ground to top of rear load floor (in / mm):				
Passenger:	25.5 / 648	27.2 / 690	27.8 / 707	27.8 / 707
Cargo:	22.8 / 580	25.1 / 637	27.8 / 707	27.8 / 707
Step-in height (in / mm):				
Passenger, front door:	17.3 / 439	19 / 483	19.6 / 498	19.6 / 498
Passenger, side door:	15.5 / 394	18 / 457	19.5 / 495	19.6 / 498
Cargo, front door:	16.9 / 428	18.8 / 478	20.5 / 521	20.6 / 523
Cargo, side door:	15.5 / 394	18 / 457	19.5 / 495	19.6 / 498
Curb weight (lb / kg):				
Cargo:	4845 / 2198	5017 / 2276	5427 / 2462	5625 / 2552
Passenger:	5258 / 2385	5877 / 2666	6015 / 2728	6333 / 2873
Interior				
Seating capacity (std / opt):				
Passenger van:	8	12 / 8	12 / 8	12 / 15
Cargo van:	2 / 1	2 / 1	2 / 1	2 / 1
Headroom (in / mm):				
Front:	40.2 / 1022	40.2 / 1022	40.2 / 1022	40.2 / 1022
Middle (first row):	38.5 / 979	38.5 / 979	38.5 / 979	38.5 / 979
Middle (second row):	38.1 / 968	38.1 / 968	38.1 / 968	38.1 / 968
Rear (12-pass):	-	37.7 / 957	37.7 / 957	37.7 / 957
Rear (15-pass):	-	-	-	37.7 / 957
Leg room (in / mm):				
Front:	41.3 / 1048	41.3 / 1048	41.3 / 1048	41.3 / 1048
Middle (first row):	34.8 / 883	34.8 / 883	34.8 / 883	34.8 / 883
Middle (second row):	37.6 / 954	37.6 / 954	37.6 / 954	37.6 / 954
Rear (12-pass):	-	39.8 / 1010	39.8 / 1010	39.8 / 1010
Rear (15-pass):	-	-	-	36.4 / 925

Shoulder room (in / mm):				
Front:	68.8 / 1748	68.8 / 1748	68.8 / 1748	68.8 / 1748
Middle (first row):	68.9 / 1750	68.9 / 1750	68.9 / 1750	68.9 / 1750
Middle (second row):	63.5 / 1612	63.5 / 1612	63.5 / 1612	63.5 / 1612
Rear (12-pass):	-	68.3 / 1734	68.3 / 1734	68.3 / 1734
Rear (15-pass):	-	-	-	62.7 / 1593
Hip room (in / mm):				
Front:	65.5 / 1664	65.5 / 1664	65.5 / 1664	65.5 / 1664
Middle (first row):	66 / 1675	66 / 1675	66 / 1675	66 / 1675
Middle (second row):	64.4 / 1635	64.4 / 1635	64.4 / 1635	64.4 / 1635
Rear (12-pass):	-	59.6 / 1515	59.6 / 1515	59.6 / 1515
Rear (15-pass):	-	-	-	63.2 / 1605
Cargo volume (cu ft / liters):				
Behind front seat:	204 / 5776	204 / 5776	204 / 5776	237.3 / 6719
Width between wheelhousings (in / mm):				
Cargo:	50.5 / 1282	50.5 / 1282	50.5 / 1282	50.5 / 1282
Passenger:	50.5 / 1282	50.5 / 1282	50.5 / 1282	50.5 / 1282
Load floor length (in / mm):				
Behind 1st row seat, Cargo:	127.8 / 3246	127.8 / 3246	127.8 / 3246	127.8 / 3246
Behind 1st row seat, Passenger:	126.3 / 3208	126.3 / 3208	126.3 / 3208	146.3 / 3716
Behind 2nd row, Passenger:	89.4 / 2272	89.4 / 2272	89.4 / 2272	109.4 / 2778
Behind 3rd row, Passenger:	57. 4 / 1457	57. 4 / 1457	57. 4 / 1457	77.5 / 1969
Behind 4th row, Passenger:	-	-	-	45.6 / 1159
Behind 5th row, Passenger:	-	-	-	12 / 306
Interior height (in / mm):				
Cargo:	51.9 / 1318	51.9 / 1318	51.9 / 1318	51.9 / 1318
Passenger:	51.9 / 1318	51.9 / 1318	51.9 / 1318	51.9 / 1318
Capacities				
GVWR (lb / kg):				
Passenger van (std):	7200 / 3266	8600 / 3901	9600 / 4354	9600 / 4354
Cargo van (std):	6200 / 2812	7300 / 3311	9600 / 4354	9600 / 4354
Payload, base (lb / kg):				
Cargo van:	1355 / 615	2283 / 1036	4173 / 1893	3975 / 1803
Passenger van:	1942 / 881	2723 / 1235	3585 / 1626	3267 / 1482
Trailer towing maximum (lb / kg):				
Passenger:	6600 / 2905	8000 / 3628	10000 / 4538	10000 / 4538
Cargo:	6100 / 2767	8600 / 3901	10000 / 4538	10000 / 4538
Fuel tank (gal / L):	31 / 117	31 / 117	31 / 117	31 / 117
Maximum tongue weight:	Trailer tongue weight should be 10-15 percent of the total loaded trailer weight, up to 1,000 pounds. Weight-carrying hitch limit on 4,000-lb (1,814 kg) trailer is 400-pound (181-kg) tongue weight. Weight-distributing hitch and sway control required for over 4,000-pound (1,814-kg) trailer weight.			

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 and can be seen through the windshield from the outside of the vehicle:

Position	Definition	Character	Description
1	Country of Origin	1	U.S.A.
2	Manufacturer	G	General Motors
3	Make	C,T	C - Chevrolet T - GMC Truck
4	GVWR/Brake System	B C D E F G H J K	B - 3001 - 4000/Hydraulic C - 4001 - 5000/Hydraulic D - 5001 - 6000/Hydraulic E - 6001 - 7000/Hydraulic F - 7001 - 8000/Hydraulic G - 8001 - 9000/Hydraulic H - 9001 - 10000/Hydraulic J - 10001 - 14000/Hydraulic K - 14001 - 16000/Hydraulic
5	Truck Line/Chassis Type	G	G-Van 4X2 Chevrolet Express GMC Savana
6	Series	1 2 3 6 7 8	1/2 Ton Nominal 3/4 Ton Nominal 1 Ton Nominal 1/2 Ton Luxury 3/4 Ton Luxury 1 Ton Luxury
7	Body Type	1 5 9	Hi-Cube or Cutaway Van Van Extended Cab, Extended Van
8	Engine Type	M F R J W	4.3 L V6 MFI (LU3) 4.8L V8 MFI (LR4) 5.3L V8 MFI (LM7) 6.0L V8 MFI (LQ4)
9	Check Digit	--	--
10	Model Year	4	2004

Position	Definition	Character	Description
11	Plant Location	1 X	Wentzville, MO Experimental Engineering Manufacturing Services
12-17	Plant Sequence Number	--	--

VIN Derivative

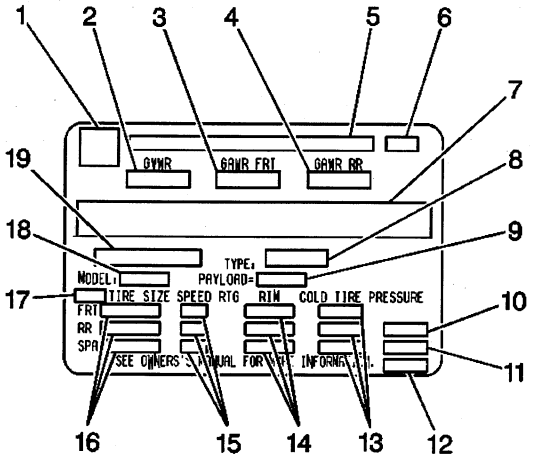
All engines and transmissions are stamped or laser etched with a partial vehicle identification number (VIN), which was derived from the complete VIN. A VIN derivative contains the following nine positions:

Position	Definition	Character	Description
1	GM Division Identifier	G	General Motors
2	Model Year	4	2004
3	Assembly Plant	1 X	Wentzville MO Experimental Engineering Manufacturing Services
4-9	Plant Sequence Number	100,001	--
4-9	Plant Sequence Number	900,001	Pre-Assigned

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	2
2	10
3	11
4-5	12-17

Label Certification w/o RPO Z49



(1) GM Logo
(2) Gross Vehicle Weight Rating
(3) Gross Axle Weight Rating - Front
(4) Gross Axle Weight Rating - Rear
(5) Name Of Manufacturer
(6) Final Manufacturer's Date
(7) Manufacturer's Statement
(8) Model Designation
(9) Payload
(10) DUAL - When Equipped
(11) Front Axle Reserve - When Equipped
(12) Total Capacity - When Required
(13) Tire Pressure
(14) Rim Size
(15) Speed Rating - When Required
(16) Tire Size
(17) GVW Rating Code
(18) Engineering Model
(19) Vehicle Identification Number

The vehicle certification label displays the following assessments:

- The Gross Vehicle Weight Rating (GVWR)
- The Gross Axle Weight Rating (GAWR) -- Front and Rear
- The vehicle's payload rating
- The original equipment tire sizes and the recommended tire pressures

Gross vehicle weight (GVW) is the weight of the vehicle and everything it carries. Include the following items when figuring the GVW:

- The base vehicle weight (factory weight)
- The weight of all vehicle accessories, like the winches or the plows
- The weight of the driver and the passengers
- The weight of the cargo

The gross vehicle weight must not exceed the Gross Vehicle Weight Rating.

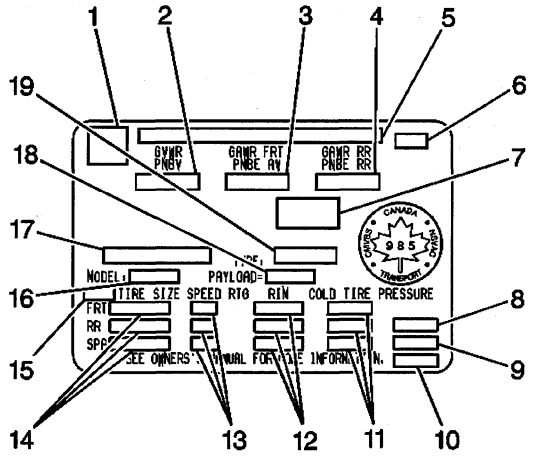
The front gross axle weight rating (GAWR FRT) is the weight exerted on the front axle. The rear gross axle weight rating (GAW RR) is the weight exerted on the rear axle. The front and rear gross axle weights must not exceed the front and rear gross axle weight ratings.

The payload rating defines the vehicle's maximum allowable cargo load. The cargo load includes the driver and the passengers. The payload rating is based on the vehicle's factory installed equipment. Deduct from the payload rating the weight of accessories added to the vehicle after the final date of manufacture .

The vehicle may have a Gross Combination Weight Rating (GCWR). The Gross Combination Weight Rating refers to the total maximum weight of the loaded tow vehicle (including driver and passengers) and a loaded trailer.

The vehicle's tires must be the proper size and properly inflated for the load the vehicle is carrying.

Label Certification with RPO Z49



(1) Logo
(2) Gross Vehicle Weight Rating
(3) Gross Axle Weight Rating - Front
(4) Gross Axle Weight Rating - Rear
(5) Name of Manufacturer
(6) Final Manufacturer's Date
(7) RFI Statement - Canada Only
(8) DUAL - When Equipped
(9) Front Axle Reserve - When Equipped
(10) Total Capacity - When Required
(11) Tire Pressure
(12) Rim Size
(13) Speed Rating - When Required
(14) Tire Size
(15) GVW Rating Code
(16) Engineering Model
(17) Vehicle Identification Number
(18) Payload
(19) Model Designation

The vehicle certification label displays the following assessments:

- The Gross Vehicle Weight Rating (GVWR)
- The Gross Axle Weight Rating (GAWR) -- Front and Rear
- The vehicle's payload rating
- The original equipment tire sizes and the recommended tire pressures

Gross vehicle weight (GVW) is the weight of the vehicle and everything it carries. Include the following items when figuring the GVW:

- The base vehicle weight factory weight
- The weight of all vehicle accessories, like the winches or the plows
- The weight of the driver and the passengers
- The weight of the cargo

The gross vehicle weight must not exceed the Gross Vehicle Weight Rating.

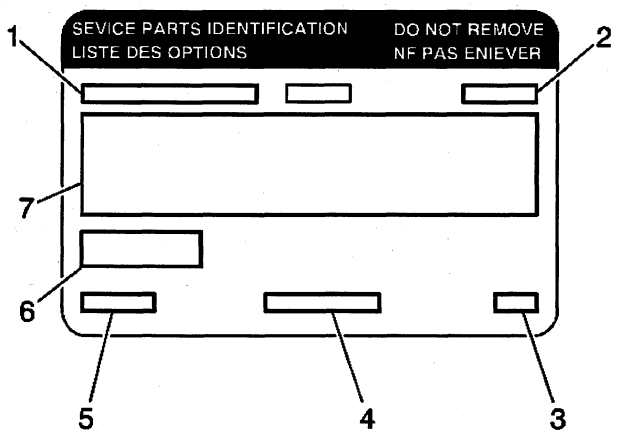
The front gross axle weight rating (GAWR FRT) is the weight exerted on the front axle. The rear gross axle weight rating (GAW RR) is the weight exerted on the rear axle. The front and rear gross axle weights must not exceed the front and rear gross axle weight ratings.

The payload rating defines the vehicle's maximum allowable cargo load. The cargo load includes the driver and the passengers. The payload rating is based on the vehicle's factory installed equipment. Deduct from the payload rating the weight of accessories added to the vehicle after the final date of manufacture .

The vehicle may have a Gross Combination Weight Rating (GCWR). The Gross Combination Weight Rating refers to the total maximum weight of the loaded tow vehicle including driver and passengers and a loaded trailer.

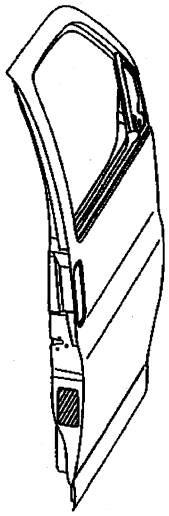
The vehicle tires must be the proper size and properly inflated for the load the vehicle is carrying.

Service Parts Identification Label (SPID)



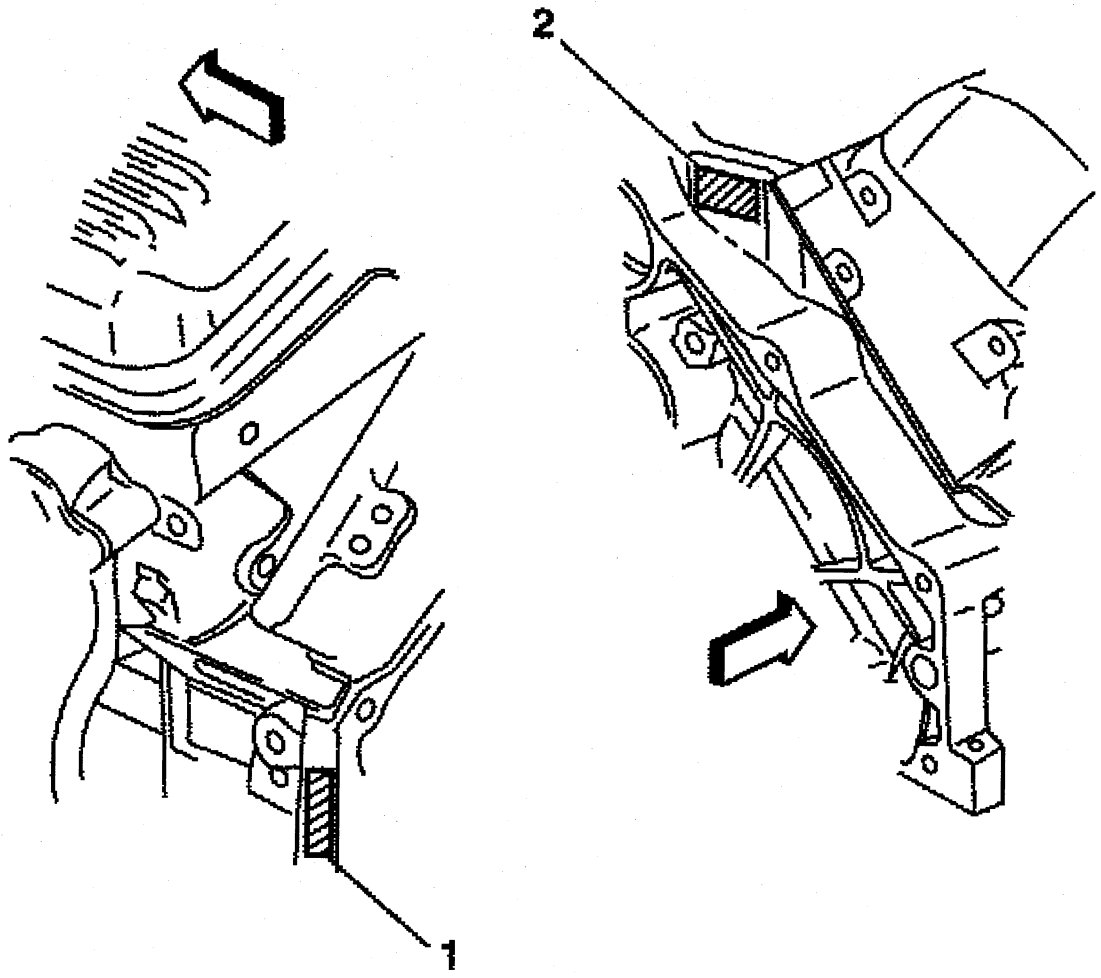
(1) Vehicle Identification Number
(2) Engineering Model Number (Vehicle Division, Vehicle Line and Body Style)
(3) Interior Trim and Decor Level
(4) Exterior (Paint Color) WA Number
(5) Paint Technology
(6) Special Order Paint Colors and Numbers
(7) Vehicle Option Content

The service parts identification label is placed on the vehicle in order to help service and parts personnel identify the vehicle's original parts and the vehicle's original options.



The Service Information Parts ID label is located on the right front door of the vehicle.

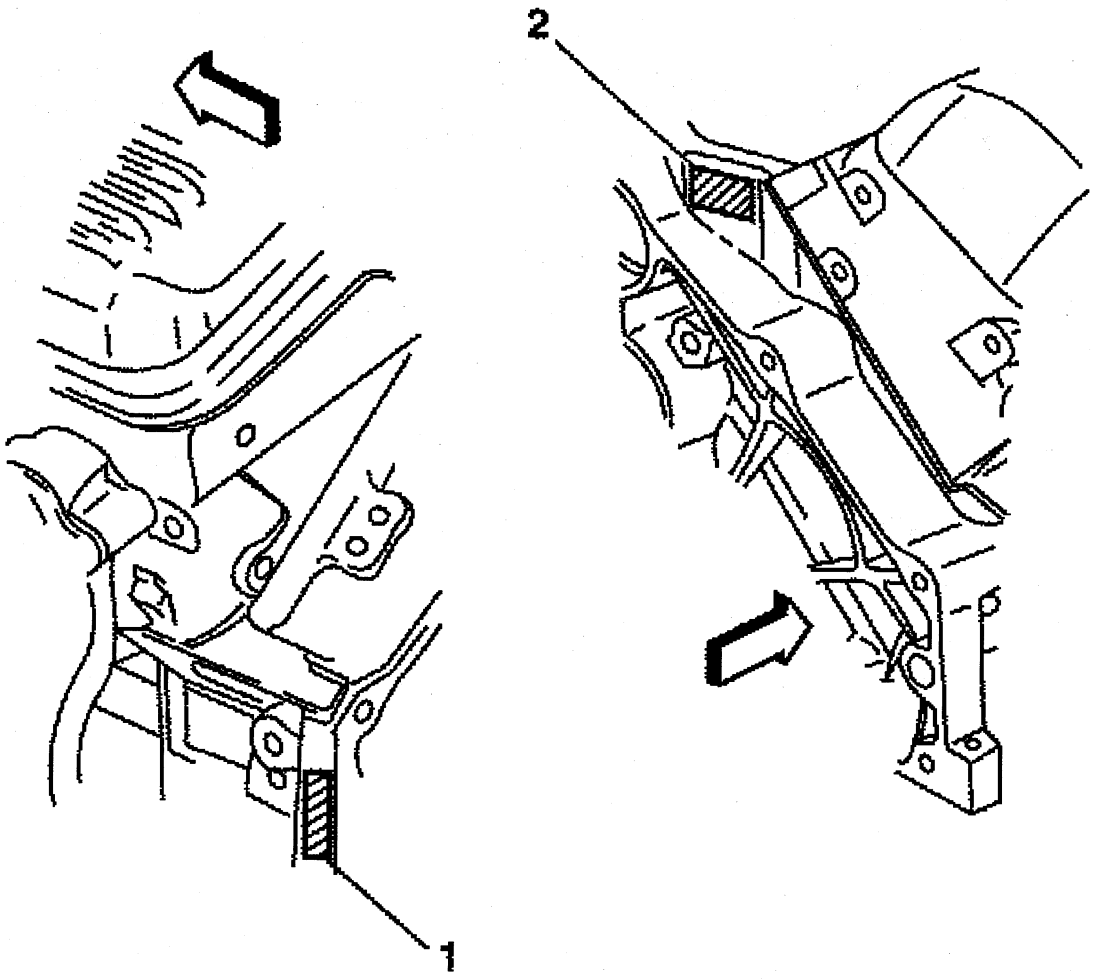
Engine ID and VIN Derivative Location 4.3L



(1) Engine Identification Number
(2) Alternative Engine Identification Number

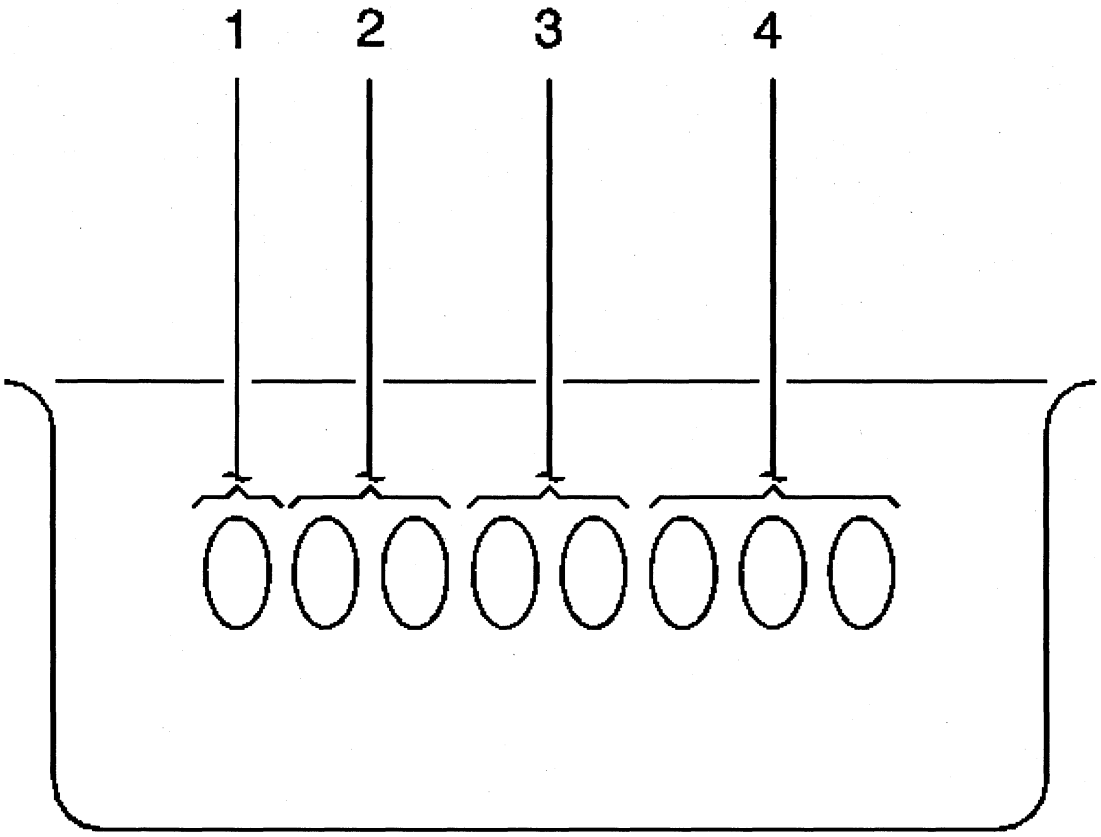
Located on the VIN plate, the VIN provides detailed engine identification and code information by liter and by the engine code letter.

5.3L and 6.0L V-8 Engines



(1) Primary Engine Identification Number Location
(2) Secondary Engine Identification Number Location

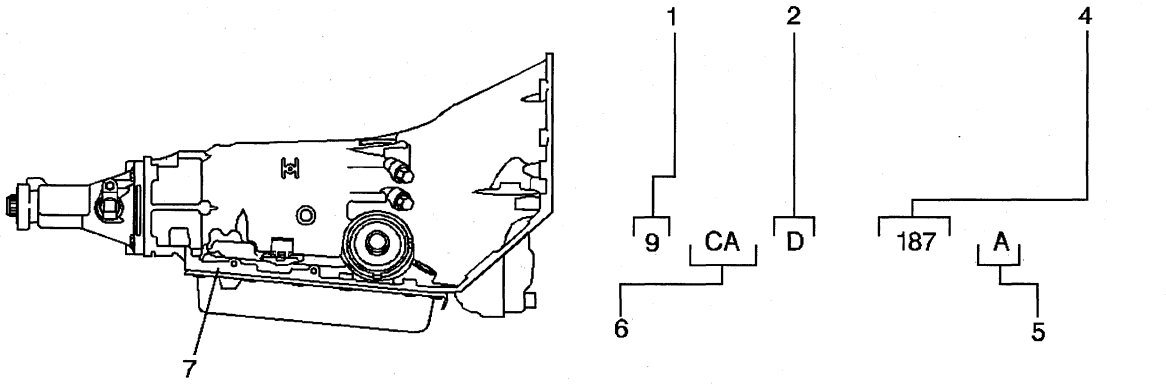
Engine ID Legend

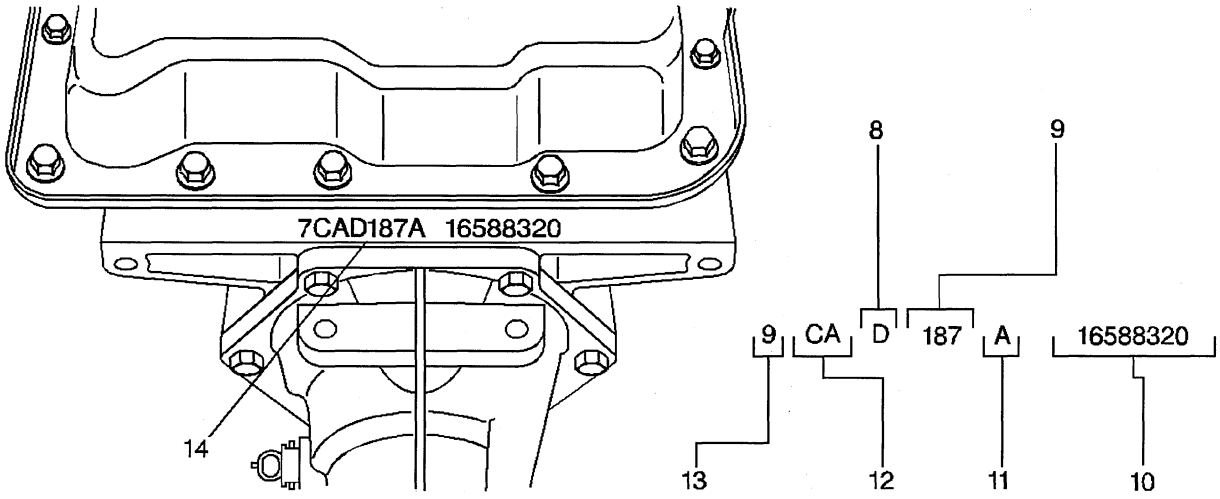


1. Source Code
2. Month of Build
3. Date of Build
4. Broadcast Code

Transmission ID and VIN Derivative Location

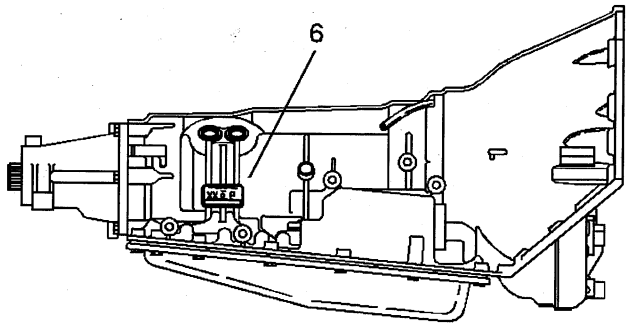
4L60-E Transmission ID Location

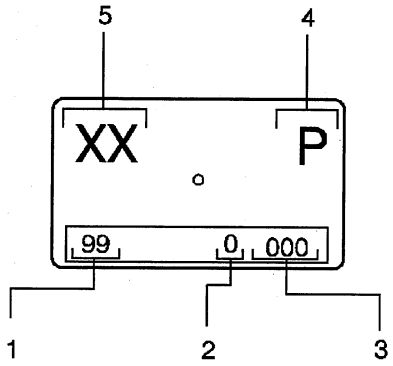




(1) Model Year
(2) Hydra-Matic 4L60-E
(4) Julian Date (or Day of the Year)
(5) Shift Built (A, B, J = First Shift; C, H, W = Second Shift)
(6) Model
(7) Transmission ID Location
(8) Hydra-Matic 4L60-E
(9) Julian Date (or Day of the Year)
(10) Serial No.
(11) Shift Built (A, B, J = First Shift; C, H, W = Second Shift)
(12) Model
(13) Model Year
(14) Transmission ID Location

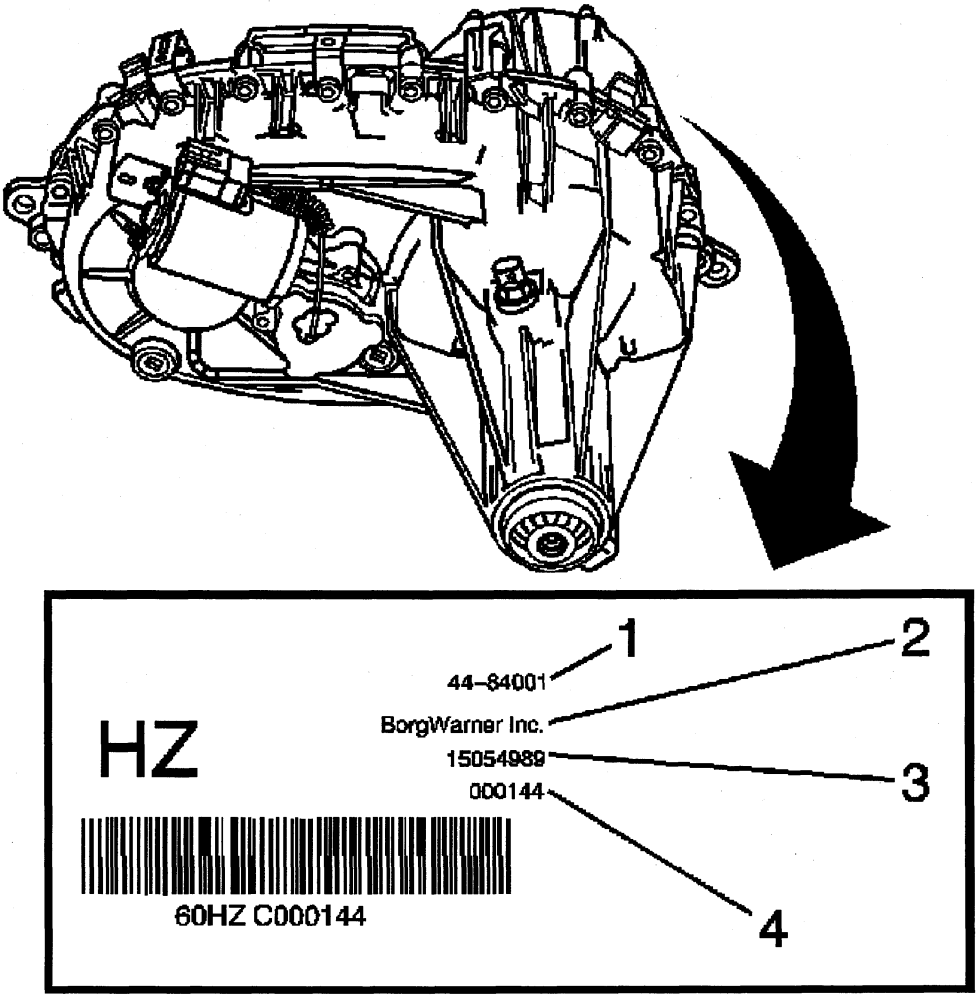
4L80-E Transmission ID Location





1. Calendar Year
2. Julian Date of the Year
3. Shift and Line Number
4. Plant
5. Model
6. Location on Transmission

Transfer Case Identification

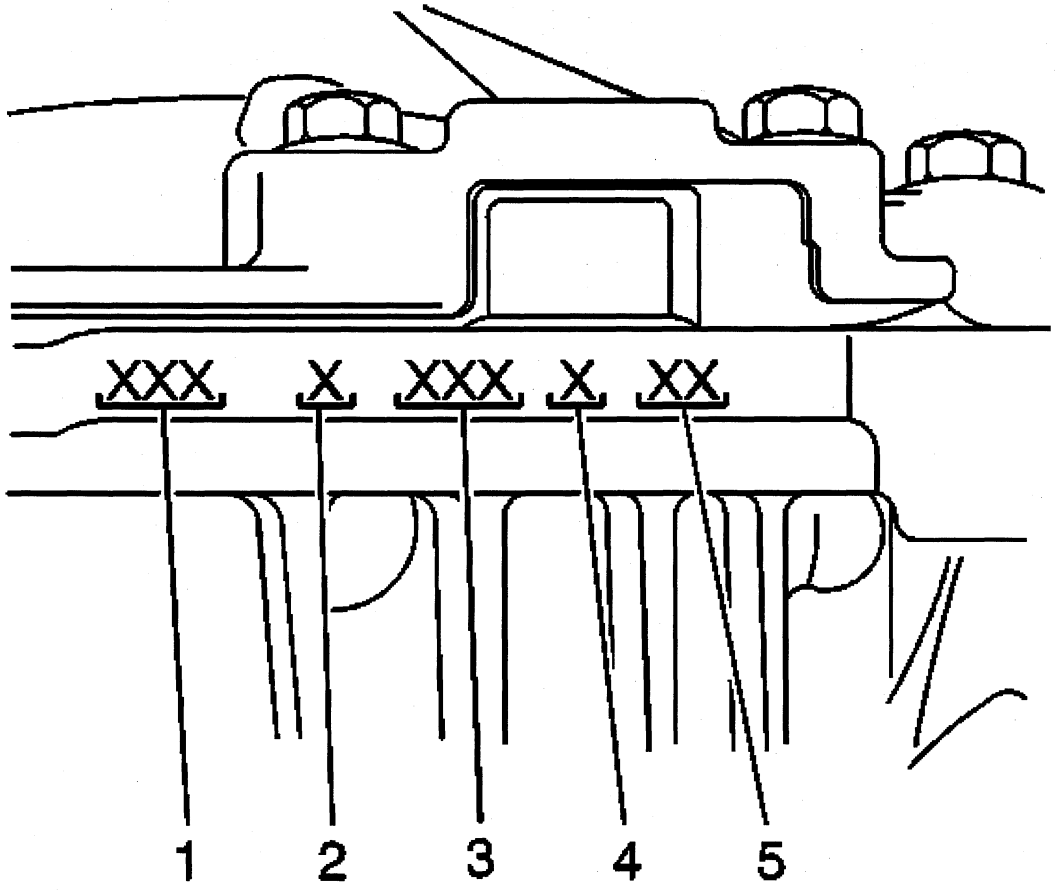


An identification tag is attached to the front half of the transfer case. The tag provides the following information:

- Model number (1)
- Manufacturer (2)
- Part Number (3)
- Serial Number (4)

The information on this tag is necessary for servicing the transfer case. If the tag is removed or becomes dislodged during service operations, keep the identification tag with the unit.

Axle Identification – Front

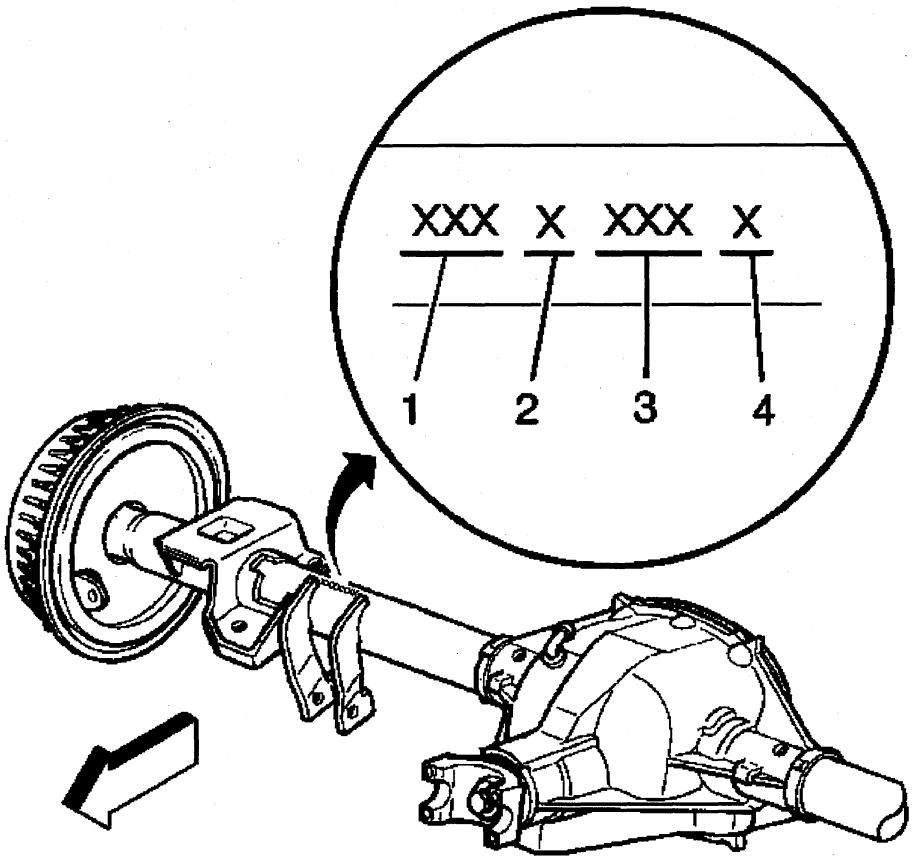


Front axle identification information is stamped on the top of the differential carrier assembly. The information includes the following:

- Broadcast code (1)
- Supplier code (2)
- Date built (3)
- Shift built (4) (Optional for 8.25 inch and 9.25 inch axles)
- Hour built (5)

In order to verify reports made on the differential case assembly, include full code letters and build date numbers.

Axle Identification – Rear



(1) The first three digits indicate the rear axle ratio.
(2) The next digit indicates the axle assembly build source code (D) Detroit (C) Buffalo and (K) Canada.
(3) The next three digits indicate the day built, displayed in Julian Date form.
(4) The last digit indicates the shift (1) First and (2) Second.

All rear axles are identified by a broadcast code on the right axle tube near the carrier. The rear axle identification and manufacturer's codes must be known before attempting to adjust or to repair axle shafts or the rear axle case assembly. Rear axle ratio, differential type, manufacturer, and build date information is stamped on the right axle tube on the forward side.

Labeling - Anti-Theft

Notice

The anti-theft label found on some major body panels MUST be covered before performing any painting, rustproofing or undercoating procedures. The mask must also be removed following those procedures. Failure to follow these precautionary steps may result in liability for violation of the Federal Vehicle Theft Prevention Standard, and subject the vehicle owner to possible suspicion that the part was stolen.

Federal law requires General Motors (GM) to affix a label to certain parts on selected vehicles with the Vehicle Identification Number (VIN). The purpose of this law is to reduce the number of motor vehicle thefts by helping in the tracing and recovery of parts from stolen vehicles. The certification label on the driver's door qualifies as a theft deterrent label.

The theft deterrent label will be permanently affixed to an interior surface of the part and will contain the complete VIN. The label on replacement parts will contain the letter R, the manufacturer's logo, and the acronym for the Department of Transportation (DOT). DO NOT deface, or remove these labels.

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
AAC	Parts Package Shipped Loose
AG1	Adjuster Front Seat Power, Multi-Directional, Driver
AG2	Power Seat - Adjuster- 6 Way- Passenger
AJ1	Windows Deep Tint, All Except W/S & Door
AJ3	Restraint System Seat, Inflatable, Driver
AK5	Restraint System Seat, Inflatable, Driver
AR7	Seat Front Bucket, Standard
AS5	Seat Front Bucket, Deluxe
AU0	Lock Control, Entry Remote Entry
AU3	Lock Control Side Door, Electric
A07	Window Body
A08	Window Body, Right Side
A12	Window RR STA Back DR
A13	Window Side Door STA, RR
A17	Window Side body left Side, Swing Out
A18	Window Rear Door, Swing Out
A19	Window Side Door Rear, Swing Out
A31	Window Power Operated, Side
BAG	Parts Package Export
BA0	Ornamentation Exterior, Door, Nameplate
BA3	Compartment Stowage, I/P Lower Extension Deluxe
BG5	Covering, Floor - Delete
BNC	Parts Package Body Mount Cushions
B3D	Equipment School Bus
B30	Floor Covering
B31	Covering Floor Vinyl, Front, Full width
B32	Covering Front Floor Mats, AUX
B33	Covering Rear Floor Mats, AUX
B38	Covering Floor Vinyl, Front and Rear, Full Width
B4L	Label Price Reference, Geographic Chart
B46	Trim Equipment, Special Order
C36	Heater Auxiliary
C42	HVAC System Heater, Outside Air, Deluxe
C49	Defogger RR Window, Electric
C5F	GVW Rating 8500 lbs
C5Z	GVW Rating 7200 lbs
C6A	GVW Rating 7300 lbs
C6P	GVW Rating 8600 lbs
C6Y	GVW Rating 9600 lbs
C60	HVAC System Air Conditioner Front, Man Controls
C69	HVAC System RR Air Conditioner
C7A	GVW Rating 10000 LBS
C7E	GVW Rating 11000 LBS
C7G	GVW Rating 11500 LBS
C7L	GVW Rating 12000 LBS
C7N	GVW Rating 12300 LBS
C99	Switch, Inflatable Restraint, I/P Module Manual Suppression

RPO	Description
DE2	Mirror O/S LH and RH, Manual Control, Folding, Color
DE5	Mirror O/S LH and RH, Remote Control, Electric, Heated Folding, Color
DE7	Mirror O/S LH and RH, Remote Control, Electric, Heated, Light Sensitive, Manual Folding, Turn Signal Indicator, Color
DF2	Mirror O/S Wide Load Retractable, Stainless Steel
DF5	Mirror I/S R/V Light Sensitive, Compass, O/S Temperature Display
DH6	Mirror I/S FRT VAN LH and RH, Sunshade, Illum
DT4	Ashtray Cigarette Lighter
D28	Mirror O/S - Delete
D31	Mirror I/S R/V Tilt (Dup with D36)
ENC	HVAC Provisions Auxiliary Heater Plumbing and Wiring
EVA	Test DVT, EVAP Emission Requirement
E24	Door Side Rear, Hinged
E26	Door Side Rear, Left Hinged
F0F	Fleet Incentive Tourism Industry Inc. DBA Budget Sales & Leasing
GT4	Axle Rear 3.73 Ratio (DUP with 5X1)
GT5	4.10 Rear Axle Ratio (DUP with GT8)
GU6	3.42 Rear Axle Ratio
G80	Axle Positraction Limited Slip
JH5	Brake Hydraulic Power, 4-wheel Disc, 7200 lbs
JH6	Brake Hydraulic Power, 4-wheel Disc, 9900 lbs
JH7	Brake Hydraulic Power, 4-wheel Disc, 12,300 lbs (Duplicate with JH9)
KC0	Control Interior Temperauture, Unoccupied Vehicle
KC4	Heavy Duty Engine Oil Cooling
KD1	Cooling System Trans, Oil
KG3	Generator 145 amp
KJ1	Language Label Chinese/English
KL5	Modification Engine, Natural Gas
KL6	Provisions, Natural Gas
KL8	Conversion, Natural Gas
K34	Cruise Control Automatic, Electronic
K50	Fuel Fitting, Line Take-OFF
K68	Generator 105 AMP
LM7	Engine Gas, 8 CYL, 5.3L, MFI, Iron, GM
LQ4	Engine Gas, 8 CYL, 6.0L, MFI, Iron, GM
LR4	Engine Gas, 8 CYL, 4.8L, MFI, Iron, GM
LU3	Engine Gas, 6 CYL, 4.3L, MFI, V6, 90 Deg
MT1	Transmission - 4 Speed Auto HMD, 4L80-E
M30	Transmission Auto 4 Speed, 4L60E, Electronic
NA1	Emission System GVW Above 8500 LB
NA4	Emission System GVW Above 8500 LB
NC1	Emission System California, LEV
NC8	Emission System California, ULEV
NE7	Fuel Tank 208L, 55 Gal
NF4	Emission System Clean Fuel Fleet
NF9	Emission System, General Unleaded
NP5	Steering Wheel Leather Wrapped
NT9	Emission System Federal, Tier 2 Phase-out
NU1	Emission System California Level 2
NU4	Emission System California Level 2 Plus
N33	Steering Column Tilt Type
PF9	Wheel 16 x 7, Aluminum Cast

RPO	Description
PNC	Panel Trim, Front Doors and Side Rear Door and Rear Doors
PND	Panel Trim Side Rear Door and Rear Doors
PNF	Panel Trim, Side Rear Door and Rear Doors - Delete
PRP	Sales Package, Commercial Tradesman
PY2	Wheel 16 x 6.5, Chrome Appearance
P03	Cover, Wheel; Variation 3
Q4B	GVM Rating 6,200 lbs
R04	Wheel Single Rear
R05	Axle - Dual Rear
R4A	Tire Brand Front Goodyear
S2M	Direct Sales IBC
S4A	Tire Brand Rear Goodyear
TR9	Lamp Group
T62	Lamp System Daytime Running - Delete
UA1	Battery, High Capacity, Wet
UB1	Radio AM/FM Stereo, Seek/Scan. Auto REV Music Search Cassette, CD, Auto Tone, Data System, Clock, ETR
UC2	Speedometer Inst, Kilometer and Miles, Kilometer Odometer, Positive Bias
UC6	Radio AM/FM Stereo, Seek/Scan, RDS, Multiple Compact Disc, Auto Tone Control, Clock, ETR
UE1	Communication System Vehicle, GPS 1
UF2	Lamp Cargo
UJ1	Indicator System, Brake Warning
UK6	Radio Control Rear Seat & Earphone Jacks
UL5	Radio - Delete
UL8	Frequencies, Saudi Arabian
UM7	Radio AM/FM Stereo, Seek/Scan, Clock, ETR
UY7	Wiring Harness Truck Trailer, HD
U05	Horn Dual
U1C	Radio Am/FM Stereo, Seek/Scan, CD, Clock, ETR
U1L	Radio AM Stereo/FM Stereo, Seek/Scan, Auto Reverse Music Search Cassette, Clock, ETR
U19	Speedometer Inst, Kilo and Miles, Kilo Odometer
U73	Antenna Fixed, Radio
U74	Antenna Radio - Delete
VBX	Language Label, Arabic
VC0	Vehicle Label, Noise Control Information
VC4	Label, Price/Fuel Economy, Puerto Rico & Virgin Islands
VC5	Label Shipping, except US, US Possessions, or Japan
VC7	Label, Price/Fuel Economy, Guam
VG8	Vehicle Label, Notice to Buyer
VK3	License Plate Front Mounting Package
VK5	Seat Temporary, for Shipping
VPH	Vehicle Preparation, Overseas Delivery
VP6	Noise Control
VR4	Trailer Hitch Weight Distribution Platform
VR6	Hook Tie Down Shipping
VXS	Vehicle Complete
VXT	Vehicle Incomplete
V10	Provision Options Cold Weather
V14	Cooler Oil, Transmission, Auxiliary
V22	Grille Radiator, Chrome
V37	Bumper Front and Rear, Chrome

RPO	Description
V39	Emergency Kit
V46	Bumper Front Chrome
V60	Vehicle Statement Gulf States Organization, Incomplete Vehicle
V73	Vehicle Statement, USA/Canada
V78	Vehicle Statement - Delete
V87	Vehicle Statement, Gulf States Organization
WEN	Plant Code, Wentzville, MO, USA
XEN	Tire Front P235/75R16 - 109S BW R/PE ST TL ALS
XEP	Tire Front P235/75R16 - 109S WOL R/PE ST TL ALS
XHF	Tire Front LT225/75R16/E BL R/PE ST ALS
XHH	Tire Front LT245/75R16/E BL R/PE ST ALS
XHP	Tire Front LT225/75R16/D BL R/PE ST TL ALS
XLP	Tire Front LT245/75R16/E BW R/PE ST TL ALS 120/116S
X88	Conversion Name PLT Chevrolet
YA2	Door Side RR, Sliding
YB9	Paint Process Interior - Delete
YC6	Convenience Package Decor Level #6
YEN	Tire Rear P235/75R16-109S BW R/PE ST TL ALS
YF1	Sales Package, Cutaway, Upfitter
YF7	Sales Package, Recreational Vehicle, Upfitter
YHF	Tire Rear LT225/75R16/E BL R/PE ST ALS
YHH	Tire Rear LT245/75R16/E BL R/PE ST ALS
YHP	Tire Rear LT225/75R16/D BL R/PE ST TL ALS
YLP	Tire Rear LT245/75R16/E BW R/PE ST TL ALS 120/116S
Y3G	Merchandised Package Mobility, Personal Use
Y3H	Merchandised Package Mobility, Paratransit
ZEN	Tire Spare P235/75R16-109S BW R/PE ST TL ALS
ZEP	Tire Spare P235/75R16-109S WOL R/PE ST TL ALS
ZHF	Tire Spare LT225/75R16/E BL R/PE ST ALS
ZHH	Tire Spare LT245/75R16/E BL R/PE ST ALS
ZHP	Tire Spare LT225/75R16/D BL R/PE ST TL ALS
ZLP	Tire Spare LT245/75R16/E BW R/PE ST TL ALS 120/116A
ZP0	Seating Arrangaement, Temporary Driver
ZP3	Seating Arrangement, 15 Passengers
ZP5	Seating Arrangement, 5 Passengers
ZP8	Seating Arrangement, 8 Passengers
ZW9	Body Equipment Base Body or Chassis
ZX1	Seating Arrangement Driver Only, High Back
ZX2	Seating Arrangement Driver and Passenger, High Back
ZX5	Seating Arrangement 12 Passenger
ZX9	Spare Tire w/Wheel - Delete
Z49	Export Canadian Modification Base Equipment
Z5X	Mirror Provisions, Arabic Language
Z82	Trailer Provisions Special Equipment H.D.
Z88	Conversion Name Plate GMC
1Q6	Vehicle Inspection Predelivery Form

Technical Information

Maintenance and Lubrication

Capacities - Approximate Fluid

Application/RPO	Specification	
	Metric	English
Engine Cooling System w/o Rear Heater		
4.3L V6 (L35)	10.4 liters	11.0 quarts
4.8L V8 (LR4)	12.7 liters	13.4 quarts
5.3L V8 (LM7)	12.7 liters	13.4 quarts
6.0L V8 (LQ4)	14.0 liters	14.8 quarts
Engine Cooling System with Rear Heater		
4.3L V6 (L35)	13.2 liters	14.0 quarts
4.8L V8 (LR4)	15.5 liters	16.4 quarts
5.3L V8 (LM7)	15.5 liters	16.4 quarts
6.0L V8 (LQ4)	17.0 liters	17.8 quarts
Engine Crankcase		
4.3L V6 (L35)	4.3 liters	4.5 quarts
4.8L V8 (LR4)	5.7 liters	6.0 quarts
5.3L V8 (LM7)	5.7 liters	6.0 quarts
6.0L V8 (LQ4)	5.7 liters	6.0 quarts
Front Drive Axle 7.25"	1.20 liters	1.27 quarts
Fuel		
Standard Tank-Passenger and Cargo	117.3 liters	31.0 gallons
Standard Tank-Cab and Chassis	132.5 liters	35.0 gallons
Optional Tank-Cab and Chassis	208.1 liters	55.0 gallons
Power Steering	1.05-1.44 liters	1.1-1.52 quarts
Rear Drive Axle		
8.6" Rear Axle	2.28 liters	2.41 quarts
9.75" Rear Axle	2.96 liters	3.13 quarts
10.5" Rear Axle	3.13 liters	3.31 quarts
Transmission		
4L60-E - After Filter/Pan Removal	4.7 liters	5.0 quarts
4L60-E - After Complete Overhaul	10.6 liters	11.0 quarts
4L80-E - After Filter/Pan Removal	7.3 liters	7.7 quarts
4L80-E - After Complete Overhaul	12.8 liters	13.5 quarts

Maintenance Items

Usage	Type
Air Cleaner	
4.3L (VIN W)	AC Type A917C
5.0L (VIN M)	AC Type A917C
5.7L (VIN R)	AC Type A917C
6.5L (VIN F)	AC Type A917C or for extremely dirty or dusty environments AC Type A1236C
8.1L (VIN G)	AC Type A917C
Engine Oil Filter	
4.3L (VIN W)	AC Type PF-52
5.0L (VIN M)	AC Type PF-1218
5.7L (VIN R)	AC Type PF-1218
6.5L (VIN F)	AC Type PF-1218
8.1L (VIN J)	AC Type PF-454
Fuel Filter	
4.3L (VIN W)	AC Type GF-481
5.0L (VIN M)	AC Type GF-481
5.7L (VIN R)	AC Type GF-481
6.5L (VIN F)	AC Type TP-1263
8.1L (VIN G)	AC Type GF-481
PCV Valve	
4.3L (VIN W)	AC Type CV769C For severe dusty conditions, use AC Air Filter, P/N 1236C
5.0L (VIN M)	AC Type CV769C
5.7L (VIN R)	AC Type CV769C
Radiator Cap	
4.3L (VIN W)	AC Type RC-36
5.0L (VIN M)	AC Type RC-36
5.7L (VIN R)	AC Type RC-36
8.1L (VIN G)	AC Type RC-36
Spark Plugs and Gaps	
4.3L (VIN W)	AC Type 41-932 (GAP 1.52 mm, 0.060 in)
5.0L (VIN M)	AC Type 41-932 (GAP 1.52 mm, 0.060 in)
5.7L (VIN R)	AC Type 41-932 (GAP 1.52 mm, 0.060 in)
8.1L (VIN J)	TJ14R-P15 (GAP 1.52 mm, 0.060 in)
Surge Tank Cap	
6.5L (VIN F)	AC Type RC-33

Fluid and Lubricant Recommendations

Usage	Fluid/Lubricant
Engine Oil (Gasoline Engine)	Enine oil with the American Petroleum Institute Certified for Gasoline Engines STARBURST symbol of the proper viscosity.
Engine Oil (Diesel Engine)	Engine oil with the letters CH-4 or CG-4 is best for your vehicle. The CH-4 or CG-4 designation may appear either alone, or in combination with other API designations, such as API CH-4/SJ, CG-4/SH or CH-4/CG-4/SJ.
Engine Coolant	50/50 mixture of clean, drinkable water and use only GM Goodwrench® DEX-COOL® or Havoline® DEX-COOL® Coolant.
Hydraulic Brake System	Delco Supreme 11® Brake Fluid (GM P/N 12377967, Canadian P/N 992667 or equivalent DOT-3 brake fluid).
Windshield Washer Solvent	GM Optikleen® Washer Solvent (GM P/N 1051515, Canadian P/N 993033) or equivalent.
Parking Brake Cable Guides	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Power Steering System	GM Power Steering Fluid (GM P/N 89021184, Canadian P/N 89021186 or equivalent).
Automatic Transmission	DEXRON® III Automatic Transmission Fluid.
Key Lock Cylinders	Multi-Purpose Lubricant, Superlube® (GM P/N 12346241, Canadian P/N 10953474 or equivalent).
Chassis Lubrication	Chassis Lubricant (GM P/N 12377985 or equivalent) or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Front Wheel Bearings	Wheel Bearing lubricant meeting requirements of NLGI #2, Category GC or GC-LB (GM P/N 1051344, Canadian P/N 993037 or equivalent).
Front Axle	SAE 75W-90 Synthetic Axle Lubricant (GM P/N 12378261, Canadian P/N 10953455) or equivalent meeting GM Specification 9986115.
Rear Axle (1500 Series Only)	SAE 75W-90 Synthetic Axle Lubricant (GM P/N 12378261, Canadian P/N 10953455) or equivalent meeting GM Specification 9986115.
Rear Axle (2500 and 3500 Series with Standard Differential Only)	SAE 80W-90 Axle Lubricant (GM P/N 1052271, Canadian P/N 10950849 or equivalent).
Rear Axle (2500 and 3500 Series with Locking Differential Only)	Axle Lubricant--Use only GM P/N 1052271, Canadian P/N 10950849. Do not add friction modifier.
Prop Shaft Splines, Universal Joints, One-Piece Propshaft Spline	Spline Lubricant, Special Lubricant (GM P/N 12345879, Canadian P/N 10953511) or lubricant meeting requirements of GM 9985830.
Hood Hinges	Multi-Purpose Lubricant, Superlube® (GM P/N 12346241, Canadian P/N 10953474 or equivalent).
Weatherstrip Conditioning	Dielectric Silicone Grease (GM P/N 12345579, Canadian P/N 1974984 or equivalent).
Weatherstrip Squeaks	Synthetic Grease with Teflon, Superlube® (GM P/N 12371287, Canadian P/N 10953437 or equivalent).

Descriptions and Operations

Power Steering System Description and Operation

The hydraulic power steering pump is a constant displacement vane-type pump that provides hydraulic pressure and flow for the power steering gear. The hydraulic power steering pumps are either belt-driven or direct-drive, cam-driven.

The power steering fluid reservoir holds the power steering fluid and may be integral with the power steering pump or remotely located. The following locations are typical locations for the remote reservoir:

- Mounted to the front of the dash panel
- Mounted to the inner fender
- Mounted to a bracket on the engine

The 2 basic types of power steering gears are listed below:

- A recirculating ball system
- A rack and pinion system

In the recirculating ball system, a worm gear converts steering wheel movement to movement of a sector shaft. A pitman arm attached to the bottom of the sector shaft actually moves one tie rod and an intermediate rod move the other tie rod.

In the rack and pinion system, the rack and the pinion are the 2 components that convert steering wheel rotation to lateral movement. The steering shaft is attached to the pinion in the steering gear. The pinion rotates with the steering wheel. Gear teeth on the pinion mesh with the gear teeth on the rack. The rotating pinion moves the rack from side to side. The lateral action of the rack pushes and pulls the tie rods in order to change the direction of the vehicle's front wheels.

The power steering pressure hose connects the power steering pump union fitting to the power steering gear and allows pressurized power steering fluid to flow from the pump to the gear.

The power steering return hose returns fluid from the power steering gear back to the power steering fluid reservoir. The power steering return line may contain an integral fin-type or line-type power steering fluid cooler.

In a typical power steering system, a pump generates hydraulic pressure, causing fluid to flow, via the pressure hose, to the steering gear valve assembly. The steering gear valve assembly regulates the incoming fluid to the right and left chambers in order to assist in right and left turns.

Turning the steering wheel activates the valve assembly, which applies greater fluid pressure and flow to 1 side of the steering gear piston, and lower pressure and flow to the other side of the piston. The pressure assists the movement of the gear piston. Tie rods transfer this force to the front wheels, which turn the vehicle right or left.

Power Steering Pump Specifications

Vehicle	Engine Code	Engine Size	High Flow (Liters per Minute)	High Flow (Gallons per Minute)	Pressure Relief(kPa)	Pressure Relief (PSI)
G 15/25/35 Series 7200/8600 GVW	LU3 LR4 LM7 LQ4	4.3L 4.8L 5.3L 6.0L	12.2/14.0	2.7/3.1	9825/10514	1425/1525

Steering Linkage Description and Operation

The steering linkage consists of the following components:

- A pitman arm
- A connecting rod
- 2 idler arms
- A relay rod
- 2 adjustable tie rods

When you turn the steering wheel, the steering gear rotates the pitman arm which forces the relay rod to one side. The tie rods connect to the relay rod with the ball studs. The tie rods transfer the steering force to the wheels. Use the tie rods in toe adjustments. The tie rods are adjustable. The pitman arm and the idler arm support the relay rod. The idler arm pivots on a support attached to the frame rail.

Steering Wheel and Column - Standard Description and Operation

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

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.

Suspension Description and Operation

Front Suspension

Coil Spring

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 vehicle's 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 an upper and a lower control arm. 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 control arm attaches to the frame in the same fashion. Between the lower control arm and a spring seat on the vehicle's frame, under tension, is a coil spring.

This up and down motion of the steering knuckle as the vehicle travels over bumps is absorbed predominantly by the coil spring. The vertical movement of the steering knuckle as the vehicle travels over irregular road surfaces will tend to compress the spring and spring tension will lead the spring to return to the original, at-rest state. This action isolates the vehicle from the road surface. The upper and lower control arms are 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.

A shock absorber is used in conjunction with this system in order to dampen out the oscillations of the coil spring. A shock absorber is a basic hydraulic cylinder. The shock is filled with oil and has a moveable shaft that connects to a piston inside the shock absorber. 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.

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 vehicle's handling characteristics on turns.

Torsion Bar

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 vehicle's 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 an upper and a lower control arm. 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 is attached at 2 points to the vehicle frame through semi-rigid bushings. The upper control arm attaches to the frame in the same fashion. Attached to the lower control arm is a torsion bar. Torsion bars are steel or steel composite shaft that connects from the lower control arm an adjustable mount at the torsion bar crossmember. The torsion bar functions as a spring in this suspension system. The torsion bar absorbs energy from irregular road surfaces by twisting force along the center axis. The torsion bar has a resistance to this twisting motion and will return to the original, at-rest position similar to that of a spring.

A shock absorber is used in conjunction with this system in order to dampen out the oscillations of the torsion bar. A shock absorber is a basic hydraulic cylinder. The shock is filled with oil and has a moveable shaft that connects to a piston inside the shock absorber. Valves inside the shock absorber offer resistance to oil flow and consequently offer resistance to rapid movement of the piston and shaft. Each end of the shock absorber is connected in such a fashion in order to utilize this recoil action of a torsion bar alone.

Front suspension 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 vehicle's handling characteristics on turns.

Rear Suspension

These vehicles use a leaf spring and a solid rear axle suspension system.

The rear axle assembly is attached to multi-leaf springs with U-bolts. The front ends of the springs are attached to the frame at the front hangers with rubber bushings. The rear ends of the springs are attached to the frame with shackles that use rubber bushings. Shackles allow the springs to change position while the vehicle is in motion.

Two direct double-acting shock absorbers provide ride control. The shock absorbers are angle-mounted between the frame. The shock absorbers are attached with brackets. The brackets are attached to the anchor plate.

The rear spring steel stabilizing shaft helps minimize body roll and sway during cornering. The rear stabilizer shaft is connected to the rear axle and the frame with the following components:

- The rubber insulators
- The clamps
- The link assemblies

Wheels and Tires

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Single Wheel Nuts	190 N·m	140 lb ft
Spare Tire Hoist Retaining Bolt	52 N·m	38 lb ft
Valve Stem Retaining Nut	4 N·m	35 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.

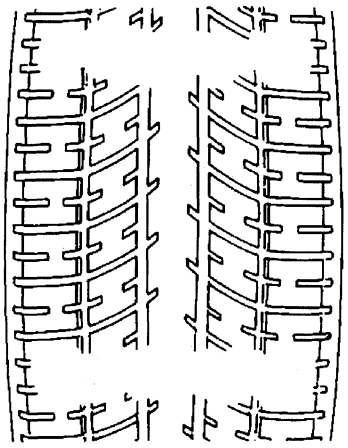
The following factors have an important influence on tire life:

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

The following factors increase tire wear:

- Heavy cornering
- Excessively rapid acceleration
- Heavy braking

Tread Wear Indicators Description



The original equipment tires have tread wear indicators that show when you should replace the tires.

The location of these indicators are at 72 degree intervals around the outer diameter of the tire. The indicators appear as a 6 mm (0.25 in) wide band when the tire tread depth becomes 1.6 mm (2/32 in).

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

Tire Description

Caution

Do not mix different types of tires on the same vehicle such as radial, bias, and bias-belted tires except in emergencies because vehicle handling may be seriously affected and may result in loss of control and possible serious injury.

This vehicle is equipped with speed rated tires. Listed below are the common speed rating symbols and the corresponding maximum speeds:

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

A Tire Performance Criteria (TPC) specification number is molded in the sidewall near the tire size of all original equipment tires. Usually, a specific TPC number is assigned to each tire size. The TPC specification number assures that the tire meets the following GM's performance standards.

- Meets the standards for traction.
- Meets the standards for endurance.
- Meets the standards for dimension.
- Meets the standards for noise.
- Meets the standards for handling.
- Meets the standards for rolling resistance, and others.

The following is required of replacement tires:

- Replacement tires must be of the same size as the original tires.
- Replacement tires must be of the same speed rating as the original tires.
- Replacement tires must be of the same load index as the original tires.
- Replacement tires must be of the same construction as the original tires.
- Replacement tires must have the same TPC specification number as the original tires.

The following may seriously be affected by the use of any other tire size, tire speed rating or tire type:

- May seriously affect the ride.
- May seriously affect the handling.
- May seriously affect the speedometer/odometer calibration.
- May seriously affect the antilock brake system.
- May seriously affect the vehicle ground clearance.
- May seriously affect the trailering capacity.
- May seriously affect the tire clearance to the body.
- May seriously affect the tire clearance to the chassis.

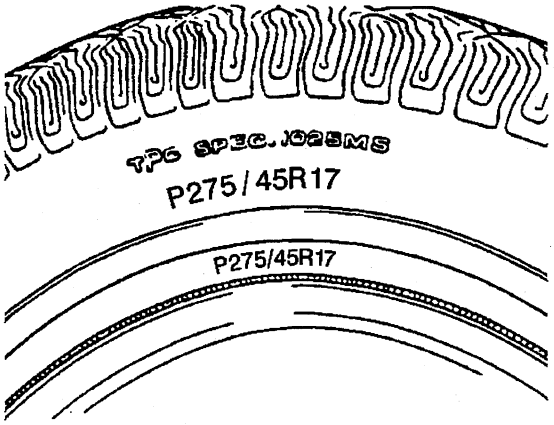
Conditions for Tire Replacement

Replace the tires when one and/or all of the following conditions are evident:

- When the tire(s) is worn to a point where 1.6 mm (2/32 in) or less of tread remains. The tires have built in tread wear indicators that appear between the tread grooves when the tread is worn to 1.6 mm (2/32 in) or less to help in the detection of this condition. Replace the tire when the indicators appear in two or more adjacent grooves at three spots around the tire.
- When the following conditions are evident on the tread:
  - When the tread is cracked.
  - When the tread is cut.
  - When the tread is snagged deeply enough to expose the cord.
  - When the tread is snagged deeply enough to expose the fabric.
  - When the sidewall is snagged deeply enough to expose the cord.
  - When the sidewall is snagged deeply enough to expose the fabric.
- When the following conditions are evident on the tire:
  - When the tire has a bump.
  - When the tire has a bulge (protrusion).
  - When the tire is split.
  - Please note that slight sidewall indentations are normal in radial tires.
- When the following damage is evident on the tire and the damage cannot be correctly repaired because of the size or the location of the damage:
  - When the tire has a puncture.
  - When the tire is cut, or other damage.

Always install new tires in pairs on the same axle. In the event that only one tire is replaced, then pair with the tire having the most tread.

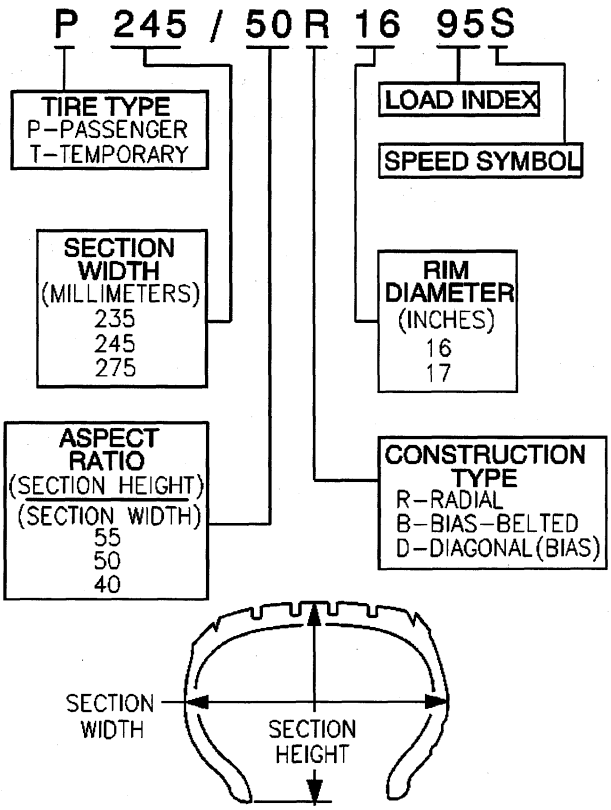
All Seasons Tires Description



Most GM vehicles are equipped with steel belted all-season radial tires as standard equipment. These tires qualify as snow tires, with a higher than average rating for snow traction than the non-all season radial tires previously used. Other performance areas, such as wet traction, rolling resistance, tread life, and air retention, are also improved. This is done by improvements in both tread design and tread compounds. These tires are identified by an M + S molded in the tire side wall after the tire size. The suffix MS is also molded in the tire side wall after the TPC specification number.

The optional handling tires used on some vehicles now also have the MS marking after the tire size and the TPC specification number.

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 is a tube with universal joints at both ends which do not require periodic maintenance, that transmit power from the transmission output shaft to the differential.

Front Propeller Shaft Description

The front propeller shaft transmits rotating force from the transfer case to the front differential when the transfer case is engaged. The front propeller shaft connects to the transfer case using a splined slip joint.

One Piece Propeller Shaft Description

A one piece propeller shaft uses a splined slip joint to connect the driveline to the transmission.

Two Piece Propeller Shaft Description

There are three universal joints used on the two piece propeller shaft. A center bearing assembly is used to support the propeller shaft connection point, and help isolate the vehicle from vibration.

Propeller Shaft Phasing Description

The driveline components in this vehicle have been system balanced at the factory. System balance provides for a smoother running driveline. These components include the propeller shafts, drive axles, pinion shafts and output shafts. Affixed to the rear axle is a system balanced driveline notice indicating that the driveline components have been factory tested. The propeller shaft is designed and built with the yoke lugs/ears in line with each other. This produces the smoothest running shaft possible. A propeller shaft designed with built in yoke lugs in line is known as in -- phase. An out of phase propeller shaft often causes vibration. The propeller shaft generates vibration from speeding up and slowing down each time the universal joint goes around. The vibration is the same as a person snapping a rope and watching the wave reaction flow to the end. An in phase propeller shaft is similar to 2 persons snapping a rope at the same time and watching the waves meet and cancel each other out. A total cancellation of vibration produces a smooth flow of power in the drive line. All splined shaft slip yokes are keyed in order to ensure proper phasing.

Universal Joint Description

The universal joint is connected to the propeller shaft. The universal consist of 4 caps with needle bearings and grease seals mounted on the trunnions of a cross or spider. These bearings and caps are greased at the factory and no periodic maintenance is required. There are 2 universal joints used in a one piece propeller shaft and 3 used in two piece propeller shaft. The bearings and caps are pressed into the yokes and held in place with snap rings, except for 2 bearings on some models witch are strapped onto the pinion flange of the differential. Universal joints are designed to handle the effects of various loads and rear axle windup conditions during acceleration and braking. The universal joint operates efficiently and safely within the designed angle variations. when the design angles are exceeded, the operational life of the joint decreases.

Center Bearing Description

Center bearings support the driveline when using 2 or more propeller shafts. The center bearing is a ball bearing mounted in a rubber cushion that attaches to a frame crossmember. The manufacturer prelubricates and seals the bearing. The cushion allows vertical motion at the driveline and helps isolate the vehicle from vibration.

Wheel Drive Shafts

Front Wheel Drive Shafts are flexible assemblies which consist of the following components:

- Front wheel drive shaft constant velocity joint outer joint.
- Front wheel drive shaft tri-pot joint inner joint.
- The front wheel drive shaft connects the front wheel drive shaft tri-pot joint and the front wheel drive shaft constant velocity joint.
- Wheel Drive Shaft Seal Cover 15 Series
- The front wheel drive shaft tri-pot joint is completely flexible, and moves with an in and out motion.
- The front wheel drive shaft constant velocity joint is flexible but can not move in and out.

The Wheel Drive Shaft is a balanced shaft that transmits rotational force from the front differential to the front wheels when the transfer case is engaged. The wheel drive shaft is mounted to the front differential by bolting the flange of the wheel drive shaft to the flange on the inner output shaft of the front differential. The other end of the wheel drive shaft is splined to fit into and drive the hub assembly when the transfer case is engaged. The tri-pot joint and constant velocity joint on the wheel drive shaft allows the shaft to be flexible to move with the suspension travel of the vehicle.

Front Drive Axle Description and Operation

The Front Drive Axle consist of the following components:

- The differential carrier housing
- The differential assembly
- The left and right output shafts
- The inner axle shaft housing
- The inner axle shaft

The front axle on the four-wheel-drive model vehicle does not have a central disconnect feature. The axle uses a conventional ring and pinion gear set in order to transmit the driving force of the engine to the wheels. The open differential allows the wheels to turn at different rates of speed while the axle continues to transmit the driving force. This prevents tire scuffing when going around corners and premature wear on internal axle parts. The ring and pinion set and the differential are contained within the carrier. The axle identification number on top of the differential carrier assembly or on a label on the right half of differential carrier assembly. The drive axles are completely flexible assemblies consisting of inner and outer constant velocity CV joints protected by thermoplastic boots and connected by a wheel drive shaft.

Rear Drive Axle Description and Operation

Rear axles for this vehicle consist of the following components:

- Differential axle housing
- Differential carrier
- Right and left axle tubes
- Right and left axle shafts

These axles are either full-floating or semi-floating. These axles can be identified as follows: the semi-floating axle has axle shafts with C-clips inside the differential carrier on the inner ends of the axle shafts. The full-floating axle has bolts at the hub retaining the axle shafts to the hub assembly. The axles can be identified by the stamping on the right side axle tube and may also be identified by the ring gear size. The ring gear sizes include 8.60, 9.50, and 10.50 inch axles. The locking differential information for these rear axles can be located in the locking differential section.

The driveline components in this vehicle have been system balanced at the factory. System balance provides for a smoother running driveline. These components include the propeller shafts, drive axles, pinion shafts and output shafts. Affixed to the rear axle is a system balanced driveline notice indicating that the driveline components have been factory tested. All components must be referenced marked before disassembly and reassembly in the exact relationship to each other the components had before removal.

An open differential has a set of four gears. Two are side gears and two are pinion gears. Some differentials have more than two pinion gears. Each side gear is splined to an axle shaft which turns when it's side gear rotates. The pinion gears are mounted on a differential pinion shaft, and the gears are free to rotate on this shaft. The pinion shaft is fitted into a bore in the differential case and is at right angles to the axle shafts. Power is transmitted through the differential as follows: the drive pinion rotates the ring gear. The ring gear, which is bolted to the differential case, rotates the case. The differential pinion, as it rotates the case, forces the pinion gears against the side gears. When both wheels have equal traction, the pinion gears do not rotate on the pinion shaft because the input force on the pinion gear is equally divided between the two side gears. Therefore, the pinion gears revolve with the pinion shaft, but do not rotate around the shaft itself. The side gears, being splined to the axle shafts and in mesh with the pinion gears rotate the axle shafts. If a vehicle were always driven in a straight line, the ring and pinion gears would be sufficient. The axle shaft could be solidly attached to the ring gear and both driving wheels would turn at equal speed. However, if it became necessary to turn a corner, the tires would scuff and slide because the differential allows the axle shafts to rotate at different speeds. When the vehicle turns a corner, the inner wheel turns slower than the outer wheel and slows it's rear axle side gear because the shaft is splined to the side gear. The rear axle pinion gears will roll around the slowed rear axle side gear, driving the rear axle side gear wheel faster.

Locking/Limited Slip Rear Axle Description and Operation

The locking differential consists of the following components:

- Differential case - 1 or 2 piece
- Locking differential spider - 2 piece case only
- Pinion gear shaft - 1 piece case only
- Differential pinion gear shaft lock bolt - 1 piece case only
- 2 clutch discs sets
- Locking differential side gear
- Thrust block
- Locking differential clutch disc guides
- Differential side gear shim
- Locking differential clutch disc thrust washer
- Locking differential governor
- Latching bracket
- Cam plate assembly
- Differential pinion gears
- Differential pinion gear thrust washers

The optional locking differential (RPO G80) enhances the traction capability of the rear axle by combining the characteristics of a limited-slip differential and the ability of the axle shafts to "lock" together when uneven traction surfaces exist. The differential accomplishes this in 2 ways. First by having a series of clutch plates at each side of the differential case to limit the amount of slippage between each wheel. Second, by using a mechanical locking mechanism to stop the rotation of the right differential side gear, or the left differential side gear on the 10.5 inch axle, in order to transfer the rotating torque of the wheel without traction to the wheel with traction. Each of these functions occur under different conditions.

Limited-Slip Function

Under normal conditions, when the differential is not locked, a small amount of limited-slip action occurs. The gear separating force developed in the right-hand (left-hand side on 10.5 inch axle) clutch pack is primarily responsible for this.

The operation of how the limited-slip function of the unit works can be explained when the vehicle makes a right-hand turn. Since the left wheel travels farther than the right wheel, it must rotate faster than the ring gear and differential case assembly. This results in the left axle and left side gear rotating faster than the differential case. The faster rotation of the left-side gear causes the pinion gears to rotate on the pinion shaft. This causes the right-side gear to rotate slower than the differential case.

Although the side gear spreading force produced by the pinion gears compresses the clutch packs, primarily the right side, the friction between the tires and the road surface is sufficient to overcome the friction of the clutch packs. This prevents the side gears from being held to the differential case.

Locking Function

Locking action occurs through the use of some special parts:

- A governor mechanism with 2 flyweights
- A latching bracket
- The left side cam plate and cam side gear

When the wheel-to-wheel speed difference is 100 RPM or more, the flyweights of the governor will fling out and one of them will contact an edge of the latching bracket. This happens because the left cam side gear and cam plate are rotating at a speed different, either slower or faster, than that of the ring gear and differential case assembly. The cam plate has teeth on its outer diameter surface in mesh with teeth on the shaft of the governor.

As the side gear rotates at a speed different than that of the differential case, the shaft of the governor rotates with enough speed to force the flyweights outward against spring tension. One of the flyweights catches its edge on the closest edge of the latching bracket, which is stationary in the differential case. This latching process triggers a chain of events.

When the governor latches, it stops rotating. A small friction clutch inside the governor allows rotation, with resistance, of the governor shaft while one flyweight is held to the differential case through the latching bracket. The purpose of the governor's latching action is to slow the rotation of the cam plate as compared to the cam side gear. This will cause the cam plate to move out of its detent position.

The cam plate normally is held in its detent position by a small wave spring and detent humps resting in matching notches of the cam side gear. At this point, the ramps of the cam plate ride up on the ramps of the cam side gear, and the cam plate compresses the left clutch pack with a self-energizing action.

As the left clutch pack is compressed, it pushes the cam plate and cam side gear slightly toward the right side of the differential case. This movement of the cam side gear pushes the thrust block which compresses the right-hand side gear clutch pack.

At this point, the force of the self-energizing clutches and the side gear separating force combine to hold the side gears to the differential case in the locking stage.

The entire locking process occurs in less than 1 second. The process works with either the left or right wheel spinning, due to the design of the governor and cam mechanism. A torque reversal of any kind will unlatch the governor, causing the cam plate to ride back down to its detent position. Cornering or deceleration during a transmission shift will cause a torque reversal of this type. The differential unit returns to its limited-slip function.

The self-energizing process would not occur if it were not for the action of one of the left clutch discs. This energizing disc provides the holding force of the ramping action to occur. It is the only disc which is splined to the cam plate itself. The other splined discs fit on the cam side gear.

If the rotating speed of the ring gear and differential case assembly is high enough, the latching bracket will pivot due to centrifugal force. This will move the flyweights so that no locking is permitted. During vehicle driving, this happens at approximately 32 km/h (20 mph) and continues at faster speeds.

When comparing the effectiveness of the locking differential, in terms of percent-of-grade capability to open and limited-slip units, the locking differential has nearly 3 times the potential of the limited-slip unit under the same conditions.

Locking Differential Torque-Limiting Disc

The locking differential design was modified in mid-1986 to include a load-limiting feature to reduce the chance of breaking an axle shaft under abusive driving conditions. The number of tangs on the energizing disc in the left-hand clutch pack was reduced allowing these tangs to shear in the event of a high-torque engagement of the differential locking mechanism.

At the time of failure of the load-limiting disc, there will be a loud bang in the rear axle and the differential will operate as a standard differential with some limited-slip action of the clutch packs at low torques.

The service procedure, when the disc tangs shear, involves replacing the left-hand clutch plates and the wave spring. It is also necessary to examine the axle shafts for twisting because at high torques it is possible to not only shear the load-limiting disc, but to also twist the axle shafts.

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.

Drum Brake System Description and Operation

System Component Description

The drum brake system consists of the following:

Drum Brake Shoes

Applies mechanical output force (from hydraulic brake wheel cylinders) to friction surface of brake drums.

Brake Drums

Uses mechanical output force applied to friction surface from drum brake shoes to slow speed of tire and wheel assembly rotation.

Drum Brake Hardware

Secures drum brake shoes firmly in proper relationship to hydraulic brake wheel cylinders. Enables sliding motion of brake shoes needed to expand toward friction surface of drums when mechanical output force is applied; provides return of brake shoes when mechanical output force is relieved.

Drum Brake Adjusting Hardware

Provides automatic adjustment of brake shoes to brake drum friction surface whenever brake apply occurs during rearward motion of the vehicle.

System Operation

Mechanical output force is applied from the hydraulic brake wheel cylinder pistons to the top of the drum brake shoes. The output force is then distributed between the primary and secondary brake shoes as the shoes expand toward the friction surface of the brake drums. The brake shoes apply the output force to the friction surface of the brake drums, which slows the rotation of the tire and wheel assemblies. The proper function of both the drum brake hardware and adjusting hardware is essential to the proper distribution of braking force.

Park Brake System Description and Operation

The system is a self adjusting component and is located on the left side of the kick panel. This system will not require periodic adjustment. However, there is an adjustment feature built in the system located along the front left of the frame called the equalizer.

The park brake is not designed for use in the place of service brakes. Apply only after the vehicle is brought to a complete stop, except in an emergency. Before working on the park brake system, make sure the service brakes are in good working order and adjusted properly.

Lever

The park brake lever is located on the left side of the driver's compartment and is activated by foot pressure. The lever assembly has a ratchet mechanism in it to allow varying degrees of park brake application. The park brake handle on the instrument panel allows the driver to release the park brake.

Cable System

The cable system will vary depending on the type of park brake system used. Models with rear drum brakes use a system that includes one front cable and two rear cables. The front cable connects to the lever on one end and the connector on the other end. The rear cables attach to the equalizer and connector on one end and the park brake struts in the drum brakes on the other end.

Models with a propeller shaft park brake use a one-cable system. The cable connects to the front lever on one end and the rear lever on the other end.

Brake Lamp

The BRAKE warning lamp on the instrument cluster turns on when the park brake is applied. The lamp can also be turned on by the switch in the combination valve and the antilock brake system.

Parking Brake Switch

The park brake switch is located on the lever assembly. The switch serves as the device to turn on the BRAKE lamp when the parking brake is applied and turn it off when the parking brake is released.

Daytime Running Lights

All vehicles are equipped with a daytime running light (DRL) system. This system uses the park brake switch to turn the headlamps off when the ignition switch is ON and the park brake is applied.

ABS Description and Operation

Antilock Brake System

When wheel slip is detected during a brake application, the ABS enters antilock mode. During antilock braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel brake. The ABS cannot, however, increase hydraulic pressure above the amount which is transmitted by the master cylinder during braking.

During antilock braking, a series of rapid pulsations is felt in the brake pedal. These pulsations are caused by the rapid changes in position of the individual solenoid valves as the EBCM responds to wheel speed sensor inputs and attempts to prevent wheel slip. These pedal pulsations are present only during antilock braking and stop when normal braking is resumed or when the vehicle comes to a stop. A ticking or popping noise may also be heard as the solenoid valves cycle rapidly. During antilock braking on dry pavement, intermittent chirping noises may be heard as the tires approach slipping. These noises and pedal pulsations are considered normal during antilock operation.

Vehicles equipped with ABS may be stopped by applying normal force to the brake pedal. Brake pedal operation during normal braking is no different than that of previous non-ABS systems. Maintaining a constant force on the brake pedal provides the shortest stopping distance while maintaining vehicle stability.

Engine Description and Operation

Engine Mechanical – 4.3L

General Specifications

Application	Specification	
	Metric	English
General		
Engine Type	90 degree V6	
Displacement	4.3 L	262 CID
RPO	LU3	
VIN	X	
Bore	101.60 mm	4.012 in
Stroke	88.39 mm	3.480 in
Compression Ratio	9.2:1	
Firing Order	1-6-5-4-3-2	
Spark Plug Gap	1.52 mm	0.060 in
Balance Shaft		
Bearing Journal Diameter - Rear	38.085-38.100 mm	1.4994-1.500 in
Bushing Bore Diameter - Rear	0.050-0.088 mm	0.0020-0.0035 in
Block		
Crankshaft Main Bearing Bore Out-of-Round	0.050 mm	0.002 in
Cylinder Bore Diameter	101.618-101.643 mm	4.0007-4.0017 in
Cylinder Bore Out-of-Round - Production	0.017 mm	0.0007 in
Cylinder Bore Out-of-Round - Service	0.05 mm	0.002 in
Cylinder Bore Taper - Production Relief Side	0.025 mm	0.0010 in
Cylinder Bore Taper - Production Thrust Side	0.012 mm	0.0005 in
Cylinder Bore Taper - Service	0.025 mm	0.0010 in
Cylinder Head Deck Surface Flatness	0.050-0.152 mm	0.002-0.006 in
Camshaft		
Camshaft End Play	0.0254-0.2286 mm	0.0010-0.0090 in
Camshaft Journal Diameter	47.440-47.490 mm	1.8677-1.8696 in
Camshaft Journal Out-of-Round	0.025 mm	0.001 in
Camshaft Lobe Lift - Exhaust	7.20-7.30 mm	0.283-0.287 in
Camshaft Lobe Lift - Intake	6.97-7.07 mm	0.274-0.278 in
Camshaft Runout	0.065 mm	0.0026 in
Connecting Rod		
Connecting Rod Bearing Clearance - Production	0.038-0.078 mm	0.0015-0.0031 in
Connecting Rod Bearing Clearance - Service	0.025-0.063 mm	0.0010-0.0025 in
Connecting Rod Side Clearance	0.15-0.44 mm	0.006-0.017 in
Crankshaft		
Connecting Rod Journal Diameter	57.116-57.148 mm	2.2487-2.2497 in
Connecting Rod Journal Out-of-Round - Production	0.008 mm	0.0003 in
Connecting Rod Journal Out-of-Round - Service	0.025 mm	0.0010 in
Connecting Rod Journal Taper - Production	0.010 mm	0.0004 in
Connecting Rod Journal Taper - Service	0.025 mm	0.0010 in
Crankshaft End Play	0.050-0.20 mm	0.002-0.008 in
Crankshaft Main Bearing Clearance #1 - Production	0.02-0.05 mm	0.0008-0.0020 in
Crankshaft Main Bearing Clearance #2, #3, and #4 - Production	0.028-0.058 mm	0.0011-0.0023 in

Application	Specification	
	Metric	English
Crankshaft Main Bearing Clearance #1 - Service	0.0254-0.05 mm	0.0010-0.0020 in
Crankshaft Main Bearing Clearance #2, #3, and #4 - Service	0.025-0.063 mm	0.0010-0.0025 in
Crankshaft Main Journal Diameter #1	62.199-62.217 mm	2.4488-2.4495 in
Crankshaft Main Journal Diameter #2 and #3	62.191-62.215 mm	2.4485-2.4494 in
Crankshaft Main Journal Diameter #4	62.179-62.203 mm	2.4480-2.4489 in
Crankshaft Main Journal Out-of-Round - Production	0.005 mm	0.0002 in
Crankshaft Main Journal Out-of-Round - Service	0.025 mm	0.0010 in
Crankshaft Main Journal Taper	0.007 mm	0.0003 in
Exhaust Manifold		
Surface Flatness - Flange to Flange	0.25 mm	0.010 in
Surface Flatness - Individual Flange	0.05 mm	0.002 in
Intake Manifold		
Surface Flatness	0.10 mm	0.004 in
Lubrication System		
Oil Capacity for C/K, G/H with Filter	4.3 L	4.5 qt
Oil Capacity for C/K, G/H without Filter	3.8 L	4 qt
Oil Capacity for S/T, M/L with Filter	4.7 L	5 qt
Oil Capacity for S/T, M/L without Filter	4.3 L	4.5 qt
Oil Pressure - at 1,000 RPM	42 kPa	6 psi
Oil Pressure - at 2,000 RPM	125 kPa	18 psi
Oil Pressure - at 4,000 RPM	166 kPa	24 psi
Piston Rings		
Piston Ring End Gap - First Compression Ring - Production	0.25-0.40 mm	0.010-0.016 in
Piston Ring End Gap - Second Compression Ring - Production	0.38-0.58 mm	0.015-0.023 in
Piston Ring End Gap - Oil Control Ring - Production	0.25-0.76 mm	0.010-0.029 in
Piston Ring End Gap - First Compression Ring - Service	0.25-0.50 mm	0.010-0.020 in
Piston Ring End Gap - Second Compression Ring - Service	0.38-0.80 mm	0.015-0.031 in
Piston Ring End Gap - Oil Control Ring - Service	0.005-0.090 mm	0.0002-0.0035 in
Piston Ring to Groove Clearance - First Compression Ring - Production	0.030-0.070 mm	0.0012-0.0027 in
Piston Ring to Groove Clearance - Second Compression Ring - Production	0.076-0.280 mm	0.0030-0.0110 in
Piston Ring to Groove Clearance - Oil Control Ring - Production	0.046-0.196 mm	0.0018-0.0077 in
Piston Ring to Groove Clearance - First Compression Ring - Service	0.030-0.085 mm	0.0012-0.0033 in
Piston Ring to Groove Clearance - Second Compression Ring - Service	0.030-0.085 mm	0.0012-0.0033 in
Piston Ring to Groove Clearance - Oil Control Ring - Service	0.076-0.200 mm	0.0030-0.0079 in
Pistons and Pins		
Piston - Piston to Bore Clearance - Production	0.018-0.061 mm	0.0007-0.0024 in
Piston - Piston to Bore Clearance - Service	0.075 mm	0.0029 in

Application	Specification	
	Metric	English
Pin - Piston Pin Clearance to Connecting Rod Bore - Press Fit	0.012-0.048 mm	0.0005-0.0019 in
Pin - Piston Pin Clearance to Piston Pin Bore - Production	0.013-0.023 mm	0.0005-0.0009 in
Pin - Piston Pin Clearance to Piston Pin Bore - Service	0.025 mm	0.0010 in
Pin - Piston Pin Diameter	23.545-23.548 mm	0.9270-0.9271 in
Valve System		
Valves - Valve Face Angle	45 degrees	
Valves - Valve Seat Angle	46 degrees	
Valves - Valve Seat Runout	0.05 mm	0.002 in
Valves - Valve Seat Width - Intake	1.016-1.651 mm	0.040-0.065 in
Valves - Valve Seat Width - Exhaust	1.651-2.489 mm	0.065-0.098 in
Valves - Valve Stem Oil Seal Installed Height	1-2 mm	0.03937-0.07874 in
Valves - Valve Stem-to-Guide Clearance - Intake - Production	0.025-0.069 mm	0.0010-0.0027 in
Valves - Valve Stem-to-Guide Clearance - Intake - Service	0.025-0.094 mm	0.0010-0.0037 in
Valves - Valve Stem-to-Guide Clearance - Exhaust - Production	0.025-0.069 mm	0.0010-0.0027 in
Valves - Valve Stem-to-Guide Clearance - Exhaust - Service	0.025-0.094 mm	0.0010-0.0037 in
Rocker Arms - Valve Rocker Arm Ratio	1.5:1	
Valve Springs - Valve Spring Free Length	51.3 mm	2.02 in
Valve Springs - Valve Spring Installed Height - Intake	42.92-43.43 mm	1.670-1.700 in
Valve Springs - Valve Spring Installed Height - Exhaust	42.92-43.43 mm	1.670-1.700 in
Valve Springs - Valve Spring Load - Closed	338-374 N @ 43.2 mm	76-84 lb @ 1.70 in
Valve Springs - Valve Spring Load - Open	832-903 N @ 32.3 mm	187-203 lb @ 1.27 in

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accelerator Control Cable Bracket Nut	12 N·m	106 lb in
Accelerator Control Cable Bracket Stud to Intake Manifold	6 N·m	53 lb in
Accelerator Control Cable Bracket Stud to Throttle Body	12 N·m	106 lb in
Air Cleaner Adapter Stud	10 N·m	89 lb in
Air Cleaner Outlet Duct Nut	2 N·m	18 lb in
Balance Shaft Driven Gear Bolt		
First Pass	20 N·m	15 lb ft
Final Pass	35 degrees	
Balance Shaft Retainer Bolt	12 N·m	106 lb in
Battery Negative Cable Bolt to Engine	25 N·m	18 lb ft
Belt Idler Pulley Bolt	50 N·m	37 lb ft
Camshaft Retainer Bolt	12 N·m	106 lb in
Camshaft Sprocket Bolt	25 N·m	18 lb ft
Connecting Rod Nut		
First Pass	27 N·m	20 lb ft
Final Pass	70 degrees	
Crankshaft Balancer Bolt	95 N·m	70 lb ft
Crankshaft Balancer Remover/Installer Bolt for tool J 23523 - F	25 N·m	18 lb ft

Application	Specification	
	Metric	English
Crankshaft Bearing Cap Bolt - Preferred Method		
First Pass	20 N·m	15 lb ft
Final Pass	73 degrees	
Crankshaft Bearing Cap Bolt - Optional Strategy	105 N·m	77 lb ft
Crankshaft Position Sensor Bolt	8 N·m	71 lb in
Crankshaft Pulley Bolt	58 N·m	43 lb ft
Crankshaft Rear Oil Seal Housing Bolt and Nut	12 N·m	106 lb in
Crankshaft Rear Oil Seal Housing Retainer Stud	6 N·m	53 lb in
Cylinder Head Bolt - Preferred Method		
All Bolts First Pass in Sequence	30 N·m	22 lb ft
Long Bolts Final Pass in Sequence	75 degrees	
Medium Bolts Final Pass in Sequence	65 degrees	
Short Bolts Final Pass in Sequence	55 degrees	
Cylinder Head Bolt - Optional On-Vehicle Strategy		
First Pass in Sequence	35 N·m	26 lb ft
Second Pass in Sequence	60 N·m	44 lb ft
Final Pass in Sequence	90 N·m	66 lb ft
Cylinder Head Core Hole Plug	20 N·m	15 lb ft
Distributor Cap Bolt	2.4 N·m	21 lb in
Distributor Clamp Bolt	25 N·m	18 lb ft
Drive Belt Idler Pulley Bolt	50 N·m	37 lb ft
Drive Belt Tensioner Bolt	50 N·m	37 lb ft
Engine Block Coolant Drain Hole Plug	20 N·m	15 lb ft
Engine Block Left Rear Oil Gallery Plug	30 N·m	22 lb ft
Engine Block Left Side Oil Gallery Plug	20 N·m	15 lb ft
Engine Block Oil Gallery Plug	20 N·m	15 lb ft
Engine Block Right Rear Oil Gallery Plug	20 N·m	15 lb ft
Engine Coolant Heater Bolt/Screw	2 N·m	18 lb in
Engine Coolant Temperature (ECT) Sensor	20 N·m	15 lb ft
Engine Flywheel Bolt	100 N·m	74 lb ft
Engine Front Cover Bolt	12 N·m	106 lb in
Engine Lift Bracket Bolt for tool J 41427	15 N·m	11 lb ft
Engine Lift Front Bracket Stud	35 N·m	26 lb ft
Engine Mount Adapter Bolts	50 N·m	37 lb ft
Engine Mount Heat Shield Bolt	6 N·m	53 lb in
Engine Mount to Engine Bolts	50 N·m	37 lb ft
Engine Mount to Frame Bracket Bolts	60 N·m	44 lb ft
Engine Oil Level Sensor	13 N·m	111 lb in
Engine Oil Pressure Gage Sensor	30 N·m	22 lb ft
Engine Oil Pressure Gage Sensor Fitting - Plus Required Angle	15 N·m	11 lb ft
Engine Wiring Harness Bracket Nut to Intake Manifold Stud	12 N·m	106 lb in
Engine Wiring Harness Retainer Nut to Transmission to Engine Stud	10 N·m	89 lb in
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Nut to Intake Manifold	10 N·m	89 lb in
Exhaust Manifold Bolt/Stud		
First Pass	15 N·m	11 lb ft
Final Pass	30 N·m	22 lb ft
Fan and Water Pump Pulley Bolt	25 N·m	18 lb ft
Fuel Meter Body Bracket Bolt	10 N·m	89 lb in
Fuel Pipe Bracket Bolt	6 N·m	53 lb in
Fuel Pipe Retainer Nut	3 N·m	27 lb in
Generator and Drive Belt Tensioner Bracket Bolt to Engine	41 N·m	30 lb ft

Application	Specification	
	Metric	English
Generator and Drive Belt Tensioner Bracket Stud Nut	41 N·m	30 lb ft
Generator and Drive Belt Tensioner Bracket Stud to Engine	20 N·m	15 lb ft
Ground Wire Bolt to Rear of Left Cylinder Head	10 N·m	89 lb in
Ground Wire Nut to Water Outlet Stud	10 N·m	89 lb in
Ground Wire Stud to Rear of Right Cylinder Head	10 N·m	89 lb in
Heater Inlet and Outlet Hose Bracket Bolt to Oil Fill Tube Lower Support	5 N·m	44 lb in
Ignition Coil Stud	12 N·m	106 lb in
Knock Sensor	25 N·m	18 lb ft
Lower Intake Manifold Bolt		
First Pass in Sequence	3 N·m	27 lb in
Second Pass in Sequence	12 N·m	106 lb in
Final Pass in Sequence	15 N·m	11 lb ft
Oil Fill Tube to Oil Fill Tube Lower Support Bolt	5 N·m	44 lb in
Oil Fill Tube Lower Support Bolt and Stud	25 N·m	18 lb ft
Oil Fill Tube Nut	12 N·m	106 lb in
Oil Filter Adapter Bolt	21 N·m	15 lb ft
Oil Filter Fitting	55 N·m	41 lb ft
Oil Level Indicator Tube Bolt	12 N·m	106 lb in
Oil Level Indicator Tube to Oil Fill Tube Lower Support Bolt	5 N·m	44 lb in
Oil Pan Baffle Bolt	12 N·m	106 lb in
Oil Pan Bolt and Nut	25 N·m	18 lb ft
Oil Pan Drain Plug	25 N·m	18 lb ft
Oil Pump Bolt to Rear Crankshaft Bearing Cap	90 N·m	66 lb ft
Oil Pump Cover Bolt	12 N·m	106 lb in
Power Brake Booster Vacuum Hose Bracket Nut to Intake Manifold Stud	11 N·m	97 lb in
Power Steering Pump Bolt	50 N·m	37 lb ft
Power Steering Pump Bracket Bolt to Engine	41 N·m	30 lb ft
Power Steering Pump Bracket Stud Nut	41 N·m	30 lb ft
Power Steering Pump Bracket Stud to Engine	20 N·m	15 lb ft
Power Steering Pump Rear Bracket Nut to Engine	41 N·m	30 lb ft
Power Steering Pump Rear Bracket Nut to Power Steering Pump	50 N·m	37 lb ft
Spark Plug		
Initial Installation - NEW Cylinder Head	30 N·m	22 lb ft
All Subsequent Installations	15 N·m	11 lb ft
Spark Plug Wire Support Bolt	12 N·m	106 lb in
Starter Motor Wiring Harness/Transmission Cooler Pipe Bracket Bolt to Oil Pan	9 N·m	80 lb in
Throttle Body Stud	9 N·m	80 lb in
Transmission Bolt to Oil Pan	47 N·m	35 lb ft
Transmission Control Cable Bracket Bolt	40 N·m	30 lb ft
Transmission Cover Bolt	12 N·m	106 lb in
Transmission Fluid Fill Tube Bolt to Rear of Engine	10 N·m	89 lb in
Upper Intake Manifold Stud		
First Pass	5 N·m	44 lb in
Final Pass	9 N·m	80 lb in
Vacuum Brake Booster Hose Bracket Nut	11 N·m	97 lb in
Valve Lifter Pushrod Guide Bolt	16 N·m	12 lb ft
Valve Rocker Arm Bolt	30 N·m	22 lb ft
Valve Rocker Arm Cover Bolt	12 N·m	106 lb in
Water Outlet Stud	25 N·m	18 lb ft
Water Pump Bolt	45 N·m	33 lb ft

Engine Component Description

Balance Shaft

The cast iron balance shaft is mounted in the crankcase above and in-line with the camshaft. A camshaft gear drives the gear attached to the balance shaft. The front end of the balance shaft is supported by a ball-type bearing. The rear end of the balance shaft uses a sleeve-type bearing.

Camshaft

The steel camshaft is supported by four bearings pressed into the engine block. The camshaft timing chain sprocket mounted to the front of the camshaft is driven by the crankshaft sprocket through a camshaft timing chain.

Crankshaft

The cast nodular iron crankshaft is supported by four crankshaft bearings. The number four crankshaft bearing at the rear of the engine is the end thrust bearing. The crankshaft bearings are retained by bearing caps that are machined with the engine block for proper alignment and clearances. The crankshaft position sensor reluctor ring has three lugs used for crankshaft timing and is constructed of powdered metal. The crankshaft position sensor reluctor ring has a slight interference fit onto the crankshaft and an internal keyway for correct positioning.

Cylinder Heads

The cast iron cylinder heads have one intake and one exhaust valve for each cylinder. A spark plug is located between the valves in the side of the cylinder head. The valve guides and seats are integral to the cylinder head. The 4.3L heavy duty applications have pressed in exhaust valve seats. The valve rocker arms are positioned on the valve rocker arm supports and retained by a bolt.

Engine Block

The cast iron engine block has six cylinders arranged in a V shape with three cylinders in each bank. Starting at the front side of the engine block, the cylinders in the left bank are numbered 1-3-5 and cylinders in the right bank are numbered 2-4-6 (when viewed from the rear). The firing order of the cylinders is 1-6-5-4-3-2. The cylinders are encircled by coolant jackets.

Exhaust Manifolds

The cast iron exhaust manifolds direct exhaust gases from the combustion chambers to the exhaust system. The left side exhaust manifold has a port for the EGR valve inlet pipe.

Intake Manifold

The intake manifold is a two-piece design. The upper portion is made from a composite material and the lower portion is cast aluminum. The throttle body attaches to the upper manifold. The lower manifold has an exhaust gas recirculation (EGR) port cast into the manifold for mixture. The (EGR) valve bolts into the lower intake manifold. The Central Sequential Multiport Fuel Injection system uses multiple fuel injectors to meter and distribute fuel to each engine cylinder. The Central (SFI) is retained by a bracket bolted to the lower intake manifold. The fuel meter body also houses the pressure regulator. Metal inlet and outlet fuel lines and nylon delivery tubes connect to the Central (SFI) unit. The delivery tubes independently distribute fuel to each cylinder through nozzles located at the port entrance of each manifold runner where the fuel is atomized.

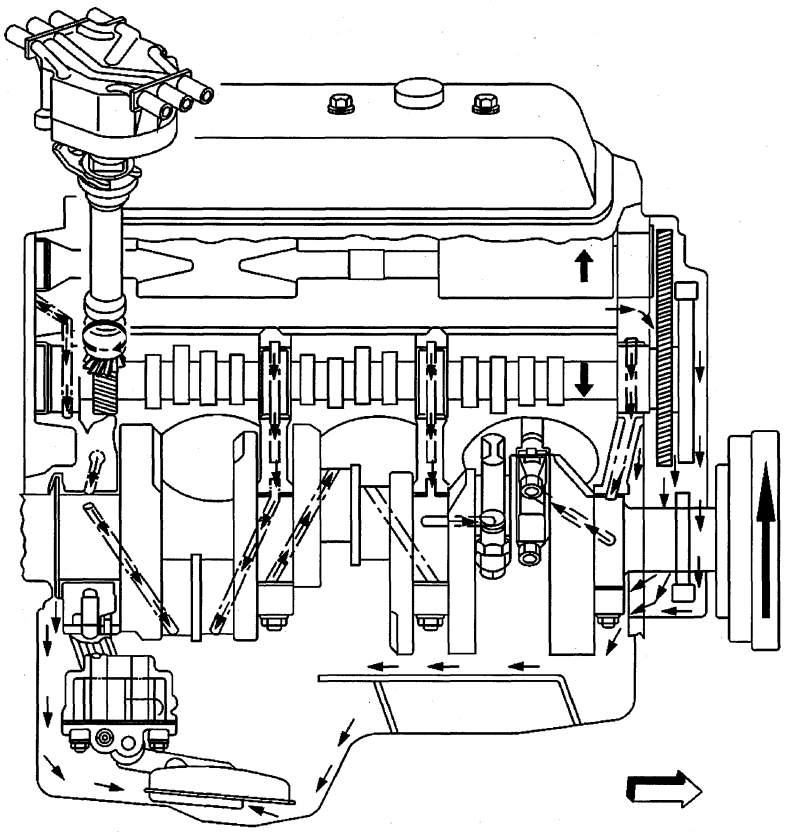
Piston and Connecting Rod Assemblies

The cast aluminum pistons use two compression rings and one oil control assembly. The piston is a low friction, lightweight design with a flat top and barrel shaped skirt. The piston pins are offset 0.9 mm (0.0354 in) toward the major thrust side (right side) to reduce piston slap as the connecting rod travels from one side of the piston to the other side after a stroke. The piston pins have a floating fit in the piston and are retained by a press fit in the connecting rod. The connecting rods are forged steel. The connecting rods are machined with the rod cap installed for proper clearances and alignments.

Valve Train

Motion is transmitted from the camshaft through the hydraulic roller valve lifters and the tubular valve pushrods to the roller type valve rocker arms. The roller type valve rocker arm pivots on a needle type bearing in order to open the valve. The valve rocker arms for each bank of cylinders are mounted to a one piece valve rocker arm support. Each valve rocker arm is retained on the valve rocker arm support and the cylinder head by a bolt. The hydraulic valve lifters keep all the parts of the valve train in constant contact. Each hydraulic valve lifter acts as an automatic adjuster and maintains zero lash in the valve train. This eliminates the need for periodic valve adjustment.

Lubrication



Full pressure lubrication, through a full-flow oil filter is supplied by a gear-type oil pump. Oil is drawn up through the oil pump screen and passes through the pump to the oil filter. The oil filter is a full-flow paper element unit with an anti-drain back valve. An oil filter bypass valve is used to ensure adequate oil supply, in the event the filter becomes plugged or develops excessive pressure drop. Filtered oil flows into the main gallery and then to the camshaft, the balance shaft, the rear bearing, and the crankshaft bearings. The valve lifter oil gallery supplies oil to the valve lifters. Oil flows from the valve lifters through the hollow valve pushrods to the valve rocker arms. Oil drains back to the crankcase through the oil drain holes in the cylinder head. The camshaft timing chain is drip fed from the front camshaft bearing. The pistons and piston pins are lubricated by oil splash.

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

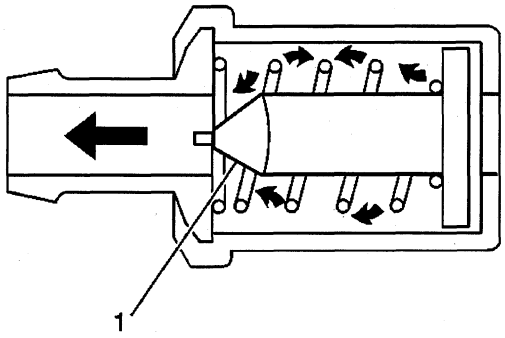
The drive belt system may use one belt or two belts. The drive belt is thin so that it can bend backwards and has several ribs to match the grooves in the pulleys. There also may be a V-belt style belt used to drive certain accessory drive components. The drive belts are made of different types of rubbers (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.

Crankcase Ventilation System Description



A crankcase ventilation system is used in order to provide a more complete scavenging of crankcase vapors. The air cleaner supplies fresh air through a filter to the crankcase. The crankcase mixes the fresh air with blow-by gases. This mixture then passes through a crankcase ventilation valve into the intake manifold.

The primary control is through the crankcase ventilation valve (1), which meters the flow at a rate depending on the manifold vacuum.

In order to maintain an idle quality, the crankcase ventilation valve restricts the flow when the intake manifold vacuum is high. If abnormal operating conditions arise, the system is designed in order to allow the excessive amounts of blow-by gases to back flow through the crankcase vent tube into the air cleaner in order to be consumed by normal combustion.

Engine Mechanical – 4.8L, 5.3L & 6.0L

General Specifications 4.8L

Application	Specification	
	Metric	English
General		
Bore	96.0-96.018 mm	3.779-3.78 in
Compression Ratio	9.47:1	
Displacement	4.8L	293 CID
Engine Type	V8	
Firing Order	1-8-7-2-6-5-4-3	
RPO	LR4	
Stroke	83.0 mm	3.268 in
VIN	V	
Spark Plug Gap		
AC Delco Type 41-974	1.524 mm	0.06 in
AC Delco Type 41-985	1.016 mm	0.04 in
Block		
Camshaft Bearing Bore 1 and 5 Diameter - First Design	59.12-59.17 mm	2.327-2.329 in
Camshaft Bearing Bore 2 and 4 Diameter - First Design	58.87-58.92 mm	2.317-2.319 in
Camshaft Bearing Bore 3 Diameter - First Design	58.62-58.67 mm	2.307-2.309 in
Camshaft Bearing Bore 1 and 5 Diameter - Second Design	59.62-59.67 mm	2.347-2.349 in
Camshaft Bearing Bore 2 and 4 Diameter - Second Design	59.12-59.17 mm	2.327-2.329 in
Camshaft Bearing Bore 3 Diameter - Second Design	58.62-58.67 mm	2.307-2.309 in
Crankshaft Main Bearing Bore Diameter	69.871-69.889 mm	2.75-2.751 in
Crankshaft Main Bearing Bore Out-of-Round	0.006 mm	0.0002 in
Cylinder Bore Diameter	96.0-96.018 mm	3.779-3.78 in
Cylinder Bore Taper - Thrust Side	0.018 mm	0.0007 in
Cylinder Head Deck Height - Measuring from the Centerline of Crankshaft to the Deck Face	234.57-234.82 mm	9.235-9.245 in
Cylinder Head Deck Surface Flatness - Measured Within a 152.4 mm (6.0 in) Area	0.11 mm	0.004 in
Cylinder Head Deck Surface Flatness - Measuring the Overall Length of the Block Deck	0.22 mm	0.008 in
Valve Lifter Bore Diameter	21.417-21.443 mm	0.843-0.844 in
Camshaft		
Camshaft End Play	0.025-0.305 mm	0.001-0.012 in
Camshaft Journal Diameter	54.99-55.04 mm	2.164-2.166 in
Camshaft Journal Out-of-Round	0.025 mm	0.001 in
Camshaft Lobe Lift - Exhaust	6.96 mm	0.274 in
Camshaft Lobe Lift - Intake	6.82 mm	0.268 in
Camshaft Runout - Measured at the Intermediate Journals	0.05 mm	0.002 in
Connecting Rod		
Connecting Rod Bearing Clearance - Production	0.023-0.065 mm	0.0009-0.0025 in
Connecting Rod Bearing Clearance - Service	0.023-0.076 mm	0.0009-0.003 in
Connecting Rod Bore Diameter - Bearing End	56.505-56.525 mm	2.224-2.225 in
Connecting Rod Bore Out-of-Round - Bearing End - Production	0.004-0.008 mm	0.00015-0.0003 in
Connecting Rod Bore Out-of-Round - Bearing End - Service	0.004-0.008 mm	0.00015-0.0003 in
Connecting Rod Side Clearance	0.11-0.51 mm	0.00433-0.02 in

Application	Specification	
	Metric	English
Crankshaft		
Connecting Rod Journal Diameter - Production	53.318-53.338 mm	2.0991-2.0999 in
Connecting Rod Journal Diameter - Service	53.308 mm	2.0987 in
Connecting Rod Journal Out-of-Round - Production	0.005 mm	0.0002 in
Connecting Rod Journal Out-of-Round - Service	0.01 mm	0.0004 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Production	0.005 mm	0.0002 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Service	0.02 mm	0.00078 in
Crankshaft End Play	0.04-0.2 mm	0.0015-0.0078 in
Crankshaft Main Bearing Clearance - Production	0.02-0.052 mm	0.0008-0.0021 in
Crankshaft Main Bearing Clearance - Service	0.02-0.065 mm	0.0008-0.0025 in
Crankshaft Main Journal Diameter - Production	64.992-65.008 mm	2.558-2.559 in
Crankshaft Main Journal Diameter - Service	64.992 mm	2.558 in
Crankshaft Main Journal Out-of-Round - Production	0.003 mm	0.000118 in
Crankshaft Main Journal Out-of-Round - Service	0.008 mm	0.0003 in
Crankshaft Main Journal Taper - Production	0.01 mm	0.0004 in
Crankshaft Main Journal Taper - Service	0.02 mm	0.00078 in
Crankshaft Rear Flange Runout	0.05 mm	0.002 in
Crankshaft Reluctor Ring Runout - Measured 1.0 mm (0.04 in) Below Tooth Diameter	0.7 mm	0.028 in
Crankshaft Thrust Surface - Production	26.14-26.22 mm	1.029-1.0315 in
Crankshaft Thrust Surface - Service	26.22 mm	1.0315 in
Crankshaft Thrust Surface Runout	0.025 mm	0.001 in
Cylinder Head		
Cylinder Head Height/Thickness - Measured from the Cylinder Head Deck to the Valve Rocker Arm Cover Seal Surface	120.2 mm	4.732 in
Surface Flatness - Block Deck - Measured Within a 152.4 mm (6.0 in) Area	0.08 mm	0.003 in
Surface Flatness - Block Deck - Measuring the Overall Length of the Cylinder Head	0.1 mm	0.004 in
Surface Flatness - Exhaust Manifold Deck	0.13 mm	0.005 in
Surface Flatness - Intake Manifold Deck	0.08 mm	0.0031 in
Valve Guide Installed Height - Measured from the Spring Seat Surface to the Top of the Guide	17.32 mm	0.682 in
Intake Manifold		
Surface Flatness - Measured at Gasket Sealing Surfaces and Measured Within a 200 mm (7.87 in) Area that Includes Two Runner Port Openings	0.3 mm	0.118 in
Lubrication System		
Oil Capacity - with Filter	5.68 liters	6.0 quarts
Oil Capacity - without Filter	4.73 liters	5.0 quarts
Oil Pressure - Minimum - Hot	41 kPa at 1,000 engine RPM 124 kPa at 2,000 engine RPM 165 kPa at 4,000 engine RPM	6 psig at 1,000 engine RPM 18 psig at 2,000 engine RPM 24 psig at 4,000 engine RPM

Application	Specification	
	Metric	English
Oil Pan		
Front Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Rear Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Oil Pan Alignment - to Rear of Engine Block at Transmission Bell Housing Mounting Surface	0.0-0.25 mm	0.0-0.01 in
Piston Rings		
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Production	0.23-0.44 mm	0.009-0.017 in
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Service	0.23-0.5 mm	0.009-0.0196 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Production	0.44-0.7 mm	0.017-0.027 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Service	0.44-0.76 mm	0.0173-0.03 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Production	0.18-0.75 mm	0.007-0.029 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Service	0.18-0.81 mm	0.007-0.032 in
Piston Ring to Groove Clearance - First Compression Ring - Production	0.04-0.085 mm	0.00157-0.00335 in
Piston Ring to Groove Clearance - First Compression Ring - Service	0.04-0.085 mm	0.00157-0.00335 in
Piston Ring to Groove Clearance - Second Compression Ring - Production	0.04-0.078 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - Second Compression Ring - Service	0.04-0.078 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - Oil Control Ring - Production	0.012-0.2 mm	0.0005-0.0078 in
Piston Ring to Groove Clearance - Oil Control Ring - Service	0.012-0.2 mm	0.0005-0.0078 in
Pistons and Pins		
Piston - Piston Diameter - Measured Over Skirt Coating	96.002-96.036 mm	3.779-3.78 in
Piston - Piston to Bore Clearance - Production	-0.036 to 0.016 mm	-0.0014 to 0.0006 in
Piston - Piston to Bore Clearance - Service Limit with Skirt Coating Worn Off	0.071 mm	0.0028 in
Pin - Piston Pin Fit in Connecting Rod Bore	0.02-0.043 mm - interference	0.00078-0.00169 in - interference
Pin - Piston Pin Clearance to Piston Pin Bore - Production	0.007-0.02 mm	0.00027-0.00078 in
Pin - Piston Pin Clearance to Piston Pin Bore - Service	0.007-0.021 mm	0.00027-0.00082 in
Pin - Piston Pin Diameter	23.997-24.0 mm	0.9447-0.9448 in
Valve System		
Valves - Valve Face Angle	45 degrees	
Valves - Valve Face Width	1.25 mm	0.05 in
Valves - Valve Lash	Net Lash - No Adjustment	
Valves - Valve Lift - Intake	11.6 mm	0.457 in
Valves - Valve Lift - Exhaust	11.85 mm	0.466 in
Valves - Valve Seat Angle	46 degrees	
Valves - Valve Seat Runout	0.05 mm	0.002 in

Application	Specification	
	Metric	English
Valves - Valve Seat Width - Exhaust	1.78 mm	0.07 in
Valves - Seat Width - Intake	1.02 mm	0.04 in
Valves - Valve Stem Diameter - Production	7.955-7.976 mm	0.313-0.314 in
Valves - Valve Stem Diameter - Service	7.95 mm	0.313 in
Valves - Stem-to-Guide Clearance - Production - Intake	0.025-0.066 mm	0.001-0.0026 in
Valves - Stem-to-Guide Clearance - Service - Intake	0.093 mm	0.0037 in
Valves - Stem-to-Guide Clearance - Production - Exhaust	0.025-0.066 mm	0.001-0.0026 in
Valves - Stem-to-Guide Clearance - Service - Exhaust	0.093 mm	0.0037 in
Rocker Arms - Valve Rocker Arm Ratio	1.70:1	
Valve Springs - Valve Spring Free Length	52.9 mm	2.08 in
Valve Springs - Installed Height	45.75 mm	1.8 in
Valve Springs - Valve Spring Load - Closed	340 N at 45.75 mm	76 lb at 1.8 in
Valve Springs - Valve Spring Load - Open	980 N at 33.55 mm	220 lb at 1.32 in

General Specifications 5.3L

Application	Specification	
	Metric	English
General		
Engine Type	V8	
Displacement	5.3L	325 CID
RPO	LM7	
VIN	T	
Bore	96.0-96.018 mm	3.779-3.78 in
Stroke	92.0 mm	3.622 in
Compression Ratio	9.49:1	
Firing Order	1-8-7-2-6-5-4-3	
Spark Plug Gap		
AC Delco Type 41-974	1.524 mm	0.06 in
AC Delco Type 41-985	1.016 mm	0.04 in
Block		
Camshaft Bearing Bore 1 and 5 Diameter - First Design	59.12-59.17 mm	2.327-2.329 in
Camshaft Bearing Bore 2 and 4 Diameter - First Design	58.87-58.92 mm	2.317-2.319 in
Camshaft Bearing Bore 3 Diameter - First Design	58.62-58.67 mm	2.307-2.309 in
Camshaft Bearing Bore 1 and 5 Diameter - Second Design	59.62-59.67 mm	2.347-2.349 in
Camshaft Bearing Bore 2 and 4 Diameter - Second Design	59.12-59.17 mm	2.327-2.329 in
Camshaft Bearing Bore 3 Diameter - Second Design	58.62-58.67 mm	2.307-2.309 in
Crankshaft Main Bearing Bore Diameter	69.871-69.889 mm	2.75-2.751 in
Crankshaft Main Bearing Bore Out-of-Round	0.006 mm	0.0002 in
Cylinder Bore Diameter	96.0-96.018 mm	3.779-3.78 in
Cylinder Bore Taper - Thrust Side	0.018 mm	0.0007 in
Cylinder Head Deck Height - Measuring from the Centerline of Crankshaft to the Deck Face	234.57-234.82 mm	9.235-9.245 in
Cylinder Head Deck Surface Flatness - Measured Within a 152.4 mm (6.0 in) Area	0.11 mm	0.004 in
Cylinder Head Deck Surface Flatness - Measuring the Overall Length of the Block Deck	0.22 mm	0.008 in
Valve Lifter Bore Diameter	21.417-21.443 mm	0.843-0.844 in
Camshaft		
Camshaft End Play	0.025-0.305 mm	0.001-0.012 in
Camshaft Journal Diameter	54.99-55.04 mm	2.164-2.166 in

Application	Specification	
	Metric	English
Camshaft Journal Out-of-Round	0.025 mm	0.001 in
Camshaft Lobe Lift - Exhaust	6.96 mm	0.274 in
Camshaft Lobe Lift - Intake	6.82 mm	0.268 in
Camshaft Runout - Measured at the Intermediate Journals	0.05 mm	0.002 in
Connecting Rod		
Connecting Rod Bearing Clearance - Production	0.023-0.065 mm	0.0009-0.0025 in
Connecting Rod Bearing Clearance - Service	0.023-0.076 mm	0.0009-0.003 in
Connecting Rod Bore Diameter - Bearing End	56.505-56.525 mm	2.224-2.225 in
Connecting Rod Bore Out-of-Round - Bearing End - Production	0.004-0.008 mm	0.00015-0.0003 in
Connecting Rod Bore Out-of-Round - Bearing End - Service	0.004-0.008 mm	0.00015-0.0003 in
Connecting Rod Side Clearance	0.11-0.51 mm	0.00433-0.02 in
Crankshaft		
Connecting Rod Journal Diameter - Production	53.318-53.338 mm	2.0991-2.0999 in
Connecting Rod Journal Diameter - Service	53.308 mm	2.0987 in
Connecting Rod Journal Out-of-Round - Production	0.005 mm	0.0002 in
Connecting Rod Journal Out-of-Round - Service	0.01 mm	0.0004 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Production	0.005 mm	0.0002 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Service	0.02 mm	0.00078 in
Crankshaft End Play	0.04-0.2 mm	0.0015-0.0078 in
Crankshaft Main Bearing Clearance - Production	0.02-0.052 mm	0.0008-0.0021 in
Crankshaft Main Bearing Clearance - Service	0.02-0.065 mm	0.0008-0.0025 in
Crankshaft Main Journal Diameter - Production	64.992-65.008 mm	2.558-2.559 in
Crankshaft Main Journal Diameter - Service	64.992 mm	2.558 in
Crankshaft Main Journal Out-of-Round - Production	0.003 mm	0.000118 in
Crankshaft Main Journal Out-of-Round - Service	0.008 mm	0.0003 in
Crankshaft Main Journal Taper - Production	0.01 mm	0.0004 in
Crankshaft Main Journal Taper - Service	0.02 mm	0.00078 in
Crankshaft Rear Flange Runout	0.05 mm	0.002 in
Crankshaft Reluctor Ring Runout - Measured 1.0 mm (0.04 in) Below Tooth Diameter	0.7 mm	0.028 in
Crankshaft Thrust Surface - Production	26.14-26.22 mm	1.029-1.0315 in
Crankshaft Thrust Surface - Service	26.22 mm	1.0315 in
Crankshaft Thrust Surface Runout	0.025 mm	0.001 in
Cylinder Head		
Cylinder Head Height/Thickness - Measured from the Cylinder Head Deck to the Valve Rocker Arm Cover Seal Surface	120.2 mm	4.732 in
Surface Flatness - Block Deck - Measured Within a 152.4 mm (6.0 in) Area	0.08 mm	0.003 in
Surface Flatness - Block Deck - Measuring the Overall Length of the Cylinder Head	0.1 mm	0.004 in
Surface Flatness - Exhaust Manifold Deck	0.13 mm	0.005 in
Surface Flatness - Intake Manifold Deck	0.08 mm	0.0031 in
Valve Guide Installed Height - Measured from the Spring Seat Surface to the Top of the Guide	17.32 mm	0.682 in

Application	Specification	
	Metric	English
Intake Manifold		
Surface Flatness - Measured at Gasket Sealing Surfaces and Measured Within a 200 mm (7.87 in) Area that Includes Two Runner Port Openings	0.3 mm	0.118 in
Lubrication System		
Oil Capacity - with Filter	5.68 liters	6.0 quarts
Oil Capacity - without Filter	4.73 liters	5.0 quarts
Oil Pressure - Minimum - Hot	41 kPa at 1,000 engine RPM 124 kPa at 2,000 engine RPM 165 kPa at 4,000 engine RPM	6 psig at 1,000 engine RPM 18 psig at 2,000 engine RPM 24 psig at 4,000 engine RPM
Oil Pan		
Front Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Rear Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Oil Pan Alignment - to Rear of Engine Block at Transmission Bell Housing Mounting Surface	0.0-0.25 mm	0.0-0.01 in
Piston Rings		
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Production	0.23-0.44 mm	0.009-0.017 in
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Service	0.23-0.5 mm	0.009-0.0196 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Production	0.44-0.7 mm	0.017-0.027 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Service	0.44-0.76 mm	0.0173-0.03 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Production	0.18-0.75 mm	0.007-0.029 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Service	0.18-0.81 mm	0.007-0.032 in
Piston Ring to Groove Clearance - First Compression Ring - Production	0.04-0.085 mm	0.00157-0.00335 in
Piston Ring to Groove Clearance - First Compression Ring - Service	0.04-0.085 mm	0.00157-0.00335 in
Piston Ring to Groove Clearance - Second Compression Ring - Production	0.04-0.078 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - Second Compression Ring - Service	0.04-0.078 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - Oil Control Ring - Production	0.012-0.2 mm	0.0005-0.0078 in
Piston Ring to Groove Clearance - Oil Control Ring - Service	0.012-0.2 mm	0.0005-0.0078 in
Pistons and Pins		
Piston - Piston Diameter - Measured Over Skirt Coating	96.002-96.036 mm	3.779-3.78 in
Piston - Piston to Bore Clearance - Production	-0.036 to 0.016 mm	-0.0014 to 0.0006 in
Piston - Piston to Bore Clearance - Service Limit with Skirt Coating Worn Off	0.071 mm	0.0028 in
Pin - Piston Pin Fit in Connecting Rod Bore	0.02-0.043 mm - interference	0.00078-0.00169 in - interference

Application	Specification	
	Metric	English
Pin - Piston Pin Clearance to Piston Pin Bore - Production	0.007-0.02 mm	0.00027-0.00078 in
Pin - Piston Pin Clearance to Piston Pin Bore - Service	0.007-0.021 mm	0.00027-0.00082 in
Pin - Piston Pin Diameter	23.997-24.0 mm	0.9447-0.9448 in
Valve System		
Valves - Valve Face Angle	45 degrees	
Valves - Valve Face Width	1.25 mm	0.05 in
Valves - Valve Lash	Net Lash - No Adjustment	
Valves - Valve Lift - Intake	11.6 mm	0.457 in
Valves - Valve Lift - Exhaust	11.85 mm	0.466 in
Valves - Valve Seat Angle	46 degrees	
Valves - Valve Seat Runout	0.05 mm	0.002 in
Valves - Valve Seat Width - Exhaust	1.78 mm	0.07 in
Valves - Seat Width - Intake	1.02 mm	0.04 in
Valves - Valve Stem Diameter - Production	7.955-7.976 mm	0.313-0.314 in
Valves - Valve Stem Diameter - Service	7.95 mm	0.313 in
Valves - Valve Stem-to-Guide Clearance - Production - Intake	0.025-0.066 mm	0.001-0.0026 in
Valves - Valve Stem-to-Guide Clearance - Service - Intake	0.093 mm	0.0037 in
Valves - Valve Stem-to-Guide Clearance - Production - Exhaust	0.025-0.066 mm	0.001-0.0026 in
Valves - Valve Stem-to-Guide Clearance - Service - Exhaust	0.093 mm	0.0037 in
Rocker Arms - Valve Rocker Arm Ratio	1.70:1	
Valve Springs - Valve Spring Free Length	52.9 mm	2.08 in
Valve Springs - Valve Spring Installed Height	45.75 mm	1.8 in
Valve Springs - Valve Spring Load - Closed	340 N at 45.75 mm	76 lb at 1.8 in
Valve Springs - Valve Spring Load - Open	980 N at 33.55 mm	220 lb at 1.32 in

General Specifications 6.0L

Application	Specification	
	Metric	English
General		
Engine Type	V8	
Displacement	6.0L	364 CID
RPO	LQ4	
VIN	U	
Bore	101.618-101.636 mm	4.0007-4.0014 in
Stroke	92.0 mm	3.622 in
Compression Ratio	9.41:1	
Firing Order	1-8-7-2-6-5-4-3	
Spark Plug Gap		
AC Delco Type 41-974	1.524 mm	0.06 in
AC Delco Type 41-985	1.016 mm	0.04 in
Block		
Camshaft Bearing Bore 1 and 5 Diameter - First Design	59.12-59.17 mm	2.327-2.329 in
Camshaft Bearing Bore 2 and 4 Diameter - First Design	58.87-58.92 mm	2.317-2.319 in
Camshaft Bearing Bore 3 Diameter - First Design	58.62-58.67 mm	2.307-2.309 in
Camshaft Bearing Bore 1 and 5 Diameter - Second Design	59.62-59.67 mm	2.347-2.349 in
Camshaft Bearing Bore 2 and 4 Diameter - Second Design	59.12-59.17 mm	2.327-2.329 in

Application	Specification	
	Metric	English
Camshaft Bearing Bore 3 Diameter - Second Design	58.62-58.67 mm	2.307-2.309 in
Crankshaft Main Bearing Bore Diameter	69.871-69.889 mm	2.75-2.751 in
Crankshaft Main Bearing Bore Out-of-Round	0.006 mm	0.0002 in
Cylinder Bore Diameter	101.618-101.636 mm	4.0007-4.0017 in
Cylinder Bore Taper - Thrust Side	0.018 mm	0.0007 in
Cylinder Head Deck Height - Measuring from the Centerline of Crankshaft to the Deck Face	234.57-234.82 mm	9.235-9.245 in
Cylinder Head Deck Surface Flatness - Measured within a 152.4 mm (6.0 in) Area	0.11 mm	0.004 in
Cylinder Head Deck Surface Flatness - Measuring the Overall Length of the Block Deck	0.22 mm	0.008 in
Valve Lifter Bore Diameter	21.417-21.443 mm	0.843-0.844 in
Camshaft		
Camshaft End Play	0.025-0.305 mm	0.001-0.012 in
Camshaft Journal Diameter	54.99-55.04 mm	2.164-2.166 in
Camshaft Journal Out-of-Round	0.025 mm	0.001 in
Camshaft Lobe Lift - Exhaust	7.13 mm	0.281 in
Camshaft Lobe Lift - Intake	6.96 mm	0.274 in
Camshaft Runout - Measured at the Intermediate Journals	0.05 mm	0.002 in
Connecting Rod		
Connecting Rod Bearing Clearance - Production	0.023-0.065 mm	0.0009-0.0025 in
Connecting Rod Bearing Clearance - Service	0.023-0.076 mm	0.0009-0.003 in
Connecting Rod Bore Diameter - Bearing End	56.505-56.525 mm	2.224-2.225 in
Connecting Rod Bore Out-of-Round - Bearing End - Production	0.006 mm	0.0002 in
Connecting Rod Bore Out-of-Round - Bearing End - Service	0.006 mm	0.0002 in
Connecting Rod Side Clearance	0.11-0.51 mm	0.00433-0.02 in
Crankshaft		
Connecting Rod Journal Diameter - Production	53.318-53.338 mm	2.0991-2.0999 in
Connecting Rod Journal Diameter - Service	53.308 mm	2.0987 in
Connecting Rod Journal Out-of-Round - Production	0.005 mm	0.0002 in
Connecting Rod Journal Out-of-Round - Service	0.01 mm	0.0004 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Production	0.005 mm	0.0002 in
Connecting Rod Journal Taper - Maximum for 1/2 of Journal Length - Service	0.02 mm	0.00078 in
Crankshaft End Play	0.04-0.2 mm	0.0015-0.0078 in
Crankshaft Main Bearing Clearance - Production	0.02-0.052 mm	0.0008-0.0021 in
Crankshaft Main Bearing Clearance - Service	0.02-0.065 mm	0.0008-0.0025 in
Crankshaft Main Journal Diameter - Production	64.992-65.008 mm	2.558-2.559 in
Crankshaft Main Journal Diameter - Service	64.992 mm	2.558 in
Crankshaft Main Journal Out-of-Round - Production	0.003 mm	0.000118 in
Crankshaft Main Journal Out-of-Round - Service	0.008 mm	0.0003 in
Crankshaft Main Journal Taper - Production	0.01 mm	0.0004 in
Crankshaft Main Journal Taper - Service	0.02 mm	0.00078 in
Crankshaft Rear Flange Runout	0.05 mm	0.002 in
Crankshaft Reluctor Ring Runout - Measured 1.0 mm (0.04 in) Below Tooth Diameter	0.7 mm	0.028 in
Crankshaft Thrust Surface - Production	26.14-26.22 mm	1.029-1.0315 in

Application	Specification	
	Metric	English
Crankshaft Thrust Surface - Service	26.22 mm	1.0315 in
Crankshaft Thrust Surface Runout	0.025 mm	0.001 in
Cylinder Head		
Cylinder Head Height/Thickness - Measured from the Cylinder Head Deck to the Valve Rocker Arm Cover Seal Surface	120.2 mm	4.732 in
Surface Flatness - Block Deck - Measured Within a 152.4 mm (6.0 in) Area	0.08 mm	0.003 in
Surface Flatness - Block Deck - Measuring the Overall Length of the Cylinder Head	0.1 mm	0.004 in
Surface Flatness - Exhaust Manifold Deck	0.13 mm	0.005 in
Surface Flatness - Intake Manifold Deck	0.08 mm	0.0031 in
Valve Guide Installed Height - Measured from the Spring Seat Surface to the Top of the Guide	17.32 mm	0.682 in
Intake Manifold		
Surface Flatness - Measured at Gasket Sealing Surfaces and Measured Within a 200 mm (7.87 in) Area that Includes Two Runner Port Openings	0.3 mm	0.118 in
Lubrication System		
Oil Capacity - with Filter	5.68 liters	6.0 quarts
Oil Capacity - without Filter	4.73 liters	5.0 quarts
Oil Pressure - Minimum - Hot	41 kPa at 1,000 engine RPM 124 kPa at 2,000 engine RPM 165 kPa at 4,000 engine RPM	6 psig at 1,000 engine RPM 18 psig at 2,000 engine RPM 24 psig at 4,000 engine RPM
Oil Pan		
Front Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Rear Cover Alignment - at Oil Pan Surface	0.0-0.5 mm	0.0-0.02 in
Oil Pan Alignment - to Rear of Engine Block at Transmission Bell Housing Mounting Surface	0.0-0.25 mm	0.0-0.01 in
Piston Rings		
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Production	0.31-0.52 mm	0.012-0.02 in
Piston Ring End Gap - First Compression Ring - Measured in Cylinder Bore - Service	0.31-0.59 mm	0.0122-0.023 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Production	0.51-0.77 mm	0.02-0.03 in
Piston Ring End Gap - Second Compression Ring - Measured in Cylinder Bore - Service	0.51-0.84 mm	0.02-0.033 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Production	0.31-0.87 mm	0.0122-0.034 in
Piston Ring End Gap - Oil Control Ring - Measured in Cylinder Bore - Service	0.31-0.94 mm	0.0122-0.037 in
Piston Ring to Groove Clearance - First Compression Ring - Production	0.04-0.08 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - First Compression Ring - Service	0.04-0.08 mm	0.00157-0.0031 in
Piston Ring to Groove Clearance - Second Compression Ring - Production	0.039-0.079 mm	0.0015-0.0031 in

Application	Specification	
	Metric	English
Piston Ring to Groove Clearance - Second Compression Ring - Service	0.039-0.079 mm	0.0015-0.0031 in
Piston Ring to Groove Clearance - Oil Control Ring - Production	0.015-0.199 mm	0.0006-0.0078 in
Piston Ring to Groove Clearance - Oil Control Ring - Service	0.015-0.199 mm	0.0006-0.0078 in
Pistons and Pins		
Piston - Piston Diameter - Measured Over Skirt Coating	101.606-101.640 mm	4.0002-4.0016 in
Piston - Piston to Bore Clearance - Production	0.022-0.03 mm - interference	0.0009-0.0012 in - interference
Piston - Piston to Bore Clearance - Service Limit with Skirt Coating Worn Off	0.07 mm	0.0028 in
Pin - First Design Press Fit Pin Fit in Connecting Rod Bore	0.02-0.043 mm - Interference	0.00078-0.00169 in - Interference
Pin - First Design Press Fit Pin Clearance to Piston Pin Bore - Production	0.01-0.02 mm	0.0004-0.00078 in
Pin - First Design Press Fit Pin Clearance to Piston Pin Bore - Service	0.01-0.022 mm	0.0004-0.00086 in
Pin - First Design Press Fit Pin Diameter	23.997-24.0 mm	0.9447-0.9448 in
Pin - Second Design Full Floating Pin Fit in Connecting Rod Bore - Production	0.007-0.02 mm	0.00027-0.00078 in
Pin - Second Design Full Floating Pin Fit in Connecting Rod Bore - Service	0.007-0.022 mm	0.00027-0.00086 in
Pin - Second Design Full Floating Pin Clearance to Piston Pin Bore - Production	0.002-0.01 mm	0.00008-0.0004 in
Pin - Second Design Full Floating Pin Clearance to Piston Pin Bore - Service	0.002-0.015 mm	0.00008-0.0006 in
Pin - Second Design Full Floating Pin Diameter	23.952-23.955 mm	0.943-0.943 in
Valve System		
Valves - Valve Face Angle	45 degrees	
Valves - Valve Face Width	1.25 mm	0.05 in
Valves - Valve Lash	Net Lash - No Adjustment	
Valves - Valve Lift - Intake	11.79 mm	0.464 in
Valves - Valve Lift - Exhaust	12.16 mm	0.479 in
Valves - Valve Seat Angle	46 degrees	
Valves - Valve Seat Runout	0.05 mm	0.002 in
Valves - Valve Seat Width - Exhaust	1.78 mm	0.07 in
Valves - Valve Seat Width - Intake	1.02 mm	0.04 in
Valves - Valve Stem Diameter - Production	7.955-7.976 mm	0.313-0.314 in
Valves - Valve Stem Diameter - Service	7.95 mm	0.313 in
Valves - Valve Stem-to-Guide Clearance - Production - Intake	0.025-0.066 mm	0.001-0.0026 in
Valves - Valve Stem-to-Guide Clearance - Service - Intake	0.093 mm	0.0037 in
Valves - Valve Stem-to-Guide Clearance - Production - Exhaust	0.025-0.066 mm	0.001-0.0026 in
Valves - Valve Stem-to-Guide Clearance - Service - Exhaust	0.093 mm	0.0037 in
Rocker Arms - Valve Rocker Arm Ratio	1.70:1	
Valve Springs - Valve Spring Free Length	52.9 mm	2.08 in
Valve Springs - Valve Spring Installed Height	45.75 mm	1.8 in
Valve Springs - Valve Spring Load - Closed	340 N at 45.75 mm	76 lb at 1.8 in
Valve Springs - Valve Spring Load - Open	980 N at 33.55 mm	220 lb at 1.32 in

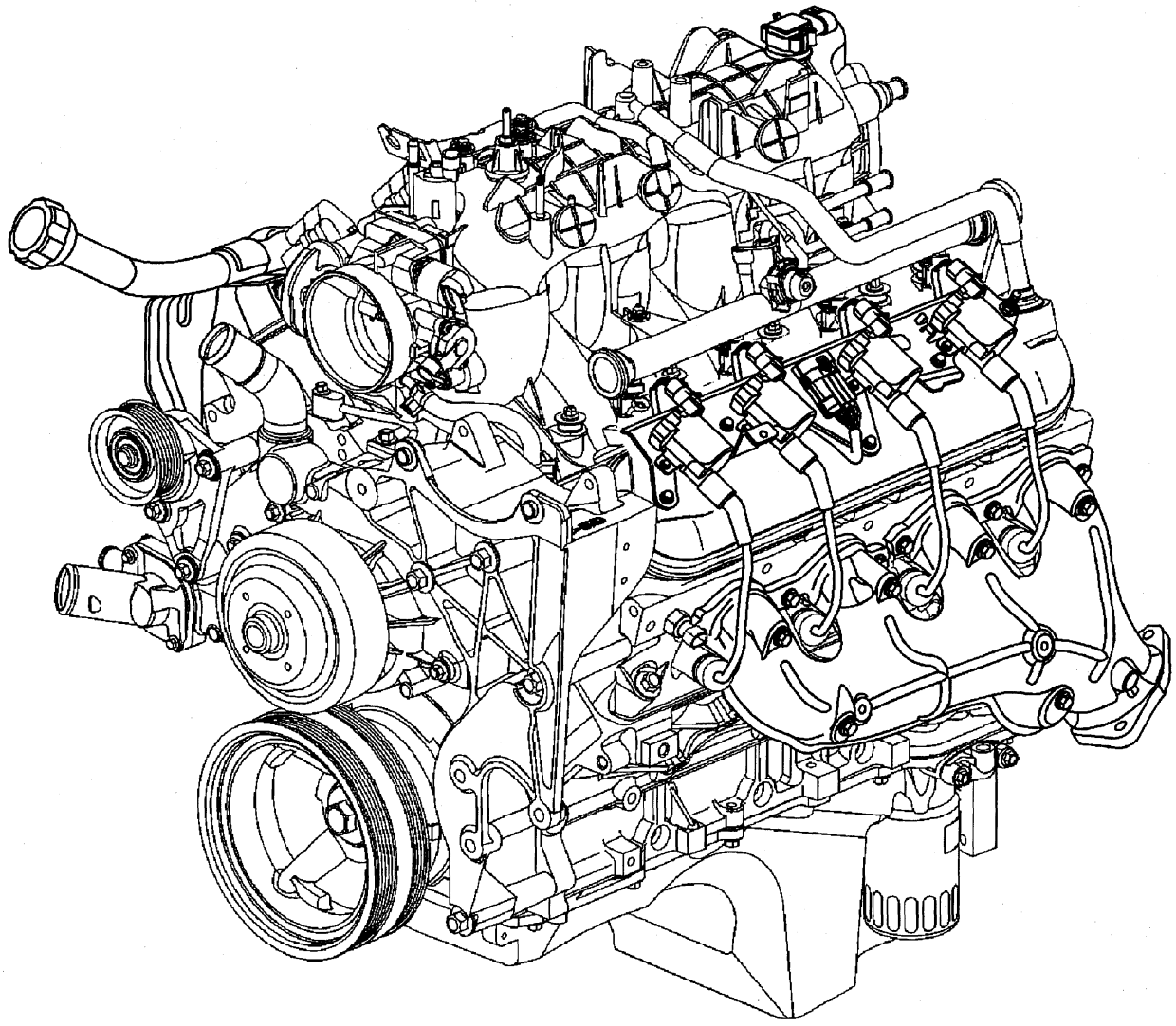
Fastener Tightening Specifications 4.8, 5.3L & 6.0L

Application	Specification	
	Metric	English
Accelerator Control Cable Bracket Bolts	10 N·m	89 lb in
Air Cleaner Outlet Duct Clamp Screws	7 N·m	62 lb in
A/C Belt Tensioner Bolt	50 N·m	37 lb ft
Automatic Transmission Bolt/Stud	50 N·m	37 lb ft
Automatic Transmission Oil Level Indicator Tube Nut	18 N·m	13 lb ft
Battery Cable Channel Bolt	12 N·m	106 lb in
Camshaft Retainer Bolts	25 N·m	18 lb ft
Camshaft Sensor Bolt	25 N·m	18 lb ft
Camshaft Sprocket Bolts	35 N·m	26 lb ft
Connecting Rod Bolts - First Pass	20 N·m	15 lb ft
Connecting Rod Bolts - Final Pass	75 degrees	
Coolant Temperature Gage Sensor	20 N·m	15 lb ft
Crankshaft Balancer Bolt - Installation Pass - to Ensure the Balancer is Completely Installed	330 N·m	240 lb ft
Crankshaft Balancer Bolt - First Pass - Install a NEW Bolt After the Installation Pass and Tighten as Described in the First and Final Passes	50 N·m	37 lb ft
Crankshaft Balancer Bolt - Final Pass	140 degrees	
Crankshaft Bearing Cap Bolts - Inner Bolts - First Pass in Sequence	20 N·m	15 lb ft
Crankshaft Bearing Cap Bolts - Inner Bolts - Final Pass in Sequence	80 degrees	
Crankshaft Bearing Cap Bolts - Outer Bolts - First Pass in Sequence	20 N·m	15 lb ft
Crankshaft Bearing Cap Bolts - Outer Bolts - Final Pass in Sequence	51 degrees	
Crankshaft Bearing Cap Side Bolts	25 N·m	18 lb ft
Crankshaft Oil Deflector Nuts	25 N·m	18 lb ft
Crankshaft Position Sensor Bolt	25 N·m	18 lb ft
Crossbar Bolts	100 N·m	78 lb ft
Cylinder Head Bolts - First Design - First Pass all M11 Bolts in Sequence	30 N·m	22 lb ft
Cylinder Head Bolts - First Design - Second Pass all M11 Bolts in Sequence	90 degrees	
Cylinder Head Bolts - First Design - Final Pass all M11 Bolts in Sequence - Excluding the Medium Length Bolts at the Front and Rear of Each Cylinder Head	90 degrees	
Cylinder Head Bolts - First Design - Final Pass M11 Medium Length Bolts at the Front and Rear of Each Cylinder Head	50 degrees	
Cylinder Head Bolts - Second Design - First Pass all M11 Bolts in Sequence	30 N·m	22 lb ft
Cylinder Head Bolts - Second Design - Second Pass all M11 Bolts in Sequence	90 degrees	
Cylinder Head Bolts - Second Design - Final Pass all M11 Bolts in Sequence	70 degrees	
Cylinder Head Bolts - M8 Inner Bolts in Sequence	30 N·m	22 lb ft
Cylinder Head Coolant Plug	20 N·m	15 lb ft
Drive Belt Idler Pulley Bolt	50 N·m	73 lb ft
Engine Block Coolant Drain Plugs	60 N·m	44 lb ft
Engine Block Heater	40 N·m	30 lb ft
Engine Block Oil Gallery Plugs	60 N·m	44 lb ft
Engine Block Wire Harness Rear Ground Bolt	16 N·m	12 lb ft
Engine Coolant Air Bleed Pipe and Cover Bolts	12 N·m	106 lb in
Engine Flywheel Bolts - First Pass	20 N·m	15 lb ft
Engine Flywheel Bolts - Second Pass	50 N·m	37 lb ft
Engine Flywheel Bolts - Final Pass	100 N·m	74 lb ft
Engine Front Cover Bolts	25 N·m	18 lb ft
Engine Lift Bracket Bolt - M8	25 N·m	15 lb ft
Engine Lift Bracket Bolt - M10	50 N·m	37 lb ft

Application	Specification	
	Metric	English
Engine Mount to Engine Bolts	50 N·m	37 lb ft
Engine Mount to Frame Bracket Bolts	60 N·m	44 lb ft
Engine Rear Cover Bolts	25 N·m	18 lb ft
Engine Service Lift Bracket M10 Bolts	50 N·m	37 lb ft
Engine Service Lift Bracket M8 Bolt	25 N·m	18 lb ft
Engine Valley Cover Bolts	25 N·m	18 lb ft
Evaporative Emission (EVAP) Purge Solenoid Bolt	10 N·m	89 lb in
Exhaust Manifold Bolts - First Pass	15 N·m	11 lb ft
Exhaust Manifold Bolts - Final Pass	25 N·m	18 lb ft
Exhaust Manifold Heat Shield Bolts	9 N·m	80 lb in
Fuel Rail Bolts	10 N·m	89 lb in
Fuel Rail Crossover Tube Bolts	3.8 N·m	34 lb in
Fuel Rail Stop Bracket Bolt	50 N·m	37 lb ft
Generator Bolt	50 N·m	37 lb ft
Generator Bracket Bolts	50 N·m	37 lb ft
Generator Output Terminal Nut	9 N·m	80 lb in
Ground Harness Bolt	25 N·m	18 lb ft
Ignition Coil-to-Bracket Bolts	8 N·m	71 lb in
Ignition Coil Bracket-to-Valve Rocker Arm Cover Bolts	12 N·m	106 lb in
Intake Manifold Bolts - First Pass in Sequence	5 N·m	44 lb in
Intake Manifold Bolts - Final Pass in Sequence	10 N·m	89 lb in
Intake Manifold Wiring Harness Stud	10 N·m	89 lb in
Knock Sensors	20 N·m	15 lb ft
Oil Filter	30 N·m	22 lb ft
Oil Filter Fitting	55 N·m	40 lb ft
Oil Level Indicator Tube Bolt	25 N·m	18 lb ft
Oil Level Sensor	13 N·m	115 lb in
Oil Pan Baffle Bolts	12 N·m	106 lb in
Oil Pan Closeout Cover Bolt - Left Side	9 N·m	80 lb in
Oil Pan Closeout Cover Bolt - Right Side	9 N·m	80 lb in
Oil Pan Cover Bolts	12 N·m	106 lb in
Oil Pan Drain Plug	25 N·m	18 lb ft
Oil Pan M8 Bolts - Oil Pan-to-Engine Block and Oil Pan-to-Front Cover	25 N·m	18 lb ft
Oil Pan M6 Bolts - Oil Pan-to-Rear Cover	12 N·m	106 lb in
Oil Pressure Sensor	20 N·m	15 lb ft
Oil Pump-to-Engine Block Bolts	25 N·m	18 lb ft
Oil Pump Cover Bolts	12 N·m	106 lb in
Oil Pump Relief Valve Plug	12 N·m	106 lb in
Oil Pump Screen Nuts	25 N·m	18 lb ft
Oil Pump Screen-to-Oil Pump Bolt	12 N·m	106 lb in
Positive Battery Cable Clip Bolt	9 N·m	80 lb in
Power Steering Pump Rear Bolt	50 N·m	37 lb ft
Spark Plugs - New Cylinder Heads	20 N·m	15 lb ft
Spark Plugs - All Subsequent Installations	15 N·m	11 lb ft
Throttle Body Nuts	10 N·m	89 lb in
Throttle Body Studs	6 N·m	53 lb in
Torque Converter Bolts	63 N·m	47 lb ft
Transmission Cover Bolt	12 N·m	106 lb in
Valve Lifter Guide Bolts	12 N·m	106 lb in
Valve Rocker Arm Bolts	30 N·m	22 lb ft
Valve Rocker Arm Cover Bolts	12 N·m	106 lb in

Application	Specification	
	Metric	English
Water Inlet Housing Bolts	15 N·m	11 lb ft
Water Pump Bolts - First Pass	15 N·m	11 lb ft
Water Pump Bolts - Final Pass	30 N·m	22 lb ft
Water Pump Cover Bolts	15 N·m	11 lb ft

Engine Component Description



Camshaft and Drive System

A billet steel one piece camshaft is supported by five bearings pressed into the engine block. The camshaft has a machined camshaft sensor reluctor ring incorporated between the fourth and fifth bearing journals. The camshaft timing sprocket is mounted to the front of the camshaft and is driven by the crankshaft sprocket through the camshaft timing chain. The splined crankshaft sprocket is positioned to the crankshaft by a key and keyway. The crankshaft sprocket splines drive the oil pump driven gear. A retaining plate mounted to the front of the engine block maintains camshaft location.

Crankshaft

The crankshaft is cast nodular iron. The crankshaft is supported by five crankshaft bearings. The bearings are retained by crankshaft bearing caps which are machined with the engine block for proper alignment

and clearance. The crankshaft journals are undercut and rolled. The center main journal is the thrust journal. A crankshaft position reluctor ring is press fit mounted at the rear of the crankshaft. The reluctor ring is not serviceable separately. All crankshafts will have a short rear flange, at the crankshaft rear oil seal area. Certain 4.8L and 6.0L applications require a spacer between the rear of the crankshaft and the flywheel for proper flywheel positioning. Longer bolts are required in applications using the spacer.

Cylinder Heads

The cylinder heads are cast aluminum and have pressed in place powdered metal valve guides and valve seats. Passages for the engine coolant air bleed system are at the front of each cylinder head. The valve rocker arm covers are retained to the cylinder head by four center mounted rocker arm cover bolts.

Engine Block

The engine block is a cam-in-block deep skirt 90 degree V configuration with five crankshaft bearing caps. The engine block is cast iron. The five crankshaft bearing caps each have four vertical M10 and two horizontal M8 mounting bolts. The camshaft is supported by five camshaft bearings pressed into the block. First design engine blocks have different drill and tap depths using both medium length 100 mm (3.94 in) and long 155 mm (6.1 in) M11 cylinder head bolts. Second design engine blocks use only the medium length 100 mm (3.94 in) bolt with a common drill and tap depth.

Exhaust Manifolds

The exhaust manifolds are a one piece cast iron design. The exhaust manifolds direct exhaust gasses from the combustion chambers to the exhaust system. Each manifold also has an externally mounted heat shield that is retained by bolts.

Intake Manifold

The intake manifold is a one piece composite design that incorporates brass threaded inserts for mounting the fuel rail, throttle cable bracket, throttle body, evaporative emission (EVAP) solenoid and wire harness stud. Each side of the intake manifold is sealed to the cylinder head by a nonreusable silicone sealing gasket and nylon carrier assembly. The cable actuated throttle body bolts to the front of the intake manifold. The throttle body is sealed by a one piece push in place silicone gasket. The fuel rail assembly with eight separate fuel injectors is retained to the intake by four bolts. The injectors are seated into their individual manifold bores with O-ring seals to provide sealing. A fuel rail stop bracket is retained to the rear of the left cylinder head by a mounting bolt. The manifold absolute pressure (MAP) sensor is installed and retained to the top rear of the intake manifold and sealed by an O-ring seal. The EVAP solenoid is mounted to the top front of the intake manifold and retained by one bolt. There are no coolant passages within the intake manifold.

Oil Pan

The structural oil pan is cast aluminum. Incorporated into the design are the oil filter mounting boss, drain plug opening, oil level sensor mounting bore, and oil pan baffle. The oil pan transfer cover and oil level sensor mount to the sides of the oil pan. The alignment of the structural oil pan to the rear of the engine block and transmission bell housing is critical.

Piston and Connecting Rod Assembly

The pistons are cast aluminum. The pistons use 2 compression rings and a 3-piece oil control ring assembly. The piston is a low friction, lightweight design with a barrel shaped skirt. All applications use pistons with graphite-coated skirts. The piston pins are chromium steel. First design applications use a piston pin that is floating fit to the piston and press fit to the connecting rod. Second design applications use a pin that is full-floating to both the piston and connecting rod. The connecting rods are powdered metal. The connecting rods are fractured at the connecting rod journal and then machined for the proper clearance. The first design piston, pin, and connecting rod are to be serviced as an assembly.

Valve Rocker Arm Cover Assemblies

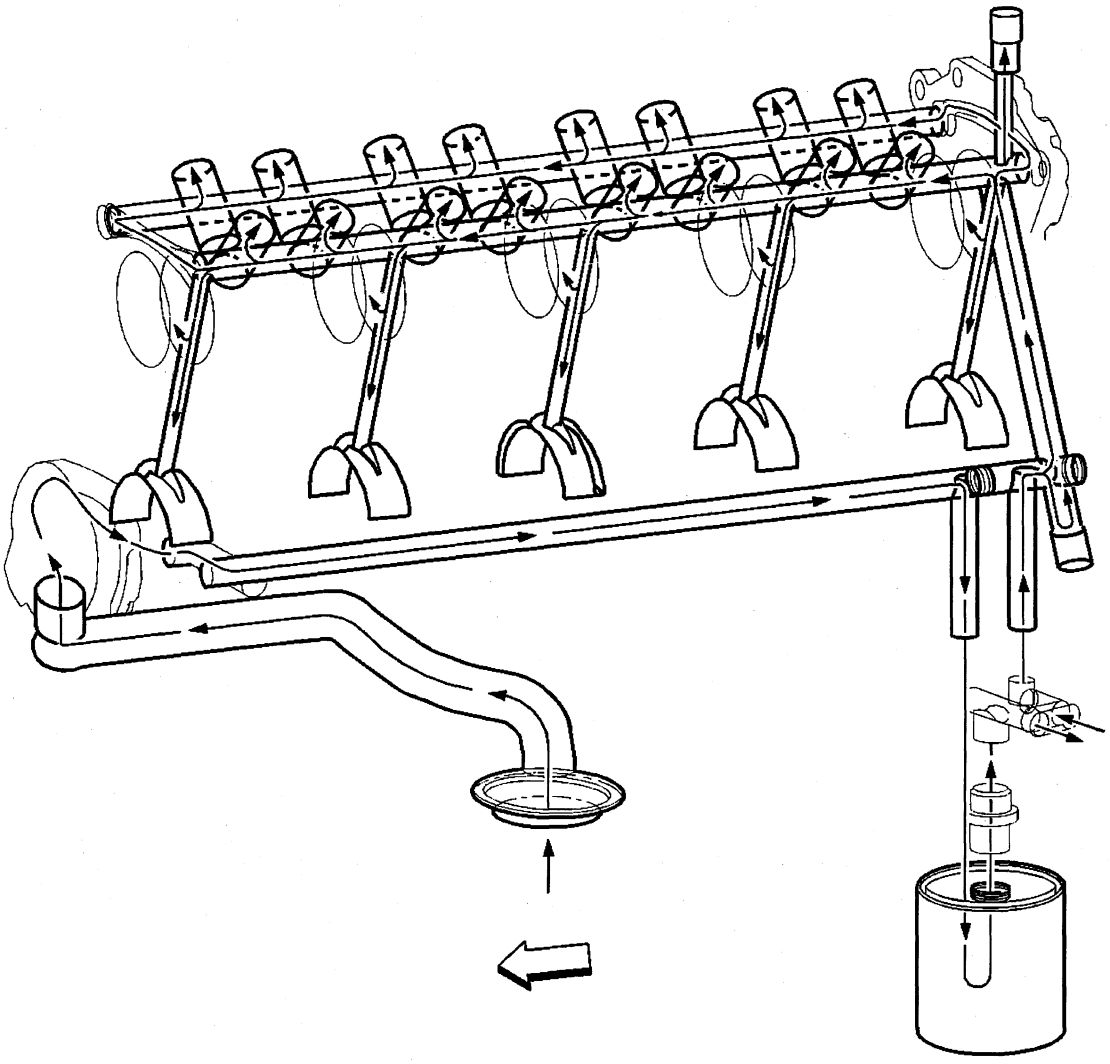
The valve rocker arm covers are cast aluminum and use a pre-molded silicon gasket for sealing. Mounted to each rocker cover are the coil and bracket assemblies. Incorporated into the left cover is the positive

crankcase ventilation (PCV) system passage. Incorporated into the right cover is the oil fill tube and engine fresh air passage.

Valve Train

Motion is transmitted from the camshaft through the hydraulic roller valve lifters and tubular pushrods to the roller type rocker arms. The nylon valve lifter guides position and retain the valve lifters. The valve rocker arms for each bank of cylinders are mounted on pedestals, pivot supports. Each rocker arm is retained on the pivot support and cylinder head by a bolt. Valve lash is net build.

Lubrication



Engine lubrication is supplied by a gerotor type oil pump assembly. The pump is mounted on the front of the engine block and driven directly by the crankshaft sprocket. The pump gears rotate and draw oil from the oil pan sump through a pick-up screen and pipe. The oil is pressurized as it passes through the pump and is sent through the engine block oil galleries. Contained within the oil pump assembly is a pressure relief valve that maintains oil pressure within a specified range. Pressurized oil is directed through the lower gallery to the full flow oil filter where harmful contaminants are removed. A bypass valve is incorporated into the oil pan, at the oil filter boss, which will permit oil flow in the event the filter becomes restricted. At the rear of the block, oil is then directed to the upper main oil galleries which are drilled just above the camshaft assembly. From there oil is then directed to the crankshaft and camshaft bearings.

Oil that has entered the upper main oil galleries also pressurizes the valve lifter assemblies and is then pumped through the pushrods to lubricate the valve rocker arms and valve stems. Oil returning to the pan is directed by the crankshaft oil deflector. Oil pressure and crankcase level are each monitored by individual sensors.

An external oil cooler is available on certain applications, all 6.0L. Oil is directed from the oil pump, through the lower main oil gallery to the full flow oil filter. Oil is then directed through the oil pan outlet oil gallery, located in the left rear of the oil pan, and to the external oil cooler via a hose assembly. Oil flows through the oil cooler and returns to the engine at the oil pan inlet oil gallery, located in the left rear of the oil pan. Oil is then directed to the upper main oil galleries and the remainder of the engine assembly.

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.

Engine Cooling

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Air Cleaner Outlet Duct Clamp Screw (4.8L, 5.3L, and 6.0L Engines)	7 N·m	62 lb in
Air Cleaner Outlet Duct Wingnut (4.3L Engine)	3 N·m	27 lb in
Coolant Air Bleed Pipe Stud/Bolt (4.8L, 5.3L, and 6.0L Engines)	12 N·m	106 lb in
Coolant Heater (4.8L, 5.3L, 6.0L Engines)	50 N·m	37 lb ft
Coolant Heater Bolt (4.3L Engine)	2 N·m	18 lb in
Coolant Heater Cord Bolt	8 N·m	71 lb in
Coolant Recovery Reservoir Bolt	11 N·m	97 lb in
Drive Belt Tensioner Bolt	50 N·m	37 lb ft
Engine Block Coolant Drain Plug (4.3L Engine)	20 N·m	15 lb ft
Engine Coolant Heater Cord Bracket Bolt	12 N·m	106 lb in
Engine Coolant Heater Cord Clip Bolt	12 N·m	106 lb in
Engine Coolant Temperature Sensor	20 N·m	15 lb ft
Fan and Clutch Retaining Nut to Water Pump Pulley (4.3L)	57 N·m	42 lb in
Fan and Water Pump Pulley Bolt (4.3L Engine)	25 N·m	18 lb ft
Fan Clutch Bolt (4.8L, 5.3L and 6.0L)	23 N·m	17 lb ft
Fan Clutch Nut (4.8L, 5.3L and 6.0L)	56 N·m	41 lb ft
Fan Clutch Retaining Bolts (4.3L)	33 N·m	24 lb ft
Fan Shroud Bolt	9 N·m	80 lb in
Oil Cooler Hose Adapter Bolt (4.8L, 5.3L and 6.0L Engine)	12 N·m	106 lb in
Oil Cooler Hose Bracket Bolt (4.8L, 5.3L and 6.0L Engine)	25 N·m	18 lb ft
Oil Cooler Line Clip to Bracket Nut (4.3L)	12 N·m	106 lb in
Oil Cooler Line Fittings to the Oil Filter Base (4.3L)	17 N·m	13 lb ft
Oil Cooler Line Fittings to the Oil Filter Base (4.3L Auxiliary Oil Cooler)	35 N·m	26 lb ft
Oil Cooler Line Fittings to the Radiator (4.3L)	24 N·m	18 lb ft
Oil Level Indicator Tube and Transmission Fluid Fill Tube Lower Support Bolt (4.3L)	4 N·m	44 lb in
Radiator Bolt	25 N·m	18 lb ft
Radiator Surge Tank Bolt	6 N·m	53 lb in
Surge Tank Bolt/Nut	9 N·m	80 lb in
Thermostat Housing Bolt (4.3L)	25 N·m	18 lb ft
Thermostat Housing Bolt (4.8L, 5.3L, and 6.0L Engines)	15 N·m	11 lb ft
Thermostat Housing Crossover Bolt (6.0L Engine)	21 N·m	16 lb ft
Thermostat Housing Crossover Retaining Bolts (4.3L)	47 N·m	35 lb ft
Transmission Control Module (TCM) Cover Bolt	9 N·m	80 lb in
Transmission Control Module (TCM) Electrical Connector Bolt	8 N·m	71 lb in
Water Outlet Stud (4.3L Engine)	25 N·m	18 lb ft
Water Pump Bolt (4.3L Engine)	45 N·m	33 lb ft
Water Pump Bolt (First Pass) (4.8L, 5.3L, and 6.0L Engines)	15 N·m	11 lb ft
Water Pump Bolt (Final Pass) (4.8L, 5.3L, and 6.0L Engines)	30 N·m	22 lb ft

Cooling System Description and Operation

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 left 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.

Coolant Recovery System

The coolant recovery system consists of a plastic coolant recovery reservoir and overflow tube. The recovery reservoir is also called a recovery tank or expansion tank. It is partially filled with coolant and is connected to the radiator fill neck with the overflow tube. Coolant can flow back and forth between the radiator and the reservoir.

In effect, a cooling system with a coolant recovery reservoir is a closed system. When the pressure in the cooling system gets too high, it will open the pressure valve in the pressure cap. This allows the coolant, which has expanded due to being heated, is allowed to flow through the overflow tube and into the recovery reservoir. As the engine cools down, the temperature of the coolant drops and a vacuum is created in the cooling system. This vacuum opens the vacuum valve in the pressure cap, allowing some of the coolant in the reservoir to be siphoned back into the radiator. Under normal operating conditions, no coolant is lost. Although the coolant level in the recovery reservoir goes up and down, the radiator and cooling system are kept full. An advantage to using a coolant recovery reservoir is that it eliminates almost all air bubbles from 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 drive belt.

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.

Engine Oil Cooler

The engine oil cooler is a heat exchanger. It is located inside the left side end tank of the radiator. The engine oil temperature is controlled by the temperature of the engine coolant that surrounds the oil cooler in the radiator.

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

Transmission Oil Cooler

The transmission oil cooler is a heat exchanger. It is located inside the right 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
Battery Cable Junction Block Bracket Bolt	9 N·m	80 lb in
Battery Hold Down Retainer Bolt	25 N·m	18 lb ft
Battery Terminal Bolt	17 N·m	13 lb ft
Battery Tray Bolt	25 N·m	18 lb ft
Generator Bracket Bolt (4.3L)	41 N·m	30 lb ft
Generator Bracket Bolt (4.8L, 5.3L, 6.0L)	50 N·m	37 lb ft
Generator Bolt	50 N·m	37 lb ft
Generator Cable Nut	9 N·m	80 lb in
Generator Front Mounting Bolt (4.3L)	50 N·m	37 lb ft
Generator Rear Mounting Bolt	25 N·m	18 lb ft
Generator Output Battery Nut	18 N·m	13 lb ft
Heater Hose Bracket Bolt	5 N·m	44 lb in
Junction Block Nut	10 N·m	89 lb in
Negative Battery Cable Bolt	17 N·m	13 lb ft
Oil Fill Tube Bolt	25 N·m	18 lb ft
Oil Fill Tube Upper Screw	5 N·m	44 lb in
Oil Level Indicator Tube Bolt	5 N·m	44 lb in
Positive Battery Cable Bolt	17 N·m	13 lb ft
Starter Bolt (4.3L)	45 N·m	33 lb ft
Starter Bolt (4.8L, 5.3L, 6.0L)	50 N·m	37 lb ft
Starter Positive Lead Nut	10 N·m	89 lb in
Starter Solenoid Nut (4.3L)	2 N·m	18 lb in
Starter Solenoid Nut (4.8L, 5.3L, 6.0L)	3.4 N·m	30 lb in
Surge Tank Bolt/Nut	11 N·m	97 lb in
Transmission Fluid Fill Tube Nut	10 N·m	89 lb in
Transmission Oil Level Indicator Tube Support Bolt	5 N·m	44 lb in

Battery Usage

Standard Option	
Cold Cranking Amperage (CCA)	600 A
Reserve Capacity Rating	115 Minutes
Replacement Battery Number	78-6YR
YF2 (Ambulance upfitter) Option	
Cold Cranking Amperage (CCA)	690 A
Reserve Capacity Rating	115 Minutes
Replacement Battery Number	78-7YR
8Y9 (Dual Batteries) Option	
Cold Cranking Amperage (CCA)	770 A
Reserve Capacity Rating	115 Minutes
Replacement Battery Number	78-7YR

Battery Temperature vs Minimum Voltage

Estimated Temperature °F	Estimated Temperature °C	Minimum Voltage
70 or above	21 or above	9.6
50	10	9.4
32	0	9.1
15	-10	8.8
0	-18	8.5
Below 0	Below -18	8.0

Starter Motor Usage

Applications	Starter Type
4.3L (LU3), 4.8L (LR4), 5.3L (LM7)	PG-260G
6.0L (LQ4)	PG-260L

Generator Usage

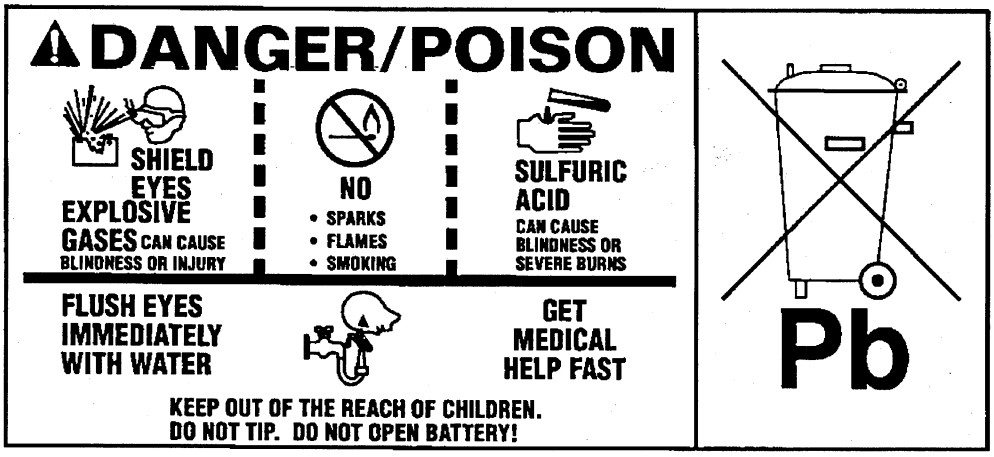
Base	
Generator Model	AD230
Rated Output	105 A
Load Test Output	73 A
Optional	
Generator Model	AD244
Rated Output	145 A
Load Test Output	102 A

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.

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	LOAD TEST
770	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.

The battery negative terminal is connected to chassis ground G305 and supplies ground for the AD converter in the DIM.

Starting System Description and Operation

The PG-260 is a non-repairable starter motor. It has pole pieces that are arranged around the armature within the starter housing. When the solenoid windings are energized, the pull-in winding circuit is completed to ground through the starter motor. The hold-in winding circuit is completed to ground through the solenoid. The windings work together magnetically to pull in 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. At the same time, the plunger closes the solenoid switch contacts in the starter solenoid. Full battery voltage is then 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 as battery voltage is now 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, the pinion gear overrun sprag protects the armature from excessive speed until the switch is opened.

When the ignition switch is released from the CRANK position, voltage is removed from the starter solenoid S terminal. Current flows from the motor contacts through both windings to ground at the end of the hold-in winding. However, the direction of the current flow through the pull-in winding is now in the opposite 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, cause the starter drive assembly to disengage and the solenoid switch contacts to open simultaneously. As soon as the contacts open, the starter motor is turned off.

Charging System Description and Operation

Generator

The CS130 generator is non-repairable. It is electrically similar to earlier models. The generator feature the following major components:

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

The pulley and the fan cool the slip ring and the frame.

The CS stands for charging system and 130 is the measurement in millimeters, of the outside diameter of the stator laminations. The generator is rated at 100 amperes.

The generator features permanently lubricated bearings. Service should only include the tightening of mounting components. Otherwise, the generator is replaced 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 battery positive voltage that is Hot At All Times through a fuse link that is connected to the starter motor. This voltage is used by the regulator as the reference for system voltage control.

Engine Controls

Engine Controls – 4.3L

Ignition System Specifications

Application	Specification	
	Metric	English
Firing Order	1-6-5-4-3-2	
Spark Plug Wire Resistance	1,000 ohms per ft	
Spark Plug Torque	15 N·m	11 lb ft
Spark Plug Gap	1.52 mm	0.06 in
Spark Plug Type	R41-932 [AC plug type]	

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accelerator Control Cable Bracket Fasteners	12 N·m	106 lb in
Accelerator Pedal Assembly Mounting Bolts	5 N·m	44 lb in
AIR Hose Assembly Mounting Bolts	25 N·m	18 lb ft
AIR Hose Assembly Retainer Bolts	40 N·m	30 lb ft
AIR Hose Retainer Clip Locknut	10 N·m	89 lb in
AIR Pump Assembly Hold-Down Block Bolt	25 N·m	18 lb ft
AIR Pump Assembly Mounting Bolts	25 N·m	18 lb ft
AIR Solenoid Mounting Bracket Fastener	4 N·m	35 lb in
Air Cleaner Assembly Bolts	18 N·m	13 lb ft
Air Cleaner Outlet Duct Nut	2 N·m	18 lb in
Air Cleaner Outlet Resonator Adapter Stud	8 N·m	71 lb in
Air Shield Mounting Bolts	33 N·m	24 lb ft
Camshaft Position Sensor Screws	2.2 N·m	20 lb in
Crankshaft Position Sensor Mounting Bolt	8 N·m	71 lb in
Distributor Cap Screws	2.4 N·m	21 lb in
Distributor Mounting Clamp Bolt	25 N·m	18 lb ft
Distributor Rotor Retaining Screws	2 N·m	18 lb in
Distributor Rotor to Reluctor Wheel Screws	19.5 N·m	14 lb ft
EGR Pipe to Exhaust Manifold	25 N·m	18 lb ft
EGR Pipe to Intake Manifold	10 N·m	89 lb in
EGR Retaining Fastener to Pipe Bracket	25 N·m	18 lb ft
EGR Valve Attaching Bolts	25 N·m	18 lb ft
Engine Coolant Temperature (ECT) Sensor	20 N·m	15 lb ft
Evaporative Emission (EVAP) Canister Bracket Bolt	12 N·m	106 lb in
Exhaust Gas Recirculation (EGR) Pipe to Exhaust Manifold Fittings	30 N·m	22 lb ft
Fuel and EVAP Pipe Retainer Nut	28 N·m	21 lb ft
Fuel Fill Hose Clamp	2.75 N·m	24 lb in
Fuel Injector Retainer Locknuts	3 N·m	27 lb in
Fuel Pipe Attaching Nuts	27 N·m	20 lb ft
Fuel Pipe Bracket Retaining Bolt	6 N·m	53 lb in
Fuel Pipe Fittings	27 N·m	20 lb ft
Fuel Pipe Retainer Clip Nut	28 N·m	21 lb ft
Fuel Pipe Retainer Nuts	3 N·m	27 lb in
Fuel Pipe Retaining Clips Bolts	12 N·m	106 lb in
Fuel Tank Strap Attaching Bolts	20.5 N·m	15 lb ft
Heated Oxygen Sensor (HO2S)	42 N·m	31 lb ft
Idle Air Control (IAC) Valve Attaching Fastener	3 N·m	27 lb in

Application	Specification	
	Metric	English
Ignition Coil Mounting Screws	11 N·m	97 lb in
Ignition Control Module (ICM) Mounting Screws	3.5 N·m	31 lb in
Knock Sensor (KS) Bolt	25 N·m	18 lb ft
Mass Air Flow (MAF) Sensor Clamps	4 N·m	35 lb in
Powertrain Control Module (PCM) Connector End Fasteners	8 N·m	71 lb in
Purge Valve Mounting Nuts	12 N·m	106 lb in
Spark Plugs - New Aluminum Heads	20 N·m	15 lb ft
Spark Plugs - New Iron Heads	30 N·m	22 lb ft
Spark Plugs - Used Heads	15 N·m	11 lb ft
Steering Linkage Shield Mounting Bolts	33 N·m	24 lb ft
Throttle Body Assembly Retaining Studs	9 N·m	80 lb in
Throttle Position (TP) Sensor Fasteners	2 N·m	18 lb in
Upper Manifold Bolts	8 N·m	71 lb in
Upper Manifold Nuts	8 N·m	71 lb in
Vacuum Module Attaching Bolts	8 N·m	71 lb in

Fuel System Specifications

See Fuel System Specifications below.

Engine Controls – 4.8L, 5.3 & 6.0L

Ignition System Specifications

Application	Specification	
	Metric	English
Firing Order	1-8-7-2-6-5-4-3	
Spark Plug Wire Resistance	1000 ohms per ft	
Spark Plug Torque	15 N·m	11 lb ft
Spark Plug Gap	1.52 mm	0.060 in
Spark Plug Type	25171803 [AC plug type] 12567759 [NGK plug type]	

Fastener Tightening Specifications

Application	Specifications	
	Metric	English
Accelerator Control Cable Bracket Bolts	10 N·m	89 lb in
Accelerator Pedal Mounting Bolts	20 N·m	15 lb ft
Camshaft Position (CMP) Sensor Bolt	29 N·m	21 lb ft
Crankshaft Position (CKP) Sensor Bolt	25 N·m	18 lb ft
Engine Coolant Temperature (ECT) Sensor	20 N·m	15 lb ft
EGR (Exhaust Gas Recirculation) Valve Bolts (First Pass)	10 N·m	89 lb in
EGR Valve Bolts (Final Pass)	25 N·m	18 lb ft
EGR Valve Pipe-to-Cylinder Head Bolts	50 N·m	37 lb ft
EGR Valve Pipe-to-Exhaust Manifold Bolts	25 N·m	18 lb ft
EGR Valve Pipe-to-Intake Manifold	12 N·m	106 lb in
Engine Wiring Harness Retaining Nut	5.5 N·m	49 lb in
EVAP Canister Bracket Bolt	25 N·m	18 lb ft
EVAP Canister Mounting Bolt	25 N·m	18 lb ft
EVAP Canister Mounting Nuts	10 N·m	89 lb in
EVAP Canister Purge Valve Shoulder Bolt	10.5 N·m	93 lb in
EVAP Canister Vent Valve Bracket Mount Bolt	12 N·m	106 lb in
Fuel Fill Hose Clamp	2.75 N·m	24 lb in
Fuel Fill Pipe Bracket Bolt	6 N·m	53 lb in
Fuel Fill Pipe Ground Strap Bolt	9 N·m	80 lb in

Application	Specifications	
	Metric	English
Fuel Fill Pipe Housing to Fill Pipe Bolts	2.3 N·m	20 lb in
Fuel Fill Vent Hose Clamps	2.75 N·m	24 lb in
Fuel Filler Bracket Bolt	12 N·m	106 lb in
Fuel Filter Fitting	27 N·m	20 lb ft
Fuel Rail Attaching Bolts	10 N·m	89 lb in
Fuel Rail Crossover Pipe Retainer Clip Attaching Screw	3.8 N·m	34 lb in
Fuel Return Pipe Attaching Screw	5 N·m	44 lb in
Fuel Tank Strap Bolts	20.5 N·m	15 lb ft
Heated Oxygen Sensor (HO2S)	42 N·m	31 lb ft
Idle Air Control (IAC) Valve Attaching Screws	3 N·m	27 lb in
Ignition Coil Mounting Bolts	8 N·m	71 lb in
Intake Manifold Sight Shield Fasteners	10 N·m	89 lb in
Knock Sensor (KS)	20 N·m	15 lb ft
MAF/IAT Attaching Bolts	11 N·m	97 lb in
Powertrain Control Module (PCM) Connector End Bolts	8 N·m	71 lb in
Throttle Body Attaching Bolts and Nuts	10 N·m	89 lb in
Throttle Position (TP) Sensor Attaching Screws	2 N·m	18 lb in
Upper Engine Wiring Harness Nut	5.5 N·m	49 lb in

Fuel System Specifications

Use regular unleaded gasoline rated at 87 octane or higher. It is recommended that the gasoline meet specifications which have been developed by the American Automobile Manufacturers Association (AAMA) and endorsed by the Canadian Motor Vehicle Manufacturers Association for better vehicle performance and engine protection. Gasoline meeting the AAMA specification could provide improved driveability and emission control system performance compared to other gasoline. For more information, write to: American Automobile Manufacturer's Association, 7430 Second Ave, Suite 300, Detroit MI 48202.

Be sure the posted octane is at least 87. If the octane is less than 87, you may get a heavy knocking noise when you drive. If it is bad enough, it can damage your engine.

If you're using fuel rated at 87 octane or higher and you hear heavy knocking, your engine needs service. Don't worry if you hear a little pinging noise when you're accelerating or driving up a hill. That is normal and you don't have to buy a higher octane fuel to get rid of pinging. It is the heavy, constant knock that means you have a problem.

Notice

Your vehicle was not designed for fuel that contains methanol. Do not use methanol fuel which can corrode metal parts in your fuel system and also damage plastic and rubber parts. This kind of damage would not be covered under your warranty.

If your vehicle is certified to meet California Emission Standards, indicated on the under hood emission control label, your vehicle is designed to operate on fuels that meet California specifications. If such fuels are not available in states adopting California emissions standards, your vehicle will operate satisfactorily on fuels meeting federal specifications, but emission control system performance may be affected. The malfunction indicator lamp on your instrument panel may turn ON and/or your vehicle may fail a smog-check test. If this occurs, return to your authorized dealer for diagnosis to determine the cause of failure. In the event there is a determination that the cause of the condition is the type of fuels used, repairs may not be covered by your warranty.

Some gasolines that are not reformulated for low emissions may contain an octane-enhancing additive called methylcyclopentadienyl manganese tricarbonyl (MMT). Ask your service station operator whether or not the fuel contains MMT.

Exhaust System

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Catalytic Converter Clamp - Right Side	54 N·m	40 lb ft
Catalytic Converter Pipe to Exhaust Manifold Nuts	65 N·m	48 lb ft
Catalytic Converter to Muffler Retaining Nuts	48 N·m	35 lb ft
Exhaust Hanger Bolts	17 N·m	13 lb ft
Exhaust Manifold Bolts First Pass - 4.3L	15 N·m	11 lb ft
Exhaust Manifold Bolts Second Pass - 4.3L	30 N·m	22 lb ft
Exhaust Manifold Bolts First Pass - 4.8L, 5.3L, 6.0L	15 N·m	11 lb ft
Exhaust Manifold Bolts Second Pass - 4.8L, 5.3L, 6.0L	25 N·m	18 lb ft
Exhaust Manifold Studs	18 N·m	13 lb ft
Heat Shield Bolts	12 N·m	106 lb in
Spark Plug Wire Support Bolts	12 N·m	106 lb in

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.

Exhaust Pipe Description

The exhaust system's design will vary, 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 flange and seal-joint coupling. Subsequent connections in the exhaust system utilize a slip-joint coupling design, with a clamp and a U-bolt.

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:

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

The catalyst in the converter is not serviceable.

Muffler

The muffler controls the exhaust noise levels. On some models, the muffler services with the exhaust pipe, not alone as a complete unit.

Hangers Description

Hangers, attached to the frame, suspend the exhaust system. This allows some exhaust system movement, but not the transfer of noise and vibration into the vehicle.

Clamps Description

Flat flanges and single-nut compression are two types of clamps used for connecting the exhaust system joints. Prior to assembly, be sure to coat the slip-joints with the exhaust system sealer GM P/N 9985020 in order to prevent leakage.

Transmission/Transaxle Description and Operation

Automatic Transmission – 4L60E

Transmission General Specifications

Name	Hydra-matic 4L60-E
RPO Codes	M30
Production Location	Toledo, Ohio Romulus, MI Ramos Arizpe, Mexico
Vehicle Platform (Engine/Transmission) Usage	G
Transmission Drive	Longitudinally-Mounted Rear Wheel Drive
1st Gear Ratio	3.059:1
2nd Gear Ratio	1.625:1
3rd Gear Ratio	1.000:1
4th Gear Ratio	0.696:1
Reverse	2.294:1
Torque Converter Size (Diameter of Torque Converter Turbine)	245 mm 258 mm 298 mm 300 mm
Pressure Taps	Line Pressure
Transmission Fluid Type	DEXRON® III
Transmission Fluid Capacity (Approximate)	245 mm Converter Dry: 8.3 l (8.8 qt) 258 mm Converter Dry: 8.8 l (9.3 qt) 298 mm Converter Dry: 11.25 l (11.9 qt) 300 mm Converter Dry: 11.50 l (12.1 qt)
Transmission Type: 4	Four Forward Gears
Transmission Type: L	Longitudinal Mount
Transmission Type: 60	Product Series
Transmission Type: E	Electronic Controls
Position Quadrant	P, R, N, Overdrive, D, 2, 1 P, R, N, Overdrive, 3, 2, 1
Case Material	Die Cast Aluminum
Transmission Weight Dry (Approximate)	245 mm Converter 65.4 kg (144.30 lb) 258 mm Converter 79.9 kg (176.6 lb) 298 mm Converter 70.5 kg (155.70 lb) 300 mm Converter 86.17 kg (190.5 lb)
Transmission Weight Wet (Approximate)	245 mm Converter 72.4 kg (159.55 lb) 258 mm Converter 89.2 kg (197.7 lb) 298 mm Converter 80.5 kg (176.16 lb) 300 mm Converter 98.4 kg (218.0 lb)
Maximum Trailer Towing Capacity	6 130 kg (13,500 lb)
Maximum Gross Vehicle Weight (GVW)	3 900 kg (8,600 lb)

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accumulator Cover to Case Bolt	8.0-14.0 N·m	6-10 lb ft
Case Extension to Case Bolt	42.0-48.0 N·m	31-35 lb ft
Case Extension to Case Bolt (4WD Shipping)	11.2-22.6 N·m	8.3-16.7 lb ft
Converter Cover Bolt	10 N·m	89 lb in
Converter Housing to Case Screw	65.0-75.0 N·m	48-55 lb ft
Cooler Pipe Connector	35.0-41.0 N·m	26-30 lb ft
Detent Spring to Valve Body Bolt	20.0-27.0 N·m	15-20 lb ft
Floorshift Control Bolt	10 N·m	89 lb in
Flywheel to Torque Converter Bolt	63 N·m	46 lb ft
Forward Accumulator Cover to Valve Body Bolt	8.0-14.0 N·m	6-10 lb ft
Heat Shield to Transmission Bolt	17 N·m	13 lb ft
Line Pressure Plug	8.0-14.0 N·m	6-10 lb ft
Manual Shaft to Inside Detent Lever Nut	27.0-34.0 N·m	20-25 lb ft
Negative Battery Cable Bolt	15 N·m	11 lb ft
Oil Level Indicator Bolt	47 N·m	35 lb ft
Oil Pan to Transmission Case Bolt	11 N·m	97 lb in
Oil Passage Cover to Case Bolt	8-14.0 N·m	6-10 lb ft
Park Brake Bracket to Case Bolt	27.0-34.0 N·m	20-25 lb ft
Park/Neutral Position Switch Screw	3 N·m	27 lb in
Plate to Case Bolt (Shipping)	27.0-34.0 N·m	20-25 lb ft
Plate to Converter Bolt (Shipping)	27.0-34.0 N·m	20-25 lb ft
Plug Assembly, Automatic Transmission Oil Pan (C/K)	30-40 N·m	22.1-29.5 lb ft
Plug Assembly, Automatic Transmission Oil Pan (Y)	28-32 N·m	20.7-23.6 lb ft
Pressure Control Solenoid Bracket to Valve Body Bolt	8.0-14.0 N·m	6-10 lb ft
Pump Assembly to Case Bolt	26.0-32.0 N·m	19-24 lb ft
Pump Cover to Pump Body Bolt	20.0-27.0 N·m	15-20 lb ft
Shift Cable Grommet Screw	1.7 N·m	15 lb in
Shift Control Cable Attachment	20 N·m	15 lb ft
Speed Sensor Retainer Bolt	10.5-13.5 N·m	7.7-10 lb ft
Stud, Automatic Transmission Case Extension (Y-car)	18.0-22.0 N·m	13-16 lb ft
TCC Solenoid Assembly to Case Bolt	8.0-14.0 N·m	6-10 lb ft
Trans Mount to Transmission Bolt	25 N·m	18 lb ft
Transmission Fluid Pressure Manual Valve Position Switch to Valve Body Bolt	8.0-14.0 N·m	6-10 lb ft
Transmission Oil Cooler Pipe Fitting	35.0-41.0 N·m	26-30 lb ft
Transmission Oil Pan to Case Bolt	9.5-13.8 N·m	7-10 lb ft
Transmission to Engine Bolt	47 N·m	35 lb ft
Valve Body to Case Bolt	8.0-14.0 N·m	6-10 lb ft

Fluid Capacity Specifications

Application	Specification	
	Metric	English
Bottom Pan Removal	4.7 liters	5 quarts
Complete Overhaul	10.6 liters	11 quarts
(measurements are approximate)		

Transmission Component and System Description

The 4L60E transmission consists primarily of the following components:

- Torque converter assembly
- Servo assembly and 2-4 band assembly
- Reverse input clutch and housing
- Overrun clutch
- Forward clutch
- 3-4 clutch
- Forward sprag clutch assembly
- Lo and reverse roller clutch assembly
- Lo and reverse clutch assembly
- Two planetary gear sets: Input and Reaction
- Oil pump assembly
- Control valve body assembly

The electrical components of the 4L60-E are as follows:

- 1-2 and 2-3 shift solenoid valves
- 3-2 shift solenoid valve assembly
- Transmission pressure control (PC) solenoid
- Torque converter clutch (TCC) solenoid valve
- TCC pulse width modulation (PWM) solenoid valve
- Automatic transmission fluid pressure (TFP) manual valve position switch
- Automatic transmission fluid temperature (TFT) sensor
- Vehicle speed sensor assembly

Adapt Function

Transmission Adapt Function

The 4L60-E transmission uses a line pressure control system, which has the ability to continuously adapt the system's line pressure. This compensates for normal wear of the following parts:

- The clutch fiber plates
- The seals
- The springs

The PCM maintains the Upshift Adapt parameters for the transmission The PCM monitors the AT ISS sensor and the AT OSS during commanded shifts in order to determine if a shift is occurring too fast or too slow. The PCM adjusts the signal from the transmission pressure control solenoid in order to maintain a set shift feel.

Transmission adapts must be reset whenever the transmission is overhauled or replaced.

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.

With the ignition in the ON position battery positive voltage is supplied to the park/neutral position switch. With the transmission in the PARK position the contacts in the park/neutral position switch are closed. This allows current to flow through the switch to the automatic transmission shift lock control switch. The circuit continues through the normally-closed switch to the automatic transmission shift lock control solenoid. The automatic transmssion shift lock control soleniod is permanently grounded. This energizes the automatic transmission shift lock control solenoid, locking the shift linkage in the PARK position. When the driver presses the brake pedal the contacts in the automatic transmission shift lock control switch open, causing the automatic transmission shift lock control solenoid to release. This allows the shift lever to move from the PARK position.

Automatic Transmission – 4L80E

Transmission General Specifications

Name	Hydra-matic 4L80-E
RPO Codes	MT1
Production Location	Ypsilanti, MI
Vehicle Platform (Engine/Transmission) Usage	C/K, C/K 800, G, P32/42
Transmission Drive	Longitudinally Mounted Rear Wheel Drive
1st Gear Ratio	2.482:1
2nd Gear Ratio	1.482:1
3rd Gear Ratio	1.000:1
4th Gear Ratio	0.750:1
Reverse	2.077:1
Torque Converter Size (Diameter of Torque Converter Turbine)	310 mm
Pressure Taps	Line Pressure
Transmission Fluid Type	DEXRON® III
Transmission Fluid Capacity (Approximate)	Bottom Pan Removal: 7.3L (7.7 qts) Dry: 12.8L (13.5 qts)
Transmission Type: 4	Four Forward Gears
Transmission Type: L	Longitudinal Mount
Transmission Type: 80	Product Series
Transmission Type: E	Electronic Controls
Position Quadrant	P, R, N, Overdrive, D, 2, 1
Case Material	Die Cast Aluminum
Transmission Weight Dry	107 kg (236 lbs)
Transmission Weight Wet	118 kg (260 lbs)
Maximum Trailer Towing Capacity	9,525 kg (21,000 lbs)
Maximum Gross Vehicle Weight (GVW)	7,258 kg (16,000 lbs)

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accumulator Housing to Valve Body	11 N·m	97 lb in
Case Center Support	44 N·m	32 lb ft
Control Valve Assembly to Case	11 N·m	97 lb in
Cooler Pipe Connector Nut at Case and Radiator	38 N·m	28 lb ft
Engine Rear Mount to Transmission Bolt	44 N·m	32 lb ft
Engine Rear Support Bracket to Frame Nut	44 N·m	32 lb ft
Extension Housing to Case	34 N·m	25 lb ft
Flywheel Housing Cover to Transmission	7 N·m	62 lb in
Flywheel to Converter	44 N·m	32 lb ft
Fourth Clutch	23 N·m	17 lb ft
Manual Shaft to Detent Lever Nut	24 N·m	18 lb ft
Oil Pan Drain Plug	34 N·m	25 lb ft
Oil Pan to Case	24 N·m	18 lb ft
Oil Test Hole Plug	11 N·m	97 lb in
Parking Pawl Bracket to Case	24 N·m	18 lb ft
Pressure Control Solenoid Bracket to Valve Body	8 N·m	71 lb in
Pump Assembly to Case	24 N·m	18 lb ft
Pump Body to Cover	24 N·m	18 lb ft
Rear Servo Cover to Case	24 N·m	18 lb ft
Solenoid to Valve Body	8 N·m	71 lb in

Application	Specification	
	Metric	English
Speed Sensor and Bracket Assembly to Case	11 N·m	97 lb in
Transmission Case to Engine	44 N·m	32 lb ft
Valve Body to Case/Lube Pipe	11 N·m	97 lb in
Valve Body to Case/PSM	11 N·m	97 lb in

Fluid Capacity Specifications Overhaul

Application	Specification	
	Metric	English
Oil Pan Removal	7.3 liters	7.7 quarts
Overhaul	12.8 liters	13.5 quarts

Transmission General Description

The 4L80-E is a fully automatic rear wheel drive electronically controlled transmission. The 4L80-E provides four forward ranges including overdrive and reverse. A gear type of oil pump controls shift points. The VCM/PCM and the pressure control (PC) solenoid (force motor) regulate these shift points. The VCM/PCM also controls shift schedules and TCC apply rates. Transmission temperature also influences shift schedules and TCC apply rates.

You can operate the transmission in any one of the following seven modes:

- P - PARK position prevents the vehicle from rolling either forward or backward on vehicles less than 15,000 G.V.W. For safety reasons, use the parking brake in addition to the park position.
- R - REVERSE allows the vehicle to be operated in a rearward direction.
- N - NEUTRAL allows the engine to be started and operated while driving the vehicle. If necessary, you may select this position in order to restart the engine with the vehicle moving.
- OD - OVERDRIVE is used for all normal driving conditions. Overdrive provides four gear ratios plus a converter clutch operation. Depress the accelerator in order to downshift for safe passing.
- D - DRIVE position is used for city traffic, and hilly terrain. Drive provides three gear ranges. Depress the accelerator in order to downshift.
- 2 - Manual SECOND provides acceleration and engine braking or greater traction from a stop. When you choose manual SECOND, the vehicle will start out in first gear and upshift to second gear. You may select this gear at a vehicle speed of up to 22 km/h (35 mph).
- 1 - Manual LOW provides maximum engine braking. You may select this gear at a vehicle speed of up to 13 km/h (20 mph).

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
CO2	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

H	
H	Hydrogen
H2O	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
HO2S	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	
O2	Oxygen
O2S	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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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/s²	0.3048	m/s²
In/s²	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/m²

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

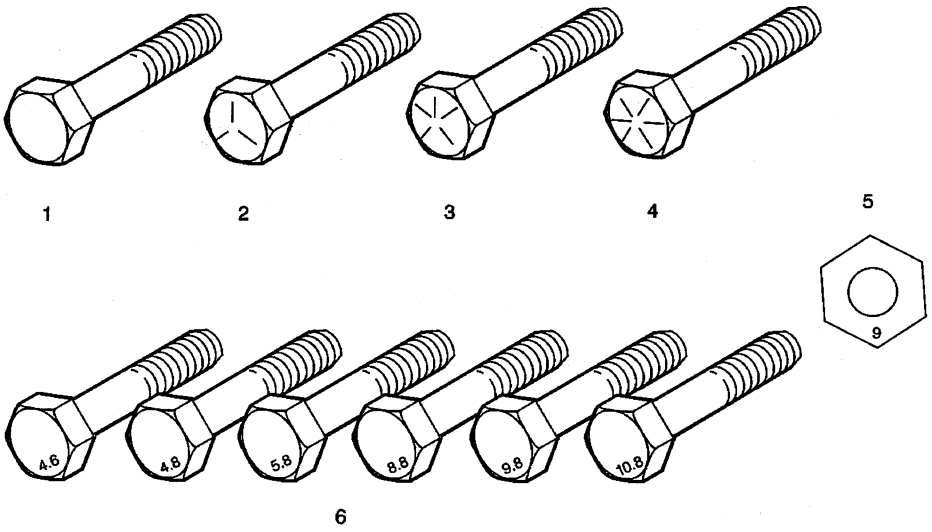
Metric Fasteners

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

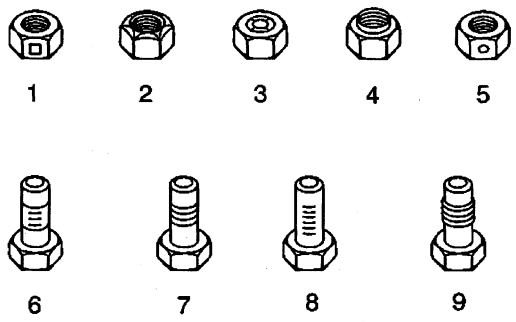
These fasteners accomplish the thread interface by a designed distortion or deformation in the fastener.

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
■ = 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 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch for models with (C6P) GVWR, 8600 lbs. (3901 kg) and above. - 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]
	C60	**Air conditioning,** front manual	S	S
		Assist handle, front passenger	S	S
		Child seat anchor, located on all rear 3-passenger bench seating positions	S	S
		Console, base, includes open storage bin	S	--
		Cupholders, 3, on engine console cover	S	S
		Defogger, side window	S	S
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]	S[1]
	B38	**Floor covering,** Black rubberized vinyl full length floor covering	S	--
		Headliner, cloth	S	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
		Key, single, 2-sided	S	S
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S	S
	D31	**Mirror,** inside rearview, manual day/night	S	S
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints **1 - When ordered with a seating arrangement that includes rear seats, includes rear vinyl bench seats with outboard armrests. Rear seats do not include head restraints.**	S[1]	--
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests **1 - When ordered with a seating arrangement that includes rear seats, includes rear custom cloth bench seats with outboard armrests. Rear seats do not include head restraints.**	A[1]	S[1]
	ZX5	**Seating,** 12-passenger **1 - Standard on CG23406, CG33406, and CG33706 Models only. Not available on C*13406 Models.**	S[1]	S[1]
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) and overhead rear sound bar (2) **1 - Not available with (UE1) OnStar.**	S[1]	S[1]
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S	S
		Theft-deterrent system, PASSlock	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
		Tow/haul mode selector, IP mounted	S	S
		Visors, padded, driver and passenger side	S	S
		Warning tones, headlamp on	S	S
	ZW9	**Body,** standard	S	S
V37		**Bumpers,** front and rear, chrome, includes step-pad	A	S
		Bumpers, front and rear, painted Black, includes step-pad	S	--
		Bumper, front, chrome	--	S
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S
		Door beams, steel-side	S	S
		Glass, Solar-Ray light tinted, all windows	S	S
	A19	**Glass,** rear side door and rear door window, swing-out	S	S
		Grille, Black composite, with single rectangular halogen headlamps	S	--
	V22	**Grille,** chrome, with dual composite halogen headlamps	--	S
	VK3	**License plate bracket,** front	S	S
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	S[1]	S[1]
	ZY1	**Paint,** solid	S	S
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Requires C*13406 Models.**	S[1]	S[1]
	YEN	**Tires,** rear P235/75R16EL, all-season, blackwall **1 - Requires C*13406 Models.**	S[1]	S[1]
	ZEN	**Tire,** spare P235/75R16EL, all-season, blackwall, located at rear underbody of vehicle **1 - Requires C*13406 Models.**	S[1]	S[1]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires CG23406 Models.**	S[1]	S[1]
	YHF	**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires CG23406 Models.**	S[1]	S[1]
	ZHF	**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG23406 Models.**	S[1]	S[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
		Wheels, Gray painted, includes Gray center caps and steel spare	S	--
		Wipers, intermittent, front wet-arm with pulse washers	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
	K68	**Alternator,** 105 amps	S	–
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S	S
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, ladder-type	S	S
		Oil life monitor	S	S
	JL4	**StabiliTrak**, vehicle stability enhancement system **1 - Includes Traction Assistance. Standard and only available on CG33706 Model. Not available on any other models at this time. Requires (ZQ3) Convenience Package.**	S[1]	S[1]
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires rear-wheel drive Models.**	S[1]	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]	S[1]
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S

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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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps. Standard on CG33706 Models only.**	A[1]	■
	BA3	**Console,** deluxe, includes glove box	–	■
ZQ2		**Convenience Package**, power windows and door locks	A	■
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control **1 - Required on the CG33706 Model with the (1SA) package.**	A[1]	■
B30		**Floor covering,** color-keyed carpeting, includes front and rear rubberized vinyl floormats	A	■
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
	AU0	**Keyless entry,** remote, includes 2 transmitters and remote panic button	–	■
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Requires (DH6) Visors, padded.**	A[1]	■
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (TR9) Lighting, auxiliary.**	A[1]	■
	ZR7	**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers	–	■
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare **1 - Upgradeable to (PY2) Wheels, 4-chrome-styled steel on C*13406 Models.**	A	□[1]
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]	■

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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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps. Standard on CG33706 Models only.**	A[1]	■
	BA3	**Console,** deluxe, includes glove box	–	■
ZQ2		**Convenience Package**, power windows and door locks	A	■
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control **1 - Required on the CG33706 Model with the (1SA) package.**	A[1]	■
B30		**Floor covering,** color-keyed carpeting, includes front and rear rubberized vinyl floormats	A	■
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
	AU0	**Keyless entry,** remote, includes 2 transmitters and remote panic button	–	■
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Requires (DH6) Visors, padded.**	A[1]	■
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (TR9) Lighting, auxiliary.**	A[1]	■
	ZR7	**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers	–	■
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare **1 - Upgradeable to (PY2) Wheels, 4-chrome-styled steel on C*13406 Models.**	A	□[1]
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]	■

ADDITIONAL OPTIONS

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps. Standard on CG33706 Models only.**	A[1]	■
ZQ2		**Convenience Package**, power windows and door locks	A	■
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control **1 - Required on the CG33706 Model with the (1SA) package.**	A[1]	■

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
C49		**Defogger,** rear-window, electric **1 - Requires (AJ1) Glass, Solar-Ray deep tinted.**	A[1]	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]	S[1]
B30		**Floor covering,** color-keyed carpeting, includes front and rear rubberized vinyl floormats	A	■
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Requires (DH6) Visors, padded.**	A[1]	■
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), compass and outside temperature indicator **1 - Not available with (UE1) OnStar.**	--	A[1]
UE1		**OnStar**, 1-year Safe & Sound Service, includes Emergency Assistance Services, Air Bag Deployment Notification, AccidentAssist, Roadside Assistance, Stolen-Vehicle Tracking, Remote Diagnostics, Remote Door Lock and Unlock, Remote Vehicle Alert: horn and lights activation, online concierge services, Virtual Advisor and Personal Calling access **1 - Requires (TR9) Lighting, auxiliary and (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.-Not available with (DF5) Mirror, inside rearview, electrochromic. - Visit www.onstar.com for system information and details.**	A[1]	A[1]
AG1		**Seat adjuster,** power, driver 6-way **1 - Requires (AS5) Seats, front Custom Cloth buckets.**	--	A[1]
AG2		**Seat adjuster,** power, front passenger 6-way **1 - Requires (AS5) Seats, front Custom Cloth buckets and (AG1) Seat adjuster, power, driver 6-way.**	--	A[1]
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests **1 - When ordered with a seating arrangement that includes rear seats, includes rear custom cloth bench seats with outboard armrests. Rear seats do not include head restraints.**	A[1]	S[1]
ZP8		**Seating,** 8-passenger **1 - Requires CG23406 or CG33406 Models. - Standard on C*13406 Models only. - Not available on CG33706 Models.**	A[1]	A[1]
ZP3		**Seating,** 15-passenger **1 - Requires CG33706 Models.**	A[1]	A[1]
DT4		**Smoker's Package**, includes ashtray and lighter	A	A
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) and overhead rear sound bar (2) **1 - Not available with (UE1) OnStar.**	A[1]	A[1]

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2) **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2) **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (TR9) Lighting, auxiliary.**	A[1]	■
V37		**Bumpers,** front and rear, chrome, includes step-pad	A	S
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13406, CG23406, and CG33406 Models.**	A[1]	A[1]
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side.**	A[1]	A[1]
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	A	A
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
DE7		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black, includes turn signal indicators **1 - Not available in the following states: MD, VT, VA, NJ, TX or WA. Requires (ZQ2) Convenience Package. Not available with Upfitter order types. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
XEP		**Tires,** front P235/75R16EL, all-season, White outlined-letter **1 - Requires C*13406 Models.**	A[1]	A[1]
YEP		**Tires,** rear P235/75R16EL, all-season, White outlined-letter **1 - Requires C*13406 Models.**	A[1]	A[1]
ZEP		**Tires,** spare P235/75R16EL, all-season, White outlined-letter, located at rear underbody of vehicle **1 - Requires C*13406 Models.**	A[1]	A[1]

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
B46		**Trim,** rear body-colored halo (replaces standard Black panel - The panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. These two colors will receive a molded in color, Black halo.**	A[1]	A[1]
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare **1 - Upgradeable to (PY2) Wheels, 4-chrome-styled steel on C*13406 Models.**	A	□[1]
PY2		**Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare **1 - Requires C*13406 Models.**	A[1]	A[1]
PF9		**Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare **1 - Requires C*13406 Models.**	--	A[1]
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Not available with C*13406 Models.**	A[1]	A[1]
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	A	A
V10		**Cold Climate Package,** includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear **1 - Not available on the CG33706 Model.**	A[1]	A[1]
YF5		**Emissions,** California state requirements	A	A
FE9		**Emissions,** Federal requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California **1 - Requires (ZX5) Seating, 12 passenger on the *G23406 and *G33406 Models. - Requires (ZX5) Seating, 12 passenger or (ZP3) Seating, 15 passenger on the *G33706 Model.**	A[1]	A[1]

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
LU3		**Engine,** Vortec 4300 V6 MFI (195 HP [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Requires CG13406 Models.**	A[1]	A[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Requires C*13406 Models. - Standard on *H13406 Model.**	A[1]	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Requires CG23406, CG33406, or CG33706 Models. Includes external engine oil cooler.**	A[1]	A[1]
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires C*13406 Models.**	A[1]	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23406 Models.**	A[1]	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33406 or CG33706 Models.**	A[1]	A[1]
GU6		**Rear axle,** 3.42 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Requires C*13406 Models.**	A[1]	A[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Requires CG23406, CG33406, or CG33706 Models.**	A[1]	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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C69		**Air conditioning,** rear		■
KG3		**Alternator,** 145 amps		■
	ZR7	**Chrome Appearance Package**		■
	BA3	**Console,** deluxe		■
ZQ2		**Convenience Package**		■
ZQ3		**Convenience Package**		■
B30		**Floor covering,** color-keyed carpeting		■
C36		**Heater,** rear		■
	AU0	**Keyless entry,** remote		■
TR9		**Lighting,** auxiliary		■
DH6		**Visors,** padded		■
P03		**Wheels,** Gray painted **1 - Upgradeable to (PY2) Wheels, 4-chrome-styled steel on C*13406 Models.**		□[1]

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	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch for models with (C6P) GVWR, 8600 lbs. (3901 kg) and above. - 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]
	C60	**Air conditioning,** front manual	S	S
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps. Standard on CG33706 Models only.**	A[1]	■
		Assist handle, front passenger	S	S
		Child seat anchor, located on all rear 3-passenger bench seating positions	S	S
		Console, base, includes open storage bin	S	--
	BA3	**Console,** deluxe, includes glove box	--	■
ZQ2		**Convenience Package,** power windows and door locks	A	■
ZQ3		**Convenience Package,** Tilt-Wheel and cruise control **1 - Required on the CG33706 Model with the (1SA) package.**	A[1]	■
		Cupholders, 3, on engine console cover	S	S
		Defogger, side window	S	S
C49		**Defogger,** rear-window, electric **1 - Requires (AJ1) Glass, Solar-Ray deep tinted.**	A[1]	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]	S[1]
	B38	**Floor covering,** Black rubberized vinyl full length floor covering	S	--
B30		**Floor covering,** color-keyed carpeting, includes front and rear rubberized vinyl floormats	A	■
		Headliner, cloth	S	S
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
		Key, single, 2-sided	S	S
	AU0	**Keyless entry,** remote, includes 2 transmitters and remote panic button	--	■
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Requires (DH6) Visors, padded.**	A[1]	■
	D31	**Mirror,** inside rearview, manual day/night	S	S
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), compass and outside temperature indicator **1 - Not available with (UE1) OnStar.**	–	A[1]
UE1		**OnStar**, 1-year Safe & Sound Service, includes Emergency Assistance Services, Air Bag Deployment Notification, AccidentAssist, Roadside Assistance, Stolen-Vehicle Tracking, Remote Diagnostics, Remote Door Lock and Unlock, Remote Vehicle Alert: horn and lights activation, online concierge services, Virtual Advisor and Personal Calling access **1 - Requires (TR9) Lighting, auxiliary and (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.-Not available with (DF5) Mirror, inside rearview, electrochromic. - Visit www.onstar.com for system information and details.**	A[1]	A[1]
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S
AG1		**Seat adjuster,** power, driver 6-way **1 - Requires (AS5) Seats, front Custom Cloth buckets.**	–	A[1]
AG2		**Seat adjuster,** power, front passenger 6-way **1 - Requires (AS5) Seats, front Custom Cloth buckets and (AG1) Seat adjuster, power, driver 6-way.**	–	A[1]
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints **1 - When ordered with a seating arrangement that includes rear seats, includes rear vinyl bench seats with outboard armrests. Rear seats do not include head restraints.**	S[1]	–
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests **1 - When ordered with a seating arrangement that includes rear seats, includes rear custom cloth bench seats with outboard armrests. Rear seats do not include head restraints.**	A[1]	S[1]
ZP8		**Seating,** 8-passenger **1 - Requires CG23406 or CG33406 Models. - Standard on C*13406 Models only. - Not available on CG33706 Models.**	A[1]	A[1]
	ZX5	**Seating,** 12-passenger **1 - Standard on CG23406, CG33406, and CG33706 Models only. Not available on C*13406 Models.**	S[1]	S[1]
ZP3		**Seating,** 15-passenger **1 - Requires CG33706 Models.**	A[1]	A[1]
DT4		**Smoker's Package**, includes ashtray and lighter	A	A
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) and overhead rear sound bar (2) **1 - Not available with (UE1) OnStar.**	S[1]	S[1]
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) and overhead rear sound bar (2) **1 - Not available with (UE1) OnStar.**	A[1]	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2) **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2) **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S	S
		Theft-deterrent system, PASSlock	S	S
		Tow/haul mode selector, IP mounted	S	S
		Visors, padded, driver and passenger side	S	S
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (TR9) Lighting, auxiliary.**	A[1]	■
		Warning tones, headlamp on	S	S

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	ZW9	**Body,** standard	S	S
V37		**Bumpers,** front and rear, chrome, includes step-pad	A	S
		Bumpers, front and rear, painted Black, includes step-pad	S	–
		Bumper, front, chrome	–	S
	ZR7	**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers	–	■
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13406, CG23406, and CG33406 Models.**	A[1]	A[1]
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side.**	A[1]	A[1]
		Door beams, steel-side	S	S
		Glass, Solar-Ray light tinted, all windows	S	S
	A19	**Glass,** rear side door and rear door window, swing-out	S	S
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	A	A
		Grille, Black composite, with single rectangular halogen headlamps	S	–
	V22	**Grille,** chrome, with dual composite halogen headlamps	–	S
	VK3	**License plate bracket,** front	S	S
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	S[1]	S[1]
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
DE7		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black, includes turn signal indicators **1 - Not available in the following states: MD, VT, VA, NJ, TX or WA. Requires (ZQ2) Convenience Package. Not available with Upfitter order types. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]	A[1]
	ZY1	**Paint,** solid	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Requires C*13406 Models.**	S[1]	S[1]
	YEN	**Tires,** rear P235/75R16EL, all-season, blackwall **1 - Requires C*13406 Models.**	S[1]	S[1]
	ZEN	**Tire,** spare P235/75R16EL, all-season, blackwall, located at rear underbody of vehicle **1 - Requires C*13406 Models.**	S[1]	S[1]
XEP		**Tires,** front P235/75R16EL, all-season, White outlined-letter **1 - Requires C*13406 Models.**	A[1]	A[1]
YEP		**Tires,** rear P235/75R16EL, all-season, White outlined-letter **1 - Requires C*13406 Models.**	A[1]	A[1]
ZEP		**Tires,** spare P235/75R16EL, all-season, White outlined-letter, located at rear underbody of vehicle **1 - Requires C*13406 Models.**	A[1]	A[1]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires CG23406 Models.**	S[1]	S[1]
	YHF	**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires CG23406 Models.**	S[1]	S[1]
	ZHF	**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG23406 Models.**	S[1]	S[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG33406 and CG33706 Models.**	S[1]	S[1]
B46		**Trim,** rear body-colored halo (replaces standard Black panel - The panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. These two colors will receive a molded in color, Black halo.**	A[1]	A[1]
		Wheels, Gray painted, includes Gray center caps and steel spare	S	--
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare **1 - Upgradeable to (PY2) Wheels, 4-chrome-styled steel on C*13406 Models.**	A	□[1]
PY2		**Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare **1 - Requires C*13406 Models.**	A[1]	A[1]
PF9		**Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare **1 - Requires C*13406 Models.**	--	A[1]
		Wipers, intermittent, front wet-arm with pulse washers	S	S

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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 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
	K68	**Alternator,** 105 amps	S	–
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]	■
KL5		**Alternative fuel conversion-ready engine**, includes internal modifications for operation with natural or propane gas **1 - Not available with C*13406 Models.**	A[1]	A[1]
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S	S
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	A	A
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
V10		**Cold Climate Package**, includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear **1 - Not available on the CG33706 Model.**	A[1]	A[1]
YF5		**Emissions,** California state requirements	A	A
FE9		**Emissions,** Federal requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California **1 - Requires (ZX5) Seating, 12 passenger on the *G23406 and *G33406 Models. - Requires (ZX5) Seating, 12 passenger or (ZP3) Seating, 15 passenger on the *G33706 Model.**	A[1]	A[1]
LU3		**Engine,** Vortec 4300 V6 MFI (195 HP [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Requires CG13406 Models.**	A[1]	A[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Requires C*13406 Models. - Standard on *H13406 Model.**	A[1]	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Requires CG23406, CG33406, or CG33706 Models. Includes external engine oil cooler.**	A[1]	A[1]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, ladder-type	S	S
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires C*13406 Models.**	A[1]	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23406 Models.**	A[1]	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33406 or CG33706 Models.**	A[1]	A[1]
		Oil life monitor	S	S
GU6		**Rear axle,** 3.42 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
	JL4	**StabiliTrak,** vehicle stability enhancement system **1 - Includes Traction Assistance. Standard and only available on CG33706 Model. Not available on any other models at this time. Requires (ZQ3) Convenience Package.**	S[1]	S[1]
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires rear-wheel drive Models.**	S[1]	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]	S[1]
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Requires C*13406 Models.**	A[1]	A[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Requires CG23406, CG33406, or CG33706 Models.**	A[1]	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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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.

		Transmissions		Axles			GVWR lbs. (kg)		
Model	Engine	M30 4-Speed Automatic	MT1 4-Speed Automatic HD	GU6 3.42	GT4 3.73	GT5 4.10	C5Z 7200 (3266)	C6P 8600 (3901)	C6Y 9600 (4354)
1500									
CG13406	LU3 Vortec 4300 V6 MFI	S	--	S	--	--	S	--	--
	LM7 Vortec 5300 V8 SFI	S	--	S	A	--	S	--	--
CH13406	LM7 Vortec 5300 V8 SFI	S	--	S	A	--	S	--	--
2500									
CG23406	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	S	--
3500									
CG33406	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	--	S
CG33706	LQ4 Vortec 6000 V8 SFI	--	S	--	S	--	--	--	S

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Custom Vinyl	52W	93W
Base/LS	Reclining high-back buckets with inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Light Pewter Metallic	11U	WA-382E	A	A
Indigo Blue Metallic	39U	WA-9792	A	A
Black[3]	41U	WA-8555	A	A
Dark Green Metallic	47U	WA-9539	A	A
Summit White	50U	WA-8624	A	A
Sandalwood Metallic	58U	WA-711J	A	–
Dark Gray Metallic	62U	WA-805K	–	A
Victory Red[3]	74U	WA-9260	A	A
Berry Red Metallic	87U	WA-811K	A	A

Above interior trim combinations are the only combinations allowed.
1 - Standard on Base with 1SA and not available on LS with 1SB.
2 - Available on Base with 1SA and standard on LS with 1SB.
3 - Not available with (B46) Trim, rear body-colored halo.

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Custom Vinyl	52W	93W
Base/LS	Reclining high-back buckets with inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Yellow	none	WA-5456	A	A
Green	none	WA-7927	A	A
Green	none	WA-7941	A	A
Silver Metallic	none	WA-8867	A	A
Green, Woodland	9V5	WA-9015	A	A
Doeskin Tan	9V9	WA-9403	A	A
Tangier Orange	9W4	WA-9417	A	A
NEW! Light Stellar Blue	none	WA-146B	A	A
Yellow	none	WA-215D	A	A
Wheatland Yellow	9W3	WA-253A	A	A
Toreador Red	none	WA-257C	A	A
Madrid Red	none	WA-341D	A	A
NEW! Storm Gray	none	WA-391E	A	A
Yellow	none	WA-478G	A	A

NOTE: Exterior SEO solid paints are not available with (B46) Trim, rear body-colored halo.
1 - Standard on Base with 1SA and not available on LS with 1SB.
2 - Available on Base with 1SA and standard on LS with 1SB.

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.

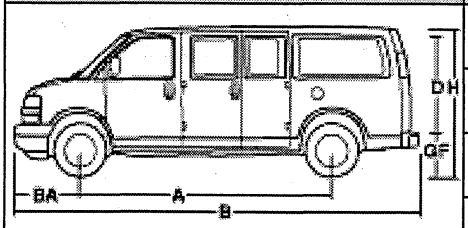
Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

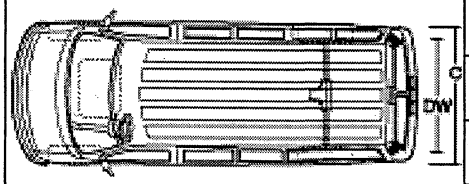
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
		Interior		
AU0		**Keyless entry, remote (MSRP = $170.00)** Remote keyless entry with base decor. Includes 2 transmitters. **1 - Requires RPO (ZQ2) Convenience Package.**	A[1]	■
5X0		**Rear Carpet with no rear seat slots (MSRP with Models G13406 or G23406 = $350.00, MSRP with G33706 = $392.00)** **1 - Available on G13406, G23406 or G33706 Models. Requires SEO (ZX2) Seat, rear delete and Trim code (93G) Pewter Custom Cloth. Not available with RPO (E26) Door, swing-out driver side, 60/40 split.**	--	A[1]
AG1		**Seat adjuster, power, driver 6-way (MSRP = $275.00)** Provides multi directional power driver seat adjuster with custom cloth front bucket seats and vinyl rear bench seats. **1 - Available on Model G33706. Requires SEO (5T5) Seats, front Custom Cloth buckets with vinyl rear seats, trim code (93W) Pewter vinyl and a Fleet or Federal Government or Political Subdivision sales order.**	A[1]	--
ZX2		**Seat, rear delete (MSRP = -$857.00 Credit) with Model G13406, (MSRP = -$1,210.00 Credit) with Models G23406 or G33706** Upfitter Option. Deletes all of the bench seats and seat tracks behind the driver and passenger front bucket seats. Deletes rear floor carpeting and rear shoulder belts. Deletes seat anchor slots, provides ship loose jack and tool package. Provides an incomplete vehicle document and a bus VIN identification. **1 - Requires Models G13406, G23406 or G33706 and shipment to an upfitter.**	--	A[1]
5T5		**Seats, front Custom Cloth buckets with vinyl rear seats (MSRP = $25.00)** On a base decor level passenger van; retains the standard vinyl rear bench seats. **1 - Requires Model G33706, Trim code (93W) Medium Dark Pewter and RPO (AS5) Seats, front Custom Cloth buckets, includes head restraints and inboard armrest. Requires a Fleet, Political Subdivision or Government order type and standard 12-passenger seating, RPO (ZP3) Seating , 15-passenger or SEO (8V5) 10-passenger seating. THIS SEO WILL CONVERT FRONT SEAT TO CLOTH.**	A[1]	--
ZP5		**Seating, 5 passenger (MSRP = -$532.00 Credit)** Fleet Option. Single bench seat behind the front driver and passenger bucket seats. Deletes the intermediate rear 3 passenger and rear 4 passenger bench seats. Also deletes shoulder belts. Provides a multipurpose vehicle identification. **1 - Requires a Fleet or Government sales order. Not available on Models G/H13406.**	A[1]	A[1]
8V5		**Seating, 10-passenger with driver seat only (MSRP = -$234.00 Credit)** Deletes the front passenger bucket seat and provides a 3 passenger rear bench seat in lieu of the standard 4 passenger. Provides a multipurpose vehicle identification. **1 - Requires Model G33706. Not available with RPO (AG1) Seat adjuster, power, driver 6-way or RPO (B30) Floor covering, color-keyed carpeting.**	A[1]	--
9R0		**Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)** AM/FM radio with cassette, no CD. **1 - Requires a Fleet or Government sales order.**	A[1]	A[1]

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9J6		**Steering column, tilt (MSRP = $145.00)** Tilt-steering column without cruise control. **1 - Not available with Model G33706 or with RPO (ZQ3) Convenience Package.**	A[1]	--
5C5		**Vinyl Sun Visors (MSRP = No Charge)** Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors. **1 - Requires a Fleet or Government sales order and RPO (AS5) Seats, front Custom Cloth buckets. Not available with RPO (DH6) Visor, padded, driver and passenger side with cloth trim and dual vanity mirrors.**	A[1]	A[1]
		Exterior		
5Z5		**Hubcap delete (MSRP = -$17.00 Credit)** **1 - Not available with RPO (P03) Wheels, chrome center caps or RPO (PY2) Wheels, Chrome styled steel.**	A[1]	--
5X8		**Key, side cargo and rear door (MSRP = $40.00)** A unique key for side and rear cargo doors, separate from driver area ignition and door key. **1 - Not available with RPO (E26) Door, swing-out driver side.**	A[1]	A[1]
8X1		**Label, fasten safety belts (MSRP = $2.00)** "Fasten Safety Belts" reminder label on side door window glass.	A	A
9V9		**Paints, solid (MSRP = No Charge),** Doeskin Tan **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W4		**Paints, solid (MSRP = No Charge),** Tangier Orange **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W3		**Paints, solid (MSRP = No Charge),** Wheatland Yellow **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9V5		**Paints, solid (MSRP = No Charge),** Woodland Green **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
TGK		**Solid Paint** SEO solid paint, one color **1 - Required with any SEO paint selection.**	A[1]	A[1]
Q8C		**Tire valve stem caps, air thru (MSRP = $6.00)** Air through valve caps on the tire air valves. **1 - Not available on Models G/H13406.**	A[1]	A[1]
8R3		**Tire valve stems, brass (MSRP = $20.00)** Brass metal valve stems in lieu of standard. Also included on spare tire. **1 - Not available on Models G/H13406.**	A[1]	A[1]
5G0		**Wheels, painted Black (MSRP = $25.00)** Black painted wheels in lieu of standard Gray painted wheels. **1 - Not available with Models G/H13406 or RPO (P03) Wheels, chrome center caps.**	A[1]	--

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA, 1SB and 1SC available on C*13406, CG23406, CG33406 and CG33706 Models.	Base 1SA[1]	LS 1SB[1]
5G2		**Wheels, painted White (MSRP = $25.00)** White painted wheels in lieu of standard Gray painted wheels. **1 - Not available with Models G/H13406 or RPO (P03) Wheels, chrome center caps.**	A[1]	--
		Mechanical		
8E1		**Fuel, additional 3 gallons (MSRP = $8.00)** 3 gallons of fuel in addition to normal assembly plant fill.	A	A
		Ship Thru Codes		
TBM		**Ship Thru for all Models (MSRP = $115.00)** Produced in Wentzville and shipped to Adrian Steel	A	A
TBQ		**Ship Thru for all Models (MSRP = $350.00)** Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment	A	A
TBZ		**Ship Thru for all Models (MSRP = $140.00)** Produced in Wentzville and shipped to Kranz Automotive	A	A
TCC		**Ship Thru for all Models (MSRP = $640.00)** Produced in Wentzville and shipped to Quigley	A	A
VAD		**Ship Thru for all Models (MSRP = $25.00)** Produced in Wentzville and shipped to Crown/Masterack	A	A
VAP		**Ship Thru for all Models (MSRP = $220.00)** Produced in Wentzville and shipped to Knapheide Truck Equipment	A	A
VAR		**Ship Thru for all Models (MSRP = $385.00)** Produced in Wentzville and shipped to Midway	A	A
VCP		**Ship Thru for all Models (MSRP = $185.00)** Produced in Wentzville and shipped to OEM Systems.	A	A
VCY		**Ship Thru for all Models (MSRP = No Charge)** Produced in Wentzville and shipped to Trans Design & Mfg	A	A

All dimensions in inches (mm) unless otherwise stated.





	Specifications	1500 (CG13406)	1500 (CH13406)	2500 (CG23406)	3500 (CG33406)	3500 (CG33706)
A	**Wheelbase**	135.00 (3429)	135.00 (3429)	135.00 (3429)	135.00 (3429)	155.00 (3937)
B	**Overall length**	224.10 (5692)	224.10 (5692)	224.10 (5692)	224.10 (5692)	244.10 (6200)
C	**Body width**	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)
D	**Overall height**	81.60 (2073)	81.60 (2073)	81.60 (2073)	81.60 (2073)	82.00 (2083)
	Head room, 1st row	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)
	Head room, 2nd row	38.50 (978)	38.50 (978)	38.50 (978)	38.50 (978)	38.50 (978)
	Head room, 3rd row	38.60 (980)	38.60 (980)	38.60 (980)	38.60 (980)	38.60 (980)
	Head room, 4th row	--	--	38.10 (968)	38.10 (968)	38.10 (968)
	Head room, 5th row	--	--	--	--	38.10 (968)
	Shoulder room, 1st row	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)
	Shoulder room, 2nd row	68.90 (1750)	68.90 (1750)	68.90 (1750)	68.90 (1750)	68.90 (1750)
	Shoulder room, 3rd row	63.50 (1613)	63.50 (1613)	63.50 (1613)	63.50 (1613)	63.50 (1613)
	Shoulder room, 4th row	--	--	68.30 (1735)	68.30 (1735)	68.30 (1735)
	Shoulder room, 5th row	--	--	--	--	62.70 (1593)
	Hip room, 1st row	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)
	Hip room, 2nd row	66.00 (1676)	66.00 (1676)	66.00 (1676)	66.00 (1676)	66.00 (1676)
	Hip room, 3rd row	64.40 (1636)	64.40 (1636)	64.40 (1636)	64.40 (1636)	64.40 (1636)
	Hip room, 4th row	--	--	59.60 (1514)	59.60 (1514)	59.60 (1514)
	Hip room, 5th row	--	--	--	--	63.20 (1605)
	Leg room, 1st row	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)
	Leg room, 2nd row	34.80 (884)	34.80 (884)	34.80 (884)	34.80 (884)	34.80 (884)
	Leg room, 3rd row	37.60 (955)	37.60 (955)	37.60 (955)	37.60 (955)	37.60 (955)

All dimensions in inches (mm) unless otherwise stated.

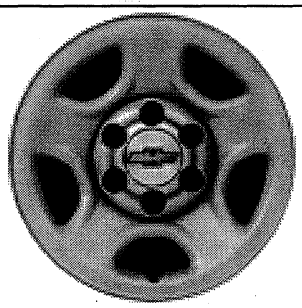
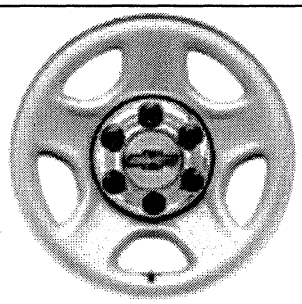
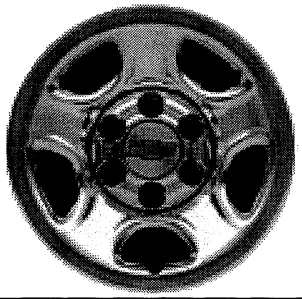
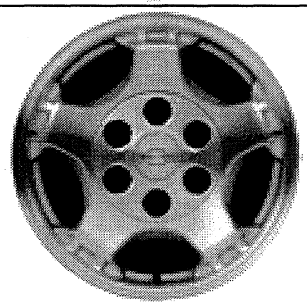
		Specifications	1500 (CG13406)	1500 (CH13406)	2500 (CG23406)	3500 (CG33406)	3500 (CG33706)
		Leg room, 4th row	--	--	39.80 (1011)	39.80 (1011)	39.80 (1011)
		Leg room, 5th row	--	--	--	--	36.40 (925)
		Opening height, side door	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)
		Opening width, sliding side door	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)
	DH	**Opening height,** rear door	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)
	DW	**Opening width,** rear door, at belt line	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)
		Step up height, front door	17.90 (455)	17.90 (455)	19.40 (493)	19.40 (493)	19.30 (490)
		Step up height, side door	18.80 (478)	18.80 (478)	20.20 (513)	20.20 (513)	20.00 (508)
	BA	**Front bumper to axle**	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)
	GF	**Ground to top of rear load floor**	25.00 (635)	25.00 (635)	27.70 (704)	27.70 (704)	27.30 (693)
		Load floor length, to front seat, at floor	127.80 (3246)	127.80 (3246)	127.80 (3246)	127.80 (3246)	147.80 (3754)
		Load floor length, to engine cover, at floor	153.60 (3901)	153.60 (3901)	153.60 (3901)	153.60 (3901)	173.60 (4409)
		Inside width, between wheelhousing	50.50 (1283)	50.50 (1283)	50.50 (1283)	50.50 (1283)	50.50 (1283)
		Cargo area height	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)
		Ground clearance, front	8.00 (203)	8.00 (203)	8.20 (208)	8.20 (208)	8.10 (206)
		Ground clearance, rear	7.40 (188)	7.40 (188)	7.10 (180)	7.10 (180)	7.70 (196)

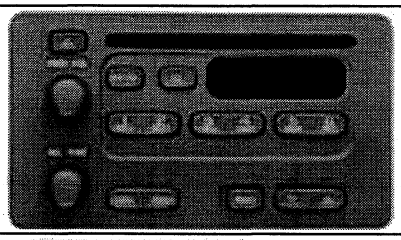
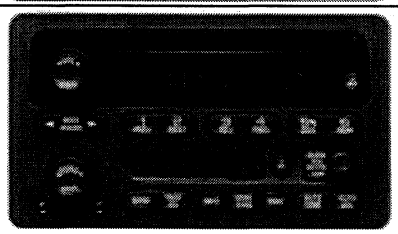
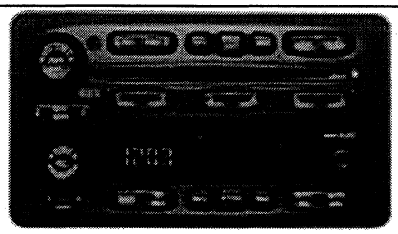
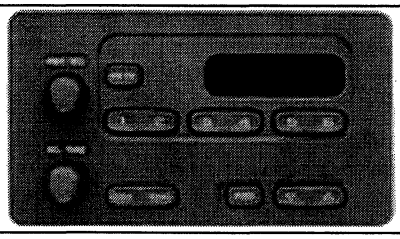
Published dimensions indicated are without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in these dimensions.

2004 Chevrolet Truck Express Passenger SPECS

	1500 (CG13406)	1500 (CH13406)	2500 (CG23406)	3500 (CG33406)	3500 (CG33706)
Specifications					
Front stabilizer bar diameter, in. (mm)	1.30 (33)	1.30 (33)	1.38 (35)	1.38 (35)	1.38 (35)
Capacities					
Curb weight, lbs. (kg)	5295 (2402)	5593 (2537)	5896 (2674)	6009 (2726)	6330 (2871)
Cargo volume, regular, with seats, cu. ft. (liters)	204.0 (5777.3)	204.0 (5777.3)	204.0 (5777.3)	204.0 (5777.3)	--
Cargo volume, extended, with seats, cu. ft. (liters)	--	--	--	--	237.3 (6720.3)
Payload[1], lbs. (kg)	1905 (864)	1607 (729)	2704 (1227)	3591 (1629)	3270 (1483)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	7200 (3266)	7200 (3266)	8600 (3901)	9600 (4355)	9600 (4355)
Front Gross Axle Weight Rating (GAWR), lbs. (kg)	3600 (1633)	3600 (1633)	4100 (1860)	4300 (1950)	4300 (1950)
Rear Gross Axle Weight Rating (GAWR), lbs. (kg)	4000 (1814)	4000 (1814)	5360 (2431)	6084 (2760)	6084 (2760)
Fuel capacity, approximate, gallon (liters)	31 (117)	31 (117)	31 (117)	31 (117)	31 (117)
Seating capacity (front/2nd/3rd/4th)	2/3/3/-	2/3/3/-	2/3/3/4	2/3/3/4	2/3/3/4

1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.

	**Wheels,** Gray painted, includes Gray center caps and steel spare
	P03 **Wheels,** Gray painted, includes chrome center caps and steel spare
	PY2 **Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare
	PF9 **Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare

	U1C **Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) and overhead rear sound bar (2)
	UB1 **Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2)
	UC6 **Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2), overhead rear sound bar (2) and rear door speakers (2)
	UM7 **Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) and overhead rear sound bar (2)

Option Code	Description
5C5	Vinyl Sun Visors (MSRP = No Charge)Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors.
5G0	Wheels, painted Black (MSRP = $25.00)
5G2	Wheels, painted White (MSRP = $25.00)
5T5	Seats, front Custom Cloth buckets with vinyl rear seats (MSRP = $25.00) On a base decor level passenger van; retains the standard vinyl rear bench seats.
5X0	Rear Carpet with no rear seat slots (MSRP with Models G13406 or G23406 = $350.00, MSRP with G33706 = $392.00)
5X8	Key, side cargo and rear door (MSRP = $40.00)
8E1	Fuel, additional 3 gallons (MSRP = $8.00)
8R3	Tire valve stems, brass (MSRP = $20.00)
8V5	Seating, 10-passenger with driver seat only (MSRP = -$234.00 Credit)
8X1	Label, fasten safety belts (MSRP = $2.00)
9J6	Steering column, tilt (MSRP = $145.00)
9R0	Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)AM/FM radio with cassette, no CD.
9V5	Paints, solid (MSRP = No Charge), Woodland Green
9V9	Paints, solid (MSRP = No Charge), Doeskin Tan
9W3	Paints, solid (MSRP = No Charge), Wheatland Yellow
9W4	Paints, solid (MSRP = No Charge), Tangier Orange
A19	Glass, rear side door and rear door window, swing-out
AG1	Seat adjuster, power, driver 6-way
AG1	Seat adjuster, power, driver 6-way (MSRP = $275.00)Provides multi directional power driver seat adjuster with custom cloth front bucket seats and vinyl rear bench seats.
AG2	Seat adjuster, power, front passenger 6-way
AJ1	Glass, Solar-Ray deep tinted
AK5	Air bags, frontal, driver and right front passenger
AR7	Seats, front vinyl reclining buckets
AS5	Seats, front Custom Cloth buckets
AU0	Keyless entry, remote
AU0	Keyless entry, remote (MSRP = $170.00)Remote keyless entry with base decor. Includes 2 transmitters.
AU3	Door locks, power
B30	Floor covering, color-keyed carpeting
B38	Floor covering, Black rubberized vinyl full length floor covering
B46	Trim, rear body-colored halo
BA3	Console, deluxe
C36	Heater, rear
C49	Defogger, rear-window, electric
C5Z	GVWR, 7200 lbs. (3266 kg)
C60	Air conditioning, front manual
C69	Air conditioning, rear
C6P	GVWR, 8600 lbs. (3901 kg)
C6Y	GVWR, 9600 lbs. (4354 kg)
D31	Mirror, inside rearview
DE2	Mirrors, outside rearview
DE5	Mirrors, outside rearview
DE7	Mirrors, outside rearview
DF5	Mirror, inside rearview, electrochromic

Option Code	Description
DH6	Visors, padded
DT4	Smoker's Package
E24	Door, swing-out passenger side
E26	Door, swing-out driver side
FE9	Emissions, Federal requirements
G80	Differential, locking, heavy-duty, rear
GT4	Rear axle, 3.73 ratio
GT5	Rear axle, 4.10 ratio
GU6	Rear axle, 3.42 ratio
JL4	StabiliTrak
K68	Alternator, 105 amps
KG3	Alternator, 145 amps
KL5	Alternative fuel conversion-ready engine
LM7	Engine, Vortec 5300 V8 SFI
LQ4	Engine, Vortec 6000 V8 SFI
LU3	Engine, Vortec 4300 V6 MFI
M30	Transmission, 4-speed automatic
MT1	Transmission, 4-speed automatic, heavy-duty
NB8	Emissions override, California, Massachusetts, New York or Vermont
NC7	Emissions override, Federal
NE1	Emissions, Maine, Massachusetts, New York or Vermont state requirements
P03	Wheels, Gray painted
PF9	Wheels, 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare
PY2	Wheels, 4 - chrome-styled steel
Q8C	Tire valve stem caps, air thru (MSRP = $6.00)
TBM	Ship Thru for all Models (MSRP = $115.00)Produced in Wentzville and shipped to Adrian Steel
TBQ	Ship Thru for all Models (MSRP = $350.00)Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment
TBZ	Ship Thru for all Models (MSRP = $140.00)Produced in Wentzville and shipped to Kranz Automotive
TCC	Ship Thru for all Models (MSRP = $640.00)Produced in Wentzville and shipped to Quigley
TGK	Solid PaintSEO solid paint, one color
TR9	Lighting, auxiliary
U1C	Sound system, ETR AM/FM stereo with CD player
UA1	Battery, heavy-duty, 800 cold-cranking amps
UB1	Sound system, ETR AM/FM stereo with CD and cassette player
UC6	Sound system, ETR AM/FM stereo with 6-disc CD changer
UE1	OnStar
UM7	Sound system, ETR AM/FM stereo
UY7	Trailer wiring, 7-lead harness
V10	Cold Climate Package
V14	Transmission oil cooler, external
V22	Grille, chrome
V37	Bumpers, front and rear, chrome
VAD	Ship Thru for all Models (MSRP = $25.00)Produced in Wentzville and shipped to Crown/Masterack
VAP	Ship Thru for all Models (MSRP = $220.00)Produced in Wentzville and shipped to Knapheide Truck Equipment

Option Code	Description
VAR	Ship Thru for all Models (MSRP = $385.00)Produced in Wentzville and shipped to Midway
VCL	Emissions Certification, CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle).
VCP	Ship Thru for all Models (MSRP = $185.00)Produced in Wentzville and shipped to OEM Systems.
VCY	Ship Thru for all Models (MSRP = No Charge)Produced in Wentzville and shipped to Trans Design & Mfg
VK3	License plate bracket, front
XEN	Tires, front P235/75R16EL, all-season, blackwall
XEP	Tires, front P235/75R16EL, all-season, White outlined-letter
XHF	Tires, front LT225/75R16E, all-season, blackwall
XHH	Tires, front LT245/75R16E, all-season, blackwall
YA2	Door, sliding passenger side
YEN	Tires, rear P235/75R16EL, all-season, blackwall
YEP	Tires, rear P235/75R16EL, all-season, White outlined-letter
YF5	Emissions, California state requirements
YHF	Tires, rear LT225/75R16E, all-season, blackwall
YHH	Tires, rear LT245/75R16E, all-season, blackwall
Z82	Trailering equipment, heavy-duty
ZEN	Tire, spare P235/75R16EL, all-season, blackwall
ZEP	Tires, spare P235/75R16EL, all-season, White outlined-letter
ZHF	Tire, spare LT225/75R16E, all-season, blackwall
ZHH	Tire, spare LT245/75R16E, all-season, blackwall
ZP3	Seating, 15-passenger
ZP5	Seating, 5 passenger (MSRP = -$532.00 Credit) Fleet Option.
ZP8	Seating, 8-passenger
ZQ2	Convenience Package
ZQ3	Convenience Package
ZR7	Chrome Appearance Package
ZW9	Body, standard
ZX2	Seat, rear delete (MSRP = -$857.00 Credit) with Model G13406, (MSRP = -$1,210.00 Credit) with Models G23406 or G33706 Upfitter Option.
ZX5	Seating, 12-passenger
ZY1	Paint, solid

2004 Chevrolet Truck Express Passenger — TRAILERING SPECS

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

Model	(LU3) Vortec 4300 V6 MFI		(LM7) Vortec 5300 V8 SFI		(LQ4) Vortec 6000 V8 SFI	
	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)
CG13406	3.42	4000 (1814)	3.42	6400 (2903)		
			3.73	6400 (2903)		
CH13406			3.42	6200 (2812)		
			3.73	6200 (2812)		
CG23406					3.73	7900 (3583)
					4.10	9900 (4491)
CG33406					3.73	7800 (3538)
					4.10	9800 (4445)
CG33706					3.73	7400 (3357)
					4.10	9400 (4264)

The wiring system is designed to operate with maximum performance and reliability. Adding electrical accessories to the vehicle for which it was not designed, would case abnormalities in the electrical system.

The electrical system was designed to handle one additional stop/turn light bulb per tail light circuit (one added stop/turn light bulb to the right and left side). It is not recommended to add more than one bulb per circuit as it will result in damage to the electrical system (without optional trailer Towing Wiring). It is highly recommended to order the van with the optional Trailer Wiring, 7-lead harness (UY7) for towing.

GCWR For Engine/Rear Axle Ratio Combination with Automatic Transmission

Engine	(GCWR) Gross Combination Weight Ratings lbs. (kg)				
	9500 (4309)	10000 (4536)	12000 (5443)	14000 (6350)	16000 (7258)
(LU3) Vortec 4300 V6 MFI	3.42	3.73			
(LM7) Vortec 5300 V8 SFI			3.42 /3.73		
(LQ4) Vortec 6000 V8 SFI				3.73	4.10

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.

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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch on Models with GVWR, 8600 lbs. (3901 kg) and above. 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]
		Air bag deactivation switch, passenger side **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg) or (C6Y) GVWR, 9600 lbs. (4354 kg).**	S[1]
	C60	**Air conditioning,** front manual	S
		Assist handle, front passenger	S
		Console, base, includes open storage bin	S
		Cupholders, 3, on engine console cover	S
		Defogger, side window	S
	B38	**Floor covering,** Black rubberized vinyl full length floor covering	S
		Headliner, cloth, over driver and passenger	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S
		Key, single, 2-sided	S
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S
	D31	**Mirror,** inside rearview, manual day/night	S
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S
	ZX2	**Seats,** driver and passenger high-back reclining buckets, adjustable, with head restraints and vinyl or cloth trim	S
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints	S
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)	S
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S
		Theft-deterrent system, PASSlock	S
		Tow/haul mode selector, IP mounted	S
		Visors, padded, driver and passenger side	S
		Warning tones, headlamp on	S
	ZW9	**Body,** standard	S
		Bumpers, front and rear, painted Black, includes step-pad **1 - Not available with (ZR7) Chrome Appearance package.**	S[1]
		Daytime running lamps	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
	E24	**Door,** swing-out passenger side, 60/40 split	S
		Door beams, steel-side	S
		Glass, Solar-Ray light tinted, all windows	S
		Grille, Black composite	S
		Headlamps, single rectangular halogen	S
	VK3	**License plate bracket,** front	S
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	S[1]
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Available on C*13405 Models.**	S[1]
	YEN	**Tires,** rear P235/75R16EL, all-season, blackwall **1 - Available on C*13405 Models.**	S[1]
	ZEN	**Tire,** spare P235/75R16EL, all-season, blackwall, located at rear underbody of vehicle **1 - Available on C*13405 Models.**	S[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (YHH) Tires, rear LT245/75R16E, all-season, blackwall are also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (YHH) Tires, rear LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]
		Wheels, Gray painted, includes Gray center caps and steel spare	S
		Wipers, intermittent, front wet-arm with pulse washers	S
	K68	**Alternator,** 105 amps	S
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S
		Brake/transmission shift interlock, automatic transmission	S
		Brakes, 4-wheel antilock, 4-wheel disc	S
		Exhaust, aluminized stainless-steel muffler and tailpipe	S
		Frame, full-length box ladder-type	S
		Oil life monitor	S
		Steering, power	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires rear-wheel drive Models.**	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]
		Suspension, rear, hypoid drive axle, with multi-leaf springs	S

S = Standard Equipment A = Available – (dashes) = Not 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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
		Standard Equipment	■

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

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

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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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
		Standard Equipment	■
		ADDITIONAL OPTIONS	
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **1 - Required with (ZX1) Seat, driver only high-back reclining bucket. - Requires (C6P) GVWR, 8600 lbs. (3901 kg) if ordered with (ZX2) Seats, driver and passenger high-back reclining buckets on *G23405 or *G23705 Models. - Available with (ZX2) Seats, driver and passenger high-back reclining buckets on *G33405 or *G33705 Models. - Not available with (ZX2) Seats, driver and passenger high-back reclining buckets on **13405 Model. - 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]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]
R6G		**Air conditioning delete**	A
BA3		**Console,** deluxe, includes glove box	A
ZQ2		**Convenience Package**, power windows and door locks **1 - Included with (PDN) Power and light package. Includes (AU3) Power door locks.**	A[1]
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control	A
C49		**Defogger,** rear-window, electric **1 - Requires (A18) Glass, rear door window, swing-out and (AJ1) Glass, Solar-Ray deep tinted. Not available with (R6G) Air conditioning delete.**	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]
B31		**Floor covering,** Black rubberized vinyl, front only (deletes rear covering behind front seat)	A
R7A		**GM Business Choice Upfit,** general service interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7B		**GM Business Choice Upfit,** electrical and gas appliance repair interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7E		**GM Business Choice Upfit,** plumbing, heating and A/C repair interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
R7J		**GM Business Choice Upfit,** commercial customer bin **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7L		**GM Business Choice Upfit,** locksmith interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7Q		**GM Business Choice Upfit,** commercial customer bin **1 - Requires (PRP) Express Access and (VCY) Ship Thru, Produced in Wentzville and shipped to Trans Design and Mfg. Not available with (E26) Door, swing-out driver side. Included with (PRP) Express Access on (T**) stock order types only.**	A[1]
R7S		**GM Business Choice Upfit,** plumbing, heating & A/C repair interior **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
R7T		**GM Business Choice Upfit,** electrical and gas appliance repair interior **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
R8E		**GM Business Choice Upfit,** protecto-van liner, 135" (342.9 cm) wheelbase **1 - Not available with (C36) Heater, rear. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'. Not available with (PRP) Express Access.**	A[1]
R8D		**GM Business Choice Upfit,** protecto-van liner, 155" (393.7 cm) wheelbase **1 - Not available with (C36) Heater, rear. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'. Not available with (PRP) Express Access.**	A[1]
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]
AU0		**Keyless entry,** remote, includes 2 transmitters **1 - Requires (ZQ2) Convenience Package.**	A[1]
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Included with (PDN) Power and light package.**	A[1]
UF2		**Lighting, Express Access Enhanced Lighting Package**, includes 3 access panel lights and 2 interior roof mounted lights in cargo area **1 - Requires (PRP) Express Access.**	A[1]
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), 8-point compass and outside temperature indicator **1 - Requires (ZR7) Chrome Appearance Package and one of the following glass packages: (ZW2) Glass, rear doors, fixed; (ZW3) Glass, rear doors and side cargo doors, fixed; (ZW4) Glass, rear doors, side cargo door and rear passenger side quarter, fixed; (ZW6) Glass, full body window package, fixed; (A18) Glass, rear door window, swing-out or (A19) Glass, rear side door and rear door window, swing-out.**	A[1]
PDN		**Power and Light Package** **1 - Includes (ZQ2) Convenience Package, (TR9) Lighting, auxiliary and (DE5) Mirrors, outside rearview, foldaway, power, heated, Black (Upgradeable to (DE7) Mirrors, outside, rearview, foldaway, power, heated, Black (Not available in the following states: MD, VT, VA, NJ, TX, and WA.) - Not available with (PRP) Express Access or (R6G) Air conditioning delete. - See (PCR) Express Access Plus Package.**	A[1]
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Passenger seat cannot be added back later.**	A[1]
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests	A

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
AG1		**Seat adjuster,** power, driver 6-way **1 - Only available with (AS5) Seats, front Custom Cloth buckets.**	A[1]
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2)	A
UL5		**Sound system,** radio delete, deletes antenna, wiring cable, and speakers	A
DT4		**Smoker's Package**, includes ashtray and lighter	A
PNF		**Trim panel delete**, rear side and rear doors	A
V37		**Bumpers,** front and rear, chrome, includes step-pad **1 - Included with (ZR7) Chrome Appearance Package.**	A[1]
ZR7		**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers	A
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13405, CG23405, or CG33405 Models. Glass package must match right side, if equipped.**	A[1]
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side or (PRP) Express Access.**	A[1]
PRP		**Express Access**, includes three remote release side access panels with (AU0) Keyless entry and (ZQ2) Convenience Package, power windows and door locks **1 - Includes (R7Q) GM Business Choice Upfit, commercial customer bin on (T**) stock order types only. If (PRP) Express Access is ordered with any other GM Business Choice Upfit options, (R7Q) GM Business Choice Upfit, commercial customer bin will not be included. Requires ****405 Models. Requires (VCY) Ship Thru, Produced in Wentzville and shipped to Trans Design and Mfg. Not available with (C36) Heater, rear, (C69) Air conditioning, rear, (R6G) Air conditioning delete, (E26) Door, swing-out driver side, (ZW4) Glass, rear doors, (ZW6) Glass, full body window package, (YA2) Door, sliding passenger side, (PDN) Power and Light Package or Exterior colors (58U) Sandalwood Metallic, (62U) Dark Gray Metallic, (87U) Berry Red Metallic or any SEO special paints.**	A[1]
PCR		**Express Access Plus Package** **1 - Includes (UF2) Lighting, Express Access Enhanced Lighting Package, (ZR7) Chrome Appearance Package, (P03) Wheels, Gray painted, includes chrome center caps and steel spare (TR9) Lighting, auxiliary, and (DE5) Mirrors, outside, rearview, foldaway, power, heated, Black. (DE5) is upgradeable to (DE7) Mirrors, outside rearview, manual folding, power adjust, heated, black. (DE7) is not available in the following states: MD, VT, VA, NJ, TX and WA. Requires (PRP) Express Access.**	A[1]
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) **1 - Requires (A19) Glass, rear side door and rear side door window, swing-out or (A18) Glass, rear door window, swing-out.**	A[1]
ZW2		**Glass,** rear doors, fixed **1 - May upgrade fixed glass to swing-out glass, see (A18) Glass, rear door window, swing-out.**	A[1]
ZW3		**Glass,** rear doors and side cargo doors, fixed	A
ZW4		**Glass,** rear doors, side cargo door, and rear passenger side quarter, fixed	A
ZW6		**Glass,** full body window package, fixed **1 - May upgrade fixed glass to swing-out glass, see (A19) Glass, rear side door and rear door window, swing-out.**	A[1]
A18		**Glass,** rear door window, swing-out **1 - Requires (ZW2) Glass, rear doors, fixed or (A19) Glass, rear side door and rear door window, swing-out.**	A[1]

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
A19		**Glass,** rear side door and rear door window, swing-out **1 - Requires (A18) Glass, rear door window, swing-out and (ZW3) Glass, rear doors and side cargo doors, fixed or (ZW4) Glass, rear doors, side cargo door and rear passenger side, fixed or (ZW6) Glass, full body window package, fixed.**	A[1]
R6E		**GM Business Choice Upfit,** industrial ladder rack, 135" (342.9 cm) wheelbase **1 - Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R6K		**GM Business Choice Upfit,** industrial ladder rack, 155" (393.7 cm) wheelbase **1 - Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7N		**GM Business Choice Upfit,** industrial ladder rack **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires (ZQ2) Convenience Package or (PDN) Power and light package. Not available with (R6G) Air conditioning delete. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]
DE7		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black, includes turn signal indicators **1 - Not available in the following states: MD, VT, VA, NJ, TX and WA. Requires (ZQ2) Convenience Package or (PDN) Power and Light Package. Not available with (R6G) Air conditioning delete. Not available with Upfitter order types. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Requires CG33405 or CG33705 Models. Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]
ZX9		**Tire,** spare delete **1 - Jack is not included.**	A[1]
XHF		**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
YHF		**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
ZHF		**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
XHH		**Tires,** front LT245/75R16E, all-season, blackwall **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (XHH) Tires, front LT245/75R16E, all-season, blackwall are also available as a free flow option at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR 8600 lbs. (3901 kg). When (XHH) Tires, front LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	A[1]
B46		**Trim,** rear body-colored halo (replaces standard Black panel - The panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. These two colors will receive a molded in color, Black halo.**	A[1]
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	A

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power **1 - Not available when ordered with the (LR4) Engine, Vortec 4800 V8 SFI on *G33405 or *G33705 models.**	A[1]
V10		**Cold Climate Package,** includes engine block heater	A
G80		**Differential,** locking, heavy-duty, rear	A
FE9		**Emissions,** Federal requirements	A
YF5		**Emissions,** California state requirements	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A
LU3		**Engine,** Vortec 4300 V6 MFI (195 hp [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Standard on CG13405 Model. Standard on CG23705 Model if ordered with (C6A) GVWR, 7300 lbs. (3311 kg).**	A[1]
LR4		**Engine,** Vortec 4800 V8 SFI (275 HP [205.1 kW] @ 5200 rpm, 290 lb.-ft. [391.5 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on *G23405 Model (C6P) GVWR, 8600 lbs. (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg).**	A[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Standard on CH13405 Model. Available on CG13405 Model with (C5Z) GVWR, 7200 lbs (3266 kg). Not available with CG23405,CG33405 or CG33705 Models.**	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on CG33405 Model. Standard on CG33705 Model. Available on CG23405 Model with (C6P) GVWR, 8600 lbs (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs (3901 kg).**	A[1]

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
Q4B		**GVWR,** 6200 lbs. (2812 kg) **1 - Requires CG13405 Models.**	A[1]
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires CG13405 Models.**	A[1]
C6A		**GVWR,** 7300 lbs. (3311 kg) **1 - Requires CG23705 Models. Not available with CG23405 Models.**	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 or CG23705 Models.**	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 or CG33705 Models.**	A[1]
GU6		**Rear axle,** 3.42 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]

S = Standard Equipment A = Available – (dashes) = Not 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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
		Standard Equipment	■

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.

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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **1 - Required with (ZX1) Seat, driver only high-back reclining bucket. - Requires (C6P) GVWR, 8600 lbs. (3901 kg) If ordered with (ZX2) Seats, driver and passenger high-back reclining buckets on *G23405 or *G23705 Models. - Available with (ZX2) Seats, driver and passenger high-back reclining buckets on *G33405 or *G33705 Models. - Not available with (ZX2) Seats, driver and passenger high-back reclining buckets on **13405 Model. - 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]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch on Models with GVWR, 8600 lbs. (3901 kg) and above. 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]
		Air bag deactivation switch, passenger side **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg) or (C6Y) GVWR, 9600 lbs. (4354 kg).**	S[1]
	C60	**Air conditioning,** front manual	S
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]
R6G		**Air conditioning delete**	A
		Assist handle, front passenger	S
		Console, base, includes open storage bin	S
BA3		**Console,** deluxe, includes glove box	A
ZQ2		**Convenience Package,** power windows and door locks **1 - Included with (PDN) Power and light package. Includes (AU3) Power door locks.**	A[1]
ZQ3		**Convenience Package,** Tilt-Wheel and cruise control	A
		Cupholders, 3, on engine console cover	S
		Defogger, side window	S
C49		**Defogger,** rear-window, electric **1 - Requires (A18) Glass, rear door window, swing-out and (AJ1) Glass, Solar-Ray deep tinted. Not available with (R6G) Air conditioning delete.**	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]
	B38	**Floor covering,** Black rubberized vinyl full length floor covering	S
B31		**Floor covering,** Black rubberized vinyl, front only (deletes rear covering behind front seat)	A
R7A		**GM Business Choice Upfit,** general service interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
R7B		**GM Business Choice Upfit,** electrical and gas appliance repair interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7E		**GM Business Choice Upfit,** plumbing, heating and A/C repair interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7J		**GM Business Choice Upfit,** commercial customer bin **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7L		**GM Business Choice Upfit,** locksmith interior **1 - Not available with (PRP) Express Access. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7Q		**GM Business Choice Upfit,** commercial customer bin **1 - Requires (PRP) Express Access and (VCY) Ship Thru, Produced in Wentzville and shipped to Trans Design and Mfg. Not available with (E26) Door, swing-out driver side. Included with (PRP) Express Access on (T**) stock order types only.**	A[1]
R7S		**GM Business Choice Upfit,** plumbing, heating & A/C repair interior **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
R7T		**GM Business Choice Upfit,** electrical and gas appliance repair interior **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
R8E		**GM Business Choice Upfit,** protecto-van liner, 135" (342.9 cm) wheelbase **1 - Not available with (C36) Heater, rear. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'. Not available with (PRP) Express Access.**	A[1]
R8D		**GM Business Choice Upfit,** protecto-van liner, 155" (393.7 cm) wheelbase **1 - Not available with (C36) Heater, rear. Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'. Not available with (PRP) Express Access.**	A[1]
		Headliner, cloth, over driver and passenger	S
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S
		Key, single, 2-sided	S
AU0		**Keyless entry,** remote, includes 2 transmitters **1 - Requires (ZQ2) Convenience Package.**	A[1]
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S
TR9		**Lighting,** auxiliary, includes reading and underhood lights **1 - Included with (PDN) Power and light package.**	A[1]
UF2		**Lighting, Express Access Enhanced Lighting Package,** includes 3 access panel lights and 2 interior roof mounted lights in cargo area **1 - Requires (PRP) Express Access.**	A[1]
	D31	**Mirror,** inside rearview, manual day/night	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), 8-point compass and outside temperature indicator **1 - Requires (ZR7) Chrome Appearance Package and one of the following glass packages: (ZW2) Glass, rear doors, fixed; (ZW3) Glass, rear doors and side cargo doors, fixed; (ZW4) Glass, rear doors, side cargo door and rear passenger side quarter, fixed; (ZW6) Glass, full body window package, fixed; (A18) Glass, rear door window, swing-out or (A19) Glass, rear side door and rear door window, swing-out.**	A[1]
PDN		**Power and Light Package** **1 - Includes (ZQ2) Convenience Package, (TR9) Lighting, auxiliary and (DE5) Mirrors, outside rearview, foldaway, power, heated, Black (Upgradeable to (DE7) Mirrors, outside, rearview, foldaway, power, heated, Black (Not available in the following states: MD, VT, VA, NJ, TX, and WA.) - Not available with (PRP) Express Access or (R6G) Air conditioning delete. - See (PCR) Express Access Plus Package.**	A[1]
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Passenger seat cannot be added back later.**	A[1]
	ZX2	**Seats,** driver and passenger high-back reclining buckets, adjustable, with head restraints and vinyl or cloth trim	S
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints	S
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests	A
AG1		**Seat adjuster,** power, driver 6-way **1 - Only available with (AS5) Seats, front Custom Cloth buckets.**	A[1]
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)	S
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2)	A
UL5		**Sound system,** radio delete, deletes antenna, wiring cable, and speakers	A
DT4		**Smoker's Package**, includes ashtray and lighter	A
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S
		Theft-deterrent system, PASSlock	S
		Tow/haul mode selector, IP mounted	S
PNF		**Trim panel delete**, rear side and rear doors	A
		Visors, padded, driver and passenger side	S
		Warning tones, headlamp on	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.

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 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
	ZW9	**Body,** standard	S
		Bumpers, front and rear, painted Black, includes step-pad **1 - Not available with (ZR7) Chrome Appearance package.**	S[1]
V37		**Bumpers,** front and rear, chrome, includes step-pad **1 - Included with (ZR7) Chrome Appearance Package.**	A[1]
ZR7		**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers	A
		Daytime running lamps	S
	E24	**Door,** swing-out passenger side, 60/40 split	S
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13405, CG23405, or CG33405 Models. Glass package must match right side, if equipped.**	A[1]
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side or (PRP) Express Access.**	A[1]
		Door beams, steel-side	S
PRP		**Express Access**, includes three remote release side access panels with (AU0) Keyless entry and (ZQ2) Convenience Package, power windows and door locks **1 - Includes (R7Q) GM Business Choice Upfit, commercial customer bin on (T**) stock order types only. If (PRP) Express Access is ordered with any other GM Business Choice Upfit options, (R7Q) GM Business Choice Upfit, commercial customer bin will not be included. Requires ****405 Models. Requires (VCY) Ship Thru, Produced in Wentzville and shipped to Trans Design and Mfg. Not available with (C36) Heater, rear, (C69) Air conditioning, rear, (R6G) Air conditioning delete, (E26) Door, swing-out driver side, (ZW4) Glass, rear doors, (ZW6) Glass, full body window package, (YA2) Door, sliding passenger side, (PDN) Power and Light Package or Exterior colors (58U) Sandalwood Metallic, (62U) Dark Gray Metallic, (87U) Berry Red Metallic or any SEO special paints.**	A[1]
PCR		**Express Access Plus Package** **1 - Includes (UF2) Lighting, Express Access Enhanced Lighting Package, (ZR7) Chrome Appearance Package, (P03) Wheels, Gray painted, includes chrome center caps and steel spare (TR9) Lighting, auxiliary, and (DE5) Mirrors, outside, rearview, foldaway, power, heated, Black. (DE5) is upgradeable to (DE7) Mirrors, outside rearview, manual folding, power adjust, heated, black. (DE7) is not available in the following states: MD, VT, VA, NJ, TX and WA. Requires (PRP) Express Access.**	A[1]
		Glass, Solar-Ray light tinted, all windows	S
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) **1 - Requires (A19) Glass, rear side door and rear side door window, swing-out or (A18) Glass, rear door window, swing-out.**	A[1]
ZW2		**Glass,** rear doors, fixed **1 - May upgrade fixed glass to swing-out glass, see (A18) Glass, rear door window, swing-out.**	A[1]
ZW3		**Glass,** rear doors and side cargo doors, fixed	A
ZW4		**Glass,** rear doors, side cargo door, and rear passenger side quarter, fixed	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
ZW6		**Glass,** full body window package, fixed **1 - May upgrade fixed glass to swing-out glass, see (A19) Glass, rear side door and rear door window, swing-out.**	A[1]
A18		**Glass,** rear door window, swing-out **1 - Requires (ZW2) Glass, rear doors, fixed or (A19) Glass, rear side door and rear door window, swing-out.**	A[1]
A19		**Glass,** rear side door and rear door window, swing-out **1 - Requires (A18) Glass, rear door window, swing-out and (ZW3) Glass, rear doors and side cargo doors, fixed or (ZW4) Glass, rear doors, side cargo door and rear passenger side, fixed or (ZW6) Glass, full body window package, fixed.**	A[1]
R6E		**GM Business Choice Upfit,** industrial ladder rack, 135" (342.9 cm) wheelbase **1 - Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R6K		**GM Business Choice Upfit,** industrial ladder rack, 155" (393.7 cm) wheelbase **1 - Requires (TBM) Ship-thru. Options will have an invoice note 'Adrian Steel Upfit'.**	A[1]
R7N		**GM Business Choice Upfit,** industrial ladder rack **1 - Not available with (E26) Door, swing-out driver side, 60/40 split. Requires (PRP) Express Access, (VDK) Ship Thru Trans Design and Mfg to Adrian Steel and (VCY) Produced in Wentzville and shipped to Trans Design and Mfg.**	A[1]
		Grille, Black composite	S
		Headlamps, single rectangular halogen	S
	VK3	**License plate bracket,** front	S
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	S[1]
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires (ZQ2) Convenience Package or (PDN) Power and light package. Not available with (R6G) Air conditioning delete. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]
DE7		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black, includes turn signal indicators **1 - Not available in the following states: MD, VT, VA, NJ, TX and WA. Requires (ZQ2) Convenience Package or (PDN) Power and Light Package. Not available with (R6G) Air conditioning delete. Not available with Upfitter order types. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have a convex right side mirror.**	A[1]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Requires CG33405 or CG33705 Models. Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]
ZX9		**Tire,** spare delete **1 - Jack is not included.**	A[1]
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Available on C*13405 Models.**	S[1]
	YEN	**Tires,** rear P235/75R16EL, all-season, blackwall **1 - Available on C*13405 Models.**	S[1]
	ZEN	**Tire,** spare P235/75R16EL, all-season, blackwall, located at rear underbody of vehicle **1 - Available on C*13405 Models.**	S[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
XHF		**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
YHF		**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
ZHF		**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard on CG23405 models, available on CG23705 Models.**	A[1]
XHH		**Tires,** front LT245/75R16E, all-season, blackwall **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (XHH) Tires, front LT245/75R16E, all-season, blackwall are also available as a free flow option at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR 8600 lbs. (3901 kg). When (XHH) Tires, front LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	A[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (YHH) Tires, rear LT245/75R16E, all-season, blackwall are also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (YHH) Tires, rear LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Standard on the *G33405 and *G33705 Models. Standard on the *G23705 Model when ordered with (C6A) GVWR, 7300 lbs. (3311 kg). (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]
B46		**Trim,** rear body-colored halo (replaces standard Black panel - The panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. These two colors will receive a molded in color, Black halo.**	A[1]
		Wheels, Gray painted, includes Gray center caps and steel spare	S
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	A
		Wipers, intermittent, front wet-arm with pulse washers	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
	K68	**Alternator,** 105 amps	S
KG3		**Alternator,** 145 amps **1 - Included with (C69) Air conditioning, rear.**	A[1]
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power **1 - Not available when ordered with the (LR4) Engine, Vortec 4800 V8 SFI on *G33405 or *G33705 models.**	A[1]
		Brake/transmission shift interlock, automatic transmission	S
		Brakes, 4-wheel antilock, 4-wheel disc	S
V10		**Cold Climate Package,** includes engine block heater	A
G80		**Differential,** locking, heavy-duty, rear	A
FE9		**Emissions,** Federal requirements	A
YF5		**Emissions,** California state requirements	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A
LU3		**Engine,** Vortec 4300 V6 MFI (195 hp [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Standard on CG13405 Model. Standard on CG23705 Model if ordered with (C6A) GVWR, 7300 lbs. (3311 kg).**	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
LR4		**Engine,** Vortec 4800 V8 SFI (275 HP [205.1 kW] @ 5200 rpm, 290 lb.-ft. [391.5 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on *G23405 Model (C6P) GVWR, 8600 lbs. (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg).**	A[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Standard on CH13405 Model. Available on CG13405 Model with (C5Z) GVWR, 7200 lbs (3266 kg). Not available with CG23405,CG33405 or CG33705 Models.**	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on CG33405 Model. Standard on CG33705 Model. Available on CG23405 Model with (C6P) GVWR, 8600 lbs (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs (3901 kg).**	A[1]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S
		Frame, full-length box ladder-type	S
Q4B		**GVWR,** 6200 lbs. (2812 kg) **1 - Requires CG13405 Models.**	A[1]
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires CG13405 Models.**	A[1]
C6A		**GVWR,** 7300 lbs. (3311 kg) **1 - Requires CG23705 Models. Not available with CG23405 Models.**	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 or CG23705 Models.**	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 or CG33705 Models.**	A[1]
		Oil life monitor	S
GU6		**Rear axle,** 3.42 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]
		Steering, power	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires rear-wheel drive Models.**	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]
		Suspension, rear, hypoid drive axle, with multi-leaf springs	S
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]

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		Transmissions		Axles			GVWR lbs. (kg)				
Model	Engine	M30 4-Speed Automatic	MT1 4-Speed Automatic HD	GU6 3.42	GT4 3.73	GT5 4.10	Q4B 6200 (2812)	C5Z 7200 (3266)	C6A 7300 (3311)	C6P 8600 (3901)	C6Y 9600 (4354)
1500											
CG13405	LU3 Vortec 4300 V6 MFI	S	--	S	--	--	A	S	--	--	--
	LM7 Vortec 5300 V8 SFI	S	--	S	A	--	--	S	--	--	--
CH13405	LM7 Vortec 5300 V8 SFI	S	--	S	A	--	--	S	--	--	--
2500											
CG23405	LR4 Vortec 4800 V8 SFI	--	S	--	S	A	--	--	--	S	--
	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	--	--	S	--
CG23705	LU3 Vortec 4300 V6 MFI	S	--	--	S	--	--	--	S	--	--
	LR4 Vortec 4800 V8 SFI	--	S	--	S	A	--	--	--	S	--
	LM7 Vortec 5300 V8 SFI	S	--	--	S	--	--	--	S	--	--
	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	--	--	S	--
3500											
CG33405	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	--	--	--	S
CG33705	LQ4 Vortec 6000 V8 SFI	--	S	--	S	A	--	--	--	--	S

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Custom Vinyl	52W	93W
Base	Reclining high-back buckets w/inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Light Pewter Metallic	11U	WA-382E	A	A
Indigo Blue Metallic	39U	WA-9792	A	A
Black[3]	41U	WA-8555	A	A
Dark Green Metallic	47U	WA-9539	A	A
Summit White	50U	WA-8624	A	A
Sandalwood Metallic	58U	WA-711J	A	–
Dark Gray Metallic	62U	WA-805K	–	A
Victory Red[3]	74U	WA-9260	A	A
Berry Red Metallic	87U	WA-811K	A	A

Above interior trim combinations are the only combinations allowed.
1 - Standard on Base with 1SA.
2 - Available on Base with 1SA.
3 - Not available with (B46) Trim, rear body-colored halo.

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Custom Vinyl	52W	93W
Base	Reclining high-back buckets w/inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Yellow	none	WA-5456	A	A
Green	none	WA-7927	A	A
Green	none	WA-7941	A	A
Silver Metallic	none	WA-8867	A	A
Green, Woodland	9V5	WA-9015	A	A
Doeskin Tan	9V9	WA-9403	A	A
Tangier Orange	9W4	WA-9417	A	A
NEW! Light Stellar Blue	none	WA-146B	A	A
Yellow	none	WA-215D	A	A
Wheatland Yellow	9W3	WA-253A	A	A
Toreador Red	none	WA-257C	A	A
Madrid Red	none	WA-341D	A	A
NEW! Storm Gray	none	WA-391E	A	A
Yellow	none	WA-478G	A	A

NOTE: Exterior SEO solid paints are not available with (B46) Trim, rear body-colored halo.
1 - Standard on Base with 1SA.
2 - Available on Base with 1SA.

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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.

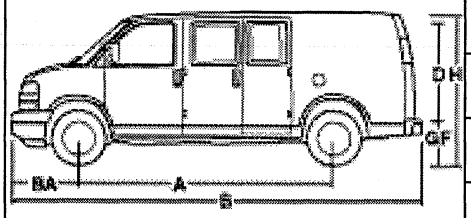
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
		Interior	
5X8		**Key, side cargo and rear door (MSRP = $40.00)** A unique key for side and rear cargo doors, separate from driver area ignition and door key. **1 - Not available with RPO (E26) Door, swing-out driver side.**	A[1]
5P9		**Panel Trim, side and rear cargo doors (MSRP = $150.00)** Commercial upfitter option. Base level passenger van interior trim panels for the side and rear cargo doors of a 2500 and 3500 cargo van. Panels are shipped loose for installation by the upfitter. **1 - Requires Models G23405, G23705, G33405 or G33705, RPO (E24) Doors, swing-out passenger side, RPO (ZW3) Glass, rear doors and side cargo doors, fixed, RPO (B31) Floor covering, Black rubberized vinyl front and an order for shipment to an upfitter. Not available with RPO (E26) Door, swing-out driver side or SEO (5L3) Panel trim, sides, side and rear cargo door.**	A[1]
5L3		**Panel Trim, sides, side and rear cargo door (MSRP = $449.00)** Base level passenger van interior panels and trim on the sides, side cargo doors and rear doors of a cargo van. Includes full floor covering **1 - Requires RPO (A19) Glass, rear side door and rear door window, swing-out and RPO (ZW6) Glass, complete body window package. Not available with Models G/H13405, RPO (C36) Heater, rear, RPO (C69) Air conditioning, rear, RPO (B31) Floor covering, Black rubberized vinyl front or RPO (E26) Door, swing-out driver side.**	A[1]
9R0		**Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)** AM/FM radio with cassette, no CD. **1 - Requires a Fleet or Government sales order.**	A[1]
9J6		**Steering column, tilt (MSRP = $145.00)** Tilt-steering column without cruise control. **1 - Not available with RPO (ZQ3) Convenience Package.**	A[1]
5C5		**Vinyl Sun Visors (MSRP = No Charge)** Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors. **1 - Requires a Fleet or Government sales order and RPO (AS5) Seats, front Custom Cloth buckets. Not available with RPO (DH6) Visor, padded, driver and passenger side with cloth trim and dual vanity mirrors.**	A[1]
		Exterior	
8X1		**Label, fasten safety belts (MSRP = $2.00)** "Fasten Safety Belts" reminder label on side door window glass.	A
8S3		**Backup alarm (MSRP = $95.00)** Rear frame mounted back-up alarm, 97 decibels. **1 - Requires Models G13405, G23405 or G33405.**	A[1]
9F2		**Mirrors, outside rearview delete (MSRP = -$20.00 Credit)** Deletes the standard outside driver and passenger rear view mirrors. Includes incomplete vehicle documents. **1 - Requires Models G23405, G33405 or G33705. Not available with RPO (PDN) Power and Light Package or (PCR) Express Access Plus Package.**	A[1]

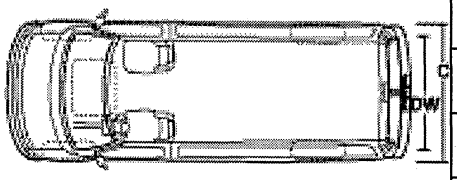
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
9V9		**Paints, solid (MSRP = No Charge),** Doeskin Tan **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
5Z5		**Hubcap delete (MSRP = -$17.00 Credit)** Deletes hub caps from standard wheels. **1 - Not available with RPO (P03) Wheels, chrome center caps.**	A[1]
9W4		**Paints, solid (MSRP = No Charge),** Tangier Orange **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
9W3		**Paints, solid (MSRP = No Charge),** Wheatland Yellow **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
9V5		**Paints, solid (MSRP = No Charge),** Woodland Green **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
5G4		**Provision for cab roof-mounted lamp (MSRP = $103.00)** Provides wiring in the roof over the front driver cabin area and an overhead mounted switch for use by a body upfitter to install and connect a roof mounted warning or emergency lamp. Limited to one lamp only. Operating amperage is 21 amps. Access instructions are furnished. **1 - Available on Models G13405, G23405 or G33405. Requires RPO (AU3) Door locks, power or RPO (ZQ2) Convenience Package, RPO (DE2) Mirrors, outside rearview, foldaway, manual, Black on Model G13405, RPO (DE2) Mirrors, outside rearview, foldaway, manual, Black or SEO (9F2) Mirrors, Outside rearview mirror delete on Models G23405 or G33405. Not available with RPO (AG1) Seat adjuster, power drivers seat, RPO (C36) Heater, rear, RPO (C69) Air conditioning, rear, RPO (C49) Defogger, rear window electric, RPO (E26) Door, swing-out driver side, RPO (TR9) Lighting, auxiliary, RPO (PDN) Power and Light Package or RPO (PRP) Access panel package.**	A[1]
TGK		**Solid Paint** SEO solid paint, one color **1 - Required with any SEO paint selection.**	A[1]
Q8C		**Tire valve stem caps, air thru (MSRP = $6.00)** Air through valve caps on the tire air valves. **1 - Not Available on Models G/H13405.**	A[1]
8R3		**Tire valve stems, brass (MSRP = $20.00)** Brass metal valve stem in lieu of standard. Also included on spare when furnished. **1 - Not Available on Models G/H13405.**	A[1]
2HI		**Tires, front Goodyear G647RSA highway tread (MSRP = $117.34)** Provides LT225/75R16 (E) 10 ply tires on cargo vans. **1 - Requires RPO (C6P) GVWR, 8600 lbs. (3901 kg), SEO (3HI) Tires, rear Goodyear G647RSA and Models G23405 or G23705. Also requires SEO (4HI) Spare Tire or RPO (ZX9) Tire, spare delete. Not available with RPO (YF5) Emissions, California state requirements or RPO (NE1) Emissions, Massachusetts or Maine state requirements. Note: RPO (ZX9) Tire, spare delete may be used in lieu of a spare tire.**	A[1]
3HI		**Tires, rear Goodyear G647RSA highway tread (MSRP = $117.34)** Provides LT225/75R16 (E) 10 ply tires on dual rear wheel vans. **1 - Requires SEO (2HI) Tires, front Goodyear G647RSA and (SEO (4HI) Tires, spare or RPO (ZX9) Tire, spare delete), on Models G23405 or G23705 with RPO (C6P) GVWR, 8600 lbs. (3901 kg). Not available with RPO (YF5) Emissions, California state requirements or RPO (NE1) Emissions, Massachusetts or Maine state requirements.**	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
4HI		**Tires, spare Goodyear G647RSA highway tread (MSRP = $58.67)** Provides LT225/75R16 (E) 10 ply tires on dual rear wheel vans. **1 - Requires SEO (2HI) Tires, front Goodyear G647RSA and SEO (3HI) Tires, rear Goodyear G647RSA, on Models G23405 or G23705.**	A[1]
5G0		**Wheels, painted Black (MSRP = $25.00)** Black painted wheels in lieu of standard Gray painted wheels. Includes spare wheel. **1 - Requires RPO (C5F) GVWR, 8500 lb. (3856 kg) or RPO (C6P) GVWR, 8600 lb. (3901 kg.) on Models G23405 or G23705. Not available with RPO (P03) Wheels, chrome center caps or Models G/H13405.**	A[1]
5G2		**Wheels, painted White (MSRP = $25.00)** White painted wheels in lieu of standard Gray painted wheels. Includes spare wheel. **1 - Requires RPO (C5F) GVWR, 8500 lb. (3856 kg) or RPO (C6P) GVWR, 8600 lb. (3901 kg.) on Models G23405 or G23705. Not available with RPO (P03) Wheels, chrome center caps or Models G/H13405.**	A[1]
		Mechanical	
8U7		**Engine, Special Application Vortec 4800 V8 (MSRP = -$850.00 Credit)** Provides RPO (LR4) Engine, Vortec 4800 V8 in lieu of the standard RPO (LQ4) Engine, Vortec 6000 V8. **1 - Requires Models G33405 or G33705, RPO (C6Y) GVWR, 9600 lbs (4354 kg) and (FE9) Emissions, Federal requirements. Not available with RPO (B3D) School Bus Package, RPO (YF5) Emissions, California state requirements or RPO (NE1) Emissions, Maine, Massachusetts, New York or Vermont state requirements.**	A[1]
5C4		**Front Spring, High Rate Upgrade (MSRP = $40.00)** Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating **1 - Requires Models G33405 or G33705 and RPO (C6Y) GVWR, 9600 lbs. (4354 kg). Not available with RPO (B3D) School Bus Package.**	A[1]
8E1		**Fuel, additional 3 gallons (MSRP = $8.00)** 3 gallons of fuel in addition to normal assembly plant fill.	A
7T6		**Fuel fitting, for fuel line take-off (MSRP = $113.00)** A fuel tank with a fuel take-off fitting that a body builder may utilize to attach an auxiliary engine fueling device. **1 - Requires Model *G23405, *G33405, or *G33705. On the *G23405 Model, requires RPO (C6P) GVWR 8600 lbs. (3901 kg), RPO (LQ4) Engine, Vortec 6000 V8 or RPO (LR4) Engine, Vortec 4800 V8. Not available with RPO (E26) Door, swing-out driver side. On the *G33405 or *G33705 Model requires RPO (LQ4) Engine, Vortec 6000 V8. Not available with RPO (E26) Door, swing-out driver side.**	A[1]
V14		**Transmission oil cooler, external (MSRP = $ 95.00)** **1 - Available on G23405 and 23705 Models with RPO (LR4) Vortec 4800 V8 SFI. Available on G33405 and G33705 Models with SEO (8U7) Engine, Special Application Vortec 4800 V8.**	A[1]
		Ship Thru Codes	
TBQ		**Ship Thru for all Models (MSRP = $350.00)** Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment	A
TCC		**Ship Thru for all Models (MSRP = $640.00)** Produced in Wentzville and shipped to Quigley	A
VAD		**Ship Thru for all Models (MSRP = $25.00)** Produced in Wentzville and shipped to Crown/Masterack	A
VAP		**Ship Thru for all Models (MSRP = $220.00)** Produced in Wentzville and shipped to Knapheide Truck Equipment	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on C*13405, CG23405, CG23705, CG33405 and CG33705 Models.	Base 1SA[1]
VAR		**Ship Thru for all Models (MSRP = $385.00)** Produced in Wentzville and shipped to Midway	A
VCP		**Ship Thru for all Models (MSRP = $185.00)** Produced in Wentzville and shipped to OEM Systems.	A
VCY		**Ship Thru for all Models (MSRP = No Charge)** Produced in Wentzville and shipped to Trans Design & Mfg **1 - Requires RPO (PRP) Express Access, includes three remote release side access panels with (AU0) Keyless entry, remote and (ZQ2) Convenience Package.**	A[1]
VDK		**Ship Thru for all Models (MSRP = $ W/A)** Shipped from Trans Design & Mfg to Adrian Steel. **1 - Requires RPO (PRP) Express access, SEO (VCY) Produced in Wentzville and shipped to Trans Design & Mfg and requires RPO (R7N) GM Business Choice Upfit, industrial ladder rack or RPO (R7S) GM Business Choice Upfit, plumbing, heating & A/C repair interior or RPO (R7T) GM Business Choice Upfit, electrical and gas appliance repair interior.**	A[1]
VEQ		**Ship Thru for Models G13405, G23405, G23705, G33405, G33705, H13405 (MSRP = W/A)** Produced in Wentzville Assembly and shipped to Kranz Automotive Body Co	A

All dimensions in inches (mm) unless otherwise stated.





	Specifications	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)	1500 (CH13405)
A	**Wheelbase**	135.00 (3429)	135.00 (3429)	155.00 (3937)	135.00 (3429)	155.00 (3937)	135.00 (3429)
B	**Overall length**	224.10 (5692)	224.10 (5692)	244.10 (6200)	224.10 (5692)	244.10 (6200)	224.10 (5692)
C	**Body width**	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)
D	**Overall height**	81.60 (2073)	81.60 (2073)	82.00 (2083)	81.60 (2073)	82.00 (2083)	81.60 (2073)
	Head room, front	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)
	Shoulder room, front	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)
	Hip room, front	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)
	Leg room, front	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)
	Opening height, side door	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)
	Opening width, sliding side door	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)
DH	**Opening height,** rear door	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)
DW	**Opening width,** rear door, at belt line	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)
	Step up height, front door	20.10 (511)	20.10 (511)	19.60 (498)	20.10 (511)	19.60 (498)	20.10 (511)
	Step up height, side door	20.90 (531)	20.90 (531)	20.50 (521)	20.90 (531)	20.50 (521)	20.90 (531)
BA	**Front bumper to axle**	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)
GF	**Ground to top of rear load floor**	27.70 (704)	27.70 (704)	27.30 (693)	27.70 (704)	27.30 (693)	27.70 (704)
LFL	**Load floor length** to front seat, at floor	127.80 (3246)	127.80 (3246)	147.80 (3754)	127.80 (3246)	147.80 (3754)	127.80 (3246)
LFL	**Load floor length** to engine cover, at floor	153.60 (3901)	153.60 (3901)	173.60 (4409)	153.60 (3901)	173.60 (4409)	153.60 (3901)
IWW	**Inside width,** between wheelhousing	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)
	Cargo area height	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)
	Ground clearance, front	8.60 (218)	8.60 (218)	8.40 (213)	8.60 (218)	8.40 (213)	8.60 (218)
	Ground clearance, rear	7.60	7.60	8.10	7.60	8.10	7.60

All dimensions in inches (mm) unless otherwise stated.

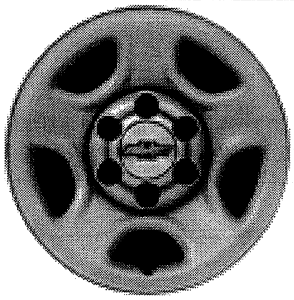
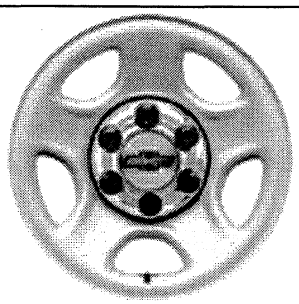
Specifications	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)	1500 (CH13405)
	(193)	(193)	(206)	(193)	(206)	(193)
Sign panel area, side panel	116.5 x 56.7 / (2959) x (1440)	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)	116.5 x 56.7 / (2959) x (1440)

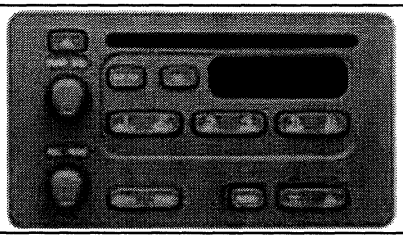
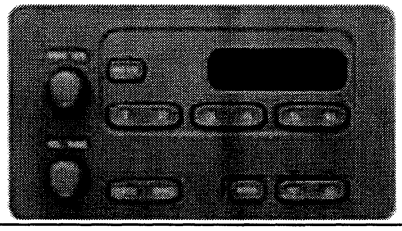
Published dimensions indicated are without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in these dimensions.

	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)
Specifications					
Front stabilizer bar diameter, in. (mm)	1.30 (33)	1.30 (33)	1.30 (33)	1.38 (35)	1.38 (35)
Front stabilizer bar diameter (with (C6P) GVWR, 8600 lbs. (3901 kg)), in. (mm)	--	1.38 (35)	1.38 (35)	--	--
Capacities					
Curb weight, lbs. (kg)	4898 (2222)	--	5216 (2366)	5470 (2481)	5685 (2579)
Curb weight, (with (C6P) GVWR, 8600 lbs. (3901 kg)), lbs. (kg)	--	5346 (2425)	5567 (2525)	--	--
Cargo volume, regular, with seats, cu. ft. (liters)	225.1 (6374.8)	225.1 (6374.8)	--	225.1 (6374.8)	--
Cargo volume, regular, with seats removed, cu. ft. (liters)	267.3 (7569.9)	267.3 (7569.9)	--	267.3 (7569.9)	--
Cargo volume, extended, with seats, cu. ft. (liters)	--	--	261.6 (7408.5)	--	261.6 (7408.5)
Cargo volume, extended, with seats removed, cu. ft. (liters)	--	--	316.8 (8971.8)	--	316.8 (8971.8)
Payload[1], lbs. (kg)	2302 (1044)	--	2084 (945)	4130 (1873)	3915 (1776)
Payload, (with (C6P) GVWR, 8600 lbs. (3901 kg))[2], lbs. (kg)	--	3254 (1476)	3033 (1376)	--	--
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	7200 (3266)	--	7300 (3311)	9600 (4355)	9600 (4355)
Gross Vehicle Weight Rating (GVWR) (with (C6P) GVWR, 8600 lbs. (3901 kg)), lbs. (kg)	--	8600 (3901)	8600 (3901)	--	--
Fuel capacity, approximate, gallon (liters)	31 (117)	31 (117)	31 (117)	31 (117)	31 (117)
Seating capacity (front/rear)	2	2	2	2	2

1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.
2. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.

	1500 (CH13405)
Specifications	
Front stabilizer bar diameter, in. (mm)	1.30 (33)
Capacities	
Curb weight, lbs. (kg)	5202 (2360)
Cargo volume, regular, with seats, cu. ft. (liters)	225.1 (6374.8)
Cargo volume, regular, with seats removed, cu. ft. (liters)	267.3 (7569.9)
Payload[3], lbs. (kg)	1998 (906)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	7200 (3266)
Fuel capacity, approximate, gallon (liters)	31 (117)
Seating capacity (front/rear)	2
3. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.	

	**Wheels,** Gray painted, includes Gray center caps and steel spare
	P03 **Wheels,** Gray painted, includes chrome center caps and steel spare

	U1C **Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2)
	UM7 **Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)

Option Code	Description
2HI	Tires, front Goodyear G647RSA highway tread (MSRP = $117.34) Provides LT225/75R16 (E) 10 ply tires on cargo vans.
3HI	Tires, rear Goodyear G647RSA highway tread (MSRP = $117.34) Provides LT225/75R16 (E) 10 ply tires on dual rear wheel vans.
4HI	Tires, spare Goodyear G647RSA highway tread (MSRP = $58.67) Provides LT225/75R16 (E) 10 ply tires on dual rear wheel vans.
5C4	Front Spring, High Rate Upgrade (MSRP = $40.00)Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating
5C5	Vinyl Sun Visors (MSRP = No Charge)Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors.
5G0	Wheels, painted Black (MSRP = $25.00)
5G2	Wheels, painted White (MSRP = $25.00)
5G4	Provision for cab roof-mounted lamp (MSRP = $103.00)
5L3	Panel Trim, sides, side and rear cargo door (MSRP = $449.00)
5P9	Panel Trim, side and rear cargo doors (MSRP = $150.00)
5X8	Key, side cargo and rear door (MSRP = $40.00)
5Z5	Hubcap delete (MSRP = -$17.00 Credit)
7T6	Fuel fitting, for fuel line take-off (MSRP = $113.00)A fuel tank with a fuel take-off fitting that a body builder may utilize to attach an auxiliary engine fueling
8E1	Fuel, additional 3 gallons (MSRP = $8.00)
8R3	Tire valve stems, brass (MSRP = $20.00)
8S3	Backup alarm (MSRP = $95.00)
8U7	Engine, Special Application Vortec 4800 V8 (MSRP = -$850.00 Credit)
8X1	Label, fasten safety belts (MSRP = $2.00)
9F2	Mirrors, outside rearview delete (MSRP = -$20.00 Credit)
9J6	Steering column, tilt (MSRP = $145.00)
9R0	Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)AM/FM radio with cassette, no CD.
9V5	Paints, solid (MSRP = No Charge), Woodland Green
9V9	Paints, solid (MSRP = No Charge), Doeskin Tan
9W3	Paints, solid (MSRP = No Charge), Wheatland Yellow
9W4	Paints, solid (MSRP = No Charge), Tangier Orange
A18	Glass, rear door window, swing-out
A19	Glass, rear side door and rear door window, swing-out
AG1	Seat adjuster, power, driver 6-way
AJ1	Glass, Solar-Ray deep tinted
AJ3	Air bag, frontal, driver side only
AK5	Air bags, frontal, driver and right front passenger
AR7	Seats, front vinyl reclining buckets
AS5	Seats, front Custom Cloth buckets
AU0	Keyless entry, remote
AU3	Door locks, power
B31	Floor covering, Black rubberized vinyl
B38	Floor covering, Black rubberized vinyl full length floor covering
B3D	School Bus Package,
B46	Trim, rear body-colored halo
BA3	Console, deluxe
C36	Heater, rear

Option Code	Description
C49	Defogger, rear-window, electric
C5Z	GVWR, 7200 lbs. (3266 kg)
C60	Air conditioning, front manual
C69	Air conditioning, rear
C6A	GVWR, 7300 lbs. (3311 kg)
C6P	GVWR, 8600 lbs. (3901 kg)
C6Y	GVWR, 9600 lbs. (4354 kg)
D31	Mirror, inside rearview
DE2	Mirrors, outside rearview
DE5	Mirrors, outside rearview
DE7	Mirrors, outside rearview
DF5	Mirror, inside rearview, electrochromic
DT4	Smoker's Package
E24	Door, swing-out passenger side
E26	Door, swing-out driver side
FE9	Emissions, Federal requirements
G80	Differential, locking, heavy-duty, rear
GT4	Rear axle, 3.73 ratio
GT5	Rear axle, 4.10 ratio
GU6	Rear axle, 3.42 ratio
K68	Alternator, 105 amps
KG3	Alternator, 145 amps
KL5	Alternative fuel conversion-ready engine
LM7	Engine, Vortec 5300 V8 SFI
LQ4	Engine, Vortec 6000 V8 SFI
LR4	Engine, Vortec 4800 V8 SFI
LU3	Engine, Vortec 4300 V6 MFI
M30	Transmission, 4-speed automatic
MT1	Transmission, 4-speed automatic, heavy-duty
NB8	Emissions override, California, Massachusetts, New York or Vermont
NC7	Emissions override, Federal
NE1	Emissions, Maine, Massachusetts, New York or Vermont state requirements
P03	Wheels, Gray painted
PCR	Express Access Plus Package
PDN	Power and Light Package
PNF	Trim panel delete
PRP	Express Access
Q4B	GVWR, 6200 lbs. (2812 kg)
Q8C	Tire valve stem caps, air thru (MSRP = $6.00)
R6E	GM Business Choice Upfit, industrial ladder rack
R6G	Air conditioning delete
R6K	GM Business Choice Upfit, industrial ladder rack
R7A	GM Business Choice Upfit, general service interior
R7B	GM Business Choice Upfit, electrical and gas appliance repair interior
R7E	GM Business Choice Upfit, plumbing, heating and A/C repair interior
R7J	GM Business Choice Upfit, commercial customer bin
R7L	GM Business Choice Upfit, locksmith interior
R7N	GM Business Choice Upfit, industrial ladder rack
R7Q	GM Business Choice Upfit, commercial customer bin

Option Code	Description
R7S	GM Business Choice Upfit, plumbing, heating & A/C repair interior
R7T	GM Business Choice Upfit, electrical and gas appliance repair interior
R8D	GM Business Choice Upfit, protecto-van liner, 155" (393.7 cm) wheelbase
R8E	GM Business Choice Upfit, protecto-van liner
TBQ	Ship Thru for all Models (MSRP = $350.00)Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment
TCC	Ship Thru for all Models (MSRP = $640.00)Produced in Wentzville and shipped to Quigley
TGK	Solid PaintSEO solid paint, one color
TR9	Lighting, auxiliary
U1C	Sound system, ETR AM/FM stereo with CD player
UA1	Battery, heavy-duty, 800 cold-cranking amps
UF2	Lighting, Express Access Enhanced Lighting Package
UL5	Sound system, radio delete
UM7	Sound system, ETR AM/FM stereo
UY7	Trailer wiring, 7-lead harness
V10	Cold Climate Package
V14	Transmission oil cooler, external
V14	Transmission oil cooler, external (MSRP = $ 95.00)
V37	Bumpers, front and rear, chrome
VAD	Ship Thru for all Models (MSRP = $25.00)Produced in Wentzville and shipped to Crown/Masterack
VAP	Ship Thru for all Models (MSRP = $220.00)Produced in Wentzville and shipped to Knapheide Truck Equipment
VAR	Ship Thru for all Models (MSRP = $385.00)Produced in Wentzville and shipped to Midway
VCL	Emissions Certification, CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle).
VCP	Ship Thru for all Models (MSRP = $185.00)Produced in Wentzville and shipped to OEM Systems.
VCY	Ship Thru for all Models (MSRP = No Charge)Produced in Wentzville and shipped to Trans Design & Mfg
VDK	Ship Thru for all Models (MSRP = $ W/A)Shipped from Trans Design & Mfg to Adrian Steel.
VEQ	Ship Thru for Models G13405, G23405, G23705, G33405, G33705, H13405 (MSRP = W/A)Produced in Wentzville Assembly and shipped to Kranz Automotive Body Co
VK3	License plate bracket, front
XEN	Tires, front P235/75R16EL, all-season, blackwall
XHF	Tires, front LT225/75R16E, all-season, blackwall
XHH	Tires, front LT245/75R16E, all-season, blackwall
YA2	Door, sliding passenger side
YEN	Tires, rear P235/75R16EL, all-season, blackwall
YF5	Emissions, California state requirements
YHF	Tires, rear LT225/75R16E, all-season, blackwall
YHH	Tires, rear LT245/75R16E, all-season, blackwall
Z82	Trailering equipment, heavy-duty
ZEN	Tire, spare P235/75R16EL, all-season, blackwall
ZHF	Tire, spare LT225/75R16E, all-season, blackwall
ZHH	Tire, spare LT245/75R16E, all-season, blackwall
ZQ2	Convenience Package
ZQ3	Convenience Package
ZR7	Chrome Appearance Package
ZW2	Glass, rear doors, fixed

Option Code	Description
ZW3	Glass, rear doors and side cargo doors, fixed
ZW4	Glass, rear doors
ZW6	Glass, full body window package
ZW9	Body, standard
ZX1	Seat, driver only high-back reclining bucket
ZX2	Seats, driver and passenger high-back reclining buckets
ZX9	Tire, spare delete

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

Model	(LU3) Vortec 4300 V6 MFI		(LR4) Vortec 4800 V8		(LM7) Vortec 5300 V8 SFI		(LQ4) Vortec 6000 V8 SFI	
	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)
CG13405	3.42	4400 (1996)			3.42	6600 (2994)		
					3.73	6600 (2994)		
CH13405					3.42	6600 (2994)		
					3.73	6600 (2994)		
CG23405			3.73	6400 (2903)			3.73	8400 (3810)
			4.10	7400 (3357)			4.10	10000 (4536)
CG23705	3.73	4500 (2041)	3.73	6300 (2858)	3.73	6500 (2948)	3.73	8200 (3720)
			4.10	7300 (3311)			4.10	10000 (4536)
CG33405							3.73	8300 (3765)
							4.10	10000 (4536)
CG33705							3.73	8100 (3674)
							4.10	10000 (4536)

The wiring system is designed to operate with maximum performance and reliability. Adding electrical accessories to the vehicle for which it was not designed, would case abnormalities in the electrical system.

The electrical system was designed to handle one additional stop/turn light bulb per tail light circuit (one added stop/turn light bulb to the right and left side). It is not recommended to add more than one bulb per circuit as it will result in damage to the electrical system (without optional trailer Towing Wiring). It is highly recommended to order the van with the optional Trailer Wiring, 7-lead harness (UY7) for towing.

GCWR For Engine/Rear Axle Ratio Combination with Automatic Transmission

Engine	(GCWR) Gross Combination Weight Ratings lbs. (kg)					
	9500 (4309)	10000 (4536)	12000 (5443)	13000 (5897)	14000 (6350)	16000 (7258)
(LU3) Vortec 4300 V6 MFI	3.42	3.73				
(LR4) Vortec 4800 V8			3.73	4.10		
(LM7) Vortec 5300 V8 SFI			3.42 /3.73			
(LQ4) Vortec 6000 V8 SFI					3.73	4.10

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.

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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side deactivation switch. - 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]
		Assist handle, front passenger	S	S
		Console, base, includes open storage bin	–	S
		Cupholders, 3, on engine console cover	S	S
		Defogger, side window	S	S
		Headliner, cloth, over driver and passenger	S	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
		Key, single, 2-sided	S	S
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S	S
	D31	**Mirror,** inside rearview, manual day/night	S	S
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S
	VK5	**Seat,** temporary driver, includes driver and passenger side safety belts and seat risers	S	–
	ZX2	**Seats,** driver and passenger high-back reclining buckets, adjustable, includes head restraints and vinyl or cloth trim	–	S
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S	S
		Theft-deterrent system, PASSlock	S	S
		Tow/haul mode selector, IP mounted	S	S
		Visors, padded, driver and passenger side	–	S
		Warning tones, headlamp on, key-in-ignition	S	S
		Bumper, rear, painted Black step, includes pad	–	S
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S
		Door beams, steel-side	S	S
		Glass, Solar-Ray light tinted, all windows	S	S
		Grille, Black composite	–	S
		Headlamps, single rectangular halogen	–	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	--	S[1]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
	YHF	**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
	ZHF	**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
XHH		**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (XHH) Tires, front LT245/75R16E, all-season, blackwall are also available as a free flow option at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (XHH) Tires, front LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	A[2]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (YHH) Tires, rear LT245/75R16E, all-season, blackwall are also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (YHH) Tires, rear LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	S[2]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	S[2]
		Wheels, Gray painted, includes steel spare	--	S
		Wipers, intermittent, front, wet-arm with pulse washers	S	S
	KG3	**Alternator,** 145 amps	S	S
	UA1	**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	S	S
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, full-length box ladder-type	S	S
	C6P	**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 or CG23705 Models.**	S[1]	S[1]
	C6Y	**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 or CG33705 Models.**	S[1]	S[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
		Oil life monitor	S	S
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar	S	S
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S
	MT1	**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler	S	S

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

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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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	C60	**Air conditioning,** front manual **1 - Upgradeable to (C69) Air conditioning, rear. - Included at no charge with (Y3G) and (Y3H) packages.**	□[1]	□[1]
BA3		**Console,** deluxe, includes glove box	■	A
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	■	A[1]
	BG5	**Floor covering delete**	■	–
	B31	**Floor covering,** Black rubberized vinyl, front only (deletes rear covering behind front seat) **1 - Upgradeable to (B38) Floor covering, Black rubberized vinyl full length floor covering. - Included at no charge with the (Y3H) package.**	–	□[1]
TR9		**Lighting,** auxiliary, includes reading and underhood lights	■	A
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) **1 - Upgradeable to (U1C) Sound system, ETR AM/FM stereo with CD player. - Not available with (UE1) OnStar. - Included at no charge with the (Y3H) package.**	–	□[1]
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Upgradeable to (UB1) Sound system, ETR AM/FM stereo with CD and cassette. player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Not available with (UE1) OnStar.**	□[1]	A
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	–
	ZW9	**Body,** standard	■	■
	ZW6	**Glass,** full body window package, fixed **1 - Includes (A19) Glass, rear side door and rear door window, swing-out.**	■[1]	■
	A18	**Glass,** rear door window, swing-out	■	■
A19		**Glass,** rear side door and rear door window, swing-out **1 - Included at no charge with Y3G package.**	■[1]	A
	VK3	**License plate bracket,** front	■	■
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.** **2 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	■[1]	A[2]
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	■	A

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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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	C60	**Air conditioning,** front manual **1 - Upgradeable to (C69) Air conditioning, rear. - Included at no charge with (Y3G) and (Y3H) packages.**	□[1]	□[1]
BA3		**Console,** deluxe, includes glove box	■	A
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	■	A[1]
	BG5	**Floor covering delete**	■	--
	B31	**Floor covering,** Black rubberized vinyl, front only (deletes rear covering behind front seat) **1 - Upgradeable to (B38) Floor covering, Black rubberized vinyl full length floor covering. - Included at no charge with the (Y3H) package.**	--	□[1]
TR9		**Lighting,** auxiliary, includes reading and underhood lights	■	A
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) **1 - Upgradeable to (U1C) Sound system, ETR AM/FM stereo with CD player. - Not available with (UE1) OnStar. - Included at no charge with the (Y3H) package.**	--	□[1]
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Upgradeable to (UB1) Sound system, ETR AM/FM stereo with CD and cassette. player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Not available with (UE1) OnStar.**	□[1]	A
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	--
	ZW9	**Body,** standard	■	■
	ZW6	**Glass,** full body window package, fixed **1 - Includes (A19) Glass, rear side door and rear door window, swing-out.**	■[1]	■
	A18	**Glass,** rear door window, swing-out	■	■
A19		**Glass,** rear side door and rear door window, swing-out **1 - Included at no charge with Y3G package.**	■[1]	A
	VK3	**License plate bracket,** front	■	■
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.** **2 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	■[1]	A[2]
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	■	A

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
Y3H		**Paratransit Package** **1 - Includes Window body glass, (A18) Glass, rear door window, swing-out, (C60) Air conditioning, (KG3) Alternator, 145 amps, Paint process-interior delete and (ZX2) Seats, driver and passenger high-back reclining buckets. - Available with (B46) Trim, rear body-colored halo.**	–	A[1]
Y3G		**Personal use mobility prep package family sale** **1 - Includes Door locks, power Windows, power Window body glass, (A18) Glass, rear door window, swing-out, (A19) Glass, rear side door and rear door window, swing-out, (BG5) Floor covering delete, (B46) Trim, rear body-colored halo (not available with 74U/41U), (KG3) Alternator, 145 amps, Trim panels, front, side and rear doors, (P03) Wheels, Gray painted, Grille, chrome deluxe, Bumpers, front and rear, chrome and Paint process-interior delete.**	A[1]	–
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **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]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]	A[1]
BA3		**Console,** deluxe, includes glove box	■	A
ZQ2		**Convenience Package,** power windows and door locks **1 - (ZQ2) Convenience Package will be included in the (Y3G) Personal use mobility prep package, however (ZQ2) Convenience Package will not appear on the order.**	–	A[1]
ZQ3		**Convenience Package,** Tilt-Wheel and cruise control	–	A
C49		**Defogger,** rear-window, electric **1 - Requires (AJ1) Glass, Solar-Ray deep tinted.**	A[1]	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	■	A[1]
B38		**Floor covering,** Black rubberized vinyl full length floor covering	–	A
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	A[1]
AU0		**Keyless entry,** remote, includes 2 transmitters and remote panic button	A	--
TR9		**Lighting,** auxiliary, includes reading and underhood lights	■	A
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), 8-point compass and outside temperature indicator **1 - Not available with (UE1) OnStar.** **2 - Requires (ZR7) Chrome Appearance Package.**	A[1]	A[2]
UE1		**OnStar**, 1-year Safe and Sound Service, includes automatic notification of air bag deployment, emergency services, roadside assistance, stolen vehicle tracking, AccidentAssist, remote door unlock, remote diagnostics, online concierge and remote horn and lights. Drivers can also opt for other available OnStar services, including making and receiving voice-activated, hands-free phone calls with Personal Calling and getting location-based traffic and weather reports with Virtual Advisor **1 - Requires (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Visit www.onstar.com for system information and details.**	A[1]	--

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Components cannot be added back later.**	--	A[1]
AG1		**Seat adjuster,** power, driver, 6-way (riser only)	A	--
AG2		**Seat adjuster,** power, passenger, 6-way (riser only) **1 - Requires (AG1) Seat adjuster, power driver 6-way.**	A[1]	--
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Upgradeable to (UB1) Sound system, ETR AM/FM stereo with CD and cassette. player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Not available with (UE1) OnStar.**	□[1]	A
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2)	A	--
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock and Radio Data System (RDS). Includes front door speakers (2)	A	--
DT4		**Smoker's Package**, includes ashtray and lighter	A	A
ZR7		**Chrome Appearance Package**, includes chrome grille with composite halogen headlamps and front and rear chrome bumpers **1 - (ZR7) Chrome Appearance Package will be included in the (Y3G) Personal use mobility prep package, however (ZR7) Chrome Appearance Package will not appear on the order.**	--	A[1]
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires CG23405 or CG33405 Models. Glass package must match right side, if equipped.**	A[1]	--
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side.**	A[1]	--
A19		**Glass,** rear side door and rear door window, swing-out **1 - Included at no charge with Y3G package.**	■[1]	A
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	A	A
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.** **2 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	■[1]	A[2]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Requires CG33405 or CG33705 Models.**	--	A[1]

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
XHH		**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (XHH) Tires, front LT245/75R16E, all-season, blackwall are also available as a free flow option at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (XHH) Tires, front LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	A[2]
B46		**Trim,** rear body-colored halo (replaces standard black panels located above rear tail lamps) **1 - Not available with (74U) Victory Red, (41U) Black or (58U) Sandalwood Metallic. These colors will receive a molded in color, Black halo.**	A[1]	A[1]
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	■	A
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Included with (KL6) Bi-Fuel Compressed Natural Gas (CNG) system and (KL8) Dedicated Compressed Natural Gas (CNG) system. - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]
V10		**Cold Climate Package,** includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear	A	A
FE9		**Emissions,** Federal requirements	A	A
YF5		**Emissions,** California state requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A	A

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. - Engine must be ordered. - Standard on the CG33405 and CG33705 Models. - On the *G23405 and *G23705 (LQ4) is a priceable option. Available on CG23405 Model with (C6P) GVWR 8600 lbs (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg).**	A[1]	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	C60	**Air conditioning,** front manual **1 - Upgradeable to (C69) Air conditioning, rear. - Included at no charge with (Y3G) and (Y3H) packages.**	□[1]	□[1]
	ZW9	**Body,** standard	■	■
	ZW6	**Glass,** full body window package	■	■
	A18	**Glass,** rear door window, swing-out	■	■
	VK3	**License plate bracket,** front	■	■
BA3		**Console,** deluxe	■	
AU3		**Door locks,** power	■	
	BG5	**Floor covering delete**	■	
A19		**Glass,** rear side door and rear door window, swing-out	■	
TR9		**Lighting,** auxiliary	■	
DE5		**Mirrors,** outside rearview	■	
U1C		**Sound system,** ETR AM/FM stereo with CD player **1 - Upgradeable to (UB1) Sound system, ETR AM/FM stereo with CD and cassette. player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Not available with (UE1) OnStar.**	□[1]	
	DH6	**Visors,** padded	■	
P03		**Wheels,** Gray painted	■	
	B31	**Floor covering,** Black rubberized vinyl **1 - Upgradeable to (B38) Floor covering, Black rubberized vinyl full length floor covering. - Included at no charge with the (Y3H) package.**		□[1]
	UM7	**Sound system,** ETR AM/FM stereo **1 - Upgradeable to (U1C) Sound system, ETR AM/FM stereo with CD player. - Not available with (UE1) OnStar. - Included at no charge with the (Y3H) package.**		□[1]

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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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
Y3H		**Paratransit Package** **1 - Includes Window body glass, (A18) Glass, rear door window, swing-out, (C60) Air conditioning, (KG3) Alternator, 145 amps, Paint process-interior delete and (ZX2) Seats, driver and passenger high-back reclining buckets. - Available with (B46) Trim, rear body-colored halo.**	–	A[1]
Y3G		**Personal use mobility prep package family sale** **1 - Includes Door locks, power Windows, power Window body glass, (A18) Glass, rear door window, swing-out, (A19) Glass, rear side door and rear door window, swing-out, (BG5) Floor covering delete, (B46) Trim, rear body-colored halo (not available with 74U/41U), (KG3) Alternator, 145 amps, Trim panels, front, side and rear doors, (P03) Wheels, Gray painted, Grille, chrome deluxe, Bumpers, front and rear, chrome and Paint process-interior delete.**	A[1]	–
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side deactivation switch. - 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]
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **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]
	C60	**Air conditioning,** front manual **1 - Upgradeable to (C69) Air conditioning, rear. - Included at no charge with (Y3G) and (Y3H) packages.**	□[1]	□[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]	A[1]
		Assist handle, front passenger	S	S
		Console, base, includes open storage bin	–	S
BA3		**Console,** deluxe, includes glove box	■	A
ZQ2		**Convenience Package**, power windows and door locks **1 - (ZQ2) Convenience Package will be included in the (Y3G) Personal use mobility prep package, however (ZQ2) Convenience Package will not appear on the order.**	–	A[1]
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control	–	A
		Cupholders, 3, on engine console cover	S	S
		Defogger, side window	S	S
C49		**Defogger,** rear-window, electric **1 - Requires (AJ1) Glass, Solar-Ray deep tinted.**	A[1]	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	■	A[1]
	BG5	**Floor covering delete**	■	–

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	B31	**Floor covering,** Black rubberized vinyl, front only (deletes rear covering behind front seat) **1 - Upgradeable to (B38) Floor covering, Black rubberized vinyl full length floor covering. - Included at no charge with the (Y3H) package.**	--	□[1]
B38		**Floor covering,** Black rubberized vinyl full length floor covering	--	A
		Headliner, cloth, over driver and passenger	S	S
C36		**Heater,** rear, auxiliary **1 - Included with (C69) Air conditioning, rear.**	A[1]	A[1]
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
		Key, single, 2-sided	S	S
AU0		**Keyless entry,** remote, includes 2 transmitters and remote panic button	A	--
		Lighting, 2 dome lamps, includes defeat switch and door handle-activated switches	S	S
TR9		**Lighting,** auxiliary, includes reading and underhood lights	■	A
	D31	**Mirror,** inside rearview, manual day/night	S	S
DF5		**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), 8-point compass and outside temperature indicator **1 - Not available with (UE1) OnStar.** **2 - Requires (ZR7) Chrome Appearance Package.**	A[1]	A[2]
UE1		**OnStar,** 1-year Safe and Sound Service, includes automatic notification of air bag deployment, emergency services, roadside assistance, stolen vehicle tracking, AccidentAssist, remote door unlock, remote diagnostics, online concierge and remote horn and lights. Drivers can also opt for other available OnStar services, including making and receiving voice-activated, hands-free phone calls with Personal Calling and getting location-based traffic and weather reports with Virtual Advisor **1 - Requires (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Visit www.onstar.com for system information and details.**	A[1]	--
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S
	VK5	**Seat,** temporary driver, includes driver and passenger side safety belts and seat risers	S	--
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Components cannot be added back later.**	--	A[1]
	ZX2	**Seats,** driver and passenger high-back reclining buckets, adjustable, includes head restraints and vinyl or cloth trim	--	S
AG1		**Seat adjuster,** power, driver, 6-way (riser only)	A	--
AG2		**Seat adjuster,** power, passenger, 6-way (riser only) **1 - Requires (AG1) Seat adjuster, power driver 6-way.**	A[1]	--
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2) **1 - Upgradeable to (U1C) Sound system, ETR AM/FM stereo with CD player. - Not available with (UE1) OnStar. - Included at no charge with the (Y3H) package.**	--	□[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Upgradeable to (UB1) Sound system, ETR AM/FM stereo with CD and cassette. player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. - Not available with (UE1) OnStar.**	□[1]	A
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2)	A	--
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock and Radio Data System (RDS). Includes front door speakers (2)	A	--
DT4		**Smoker's Package**, includes ashtray and lighter	A	A
		Steering wheel, steel sleeve column, includes theft-deterrent locking feature, Black	S	S
		Theft-deterrent system, PASSlock	S	S
		Tow/haul mode selector, IP mounted	S	S
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	--
		Visors, padded, driver and passenger side	--	S
		Warning tones, headlamp on, key-in-ignition	S	S

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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 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	ZW9	**Body,** standard	■	■
		Bumper, rear, painted Black step, includes pad	--	S
ZR7		**Chrome Appearance Package,** includes chrome grille with composite halogen headlamps and front and rear chrome bumpers **1 - (ZR7) Chrome Appearance Package will be included in the (Y3G) Personal use mobility prep package, however (ZR7) Chrome Appearance Package will not appear on the order.**	--	A[1]
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires CG23405 or CG33405 Models. Glass package must match right side, if equipped.**	A[1]	--
YA2		**Door,** sliding passenger side **1 - Not available with (E26) Door, swing-out driver side.**	A[1]	--
		Door beams, steel-side	S	S
	ZW6	**Glass,** full body window package, fixed **1 - Includes (A19) Glass, rear side door and rear door window, swing-out.**	■[1]	■
	A18	**Glass,** rear door window, swing-out	■	■
A19		**Glass,** rear side door and rear door window, swing-out **1 - Included at no charge with Y3G package.**	■[1]	A
		Glass, Solar-Ray light tinted, all windows	S	S
AJ1		**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	A	A
		Grille, Black composite	--	S
		Headlamps, single rectangular halogen	--	S
	VK3	**License plate bracket,** front	■	■
	DE2	**Mirrors,** outside rearview, manual folding, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	--	S[1]
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.** **2 - Requires (ZQ2) Convenience Package. If the van is an extended model (*G**7**), or if the van has no rear windows, then the van will get a flat right side mirror. All other vans will have convex right side mirror.**	■[1]	A[2]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Requires CG33405 or CG33705 Models.**	--	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
	YHF	**Tires,** rear LT225/75R16E, all-season, blackwall **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
	ZHF	**Tire,** spare LT225/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6P) GVWR, 8600 lbs. (3901 kg). Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
XHH		**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (XHH) Tires, front LT245/75R16E, all-season, blackwall are also available as a free flow option at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (XHH) Tires, front LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	A[2]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (YHH) Tires, rear LT245/75R16E, all-season, blackwall are also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (YHH) Tires, rear LT245/75R16E, all-season, blackwall are ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	S[2]
	ZHH	**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg). Standard and available on CG33405 and CG33705 Models only.** **2 - Standard on the *G33405 and *G33705 Models. (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is also available at no additional charge on the *G23405 and *G23705 Models when ordered with (C6P) GVWR, 8600 lbs. (3901 kg). When (ZHH) Tire, spare LT245/75R16E, all-season, blackwall is ordered with (C6P) GVWR, 8600 lbs. (3901 kg), (FE9) Emissions, Federal requirements is required.**	S[1]	S[2]
B46		**Trim,** rear body-colored halo (replaces standard black panels located above rear tail lamps) **1 - Not available with (74U) Victory Red, (41U) Black or (58U) Sandalwood Metallic. These colors will receive a molded in color, Black halo.**	A[1]	A[1]
		Wheels, Gray painted, includes steel spare	--	S
P03		**Wheels,** Gray painted, includes chrome center caps and steel spare	■	A
		Wipers, intermittent, front, wet-arm with pulse washers	S	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
KL5		**Alternative fuel conversion-ready engine**, includes internal modifications for operation with natural or propane gas **1 - Included with (KL6) Bi-Fuel Compressed Natural Gas (CNG) system and (KL8) Dedicated Compressed Natural Gas (CNG) system. - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]
	KG3	**Alternator,** 145 amps	S	S
	UA1	**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	S	S
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
V10		**Cold Climate Package**, includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear	A	A
FE9		**Emissions,** Federal requirements	A	A
YF5		**Emissions,** California state requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A	A
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. - Engine must be ordered. - Standard on the CG33405 and CG33705 Models. - On the *G23405 and *G23705 (LQ4) is a priceable option. Available on CG23405 Model with (C6P) GVWR 8600 lbs (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg).**	A[1]	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, full-length box ladder-type	S	S
	C6P	**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 or CG23705 Models.**	S[1]	S[1]
	C6Y	**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 or CG33705 Models.**	S[1]	S[1]
		Oil life monitor	S	S
GT4		**Rear axle,** 3.73 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar	S	S
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
	MT1	**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler	S	S
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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		Transmissions	Axles		GVWR lbs. (kg)	
Model	**Engine**	**MT1 4-Speed Manual**	**GT4 3.73**	**GT5 4.10**	**C6P 8600 (3901)**	**C6Y 9600 (4354)**
2500						
CG23405	LQ4 Vortec 6000 V8 SFI	S	S	A	S	--
CG23705	LQ4 Vortec 6000 V8 SFI	S	S	A	S	--
3500						
CG33405	LQ4 Vortec 6000 V8 SFI	S	S	A	--	S
CG33705	LQ4 Vortec 6000 V8 SFI	S	S	A	--	S

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Medium Dark Pewter	Neutral
Y3H	Reclining high-back buckets	AR7[1]	Vinyl	93W	--
Y3H	Reclining high-back buckets w/inboard armrests	AS5[2]	Cloth	93G	--
Y3G	Temporary Driver's seat	VK5[3]	Vinyl	93W	52W

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Medium Dark Pewter	Neutral
Light Pewter Metallic	11U	WA-382E	A	A
Indigo Blue Metallic	39U	WA-9792	A	A
Black[4]	41U	WA-8555	A	A
Dark Green Metallic	47U	WA-9539	A	A
Summit White	50U	WA-8624	A	A
Sandalwood Metallic[4]	58U	WA-711J	--	A
Dark Gray Metallic	62U	WA-805K	A	--
Victory Red[4]	74U	WA-9260	A	A
Berry Red Metallic	87U	WA-811K	A	A

Above interior trim combinations are the only combinations allowed.

1 - Standard on Base with 1SA/Y3H.

2 - Available on Base with 1SA/Y3H.

3 - Standard on Base with 1SA/Y3G.

4 - Not available with (B46) Trim, rear body-colored halo.

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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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior	
				Medium Dark Pewter	Neutral
Y3H	Reclining high-back buckets	AR7[1]	Vinyl	93W	--
Y3H	Reclining high-back buckets w/inboard armrests	AS5[2]	Cloth	93G	--
Y3G	Temporary Driver's seat	VK5[3]	Vinyl	93W	52W

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Medium Dark Pewter	Neutral
Yellow	none	WA-5456	A	A
Green	none	WA-7927	A	A
Green	none	WA-7941	A	A
Silver Metallic	none	WA-8867	A	A
Green, Woodland	9V5	WA-9015	A	A
Doeskin Tan	9V9	WA-9403	A	A
Tangier Orange	9W4	WA-9417	A	A
NEW! Light Stellar Blue	none	WA-146B	A	A
Yellow	none	WA-215D	A	A
Wheatland Yellow	9W3	WA-253A	A	A
Toreador Red	none	WA-257C	A	A
Madrid Red	none	WA-341D	A	A
NEW! Storm Gray	none	WA-391E	A	A
Yellow	none	WA-478G	A	A

NOTE: Exterior SEO solid paints are not available with (B46) Trim, rear body-colored halo.

1 - Standard on Base with 1SA/Y3H.

2 - Available on Base with 1SA/Y3H.

3 - Standard on Base with 1SA/Y3G.

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

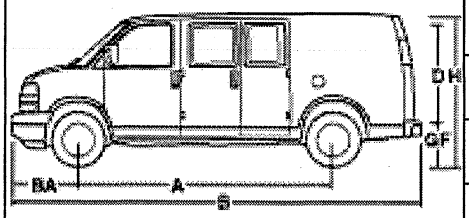
*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

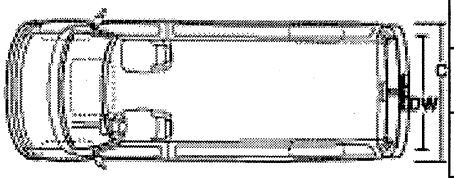
Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
		Interior		
9R0		**Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)** AM/FM radio with cassette, no CD. **1 - Requires a Fleet or Government sales order.**	A[1]	A[1]
5C5		**Vinyl Sun Visors (MSRP = No Charge)** Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors. **1 - Requires a Fleet or Government sales order and RPO (AS5) Seats, front Custom Cloth buckets. Not available with RPO (DH6) Visor, padded, driver and passenger side with cloth trim and dual vanity mirrors.**	–	A[1]
		Exterior		
5Z5		**Hubcap delete (MSRP = -$17.00 Credit)** Deletes hub caps from standard wheels. **1 - Not available with RPO (P03) Wheels, chrome center caps.**	–	A[1]
8X1		**Label, fasten safety belts (MSRP = $2.00)** "Fasten Safety Belts" reminder label on side door window glass.	A	A
9F2		**Mirrors, outside rearview delete (MSRP = -$20.00 Credit)** Deletes the standard outside driver and passenger rear view mirrors. Includes incomplete vehicle documents. **1 - Requires Models G23405, G33405 or G33705.**	A[1]	A[1]
9V9		**Paints, solid (MSRP = No Charge),** Doeskin Tan **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W4		**Paints, solid (MSRP = No Charge),** Tangier Orange **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W3		**Paints, solid (MSRP = No Charge),** Wheatland Yellow **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9V5		**Paints, solid (MSRP = No Charge),** Woodland Green **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
TGK		**Solid Paint** SEO solid paint, one color **1 - Required with any SEO paint selection.**	A[1]	A[1]
Q8C		**Tire valve stem caps, air thru (MSRP = $6.00)** Air through valve caps on the tire air valves.	A	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG23405 and CG33405 Models. 2 - Equipment group 1SA available on CG23405, CG23705, CG33405 and CG33705 Models.	Y3G Base 1SA[1]	Y3H Base 1SA[2]
8R3		**Tire valve stems, brass (MSRP = $20.00)** Brass metal valve stem in lieu of standard. Also included on spare when furnished.	A	A
5G0		**Wheels, painted Black (MSRP = $25.00)** Black painted wheels in lieu of standard Gray painted wheels. Includes spare wheel. **1 - Requires RPO (C5F) GVWR, 8500 lb. (3856 kg) or RPO (C6P) GVWR, 8600 lb. (3901 kg.) on Models G23405 or G23705. Not available with RPO (P03) Wheels, chrome center caps.**	--	A[1]
5G2		**Wheels, painted White (MSRP = $25.00)** White painted wheels in lieu of standard Gray painted wheels. Includes spare wheel. **1 - Requires RPO (C5F) GVWR, 8500 lb. (3856 kg) or RPO (C6P) GVWR, 8600 lb. (3901 kg.) on Models G23405 or G23705. Not available with RPO (P03) Wheels, chrome center caps.**	--	A[1]
		Mechanical		
5C4		**Front Spring, High Rate Upgrade (MSRP = $40.00)** Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating **1 - Requires Models G33405 or G33705 and RPO (C6Y) GVWR, 9600 lbs. (4354 kg). Not available with RPO (B3D) School Bus Package.**	--	A[1]
8E1		**Fuel, additional 3 gallons (MSRP = $8.00)** 3 gallons of fuel in addition to normal assembly plant fill.	A	A
		Ship Thru Codes		
TBM		**Ship Thru for all Models (MSRP = $115.00)** Produced in Wentzville and shipped to Adrian Steel	A	A
TBQ		**Ship Thru for all Models (MSRP = $350.00)** Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment	A	A
TCC		**Ship Thru for all Models (MSRP = $640.00)** Produced in Wentzville and shipped to Quigley	A	A
VAD		**Ship Thru for all Models (MSRP = $25.00)** Produced in Wentzville and shipped to Crown/Masterack	A	A
VAP		**Ship Thru for all Models (MSRP = $220.00)** Produced in Wentzville and shipped to Knapheide Truck Equipment	A	A
VAR		**Ship Thru for all Models (MSRP = $385.00)** Produced in Wentzville and shipped to Midway	A	A
VCY		**Ship Thru for all Models (MSRP = No Charge)** Produced in Wentzville and shipped to Trans Design & Mfg	A	A

All dimensions in inches (mm) unless otherwise stated.





	Specifications	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)
A	**Wheelbase**	135.00 (3429)	155.00 (3937)	135.00 (3429)	155.00 (3937)
B	**Overall length**	224.10 (5692)	244.10 (6200)	224.10 (5692)	244.10 (6200)
C	**Body width**	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)
D	**Overall height**	81.60 (2073)	82.00 (2083)	81.60 (2073)	82.00 (2083)
	Head room, front	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)
	Shoulder room, front	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)
	Hip room, front	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)
	Leg room, front	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)
	Opening height, side door	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)
	Opening width, sliding side door	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)
DH	**Opening height,** rear door	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)
DW	**Opening width,** rear door, at belt line	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)
	Step up height, front door	20.10 (511)	19.60 (498)	20.10 (511)	19.60 (498)
	Step up height, side door	20.90 (531)	20.50 (521)	20.90 (531)	20.50 (521)
BA	**Front bumper to axle**	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)
GF	**Ground to top of rear load floor**	27.70 (704)	27.30 (693)	27.70 (704)	27.30 (693)
LFL	**Load floor length** to front seat, at floor	127.80 (3246)	147.80 (3754)	127.80 (3246)	147.80 (3754)
LFL	**Load floor length** to engine cover, at floor	153.60 (3901)	173.60 (4409)	153.60 (3901)	173.60 (4409)
IWW	**Inside width,** between wheelhousing	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)
	Cargo area height	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)
	Ground clearance, front	8.60 (218)	8.40 (213)	8.60 (218)	8.40 (213)
	Ground clearance, rear	7.60	8.10	7.60	8.10

All dimensions in inches (mm) unless otherwise stated.

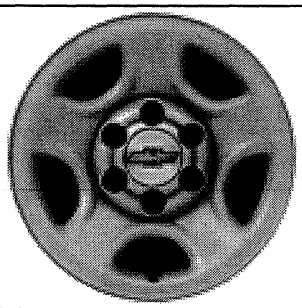
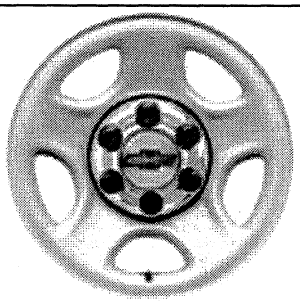
	Specifications		2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)
			(193)	(206)	(193)	(206)
		Sign panel area	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)

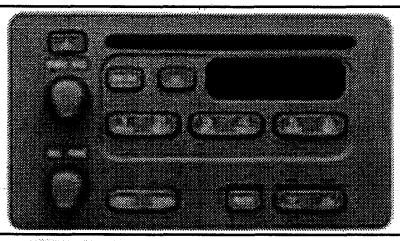
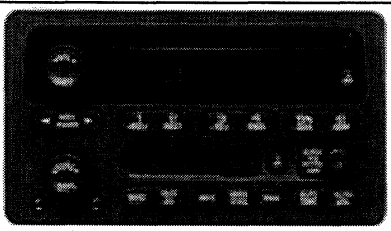
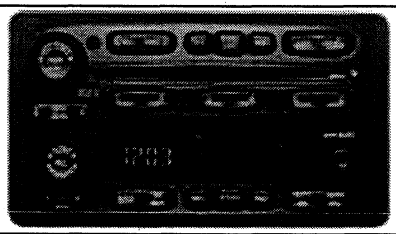
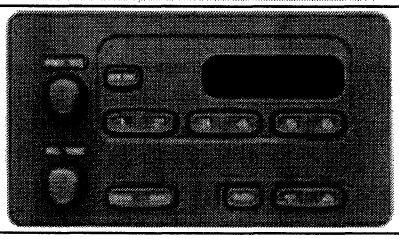
Published dimensions indicated are without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in these dimensions.

2004 Chevrolet Truck Express Cargo Mobility/Paratransit SPECS

	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)
Specifications				
Front stabilizer bar diameter, in. (mm)	1.30 (33)	1.30 (33)	1.38 (35)	1.38 (35)
Capacities				
Curb weight, lbs. (kg)	5002 (2269)	5179 (2349)	5414 (2456)	5613 (2546)
Cargo volume, regular, with seats, cu. ft. (liters)	225.1 (6374.8)	--	225.1 (6374.8)	--
Cargo volume, regular, with seats removed, cu. ft. (liters)	267.3 (7569.9)	--	267.3 (7569.9)	--
Cargo volume, extended, with seats, cu. ft. (liters)	--	261.6 (7408.5)	--	261.6 (7408.5)
Cargo volume, extended, with seats removed, cu. ft. (liters)	--	316.8 (8971.8)	--	316.8 (8971.8)
Payload[1], lbs. (kg)	2298 (1042)	2121 (962)	4186 (1899)	3987 (1809)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	7300 (3311)	7300 (3311)	9600 (4355)	9600 (4355)
Fuel capacity, approximate, gallon (liters)	31 (117)	31 (117)	31 (117)	31 (117)
Seating capacity (front/rear)	2	2	2	2

1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.

	**Wheels,** Gray painted, includes steel spare
	P03 **Wheels,** Gray painted, includes chrome center caps and steel spare

	U1C **Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2)
	UB1 **Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2)
	UC6 **Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock and Radio Data System (RDS). Includes front door speakers (2)
	UM7 **Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)

Option Code	Description
5C4	Front Spring, High Rate Upgrade (MSRP = $40.00)Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating
5C5	Vinyl Sun Visors (MSRP = No Charge)Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors.
5G0	Wheels, painted Black (MSRP = $25.00)
5G2	Wheels, painted White (MSRP = $25.00)
8E1	Fuel, additional 3 gallons (MSRP = $8.00)
8R3	Tire valve stems, brass (MSRP = $20.00)
8X1	Label, fasten safety belts (MSRP = $2.00)
9F2	Mirrors, outside rearview delete (MSRP = -$20.00 Credit)
9R0	Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)AM/FM radio with cassette, no CD.
9V5	Paints, solid (MSRP = No Charge), Woodland Green
9V9	Paints, solid (MSRP = No Charge), Doeskin Tan
9W3	Paints, solid (MSRP = No Charge), Wheatland Yellow
9W4	Paints, solid (MSRP = No Charge), Tangier Orange
A18	Glass, rear door window, swing-out
A19	Glass, rear side door and rear door window, swing-out
AG1	Seat adjuster, power, driver, 6-way (riser only)
AG2	Seat adjuster, power, passenger, 6-way (riser only)
AJ1	Glass, Solar-Ray deep tinted
AJ3	Air bag, frontal, driver side only
AK5	Air bags, frontal, driver and right front passenger
AU0	Keyless entry, remote
AU3	Door locks, power
B31	Floor covering, Black rubberized vinyl
B38	Floor covering, Black rubberized vinyl full length floor covering
B3D	School Bus Package,
B46	Trim, rear body-colored halo
BA3	Console, deluxe
BG5	Floor covering delete
C36	Heater, rear
C49	Defogger, rear-window, electric
C60	Air conditioning, front manual
C69	Air conditioning, rear
C6P	GVWR, 8600 lbs. (3901 kg)
C6Y	GVWR, 9600 lbs. (4354 kg)
D31	Mirror, inside rearview
DE2	Mirrors, outside rearview
DE5	Mirrors, outside rearview
DF5	Mirror, inside rearview, electrochromic
DH6	Visors, padded
DT4	Smoker's Package
E24	Door, swing-out passenger side
E26	Door, swing-out driver side
FE9	Emissions, Federal requirements
G80	Differential, locking, heavy-duty, rear

Option Code	Description
GT4	Rear axle, 3.73 ratio
GT5	Rear axle, 4.10 ratio
KG3	Alternator, 145 amps
KL5	Alternative fuel conversion-ready engine
LQ4	Engine, Vortec 6000 V8 SFI
MT1	Transmission, 4-speed automatic, heavy-duty
NB8	Emissions override, California, Massachusetts, New York or Vermont
NC7	Emissions override, Federal
NE1	Emissions, Maine, Massachusetts, New York or Vermont state requirements
P03	Wheels, Gray painted
Q8C	Tire valve stem caps, air thru (MSRP = $6.00)
TBM	Ship Thru for all Models (MSRP = $115.00)Produced in Wentzville and shipped to Adrian Steel
TBQ	Ship Thru for all Models (MSRP = $350.00)Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment
TCC	Ship Thru for all Models (MSRP = $640.00)Produced in Wentzville and shipped to Quigley
TGK	Solid PaintSEO solid paint, one color
TR9	Lighting, auxiliary
U1C	Sound system, ETR AM/FM stereo with CD player
UA1	Battery, heavy-duty, 800 cold-cranking amps
UB1	Sound system, ETR AM/FM stereo with CD and cassette player
UC6	Sound system, ETR AM/FM stereo with 6-disc CD changer
UE1	OnStar
UM7	Sound system, ETR AM/FM stereo
UY7	Trailer wiring, 7-lead harness
V10	Cold Climate Package
V14	Transmission oil cooler, external
VAD	Ship Thru for all Models (MSRP = $25.00)Produced in Wentzville and shipped to Crown/Masterack
VAP	Ship Thru for all Models (MSRP = $220.00)Produced in Wentzville and shipped to Knapheide Truck Equipment
VAR	Ship Thru for all Models (MSRP = $385.00)Produced in Wentzville and shipped to Midway
VCL	Emissions Certification, CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle).
VCY	Ship Thru for all Models (MSRP = No Charge)Produced in Wentzville and shipped to Trans Design & Mfg
VK3	License plate bracket, front
VK5	Seat, temporary driver
XHF	Tires, front LT225/75R16E, all-season, blackwall
XHH	Tires, front LT245/75R16E, all-season, blackwall
Y3G	Personal use mobility prep package family sale
Y3H	Paratransit Package
YA2	Door, sliding passenger side
YF5	Emissions, California state requirements
YHF	Tires, rear LT225/75R16E, all-season, blackwall
YHH	Tires, rear LT245/75R16E, all-season, blackwall
Z82	Trailering equipment, heavy-duty
ZHF	Tire, spare LT225/75R16E, all-season, blackwall
ZHH	Tire, spare LT245/75R16E, all-season, blackwall
ZQ2	Convenience Package

Option Code	Description
ZQ3	Convenience Package
ZR7	Chrome Appearance Package
ZW6	Glass, full body window package
ZW9	Body, standard
ZX1	Seat, driver only high-back reclining bucket
ZX2	Seats, driver and passenger high-back reclining buckets

2004 Chevrolet Truck Express Cargo Mobility/Paratransit — TRAILERING SPECS

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		
Model	(LQ4) Vortec 6000 V8 SFI	
	Axle Ratio	Maximum Trailer Weight lbs. (kg)
CG23405	3.73	8300 (3765)
	4.10	10000 (4536)
CG23705	3.73	8100 (3674)
	4.10	10000 (4536)
CG33405	3.73	8300 (3765)
	4.10	10000 (4536)
CG33705	3.73	8100 (3674)
	4.10	10000 (4536)

The wiring system is designed to operate with maximum performance and reliability. Adding electrical accessories to the vehicle for which it was not designed, would case abnormalities in the electrical system.

The electrical system was designed to handle one additional stop/turn light bulb per tail light circuit (one added stop/turn light bulb to the right and left side). It is not recommended to add more than one bulb per circuit as it will result in damage to the electrical system (without optional trailer Towing Wiring). It is highly recommended to order the van with the optional Trailer Wiring, 7-lead harness (UY7) for towing

GCWR For Engine/Rear Axle Ratio Combination with Automatic Transmission		
Engine	(GCWR) Gross Combination Weight Ratings lbs. (kg)	
	14000 (6350)	16000 (7258)
(LQ4) Vortec 6000 V8 SFI	3.73	4.10

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.

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 groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch on Models with (C6P) GVWR, 8600 lbs. (3901 kg) and above. - 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]
	C60	**Air conditioning,** front manual **1 - Includes quick connectors for rear air conditioning.**	S[1]	S[1]
		Assist handle, front passenger	S	S
	BA3	**Console,** deluxe, includes glove box	S	S
	ZQ2	**Convenience Package**, power windows and door locks	S	S
	ZQ3	**Convenience Package**, Tilt-Wheel and cruise control	S	S
		Cupholders, 3, on engine console cover	S	S
	BG5	**Floor covering delete**	S	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
		Mirror, inside rearview, manual, day/night	S	S
	DF5	**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), compass and outside temperature indicator **1 - Not available with (UE1) OnStar.**	S[1]	S[1]
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S
	VK5	**Seat,** temporary driver, includes driver and passenger side safety belts and seat risers	S	S
	U1C	**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select **1 - Not available with (UE1) OnStar.**	S[1]	--
		Theft-deterrent system, PASSlock	S	S
		Tow/haul mode selector, IP mounted	S	S
	PNC	**Trim panels**, front, side and rear doors	S	S
		Warning tones, headlamp on	S	S
	YF7	**Upfitter Package** **1 - Upfitter package is available for ordering through authorized C.Q.A.C.P. manufacturers only.**	S[1]	S[1]
	ZW9	**Body,** standard	S	S
		Bumper, front, chrome	S	S
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
		Door beams, steel-side	S	S
	AJ1	**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	S	S
	A18	**Glass,** rear door window, swing-out	S	S
	A19	**Glass,** rear side door and rear door window, swing-out	S	S
	ZW3	**Glass,** rear doors and side cargo doors	S	S
	V22	**Grille,** chrome	S	S
		Headlamps, dual composite halogen	S	S
		Lamp, underhood, at rear of engine compartment	S	S
	DE5	**Mirrors,** outside rearview, manual folding, power adjust, heated, Black	S	S
	ZY1	**Paint,** solid	S	S
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Standard and available on C*13405 Models only.**	S[1]	S[1]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Standard and available on CG33405 and CG33705 Models only.**	S[1]	S[1]
	B46	**Trim,** rear body-colored halo (replaces standard Black panel - the panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. - These two colors will receive a molded in color, Black halo.**	S[1]	S[1]
		Wheel, spare, full-size steel	S	S
		Wipers, intermittent, front wet-arm with pulse washers	S	S
	KG3	**Alternator,** 145 amps	S	S
	UA1	**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	S	S
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, full-length box ladder-type	S	S
	VXT	**Incomplete vehicle certification**	S	S
		Oil life monitor	S	S
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires front-wheel drive Models.**	S[1]	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]	S[1]
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
AU0		**Keyless entry,** remote, includes 2 transmitters	A	■
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS) **1 - Upgradeable to (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.**	A	□[1]
NP5		**Steering wheel,** leather-wrapped rim, includes theft-deterrent locking feature	A	■
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	■
	VK3	**License plate bracket,** front	■	■
	P03	**Wheels,** Gray painted, includes chrome center caps and steel spare	■	■

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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 groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7 1SC[1]	YF7 1SD[1]
AU0		**Keyless entry,** remote, includes 2 transmitters	A	■
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS) **1 - Upgradeable to (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.**	A	□[1]
NP5		**Steering wheel,** leather-wrapped rim, includes theft-deterrent locking feature	A	■
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	■
	VK3	**License plate bracket,** front	■	■
	P03	**Wheels,** Gray painted, includes chrome center caps and steel spare	■	■

ADDITIONAL OPTIONS

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7 1SC[1]	YF7 1SD[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]	A[1]
C49		**Defogger,** rear-window, electric	A	A
AU0		**Keyless entry,** remote, includes 2 transmitters	A	■
UE1		**OnStar**, 1-year Safe and Sound Service, includes automatic notification of air bag deployment, emergency services, roadside assistance, stolen vehicle tracking, AccidentAssist, remote door unlock, remote diagnostics, online concierge and remote horn and lights. Drivers can also opt for other available OnStar services, including making and receiving voice-activated, hands-free phone calls with Personal Calling and getting location-based traffic and weather reports with Virtual Advisor **1 - Requires (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. When OnStar is ordered, a GM front headliner with microphone will be installed in the vehicle at the GM plant. OnStar will not be available on 'High Top' YF7 applications. Not available with (DF5) Mirror, inside rearview, electrochromic. - Visit www.onstar.com for system information and details.**	A[1]	A[1]
AG1		**Seat adjuster,** power, driver, 6-way (riser only)	A	A
AG2		**Seat adjuster,** power, passenger, 6-way (riser only) **1 - Requires (AG1) Seat adjuster, power driver 6-way.**	A[1]	A[1]
DT4		**Smoker's Package**, includes ashtray and lighter	A	A

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS) **1 - Upgradeable to (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.**	A	□[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS)	A	A
NP5		**Steering wheel,** leather-wrapped rim, includes theft-deterrent locking feature	A	■
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13405, CG23405 and CG33405 Models.**	A[1]	A[1]
ZW6		**Glass,** full body window package, fixed **1 - Not available on the *G33705 Model.**	A[1]	A[1]
XEP		**Tires,** front P235/75R16EL, all-season, White outlined-letter **1 - Available on C*13405 Models only.**	A[1]	A[1]
XHP		**Tires,** front LT225/75R16D, all-season, blackwall **1 - Available on CG23405 and CG23705 Models only.**	A[1]	A[1]
PY2		**Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare **1 - Requires C*13405 Models.**	A[1]	A[1]
PF9		**Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare **1 - Requires C*13405 Models.**	A[1]	A[1]
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI. - Requires (MT1) Transmission, heavy-duty 4-speed automatic and (C6P) GVWR, 8600 lbs. (3901 kg) on CG23705 Models. - Not available on C*13405 Model.**	A[1]	A[1]
V10		**Cold Climate Package,** includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear	A	A
YF5		**Emissions,** California state requirements	A	A
FE9		**Emissions,** Federal requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]

ADDITIONAL OPTIONS				
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California **1 - Not available on *G23405, *G23705, *G33405 or *G33705 models.**	A[1]	A[1]
LU3		**Engine,** Vortec 4300 V6 MFI (195 hp [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Standard on CG13405 Models only.**	A[1]	A[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Standard on CH13405 Model. - Available on CG13405 Model with (CGZ) GVWR, 7200 lbs (3266 kg). - Not available with CG23405,CG33405 OR CG33705 Models.**	A[1]	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on CG33405 Model. Standard on CG33705 Model. Available on CG23405 Model with (C6P) 8600 lbs. (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg)**	A[1]	A[1]
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires C*13405 Models.**	A[1]	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 and CG23705 Models.**	A[1]	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 and CG33705 Models.**	A[1]	A[1]
GU6		**Rear axle,** 3.42 ratio **1 - Requires C*13405 Models. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Not available on (LU3) Engine, Vortec 4300 V6. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Requires CG23405, CG23705, CG33405 and CG33705 Models. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead wire harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead wiring harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]

ADDITIONAL OPTIONS				
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			1SC[1]	1SD[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
	VK3	**License plate bracket,** front	■	■
	DH6	**Visors,** padded	■	■
	P03	**Wheels,** Gray painted	■	■
AU0		**Keyless entry,** remote		■
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player **1 - Upgradeable to (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.**		□[1]
NP5		**Steering wheel,** leather-wrapped rim		■

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			1SC[1]	1SD[1]
	AK5	**Air bags,** frontal, driver and right front passenger **1 - Includes passenger side air bag deactivation switch on Models with (C6P) GVWR, 8600 lbs. (3901 kg) and above. - 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]
	C60	**Air conditioning,** front manual **1 - Includes quick connectors for rear air conditioning.**	S[1]	S[1]
C69		**Air conditioning,** rear **1 - Includes (C36) Heater, rear and (KG3) Alternator, 145 amps.**	A[1]	A[1]
		Assist handle, front passenger	S	S
	BA3	**Console,** deluxe, includes glove box	S	S
	ZQ2	**Convenience Package**, power windows and door locks	S	S
	ZQ3	**Convenience Package**, Tilt-Wheel and cruise control	S	S
		Cupholders, 3, on engine console cover	S	S
C49		**Defogger,** rear-window, electric	A	A
	BG5	**Floor covering delete**	S	S
	C36	**Heater,** rear, auxiliary **1 - Included and only available with (C69) Air conditioning, rear.**	A[1]	A[1]
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S	S
AU0		**Keyless entry,** remote, includes 2 transmitters	A	■
		Mirror, inside rearview, manual, day/night	S	S
	DF5	**Mirror,** inside rearview, electrochromic (light-sensitive auto dimming), compass and outside temperature indicator **1 - Not available with (UE1) OnStar.**	S[1]	S[1]
UE1		**OnStar**, 1-year Safe and Sound Service, includes automatic notification of air bag deployment, emergency services, roadside assistance, stolen vehicle tracking, AccidentAssist, remote door unlock, remote diagnostics, online concierge and remote horn and lights. Drivers can also opt for other available OnStar services, including making and receiving voice-activated, hands-free phone calls with Personal Calling and getting location-based traffic and weather reports with Virtual Advisor **1 - Requires (UB1) Sound system, ETR AM/FM stereo with CD and cassette player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. When OnStar is ordered, a GM front headliner with microphone will be installed in the vehicle at the GM plant. OnStar will not be available on 'High Top' YF7 applications. Not available with (DF5) Mirror, inside rearview, electrochromic. - Visit www.onstar.com for system information and details.**	A[1]	A[1]
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S	S

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			1SC[1]	1SD[1]
	VK5	**Seat,** temporary driver, includes driver and passenger side safety belts and seat risers	S	S
AG1		**Seat adjuster,** power, driver, 6-way (riser only)	A	A
AG2		**Seat adjuster,** power, passenger, 6-way (riser only) **1 - Requires (AG1) Seat adjuster, power driver 6-way.**	A[1]	A[1]
DT4		**Smoker's Package**, includes ashtray and lighter	A	A
	U1C	**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select **1 - Not available with (UE1) OnStar.**	S[1]	--
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS) **1 - Upgradeable to (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer.**	A	□[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS)	A	A
NP5		**Steering wheel,** leather-wrapped rim, includes theft-deterrent locking feature	A	■
		Theft-deterrent system, PASSlock	S	S
		Tow/haul mode selector, IP mounted	S	S
	PNC	**Trim panels**, front, side and rear doors	S	S
	DH6	**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side	■	■
		Warning tones, headlamp on	S	S

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			1SC[1]	1SD[1]
	YF7	**Upfitter Package** **1 - Upfitter package is available for ordering through authorized C.Q.A.C.P. manufacturers only.**	S[1]	S[1]
	ZW9	**Body,** standard	S	S
		Bumper, front, chrome	S	S
		Daytime running lamps	S	S
	E24	**Door,** swing-out passenger side, 60/40 split	S	S
E26		**Door,** swing-out driver side, 60/40 split **1 - Requires C*13405, CG23405 and CG33405 Models.**	A[1]	A[1]
		Door beams, steel-side	S	S
	AJ1	**Glass,** Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	S	S
	A18	**Glass,** rear door window, swing-out	S	S
	A19	**Glass,** rear side door and rear door window, swing-out	S	S
	ZW3	**Glass,** rear doors and side cargo doors	S	S
ZW6		**Glass,** full body window package, fixed **1 - Not available on the *G33705 Model.**	A[1]	A[1]
	V22	**Grille,** chrome	S	S
		Headlamps, dual composite halogen	S	S
		Lamp, underhood, at rear of engine compartment	S	S
	VK3	**License plate bracket,** front	■	■
	DE5	**Mirrors,** outside rearview, manual folding, power adjust, heated, Black	S	S
	ZY1	**Paint,** solid	S	S
	XEN	**Tires,** front P235/75R16EL, all-season, blackwall **1 - Standard and available on C*13405 Models only.**	S[1]	S[1]
XEP		**Tires,** front P235/75R16EL, all-season, White outlined-letter **1 - Available on C*13405 Models only.**	A[1]	A[1]
	XHF	**Tires,** front LT225/75R16E, all-season, blackwall **1 - Standard and available on CG23405 and CG23705 Models only.**	S[1]	S[1]
XHP		**Tires,** front LT225/75R16D, all-season, blackwall **1 - Available on CG23405 and CG23705 Models only.**	A[1]	A[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Standard and available on CG33405 and CG33705 Models only.**	S[1]	S[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
	B46	**Trim,** rear body-colored halo (replaces standard Black panel - the panel is located above rear tail lamps) **1 - Not available with (74U) Victory Red or (41U) Black. - These two colors will receive a molded in color, Black halo.**	S[1]	S[1]
	P03	**Wheels,** Gray painted, includes chrome center caps and steel spare	■	■
PY2		**Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare **1 - Requires C*13405 Models.**	A[1]	A[1]
PF9		**Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare **1 - Requires C*13405 Models.**	A[1]	A[1]
		Wheel, spare, full-size steel	S	S
		Wipers, intermittent, front wet-arm with pulse washers	S	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
KL5		**Alternative fuel conversion-ready engine,** includes internal modifications for operation with natural or propane gas **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI. - Requires (MT1) Transmission, heavy-duty 4-speed automatic and (C6P) GVWR, 8600 lbs. (3901 kg) on CG23705 Models. - Not available on C*13405 Model.**	A[1]	A[1]
	KG3	**Alternator,** 145 amps	S	S
	UA1	**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	S	S
		Brakes, 4-wheel antilock, 4-wheel disc	S	S
		Brake/transmission shift interlock, automatic transmission	S	S
V10		**Cold Climate Package**, includes engine block heater	A	A
G80		**Differential,** locking, heavy-duty, rear	A	A
YF5		**Emissions,** California state requirements	A	A
FE9		**Emissions,** Federal requirements	A	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California **1 - Not available on *G23405, *G23705, *G33405 or *G33705 models.**	A[1]	A[1]
LU3		**Engine,** Vortec 4300 V6 MFI (195 hp [145.4 kW] @ 4600 rpm, 260 lb.-ft. [351.0 N-m] @ 2800 rpm) **1 - Standard on CG13405 Models only.**	A[1]	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
LM7		**Engine,** Vortec 5300 V8 SFI (285 HP [212.6 kW] @ 5200 rpm, 325 lb.-ft. [445.5 N-m] @ 4000 rpm) **1 - Standard on CH13405 Model. - Available on CG13405 Model with (CGZ) GVWR, 7200 lbs (3266 kg). - Not available with CG23405,CG33405 OR CG33705 Models.**	A[1]	A[1]
LQ4		**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external engine oil cooler. Standard on CG33405 Model. Standard on CG33705 Model. Available on CG23405 Model with (C6P) 8600 lbs. (3901 kg). Available on CG23705 Model with (C6P) GVWR, 8600 lbs. (3901 kg)**	A[1]	A[1]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S	S
		Frame, full-length box ladder-type	S	S
C5Z		**GVWR,** 7200 lbs. (3266 kg) **1 - Requires C*13405 Models.**	A[1]	A[1]
C6P		**GVWR,** 8600 lbs. (3901 kg) **1 - Requires CG23405 and CG23705 Models.**	A[1]	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg) **1 - Requires CG33405 and CG33705 Models.**	A[1]	A[1]
	VXT	**Incomplete vehicle certification**	S	S
		Oil life monitor	S	S
GU6		**Rear axle,** 3.42 ratio **1 - Requires C*13405 Models. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT4		**Rear axle,** 3.73 ratio **1 - Not available on (LU3) Engine, Vortec 4300 V6. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
GT5		**Rear axle,** 4.10 ratio **1 - Requires CG23405, CG23705, CG33405 and CG33705 Models. Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
		Steering, power	S	S
		Suspension, front, independent coil springs and stabilizer bar **1 - Requires front-wheel drive Models.**	S[1]	S[1]
		Suspension, front, independent torsion bar (computer selected) and stabilizer bar **1 - Requires all-wheel drive Models.**	S[1]	S[1]
		Suspension, rear, hypoid drive axle with multi-leaf springs	S	S
Z82		**Trailering equipment,** heavy-duty, includes trailering hitch platform and 7-lead wiring harness **1 - Includes (UY7) Trailer wiring, 7-lead wire harness.**	A[1]	A[1]
UY7		**Trailer wiring,** 7-lead wiring harness **1 - Included with (Z82) Trailering equipment, heavy-duty.**	A[1]	A[1]
M30		**Transmission,** 4-speed automatic, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
MT1		**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler **1 - Please reference Engine/Axle page to verify availability.**	A[1]	A[1]
V14		**Transmission oil cooler,** external **1 - Requires (LQ4) Engine, Vortec 6000 V8 SFI.**	A[1]	A[1]

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	M30 4-Speed Automatic	MT1 4-Speed Automatic HD	GU6 3.42	GT4 3.73	GT5 4.10	C5Z 7200 (3266)	C6P 8600 (3901)	C6Y 9600 (4354)
1500									
CG13405	LU3 Vortec 4300 V6 MFI	S	–	S	–	–	S	–	–
	LM7 Vortec 5300 V8 SFI	S	–	S	A	–	S	–	–
CH13405	LM7 Vortec 5300 V8 SFI	S	–	S	A	–	S	–	–
2500									
CG23405	LQ4 Vortec 6000 V8 SFI	–	S	–	S	A	–	S	–
CG23705	LQ4 Vortec 6000 V8 SFI	–	S	–	S	A	–	S	–
3500									
CG33405	LQ4 Vortec 6000 V8 SFI	–	S	–	S	A	–	–	S
CG33705	LQ4 Vortec 6000 V8 SFI	–	S	–	S	A	–	–	S

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

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

For information purposes only. Express Conversion Van Upfitter Package (YF7) available for ordering through authorized C.Q.A.C.P. manufacturers only

*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	
				Neutral	Medium Dark Pewter
Base	Temporary driver (riser only)	VK5	Vinyl	52W	93W

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Light Pewter Metallic	11U	WA-382E	A	A
Indigo Blue Metallic	39U	WA-9792	A	A
Black[1]	41U	WA-8555	A	A
Dark Green Metallic	47U	WA-9539	A	A
Summit White	50U	WA-8624	A	A
Sandalwood Metallic	58U	WA-711J	A	--
Dark Gray Metallic	62U	WA-805K	--	A
Victory Red[1]	74U	WA-9260	A	A
Berry Red Metallic	87U	WA-811K	A	A

Above interior trim combinations are the ony combinations allowed.

1 - Not available with (B46) Trim, rear body-colored halo.

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	
				Neutral	Medium Dark Pewter
Base	Temporary driver (riser only)	VK5	Vinyl	52W	93W

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Yellow	none	WA-5456	A	A
Green	none	WA-7927	A	A
Green	none	WA-7941	A	A
Silver Metallic	none	WA-8867	A	A
Green, Woodland	9V5	WA-9015	A	A
Doeskin Tan	9V9	WA-9403	A	A
Tangier Orange	9W4	WA-9417	A	A
NEW! Light Stellar Blue	none	WA-146B	A	A
Yellow	none	WA-215D	A	A
Wheatland Yellow	9W3	WA-253A	A	A
Toreador Red	none	WA-257C	A	A
Madrid Red	none	WA-341D	A	A
NEW! Storm Gray	none	WA-391E	A	A
Yellow	none	WA-478G	A	A
NOTE: Exterior SEO solid paints are not available with (B46) Trim, rear body-colored halo				

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

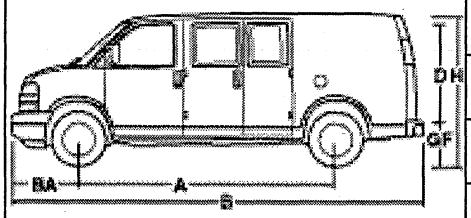
*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

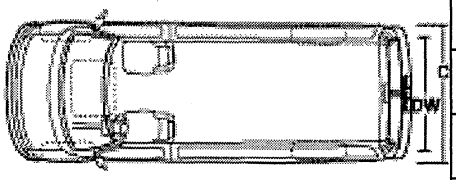
Codes listed in the shaded column titled Ref. Only RPO Code are for internal use only and should not be ordered.

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SC and 1SD available on CG13405, CH13405, CG23405, CG23705, CG33405 and CG33705 Models.	YF7	
			1SC[1]	1SD[1]
		Exterior		
9V9		**Paints, solid (MSRP = No Charge),** Doeskin Tan **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W4		**Paints, solid (MSRP = No Charge),** Tangier Orange **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9W3		**Paints, solid (MSRP = No Charge),** Wheatland Yellow **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
9V5		**Paints, solid (MSRP = No Charge),** Woodland Green **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]	A[1]
TGK		**Solid Paint** SEO solid paint, one color **1 - Required with any SEO paint selection.**	A[1]	A[1]
		Ship Thru Codes		
TBM		**Ship Thru for all Models (MSRP = $115.00)** Produced in Wentzville and shipped to Adrian Steel	A	A
TBQ		**Ship Thru for all Models (MSRP = $350.00)** Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment	A	A
TCC		**Ship Thru for all Models (MSRP = $640.00)** Produced in Wentzville and shipped to Quigley	A	A
VAD		**Ship Thru for all Models (MSRP = $25.00)** Produced in Wentzville and shipped to Crown/Masterack	A	A
VAP		**Ship Thru for all Models (MSRP = $220.00)** Produced in Wentzville and shipped to Knapheide Truck Equipment	A	A
VAR		**Ship Thru for all Models (MSRP = $385.00)** Produced in Wentzville and shipped to Midway	A	A
VCY		**Ship Thru for all Models (MSRP = No Charge)** Produced in Wentzville and shipped to Trans Design & Mfg	A	A

2004 Chevrolet Truck Express Cargo YF7 DIMENSIONS
Upfitter

All dimensions in inches (mm) unless otherwise stated.





	Specifications	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)	1500 (CH13405)
A	**Wheelbase**	135.00 (3429)	135.00 (3429)	155.00 (3937)	135.00 (3429)	155.00 (3937)	135.00 (3429)
B	**Overall length**	224.10 (5692)	224.10 (5692)	244.10 (6200)	224.10 (5692)	244.10 (6200)	224.10 (5692)
C	**Body width**	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)	79.40 (2017)
D	**Overall height**	81.60 (2073)	81.60 (2073)	82.00 (2083)	81.60 (2073)	82.00 (2083)	81.60 (2073)
	Head room, front	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)	40.20 (1021)
	Shoulder room, front	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)	68.80 (1748)
	Hip room, front	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)	65.50 (1664)
	Leg room, front	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)	41.30 (1049)
	Opening height, side door	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)	47.90 (1217)
	Opening width, sliding side door	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)	44.10 (1120)
DH	**Opening height,** rear door	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)	49.40 (1255)
DW	**Opening width,** rear door, at belt line	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)	57.00 (1448)
	Step up height, front door	20.10 (511)	20.10 (511)	19.60 (498)	20.10 (511)	19.60 (498)	20.10 (511)
	Step up height, side door	20.90 (531)	20.90 (531)	20.50 (521)	20.90 (531)	20.50 (521)	20.90 (531)
BA	**Front bumper to axle**	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)	39.70 (1008)
GF	**Ground to top of rear load floor**	27.70 (704)	27.70 (704)	27.30 (693)	27.70 (704)	27.30 (693)	27.70 (704)
LFL	**Load floor length** to front seat, at floor	127.80 (3246)	127.80 (3246)	147.80 (3754)	127.80 (3246)	147.80 (3754)	127.80 (3246)
LFL	**Load floor length** to engine cover, at floor	153.60 (3901)	153.60 (3901)	173.60 (4409)	153.60 (3901)	173.60 (4409)	153.60 (3901)
IWW	**Inside width,** between wheelhousing	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)	52.70 (1339)
	Cargo area height	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)	51.90 (1318)
	Ground clearance, front	8.60 (218)	8.60 (218)	8.40 (213)	8.60 (218)	8.40 (213)	8.60 (218)
	Ground clearance, rear	7.60	7.60	8.10	7.60	8.10	7.60

All dimensions in inches (mm) unless otherwise stated.

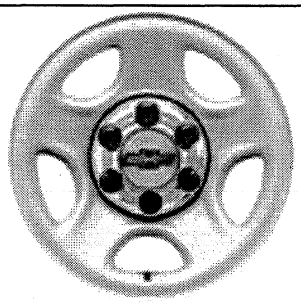
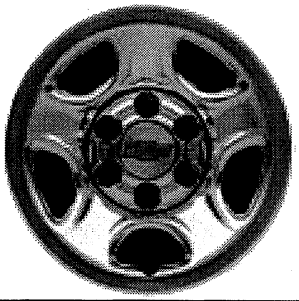
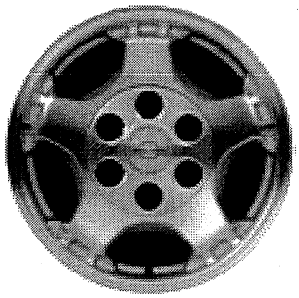
		Specifications	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)	1500 (CH13405)
			(193)	(193)	(206)	(193)	(206)	(193)
		Sign panel area, side panel	116.5 x 56.7 / (2959) x (1440)	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)	116.5 x 56.7 / (2959) x (1440)	136.5 x 56.7 / (3467) x (1440)	116.5 x 56.7 / (2959) x (1440)

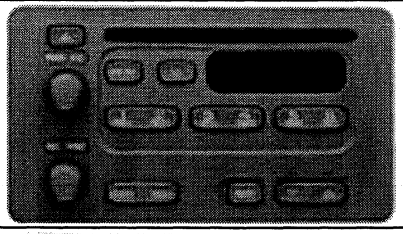
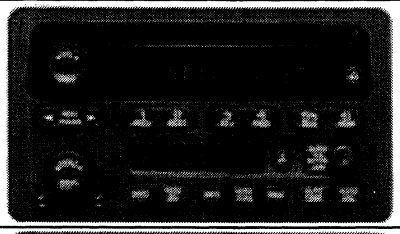
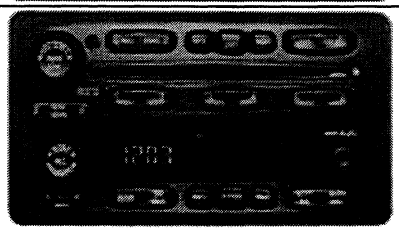
Published dimensions indicated are without optional equipment or accessories. Additional accessories or equipment ordered at the customer's request can result in a minor change in these dimensions.

2004 Chevrolet Truck Express Cargo YF7 SPECS
Upfitter

	1500 (CG13405)	2500 (CG23405)	2500 (CG23705)	3500 (CG33405)	3500 (CG33705)	1500 (CH13405)
Specifications						
Front stabilizer bar diameter, in. (mm)	1.30 (33)	1.30 (33)	1.30 (33)	1.38 (35)	1.38 (35)	1.30 (33)
Capacities						
Curb weight, lbs. (kg)	4846 (2198)	--	--	5414 (2456)	5613 (2546)	5110 (2318)
Cargo volume, regular, with seats, cu. ft. (liters)	225.1 (6374.8)	225.1 (6374.8)	--	225.1 (6374.8)	--	225.1 (6374.8)
Cargo volume, extended, with seats, cu. ft. (liters)	--	--	261.6 (7408.5)	--	261.6 (7408.5)	--
Payload[1], lbs. (kg)	2354 (1068)	--	--	4186 (1899)	3987 (1809)	2090 (948)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	7200 (3266)	8600 (3901)	8600 (3901)	9600 (4355)	9600 (4355)	7200 (3266)
Fuel capacity, approximate, gallon (liters)	31 (117)	31 (117)	31 (117)	31 (117)	31 (117)	31 (117)
Seating capacity (front/rear)	2	2	2	2	2	2

1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.

	P03 **Wheels,** Gray painted, includes chrome center caps and steel spare
	PY2 **Wheels,** 4 - chrome-styled steel, includes chrome center caps and steel spare
	PF9 **Wheels,** 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare

	U1C **Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select
	UB1 **Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS)
	UC6 **Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS)

2004 Chevrolet Truck Express Cargo YF7 RPO CODES
Upfitter

Option Code	Description
9V5	Paints, solid (MSRP = No Charge), Woodland Green
9V9	Paints, solid (MSRP = No Charge), Doeskin Tan
9W3	Paints, solid (MSRP = No Charge), Wheatland Yellow
9W4	Paints, solid (MSRP = No Charge), Tangier Orange
A18	Glass, rear door window, swing-out
A19	Glass, rear side door and rear door window, swing-out
AG1	Seat adjuster, power, driver, 6-way (riser only)
AG2	Seat adjuster, power, passenger, 6-way (riser only)
AJ1	Glass, Solar-Ray deep tinted
AK5	Air bags, frontal, driver and right front passenger
AU0	Keyless entry, remote
B46	Trim, rear body-colored halo
BA3	Console, deluxe
BG5	Floor covering delete
C36	Heater, rear
C49	Defogger, rear-window, electric
C5Z	GVWR, 7200 lbs. (3266 kg)
C60	Air conditioning, front manual
C69	Air conditioning, rear
C6P	GVWR, 8600 lbs. (3901 kg)
C6Y	GVWR, 9600 lbs. (4354 kg)
DE5	Mirrors, outside rearview
DF5	Mirror, inside rearview, electrochromic
DH6	Visors, padded
DT4	Smoker's Package
E24	Door, swing-out passenger side
E26	Door, swing-out driver side
FE9	Emissions, Federal requirements
G80	Differential, locking, heavy-duty, rear
GT4	Rear axle, 3.73 ratio
GT5	Rear axle, 4.10 ratio
GU6	Rear axle, 3.42 ratio
KG3	Alternator, 145 amps
KL5	Alternative fuel conversion-ready engine
LM7	Engine, Vortec 5300 V8 SFI
LQ4	Engine, Vortec 6000 V8 SFI
LU3	Engine, Vortec 4300 V6 MFI
M30	Transmission, 4-speed automatic
MT1	Transmission, 4-speed automatic, heavy-duty
NB8	Emissions override, California, Massachusetts, New York or Vermont
NC7	Emissions override, Federal
NE1	Emissions, Maine, Massachusetts, New York or Vermont state requirements
NP5	Steering wheel, leather-wrapped rim
P03	Wheels, Gray painted
PF9	Wheels, 4 - 16" x 7" (40.6 cm x 17.8 cm) cast aluminum, includes steel spare
PNC	Trim panels
PY2	Wheels, 4 - chrome-styled steel
TBM	Ship Thru for all Models (MSRP = $115.00)Produced in Wentzville and shipped to Adrian Steel

2004 Chevrolet Truck Express Cargo YF7 RPO CODES
Upfitter

Option Code	Description
TBQ	Ship Thru for all Models (MSRP = $350.00)Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment
TCC	Ship Thru for all Models (MSRP = $640.00)Produced in Wentzville and shipped to Quigley
TGK	Solid PaintSEO solid paint, one color
U1C	Sound system, ETR AM/FM stereo with CD player
UA1	Battery, heavy-duty, 800 cold-cranking amps
UB1	Sound system, ETR AM/FM stereo with CD and cassette player
UC6	Sound system, ETR AM/FM stereo with 6-disc CD changer
UE1	OnStar
UY7	Trailer wiring, 7-lead wiring harness
V10	Cold Climate Package
V14	Transmission oil cooler, external
V22	Grille, chrome
VAD	Ship Thru for all Models (MSRP = $25.00)Produced in Wentzville and shipped to Crown/Masterack
VAP	Ship Thru for all Models (MSRP = $220.00)Produced in Wentzville and shipped to Knapheide Truck Equipment
VAR	Ship Thru for all Models (MSRP = $385.00)Produced in Wentzville and shipped to Midway
VCL	Emissions Certification, CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle).
VCY	Ship Thru for all Models (MSRP = No Charge)Produced in Wentzville and shipped to Trans Design & Mfg
VK3	License plate bracket, front
VK5	Seat, temporary driver
VXT	Incomplete vehicle certification
XEN	Tires, front P235/75R16EL, all-season, blackwall
XEP	Tires, front P235/75R16EL, all-season, White outlined-letter
XHF	Tires, front LT225/75R16E, all-season, blackwall
XHH	Tires, front LT245/75R16E, all-season, blackwall
XHP	Tires, front LT225/75R16D, all-season, blackwall
YF5	Emissions, California state requirements
YF7	Upfitter Package
Z82	Trailering equipment, heavy-duty
ZQ2	Convenience Package
ZQ3	Convenience Package
ZW3	Glass, rear doors and side cargo doors
ZW6	Glass, full body window package
ZW9	Body, standard
ZY1	Paint, solid

S = Standard Equipment A = Available – (dashes) = Not 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 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	AK5	**Air bags,** frontal, driver and right front passenger **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]
	C60	**Air conditioning,** front manual	S
		Assist handle, front passenger	S
		Cupholders, 3, on engine console cover	S
		Defogger, side window	S
	B31	**Floor covering,** Black rubberized vinyl front	S
		Headliner, cloth, over driver and passenger	S
		Heater and defogger, includes front and side window defoggers	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S
		Lighting, interior, dome lamp, includes door handle-activated switches	S
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints	S
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)	S
		Theft-deterrent system, PASSlock	S
		Tow/haul mode selector, IP mounted	S
		Visors, padded, driver and passenger side	S
		Warning tones, headlamp on, key-in-ignition	S
	ZW9	**Body,** standard	S
		Bumper, front, painted Black, includes step-pad **1 - Not available with (ZR7) Appearance Package or (YF1) RV Package.**	S[1]
		Daytime running lamps	S
		Glass, Solar-Ray light tinted, all windows	S
		Grille, Black composite, with single rectangular halogen headlamps **1 - Not available with (ZR7) Chrome Appearance Package.**	S[1]
	VK3	**License plate bracket,** front	S
	D28	**Mirrors,** outside rearview, not equipped	S
	ZY1	**Paint,** solid	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	S[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	S[1]
	XHP	**Tires,** front LT225/75R16D, all-season, blackwall **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models. Standard on CG33803 and CG33903 Models only.**	S[1]
	YHP	**Tires,** rear LT225/75R16D, all-season, blackwall **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models. Standard on CG33803 and CG33903 Models only.**	S[1]
	R04	**Wheels,** single rear 4 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg) and CG33503 Models.**	S[1]
		Wipers, intermittent, front, wet-arm with pulse washers	S
	KG3	**Alternator,** 145 amps	S
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S
		Brakes, 4-wheel antilock, 4-wheel disc	S
		Brake/transmission shift interlock, automatic transmission	S
	LQ4	**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external oil cooler.**	S[1]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S
		Frame, ladder-type	S
		Oil life monitor	S
	GT5	**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	S[1]
		Steering, power	S
		Suspension, front, independent coil springs and stabilizer bar	S
		Suspension, rear, hypoid drive axle with multi-leaf springs	S
	MT1	**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler	S

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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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
		Standard Equipment	■

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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 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
		Standard Equipment	■
		ADDITIONAL OPTIONS	
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **1 - Required with (ZX1) Seat, driver only high-back reclining bucket. - 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]
R6G		**Air conditioning delete** **1 - Not available with (YF1) RV Package.**	A[1]
ZQ2		**Convenience Package,** power windows and door locks	A
ZQ3		**Convenience Package,** Tilt-Wheel and cruise control **1 - Included with (YF1) RV Package.**	A[1]
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]
D31		**Mirror,** inside rearview, manual day/night **1 - Included with (YF1) RV Package.**	A[1]
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests	A
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Components cannot be added back later.**	A[1]
ZX2		**Seats,** driver and passenger high-back reclining buckets, adjustable, includes head restraints and vinyl or cloth trim	A
DT4		**Smoker's Package,** includes ashtray and lighter	A
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Included with (YF1) RV Package. With (YF1) RV Package, (U1C) Sound system is upgradeable to (UB1) Sound system, ETR AM/FM Stereo with CD and cassette player, or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer or substituted with (UL5) Sound system, radio delete. Available on Non- (YF1) RV Package.**	A[1]
UL5		**Sound system,** radio delete, deletes antenna, wiring cable, and speakers	A

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2) **1 - Requires (YF1) RV Package and (ZQ2) Convenience Package.**	A[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2) **1 - Requires (YF1) RV Package and (ZQ2) Convenience Package.**	A[1]
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (YF1) RV Package.**	A[1]
V46		**Bumper,** front, chrome, includes step-pad **1 - Included with (ZR7) Chrome Appearance Package.**	A[1]
ZR7		**Chrome Appearance Package**, includes chrome grille with dual composite halogen headlamps and front chrome bumper **1 - Included with (YF1) RV Package.**	A[1]
R6B		**Chrome Appearance Package Delete** **1 - Deletes (ZR7) Chrome Appearance Package from (YF1) RV Package.**	A[1]
V22		**Grille,** chrome, with dual composite halogen headlamps **1 - Included and only available with (ZR7) Chrome Appearance Package**	A[1]
DE2		**Mirrors,** outside rearview, manual folding, Black **1 - Requires (R04) Wheels, single rear.**	A[1]
DF2		**Mirrors,** outside rearview manual folding, camper-style, high visibility, extendable, stainless-steel	A
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires Model *G33503, (C6Y) GVWR, 9600 lbs. (4354 kg), (C60) Air conditioning, front manual and (YF1) RV Package. Not available with (R6G) Air conditioning delete.**	A[1]
YF1		**RV Package**. Upfitter Option. **1 - Includes (U1C) Sound system, ETR AM/FM stereo with CD player, (ZQ3) Convenience Package, (D31) Mirror, inside rearview, day/night, (ZR7) Chrome Appearance Package and (BNC) Body, soft-mount donut and bolt. Requires (C6Y) GVWR, 9600 lbs. (4354 kg) or (C7N) GVWR, 12,300 lbs. (5579 kg). Not available if ordered with (ENC) HVAC system, auxiliary provisions without (AU3) Door locks, power or (ZQ2) Convenience Package.**	A[1]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Includes (D31) Mirror, inside rearview, day/night with (C6Y) GVWR, 9600 lbs. (4354 kg), (C7A) GVWR, 10,000 lbs. (4536 kg) or (C7L) GVWR, 12,000 lbs. (5443 kg), includes provisions for rear heater. Includes (U05) Horn, dual note tone.**	A[1]
ZHH		**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	A[1]
ZHP		**Tire,** spare LT225/75R16D, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models.**	A[1]
R05		**Wheels,** dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray **1 - Not available with (XHH) Tires, front LT245/75R16E, all-season, blackwall, (YHH) Tires, rear LT245/75R16E, all-season, blackwall or (ZHH) Tire, spare LT245/75R16E, all-season blackwall.**	A[1]

ADDITIONAL OPTIONS			
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
KL5		**Alternative fuel conversion-ready engine**, includes internal modifications for operation with natural or propane gas	A
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	A
BNC		**Body,** soft-mount donut and bolt (for mounting Upfit body to chassis)	A
V10		**Cold Climate Package**, includes engine block heater	A
G80		**Differential,** locking, heavy-duty, rear	A
YF5		**Emissions,** California state requirements	A
FE9		**Emissions,** Federal requirements	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A
NE7		**Fuel tank capacity**, approximately 57 gallons (215.7L) **1 - Requires CG33803 or CG33903 Models.**	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg)	A
C7A		**GVWR,** 10,000 lbs. (4536 kg) **1 - Not available with (YF1) RV Package.**	A[1]
C7L		**GVWR,** 12,000 lbs. (5443 kg) **1 - Not available with (YF1) RV Package.**	A[1]
C7N		**GVWR,** 12,300 lbs. (5579 kg) **1 - Requires (YF1) RV Package.**	A[1]
ENC		**HVAC system,** auxiliary provisions	A
V14		**Transmission oil cooler,** external	A

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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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
		Standard Equipment	■

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	AK5	**Air bags,** frontal, driver and right front passenger **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]
AJ3		**Air bag,** frontal, driver side only (deletes passenger side) **1 - Required with (ZX1) Seat, driver only high-back reclining bucket. - 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]
	C60	**Air conditioning,** front manual	S
R6G		**Air conditioning delete** **1 - Not available with (YF1) RV Package.**	A[1]
		Assist handle, front passenger	S
ZQ2		**Convenience Package**, power windows and door locks	A
ZQ3		**Convenience Package**, Tilt-Wheel and cruise control **1 - Included with (YF1) RV Package.**	A[1]
		Cupholders, 3, on engine console cover	S
		Defogger, side window	S
AU3		**Door locks,** power, includes Lock-out Protection **1 - Included with (ZQ2) Convenience Package.**	A[1]
	B31	**Floor covering,** Black rubberized vinyl front	S
		Headliner, cloth, over driver and passenger	S
		Heater and defogger, includes front and side window defoggers	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, voltmeter, engine temperature and oil pressure	S
		Lighting, interior, dome lamp, includes door handle-activated switches	S
D31		**Mirror,** inside rearview, manual day/night **1 - Included with (YF1) RV Package.**	A[1]
		Power outlet, auxiliary, 2 covered, on engine console cover, 12-volt	S
	AR7	**Seats,** front vinyl reclining buckets, includes head restraints	S
AS5		**Seats,** front Custom Cloth buckets, includes head restraints and inboard armrests	A
ZX1		**Seat,** driver only high-back reclining bucket, adjustable, includes head restraint and vinyl or cloth trim **1 - Deletes passenger side air bag, seat and safety belt. Components cannot be added back later.**	A[1]
ZX2		**Seats,** driver and passenger high-back reclining buckets, adjustable, includes head restraints and vinyl or cloth trim	A
DT4		**Smoker's Package**, includes ashtray and lighter	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	UM7	**Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)	S
U1C		**Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2) **1 - Included with (YF1) RV Package. With (YF1) RV Package, (U1C) Sound system is upgradeable to (UB1) Sound system, ETR AM/FM Stereo with CD and cassette player, or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer or substituted with (UL5) Sound system, radio delete. Available on Non- (YF1) RV Package.**	A[1]
UL5		**Sound system,** radio delete, deletes antenna, wiring cable, and speakers	A
UB1		**Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2) **1 - Requires (YF1) RV Package and (ZQ2) Convenience Package.**	A[1]
UC6		**Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2) **1 - Requires (YF1) RV Package and (ZQ2) Convenience Package.**	A[1]
		Theft-deterrent system, PASSlock	S
		Tow/haul mode selector, IP mounted	S
		Visors, padded, driver and passenger side	S
DH6		**Visors,** padded, driver and passenger side with cloth trim and dual vanity mirrors, illuminated on passenger side **1 - Requires (YF1) RV Package.**	A[1]
		Warning tones, headlamp on, key-in-ignition	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	ZW9	**Body,** standard	S
V46		**Bumper,** front, chrome, includes step-pad **1 - Included with (ZR7) Chrome Appearance Package.**	A[1]
		Bumper, front, painted Black, includes step-pad **1 - Not available with (ZR7) Appearance Package or (YF1) RV Package.**	S[1]
ZR7		**Chrome Appearance Package,** includes chrome grille with dual composite halogen headlamps and front chrome bumper **1 - Included with (YF1) RV Package.**	A[1]
R6B		**Chrome Appearance Package Delete** **1 - Deletes (ZR7) Chrome Appearance Package from (YF1) RV Package.**	A[1]
		Daytime running lamps	S
		Glass, Solar-Ray light tinted, all windows	S
		Grille, Black composite, with single rectangular halogen headlamps **1 - Not available with (ZR7) Chrome Appearance Package.**	S[1]
V22		**Grille,** chrome, with dual composite halogen headlamps **1 - Included and only available with (ZR7) Chrome Appearance Package**	A[1]
	VK3	**License plate bracket,** front	S
	D28	**Mirrors,** outside rearview, not equipped	S
DE2		**Mirrors,** outside rearview, manual folding, Black **1 - Requires (R04) Wheels, single rear.**	A[1]
DF2		**Mirrors,** outside rearview manual folding, camper-style, high visibility, extendable, stainless-steel	A
DE5		**Mirrors,** outside rearview, manual folding, power adjust, heated, Black **1 - Requires Model *G33503, (C6Y) GVWR, 9600 lbs. (4354 kg), (C60) Air conditioning, front manual and (YF1) RV Package. Not available with (R6G) Air conditioning delete.**	A[1]
	ZY1	**Paint,** solid	S
YF1		**RV Package**. Upfitter Option. **1 - Includes (U1C) Sound system, ETR AM/FM stereo with CD player, (ZQ3) Convenience Package, (D31) Mirror, inside rearview, day/night, (ZR7) Chrome Appearance Package and (BNC) Body, soft-mount donut and bolt. Requires (C6Y) GVWR, 9600 lbs. (4354 kg) or (C7N) GVWR, 12,300 lbs. (5579 kg). Not available if ordered with (ENC) HVAC system, auxiliary provisions without (AU3) Door locks, power or (ZQ2) Convenience Package.**	A[1]
B3D		**School Bus Package,** chassis equipment with brake warning indicator **1 - Includes (D31) Mirror, inside rearview, day/night with (C6Y) GVWR, 9600 lbs. (4354 kg), (C7A) GVWR, 10,000 lbs. (4536 kg) or (C7L) GVWR, 12,000 lbs. (5443 kg), includes provisions for rear heater. Includes (U05) Horn, dual note tone.**	A[1]
	XHH	**Tires,** front LT245/75R16E, all-season, blackwall **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	S[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
	YHH	**Tires,** rear LT245/75R16E, all-season, blackwall **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	S[1]
	XHP	**Tires,** front LT225/75R16D, all-season, blackwall **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models. Standard on CG33803 and CG33903 Models only.**	S[1]
	YHP	**Tires,** rear LT225/75R16D, all-season, blackwall **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models. Standard on CG33803 and CG33903 Models only.**	S[1]
ZHH		**Tire,** spare LT245/75R16E, all-season, blackwall, located at rear underbody of vehicle **1 - Requires CG33503 Model. Not available with (R05) Wheels, dual rear.**	A[1]
ZHP		**Tire,** spare LT225/75R16D, all-season, blackwall, located at rear underbody of vehicle **1 - Requires (R05) Wheels, dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray on CG33503 Models.**	A[1]
	R04	**Wheels,** single rear 4 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray **1 - Requires (C6Y) GVWR, 9600 lbs. (4354 kg) and CG33503 Models.**	S[1]
R05		**Wheels,** dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray **1 - Not available with (XHH) Tires, front LT245/75R16E, all-season, blackwall, (YHH) Tires, rear LT245/75R16E, all-season, blackwall or (ZHH) Tire, spare LT245/75R16E, all-season blackwall.**	A[1]
		Wipers, intermittent, front, wet-arm with pulse washers	S

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
KL5		**Alternative fuel conversion-ready engine**, includes internal modifications for operation with natural or propane gas	A
	KG3	**Alternator,** 145 amps	S
		Battery, 600 cold-cranking amps, includes rundown protection and retained accessory power	S
UA1		**Battery,** heavy-duty, 800 cold-cranking amps, includes rundown protection and retained accessory power	A
BNC		**Body,** soft-mount donut and bolt (for mounting Upfit body to chassis)	A
		Brakes, 4-wheel antilock, 4-wheel disc	S
		Brake/transmission shift interlock, automatic transmission	S
V10		**Cold Climate Package**, includes engine block heater	A
G80		**Differential,** locking, heavy-duty, rear	A
YF5		**Emissions,** California state requirements	A
FE9		**Emissions,** Federal requirements	A
NE1		**Emissions,** Maine, Massachusetts, New York or Vermont state requirements	A
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) Emissions, California state requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.**	A[1]
NB8		**Emissions override,** California, Massachusetts, New York or Vermont (for vehicles ordered by dealers in states of California, Massachusetts, New York or Vermont with Federal emissions) **1 - Requires (FE9) Emissions, Federal requirements.**	A[1]
VCL		**Emissions Certification,** CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle). Option (VCL) should ONLY be ordered to receive the CFF LEV certification. If VCL is not ordered, the vehicle will be produced with your normally selected emission system and may not be CFF LEV certified. Products ordered with the VCL option may not be certified to California emission requirements. Therefore, they may not be legal for registration in California, New York, Massachusetts, Maine and Vermont. Option YF5 should be ordered for all vehicles ordered in California	A
	LQ4	**Engine,** Vortec 6000 V8 SFI (300 HP [223.8 kW] @ 4400 rpm, 360 lb.-ft. [486.6 N-m] @ 4000 rpm) **1 - Includes external oil cooler.**	S[1]
		Exhaust, aluminized stainless-steel muffler and tailpipe	S
		Frame, ladder-type	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
NE7		**Fuel tank capacity**, approximately 57 gallons (215.7L) **1 - Requires CG33803 or CG33903 Models.**	A[1]
C6Y		**GVWR,** 9600 lbs. (4354 kg)	A
C7A		**GVWR,** 10,000 lbs. (4536 kg) **1 - Not available with (YF1) RV Package.**	A[1]
C7L		**GVWR,** 12,000 lbs. (5443 kg) **1 - Not available with (YF1) RV Package.**	A[1]
C7N		**GVWR,** 12,300 lbs. (5579 kg) **1 - Requires (YF1) RV Package.**	A[1]
ENC		**HVAC system,** auxiliary provisions	A
		Oil life monitor	S
	GT5	**Rear axle,** 4.10 ratio **1 - Please reference Engine/Axle page to verify availability.**	S[1]
		Steering, power	S
		Suspension, front, independent coil springs and stabilizer bar	S
		Suspension, rear, hypoid drive axle with multi-leaf springs	S
	MT1	**Transmission,** 4-speed automatic, heavy-duty, electronically controlled with overdrive, tow/haul mode and internal transmission oil cooler	S
V14		**Transmission oil cooler,** external	A

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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.

		Transmissions	Axles	GVWR lbs. (kg)			
Model	Engine	MT1 4-Speed Automatic HD	GT5 4.10	C6Y 9600 (4354)	C7A 10,000 (4536)	C7L 12,000 (5443)	C7N 12,300 (5579)
CG33503	LQ4 Vortec 6000 V8 SFI	S	S	S[1]	A[2]	A[2]	A[3]
CG33803	LQ4 Vortec 6000 V8 SFI	S	S	--	S[2]	A[2]	A[3]
CG33903	LQ4 Vortec 6000 V8 SFI	S	S	--	--	S[2]	A[3]

1 - Requires (R04) Single rear wheels.

2 - Requires (R05) Dual rear wheels.

3 - Requires (YF1) RV Package and (R05) Dual rear wheels.

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	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Vinyl	52W	93W
Base	Reclining high-back buckets with inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Light Pewter Metallic	11U	WA-382E	A	A
Indigo Blue Metallic	39U	WA-9792	A	A
Black	41U	WA-8555	A	A
Dark Green Metallic	47U	WA-9539	A	A
Summit White	50U	WA-8624	A	A
Sandalwood Metallic	58U	WA-711J	A	--
Dark Gray Metallic	62U	WA-805K	--	A
Victory Red	74U	WA-9260	A	A
Berry Red Metallic	87U	WA-811K	A	A

Above interior combinations are the only combinations allowed.

1 - Standard on Express Cutaway Base.

2 - Available on Express Cutaway Base.

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	
				Neutral	Medium Dark Pewter
Base	Reclining high-back buckets	AR7[1]	Vinyl	52W	93W
Base	Reclining high-back buckets with inboard armrests	AS5[2]	Custom Cloth	52G	93G

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior	
			Neutral	Medium Dark Pewter
Yellow	none	WA-5456	A	A
Green	none	WA-7927	A	A
Green	none	WA-7941	A	A
Silver Metallic	none	WA-8867	A	A
Green, Woodland	9V5	WA-9015	A	A
Doeskin Tan	9V9	WA-9403	A	A
Tangier Orange	9W4	WA-9417	A	A
NEW! Light Stellar Blue	none	WA-146B	A	A
Yellow	none	WA-215D	A	A
Wheatland Yellow	9W3	WA-253A	A	A
Toreador Red	none	WA-257C	A	A
Madrid Red	none	WA-341D	A	A
NEW! Storm Gray	none	WA-391E	A	A
Yellow	none	WA-478G	A	A

1 - Standard on Express Cutaway Base.
2 - Available on Express Cutaway Base.

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.

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 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
		Interior	
AG1		**Seat adjuster, power, driver 6-way riser only (MSRP = $160.00)** Upfitter option. Multi-directional 6-way power driver seat riser. Does not include driver seat. **1 - Requires SEO (ZP1) Seating, temporary driver only or SEO (ZP0) Seats, delete driver and passenger to be ordered and priced in addition to SEO (AG1) and an order for shipment to an upfitter or body builder.**	A[1]
AG2		**Seat adjuster, power, front passenger 6-way riser only (MSRP $160.00)** Upfitter option. Multi-directional 6-way power passenger seat riser. Does not include passenger seat. **1 - Requires RPO (AG1) Seat adjuster, power, driver 6-way, RPO (ZP0) Seats, delete driver and passenger to be ordered and priced in addition to RPO (AG2) and an order for shipment to an upfitter or body builder.**	A[1]
ZP1		**Seating, temporary driver only (MSRP = -$250.00 Credit)** This SEO is a seat delete option that deletes the driver and passenger front seats and provides a seat riser with a temporary seat on driver side only. **1 - Requires RPO (AJ3) Air bag, frontal, driver side only and SEO (9T7) Door, passenger side delete. Not available with RPO (ZQ2) Convenience Package, power windows and door locks, RPO (ZX1) Seat, driver only high-back reclining bucket or SEO (ZP1) Seating, temporary driver only.**	A[1]
ZP0		**Seats, delete driver and passenger, leaves seat risers on both sides (MSRP = -$75.00 Credit)** Upfitter Option. Deletes the standard driver and passenger front seats. Provides driver and passenger seat risers with adjusters and seat belts. Provides a temporary seat facility only for transportation of vehicle **1 - Requires shipment to an upfitter or body builder.**	A[1]
9R0		**Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)** AM/FM radio with cassette, no CD. **1 - Requires a Fleet or Government sales order.**	A[1]
9J6		**Steering column, tilt (MSRP = $145.00)** Tilt-steering column without cruise control. **1 - Not Available with RPO (ZQ3) Convenience Package or RPO (YF1) RV Package.**	A[1]
5C5		**Vinyl Sun Visors (MSRP = No Charge)** Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors. **1 - Requires a Fleet or Government sales order and RPO (AS5) Seats, front Custom Cloth buckets. Not available with RPO (DH6) Visor, padded, driver and passenger side with cloth trim and dual vanity mirrors or (YF1) RV Package.**	A[1]
		Exterior	
8E9		**Bumper, front, painted White (MSRP = $45.00)** White painted front bumper in lieu of the standard Black. **1 - Requires a Fleet or Government sales order. Not available with RPO (YF1) RV Package or RPO (ZR7) Chrome Appearance Package.**	A[1]

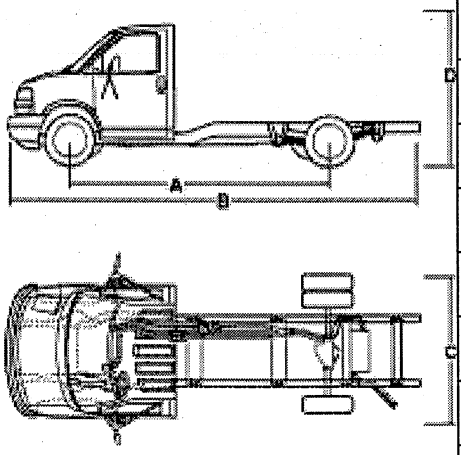
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
DE5		**Mirrors, outside rearview, foldaway, power, heated, Black (MSRP = $230.00)** Exterior driver and passenger side electric heated remote control mirrors. Passenger side mirror will be flat. **1 - Requires G33803 or G33903 Models and RPO (C60) Air conditioning and RPO (ZQ2) Convenience Package. Not available with (YF1) RV Package.**	A[1]
9T7		**Door, passenger side delete (MSRP = -$140.00 Credit)** Upfitter option. Deletes the passenger door and replaces it with a temporary plastic shipping cover. Passenger side radio speaker is shipped loose. **1 - Requires shipment to an upfitter or body builder and RPO (ZX1) Seat, driver only high-back reclining bucket or SEO (ZP1) Seating, temporary driver only. Not available with outside mirror options or RPO (ZQ2) Convenience Package.**	A[1]
5Z5		**Hubcap delete (MSRP = -$17.00 Credit)** Deletes hub caps from standard wheels.	A
8X1		**Label, fasten safety belts (MSRP = $2.00)** "Fasten Safety Belts" reminder label on side door window glass. **1 - Not available with SEO (9T7) Door, passenger side delete.**	A[1]
6M3		**Mirrors, outside rearview, convex combination (MSRP = $265.00)** Provides 6.5" X 10" flat and 6.5" X 6" convex heads each side. Convex head positioned under the flat head on a West Coast style arm assembly with spring loaded pre-set feature. Includes cab drillings and mirror assembly shipped loose. **1 - Not available with RPO (YF1) RV Package.**	A[1]
9F3		**Mirrors, outside rearview, convex combination low mount (MSRP = $168.00)** 7" X 6.5" flat surface over a 7" X 3" convex surface within a common mirror head mounted on a camper type mirror arm. Includes cab drillings and mirror assembly shipped loose. **1 - Requires RPO (C6Y) GVWR, 9600 lbs. (4354 kg) on Model G33503 or RPO (C7A) GVWR, 10,000 lbs. (4536 kg) on Models G33503 or G33803. Not available on Model G33903 or RPO (YF1) RV Package.**	A[1]
8F2		**Ornamentation, delete (MSRP = $12.00)** Upfitter Option. Deletes the badging and emblems that are standard on the vehicle and ships these items loose.	A
9V9		**Paints, solid (MSRP = No Charge),** Doeskin Tan **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
9W4		**Paints, solid (MSRP = No Charge),** Tangier Orange **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
9W3		**Paints, solid (MSRP = No Charge),** Wheatland Yellow **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
9V5		**Paints, solid (MSRP = No Charge),** Woodland Green **1 - Requires SEO (TGK) Special Paint, one color.**	A[1]
R04		**Rear axle with single rear wheels (MSRP = $195.00)** Provides a rear axle with 16" (40.6cm) single rear wheels in lieu of the standard dual rear wheels. **1 - Requires Model G33803, RPO (C6Y) GVWR, 9600 lbs. (4354 kg), RPO (XHH) Tires, front LT245/75R16E, all-season, blackwall, RPO (YHH) Tires, rear LT245/75R16E, all-season, blackwall, SEO (9R5) Suspension, rear multi-leaf and a Fleet or Government sales order.**	A[1]

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
TGK		**Solid Paint** SEO solid paint, one color **1 - Required with any SEO paint selection.**	A[1]
Q8C		**Tire valve stem caps, air thru (MSRP = $6.00) with RPO (R04) Wheels, single rear, (MSRP = $9.00) with RPO (R05) Wheels, dual rear or Models G33803 or G33903** Air through valve caps on the tire air valves. **1 - Not available with RPO (YF1) RV Package.**	A[1]
8R3		**Tire valve stems, brass (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear or with SEO (8R2) Tire valve stems, long, brass, (MSRP = $30.00) with RPO (R05) Wheels, dual rear or without SEO (8R2) Tire valve stems, long, brass, on Models G33503; on Models G33803 or G33903 (MSRP = $20.00) with SEO (8R2) Tire valve stems, long, brass and (MSRP = $30.00) without SEO (8R2) Tire valve stems, long, brass** Brass metal valve stem in lieu of standard. Also included on spare when furnished. **1 - Not available with RPO (YF1) RV Package.**	A[1]
8R2		**Tire valve stems, long, brass, for inside dual rear wheels (MSRP = $10.00)** Brass metal long valve stems on the inner wheels of dual rear wheel axles for easy air inflation. Includes air-thru valve caps. **1 - Requires RPO (R05) Wheels, dual rear on Model G33503. Not available with RPO (YF1) RV Package.**	A[1]
2HI		**Tires, front Goodyear G647RSA highway tread (MSRP = $117.34)** Provides LT225/75R16 (E) 10 ply tires on cargo vans. **1 - Requires SEO (3HI) Tires, rear Goodyear G647RSA, Models, G33803 or G33903, RPO (C7A) GVWR, 10,000 lb. (4536 kg) or (C7L) GVWR, 12,000 lb. (5443 kg). Not available with RPO (KL6) Alternative fuel conversion, Bi-fuel compressed natural gas, (KL8) Alternative fuel conversion, dedicated compressed natural gas or RPO (YF1) RV Package.**	A[1]
3HI		**Tires, rear Goodyear G647RSA highway tread (MSRP = $234.68)** Provides LT225/75R16 (E) 10 ply tires on dual rear wheel vans. **1 - Requires SEO (2HI) Tires, front Goodyear G647RSA and (SEO (4HI) Tires, spare or RPO (ZX9) Tire, spare delete), on Models G23405 or G23705 with RPO (C6P) GVWR, 8600 lbs. (3901 kg). Not available with RPO (YF5) Emissions, California state requirements or RPO (NE1) Emissions, Massachusetts or Maine state requirements.**	A[1]
5G0		**Wheels, painted Black (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear and no spare tire ordered, (MSRP = $25.00) with RPO (R04) Wheels, single rear and a spare tire ordered, (MSRP = $30.00) with RPO (R05) Wheels, dual rear and no spare tire ordered, (MSRP = $35.00) with RPO (R05) Wheels, dual rear and a spare tire ordered; on Models G33803 or G33903 (MSRP = $30.00) with no spare tire ordered, (MSRP = $35.00) with a spare tire ordered** Black painted wheels in lieu of standard Gray painted wheels. **1 - Available with RPO (YF1) RV Package.**	A[1]
5G2		**Wheels, painted White (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear and no spare tire ordered, (MSRP = $25.00) with RPO (R04) Wheels, single rear and a spare tire ordered, (MSRP = $30.00) with RPO (R05) Wheels, dual rear and no spare tire ordered, (MSRP = $35.00) with RPO (R05) Wheels, dual rear and a spare tire ordered; on Models G33803 or G33903 (MSRP = $30.00) with no spare tire ordered, (MSRP = $35.00) with a spare tire ordered** White painted wheels in lieu of standard Gray painted wheels. **1 - Available with RPO (YF1) RV Package.**	A[1]
		Mechanical	

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment group 1SA available on CG33503, CG33803 and CG33903 Models.	Base 1SA[1]
UJ1		**Brake Warning Indicator (MSRP = $65.00)** An audible and visual brake system warning indicator. Included with RPO (B3D) School Bus Package.	A
9C7		**Coolant recovery bottle with tethered cap (MSRP = $12.00)** Tethered no-loss cap on the coolant recovery bottle. **1 - Requires RPO (LQ4) Engine, Vortec 6000 V8 SFI or SEO (8U7) Engine, 4800 V8. Not available with RPO (YF1) RV Package.**	A[1]
8U7		**Engine, Special Application Vortec 4800 V8 (MSRP = -$850.00 Credit)** Provides RPO (LR4) Engine, Vortec 4800 V8 in lieu of the standard RPO (LQ4) Engine, Vortec 6000 V8. **1 - Requires Model G33503, RPO (R04) Wheels, 4 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray (single rear), RPO (C6Y) GVWR, 9600 lb. (4354 kg). Not available with (YF1) RV Package.**	A[1]
5C4		**Front Spring, High Rate Upgrade (MSRP = $40.00)** Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating **1 - Requires Models G33803 and RPO (C7L) GVWR, 12,000 lbs. (5443 kg). Not available with RPO (B3D) School Bus Package.**	A[1]
8E1		**Fuel, additional 3 gallons (MSRP = $8.00)** 3 gallons of fuel in addition to normal assembly plant fill.	A
9B4		**Fuel fill cap with stainless steel tether (MSRP = $15.00)** Fuel filler pipe cap with a stainless steel tether in lieu of the standard plastic tether. **1 - Requires RPO (LQ4) Engine, Vortec 6000 V8 SFI or SEO (8U7) Engine, 4800 V8 on Model G33503. Not available with RPO (YF1) RV Package.**	A[1]
9R5		**Suspension, rear multi-leaf (MSRP = $66.00)** Multi-leaf suspension on the rear of the vehicle in lieu of the standard tapered leaf. **1 - Not available with RPO (YF1) RV Package.**	A[1]
		Ship Thru Codes	
TBM		**Ship Thru for all Models (MSRP = $115.00)** Produced in Wentzville and shipped to Adrian Steel	A
TBQ		**Ship Thru for all Models (MSRP = $350.00)** Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment	A
TBZ		**Ship Thru for all Models (MSRP = $140.00)** Produced in Wentzville and shipped to Kranz Automotive	A
TCC		**Ship Thru for all Models (MSRP = $640.00)** Produced in Wentzville and shipped to Quigley	A
VAD		**Ship Thru for all Models (MSRP = $25.00)** Produced in Wentzville and shipped to Crown/Masterack	A
VAP		**Ship Thru for all Models (MSRP = $220.00)** Produced in Wentzville and shipped to Knapheide Truck Equipment	A
VAR		**Ship Thru for all Models (MSRP = $385.00)** Produced in Wentzville and shipped to Midway	A
VCY		**Ship Thru for all Models (MSRP = No Charge)** Produced in Wentzville and shipped to Trans Design & Mfg	A

2004 Chevrolet Truck Express Cutaway DIMENSIONS

All dimensions in inches (mm) unless otherwise stated.

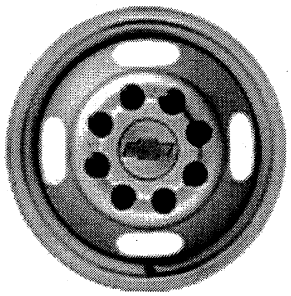
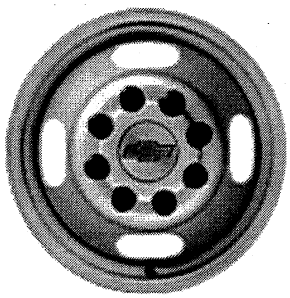


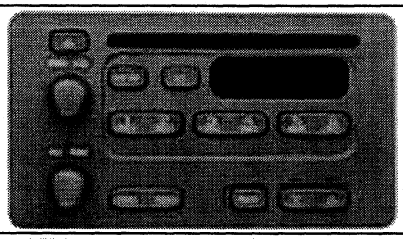
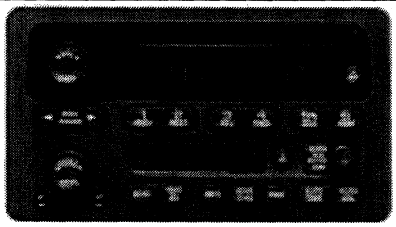
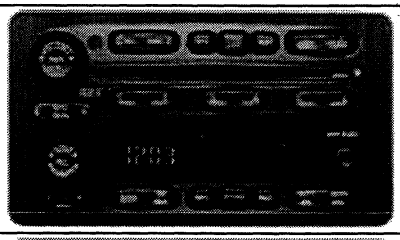
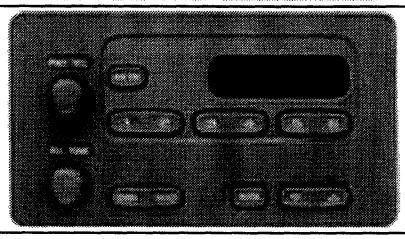
	Specifications	3500 (CG33503)	3500 (CG33803)	3500 (CG33903)
A	**Wheelbase**	139.00 (3531)	159.00 (4039)	177.00 (4496)
B	**Overall length**	246.70 (6266)	266.70 (6774)	284.80 (7234)
C	**Body width**	79.10 (2009)	79.10 (2009)	79.10 (2009)
D	**Overall height**	82.90 (2106)	82.90 (2106)	82.90 (2106)
	Head room, front	40.20 (1021)	40.20 (1021)	40.20 (1021)
	Shoulder room, front	68.80 (1748)	68.80 (1748)	68.80 (1748)
	Hip room, front	65.50 (1664)	65.50 (1664)	65.50 (1664)
	Leg room, front	41.30 (1049)	41.30 (1049)	41.30 (1049)
	Ground clearance, front	7.60 (193)	7.60 (193)	7.60 (193)
	Ground clearance, rear	6.80 (173)	7.00 (178)	7.00 (178)

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.

	3500 (CG33503)	3500 (CG33803)	3500 (CG33903)
Specifications			
Front shock absorber diameter, in. (mm)	1.38 (35)	1.38 (35)	1.38 (35)
Front stabilizer bar diameter, in. (mm)	1.38 (35)	1.38 (35)	1.38 (35)
Rear shock absorber diameter, in. (mm)	1.38 (35)	1.38 (35)	1.38 (35)
Capacities			
Front axle, lbs. (kg)	4300 (1950)	4300 (1950)	4300 (1950)
Front spring capacity, lbs. (kg)	4100 (1860)	4100 (1860)	4300 (1950)
Rear axle, lbs. (kg)	6084 (2760)	7500 (3402)	8600 (3901)
Rear spring capacity, lbs. (kg)	6084 (2760)	7500 (3402)	8600 (3901)
Curb weight, lbs. (kg)	4544 (2061)	4877 (2212)	4895 (2220)
Payload[1], lbs. (kg)	5056 (2293)	5123 (2324)	7105 (3223)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	9600 (4355)	10000 (4536)	12000 (5443)
Front Gross Axle Weight Rating (GAWR), lbs. (kg)	4100 (1860)	4100 (1860)	4600 (2087)
Rear Gross Axle Weight Rating (GAWR), lbs. (kg)	6084 (2760)	7500 (3402)	8600 (3901)
Fuel capacity, approximate, gallon (liters)	33 (125)	33 (125)	33 (125)
Seating capacity (front/rear)	2	2	2

1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.

	R05 **Wheels,** dual rear, 6 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray
	R04 **Wheels,** single rear 4 - 16" x 6.5" (40.6 cm x 16.5 cm), steel painted Gray

	U1C **Sound system,** ETR AM/FM stereo with CD player, includes seek-and-scan, digital clock, TheftLock and random select. Includes front door speakers (2)
	UB1 **Sound system,** ETR AM/FM stereo with CD and cassette player, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select, auto-reverse cassette and Radio Data System (RDS). Includes front door speakers (2)
	UC6 **Sound system,** ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock, auto-tone control, speed-compensated volume, TheftLock, random select and Radio Data System (RDS). Includes front door speakers (2)
	UM7 **Sound system,** ETR AM/FM stereo, includes seek-and-scan and digital clock. Includes front door speakers (2)

Option Code	Description
2HI	Tires, front Goodyear G647RSA highway tread (MSRP = $117.34) Provides LT225/75R16 (E) 10 ply tires on cargo vans.
3HI	Tires, rear Goodyear G647RSA highway tread (MSRP = $234.68)
5C4	Front Spring, High Rate Upgrade (MSRP = $40.00)Provides computer selected high rate front springs. Recommended for higher center of gravity loads that are located at or near the front axle. Provides increased front spring capacity but will not change the front GAWR rating
5C5	Vinyl Sun Visors (MSRP = No Charge)Provides vinyl sun visors when deluxe cloth bucket seats are ordered. Replaces cloth sun visors.
5G0	Wheels, painted Black (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear and no spare tire ordered, (MSRP = $25.00) with RPO (R04) Wheels, single rear and a spare tire ordered, (MSRP = $30.00) with RPO (R05) Wheels, dual rear and no spare tire ordered, (MSRP = $35.00) with RPO (R05) Wheels, dual rear and a spare tire ordered; on Models G33803 or G33903 (MSRP = $30.00) with no spare tire ordered, (MSRP = $35.00) with a spare tire ordered
5G2	Wheels, painted White (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear and no spare tire ordered, (MSRP = $25.00) with RPO (R04) Wheels, single rear and a spare tire ordered, (MSRP = $30.00) with RPO (R05) Wheels, dual rear and no spare tire ordered, (MSRP = $35.00) with RPO (R05) Wheels, dual rear and a spare tire ordered; on Models G33803 or G33903 (MSRP = $30.00) with no spare tire ordered, (MSRP = $35.00) with a spare tire ordered
6M3	Mirrors, outside rearview, convex combination (MSRP = $265.00)
8E1	Fuel, additional 3 gallons (MSRP = $8.00)
8E9	Bumper, front, painted White (MSRP = $45.00)
8F2	Ornamentation, delete (MSRP = $12.00)
8R2	Tire valve stems, long, brass, for inside dual rear wheels (MSRP = $10.00)
8R3	Tire valve stems, brass (MSRP = $20.00) on Model G33503 with RPO (R04) Wheels, single rear or with SEO (8R2) Tire valve stems, long, brass, (MSRP = $30.00) with RPO (R05) Wheels, dual rear or without SEO (8R2) Tire valve stems, long, brass, on Models G33503; on Models G33803 or G33903 (MSRP = $20.00) with SEO (8R2) Tire valve stems, long, brass and (MSRP = $30.00) without SEO (8R2) Tire valve stems, long, brass
8U7	Engine, Special Application Vortec 4800 V8 (MSRP = -$850.00 Credit)
8X1	Label, fasten safety belts (MSRP = $2.00)
9B4	Fuel fill cap with stainless steel tether (MSRP = $15.00)
9C7	Coolant recovery bottle with tethered cap (MSRP = $12.00)
9F3	Mirrors, outside rearview, convex combination low mount (MSRP = $168.00)
9J6	Steering column, tilt (MSRP = $145.00)
9R0	Sound system, ETR AM/FM stereo with cassette (MSRP = $150.00)AM/FM radio with cassette, no CD.
9R5	Suspension, rear multi-leaf (MSRP = $66.00)
9T7	Door, passenger side delete (MSRP = -$140.00 Credit)
9V5	Paints, solid (MSRP = No Charge), Woodland Green
9V9	Paints, solid (MSRP = No Charge), Doeskin Tan
9W3	Paints, solid (MSRP = No Charge), Wheatland Yellow
9W4	Paints, solid (MSRP = No Charge), Tangier Orange
AG1	Seat adjuster, power, driver 6-way riser only (MSRP = $160.00)
AG2	Seat adjuster, power, front passenger 6-way riser only (MSRP $160.00)
AJ3	Air bag, frontal, driver side only
AK5	Air bags, frontal, driver and right front passenger
AR7	Seats, front vinyl reclining buckets

Option Code	Description
AS5	Seats, front Custom Cloth buckets
AU3	Door locks, power
B31	Floor covering, Black rubberized vinyl front
B3D	School Bus Package,
BNC	Body, soft-mount donut and bolt
C60	Air conditioning, front manual
C6Y	GVWR, 9600 lbs. (4354 kg)
C7A	GVWR, 10,000 lbs. (4536 kg)
C7L	GVWR, 12,000 lbs. (5443 kg)
C7N	GVWR, 12,300 lbs. (5579 kg)
D28	Mirrors, outside rearview
D31	Mirror, inside rearview
DE2	Mirrors, outside rearview
DE5	Mirrors, outside rearview
DE5	Mirrors, outside rearview, foldaway, power, heated, Black (MSRP = $230.00)
DF2	Mirrors, outside rearview
DH6	Visors, padded
DT4	Smoker's Package
ENC	HVAC system, auxiliary provisions
FE9	Emissions, Federal requirements
G80	Differential, locking, heavy-duty, rear
GT5	Rear axle, 4.10 ratio
KG3	Alternator, 145 amps
KL5	Alternative fuel conversion-ready engine
LQ4	Engine, Vortec 6000 V8 SFI
MT1	Transmission, 4-speed automatic, heavy-duty
NB8	Emissions override, California, Massachusetts, New York or Vermont
NC7	Emissions override, Federal
NE1	Emissions, Maine, Massachusetts, New York or Vermont state requirements
NE7	Fuel tank capacity
Q8C	Tire valve stem caps, air thru (MSRP = $6.00) with RPO (R04) Wheels, single rear, (MSRP = $9.00) with RPO (R05) Wheels, dual rear or Models G33803 or G33903
R04	Rear axle with single rear wheels (MSRP = $195.00)
R04	Wheels, single rear
R05	Wheels, dual rear
R6B	Chrome Appearance Package Delete
R6G	Air conditioning delete
TBM	Ship Thru for all Models (MSRP = $115.00)Produced in Wentzville and shipped to Adrian Steel
TBQ	Ship Thru for all Models (MSRP = $350.00)Produced in Wentzville and shipped to Ft. Wayne Fleet Equipment
TBZ	Ship Thru for all Models (MSRP = $140.00)Produced in Wentzville and shipped to Kranz Automotive
TCC	Ship Thru for all Models (MSRP = $640.00)Produced in Wentzville and shipped to Quigley
TGK	Solid PaintSEO solid paint, one color
U1C	Sound system, ETR AM/FM stereo with CD player
UA1	Battery, heavy-duty, 800 cold-cranking amps
UB1	Sound system, ETR AM/FM stereo with CD and cassette player
UC6	Sound system, ETR AM/FM stereo with 6-disc CD changer

Option Code	Description
UJ1	Brake Warning Indicator (MSRP = $65.00)
UL5	Sound system, radio delete
UM7	Sound system, ETR AM/FM stereo
V10	Cold Climate Package
V14	Transmission oil cooler, external
V22	Grille, chrome
V46	Bumper, front, chrome
VAD	Ship Thru for all Models (MSRP = $25.00)Produced in Wentzville and shipped to Crown/Masterack
VAP	Ship Thru for all Models (MSRP = $220.00)Produced in Wentzville and shipped to Knapheide Truck Equipment
VAR	Ship Thru for all Models (MSRP = $385.00)Produced in Wentzville and shipped to Midway
VCL	Emissions Certification, CFF (Clean Fuel Fleet) LEV (Low Emission Vehicle).
VCY	Ship Thru for all Models (MSRP = No Charge)Produced in Wentzville and shipped to Trans Design & Mfg
VK3	License plate bracket, front
XHH	Tires, front LT245/75R16E, all-season, blackwall
XHP	Tires, front LT225/75R16D, all-season, blackwall
YF1	RV Package
YF5	Emissions, California state requirements
YHH	Tires, rear LT245/75R16E, all-season, blackwall
YHP	Tires, rear LT225/75R16D, all-season, blackwall
ZHH	Tire, spare LT245/75R16E, all-season, blackwall
ZHP	Tire, spare LT225/75R16D, all-season, blackwall
ZP0	Seats, delete driver and passenger, leaves seat risers on both sides (MSRP = -$75.00 Credit)
ZP1	Seating, temporary driver only (MSRP = -$250.00 Credit)This SEO is a seat delete option that deletes the driver and passenger front seats and provides a seat riser with a temporary seat on driver side only.
ZQ2	Convenience Package
ZQ3	Convenience Package
ZR7	Chrome Appearance Package
ZW9	Body, standard
ZX1	Seat, driver only high-back reclining bucket
ZX2	Seats, driver and passenger high-back reclining buckets
ZY1	Paint, solid