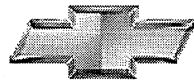
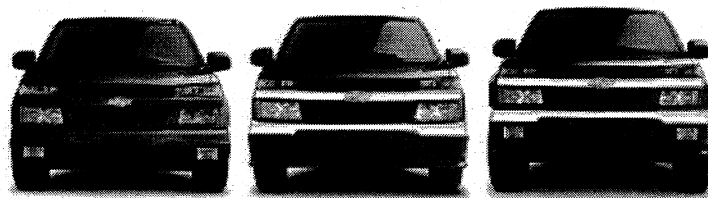


Chevrolet



Colorado



2005

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Product Information

Colorado: The New Standard For Midsize Trucks

Colorado raised the stakes in the midsize pickup truck segment for 2004 with its bold new design, spacious interior, a choice of powerful, fuel-efficient engines, and the largest choice of models and configurations in the segment to suit just about any personal or professional vehicle need.

For 2005, Colorado once again offers one of the widest model ranges, including Regular Cab, Extended Cab or Crew Cab body styles; two pickup bed lengths; three available suspensions; and two inline engines.

Colorado's bold exterior design evokes the ruggedness of the Chevy Silverado full-size truck, yet it fits perfectly with the midsize-truck buyer's need for economy and nimbleness.

Superior Blue Metallic is offered as a new exterior color for 2005.

Power and efficiency

Colorado comes with a choice of two inline, fuel-efficient engines. Standard on all models (except Crew Cab Z71 off-road and ZQ8 sport suspension models) is a Vortec 2800 2.8L four-cylinder engine, which delivers best-in-class horsepower and torque. Rated at 175 horsepower (130 kw) and 185 lb.-ft. of torque (251 Nm), this engine is more powerful than many competitive V-6 offerings. A Vortec 3500 3.5L five-cylinder engine with 220 hp (164 kw) and 225 lb.-ft. (305 Nm) of torque is standard on the Crew Cab Z71 and ZQ8 models, and available on all other models. The 3.5L inline five-cylinder offers customers the power of a V-6 with the fuel efficiency of a four-cylinder.

Based on the durable Vortec 4200 inline six-cylinder that powers the Chevy TrailBlazer, both of these new engines have dual overhead camshafts, variable valve timing, electronic throttle control and other features that contribute to high levels of operating efficiency and fuel economy.

With its efficient packaging, Colorado looks and feels more like a spacious full-size pickup than a typical midsize truck. Built on an all-new midsize truck architecture, Colorado's stance is about 3 inches (8 cm) wider than its S-10 predecessor, while utilizing a ladder frame that is more than 250 percent stronger. This stiffer frame enables more precise suspension tuning to deliver a smooth, isolated ride without sacrificing responsive handling.

Colorado delivers class-leading refinement with features such as hydraulically assisted rack-and-pinion steering; large front disc brakes with twin-piston calipers; coil-over front suspension on 2WD models and torsion bar front suspension on 4WD models; and specifically tuned body mounts that help reduce interior noise and vibration.

Three suspension choices let customers tailor Colorado to their specific needs: the rugged Z85 suspension standard on 2WD or 4WD models; the lower-riding ZQ8 sport suspension for 2WD models only; and the Z71 off-road suspension, now available in both 2WD and 4WD.

Spacious interior, unique cargo features

Colorado can seat up to six while offering much higher levels of ride comfort, handling, quietness and interior space than many other midsize trucks. All cabs are about 4 inches (10.2 cm) longer than the S-10, for class-leading legroom and more storage space.

Colorado's instrument panel has large, easy-to-read analog gauges, with switches and controls designed for easy operation with gloves. Crew Cab models offer a 60/40-split/folding rear seat capable of accommodating three adults. Extended Cab versions have four doors, and its two folding rear seats face forward rather than sideways as in other midsize pickups.

Regular and Extended Cab models have a 6-foot 1-inch (1.85 m) pickup bed with taller sides than many competitors, providing best-in-class volume for deeper storage and higher overall payload. Crew Cab bed lengths are 5-foot 1-inch (1.55 m). Both beds offer two-tier cargo loading, and tailgates that are both lockable and easily removable.

A unique, industry-leading feature is Colorado's tailgate that, in addition to opening almost 90 degrees, can be set at a 55-degree opening. That puts the tailgate edge at the same height as the top of the rear wheel wells within the cargo box, creating a sturdy, flat platform to conveniently transport longer items or 4-foot by 8-foot (1.2-meter by 2.4-meter) panels.

Safety a top consideration

Colorado has standard dual-stage frontal air bags with a passenger deactivation switch. Dual-stage frontal air bags are designed to help reduce the risk of air bag-induced injury. When the air bag system's control unit detects an impact, it determines whether the crash is severe enough to trigger a deployment, and whether the primary amount of inflation is sufficient. The primary stage alone will deploy in most frontal impacts requiring the supplemental protection of an air bag, while a secondary stage is designed to deploy in more severe frontal collisions.

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

Pretensioners at the outboard front-seat positions deploy at the same time as the frontal air bags to take up slack in the safety belt webbing. Pretensioners also help reduce the amount of occupant movement in the event of a crash to help reduce the risk of injury.

The front outboard seating positions in all Colorados, and the rear outboard positions of Crew Cabs, have adjustable safety belt upper guide loops for improved fit and comfort. A three-point safety belt is standard for the center-rear seat in all Crew Cabs.

Additional safety and security items include daytime running lights; a first-in-class driver information center with oil life monitor; four-wheel anti-lock brakes; PASSLock II vehicle theft protection; first-in-class lockout protection (standard with power door locks); child security locks (standard on Crew Cab rear doors); and battery rundown protection.

GM's OnStar safety and security package is optional and the only available system in its class. OnStar-equipped Colorados feature new sixth-generation hardware with digital and analog coverage. OnStar's Gen 6 hardware also includes upgraded hands-free voice recognition capabilities including more intuitive continuous digit dialing and improved voice recognition accuracy. OnStar is the leading provider of in-vehicle safety, security and information services in the United States and Canada. Using the GPS satellite network and wireless technology, OnStar features core safety services and OnStar Personal Calling that allows drivers to make and receive hands-free, voice-activated phone calls using a powerful three-watt digital/analog system and external antenna for greater reception.

Standard features include rack-and-pinion steering, intermittent wipers, air conditioning and folding outside mirrors. Insta-Trac is standard on 4WD models.

Notable optional equipment includes remote keyless entry; traction assist (2WD models); XM Satellite Radio (continental U.S. only); fog lamps; tilt steering wheel; cruise control; self-dimming inside rearview mirror; running boards; power, heated leather seating; high-back bucket seats; a rear sliding window; and power operated outside rearview mirrors.

Colorado Xtreme

The Xtreme goes even further in combining the rugged good looks, powerful engines, a performance ZQ8 suspension and the capable overall package of Colorado with sports car-like handling and contemporary sport truck styling. Colorado Xtreme is available on two-wheel-drive versions of Regular Cab, Extended Cab and Crew Cab models.

The Colorado Xtreme stands out with a ZQ8 lowered suspension and special exterior enhancements. Suspension (spring & knuckle) modifications and tire/wheel assemblies lower the vehicle 1.6 inches (40.6 mm) compared to Colorado's standard 2WD suspension, and they are complemented with gas-charged monotube shocks at all corners. The ZQ8 suspension also includes front and rear stabilizer bars to increase the vehicle's handling capability.

The Colorado Xtreme stays glued to the pavement with 18-inch alloy wheels and low-profile performance tires. The ZQ8 suspension, which was benchmarked against the racetrack performance of several rear-wheel-drive performance cars, was tuned specifically for the Colorado Xtreme's 18-inch wheels-and-tires combination.

A unique body-color front fascia with foglamps, rear fascia and rocker extension moldings, as well as a rear spoiler on the tailgate, new front grille and special badging visually identify the Colorado Xtreme. The

monochromatic appearance is bold and in step with contemporary sport truck trends. Four colors are available: Victory Red, Black, White and Yellow. A power-operated sunroof also is available.

The Colorado Xtreme comes with LS trim, but also includes special instrument cluster graphics and interior badging.

Custom accessories selection

Like other Chevy trucks, Colorado can be individually customized with a wide range of factory-warranted accessories designed specifically by Chevrolet and offered through GM's Service and Parts Operations (SPO). Accessories include bed rail protectors, a swing-out bed extender, hard or soft tonneau covers, assist steps and splash guards.

Lifestyle Accessories Enhance Chevrolet Colorado Versatility

Several individual accessories designed specifically for the Chevy Colorado offer customers personalization opportunities to fit their specific lifestyles.

"Featuring flexibility, dependability and ruggedness, Chevrolet Accessories offer fun-seeking and spontaneous individuals the ability to engage in activities that satisfy their can-do attitude," said Nancy Philippart, GM Service and Parts Operations (SPO) executive director - GM Accessories Business Channel. The integration of accessories offers a combination of versatile, comfortable and dependable products.

Truck bed accessories

To complement the Colorado's distinctive design, bed side rails offer customers durability and functionality. Bed-rail and tailgate edge protectors follow the contours of the vehicle, extend the full length of the truck bed and protect the truck rails and tailgate edge from damage. A bed extender adds hauling capabilities and easily swings out over the open tailgate for additional length or swings into the truck bed to provide a stable cargo area.

Tonneau covers

The Colorado also can be accessorized with either a hard or soft tonneau cover. Polystyrene-filled aluminum panels firmly clamp to the bed rails and fold back in seconds to allow easy access to the truck's cargo area at either end of the box. This lockable, hard, UV-protected cover folds up to a compact position behind the cab for customers looking to haul large items in the truck bed. With the soft, snapless tonneau cover, cargo can be accessed through the tailgate without removing the cover. This unique accessory has the Colorado logo embossed across the rear of the cover.

Exterior functional accessories

Chrome tubular assist steps provide sure footing for the Colorado driver and passengers. The assist steps meet GM engineering standards for corrosion resistance, paint adhesion and color retention. Molded splash guards are available in injection-molded plastic. The splash guards are contoured to the wheel opening area and help protect the vehicle from stone chips, gravel and mud. In addition, the splash guards maintain flexibility, are able to withstand extreme temperatures and feature the Chevy bowtie logo.

Available at Chevrolet dealers

All Colorado accessories can be purchased through Chevrolet dealerships.

Chevrolet Accessories permanently installed on a new GM vehicle at the time of delivery will be covered under the GM New Vehicle Limited Bumper-to-Bumper Warranty. GM parts and accessories permanently installed by a GM dealer after vehicle purchase will be covered for the balance of the new vehicle warranty, but in any event no less than 12 months or 12,000 miles.

Please visit www.gmaccessorieszone.com or call toll-free 866-901-9001 to speak to one of GM's knowledgeable accessory agents.

SPO, headquartered in Grand Blanc, Mich., markets automotive replacement parts and accessories worldwide under the GM Parts and ACDelco brand names. For more information, visit the Goodwrench web site at <http://www.goodwrench.com>.

New for 2005

- Xtreme package available in Regular, Extended and Crew Cab models
 - ZQ8 lowered suspension
 - 18-inch alloy wheels and low-profile performance tires
 - Monochromatic appearance
 - Rear spoiler on tailgate, new front grille and special exterior badging
 - Special instrument cluster graphics and interior badging
- Power Convenience Package added to Crew Cab models with 1SB, 1SE and 1SH equipment groups
- New exterior color: Superior Blue Metallic

Model Lineup

	Engines		Transmissions	
	Vortec 2800 2.8L I-4	Vortec 3500 3.5L I-5	5-spd man (Aisin AI AR-5)	4-spd auto (HydraMatic 4L60-E)
2WD Regular Cab	s	o	s	o
2WD Extended Cab	s	o	s	o
2WD Crew Cab	s*	o**	s	o***
4WD Regular Cab	s	o	s	o
4WD Extended Cab	s	o	s	o
4WD Crew Cab	s*	o**	s	o***

* Standard with Z85 suspension

** Standard with ZQ8 and Z71 suspensions

*** Standard with ZQ8 and Z71 suspensions

Standard s

Optional o

Not available -

Specifications

Note: See Attached **Features Guide** for Additional Specifications

Overview		
Models:	2WD Regular Cab	
	2WD Extended Cab	
	2WD Crew Cab	
	4WD Regular Cab	
	4WD Extended Cab	
	4WD Crew Cab	
Body style / driveline:	Regular Cab (2-3 passengers), Extended Cab (4-5 passengers), Crew Cab (6 passengers), front-engine rear-wheel-drive and four-wheel-drive pickup	
Construction:	welded steel ladder H-frame, electrogalvanized steel	
EPA vehicle class:	compact pickup	
Manufacturing location:	Shreveport, Louisiana	
Key competitors:	Ford Ranger, Dodge Dakota, ToyotaTacoma, Nissan Frontier, Mazda B-Series	
	Crew Cab: Dodge Dakota Quad Cab, Nissan Frontier Crew Cab, ToyotaTacoma Double Cab, Ford Explorer Sport Trac	
Engines		
Application:	Vortec 2800 2.8L I-4	Vortec 3500 3.5L I-5
	std on Regular Cab, Extended Cab and Crew Cab with Z85 suspension	std on ZQ8 and Z71 Crew Cab; opt on Crew Cab with Z85, Regular Cab and Extended Cab
Type:	2.8L inline 4-cylinder	3.5L inline 5-cylinder
Displacement (cu in / cc):	169 / 2770	211 / 3460
Bore & stroke (in / mm):	3.66 x 4 / 93 x 102	3.66 x 4 / 93 x 102
Block material:	A356-T6 cast aluminum	A356-T6 cast aluminum
Cylinder head material:	A356-T6 cast aluminum	A356-T6 cast aluminum
Valvetrain:	dual overhead camshafts, continuously variable exhaust valve timing, variable exhaust cam phasing, 4 valves-per-cylinder	dual overhead camshafts, continuously variable exhaust valve timing, variable exhaust cam phasing, 4 valves-per-cylinder
Ignition system:	distributorless electronic spark, coil-on-plug, platinum-tipped spark plugs	distributorless electronic spark, coil-on-plug, platinum-tipped spark plugs
Fuel delivery:	multipoint sequential fuel injection	multipoint sequential fuel injection
Compression ratio:	10:1	10:1
Horsepower (hp / kw @ rpm):	175 / 130 @ 5600	220 / 164 @ 5600
Torque (lb-ft / Nm @ rpm):	185 / 251 @ 2800	225 / 305 @ 2800
Recommended fuel:	87 octane	87 octane
Maximum engine speed (rpm):	6300	6300
Emissions controls:	dual "split converter" design	dual "split converter" design
Estimated fuel economy:	TBD	TBD

Transmissions		
Type:	Aisin AI AR-5	Hydra-Matic 4L60-E
	5-speed manual	4-speed automatic
Gear ratios (:1):		
First:	3.75	3.06
Second:	2.26	1.63
Third:	1.37	1.00
Fourth:	1.00	0.70
Fifth:	0.73	-
Reverse:	3.67	2.29
Final drive ratio (:1):		
3.42 axle	2.49	2.39
3.73 axle	2.72	2.61
Chassis/Suspension		
Front:	independent with coil springs, shock absorbers and stabilizer bar (2WD); independent with torsion bars, shock absorbers and stabilizer bar (4WD)	
Rear:	live axle with steel, two-stage semi-elliptic multileaf springs; stabilizer bar with ZQ8 Sport package	
Steering type:	power-assisted rack-and-pinion	
Steering ratio:	17.4:1 (2WD) 18.3:1 (4WD)	
Steering wheel turns, lock-to-lock:	2WD Z85: 3.31; ZQ8: 2.92; Z71: 3.2; 4WD (Z85 and Z71): 3.2	
Turning circle, curb-to-curb (ft/m):	2WD swb: 39.7 / 12 /; lwb: 44.3 / 13.5; 4WD swb: 40.7 / 12.4; lwb: 44.3 / 13.5	
Brakes		
Type:	vacuum power, front disc/rear drum, standard anti-lock	
Rotor diameter x thickness (in / mm):	front: 11 x 1.1 / 280 x 27	
Drum diameter x width (in / mm)	rear: 11.6 x 1.8 / 295 x 45	
Total rotor swept area (sq in / sq cm):	105.7 / 681.7	
Drum swept area (sq in / sq cm):	64.6 / 417	
Wheels/Tires		
Wheel size & type:	<ul style="list-style-type: none">• 2WD / 4WD: 15-inch x 6-inch steel; optional 15-inch x 6.5-inch aluminum• 15-inch x 7-inch aluminum with Z71 Off Road suspension• 17-inch x 8-inch aluminum with ZQ8 Sport suspension• 18-inch x 8-inch aluminum with Xtreme	
Tires:	<ul style="list-style-type: none">• General 205/75R15 standard all-season steel-belted radial tires (2WD)• General P225/70R15 all-season steel-belted radial tires (standard on 2WD Crew Cab)• Continental P235/75R15 on-/off-road steel-belted radial tires (standard on 4WD)• General P265/75R15 on/off-road steel belted radial (with Z71 Off Road package)• Continental P235/50R17 low profile radial (with ZQ8 package)• Goodyear P235/50R18 with Xtreme	

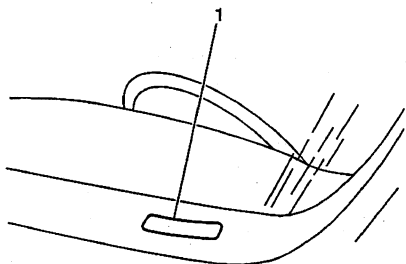
Dimensions

Exterior	Regular Cab	Extended Cab	Crew Cab	Regular Cab	Extended Cab	Crew Cab
	2WD	2WD	2WD	4WD	4WD	4WD
Wheelbase (in / mm):	111.2 / 2825	125.9 / 3198	125.9 / 3198	111.3 / 2825	125.9 / 3198	125.9 / 3198
Overall length (in / mm):	192.8 / 4897	207.6 / 5260	207.1 / 5260	192.8 / 4897	207.1 / 5260	207.1 / 5260
Overall width (in / mm):	67.6 / 1717	67.6 / 1717	67.6 / 1717	67.6 / 1717	68.6 / 1742	68.6 / 1742
Overall height (in / mm):						
ZQ8	63.5 / 1613	63.5 / 1613	63.7 / 1618	N/A	N/A	N/A
Z85	64.9 / 1648	64.9 / 1648	65.2 / 1656	66.3 / 1684	66.3 / 1684	66.5 / 1689
Z71	66.7 / 1694	66.7 / 1694	67 / 1702	66.7 / 1694	66.7 / 1694	67 / 1702
Track (in / mm):						
Front:	57.5 / 1460	57.5 / 1460	57.5 / 1460	59.6 / 1514	59.6 / 1514	59.6 / 1514
Rear:	57.5 / 1460	57.5 / 1460	57.5 / 1460	57.5 / 1460	57.5 / 1460	57.5 / 1460
Minimum ground clearance front (in / mm):	8.5 / 216	8.5 / 216	5 / 127	8.5 / 216	5 / 127	5 / 127
Z71	9.3 / 236	9.3 / 236	8.5 / 216	9.3 / 236	9.3 / 236	9.3 / 236
ZQ8	5 / 127	5 / 127	5 / 127			
Rear	7.5 / 191	7.5 / 191	6.4 / 160	7.5 / 191	6.4 / 160	6.4 / 160
Z71	8.4 / 213	8.4 / 213	7.5 / 191	8.4 / 213	8.4 / 213	8.4 / 213
ZQ8	6.4 / 160	6.4 / 160	6.4 / 160			
Ground to top of load floor (in/mm):	26.9 / 683	26.9 / 683	26.9 / 683	29.6 / 752	29.6 / 752	29.6 / 752
Z71	30.5 / 775	30.5 / 775	30.5 / 775	30.5 / 775	30.5 / 775	30.5 / 775
ZQ8	24.7 / 627	24.7 / 627	24.7 / 627	N/A	N/A	N/A
Curb weight: base suspension (lb / kg):						
I-4 with manual	3117 / 1417	3346 / 1521	3511 / 1596	3603 / 1638	3656 / 1662	3802 / 1728
I-4 with automatic	3452 / 1569	3674 / 1670	3774 / 1715	3706 / 1685	3910 / 1777	4037 / 1835
I-5 with manual	3432 / 1560	3625 / 1648	N/A	3765 / 1711	3917 / 1780	N/A
I-5 with automatic	3498 / 1590	3689 / 1677	3747 / 1703	3712 / 1687	3945 / 1793	4093 / 1860
Step-in height (in / mm) Z85:			18.4 / 467.8 (2WD) 21.4 / 542.4 (4WD)			
Z71:			22 / 558.2			
ZQ8:			16.5 / 419			

Cargo Box				
	Regular Cab	Extended Cab	Crew Cab	
Cargo volume (cu ft / L):	43.9 / 1243	43.9 / 1243	36.7 / 1039	
Length at floor (in / mm):	72.8 / 1849	72.9 / 1849	61.1 / 1552	
Width at floor (in / mm):	57.2 / 1453	57.2 / 1453	57.2 / 1453	
Width between wheel housings (in / mm):	42.6 / 1082	42.6 / 1082	42.6 / 1082	
Tailgate width (in / mm):	52.4 / 1331	52.4 / 1331	52.4 / 1331	
Inside height (in / mm):	18.6 / 472	18.6 / 472	18.6 / 47	
Interior				
	Regular Cab	Extended Cab	Crew Cab	
Seating capacity :	2-3	4-5	5-6	
Head room (in / mm):	39.6 / 1006	front: 39.6 / 1006	front: 38.6 / 1006	
		rear: 37.9 / 963	rear: 38.3 / 973	
Leg room (in / mm):	44 / 1118	front: 44 / 1118	front: 44 / 1118	
		rear: 23.1 / 587	rear: 34.8 / 884	
Shoulder room (in / mm):	57.1 / 1450	front: 57.1 / 1450	front: 57.1 / 1450	
		rear: 57.2 / 1453	rear: 57.1 / 1450	
Hip room (in / mm):	53.3 / 1354	front: 53.3 / 1354	front: 53.3 / 1354	
		rear: 57.6 / 1463	rear: 52.9 / 1344	
Capacities				
	Regular Cab	Extended Cab	Crew Cab	
GVWR, standard (lb / kg):	2WD: 4850 / 2200	2WD: 5000 / 2268	2WD: 5000 / 2268	
	4WD: 5150 / 2336	4WD: 5300 / 2404	4WD: 5300 / 2404	
Payload, base (lb / kg):	2WD: 1733 / 957	2WD: 1654 / 747	2WD: 1489 / 672	
	4WD: 1547 / 698	4WD: 1644 / 742	4WD: 1498 / 676	
Fuel tank (gal / L):	19.6 / 74.2	19.6 / 74.2	19.6 / 74.2	
Maximum Trailing Weight (lb / kg)				
	Vortec 2800		Vortec 3500	
	manual	automatic	manual	automatic
Regular Cab 2WD				
3.42 axle:	1900 / 862	N/A	3300 / 1497	4000 / 1814
3.73 axle:	2400 / 1089	3500 / 1588	3800 / 1724	4000 / 1814
Extended Cab 2WD				
3.42 axle:	1700 / 771	N/A	3200 / 1451	4000 / 1814
3.73 axle:	2200 / 998	3200 / 1451	3700 / 1678	4000 / 1814
Crew Cab 2WD				
3.42 axle:	1500 / 680	N/A	N/A	4000 / 1814
3.73 axle:	2000 / 907	3100 / 1406	N/A	4000 / 1814
Regular Cab 4WD				
3.42 axle:	N/A	N/A	3000 / 1361	4000 / 1814
3.73 axle:	2100 / 953	3100 / 1406	3500 / 1588	4000 / 1814
4.10 axle:	2100 / 953	3100 / 1406	3500 / 1588	4000 / 1814
Extended Cab 4WD				
3.42 axle:	N/A	N/A	2900 / 1315	4000 / 1814
3.73 axle:	N/A	2900 / 1315	3400 / 1542	4000 / 1814
4.10 axle:	1900 / 862	2900 / 1315	3400 / 1542	4000 / 1814
Crew Cab 4WD				
3.73 axle:	N/A	2800 / 1500	N/A	4000 / 1814
4.10 axle:	1700 / 771	2800 / 1500	N/A	4000 / 1814
Maximum tongue weight:	Trailer tongue weight should be 10% to 15% of total loaded trailer weight, up to 400 lb / 182 kg			

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	1,4	U.S. Built
2	Manufacturer	G	General Motors
3	Make	C T	Chevrolet Truck GMC Truck
4	GVWR/Brake System	C D	4001-5000/Hydraulic 5001-6000/Hydraulic
5	Truck Line/Chassis Type	S T	Sm Conventional Cab--4x2 Sm Conventional Cab--4x4
6	Series	1 6	½ Ton Nominal ½ Ton Luxury
7	Body Type	4 9 8 3	Two Door Cab Two Door Extended Cab Two Door Utility Four Door Utility or Crew Cab
8	Engine Type	8 6	2.8L Inline 4 (LK5) 3.5L Inline 5 (L52)
9	Check Digit	--	Check Digit
10	Model Year	5	2005
11	Plant Location	8	Shreveport, LA
12-17	Plant Sequence Number	--	Plant Sequence Number

VIN Derivative

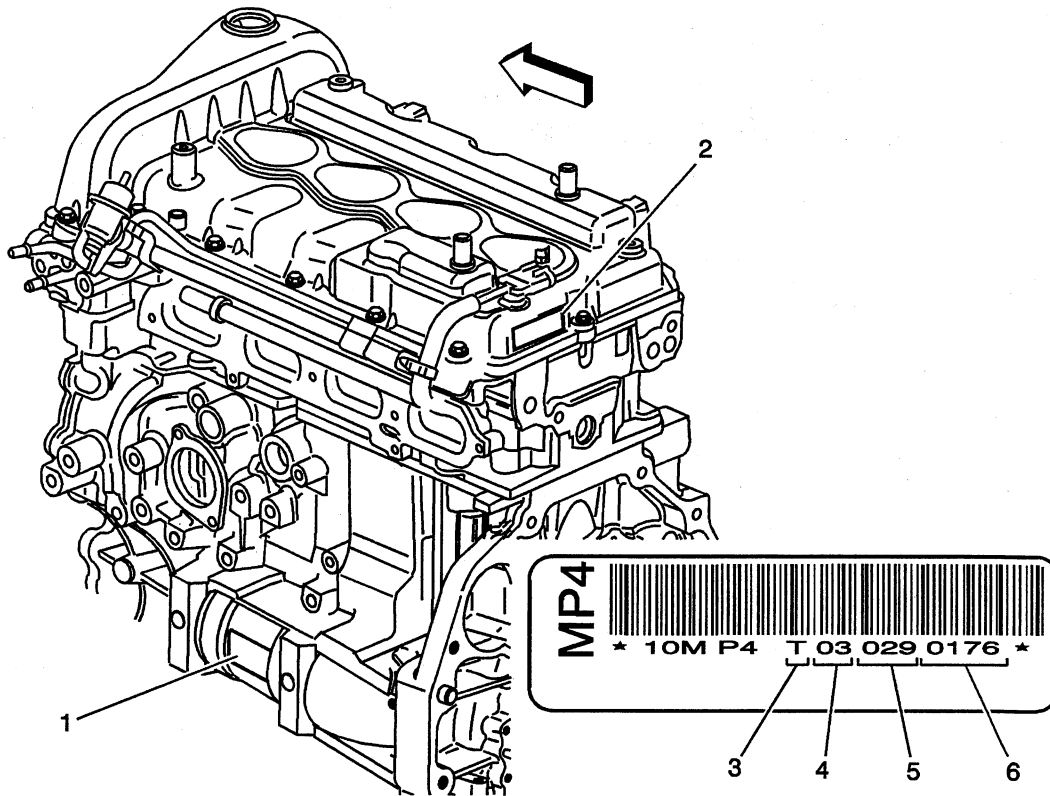
All engines and transmissions are stamped or laser etched with a partial vehicle identification number (VIN), which was derived from the complete VIN. A VIN derivative contains the following nine positions:

Position	Definition	Character	Description
1	GM Division Identifier	C T	Chevrolet Truck GMC Truck
2	Model Year	5	2005
3	Assembly Plant	8	Shreveport, LA
4-9	Plant Sequence Number	--	Plant Sequence Number

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

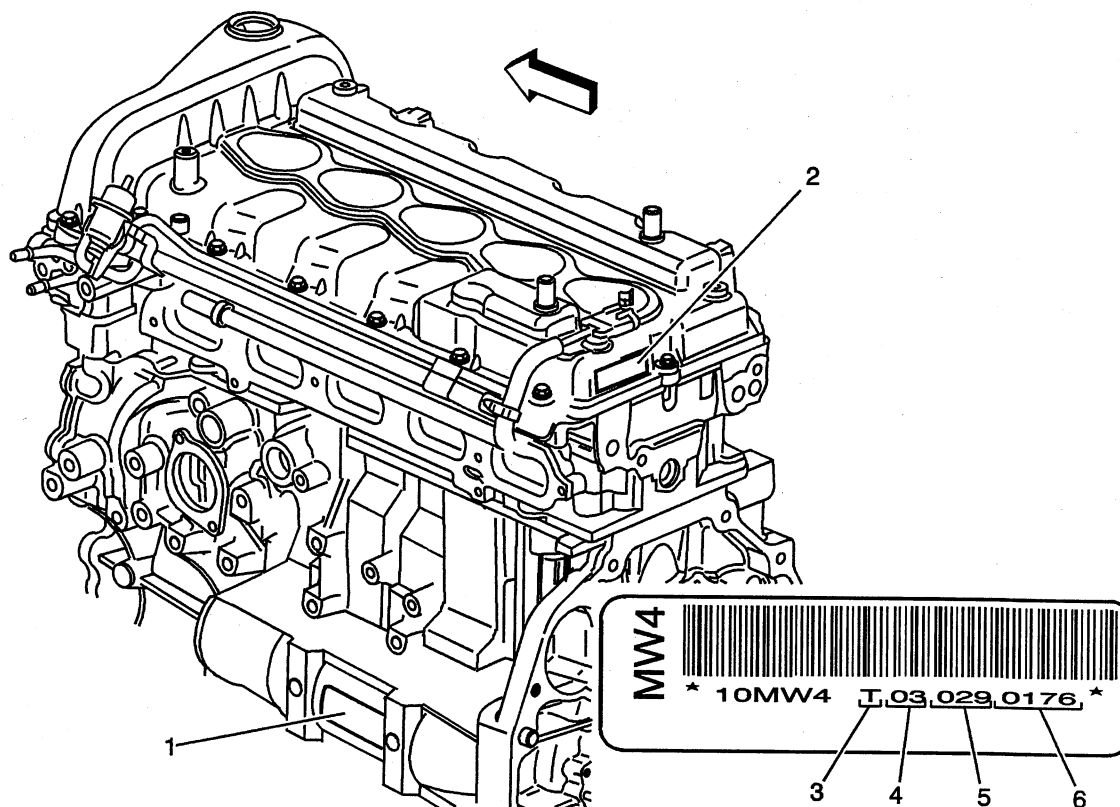
VIN Derivative Position	Equivalent VIN Position
1	3
2	10
3	11
4-9	12-17

Engine ID and VIN Derivative Location 2.8L (LK5)



- (1) Engine ID Location
- (2) Engine ID Location
- (3) The first digit identifies the engine build location - All first digits will be a T, this engine is only being built at Tonawanda
- (4) The second and third digit identifies the build year
- (5) The fourth, fifth and sixth digits identify the build month - Julian Date
- (6) The seventh through tenth digits identify the engine build sequence

Engine ID and VIN Derivative Location 3.5L (L52)



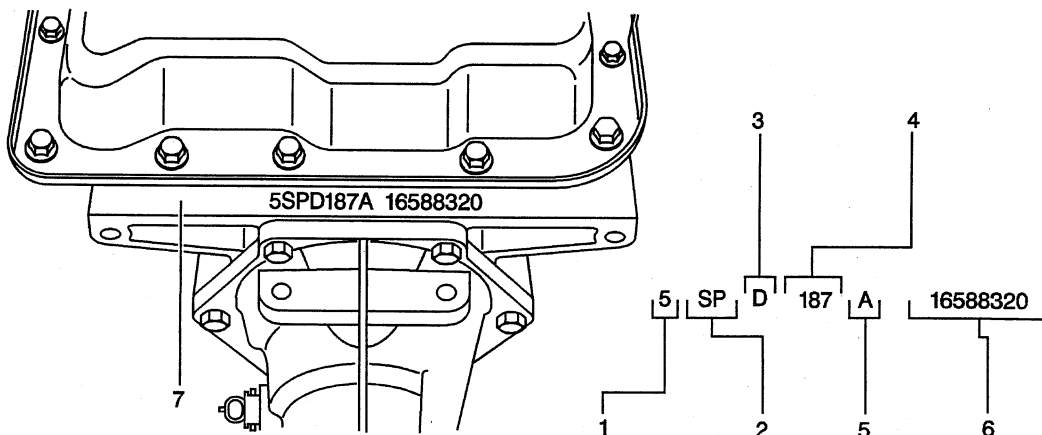
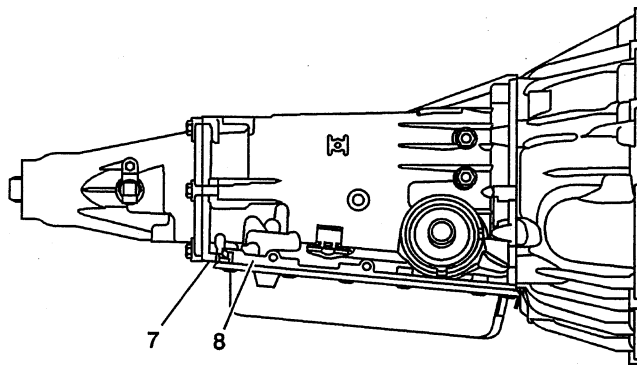
- (1) Engine ID Location
- (2) Engine ID Location
- (3) The first digit identifies the engine build location - All first digits will be a T, this engine is only being built at Tonawanda
- (4) The second and third digit identifies the build year
- (5) The fourth, fifth and sixth digits identify the build month - Julian Date
- (6) The seventh through tenth digits identify the engine build sequence

Transmission ID and VIN Derivative Location

Plant and Shift Build Chart

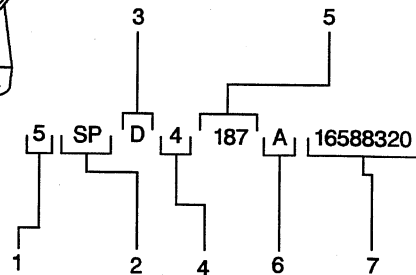
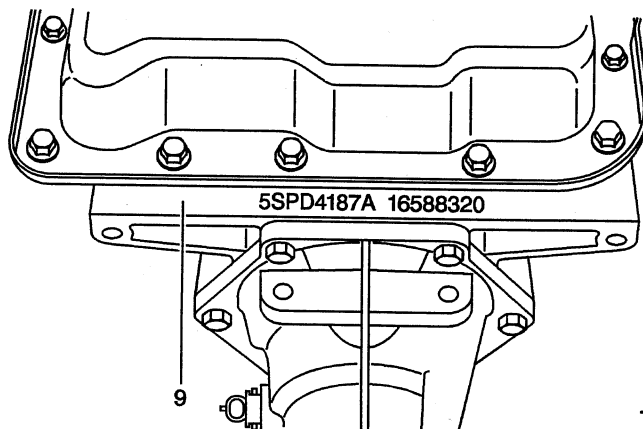
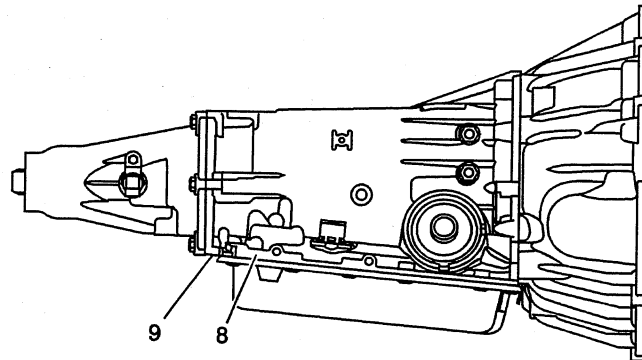
Plant	Build Line	1st Shift	2nd Shift	3rd Shift
Toledo, OH	ML1	J	W	X
	ML2	A	C	Not Used
	ML3	B	H	Not Used
	ML4	S	L	V
	ML5	K	E	Z
Romulus, MI	1	A	--	B
Ramos Arizpe, Mexico	1	A	--	--

4L60-E/4I65-E Transmission ID Location – Toledo or Romulus Build



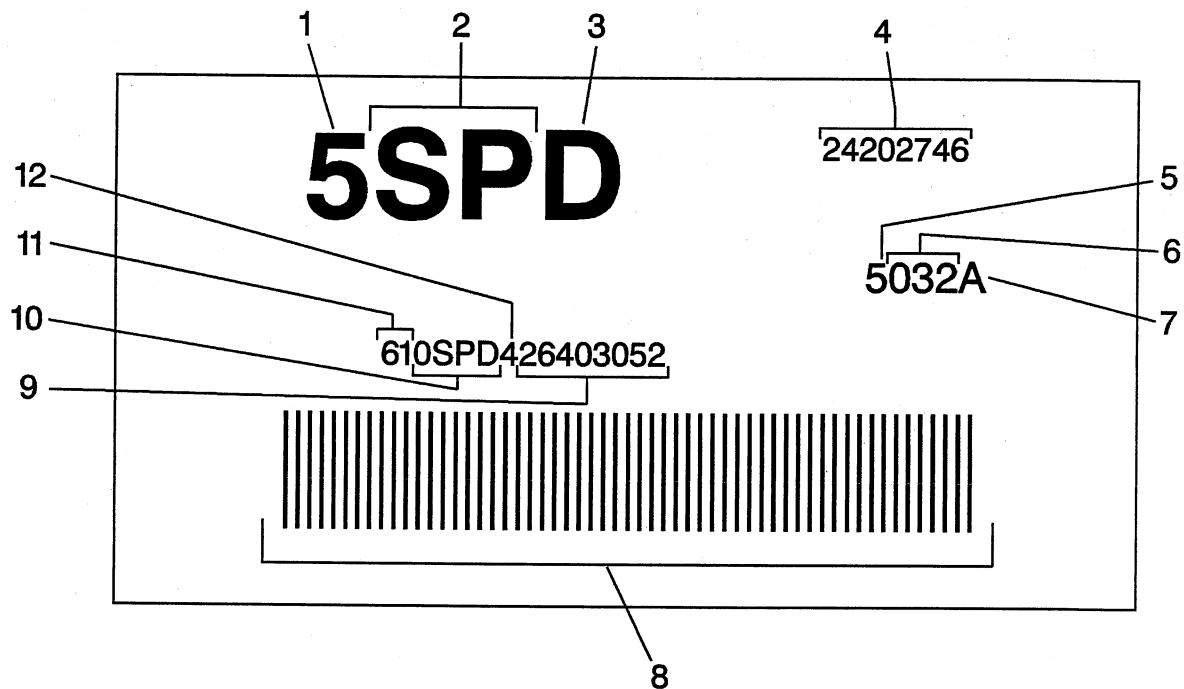
- (1) 4 = 2004
- (2) Model
- (3) Hydra-Matic 4L60-E
- (4) Julian Date or Day of the Year
- (5) Shift Built, See Shift Build Chart
- (6) Serial Number
- (7) Case/Pan Frame Rail Location
- (7) Case/Pan Frame Rail Location
- (8) Optional Transmission ID Location, Tag Is Used as a Back-Up If Unable To Etch Case/Pan Area and To Bar Code Scan

4L60-E/4I65-E Transmission ID Location – Ramos Arizpe Mexico Build



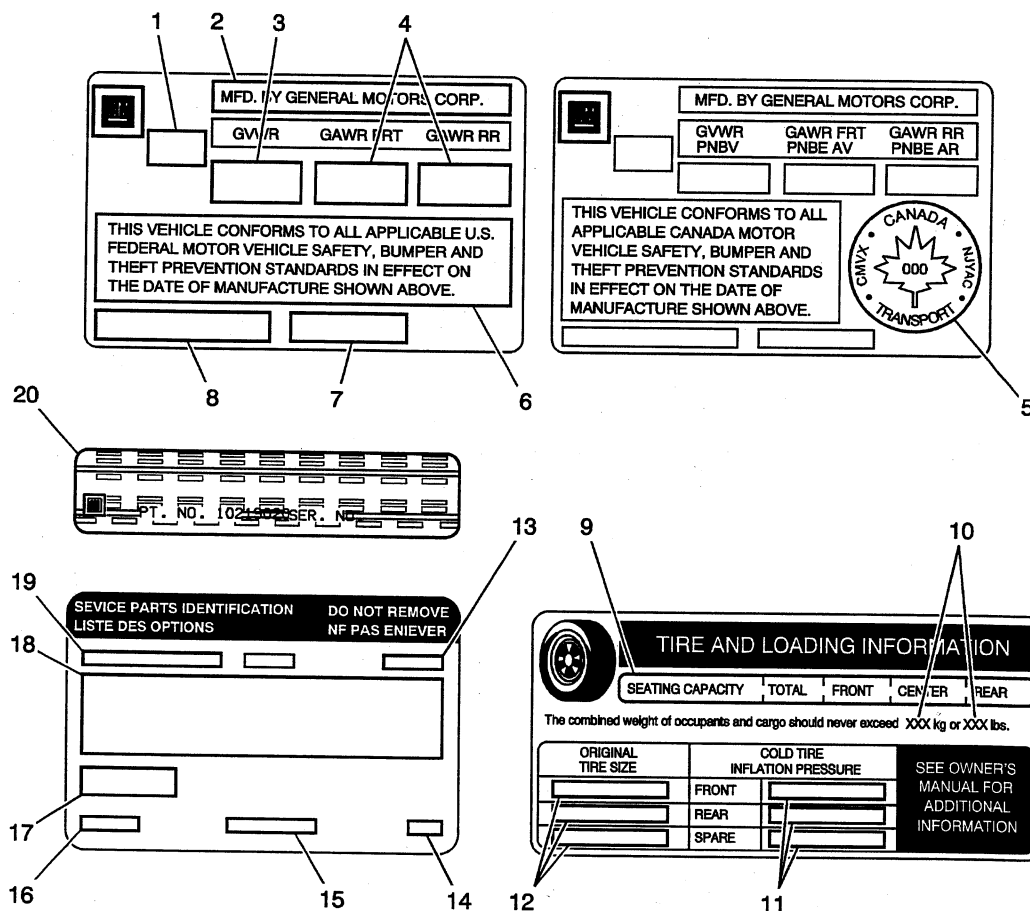
- (1) 4 = 2004
- (2) Model
- (3) Hydra-Matic 4L60-E
- (4) Plant of Manufacture, 4 is Ramos
- (5) Julian Date or Day of the Year
- (6) Shift Built, See Shift Build Chart
- (7) Transmission Serial Number
- (8) Optional Transmission ID Tag Location, Tag Is Used as a Back-Up If Unable To Etch Case/Pan Area and To Bar Code Scan
- (9) Case/Pan Frame Rail Area
- (9) Case/Pan Frame Rail Area

Barcode Label Contents – All Builds



- (1) 4 = 2004
- (2) Model
- (3) Hydra-Matic 4L60-E
- (4) Transmission Asm. as Shipped Number
- (5) 5 = Model Year
- (6) Julian Date or Day of the Year
- (7) Letter After Julian Date Identifies the Plant Shift Build, See Shift Build Chart
- (8) Bar Code
- (9) Serial Number
- (10) Broadcast Code
- (11) Transmission ID
- (12) Build Location Y = Toledo, OH, R = Romulus, MI, 4 = Ramos Arizpe, Mexico

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



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

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

RPO Code List

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

RPO	Description
AG1	Adjuster Front Seat - Power, Multi-Directional, Driver
AG2	Adjuster Passenger Seat - Power, Multi-Directional
AJ1	Window Tinted - Deep, All Except Windshield and Doors
AJ2	Seat Rear - Folding, Jump Seat
AM4	Seat Rear - Split Back, Folding, Custom
AM6	Seat - Front Split Bench
AR9	Seat - Front Bucket, Deluxe
ASF	Restraint - Roof Side, LH & RH, Inflatable
AU0	Lock Control, Entry - Remote Entry
AU3	Lock Control - Side Door, Elec
A28	Window Rear - Full Width, Sliding
A31	Window - Power Operated, All Doors
BAG	Parts Package - Export
BKE	Covering - Floor Mat Set, Molded Carpet
BPA	Compartment - Stowage, Rear Seat
BVE	Steps, Running Board - Side
B30	Covering Floor - Carpet
B32	Covering Front - Floor Mats, Aux
B33	Covering Rear - Floor Mats, Aux
B38	Covering Floor - Vinyl, Front & Rear, Full Width
B4U	Performance Package - Sport
B71	Molding Wheel Opening - Colored
B84	Molding Bodyside - Exterior
CF5	Roof - Sun, Glass, Sliding, Elec
CV3	Country - Mexico
CW4	Country - Caribbean (Antigua, Antilla, Bahamas, Barbados, Bermuda, Cayman, Dominican, Haiti, Jamaica, Nassau, S.M., Trinidad)
CW6	Country - Guam
C3A	GVW Rating - 4,400 lbs
C3H	GVW Rating - 5,300 lbs
C42	HVAC System - Heater, Outside Air, Deluxe
C5C	GVW Rating - 5,000 lbs
C5D	GVW Rating - 4,600 lbs
C60	HVAC System - Air Conditioner Front, Manual Controls
C61	GVW Rating - 4,850 lbs
C7Y	GVW Rating - 4,700 lbs
C8F	GVW Rating - 5,150 lbs
DC4	Mirror Inside Rearview - Tilt, Dual Reading Lamps
DE2	Mirror Outside - LH and RH, Manual Control, Folding, Color
DE6	Mirror Outside - LH and RH, Remote Control, Electric, Dual Folding, Color
DF8	Mirror Inside Rearview - Light Sensitive, Compass, Outside Temp Display, Dual Reading Lamps
D06	Console - Front Compartment, Floor, Arm Rest
D31	Mirror Inside Rearview - Tilt (Duplicate of D36)
EN6	Cover, Rear Compartment - Hard Folding, Rear Compartment, Cargo
E01	Steps - Assist
E15	Steps - Assist, Chrome
E16	Steps - Assist, Natural

2005 Chevrolet Colorado Restoration Kit

RPO	Description
E62	Body Equipment - Stepside, Pick-Up Box
E63	Body Equipment - Fleetside, Pick-Up Box
E95	Cover, Rear Compartment - Tonneau, Rear Compartment
FE9	Certification - Emission, Federal
GT4	Axle Rear - 4.10 Ratio
GT5	Axle Rear - 3.73 Ratio
GU6	Axle Rear - 3.42 Ratio
G80	Axle Positraction - Limited Slip
JA1	Brake - Light Weight, Disc/Drum
JJA	PT Dress Subassembly - Installed (Modular Optimization Method Only)
KA1	Heater - Seat, Front
KC5	Receptacle - Electrical, Accessory
K05	Heater Engine - Block
K34	Cruise Control - Automatic, Electronic
LK5	Engine - Gas, 4-Cyl, 2.8L, MFI, L4, Alum, DOHC, GM
L52	Engine - Gas, 5-Cyl, 3.5L, MFI, L5, Alum, DOHC, GM
M30	Transmission - Auto 4-Speed, HMD, 4L60-E, Electronic
MA5	Transmission - Manual 5-Speed, Aisin, 82 MM, 3.753 1st, 0.729 5th
N33	Steering Column - Tilt Type
NE1	Certification - Emission, Geographically Restricted Registration for Vehicles Up to 14,000 lbs CVW (Use 2003 Model Year)
NF4	Emission System - Clean Fuel, Fleet
NP1	Transfer Case - Electric Shift Control, Two Speed
NP5	Steering Wheel - Leather Wrapped
NT9	Emission System - Federal, Tier 2 Phase Out
NU4	Emission System - California Lev2 Plus
NW7	Traction Control - Powertrain Management Only
NZZ	Sales Package - Skid Plate, Off Road Spot
N87	Wheel - 18 x 8, Aluminum
N90	Wheel - 15 x 7, Aluminum Cast, 4.75 Inch Bolt Circle
PF3	Wheel - 15 x 6.5, Aluminum
PG1	Wheel - 15 x 6, Steel
PPB	Equipment - Pick-Up Box Extender
PUB	Cap - PUBX Bed Rail
PVJ	Fuel Tank Filler - Neck, Elongated
QA8	Wheel - 17 x 8, Aluminum
QCE	Tire All - P205/75R15/N BL R/PE ST TL ALS
QET	Tire All - P225/75R15-102S BW R/PE ST TL ALS
QFL	Tire All - P235/75R15-105S BW R/PE ST TL ALS
QGR	Tire All - P235/50R17-95S BW TL AL2
QG5	Wheel - 15 x 6.5, Aluminum, 5 Spoke
QKU	Tire All - P235/50R18-97H R/PE ST AL3
QWU	Tire All - P265/75R15-112S BW TL OOR
TBD	Vehicle - Mid-Box
TR9	Lamp Group
TT5	Headlamps - Halogen, 2
T61	Lamp System - Daytime Running
T62	Lamp System - Daytime Running - Delete
T82	Headlamps Control - Automatic ON-Off
T96	Lamp - Fog, Front
UC6	Radio - AM/FM Stereo, Seek/Scan, RDS, Multiple Compact Disc, Auto Tone Control, Clock, ETR

2005 Chevrolet Colorado Restoration Kit

RPO	Description
UE1	Communication System - Vehicle, GPS 1
UL5	Radio - Delete
UM7	Radio - AM/FM Stereo, Seek/Scan, Clock, ETR
UQ3	Speaker System - Performance Enhanced Audio
UQ5	Speaker System - 4, Dual Front Door Mounted, Dual Extended Range Quarter Mounted
US8	Radio - AM/FM Stereo, Seek/Scan, CD, Auto Tone, Clock, ETR, MP3, RDS
U19	Speedometer - Inst, Kilo and Miles, Kilo Odometer
U2K	Digital Audio System - S-Band
VCL	Certification Emission, Clean Fuel Vehicle, Fleet
VC5	Label - Shipping, Except US, US Possessions, or Japan
VC7	Label - Price/Fuel Econ, Guam
VFU	Protector - PUBX Runner Mat
VGC	Protector - Film, Paint Etch Preventive
VH4	Mud Flaps
VJA	Protector - Endgate
VK3	License Plate Front - Front Mounting Package
VR6	Hook - Tie Down Shipping
V22	Grille - Radiator, Chrome
V4A	Performance Package - Chevy Xtreme
V76	Hook - Tow
VPH	Vehicle Preparation - Overseas Delivery
VPM	Modification - Noise Control
VXT	Vehicle Incomplete
V73	Vehicle Statement - USA/Canada
V78	Vehicle Statement - Delete
YC0	Convenience Package - Decor Level (Base)
YC1	Convenience Package - Decor Level #1
YC3	Convenience Package - Decor Level #2
YF5	Certification - Emission, California
ZAA	Tire Spare - Compact
ZCE	Tire Spare - P205/75R15/N BL R/PE ST TL ALS
ZET	Tire Spare - P225/75R15-102S BW R/PE ST TL ALS
ZFL	Tire Spare - P235/75R15-105S BW R/PE ST TL ALS
ZL4	Sales Package - Convenience III
ZQ3	Sales Package - Driver Convenience II
ZQ6	Sales Package - Driver Convenience III
ZQ8	Chassis Package - Sport
ZW9	Body Equipment - Base Body or Chassis
Z49	Export - Canadian Modif, Mandatory Base Equipment
Z71	Chassis Package - Off Road
Z82	Trailer Provisions - Special Equipment, H.D.
Z85	Chassis Package - Increased Capacity

Technical Information

Maintenance and Lubrication

Capacities - Approximate Fluid

Application	Specification	
	Metric	English
Cooling System		
2.8L Engine (RPO LK5)	9.8 L	10.4 qt
3.5L Engine (RPO L52)	10 L	10.6 pt
Differential Fluid		
Rear Axle	1.6-1.8 L	3.4-3.8 pt
Front Axle	1.5 L	3.2 pt
Engine Oil with Filter		
2.8L Engine (RPO LK5)	4.7 L	5 qt
3.5L Engine (RPO L52)	5.6 L	6 qt
Fuel Tank	76 L	19.5 gal
Transmission Drain and Refill		
Automatic - Pan Removal	4.7 L	5 qt
Automatic - Overhaul	10.6 L	11 qt
Manual	2.4 L	2.5 qt

Maintenance Items

Item	Part Number
Transmission Filter Kit	
• Automatic	GM P/N 24225323
Engine Air Cleaner/Filter	GM P/N 15202408
Engine Oil Filter	
• 2.8L Engine	GM P/N 88984215 ACDelco® P/N PF46
• 3.5L Engine	GM P/N 89017342 ACDelco® P/N PF61
Fuel Filter	GM P/N 25121800 ACDelco® P/N GF624
Spark Plugs	GM P/N 25337472 ACDelco® P/N 41-981
Windshield Wiper Blades	
• Driver Side	GM P/N 15169017
• Passenger Side	GM P/N 15169018
• Wiper Blade Length - Driver	55 cm (22 in)
• Wiper Blade Length - Passenger	48 cm (19 in)

Fluid and Lubricant Recommendations

Usage	Fluid/Lubricant
Engine Oil	Engine oil with the American Petroleum Institute Certified for Gasoline Engines starburst symbol of the proper viscosity. To determine the preferred viscosity for your vehicle's engine.
Engine Coolant	50/50 mixture of clean, drinkable water and use only GM DEX-COOL.
Hydraulic Brake System	Delco Supreme 11 Brake Fluid or equivalent DOT-3 Brake fluid.
Windshield Washer Solvent	GM Optikleen Washer Solvent.
Parking Brake Cable Guides	Chassis Lubricant GM P/N 12377985, Canadian P/N 88901242 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.
Manual Transmission	Manual Transmission Fluid GM P/N 89021806, Canadian P/N 89021807 or equivalent.
Hydraulic Clutch System	Hydraulic Clutch Fluid GM P/N 12345347, Canadian P/N 10953517 or equivalent DOT-3 brake 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, Canadian P/N 88901242 or equivalent or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Front and Rear Axle	SAE 75W-90 Synthetic Axle Lubricant GM P/N 12378261, Canadian P/N 10953455 or equivalent.
Transfer Case	Synchromesh Transmission Fluid GM P/N 12345349, Canadian P/N 10953465 or equivalent.
Rear Driveline Center Spline and Universal Joints	Chassis Lubricant GM P/N 12377985, Canadian P/N 88901242 or equivalent or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Constant Velocity Universal Joint	Chassis Lubricant GM P/N 12377985, Canadian P/N 88901242 or equivalent or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Hood Latch Assembly, Secondary Latch, Pivots, Spring Anchor and Release Pawl	Lubriplate Lubricant Aerosol GM P/N 1052349, Canadian P/N 992723 or equivalent or lubricant meeting requirements of NLGI #2, Category LB or GC-LB.
Hood and Door Hinges, Body Door Hinges Pins, Liftgate Hinge and Linkage, Folding Seats and Fuel Door Hinge	Multi-Purpose Lubricant, Superlube GM P/N 12346241, Canadian P/N 10953474 or equivalent.
Outer Tailgate Handle Pivot Points and 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.

GM Oil Life System - Resetting

The vehicle has a computer system that has a change engine oil message, indicating when to change the engine oil and filter. This is based on engine revolutions and engine temperature, and not on mileage. Based on driving conditions, the kilometers or mileage at which an oil change will be indicated can vary considerably. For the oil life system to work properly, the system must be reset every time the oil is changed.

When the system has calculated that oil life has been diminished, it will indicate that an oil change is necessary. The change engine oil message will come on. The oil must be changed as soon as possible. It is possible that, if the vehicle is driven under the best conditions, the oil life system may not indicate that an oil change is necessary for over a year. However, the engine oil and filter must be changed at least once a year and at this time the system must be reset. If the system is ever reset accidentally, the oil must be changed at 3,000 miles (5 000 km) since the last oil change. Remember to reset the oil life system whenever the oil and filter is changed.

Resetting Procedure

1. Turn the ignition to RUN with the engine OFF.
2. Press and release the reset stem in the lower center of the instrument panel (I/P) cluster until the OIL LIFE message is displayed.
3. Once the alternating OIL LIFE and RESET messages appears in the display, press and hold the reset stem until several beeps sound. This confirms the OIL LIFE system has been reset.
4. Turn the key to lock. If the CHANGE OIL message comes back on when you start the engine, the ENGINE OIL LIFE system has not reset. Repeat the procedure.

Alternate Method

1. Turn the ignition key to RUN with the engine off.
2. Fully press the release the accelerator pedal 3 times within 5 seconds. Several beeps sound. This confirms the oil life system has been reset.
3. If the CHANGE/OIL message comes back on when you start the engine, the engine oil life system has not been reset. Repeat the procedure.

Descriptions and Operations

Steering System

Power Steering System

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 pump is belt-driven.

The power steering fluid reservoir holds the power steering fluid and is integral with the power steering pump. The reservoir can be serviced separately from the pump.

This vehicle uses a rack and pinion system.

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 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.

Steering Wheel and Column

The steering wheel and column has 4 primary functions:

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

Vehicle Steering

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

Vehicle Security

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

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- The horn pad/cruise control switch
- The redundant radio/entertainment system controls
- The tilt or tilt/telescoping functions
- The navigation/OnStar® features
- The HVAC controls

Driver Safety

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

Ignition Lock Cylinder Control Actuator

If the vehicle is equipped with a floor mounted console gear shifter, it has a ignition lock cylinder control actuator system in the steering column as an added safety feature. The ignition lock cylinder control actuators purpose is to prevent the steering wheel from being locked when the transmission is in gear and the vehicle may still be moving. The column ignition lock system consists of a ignition lock cylinder control acutator, and a park position switch that is located in the A/T shift lock control switch. The ignition lock cylinder control acutator contains a pin that is spring loaded out to mechanically prevent the ignition key cylinder from being turned to the lock position when vehicle transmission is not in the Park position. If vehicle power is lost, and/or the transmission is not in the Park position the operator will not be able to turn the ignition key to the lock position and will not be able to remove the ignition key from the column.

Suspension Description and Operation

Front Suspension

The front suspension allows each wheel to compensate for changes in the road surface without affecting the opposite wheel. Each wheel independently connects to the frame with a steering knuckle, ball joint assemblies, and upper and lower control arms.

Two tie rods connect to the steering arms on the knuckles and to a steering gear.

Rear wheel drive models have a front suspension that consists of the following components:

- Control arms
- Stabilizer shaft
- Shock/Coil spring modules

The upper part of each Shock/Coil spring module bolts to the frame. Three insulators, a mounting plate and a nut secure the coil spring to the shock housing. One bolt secures the lower part of the shock to the lower control arm.

A spring steel stabilizer shaft controls the side roll of the front suspension. This shaft is mounted in rubber insulators that are held by clamps to the frame side rails. The ends of the stabilizer shaft connect to the lower control arms with link assemblies.

The upper ball joint assembly is bolted into the upper control arm and is serviceable. The assembly attaches to the steering knuckle with a prevailing torque nut.

The lower ball joint assembly is bolted into the control arm and is serviceable. The assembly attaches to the steering knuckle with a prevailing torque nut.

The upper and the lower control arms have pressed-in bushings. The bolts pass through the bushings and join the arms to the frame.

Ball joint assemblies have rubber grease seals. These seals prevent the entry of moisture and dirt. This prevents damage to the bearing surfaces. All ball joints have grease fittings for routine maintenance.

Four-wheel drive models have a front suspension that consists of the following components:

- Control arms
- Stabilizer shaft
- Shock absorbers
- Torsion bars (right and left side)

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The upper part of each shock absorber extends through a frame bracket. Two insulators and a nut secure the upper part of the shock to the frame. A through bolt secures the lower part of the shock to the lower control arm.

A spring steel stabilizer shaft controls the side roll of the front suspension. This shaft is mounted in rubber insulators that are held by clamps to the frame side rails. The ends of the stabilizer shaft connect to the lower control arms with link assemblies.

The upper ball joint assembly is bolted into the upper control arm and is serviceable. The assembly attaches to the steering knuckle with a prevailing torque nut.

The lower ball joint assembly is bolted into the control arm and is serviceable. The assembly attaches to the steering knuckle with a prevailing torque nut.

The lower control arms also include a bolted on torsion bar anchor which is serviceable.

Torsion bars replace the conventional coil springs. The front end of the torsion bar attaches to the lower control arm. The rear of the torsion bar mounts into an adjustable arm at the torsion bar crossmember. This arm adjustment controls the vehicle trim height.

Both RWD and S4WD models have sealed front wheel bearings. These bearings are pre-adjusted and need no lubrication.

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
Spare Wheel Hoist Assembly Mounting Bolts	50 N·m	37 lb ft
Wheel Nut	140 N·m	103 lb ft

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.

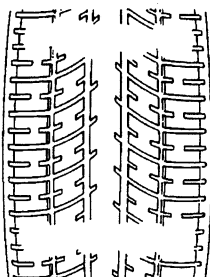
The following factors have an important influence on tire life:

- 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

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Inspect the tire pressure when the following conditions apply:

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

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

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

Inflation Pressure Conversion (Kilopascals to PSI)

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

Conversion: 6.9 kPa = 1 psi

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

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

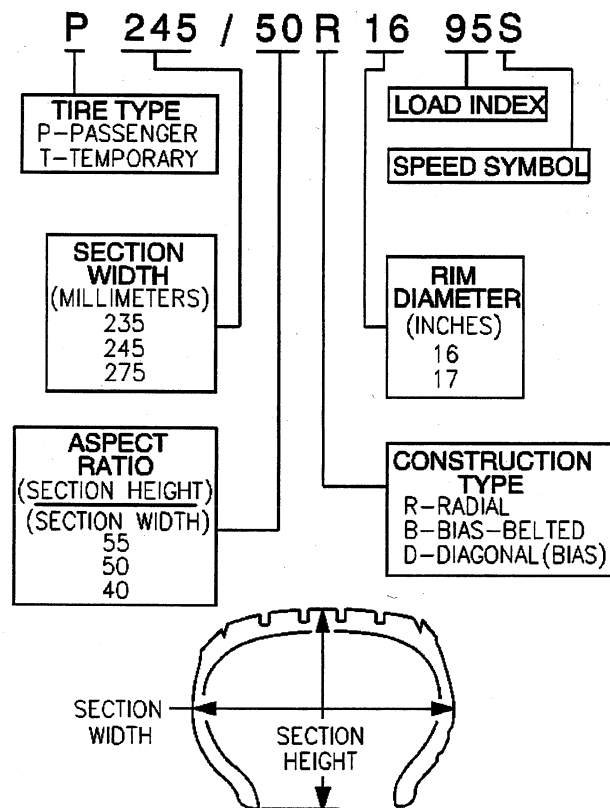
Tires with a lower than recommended pressure can cause the following conditions:

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

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

- Uneven braking
- Steering lead
- Reduced vehicle handling

P-Metric Sized Tires Description



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

Driveline System Description and Operation

Driveline/Axle – Propeller Shaft

The propeller shaft is a tube with universal joints at both ends which do not require periodic maintenance, that transmit power from the transfer case or 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 1 piece propeller shaft uses a splined slip joint to connect the driveline to the transmission or transfer case.

Two Piece Propeller Shaft Description

There are 3 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 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 Description and Operation

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.
- 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:

- Differential Carrier Housing
- Differential Assembly
- Intermediate Shaft
- Intermediate Shaft Housing
- Electric Motor Actuator
- Shift Fork /Clutch Assembly

The front axle on four wheel drive model vehicles has 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

The rear axle for this vehicle consist of the following components:

- Aluminum Differential Carrier Housing
- Differential Case Assembly (Open or Locking)
- Ring Gear and Drive Pinion Shaft
- Left and right axle shaft tubes
- Left and right axle shafts
- Fill Plug
- Drain Plug

The rear axle receives power from the propeller shaft and transfers it to the drive pinion through the universal joint and the pinion yoke, which is attached to the drive pinion. The drive pinion transfers the power to the ring gear which is splined to the drive pinion at a 90 degree angle. The ring gear is attached to the differential case which contains four gears inside of it. Two of the gear are side gears and two are pinion gears. Each side gear is splined to an axle shaft so each axle shaft turns when it's side gear rotates. The pinion gears are mounted on a differential pinion shaft, and the pinion 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 rotates the differential case. The ring gear, as it rotates with the differential case, forces the pinion gears against the side gears. The side gears rotate the axle shafts to which the wheels are attached to. When both wheels have an equal amount of traction, the pinion gears do not rotate on the pinion shaft because of input force on the pinion gears 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. As long as the input force is equal between the two axle shafts, the axle shafts could be solidly attached to the ring gear. The addition of the two pinion gears and the two side gears are needed to allow the axle shafts to turn at different speeds. When the vehicle turns a corner, the inner wheel turns slower than the outer wheel. The amount slower the inner wheel spins is equal to the same amount the outer wheel spins faster, as compared to the straight line speed. When this happens, the pinion gears rotate around the pinion shaft and allow the wheels to spin at different speeds.

Locking Differential 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

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- 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.

Transfer Case Description – Isuzu T150

The Isuzu T150 transfer case features a 3-button accessory switch located on the instrument panel. When the vehicle has the ignition key in the RUN position, the transfer case shift control module starts monitoring the accessory switch to determine if the driver desires a new mode/range position. At a single press of the accessory switch, the lamp of the new desired position will begin flashing to inform the driver that the transfer case shift control module has received the request for a new mode/range position. The lamp will continue to flash until all shifting criteria have been met and the new mode/range position has been reached, or has been engaged. Once the new mode/range position is fully active, the switch indicator lamp for the new position will remain ON constantly.

During normal driving situations, the transfer case operates in the 2HI mode. When the 2HI mode is selected, the transfer case shift control module sends 12 volts to an electrical motor, which is the transfer case encoder motor. This motor rotates the transfer case shift detent lever shaft which moves the shift forks and range sleeve to obtain different modes/ranges.

The Isuzu T150 transfer case has the added feature of also providing the driver with 2 selectable mode/range positions:

- 2HI
- 4HI
- 4LO

The transfer case does not allow a shift into or out of 4LO unless the following criteria is met:

- The engine is running.
- The automatic transmission is in NEUTRAL.
- The vehicle speed is less than 5 km/h (3 mph).

This transfer case also has a NEUTRAL position. A shift to the NEUTRAL position allows the vehicle to be towed without the transmission output shaft rotating. Refer to the Owner's Manual for instructions for proper towing of the vehicle.

NEUTRAL position is obtained only if the following criteria is met:

- The ignition is ON.
- The automatic transmission is in NEUTRAL.
- The vehicle speed is less than 5 km/h (3 mph).
- The transfer case is in the 2HI mode.

Once these conditions have been met, press and hold both the 2HI and 4LO Lock buttons for 10 seconds. When the system completes the shift to NEUTRAL, the red NEUTRAL indicator will illuminate.

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

System Component Description

The park brake system consists of the following:

Park Brake Pedal Assembly

Receives and transfers park brake system apply input force from driver to park brake cable system.

Park Brake Release Handle Assembly

Releases applied park brake system when pulled.

Park Brake Cables

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

Park Brake Cable Equalizer

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

Threaded park brake cable equalizers are also used to remove slack in park brake cables.

Park Brake Apply Lever

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

System Operation

Depressing the Park Brake Pedal creates INPUT FORCE. The INPUT FORCE is transferred and evenly distributed through the park park cables and the equalizer to the left and right rear park brake cables. The INPUT FORCE, is then transferred to the apply levers located in each of the rear brake drums. The levers then multiply the INPUT FORCE and transfer the force to the rear brake shoes. At that point, the brake shoes are forced to expand and make contact with the friction surface of the rear brake drums, preventing the rotation of the rear wheels. Use the park brake release handle to disengage the park brake.

ABS Description and Operation

Antilock Brake System

This vehicle is equipped with an Advics electronic brake control module (EBCM) and brake pressure modulator valve (BPMV).

The following vehicle performance enhancement systems are provided.

- Antilock Brake System (ABS)
- Dynamic Rear Proportioning (DRP)
- Traction Control System (TCS) (w/NW7)

The EBCM controls the system functions and detects faults. The EBCM contains six solenoids that are commanded ON and OFF by the EBCM to operate the appropriate valves in the brake pressure modulator valve (BPMV).

The BPMV uses a 3-circuit configuration to control hydraulic pressure to each front wheel independently, and to the rear wheels as a pair.

Antilock Brake System (ABS) Operation

When wheel slip is detected during a brake application, an ABS event occurs. During antilock braking, hydraulic pressure in the individual wheel circuits is controlled to prevent any wheel from slipping. A

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separate hydraulic line and specific solenoid valves are provided for each wheel. The ABS can decrease, hold, or increase hydraulic pressure to each wheel. The ABS does not, 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 electronic brake control module (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 – 2.8L (LK5)

General Specifications

Application	Specifications	
	Metric	English
General		
Engine Type	In-Line-4	
Displacement	2.8L	170 cu in
RPO	LK5	
VIN	8	
Bore	93 mm	3.66 in
Stroke	102 mm	4.02 in
Compression Ratio	10:1	
Engine Compression Test	1482 kPa	215 psi
Firing Order	1-3-4-2	
Spark Plug Gap	1.14-1.25 mm	0.044-0.050 in
Block		
Crankshaft Main Bearing Bore Diameter	78.070-78.088 mm	3.0760-3.0766 in
Cylinder Bore Diameter	92.990-93.006 mm	3.6638-3.6644 in
Cylinder Bore Out-of-Round	0.013 mm	0.0005 in
Cylinder Head Deck Surface Flatness	0.08 mm	0.003 in
Cylinder Liner Recession	0.015 mm	0.0006 in
Camshaft		
Camshaft End Play - Exhaust	0.045-0.215 mm	0.0017-0.0084 in
Camshaft End Play - Intake	0.051-0.201 mm	0.0020-0.0079 in
Camshaft Journal Diameter - All Intake and Exhaust #2-#7	26.936-26.960 mm	1.0612-1.0622 in
Camshaft Journal Diameter - Exhaust #1	29.936-29.960 mm	1.1794-1.1804 in
Camshaft Journal to Bore Clearance	0.040-0.085 mm	0.0015-0.0033 in
Connecting Rod		
Connecting Rod Bearing Clearance	0.021-0.065 mm	0.0008-0.0025 in
Connecting Rod Bore Diameter - Bearing End	60.322-60.338 mm	2.3749-2.3755 in
Connecting Rod Bore Out-of-Round - Bearing End	0.006 mm	0.0002 in
Connecting Rod Side Clearance	0.05-0.35 mm	0.0019-0.0137 in
Crankshaft		
Crankshaft End Play	0.112-0.388 mm	0.0044-0.0153 in
Crankshaft Main Bearing Clearance	0.012-0.064 mm	0.0004-0.0025 in
Crankshaft Main Journal Diameter	69.968-69.984 mm	2.7567-2.7574 in
Crankshaft Main Journal Out-of-Round	0.005 mm	0.0002 in
Crankshaft Main Journal Taper	0.005 mm	0.0002 in
Cylinder Head		
Surface Flatness - Block Deck	0.08 mm	0.003 in
Surface Flatness - Exhaust Manifold Deck	0.08 mm	0.003 in
Surface Flatness - Intake Manifold Deck	0.08 mm	0.003 in
Exhaust Manifold		
Surface Flatness	0.08 mm	0.003 in

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Application	Specifications	
	Metric	English
Lubrication System		
Oil Pressure - Minimum	85 kPa	12 psi @ 1200 RPM
Oil Pump		
Oil Capacity - with Filter	4.7 L	5.0 qts
Oil Capacity - without Filter	4.2 L	4.5 qts
Gear Diameter - Drive	73.415-73.370 mm	2.893-2.891 in
Gear Diameter - Driven	87-86.975 mm	3.428-3.426 in
Gear Pocket - Depth	15.609-15.584 mm	0.615-0.614 in
Gear Pocket - Diameter	87.065-87.040 mm	3.430-3.429 in
Gear Thickness - Drive	15.546-15.521 mm	0.613-0.611 in
Gear Thickness - Driven	15.360-15.511 mm	0.605-0.611 in
Lobe Inner Diameter - Maximum	11.9 mm	0.469 in
Relief Valve-to-Bore Clearance	2.57-1.63 mm	0.101-0.064 in
Piston Rings		
Piston Ring End Gap - First Compression Ring	0.20-0.40 mm	0.00787-0.0157 in
Piston Ring End Gap - Second Compression Ring	0.36-0.51 mm	0.0142-0.0201 in
Piston Ring End Gap - Oil Control Ring	0.250-0.760 mm	0.0098-0.0299 in
Piston Ring to Groove Clearance - First Compression Ring	0.043-0.093 mm	0.0017-0.0037 in
Piston Ring to Groove Clearance - Second Compression Ring	0.053-0.093 mm	0.0021-0.0037 in
Piston Ring to Groove Clearance - Oil Control Ring	0.059-0.215 mm	0.0023-0.0085 in
Pistons and Pins		
Piston - Piston Diameter	92.971-93.005 mm	3.6603-3.6616 in
Piston - Piston Pin Bore Diameter	23.002-23.008 mm	0.9056-0.9058 in
Piston - Piston to Bore Clearance	-0.015-0.035 mm	-0.0006-0.0014 in
Pin - Piston Pin Clearance to Connecting Rod Bore	0.001-0.018 mm	0.0004-0.0007 in
Pin - Piston Pin Clearance to Piston Pin Bore	0.003-0.012 mm	0.00012-0.0005 in
Pin - Piston Pin Diameter	22.996-22.999 mm	0.9054-0.9055 in
Valve System		
Valves - Valve Face Runout	0.038 mm	0.0015 in
Valves - Valve Seat Runout	0.05 mm	0.002 in
Valves - Valve Stem-to-Guide Clearance - Exhaust	0.0375-0.0775 mm	0.0015-0.0030 in
Valves - Valve Stem-to-Guide Clearance - Intake	0.030-0.065 mm	0.0011-0.0025 in
Valve Springs - Valve Spring Load - Closed	211-233 N at 35 mm	47.4-52.4 lb at 1.701 in
Valve Springs - Valve Spring Load - Open	578-632 N at 24.5 mm	130-142 lb at 1.260 in

Fastener Tightening Specifications

Application	Specifications	
	Metric	English
A/C Compressor Hose/Pipe Bracket Bolt	9 N·m	80 lb in
A.I.R. Cover Stud	25 N·m	18 lb ft
Balance Shaft Retaining Bolt	10 N·m	89 lb in
Balance Shaft Chain Guide Bolt	10 N·m	89 lb in
Balance Shaft Chain Tensioner Bolt	10 N·m	89 lb in
Battery Negative Cable to Engine Block Bolt	35 N·m	26 lb ft
Battery Positive Cable to Starter Terminal Nut	9 N·m	80 lb in
Camshaft Cap Bolt	12 N·m	106 lb in
Camshaft Cover Bolt	10 N·m	89 lb in
Camshaft Position Actuator Valve Bolt	10 N·m	89 lb in
Connecting Rod Cap Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	110 degrees	
Coolant Temperature Sensor	14 N·m	124 lb in
Crankshaft Balancer Bolt		
• First Pass	150 N·m	110 lb ft
• Final Pass	180 degrees	
Crankshaft Main Bearing Cap Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	180 degrees	
Crankshaft Position Sensor Bolt	10 N·m	89 lb in
Crankshaft Rear Oil Seal Housing Bolt	10 N·m	89 lb in
Cylinder Head Access Hole Plug - Plastic	5 N·m	44 lb in
Cylinder Head Bolt - 10		
• First Pass	30 N·m	22 lb ft
• Final Pass	155 degrees	
Cylinder Head End Bolts - 2 Short		
• First Pass	7 N·m	62 lb in
• Final Pass	60 degrees	
Cylinder Head End Bolts - 1 Long		
• First Pass	7 N·m	62 lb in
• Final Pass	120 degrees	
Cylinder Head Oil Gallery Plug	38 N·m	28 lb ft
Differential Carrier Assembly Bushing to Frame Bolt	152 N·m	112 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 Oil Gallery Plug - Front and Rear	80 N·m	60 lb ft
Engine Block Oil Gallery Plug - Side	35 N·m	26 lb ft
Engine Flywheel Bolt		
• First Pass	40 N·m	30 lb ft
• Final Pass	45 degrees	
Engine Front Cover Bolt	10 N·m	89 lb in
Engine Front Cover Center Bolt - Small	8 N·m	71 lb in
Engine Front Cover Spacer Bolt	10 N·m	89 lb in
Engine Front Lift Bracket Bolt		
• First Pass	5 N·m	44 lb in
• Final Pass	50 N·m	37 lb ft
Engine Mount Bolt	50 N·m	37 lb ft

Application	Specifications	
	Metric	English
Engine Mount-to-Frame Bracket Bolt	85 N·m	63 lb ft
Engine Wiring Ground Lead Bolt	20 N·m	15 lb ft
Engine Wiring Harness Bracket Bolt	10 N·m	89 lb in
EVAP Purge Solenoid Valve Bolt	10 N·m	89 lb in
Exhaust Camshaft Actuator Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	135 degrees	
Exhaust Camshaft Position Sensor Bolt	10 N·m	89 lb in
Exhaust Manifold Bolt -- 3 Times in Sequence	20 N·m	15 lb ft
Exhaust Manifold Heat Shield Nut	10 N·m	89 lb in
Exhaust Manifold Heat Shield Stud	10 N·m	89 lb in
Fuel Hose/Pipe Bracket Nut	20 N·m	15 lb ft
Fuel Injector Rail Bolt	10 N·m	89 lb in
Fuel Pressure Regulator Bolt	8 N·m	71 lb in
Generator Mounting Bolt	50 N·m	37 lb ft
Heater Hole Plug	50 N·m	37 lb ft
Heater Inlet Pipe Bolt	10 N·m	89 lb in
Heater Outlet Hose Fitting	45 N·m	33 lb ft
Heater Outlet Hose/Pipe Bracket to Left Engine Mount Bolt	9 N·m	80 lb in
Ignition Control Module Bolt	10 N·m	89 lb in
Intake Camshaft Sprocket Bolt		
• First Pass	20 N·m	15 lb ft
• Final Pass	100 degrees	
Intake Manifold Bolt	10 N·m	89 lb in
Knock Sensor	25 N·m	18 lb ft
Oil Filter		
• First Pass	10 N·m	89 lb in
• Final Pass	150 degrees	
Oil Filter Adapter Bolts	10 N·m	89 lb in
Oil Filter Bypass Hole Plug	14 N·m	124 lb in
Oil Level Indicator Tube Bolt	10 N·m	89 lb in
Oil Pan Bolt - Ends	10 N·m	89 lb in
Oil Pan Bolt - Sides	25 N·m	18 lb ft
Oil Pan Drain Plug	26 N·m	19 lb ft
Oil Pressure Switch	20 N·m	15 lb ft
Oil Pump Cover Bolt	10 N·m	89 lb in
Oil Pump Pipe and Screen Assembly Bolt Plug	10 N·m	89 lb in
Oil Pump Pressure Relief Valve	14 N·m	124 lb in
Power Steering Pump Bolt	25 N·m	18 lb ft
Power Steering Pump Bracket Bolt	50 N·m	37 lb ft
Spark Plug	18 N·m	13 lb ft
Starter Motor Bolt	50 N·m	37 lb ft
Starter Motor Nut	50 N·m	37 lb ft
Starter Motor Stud	16 N·m	12 lb ft
Starter Solenoid - S Terminal Nut	3.5 N·m	31 lb in
Thermostat Housing bolt	10 N·m	89 lb in
Throttle Control Module Bolt	10 N·m	89 lb in
Timing Chain Tensioner Bolt	25 N·m	18 lb ft
Timing Chain Tensioner Guide Bolt	18 N·m	13 lb ft
Timing Chain Tensioner Shoe Bolt	25 N·m	18 lb ft

Application	Specifications	
	Metric	English
Timing Chain Top Guide Bolt	10 N·m	89 lb in
Torque Converter Bolts	60 N·m	44 lb ft
Transmission Mounting Bolts	50 N·m	37 lb ft
Transmission Oil Cooler Pipes Bracket Bolt	20 N·m	15 lb ft
Water Outlet Bolt	10 N·m	89 lb in
Water Pump Bolt	10 N·m	89 lb in
Water Pump Pulley Bolt	25 N·m	18 lb ft

Engine Component Description

Engine Block

The lost foam all aluminum engine block utilizes a deep skirt design for increased rigidity. The cylinders are positioned in a straight in-line orientation. The crankshaft bearing caps have a bearing beam or "ladder" for enhanced structural rigidity and vibration reduction.

Oil Pan

A single piece cast aluminum oil pan contributes to crankshaft and block rigidity while reducing overall weight. The oil pan bolts to the bell housing as well as the block. This eliminates points of vibration and makes the complete powertrain act as a single casting. Jack screws are used to remove the oil pan.

Crankshaft

The crankshaft is a nodular iron design with 7 main bearings.

Connecting Rods

The connecting rods are forged powdered metal. The connecting rods and caps are of a fractured split design to improve durability and reduce internal friction. Care must be taken to ensure the mating surfaces are not damaged during service procedures.

Pistons

The pistons are a full-floating design. The piston pins are a slip fit in the bronze bushed connecting rod and are retained in the piston by round wire retainers. There are 2 compression rings and 1 oil control ring.

Cylinder Head

The cylinder head is also made of the lost foam aluminum for lighter weight and rapid heat dissipation. There are 4 valves per cylinder and the ports are of a high swirl design for improved combustion. The cylinder head gasket consists of a steel laminated construction.

Valve Train

The engine utilizes dual overhead camshafts and roller followers for reduced friction, which results in improved gas mileage.

Fuel System

A new electronic throttle control system is used on the engine. A throttle actuator control or TAC system eliminates cable linkage from the pedal to the throttle control module. All throttle movements are controlled by the powertrain control module (PCM).

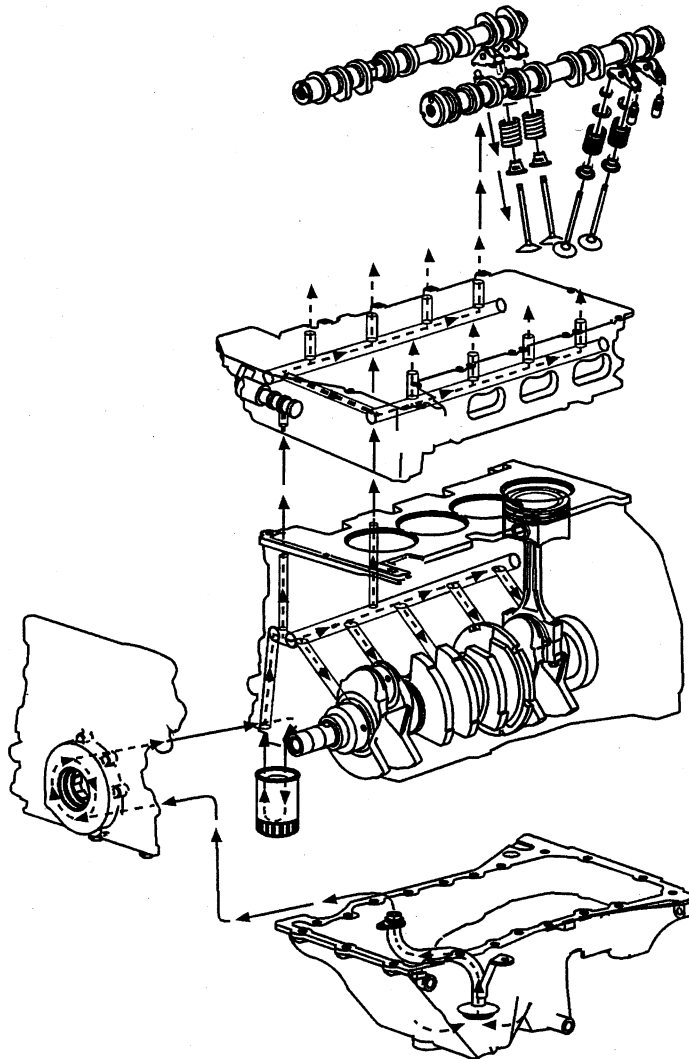
Oil Pump

The oil pump is gear driven directly from the crankshaft. The oil pump drive gear is a slip fit to the crankshaft.

Engine Covers

There is a front engine cover and a rear engine cover, both are made of aluminum. The front engine cover and rear engine cover have "T" sealing joints and need to be removed after the oil pan. The front and rear covers need to be installed before the oil pan. Jack screws are used to remove the covers. Guide pins are used to aid in the installation of both covers.

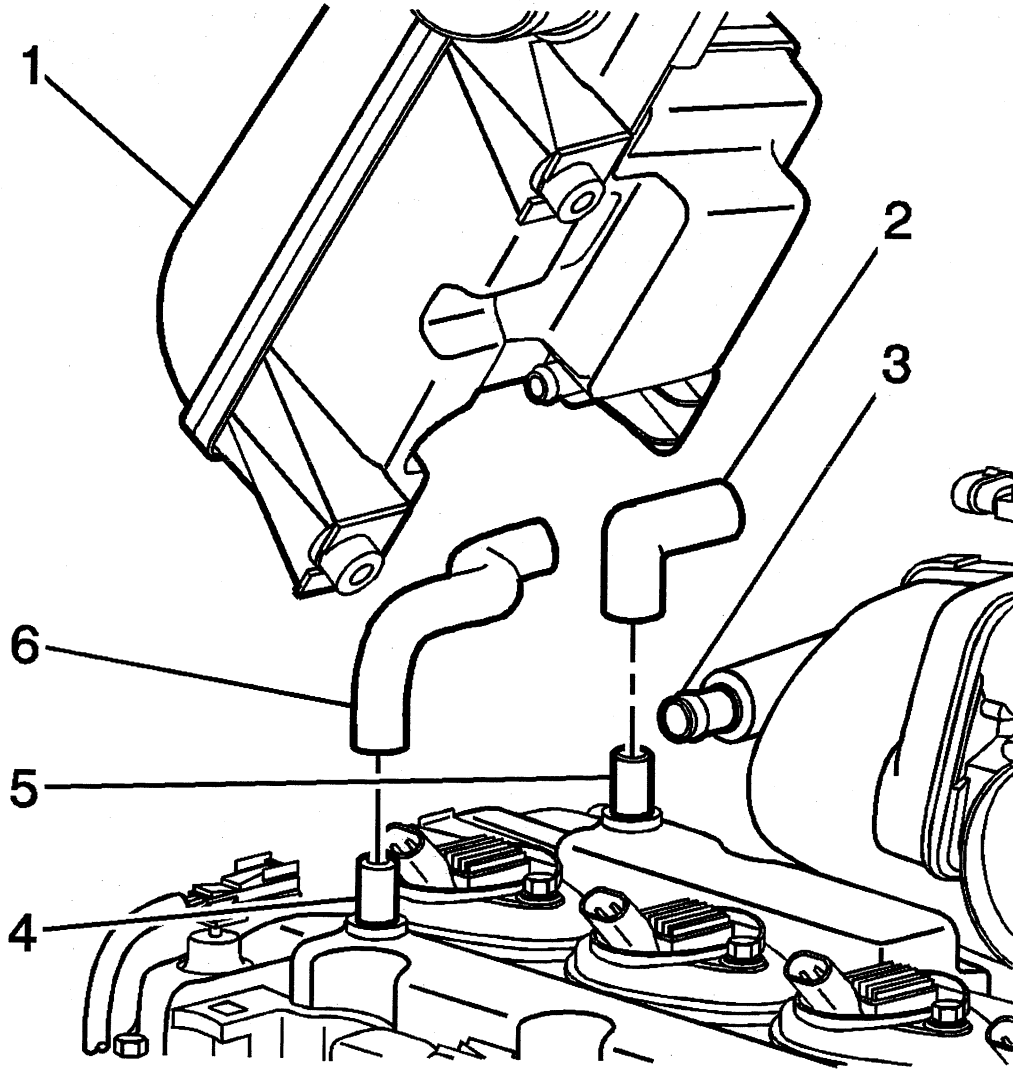
Lubrication Description



The engine lubrication system is of the force-feed type. The oil is supplied under full pressure to the crankshaft, connecting rods, valve lash adjusters, and cam phasing system. A controlled volume of oil is supplied to the camshaft and valve rocker arms. Gravity flow or splash lubricates all other parts. The engine oil is stored in the oil pan, which is filled through a fill cap in the camshaft cover. A removable oil level indicator, on the right side of the engine block, is provided to check the oil level. The oil pump is located in the engine front cover and is driven by the crankshaft. It is a gerotor-style pump, which is a combination of a gear, and a rotor pump. It is connected by a passage in the cylinder block to an oil screen and pipe assembly. The screen is submerged in the oil supply and has ample volume for all operating conditions. Oil is drawn into the pump through the screen and pipe assembly, and a passage in the crankcase, connecting to the passages in the engine front cover. Oil is discharged from the oil pump to the oil filter. The oil pressure relief valve limits the oil pressure. The oil filter bypass valve opens when the oil filter is restricted to approximately 68.95 kPa (10 psi) of pressure difference between the oil filter inlet and discharge. The oil will then bypass the oil filter and channel unfiltered oil directly to the main oil galleries of the engine. A full-flow oil filter is mounted to the oil filter adapter on the lower right front side of the engine. The main oil galleries run the full length of the engine block and cut into the valve lash adjuster holes to supply oil at full pressure to the valve lash adjusters. Holes are drilled from the crankshaft bearings to the main oil gallery. Oil is transferred from the crankshaft bearings to the connecting rod bearings through holes drilled in the crankshaft. Pistons, piston pins, and cylinder walls

are lubricated by oil splash from the crankshaft and connecting rods. The camshafts and valve rocker arms are supplied with oil from the oil passages drilled into the camshaft mounting areas.

Crankcase Ventilation System Description



A crankcase ventilation system is used to consume crankcase vapors created during the combustion process instead of venting them to the atmosphere.

Fresh air is supplied through a filter to the crankcase, the crankcase mixes the fresh air with the blow-by gases and then passed through a positive crankcase ventilation (PCV) orificed tube (5) into the intake manifold (3).

The PCV orificed tube (5) restricts the flow rate of the blow-by gases using a 2.1 mm (0.083 in) orifice located in the camshaft cover tube (5). If abnormal operating conditions arise, the system is designed to allow excessive amounts of blow-by gases to back flow through the crankcase ventilation fresh air tube (6) into the air cleaner resonator (1) in order to be consumed by normal combustion.

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 1 belt or 2 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 plies 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.

Exhaust Camshaft Position Actuator Description

The camshaft position actuator is bolted to the front of the exhaust camshaft and is integral with the sprocket. The actuator and sprocket can only be replaced as one unit. The actuator has a hydraulically actuated piston located in the hub. The piston has an internal helical spline that slides in mesh with the gear. As the piston moves, the piston and gear mechanism changes the timing of the exhaust camshaft, relative to the cam drive sprocket. When oil pressure is applied to one side of the piston, the cam moves clockwise and timing is advanced. When oil pressure is applied to the other side of the piston the cam moves counter-clockwise to retard timing. The total range of actuator rotation is 0 to 25 camshaft degrees. At idle, the exhaust camshaft position actuator is at full advance or 0 degrees.

Engine Mechanical – 3.5L (L52)**General Specifications**

Application	Specifications	
	Metric	English
General		
Engine Type	In-Line-5	
Displacement	3.5L	212 cu in
RPO	L52	
VIN	6	
Bore	93 mm	3.66 in
Stroke	102 mm	4.02 in
Compression Ratio	10:1	
Engine Compression Test	1482 kPa	215 psi
Firing Order	1-3-5-4-2	
Spark Plug Gap	1.14-1.25 mm	0.044-0.050 in
Block		
Crankshaft Main Bearing Bore Diameter	78.070-78.088 mm	3.0760-3.0766 in
Cylinder Bore Diameter	92.990-93.006 mm	3.6638-3.6644 in
Cylinder Bore Out-of-Round	0.013 mm	0.0005 in
Cylinder Head Deck Surface Flatness	0.08 mm	0.003 in
Cylinder Liner Recession	0.015 mm	0.0006 in
Camshaft		
Camshaft End Play - Exhaust	0.045-0.215 mm	0.0017-0.0084 in
Camshaft End Play - Intake	0.051-0.201 mm	0.0020-0.0079 in
Camshaft Journal Diameter - All Intake and Exhaust #2-#7	26.936-26.960 mm	1.0612-1.0622 in
Camshaft Journal Diameter - Exhaust #1	29.936-29.960 mm	1.1794-1.1804 in
Camshaft Journal to Bore Clearance	0.040-0.085 mm	0.0015-0.0033 in
Connecting Rod		
Connecting Rod Bearing Clearance	0.021-0.065 mm	0.0008-0.0025 in
Connecting Rod Bore Diameter - Bearing End	60.332-60.338 mm	2.3749-2.3755 in
Connecting Rod Bore Out-of-Round - Bearing End	0.006 mm	0.0002 in
Connecting Rod Side Clearance	0.05-0.35 mm	0.0019-0.0137 in
Crankshaft		
Crankshaft End Play	0.112-0.388 mm	0.0044-0.0153 in
Crankshaft Main Bearing Clearance	0.012-0.064 mm	0.0004-0.0025 in
Crankshaft Main Journal Diameter	69.968-69.984 mm	2.7567-2.7574 in
Crankshaft Main Journal Out-of-Round	0.005 mm	0.0002 in
Crankshaft Main Journal Taper	0.005 mm	0.0002 in
Cylinder Head		
Surface Flatness - Block Deck	0.08 mm	0.003 in
Surface Flatness - Exhaust Manifold Deck	0.08 mm	0.003 in
Surface Flatness - Intake Manifold Deck	0.08 mm	0.003 in
Exhaust Manifold		
Surface Flatness	0.08 mm	0.003 in
Lubrication System		
Oil Capacity - with Filter	5.6 L	6.0 qts
Oil Capacity - without Filter	5.1 L	5.5 qts
Oil Pressure - Minimum	85 kPa	12 psi at 1200 RPM

Application	Specifications	
	Metric	English
Oil Pump		
Gear Diameter - Drive	73.415-73.370 mm	2.893-2.891 in
Gear Diameter - Driven	87-86.975 mm	3.428-3.426 in
Gear Pocket - Depth	15.609-15.584 mm	0.615-0.614 in
Gear Pocket - Diameter	87.065-87.040 mm	3.430-3.429 in
Gear Thickness - Drive	15.546-15.521 mm	0.613-0.611 in
Gear Thickness - Driven	15.360-15.511 mm	0.605-0.611 in
Lobe Inner Diameter - Maximum	11.9 mm	0.469 in
Relief Valve-to-Bore Clearance	2.57-1.63 mm	0.101-0.064 in
Piston Rings		
Piston Ring End Gap - First Compression Ring	0.2-0.4 mm	0.0079-0.0157 in
Piston Ring End Gap - Second Compression Ring	0.36-0.51 mm	0.0142-0.0201 in
Piston Ring End Gap - Oil Control Ring	0.250-0.760 mm	0.0098-0.0299 in
Piston Ring to Groove Clearance - First Compression Ring	0.043-0.093 mm	0.0017-0.0037 in
Piston Ring to Groove Clearance - Second Compression Ring	0.053-0.093 mm	0.0021-0.0037 in
Piston Ring to Groove Clearance - Oil Control Ring	0.059-0.215 mm	0.0023-0.0085 in
Pistons and Pins		
Piston - Piston Diameter	92.963-92.977 mm	3.6627-3.6633 in
Piston - Piston Pin Bore Diameter	23.002-23.008 mm	0.9056-0.9058 in
Piston - Piston to Bore Clearance	0.013-0.043 mm	0.0004-0.0017 in
Pin - Piston Pin Clearance to Connecting Rod Bore	0.001-0.018 mm	0.0004-0.0007 in
Pin - Piston Pin Clearance to Piston Pin Bore	0.003-0.012 mm	0.00012-0.0005 in
Pin - Piston Pin Diameter	22.996-22.999 mm	0.9054-0.9055 in
Valve System		
Valves - Valve Face Runout	0.038 mm	0.0015 in
Valves - Valve Seat Runout	0.05 mm	0.002 in
Valves - Valve Stem-to-Guide Clearance - Exhaust	0.0375-0.0775 mm	0.0015-0.0030 in
Valves - Valve Stem-to-Guide Clearance - Intake	0.030-0.065 mm	0.0011-0.0025 in
Valve Springs - Valve Spring Load - Closed	211-233 N at 35 mm	47.4-52.4 lb at 1.701 in
Valve Springs - Valve Spring Load - Open	578-632 N at 24.5 mm	130-142 lb at 1.260 in

Fastener Tightening Specifications

Application	Specifications	
	Metric	English
A/C Compressor Hose/Pipe Bracket Bolt	9 N·m	80 lb in
A.I.R. Cover Stud	25 N·m	18 lb ft
Balance Shaft Retaining Bolt	10 N·m	89 lb in
Balance Shaft Chain Guide Bolt	10 N·m	89 lb in
Balance Shaft Chain Tensioner Bolt	10 N·m	89 lb in
Battery Negative Cable to Engine Block Bolt	35 N·m	26 lb in
Battery Positive Cable to Starter Terminal Nut	9 N·m	80 lb in
Camshaft Cap Bolt	12 N·m	106 lb in
Camshaft Cover Bolt	10 N·m	89 lb in
Camshaft Position Actuator Valve Bolt	10 N·m	89 lb in

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Application	Specifications	
	Metric	English
Connecting Rod Cap Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	110 degrees	
Coolant Temperature Sensor	16 N·m	12 lb ft
Crankshaft Balancer Bolt		
• First Pass	150 N·m	110 lb ft
• Final Pass	180 degrees	
Crankshaft Main Bearing Cap Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	180 degrees	
Crankshaft Position Sensor Bolt	10 N·m	89 lb in
Crankshaft Rear Oil Seal Housing Bolt	10 N·m	89 lb in
Cylinder Head Access Hole Plug - Plastic	5 N·m	44 lb in
Cylinder Head Bolt - 12		
• First Pass	30 N·m	22 lb ft
• Final Pass	155 degrees	
Cylinder Head End Bolts - 2 Short		
• First Pass	7 N·m	62 lb in
• Final Pass	60 degrees	
Cylinder Head End Bolts - 1 Long		
• First Pass	7 N·m	62 lb in
• Final Pass	120 degrees	
Cylinder Head Oil Gallery Plug	38 N·m	28 lb ft
Differential Carrier Assembly Bushing to Frame Bolt	152 N·m	112 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 Plug	50 N·m	37 lb ft
Engine Block Oil Gallery Plug - Side	35 N·m	26 lb ft
Engine Flywheel Bolt		
• First Pass	40 N·m	30 lb ft
• Final Pass	45 degrees	
Engine Front Cover Bolt	10 N·m	89 lb in
Engine Front Cover - Center - Small Bolt	8 N·m	71 lb in
Engine Front Cover Spacer Bolt	10 N·m	89 lb in
Engine Front Lift Bracket Bolt		
• First Pass	5 N·m	44 lb in
• Final Pass	50 N·m	37 lb ft
Engine Mount Bolt	50 N·m	37 lb ft
Engine Mount-to-Frame Bracket Bolt	85 N·m	63 lb ft
Engine Wiring Ground Lead Bolt	20 N·m	15 lb ft
Engine Wiring Harness Bracket Bolt	10 N·m	89 lb ft
EVAP Purge Solenoid Valve Bolt	10 N·m	89 lb in
Exhaust Camshaft Actuator Bolt		
• First Pass	25 N·m	18 lb ft
• Final Pass	135 degrees	
Exhaust Camshaft Position Sensor Bolt	10 N·m	89 lb in

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Application	Specifications	
	Metric	English
Exhaust Manifold Bolt		
• First Pass	20 N·m	15 lb ft
• Second Pass	20 N·m	15 lb ft
• Final Pass	20 N·m	15 lb ft
Exhaust Manifold Heat Shield Nut	10 N·m	89 lb in
Exhaust Manifold Heat Shield Stud	10 N·m	89 lb in
Fuel Hose/Pipe Bracket Nut	20 N·m	15 lb ft
Fuel Injector Rail Bolt	10 N·m	89 lb in
Fuel Pressure Regulator Bolt	8 N·m	70 lb in
Generator Mounting Bolt	50 N·m	37 lb in
Heater Inlet Pipe Bolt	10 N·m	89 lb in
Heater Outlet Fitting	45 N·m	33 lb ft
Ignition Control Module Bolt	10 N·m	89 lb in
Heater Outlet Hose/Pipe Bracket to Left Engine Mount Bolt	9 N·m	80 lb in
Intake Camshaft Position Sensor Bolt	10 N·m	89 lb in
Intake Camshaft Sprocket Bolt		
• First Pass	20 N·m	15 lb ft
• Final Pass	100 degrees	
Intake Manifold Bolt	10 N·m	89 lb in
Knock Sensor	25 N·m	18 lb ft
Oil Filter	30 N·m	22 lb ft
Oil Filter Adapter	50 N·m	37 lb ft
Oil Filter Bypass Hole Plug	14 N·m	124 lb in
Oil Level Indicator Tube Bolt	10 N·m	89 lb in
Oil Pan Bolt - Ends	10 N·m	89 lb in
Oil Pan Bolt - Sides	25 N·m	18 lb ft
Oil Pan Drain Plug	26 N·m	19 lb ft
Oil Pressure Switch	20 N·m	15 lb ft
Oil Pump Cover Bolt	10 N·m	89 lb in
Oil Pump Pipe and Screen Assembly Bolt	10 N·m	89 lb in
Oil Pump Pressure Relief Valve Plug	14 N·m	124 lb in
Power Steering Pump Bolt	25 N·m	18 lb ft
Power Steering Pump Bracket Bolt	50 N·m	37 lb ft
Spark Plug	18 N·m	13 lb ft
Starter Motor Bolt	50 N·m	37 lb ft
Starter Motor Nut	50 N·m	37 lb ft
Starter Motor Stud	16 N·m	12 lb ft
Starter Solenoid -S Terminal Nut	3.5 N·m	31 lb in
Thermostat Housing bolt	10 N·m	89 lb in
Throttle Control Module Bolt	10 N·m	89 lb in
Timing Chain Tensioner Bolt	25 N·m	18 lb ft
Timing Chain Tensioner Guide Bolt	18 N·m	13 lb ft
Timing Chain Tensioner Shoe Bolt	25 N·m	18 lb ft
Timing Chain Top Guide Bolt	10 N·m	89 lb in
Torque Converter Bolts	60 N·m	44 lb ft
Transmission Mounting Bolts	50 N·m	37 lb ft
Transmission Oil Cooler Pipes Bracket Bolt	20 N·m	15 lb ft
Water Outlet Bolt	10 N·m	89 lb in
Water Pump Bolt	10 N·m	89 lb in
Water Pump Pulley Bolt	25 N·m	18 lb ft

Engine Component Description

Engine Block

The lost foam all aluminum engine block utilizes a deep skirt design for increased rigidity. The cylinders are positioned in a straight in-line orientation. The crankshaft bearing caps have a bearing beam or "ladder" for enhanced structural rigidity and vibration reduction.

Oil Pan

A single piece cast aluminum oil pan contributes to crankshaft and block rigidity while reducing overall weight. The oil pan bolts to the bell housing as well as the block. This eliminates points of vibration and makes the complete powertrain act as a single casting. Jack screws are used to remove the oil pan.

Crankshaft

The crankshaft is a nodular iron design with 7 main bearings.

Connecting Rods

The connecting rods are forged powdered metal. The connecting rods and caps are of a fractured split design to improve durability and reduce internal friction. Care must be taken to ensure the mating surfaces are not damaged during service procedures.

Pistons

The pistons are a full-floating design. The piston pins are a slip fit in the bronze bushed connecting rod and are retained in the piston by round wire retainers. There are 2 compression rings and 1 oil control ring.

Cylinder Head

The cylinder head is also made of the lost foam aluminum for lighter weight and rapid heat dissipation. There are 4 valves per cylinder and the ports are of a high swirl design for improved combustion. The cylinder head gasket consists of a steel laminated construction.

Valve Train

The engine utilizes dual overhead camshafts and roller followers for reduced friction, which results in improved gas mileage.

Fuel System

A new electronic throttle control system is used on the engine. A throttle actuator control or TAC system eliminates cable linkage from the pedal to the throttle control module. All throttle movements are controlled by the powertrain control module (PCM).

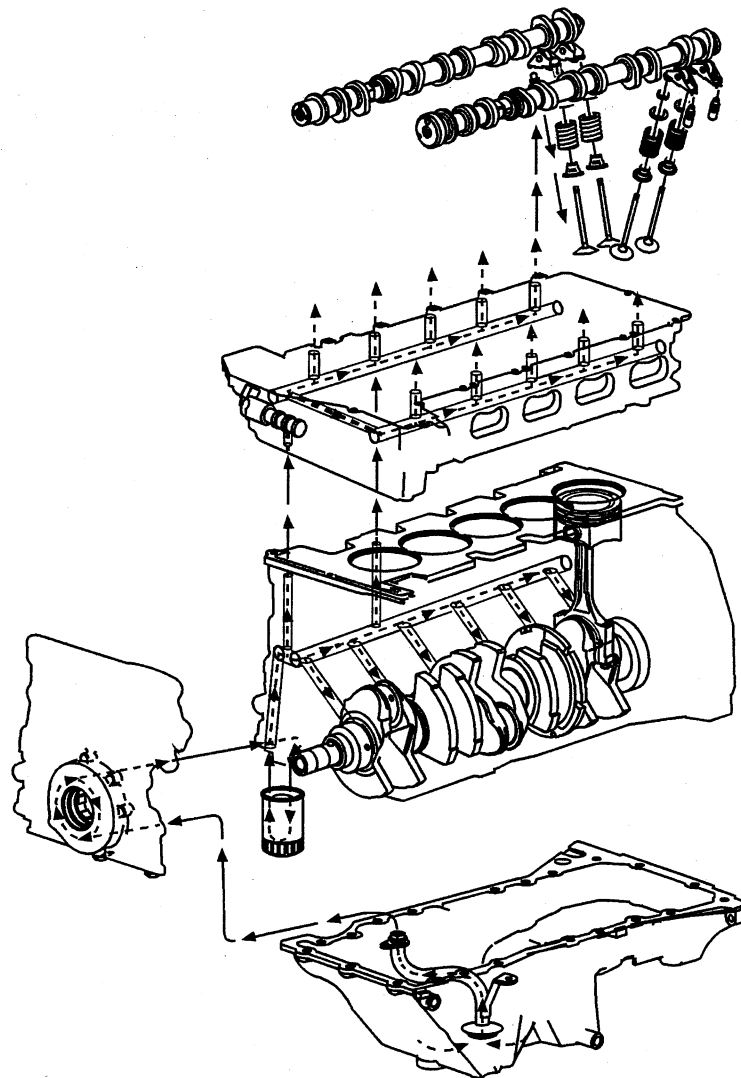
Oil Pump

The oil pump is gear driven directly from the crankshaft. The oil pump drive gear is a slip fit to the crankshaft.

Engine Covers

There is a front engine cover and a rear engine cover, both are made of aluminum. The front engine cover and rear engine cover have "T" sealing joints and need to be removed after the oil pan. The front and rear covers need to be installed before the oil pan. Jack screws are used to remove the covers. Guide pins are used to aid in the installation of both covers.

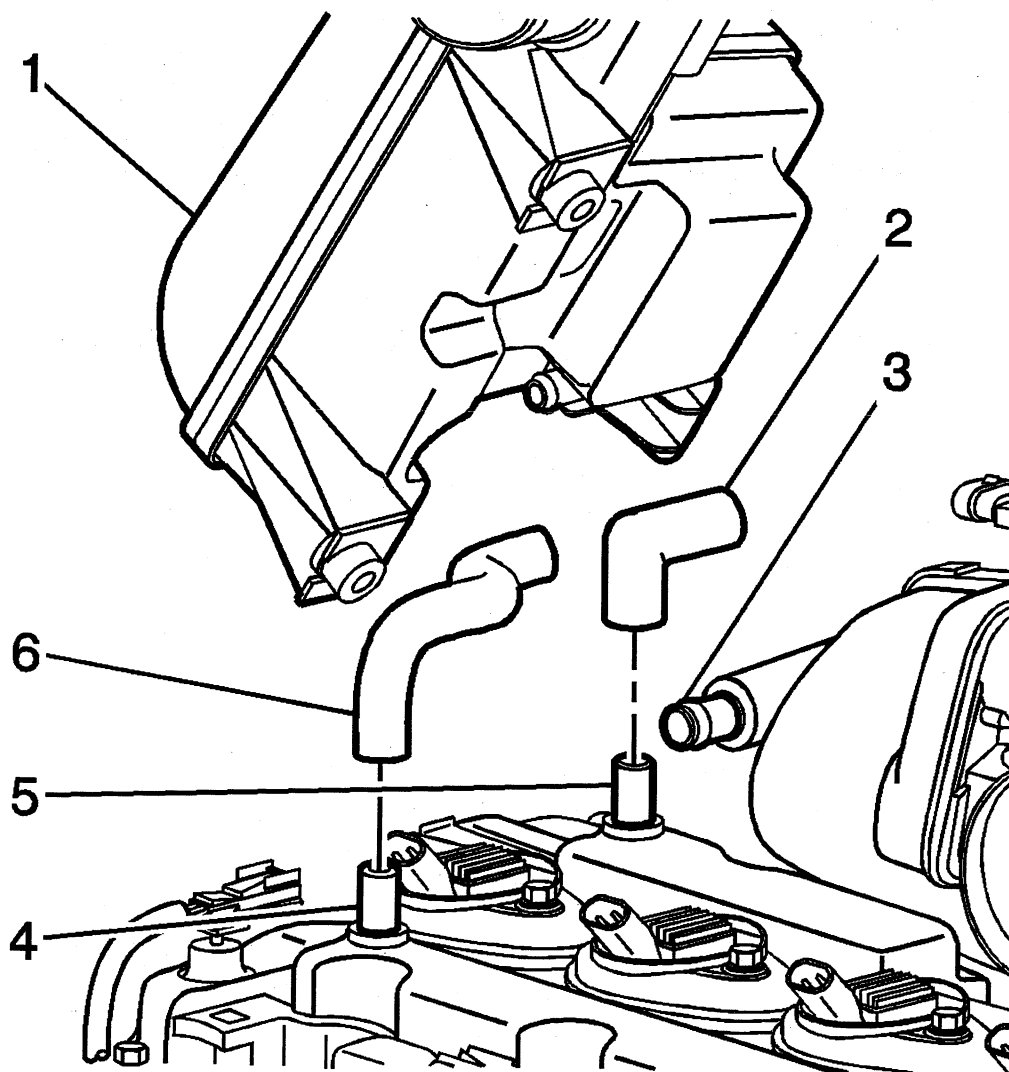
Lubrication Description



The engine lubrication system is of the force-feed type. The oil is supplied under full pressure to the crankshaft, connecting rods, valve lash adjusters, and cam phasing system. A controlled volume of oil is supplied to the camshaft and valve rocker arms. Gravity flow or splash lubricates all other parts. The engine oil is stored in the oil pan, which is filled through a fill cap in the camshaft cover. A removable oil level indicator, on the right side of the engine block, is provided to check the oil level. The oil pump is located in the engine front cover and is driven by the crankshaft. It is a gerotor-style pump, which is a combination of a gear, and a rotor pump. It is connected by a passage in the cylinder block to an oil screen and pipe assembly. The screen is submerged in the oil supply and has ample volume for all operating conditions. Oil is drawn into the pump through the screen and pipe assembly, and a passage in the crankcase, connecting to the passages in the engine front cover. Oil is discharged from the oil pump to the oil filter. The oil pressure relief valve limits the oil pressure. The oil filter bypass valve opens when the oil filter is restricted to approximately 68.95 kPa (10 psi) of pressure difference between the oil filter inlet and discharge. The oil will then bypass the oil filter and channel unfiltered oil directly to the main oil galleries of the engine. A full-flow oil filter is mounted to the oil filter adapter on the lower right front side of the engine. The main oil galleries run the full length of the engine block and cut into the valve lash adjuster holes to supply oil at full pressure to the valve lash adjusters. Holes are drilled from the

crankshaft bearings to the main oil gallery. Oil is transferred from the crankshaft bearings to the connecting rod bearings through holes drilled in the crankshaft. Pistons, piston pins, and cylinder walls are lubricated by oil splash from the crankshaft and connecting rods. The camshafts and valve rocker arms are supplied with oil from the oil passages drilled into the camshaft mounting areas.

Crankcase Ventilation System Description



A crankcase ventilation system is used to consume crankcase vapors created during the combustion process instead of venting them to the atmosphere.

Fresh air is supplied through a filter to the crankcase, the crankcase mixes the fresh air with the blow-by gases and then passed through a positive crankcase ventilation (PCV) orificed tube (5) into the intake manifold (3).

The PCV orificed tube (5) restricts the flow rate of the blow-by gases using a 2.1 mm (0.083 in) orifice located in the camshaft cover tube (5). If abnormal operating conditions arise, the system is designed to allow excessive amounts of blow-by gases to back flow through the crankcase ventilation fresh air tube (6) into the air cleaner resonator (1) in order to be consumed by normal combustion.

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 1 belt or 2 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.

Exhaust Camshaft Position Actuator Description

The camshaft position actuator is bolted to the front of the exhaust camshaft and is integral with the sprocket. The actuator and sprocket can only be replaced as one unit. The actuator has a hydraulically actuated piston located in the hub. The piston has an internal helical spline that slides in mesh with the gear. As the piston moves, the piston and gear mechanism changes the timing of the exhaust camshaft, relative to the cam drive sprocket. When oil pressure is applied to one side of the piston, the cam moves clockwise and timing is advanced. When oil pressure is applied to the other side of the piston the cam moves counter-clockwise to retard timing. The total range of actuator rotation is 0 to 25 camshaft degrees. At idle, the exhaust camshaft position actuator is at full advance or 0 degrees.

Engine Cooling

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Coolant Heater	50 N·m	37 lb ft
Thermostat Housing Bolt	10 N·m	89 lb in
Water Outlet Housing Bolt	10 N·m	89 lb in
Water Pump Bolt	10 N·m	89 lb in
Water Pump Pulley Bolt	25 N·m	18 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.

Cooling Fan and Clutch

The engine cooling fan and clutch are driven by the crankshaft via the drive belt. The cooling fan draws air through the radiator to improve the transfer of heat from the coolant to the atmosphere. As the fan blades spin, they pull cool, outside air past the radiator core. The fan clutch drives the cooling fan. The fan clutch controls the amount of torque that is transmitted from the crankshaft to the fan blades. The clutch allows more torque to engage on the fan when the engine operating temperature increases and/or the vehicle speed is low. As the torque increases, the fan turns more quickly. The fan clutch decreases the torque applied to the cooling fan when the engine temperature decreases and/or the vehicle speed is high. As the torque decreases, the fan speed decreases.

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

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

Transmission Oil Cooler

The transmission oil cooler is a heat exchanger. It is located inside the 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 Cables to Battery Nut	9 N·m	80 lb in
Battery Negative Cable to Battery Tray Bolt	9 N·m	80 lb in
Battery Negative Cable to Engine Block Bolt	35 N·m	26 lb ft
Battery Positive Cable to Starter Terminal Nut	9 N·m	80 lb in
Battery Positive Cable to Underhood Fuse Block Nut	9 N·m	80 lb in
Battery Retainer Nut	15 N·m	11 lb ft
Generator Mounting Bolt	50 N·m	37 lb ft
Generator Output BAT Terminal Nut	20 N·m	15 lb ft
Generator Positive Cable to Underhood Fuse Block Nut	9 N·m	80 lb in
Starter Motor Mounting Fastener	50 N·m	37 lb ft
Starter Solenoid S Terminal Nut	3.5 N·m	31 lb in

Battery Usage

Base	
Cold Cranking Amperage (CCA)	690 A
Reserve Capacity Rating	90 Minutes
Replacement Battery Number	86-7YR

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

Generator Usage

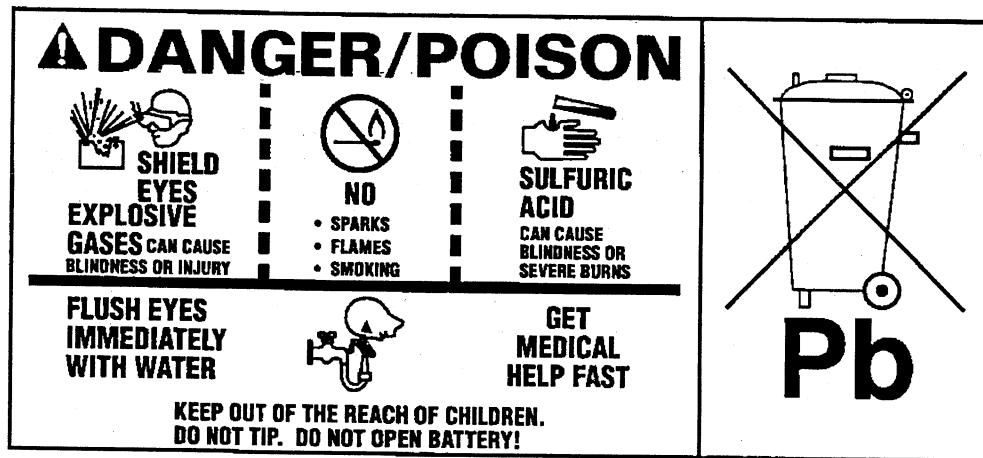
Engine	Rated Output AMPS	Load Test Output AMPS
Gasoline Engine	100 A	70 A

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 770	LOAD TEST 380
REPLACEMENT MODEL 100-6YR	

A battery has 2 ratings:

- Reserve capacity
- Cold cranking amperage

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

Reserve Capacity

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

Cold Cranking Amperage

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

Circuit Description

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

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-260L 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 through 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 AD-244 generator is non-repairable. They are electrically similar to earlier models. The generator(s) 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.

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The AD stands for Air-cooled Dual internal fan; the 2 is an electrical design designator; the 44 denotes the outside diameter of the stator laminations in millimeters, over 100 millimeters. The generator is rated at 150 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 field current of the rotor in order to limit system voltage. 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.

Charging System Indicators

BATTERY

The IPC illuminates the battery indicator when the following occurs:

- The PCM detects that the generator output is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the PCM requesting illumination.
- The IPC determines that the system voltage is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the body control module (BCM) indicating the system voltage.
- The IPC performs the displays test at the start of each ignition cycle. The indicator illuminates for approximately 3 seconds.
- The ignition is on, with the engine off.

BATTERY NOT CHARGING

The IPC illuminates the battery not charging indicator in the driver information center when the following occurs:

- The PCM detects that the generator output is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the PCM requesting illumination.
- The IPC determines that the system voltage is less than 11 volts or greater than 16 volts. The IPC receives a class 2 message from the body control module (BCM) indicating the system voltage.

Engine Controls

Engine Controls – 2.8L (LK5)

Ignition System Specifications

Application	Specification	
	Metric	English
Firing Order	1-3-4-2	
Spark Plug Gap	1.08 mm	0.042 in
Spark Plug Torque	18 N·m	13 lb ft
Spark Plug Type	GM P/N 12569190	

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accelerator Pedal Position (APP) Sensor Mounting Nut	9 N·m	80 lb in
Air Cleaner Assembly Bolt	10 N·m	89 lb in
Air Cleaner Assembly Nut	15 N·m	11 lb ft
Air Cleaner Outlet Duct Clamp	6 N·m	53 lb in
Air Cleaner Resonator Bolt	6 N·m	53 lb in
Air Cleaner Resonator Outlet Duct Clamp	6 N·m	53 lb in
Camshaft Position (CMP) Actuator Solenoid Valve Bolt	10 N·m	89 lb in
Camshaft Position (CMP) Sensor Bolt	10 N·m	89 lb in
Crankshaft Position (CKP) Sensor Bolt	10 N·m	89 lb in
Engine Coolant Temperature (ECT) Sensor	14 N·m	124 lb in
Evaporative Emission (EVAP) Canister Bolt	25 N·m	18 lb ft
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Bolt	10 N·m	89 lb in
Fuel Filler Hose Clamp	2.5 N·m	22 lb in
Fuel Filler Hose Ground Strap Bolt	9 N·m	80 lb in
Fuel Filler Hose Screw	2 N·m	18 lb in
Fuel Pressure Regulator Screw	8 N·m	71 lb in
Fuel Rail Bolt	10 N·m	89 lb in
Fuel Tank Strap Bolt	32 N·m	24 lb ft
Heated Oxygen Sensor (HO2S)	42 N·m	31 lb ft
Ignition Coil Bolt	10 N·m	89 lb in
Knock Sensor (KS) Bolt	25 N·m	18 lb ft
Mass Air Flow (MAF)/Intake Air Temperature (IAT) Sensor Screw	2.25 N·m	20 lb in
Spark Plug	18 N·m	13 lb ft
Throttle Control Module Bolt	10 N·m	89 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 gasolines. 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 the knocking is bad enough, the knocking can damage your engine.

If you are using fuel rated at 87 octane or higher and you hear heavy knocking, your engine needs service. But do not worry if you hear a little pinging noise when you are accelerating or driving up a hill. That is normal, and you do not have to buy a higher octane fuel to get rid of the pinging. However, if there is a 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.

Engine Controls – 3.5L (L52)**Ignition System Specifications**

Application	Specification	
	Metric	English
Firing Order	1-3-5-4-2	
Spark Plug Gap	1.08 mm	0.042 in
Spark Plug Torque	18 N·m	13 lb ft
Spark Plug Type	GM P/N 12569190	

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Accelerator Pedal Position (APP) Sensor Mounting Nut	9 N·m	80 lb in
Air Cleaner Assembly Bolt	10 N·m	89 lb in
Air Cleaner Assembly Nut	15 N·m	11 lb ft
Air Cleaner Outlet Duct Clamp	6 N·m	53 lb in
Air Cleaner Resonator Bolt	6 N·m	53 lb in
Air Cleaner Resonator Outlet Duct Clamp	6 N·m	53 lb in
Camshaft Position (CMP) Actuator Solenoid Valve Bolt	10 N·m	89 lb in
Camshaft Position (CMP) Sensor Bolt	10 N·m	89 lb in
Crankshaft Position (CKP) Sensor Bolt	10 N·m	89 lb in
Engine Coolant Temperature (ECT) Sensor	14 N·m	124 lb in
Evaporative Emission (EVAP) Canister Bolt	25 N·m	18 lb ft
Evaporative Emission (EVAP) Canister Purge Solenoid Valve Bolt	10 N·m	89 lb in
Fuel Filler Hose Clamp	2.5 N·m	22 lb in
Fuel Filler Hose Ground Strap Bolt	9 N·m	80 lb in
Fuel Filler Hose Screw	2 N·m	18 lb in
Fuel Pressure Regulator Screw	8 N·m	71 lb in
Fuel Rail Bolt	10 N·m	89 lb in
Fuel Tank Strap Bolt	32 N·m	24 lb ft
Heated Oxygen Sensor (HO2S)	42 N·m	31 lb ft
Ignition Coil Bolt	10 N·m	89 lb in
Knock Sensor (KS) Bolt	25 N·m	18 lb ft
Mass Air Flow (MAF)/Intake Air Temperature (IAT) Sensor Screw	2.25 N·m	20 lb in
Spark Plug	18 N·m	13 lb ft
Throttle Control Module Bolt	10 N·m	89 lb in

Fuel System Specifications

See fuel system specifications above.

Exhaust System

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Catalytic Converter Nut	50 N·m	37 lb ft
Exhaust Manifold Bolt		
First Pass	20 N·m	15 lb ft
Second Pass	20 N·m	15 lb ft
Final Pass	20 N·m	15 lb ft
Exhaust Manifold Heat Shield Nut	10 N·m	89 lb in
Heat Shield Nut	9 N·m	80 lb in
Leaf Spring Bolt and Nut	85 N·m	63 lb ft
Lower Shock Absorber Bolt and Nut	95 N·m	70 lb ft
Muffler Nut	45 N·m	33 lb ft
Transmission Filler Tube Bracket Nut	12.5 N·m	111 lb in

Exhaust System Description

Important

Use of non-OEM parts may cause driveability concerns.

The exhaust system carries exhaust gases, treated by the catalytic converter, through a resonator, if applicable and into the exhaust muffler where exhaust noise is lessened.

In order to secure the exhaust pipe to the exhaust manifold, a flange and seal-joint coupling is utilized. The exhaust system may utilize a slip-joint coupling design with a clamp and a U-bolt or a flange connection with a gasket.

Exhaust hangers and rubber insulators help to support the weight of the exhaust pipe along with insulating any exhaust system vibration, rattle, or noise.

Exhaust hangers also space the exhaust system away from the underbody of the vehicle and allows the exhaust system to expand as the exhaust system warms up.

Exhaust heat shields are used to protect the body and other components from damage due to the heat from the exhaust system.

The exhaust system may be comprised of the following components:

- Exhaust manifold
- Exhaust pipes
- Catalytic converters
- Exhaust muffler
- Exhaust resonator, if equipped
- Exhaust tail pipe, if equipped
- Exhaust hangers
- Exhaust heat shields

Resonator

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

Catalytic Converter

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

2005 Chevrolet Colorado Restoration Kit

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

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

The catalyst in the converter is not serviceable.

Muffler

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

Transmission/Transaxle Description and Operation

Manual Transmission –Aisin AR5

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Backup Lamp Switch	44 N·m	32 lb ft
Control Lever Boot Screw	2.5 N·m	22 lb in
Drain Plug	37 N·m	27 lb ft
Fill Plug	37 N·m	27 lb ft
Fuel Hose/Pipe Brackets Nut	20 N·m	15 lb ft
Input Shaft Bearing Retainer Bolt	17 N·m	13 lb ft
Shift Lever Assembly Bolt	20 N·m	15 lb ft
Transmission Mount Bolt	60 N·m	44 lb ft
Transmission Mount Nut	57 N·m	42 lb ft
Transmission Mounting Bolt	50 N·m	37 lb ft
Vehicle Speed Sensor (VSS)	17 N·m	13 lb ft

Lubrication Specifications

Application	Specification	
	Metric	English
API AI-A or GL-3 SAE 75W-90 GM P/N 89021806 (Canadian P/N 89021807)	RWD: 2.2 liters 4WD: 2.3 liters	RWD: 2.3 quarts 4WD: 2.4 quarts

Description

The Aisin AR5 is a 5 speed transmission with 5th gear being an overdrive ratio. All gear positions are synchronized. There are two versions of the AR5, RWD and 4WD. The operation is the same for both transmissions. The differences are the RWD has a longer extension housing and output shaft. In addition, the RWD has a speed reluctor wheel on the output shaft for the vehicle speed sensor. The transmission uses 4 aluminum housings. The clutch housing is removable. Roller ball bearings support the input shaft, countershaft, and output shaft. No shimming is required. For proper set up, select thickness retaining rings are used. All of the speed gears use needle bearings. The AR5 uses a special 75W-90 transmission fluid. Lubrication to the input and output shafts are by splash. An oil receiver at the rear of the countershaft lubricates the 5th gear synchronizer and bearing. On the RWD transmission, an oil trough delivers transmission fluid to the rear bushing.

Hydraulic Clutch

Fastener Tightening Specifications

Application	Specification	
	Metric	English
Clutch Actuator Cylinder Bolt	8 N·m	71 lb in
Clutch Pedal Assembly Nut	20 N·m	15 lb ft
Clutch Pressure Plate Bolt		
First Pass	20 N·m	15 lb ft
Final Pass	45 degrees	

Sealers and Lubricants

Application	Type of Material	GM Part Number	
		United States	Canada
Clutch Hydraulic Fluid	DOT 3 Hydraulic Fluid	12345347	992667

Hydraulic Clutch Description

The S/T model vehicle uses two different clutch variations.

2.8L (LK5) Clutch

The 2.8L clutch system is described as the following:

- Size - 232 mm (9 in)
- Clutch pressure plate - Diaphragm spring plate, non-self adjusting
- Clutch disc - Damper spring style
- Hydraulic system

3.5L (L52) Clutch

The 3.5L clutch system is described as the following:

- Size - 265 mm (10.4 in)
- Clutch pressure plate - Diaphragm spring plate, non-self adjusting
- Clutch disc - Damper spring style
- Hydraulic system

Clutch System Components

Clutch Pedal

The clutch pedal, mounted on the engine cowl, is designed to compress the clutch hydraulic fluid with little driver effort. The pedal swivels on bushings. The clutch master cylinder pushrod connects to a pin on the pedal. A spring, located inside of the clutch master cylinder, returns the pedal to the correct position after depressing.

Clutch Master Cylinder

The reservoir, which is part of the master cylinder, supplies the fluid at the front of the master cylinder through the center feed port. The center feed port allows the flow of fluid from the reservoir to the cylinder when the pedal is in the complete returned position. The master cylinder uses a spring to return the piston to the clutch engagement position. When the clutch pedal is depressed, the piston moves forward in the cylinder, compressing the fluid. The compressed fluid travels through a hose to the clutch actuator cylinder. A bleeder screw is located at the clutch actuator cylinder for bleeding the hydraulic system.

Clutch Actuator Cylinder and Release Bearing

The clutch control actuator cylinder disengages the clutch, using the pressurized fluid from the clutch master cylinder. The clutch control actuator cylinder is fastened to the front of the transmission. The clutch release bearing is attached to the control actuator cylinder. The control actuator cylinder has a piston, which has seals that slide on the housing assembly. There is a spring between the piston and the housing to keep the piston at the extended position, allowing the release bearing to be in constant contact with the pressure plate fingers. The movement of the piston, by the pressurized fluid, pushes the release bearing against the tips of the clutch pressure plate fingers, to disengage the clutch.

As the clutch wears, the piston, or release bearing, moves towards the transmission. The piston is at the furthest position from the transmission with a new clutch.

The clutch control actuator cylinder has a bleeder, for bleeding the air out of the hydraulic system.

Ball bearings enable the release bearing to turn, while applying pressure to the pressure plate fingers. Using an angular contact style bearing allows the release bearing to be in constant contact with the pressure plate fingers.

Pressure Plate Assembly

The diaphragm spring clutch consists of a pressure plate, a diaphragm spring, a pivot ring, drive straps, and a cover. When the release bearing contacts the tips of the diaphragm spring fingers, it moves them toward the flywheel. The outside diameter of the diaphragm spring pivots on a pivot ring inside the cover. This action lifts the pressure plate off the flywheel through the drive straps, which connect the cover to the pressure plate. As the clutch wears, there is an increase in pedal effort.

Clutch Disc

The clutch disc, or driven member, is a critical component in the service life of the clutch system. The disc provides smooth engagement and dampens engine vibrations. Mounted to the transmission input shaft, between the flywheel and the clutch pressure plate, the disc slides on the input shaft forward and backward. The disc is splined to the input shaft and cannot rotate without rotating the input shaft. The critical parts of the clutch disc are the hub flange and the torsion springs. The hub flange is located between the cover plate and a retainer plate and splined to fit the input shaft. The torsion springs, in the damper assembly, smooth the engagement and dampen vibrations. Friction material is riveted to numerous components, called marcells, or cushion segments. Waves in marcells soften engagement.

Flywheel

Bolted to the end of the crankshaft, the flywheel provides the mounting surface for the clutch. During engagement, the disc is clamped against the flywheel by the pressure plate. The flywheel acts as a heat sink, dissipating heat and moving it away from the clutch pressure plate and disc friction material. The flywheel must provide a smooth, flat surface in order for the clutch to operate properly.

Pilot Bearing/Bushing

A pilot bearing, or bushing, is located in the end of the crankshaft. The pilot bearing supports the end of the input shaft and centers the disc on the flywheel. The pilot bearing is a sintered bronze bushing. A small, and relatively inexpensive component, the pilot bearing or bushing should always be replaced during clutch installation. The variety of conditions caused by a worn or defective bearing or bushing is not worth the risk of having to remove the bell housing and transmission to replace this small part.

Clutch Pedal Reserve

In order for the clutch to be completely disengaged and allow proper shifting of the transmission, clutch pedal reserve is required. Clutch pedal reserve is the movement of the pedal from the down stop, or the floor, to where the clutch begins transmitting torque; it should be a minimum of 25 mm (1 in). Inspect for clutch pedal reserve by depressing the clutch pedal. Allow the clutch disc to quit spinning, and let up on the clutch pedal while listening for the clutch disc to start spinning. The distance the pedal moved from the floor, before the clutch disc started to spin, is the pedal reserve.

In order to determine if the clutch is properly releasing and the hydraulic system is functioning properly:

- Depress the clutch pedal fully to disengage the clutch.
- Shift into a low gear, either 1st or reverse.
- Slowly shift out of the gear, only to disengage the synchronizer sleeve from the speed gear engagement teeth.
- Let up on the pedal, to engage the clutch.
- Depress the clutch pedal and shift back into gear.

If the clutch pedal is releasing properly, you should be able to engage the gear without grinding after 4-5 seconds, which is the time for the clutch disc to quit spinning.

Automatic Transmission - 4L60-E/4L65-E**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
Control Lever Nut	20 N·m	15 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
Engine Wiring Harness Retainer to Transmission Screw	9 N·m	80 lb in
Filler Tube Nut	12.5 N·m	111 lb in
Floorshift Control Bolt	10 N·m	89 lb in
Forward Accumulator Cover to Valve Body Bolt	8.0-14.0 N·m	6-10 lb ft
Fuel Hose Pipe Bracket Nut	20 N·m	15 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 Back Up Switch Bolt	27 N·m	20 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
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
TCC Solenoid Assembly to Case Bolt	8.0-14.0 N·m	6-10 lb ft
Torque Converter Bolt	60 N·m	44 lb ft
Transmission Fluid Pressure Manual Valve Position Switch to Valve Body Bolt	8.0-14.0 N·m	6-10 lb ft
Transmission Mount to Transmission Bolt	60 N·m	44 lb ft
Transmission Mount to Transmission Support Nut	57 N·m	42 lb ft
Transmission Mounting Bolt	50 N·m	37 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 Range Selector Cable Bracket Bolt	25 N·m	18 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

Transmission General Specifications

Transmission General Specifications (4L60-E)	Hydra-matic 4L60-E
RPO Codes	M30
Production Location	Toledo, Ohio Romulus, MI Ramos Arizpe, Mexico
Vehicle Platform (Engine/Transmission) Usage	S/T
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
Pressure Taps	Line Pressure
Transmission Fluid Type	DEXRON® III
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, OD, D, 2, 1 P, R, N, OD, 3, 2, 1
Case Material	Die Cast Aluminum
Transmission Weight Dry - Approximate	245 mm Converter 65.4 kg (144.30 lbs) 258 mm Converter 79.9 kg (176.6 lbs)
Transmission Weight Wet - Approximate	245 mm Converter 72.4 kg (159.55 lbs) 258 mm Converter 89.2 kg (197.7 lbs)
Maximum Trailer Towing Capacity	6,130 kg (13,500 lbs)
Maximum Gross Vehicle Weight (GVW)	3,900 kg (8,600 lbs)

Fluid Capacity Specifications

Application	Specification	
	Metric	English
Pan Removal	4.7 L	5 qts
Overhaul	10.6 L	11 qts
245 mm Torque Converter Approximate Fluid Capacity Dry Fill	8.3 L	8.8 qts
258 mm Torque Converter Approximate Fluid Capacity Dry Fill	8.8 L	9.3 qts

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

Transmission Adapt Function

The 4L60-E transmission utilizes a line pressure control system during upshifts to compensate for the normal wear of transmission components. By adjusting the line pressure, the PCM can maintain acceptable transmission shift times. This process is known as "adaptive learning" or "shift adapts" and is similar to the closed loop fuel control system used for the engine.

In order for the PCM to perform a "shift adapt," it must first identify if an upshift is acceptable to analyze. For example, upshifts that occur during cycling of the A/C compressor or under extreme throttle changes could cause the PCM to incorrectly adjust line pressure. When an upshift is initiated, a number of contingencies, such as throttle position, transmission temperature, and vehicle speed, are checked in order to determine if the actual shift time is valid to compare to a calibrated desired shift time. If all the contingencies are met during the entire shift, then the shift is considered valid and the adapt function may be utilized if necessary.

Once an adaptable shift is identified, the PCM compares the actual shift time to the desired shift time and calculates the difference between them. This difference is known as the shift error. The actual shift time is determined from the time that the PCM commands the shift to the start of the engine RPM drop initiated by the shift. If the actual shift time is longer than the calibrated desired shift time, a soft feel or slow engagement, then the PCM decreases current to the pressure control (PC) solenoid in order to increase line pressure for the next, same, upshift under identical conditions. If the actual shift time is shorter than the calibrated desired shift time, a firm engagement, then the PCM increases current to the PC solenoid in order to decrease line pressure for the next, same, upshift under identical conditions.

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

Automatic Transmission Shift Lock Control Description

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

- The automatic transmission shift lock control solenoid
- The body control module (BCM)
- The powertrain control module (PCM)

The body control module (BCM) controls the voltage supply circuit of the shift lock control solenoid. The following conditions must be met before the BCM will supply battery voltage to the shift lock control solenoid:

- The ignition is in the ON position.
- The powertrain control module (PCM) sends a class 2 message to the BCM indicating the transmission is in the PARK position.
- The PCM receives a brake applied input from the brake light switch and sends a class 2 message to the BCM indicating the brakes are not applied.

With the above conditions met, the BCM supplies battery voltage to the shift lock control solenoid. The solenoid is permanently grounded and therefore energizes, locking the shift lever in the PARK position. When the brake pedal is depressed the PCM send a class 2 message to the BCM indicating the brakes are applied. The BCM turns off the battery voltage supply to the shift lock control solenoid. This de-energizes the shift lock control solenoid releasing the mechanical lock, allowing the driver to move the shift lever out of the PARK position. With the shift lever out of the PARK position the PCM sends a class 2 message to the BCM and no voltage is applied to the shift lock control solenoid.

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Abbreviations and Meanings

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

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

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

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

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

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

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

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

RTV	Room Temperature Vulcanizing Sealer
RWAL	Rear Wheel Antilock
RWD	Rear Wheel Drive
S	
s	Second(s)
SAE	Society of Automotive Engineers
SC	Supercharger
SCB	Supercharger Bypass
SCM	Seat Control Module
SDM	Sensing and Diagnostic Module
SEO	Special Equipment Option
SFI	Sequential Multiport Fuel Injection
SI	System International Modern Version of Metric System
SIAB	Side Impact Air Bag
SIR	Supplemental Inflatable Restraint
SLA	Short/Long Arm Suspension
sol	Solenoid
SO ₂	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	
yd	0.9144	m
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
ln/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

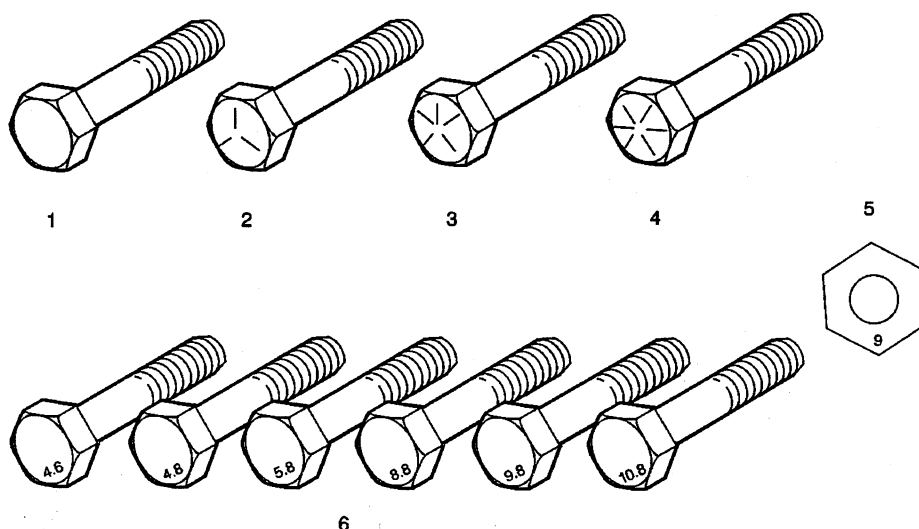
Metric Fasteners

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

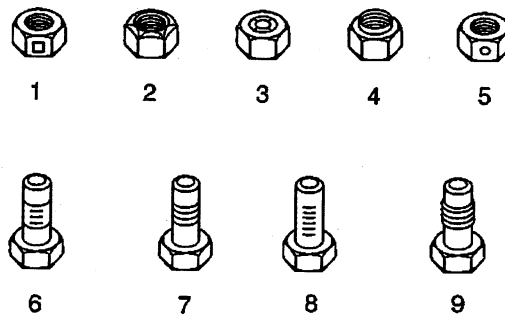
These fasteners accomplish the thread interface by a designed distortion or deformation in the fastener.

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 groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Accents, interior, includes titanium colored air outlets, center control stack, door handle bezels and uplevel instrument cluster bezel	-	S	-	S	-	S
		Air bags, frontal, driver and right front passenger, includes passenger side deactivation switch 1 - Deactivation switch not included with Extended Cab Models with (AJ2) Seat, driver and passenger side, rear. Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Assist handle, front passenger and outboard rear seats	-	S	-	S	-	S
	YC1	Base decor	S	-	S	-	S	-
		Coat hooks, driver and passenger side	S	S	S	S	S	S
		Door locks, manual	S	S	S	S	S	S
		Door trim, with integral armrest, driver and passenger side map pockets	S	S	S	S	S	S
B30		Floor covering, color-keyed carpeting 1 - Includes (AJ2) Seats, rear on (C*15653) Extended Cab Models.	A ¹	S	A ¹	S	A ¹	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, engine temperature, tachometer and Driver Information Center	S	S	S	S	S	S
	YC3	LS decor	-	S	-	S	-	S
	DC4	Mirror, inside rearview, manual day/night, includes dual reading lights 1 - Required with (UE1) OnStar.	S	S ¹	S	S ¹	S	S ¹
		Power outlets, auxiliary, covered, 2, 12-volt	S	S	S	S	S	S
		Safety belts, 3-point, outboard, driver and front passenger, adjustable with center front position lap belt	S	S	S	S	S	S
AR9		Seats, front reclining buckets, includes integral outboard head restraint, manual recliners, center floor console with storage and armrest	-	A	-	A	-	S
	AM6	Seats, front, Base Cloth, 60/40 split-bench, integral outboard head restraints and dual cupholders	S	-	S	-	S	-

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	AM6	Seats , front, LS Deluxe Cloth, 60/40 split-bench, manual reclining, integral outboard head restraints, armrest with integral storage and dual cupholders	--	S	--	S	--	--
	UM7	Sound system , ETR AM/FM stereo, includes seek-and-scan, digital clock, 2-speakers on Regular Cab models and 4-speakers on Extended Cab models	S	--	S	--	S	--
US8		NEW! Sound system , ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS), 2-speakers on Regular Cab models with Base decor (4 on LS decor) and 4-speakers on Extended Cab models with Base decor (6 on LS decor)	A	S	A	S	A	S
		Steering column , non-tilt, steel sleeve, includes theft-deterrent locking feature 1 - C*15403 Regular Cab Models only.	S	S ¹	S	--	S	--
		Steering wheel , 4-spoke, deluxe	S	S	--	--	--	--
		Theft-deterrent system , PASSlock	S	S	S	S	S	S
		Visors , padded, Cloth, includes vanity mirror, passenger-side	S	S	S	S	S	S
		Warning tones , headlamp on, key-in-ignition, driver safety belt unfasten, turn signal on and critical Driver Information Center active	S	S	S	S	S	S
		Windows , manual, driver and front passenger	S	S	S	S	S	S
		Air dam , Ebony	S	S	S	S	--	--
		Bumpers , front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Bumpers , front and rear, chrome, rear step includes Ebony pad	S	S	S	S	--	--
		Daytime running lamps , includes automatic exterior lamp control	S	S	S	S	S	S
		Doors , rear, driver and passenger side, rear opening and rear hinged 1 - C*15653 Extended Cab Models only.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Fascia , front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Fascia , front, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	S	S ¹	S	S	--	--

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Grille , color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	—	A ¹	—	—	S	S
		Grille , color-keyed surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	—	S	—	—	—	—
		Grille , Dark Smoke Gray surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	S	—	S	S	—	—
		Mirrors , outside rearview, foldaway, manual	S	S	S	S	S	S
	E63	Pickup box , Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position	S	S	S	S	S	S
	ZAA	Tire , spare, compact, located at rear underbody of vehicle. 1 - Upgradeable to (ZCE) Tire, spare, P205/75R15 all-season for Fleet or Government types on CS15403. Upgradeable to (ZCE) Tire, spare, P205/75R15 all-season on CS15653 or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models on all order types. 2 - Upgradeable to (ZET) Tire, spare P225/75R15, all-season, blackwall on 2WD Models or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models.	S ¹	S ²	—	—	—	—
ZCE		Tire , spare P205/75R15, all-season, blackwall, located at rear underbody of vehicle, includes steel wheel 1 - Included and only available with (PDC) Work Ready Package for non-Fleet or Government types only on CS15403. Available on CS15653 on all order types.	A ¹	—	—	—	S	S
ZFL		Tire , spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Includes Wheel, 15" steel. 2 - Available on 4WD Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum.	A ¹	A ²	S ¹	S ¹	—	—
	QCE	Tires , P205/75R15, all-season, blackwall 1 - 2WD Models only.	S ¹	—	—	—	—	—
	QET	Tires , P225/75R15, all-season, blackwall 1 - 2WD Models only.	—	S ¹	—	—	—	—
	QGR	Tires , P235/50R17, all-season, blackwall	—	—	—	—	S	S
	QFL	Tires , P235/75R15, all-season, blackwall 1 - 4WD Models only.	S ¹	S ¹	—	—	—	—
	QWU	Tires , P265/75R15, on-/off-road, blackwall	—	—	S	S	—	—
		Wheel flares , front and rear, large, Dark Smoke Gray	—	—	S	S	—	—
		Wheel flares , front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	—	A ¹	—	—	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Wheel flares, front and rear, small, Dark Smoke Gray 1 - Standard on 4WD Models only.	S ¹	S ¹	--	--	--	--
	PG1	Wheels, 4 - 15" x 6" (38.1 cm x 15.2 cm) steel	S	--	--	--	--	--
	PF3	Wheels, 4 - 15" x 6.5" (38.1 cm x 16.5 cm) aluminum	--	S	--	--	--	--
	N90	Wheels, 4 - 15" x 7" (38.1 cm x 17.8 cm) aluminum, cast	--	--	S	S	--	--
	QA8	Wheels, 4 - 17" x 8" (43.2 cm x 20.4 cm) aluminum	--	--	--	--	S	S
		Wipers, intermittent, front, includes pulse washers	S	S	S	S	S	S
		Alternator, 100 amps	S	S	S	S	S	S
		Battery, heavy-duty, 690 cold-cranking amps, includes rundown protection	S	S	S	S	S	S
	JA1	Brakes, 4-wheel antilock, front disc/rear drum	S	S	S	S	S	S
	C3A	GVWR, 4400 lbs. (1996 kg) 1 - Standard on CS15403 2WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	--	--	--	--	S ¹	S ¹
	C5D	GVWR, 4600 lbs. (2087 kg) 1 - Standard on CS15653 2WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	--	--	--	--	S ¹	S ¹
	C6I	GVWR, 4850 lbs. (2200 kg) 1 - Standard on CS15403 2WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	--	--	--	--
	C5C	GVWR, 5000 lbs. (2268 kg) 1 - Standard on CS15653 2WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	--	--	--	--
	C6F	GVWR, 5150 lbs. (2336 kg) 1 - Standard on CT15403 4WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on CS15403 2WD Regular Cab Models. Standard on CT15403 4WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	--	--
	C3H	GVWR, 5300 lbs. (2404 kg) 1 - Standard on CT15653 4WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on C*15653 Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	--	--
		Jounce bumpers, rubber	S	S	--	--	--	--
		Jounce bumpers, Urethane 1 - Combination Urethane and rubber.	--	--	S	S	S ¹	S ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Shock absorber, twin-tube, hydraulic 1 - 2WD Models only.	S	S	S ¹	S ¹	—	—
		Shock absorber, monotube 1 - 4WD Models only.	—	—	S ¹	S ¹	S	S
		Steering, power, rack-and-pinion	S	S	S	S	S	S
		Suspension, front, independent coil springs 1 - Standard on 2WD Models only.	S ¹	S ¹	—	—	S	S
		Suspension, front, independent torsion bar, and stabilizer bar 1 - Standard on 4WD Models only.	S ¹	S ¹	S	S	—	—
		Suspension, rear, semi-floating axle with 2-stage multi-leaf springs	S	S	S	S	S	S
	NP1	Transfer case, electronic shift, Insta-Trac, includes dash-mounted controls 1 - Standard on 4WD Models only.	S ¹	S ¹	S ¹	S 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.

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 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
		Accents, interior, includes titanium colored air outlets, center control stack, door handle bezels and uplevel instrument cluster bezel	S	S	S	S	S	S
		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	S ¹	S ¹	S ¹	S ¹	S ¹
		Assist handle, front passenger and outboard rear seats	S	S	S	S	S	S
		Coat hooks, driver and passenger side	S	S	S	S	S	S
		Door locks, power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Door trim, with integral armrest, driver and passenger side map pockets	S	S	S	S	S	S
	B30	Floor covering, color-keyed carpeting	S	S	S	S	S	S
		Instrumentation, analog, includes speedometer, odometer with trip odometer, fuel level, engine temperature, tachometer and Driver Information Center	S	S	S	S	S	S
	YC3	LS decor	S	S	S	S	S	S
	DC4	Mirror, inside rearview, manual day/night, includes dual reading lights 1 - Required with (UE1) OnStar.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Power outlets, auxiliary, covered, 2, 12-volt	S	S	S	S	S	S
		Safety belts, 3-point, driver and front passenger, with center front position lap belt	S	S	S	S	S	S
		Safety belts, 3-point, rear, all positions	S	S	S	S	S	S
AM6		Seats, front 60/40 split bench, manual reclining, integral outboard head restraints, armrest with integral storage, dual cupholders 1 - Requires cloth trim and (M30) Transmission, 4-speed automatic. 2 - Requires cloth trim.	A ¹	A ¹	S ²	--	--	--

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
AR9		Seats , front reclining buckets, includes manual recliners, center console with storage and armrest 1 - Adjustable head restraints available on (692) or (922) leather seating only.	S ¹	S ¹	A ¹	■ ¹	S ¹	S ¹
	US8	NEW! Sound System , ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS) and 6-speakers	S	S	S	S	S	S
		Steering wheel , 4-spoke, deluxe	S	S	—	—	—	—
		Theft-deterrent system , PASSlock	S	S	S	S	S	S
		Visors , padded, Cloth, driver and passenger side with vanity mirror	S	S	S	S	S	S
		Warning tones , headlamp on, key-in-ignition, driver safety belt unfasten, turn signal on and critical Driver Information Center active	S	S	S	S	S	S
		Windows , power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Air dam , Ebony	S	S	S	S	—	—
		Bumpers , front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S	S
		Bumpers , front and rear, chrome, rear step includes Ebony pad	S	S	S	S	—	—
		Daytime running lamps , includes automatic exterior lamp control	S	S	S	S	S	S
		Doors , rear, full opening, front hinged, includes child safety door locks	S	S	S	S	S	S
		Fascia , front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S	S
		Fascia , front, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	S ¹	S ¹	S	S	—	—
		Grille , color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S	S
		Grille , color-keyed surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	S	S	—	—	—	—
		Grille , Dark Smoke Gray surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	—	—	S	S	—	—
		Mirrors , outside rearview, foldaway, power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	E63	Pickup box, Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position	S	S	S	S	S	S
		Tailgate, locking, 2-position	S	S	S	S	S	S
	ZAA	Tire, spare, compact, located at rear underbody of vehicle. 1 - Upgradeable to (ZET) Tire, spare P225/75R15, all-season, blackwall on 2WD Models or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models.	S ¹	S ¹	--	--	--	--
	ZCE	Tire, spare P205/75R15, all-season, blackwall, located at rear underbody of vehicle, includes steel wheel	--	--	--	--	S	S
ZFL		Tire, spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Available on CT15643 4WD Crew Cab Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum. 2 - Includes Wheel, 15", steel.	A ¹	A ¹	S ²	S ²	--	--
	QET	Tires, P225/75R15, all-season, blackwall 1 - Requires CS15643 2WD Crew Cab Models only.	S ¹	S ¹	--	--	--	--
	QGR	Tires, P235/50R17, all-season, blackwall	--	--	--	--	S	S
	QFL	Tires, P235/75R15, all-season, blackwall 1 - CT15643 4WD Crew Cab Models only.	S ¹	S ¹	--	--	--	--
	QWU	Tires, P265/75R15, on-/off-road, blackwall	--	--	S	S	--	--
		Wheel flares, front and rear, large, Dark Smoke Gray	--	--	S	S	--	--
		Wheel flares, front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S	S
		Wheel flares, front and rear, small, Dark Smoke Gray 1 - Standard on 4WD Models only.	S ¹	S ¹	--	--	--	--
	PF3	Wheels, 4 - 15" x 6.5" (38.1 cm x 16.5 cm) aluminum	S	S	--	--	--	--
	N90	Wheels, 4 - 15" x 7" (38.1 cm x 17.8 cm) aluminum, cast	--	--	S	S	--	--
	QA8	Wheels, 4 - 17" x 8" (43.2 cm x 20.4 cm) aluminum	--	--	--	--	S	S
		Wipers, intermittent, front, includes pulse washers	S	S	S	S	S	S
		Alternator, 100 amps	S	S	S	S	S	S
		Battery, heavy-duty, 690 cold-cranking amps, includes rundown protection	S	S	S	S	S	S
	JA1	Brakes, 4-wheel antilock, front disc/rear drum	S	S	S	S	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
L52		Engine, 3.5L DOHC, 5-cylinder, MFI (220 HP [164.1 kW] @ 5600 rpm, 225 lb.-ft. [303.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S ¹
	C7Y	GVWR, 4700 lbs. (2132 kg) 1 - Standard on CS15643 2WD Crew Cab Models with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI. Refer to the Engine and Axle section for compatibility requirements.	—	—	—	—	S ¹	S ¹
	C5C	GVWR, 5000 lbs. (2268 kg) 1 - Standard on CS15643 2WD Crew Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	—	—	—	—
	C3H	GVWR, 5300 lbs. (2404 kg) 1 - Standard on CT15643 4WD Crew Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on C*15643 Crew Cab Models with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	—	—
		Bounce bumpers, rubber	S	S	—	—	—	—
		Bounce bumpers, Urethane 1 - Combination Urethane and rubber.	—	—	S	S	S ¹	S ¹
		Shock absorber, twin-tube, hydraulic 1 - 2WD Models only.	S	S	S ¹	S ¹	—	—
		Shock absorber, monotube 1 - 4WD Models only.	—	—	S ¹	S ¹	S	S
		Steering, power, rack-and-pinion	S	S	S	S	S	S
		Suspension, front, independent coil springs 1 - Standard on CS15643 2WD Crew Cab Models only.	S ¹	S ¹	—	—	S	S
		Suspension, front, independent torsion bar, and stabilizer bar 1 - Standard on CT15643 4WD Crew Cab Models only.	S ¹	S ¹	S	S	—	—
		Suspension, rear, semi-floating axle with 2-stage multi-leaf springs	S	S	S	S	S	S
	NP1	Transfer case, electronic shift, Insta-Trac, includes dash-mounted controls 1 - Standard on CT15643 4WD Crew Cab Models only.	S ¹	S ¹	S ¹	S ¹	—	—
M30		Transmission, 4-speed automatic, electronically controlled with overdrive 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S 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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	C60	Air conditioning, front manual	■	■	■	■	■	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Extended Cab Models)	A	■	A	■	A	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Regular Cab Models)	A	A	A	■	A	■
	B38	Floor covering, rubberized vinyl full width floor covering 1 - Upgradeable to (B30) Floor covering, color-keyed carpeting. - Does not include (AJ2) Seats, driver and passenger side, rear on C*15653 Extended Cab Models.	□ ¹	--	□ ¹	--	□ ¹	--
B32		Floormats, includes front rubberized vinyl floormats 1 - Not available with (BKE) Regular production accessory, Floormats, carpeted, molded. Requires (B30) Floor covering, color-keyed carpeting. Includes Floormats, rear, rubberized vinyl on Extended Cab Models.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
	AJ2	Seats, driver and passenger side, rear, forward facing, flat folding, includes rear seat storage compartment (Extended Cab) 1 - Included and only available with (B30) Floor covering, color-keyed carpeting.	A ¹	■	A ¹	■	A ¹	■
	NP5	Steering wheel, leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	--	A ¹	■	■	■	■
	T96	Fog lamps, front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	--	A ¹	■	■	■	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Extended Cab Models)	A	■	A	■	A	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Regular Cab Models)	A	A	A	■	A	■
V76		Recovery hooks, 2 front, frame-mounted 1 - Available on 4WD Models only.	A ¹	A ¹	■	■	--	--
VH4		Regular production accessory, Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	A	■	A	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
G80		Differential, automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	A ¹	■	■	A ¹	A ¹
	SKP	Front underbody shield 1 - 4WD Models only.	■ ¹	--	--	--	--	--
	NZZ	Front underbody shield 1 - 4WD Models only.	--	■ ¹	■ ¹	■ ¹	--	--
	Z71	Suspension Package, Off-Road	--	--	■	■	--	--
	ZQ8	Suspension Package, Sport 1 - Includes 22mm rear stabilizer bar.	--	--	--	--	■ ¹	■ ¹
	Z85	Suspension Package, Standard	■	■	--	--	--	--
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	A ¹	■	■	A ¹	A ¹

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

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

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

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
ASF		Air bags, side-impact, 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.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
	C60	Air conditioning, front manual	■	■	■	■	■	■
	ZQ3	Comfort Convenience Package, Tilt-Wheel and cruise control	■	■	■	■	■	■
	B32	Floormats, includes front rubberized vinyl floormats 1 - Upgradeable to (BKE) Regular production accessory, Floormats, carpeted, molded. Includes Floormats, rear, rubberized vinyl.	□ ¹	--	□ ¹	--	□ ¹	--
	ZQ6	Power Convenience Package, includes power windows and door locks, programmable; mirrors, outside, driver and passenger; and keyless entry, remote	■	■	■	■	■	■
BKE		Regular production accessory, Floormats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Not available with (B32) Floormats.	A ¹	■	A ¹	■	A ¹	■
AR9		Seats, front reclining buckets, includes manual recliners, center console with storage and armrest 1 - Adjustable head restraints available on (692) or (922) leather seating only.	S ¹	S ¹	A ¹	■ ¹	S ¹	S ¹
	AM4	Seats, rear 2nd row, flat-folding 1 - Adjustable head restraints available on (692) or (922) leather seating only.	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹
	NP5	Steering wheel, leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
	T96	Fog lamps, front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
	AJ1	Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	■	■	■	■	■	■
V76		Recovery hooks, 2 front, frame-mounted 1 - Available on CT15643 4WD Crew Cab Models only.	A ¹	A ¹	■	■	--	--

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
E15		Regular production accessory , Assist steps, chrome, tubular (SPO-supplied, dealer installed) 1 - Not available with (BVE) Regular production accessory, Running boards or (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	--	--	A ¹	■ ¹	--	--
VH4		Regular production accessory , Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	■	■	A	A
G80		Differential , automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	■	■	■	A ¹	■
	NZZ	Front underbody shield 1 - 4WD Models only.	■ ¹	■ ¹	■ ¹	■ ¹	--	--
	Z71	Suspension Package , Off-Road	--	--	■	■	--	--
	ZQ8	Suspension Package , Sport 1 - Includes 22mm rear stabilizer bar.	--	--	--	--	■ ¹	■ ¹
	Z85	Suspension Package , Standard 1 - Includes (AR9) Seats, front reclining bucket. (AM6) Seats, front 60/40 bench, manual reclining with armrest available for credit except when (LK5) Engine, 2.8L DOHC, 4-cylinder, MFI and (MA5) Transmission, 5-speed manual with overdrive are ordered in combination.	■ ¹	■ ¹	--	--	--	--
NW7		Traction control , electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	■	■	■	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 groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	C60	Air conditioning, front manual	■	■	■	■	■	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Extended Cab Models)	A	■	A	■	A	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Regular Cab Models)	A	A	A	■	A	■
	B38	Floor covering, rubberized vinyl full width floor covering 1 - Upgradeable to (B30) Floor covering, color-keyed carpeting. - Does not include (AJ2) Seats, driver and passenger side, rear on C*15653 Extended Cab Models.	□ ¹	--	□ ¹	--	□ ¹	--
B32		Floormats, includes front rubberized vinyl floormats 1 - Not available with (BKE) Regular production accessory, Floormats, carpeted, molded. Requires (B30) Floor covering, color-keyed carpeting. Includes Floormats, rear, rubberized vinyl on Extended Cab Models.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
	AJ2	Seats, driver and passenger side, rear, forward facing, flat folding, includes rear seat storage compartment (Extended Cab) 1 - Included and only available with (B30) Floor covering, color-keyed carpeting.	A ¹	■	A ¹	■	A ¹	■
	NP5	Steering wheel, leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	--	A ¹	■	■	■	■
	T96	Fog lamps, front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	--	A ¹	■	■	■	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Extended Cab Models)	A	■	A	■	A	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Regular Cab Models)	A	A	A	■	A	■
V76		Recovery hooks, 2 front, frame-mounted 1 - Available on 4WD Models only.	A ¹	A ¹	■	■	--	--
VH4		Regular production accessory, Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	A	■	A	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
G80		Differential, automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	A ¹	■	■	A ¹	A ¹
	SKP	Front underbody shield 1 - 4WD Models only.	■ ¹	—	—	—	—	—
	NZZ	Front underbody shield 1 - 4WD Models only.	—	■ ¹	■ ¹	■ ¹	—	—
	Z71	Suspension Package, Off-Road	—	—	■	■	—	—
	ZQ8	Suspension Package, Sport 1 - Includes 22mm rear stabilizer bar.	—	—	—	—	■ ¹	■ ¹
	Z85	Suspension Package, Standard	■	■	—	—	—	—
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	A ¹	■	■	A ¹	A ¹
ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
ASF		Air bags, side-impact, driver and right front passenger, includes passenger side deactivation switch 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Extended Cab Models)	A	■	A	■	A	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Regular Cab Models)	A	A	A	■	A	■
B30		Floor covering, color-keyed carpeting 1 - Includes (AJ2) Seats, rear on (C*15653) Extended Cab Models.	A ¹	S	A ¹	S	A ¹	S
B32		Floormats, includes front rubberized vinyl floormats 1 - Not available with (BKE) Regular production accessory, Floormats, carpeted, molded. Requires (B30) Floor covering, color-keyed carpeting. Includes Floormats, rear, rubberized vinyl on Extended Cab Models.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
DF8		Mirror, inside rearview, electrochromic (light-sensitive auto dimming), includes map lights, compass and outside temperature indicator 1 - Requires (ZQ6) Power Convenience Package. Not available with (UE1) OnStar.	—	A ¹	—	A ¹	—	A ¹

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²
UE1		OnStar , 1-year Safe and Sound Service, includes automatic notification of air bag deployment, stolen vehicle tracking, emergency services, roadside assistance, remote door unlock, remote horn and lights, GM Goodwrench remote diagnostics, AccidentAssist and online concierge. Drivers can also obtain the available voice-activated, hands-free Personal Calling service and Virtual Advisor that provides location-based traffic and weather reports and other personalized information 1 - Requires (ZQ6) Power Convenience Package and (DC4) Mirror, inside rearview. Not available with (DF8) Mirror, inside rearview, electrochromic. Visit www.onstar.com for system information and details. Not available with a ship-to of Puerto Rico or the Virgin Islands.	--	A ¹	--	A ¹	--
ZQ6		Power Convenience Package , includes power windows and door locks, programmable; mirrors, outside, driver and passenger; and keyless entry, remote 1 - May upgrade to (DF8) Mirror, inside rearview, electrochromic without (UE1) OnStar.	--	A ¹	--	A ¹	--
R7L		(ZQ6) Power Convenience Package , delete 1 - Must specify (ZQ6) Power Convenience Package or (R7L) (ZQ6) Power Convenience Package, delete when ordering.	--	A ¹	--	A ¹	--
BKE		Regular production accessory , Floor mats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Requires (B30) Floor covering, color-keyed carpeting. Rear floor mats not included on Regular Cabs. Not available with (B32) Floor mats.	A ¹	A ¹	A ¹	A ¹	A ¹
AR9		Seats , front reclining buckets, includes integral outboard head restraint, manual recliners, center floor console with storage and armrest	--	A	--	A	--
US8		NEW! Sound system , ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS), 2-speakers on Regular Cab models with Base decor (4 on LS decor) and 4-speakers on Extended Cab models with Base decor (6 on LS decor)	A	S	A	S	A

ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
UC6		Sound system , ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed-compensated volume, TheftLock, Radio Data System (RDS), 4-speakers on Regular Cab models and 6-speakers on Extended Cab and Crew Cab models	--	A	--	A	--	A
U2K		Sound system feature , XM Satellite Radio. 100% commercial-free music. Over 120 channels. In-depth local traffic and weather in major metro markets. Digital quality sound with coast to coast signal coverage. 3-month trial - no charge and no obligation. 1 - Requires (US8) Sound system, ETR AM/FM stereo with CD/MP3 player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. Subscription fees apply. Available only in the 48 contiguous U.S.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
CF5		NEW! Sunroof , power, sliding	A	A	A	A	A	A
A28		Window , rear sliding	A	A	A	A	A	A
		Bumpers , front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
B4U		Color-keyed Appearance Package , includes grille surround, center bar, front and rear bumpers, wheel flares (4x4 Models only), (NP5) Steering wheel, leather-wrapped rim, (T96) Fog lamps and front bumper fascia 1 - Not available with (B84) Moldings, bodyside, Dark Smoke Gray. Requires Exterior Colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	--	A ¹	--	--	--	--
		Fascia , front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
AJ1		Glass , Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Extended Cab Models)	A	■	A	■	A	■
AJ1		Glass , Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Regular Cab Models)	A	A	A	■	A	■
		Grille , color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
B84		Moldings , bodyside, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	A	A ¹	A	A	--	--

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²
E62		Pickup box , Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position, includes recessed steps on left-hand and right-hand side of pick-up box	A	A	A	A	--
V76		Recovery hooks , 2 front, frame-mounted 1 - Available on 4WD Models only.	A ¹	A ¹	■	■	--
E15		Regular production accessory , Assist steps, chrome, tubular (SPO-supplied, dealer installed)	--	--	A	A	--
E01		Regular production accessory , Assist steps, Dark Smoke Gray, steel, tubular (SPO-supplied, dealer installed) 1 - Available on 4WD Models only. - Requires (B4U) Color-keyed Appearance Package. - Not available with (BVE) Regular production accessory, Running boards.	--	A ¹	--	--	--
PPB		Regular production accessory , Bed extender, brushed aluminum (SPO-supplied, dealer installed)	A	A	A	A	A
PUB		Regular production accessory , Bed rail protectors, side, molded (SPO-supplied, dealer installed) 1 - Not available with (E95) Regular production accessory, Cargo cover, soft tonneau or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--
EN6		Regular production accessory , Cargo cover, hard tonneau, lockable, Black (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded, (E95) Regular production accessory, Cargo cover, soft tonneau or (VJA) Regular production accessory, Tailgate edge protector.	A ¹	A ¹	A ¹	A ¹	A ¹
E95		Regular production accessory , Cargo cover, soft tonneau, Black, includes silkscreen with "Colorado" badging (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	A ¹
BVE		Regular production accessory , Running boards (SPO-supplied, dealer installed) 1 - Not available with (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	A	A ¹	--	--	--
VH4		Regular production accessory , Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	A	■	A

ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
VJA		Regular production accessory , Tailgate edge protector, molded (SPO-supplied, dealer installed) 1 - Not available with (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
ZCE		Tire , spare P205/75R15, all-season, blackwall, located at rear underbody of vehicle, includes steel wheel 1 - Included and only available with (PDC) Work Ready Package for non-Fleet or Government types only on CS15403. Available on CS15653 on all order types.	A ¹	--	--	--	S	S
ZET		Tire , spare P225/75R15, all-season, blackwall, located at rear underbody of vehicle, includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum 1 - Included and only available with (PDC) Work Ready Package for non-Fleet or Government types only on CS15403. Available on CS15653 on all order types.	--	A ¹	--	--	--	--
ZFL		Tire , spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Includes Wheel, 15" steel. 2 - Available on 4WD Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum.	A ¹	A ²	S ¹	S ¹	--	--
		Wheel flares , front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
PDC		Work Ready Package , includes (Z82) Regular production accessory, trailer hitch, (VFU) Pickup bed mat and (ZCE) Tire, spare, includes steel wheel or (ZET) Tire, spare P225/7515, all-season 1 - Requires 2WD Regular Cab Models. Not available with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI.	A ¹	A ¹	--	--	--	--
D98		NEW! Xtreme Accent Strip Package , includes dual hood stripes and driver and front passenger door stripes 1 - Requires (V4A) Xtreme Appearance Package.	--	--	--	--	--	A ¹
V4A		NEW! Xtreme Appearance Package , includes unique wheel flares, chrome composite headlamps, body-color rear spoiler, grille mesh with chrome accents, color-keyed front and rear bumper fascias, bodyside ground effects, (QKU) Tires,P235/50R18, all-season, blackwall (N87) Wheels, 18" (45.7 cm) aluminum and Xtreme badging 1 - Requires exterior colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	--	--	--	--	--	A ¹
G80		Differential , automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	A ¹	■	■	A ¹	A ¹
YF5		Emissions , California state requirements	A	A	A	A	A	A

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²
FE9		Emissions , Federal requirements	A	A	A	A	A
NE1		Emissions , Maine, Massachusetts, New York or Vermont state requirements	A	A	A	A	A
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, Maine, Massachusetts and Vermont. Option (YF5) should be ordered for all vehicles ordered in California. Option (NE1) should be ordered for all vehicles ordered in Maine or Vermont.	A	A	A	A	A
NB8		Emissions override , California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Emissions, Federal requirements.	A ¹	A ¹	A ¹	A ¹	A ¹
NC7		Emissions override , Federal (for vehicles ordered by dealers in Federal emission states with California, New York, Vermont, Massachusetts or Maine emissions; may also be used by dealers in states of California, New York, Vermont, Massachusetts or Maine to order different state-specific emissions) 1 - Requires (YF5) Emissions, California requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.	A ¹	A ¹	A ¹	A ¹	A ¹
K05		Engine block heater 1 - Required in the "Ship to" states Alaska, Minnesota, Montana, North Dakota and South Dakota.	A ¹	A ¹	A ¹	A ¹	A ¹
LK5		Engine , 2.8L DOHC, 4-cylinder, MFI (175 HP [130.5 kW] @ 5600 rpm, 185 lb.-ft. [249.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹
L52		Engine , 3.5L DOHC, 5-cylinder, MFI (220 HP [164.1 kW] @ 5600 rpm, 225 lb.-ft. [303.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹
GU6		Rear axle , 3.42 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ² ZQ8 LS 1SH ²
GT4		Rear axle, 3.73 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹
GT5		Rear axle, 4.10 ratio 1 - 4WD Models only. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	—
Z82		Regular production accessory, Trailer hitch, includes harness (SPO-supplied, dealer installed) 1 - Required on 2WD Regular Cab Models when (L52) Engine, 3.5L DOHC, 5-cylinder, MFI and (MA5) Transmission, 5-speed manual with overdrive are ordered. Included with (PDC) Work Ready Package.	A ¹	A ¹	A	A	A
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	A ¹	■	■	A ¹
M30		Transmission, 4-speed automatic, electronically controlled with overdrive 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹
MA5		Transmission, 5-speed manual with overdrive 1 - Requires (Z82) Regular production accessory, Trailer Hitch when ordered in combination with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI on CS15403. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	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 groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
ASF		Air bags , side-impact, 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.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
	C60	Air conditioning , front manual	■	■	■	■	■	■
	ZQ3	Comfort Convenience Package , Tilt-Wheel and cruise control	■	■	■	■	■	■
	B32	Floormats , includes front rubberized vinyl floormats 1 - Upgradeable to (BKE) Regular production accessory, Floormats, carpeted, molded. Includes Floormats, rear, rubberized vinyl.	□ ¹	—	□ ¹	—	□ ¹	—
	ZQ6	Power Convenience Package , includes power windows and door locks, programmable; mirrors, outside, driver and passenger; and keyless entry, remote	■	■	■	■	■	■
BKE		Regular production accessory , Floormats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Not available with (B32) Floormats.	A ¹	■	A ¹	■	A ¹	■
AR9		Seats , front reclining buckets, includes manual recliners, center console with storage and armrest 1 - Adjustable head restraints available on (692) or (922) leather seating only.	S ¹	S ¹	A ¹	■ ¹	S ¹	S ¹
	AM4	Seats , rear 2nd row, flat-folding 1 - Adjustable head restraints available on (692) or (922) leather seating only.	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹
	NP5	Steering wheel , leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
	T96	Fog lamps , front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
	AJ1	Glass , Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	■	■	■	■	■	■
V76		Recovery hooks , 2 front, frame-mounted 1 - Available on CT15643 4WD Crew Cab Models only.	A ¹	A ¹	■	■	—	—

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
E15		Regular production accessory , Assist steps, chrome, tubular (SPO-supplied, dealer installed) 1 - Not available with (BVE) Regular production accessory, Running boards or (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	--	--	A ¹	■ ¹	--	--
VH4		Regular production accessory , Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	■	■	A	A
G80		Differential , automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	■	■	■	A ¹	■
	NZZ	Front underbody shield 1 - 4WD Models only.	■ ¹	■ ¹	■ ¹	■ ¹	--	--
	Z71	Suspension Package , Off-Road	--	--	■	■	--	--
	ZQ8	Suspension Package , Sport 1 - Includes 22mm rear stabilizer bar.	--	--	--	--	■ ¹	■ ¹
	Z85	Suspension Package , Standard 1 - Includes (AR9) Seats, front reclining bucket. (AM6) Seats, front 60/40 bench, manual reclining with armrest available for credit except when (LK5) Engine, 2.8L DOHC, 4-cylinder, MFI and (MA5) Transmission, 5-speed manual with overdrive are ordered in combination.	■ ¹	■ ¹	--	--	--	--
NW7		Traction control , electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	■	■	■	A ¹	■
ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
ASF		Air bags , side-impact, 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.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
DF8		Mirror , inside rearview, electrochromic (light-sensitive auto dimming), includes map lights, compass and outside temperature indicator 1 - Not available with (UE1) OnStar.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²
UE1		OnStar , 1-year Safe and Sound Service, includes automatic notification of air bag deployment, stolen vehicle tracking, emergency services, roadside assistance, remote door unlock, remote horn and lights, GM Goodwrench remote diagnostics, AccidentAssist and online concierge. Drivers can also obtain the available voice-activated, hands-free Personal Calling service and Virtual Advisor that provides location-based traffic and weather reports and other personalized information 1 - Requires (ZQ6) Power Convenience Package and (DC4) Mirror, inside rearview. Not available with (DF8) Mirror, inside rearview, electrochromic. Visit www.onstar.com for system information and details. Not available with a ship-to of Puerto Rico or the Virgin Islands.	A ¹	A ¹	A ¹	A ¹	A ¹
BKE		Regular production accessory , Floor mats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Not available with (B32) Floor mats.	A ¹	■	A ¹	■	A ¹
AM6		Seats , front 60/40 split bench, manual reclining, integral outboard head restraints, armrest with integral storage, dual cupholders 1 - Requires cloth trim and (M30) Transmission, 4-speed automatic. 2 - Requires cloth trim.	A ¹	A ¹	S ²	—	—
AR9		Seats , front reclining buckets, includes manual recliners, center console with storage and armrest 1 - Adjustable head restraints available on (692) or (922) leather seating only.	S ¹	S ¹	A ¹	■ ¹	S ¹
UC6		Sound system , ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed compensated volume, TheftLock and Radio Data System (RDS) and 6-speakers	A	A	A	A	A
U2K		Sound system feature , XM Satellite Radio. 100% commercial-free music. Over 120 channels. In-depth local traffic and weather in major metro markets. Digital quality sound with coast to coast signal coverage. 3-month trial - no charge and no obligation. 1 - Requires (US8) Sound system, ETR AM/FM stereo with CD/MP3 player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. Subscription fees apply. Available only in the 48 contiguous U.S.	A ¹	A ¹	A ¹	A ¹	A ¹
CF5		NEW! Sunroof , power, sliding	A	A	A	A	A
A28		Window , rear sliding	A	A	A	A	A

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ² ZQ8 LS 1SJ ²
		Bumpers , front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S S
B4U		Color-keyed Appearance Package , includes grille surround, center bar, front and rear bumpers, wheel flares (4x4 Models only), (NP5) Steering wheel, leather-wrapped rim, (T96) Fog lamps and front bumper fascia 1 - Not available with (B84) Moldings, bodyside, Dark Smoke Gray. Requires Exterior Colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	A ¹	A ¹	—	—	— —
		Fascia , front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S S
		Grille , color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	—	—	S S
B84		Moldings , bodyside, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	A	A	— —
V76		Recovery hooks , 2 front, frame-mounted 1 - Available on CT15643 4WD Crew Cab Models only.	A ¹	A ¹	■	■	— —
E15		Regular production accessory , Assist steps, chrome, tubular (SPO-supplied, dealer installed) 1 - Not available with (BVE) Regular production accessory, Running boards or (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	—	—	A ¹	■ ¹	— —
E01		Regular production accessory , Assist steps, Dark Smoke Gray, steel, tubular (SPO-supplied, dealer installed) 1 - Available on CT15643 4WD Crew Cab Models only. Requires (B4U) Color-keyed Appearance Package. Not available with (BVE) Regular production accessory, Running boards and (E15) Regular production accessory, Assist steps, chrome.	A ¹	A ¹	—	—	— —
PPB		Regular production accessory , Bed extender, brushed aluminum (SPO-supplied, dealer installed)	A	A	A	A	A A
PUB		Regular production accessory , Bed rail protectors, side, molded (SPO-supplied, dealer installed) 1 - Not available with (E95) Regular production accessory, Cargo cover, soft tonneau or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	— —

ADDITIONAL OPTIONS							
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²
EN6		Regular production accessory, Cargo cover, hard tonneau, lockable, Black (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded, (E95) Regular production accessory, Cargo cover, soft tonneau or (VJA) Regular production accessory, Tailgate edge protector.	A ¹	A ¹	A ¹	A ¹	--
E95		Regular production accessory, Cargo cover, soft tonneau, Black, includes silkscreen with "Colorado" badging (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--
BVE		Regular production accessory, Running boards (SPO-supplied, dealer installed) 1 - Not available with (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	A ¹	A ¹	--	--	--
VH4		Regular production accessory, Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	■	■	A
VJA		Regular production accessory, Tailgate edge protector, molded (SPO-supplied, dealer installed) 1 - Not available with (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--
ZET		Tire, spare P225/75R15, all-season, blackwall, located at rear underbody of vehicle, includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum 1 - Requires CS15643 2WD Crew Cab Models only.	A ¹	A ¹	--	--	--
ZFL		Tire, spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Available on CT15643 4WD Crew Cab Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum. 2 - Includes Wheel, 15", steel.	A ¹	A ¹	S ²	S ²	--
		Wheel flares, front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S
D98		NEW! Xtreme Accent Strip Package , includes dual hood stripes and driver and front passenger door stripes 1 - Requires (V4A) Xtreme Appearance Package.	--	--	--	--	A ¹

ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
V4A		NEW! Xtreme Appearance Package , includes unique wheel flares, chrome composite headlamps, body-color rear spoiler, grille mesh with chrome accents, color-keyed front and rear bumper fascias, bodyside ground effects, (QKU) Tires,P235/50R18, all-season, blackwall (N87) Wheels, 18" (45.7 cm) aluminum and Xtreme badging 1 - Requires exterior colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	—	—	—	—	A ¹	A ¹
G80		Differential , automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	■	■	■	A ¹	■
YF5		Emissions , California state requirements	A	A	A	A	A	A
FE9		Emissions , Federal requirements	A	A	A	A	A	A
NE1		Emissions , Maine, Massachusetts, New York or Vermont state requirements	A	A	A	A	A	A
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, Maine, Massachusetts and Vermont. Option (YF5) should be ordered for all vehicles ordered in California. Option (NE1) should be ordered for all vehicles ordered in Maine or Vermont.	A	A	A	A	A	A
NB8		Emissions override , California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Emissions, Federal requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
NC7		Emissions override , Federal (for vehicles ordered by dealers in Federal emission states with California, New York, Vermont, Massachusetts or Maine emissions; may also be used by dealers in states of California, New York, Vermont, Massachusetts or Maine to order different state-specific emissions) 1 - Requires (YF5) Emissions, California requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

ADDITIONAL OPTIONS								
Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
K05		Engine block heater 1 - Required in the "Ship to" states Alaska, Minnesota, Montana, North Dakota and South Dakota.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
LK5		Engine, 2.8L DOHC, 4-cylinder, MFI (175 HP [130.5 kW] @ 5600 rpm, 185 lb.-ft. [249.7 N-m] @ 2800 rpm) 1 - Requires Cloth trim. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	—	—	—	—
L52		Engine, 3.5L DOHC, 5-cylinder, MFI (220 HP [164.1 kW] @ 5600 rpm, 225 lb.-ft. [303.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S ¹
GU6		Rear axle, 3.42 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT4		Rear axle, 3.73 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT5		Rear axle, 4.10 ratio 1 - 4WD Models only. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	—	—
Z82		Regular production accessory, Trailer hitch, includes harness (SPO-supplied, dealer installed)	A	A	A	A	A	A
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	■	■	■	A ¹	■
M30		Transmission, 4-speed automatic, electronically controlled with overdrive 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S ¹
MA5		Transmission, 5-speed manual with overdrive 1 - Requires (LK5) Engine, 2.8L DOHC, 4-cylinder, MFI and (AR9) Seats, front Deluxe Cloth reclining buckets. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	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 groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	C60	Air conditioning, front manual	■	■	■	■	■	■
	B38	Floor covering, rubberized vinyl full width floor covering 1 - Upgradeable to (B30) Floor covering, color-keyed carpeting. - Does not include (AJ2) Seats, driver and passenger side, rear on C*15653 Extended Cab Models.	□ ¹		□ ¹		□ ¹	
	Z85	Suspension Package, Standard	■	■				
	SKP	Front underbody shield	■					
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control		■		■		■
B32		Floormats		■		■		■
	NZZ	Front underbody shield		■	■	■		
AJ1		Glass, Solar-Ray deep tinted		■		■		■
	AJ2	Seats, driver and passenger side		■		■		■
	T96	Fog lamps, front			■	■	■	■
	NP5	Steering wheel, leather-wrapped rim			■	■	■	■
G80		Differential, automatic			■	■		
V76		Recovery hooks, 2 front, frame-mounted			■	■		
	Z71	Suspension Package, Off-Road			■	■		
NW7		Traction control, electronic			■	■		
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control				■		■
AJ1		Glass, Solar-Ray deep tinted				■		■
VH4		Regular production accessory, Splash guards				■		
	ZQ8	Suspension Package, Sport					■	■

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 groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	C60	Air conditioning, front manual	■	■	■	■	■	■
	ZQ3	Comfort Convenience Package, Tilt-Wheel and cruise control	■	■	■	■	■	■
	AJ1	Glass, Solar-Ray deep tinted	■	■	■	■	■	■
	ZQ6	Power Convenience Package,	■	■	■	■	■	■
	AM4	Seats, rear 2nd row	■	■	■	■	■	■
	NZZ	Front underbody shield	■	■	■	■		
	B32	Floormats 1 - Upgradeable to (BKE) Regular production accessory, Floormats, carpeted, molded. Includes Floormats, rear, rubberized vinyl.	□ ¹		□ ¹		□ ¹	
	Z85	Suspension Package, Standard	■	■				
G80		Differential, automatic		■	■	■		■
NW7		Traction control, electronic		■	■	■		■
ASF		Air bags, side-impact,		■		■		■
BKE		Regular production accessory, Floormats		■		■		■
	T96	Fog lamps, front			■	■	■	■
	NP5	Steering wheel, leather-wrapped rim			■	■	■	■
V76		Recovery hooks, 2 front, frame-mounted			■	■		
VH4		Regular production accessory, Splash guards			■	■		
	Z71	Suspension Package, Off-Road			■	■		
E15		Regular production accessory, Assist steps				■		
AR9		Seats				■		
	ZQ8	Suspension Package, Sport					■	■

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 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Accents, interior, includes titanium colored air outlets, center control stack, door handle bezels and uplevel instrument cluster bezel	—	S	—	S	—	S
		Air bags, frontal, driver and right front passenger, includes passenger side deactivation switch 1 - Deactivation switch not included with Extended Cab Models with (AJ2) Seat, driver and passenger side, rear. Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
ASF		Air bags, side-impact, driver and right front passenger, includes passenger side deactivation switch 1 - Always use safety belts and proper child restraints, even with air bags. Children are safer when properly secured in a rear seat. See the Owner's Manual for more safety information.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
	C60	Air conditioning, front manual	■	■	■	■	■	■
		Assist handle, front passenger and outboard rear seats	—	S	—	S	—	S
	YC1	Base decor	S	—	S	—	S	—
		Coat hooks, driver and passenger side	S	S	S	S	S	S
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Extended Cab Models)	A	■	A	■	A	■
ZQ3		Comfort Convenience Package, Tilt-Wheel and cruise control (Regular Cab Models)	A	A	A	■	A	■
		Door locks, manual	S	S	S	S	S	S
		Door trim, with integral armrest, driver and passenger side map pockets	S	S	S	S	S	S
B30		Floor covering, color-keyed carpeting 1 - Includes (AJ2) Seats, rear on (C*15653) Extended Cab Models.	A ¹	S	A ¹	S	A ¹	S
	B38	Floor covering, rubberized vinyl full width floor covering 1 - Upgradeable to (B30) Floor covering, color-keyed carpeting. - Does not include (AJ2) Seats, driver and passenger side, rear on C*15653 Extended Cab Models.	□ ¹	—	□ ¹	—	□ ¹	—

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
B32		Floormats , includes front rubberized vinyl floormats 1 - Not available with (BKE) Regular production accessory, Floormats, carpeted, molded. Requires (B30) Floor covering, color-keyed carpeting. Includes Floormats, rear, rubberized vinyl on Extended Cab Models.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
		Instrumentation , analog, includes speedometer, odometer with trip odometer, fuel level, engine temperature, tachometer and Driver Information Center	S	S	S	S	S	S
	YC3	LS decor	—	S	—	S	—	S
DF8		Mirror , inside rearview, electrochromic (light-sensitive auto dimming), includes map lights, compass and outside temperature indicator 1 - Requires (ZQ6) Power Convenience Package. Not available with (UE1) OnStar.	—	A ¹	—	A ¹	—	A ¹
	DC4	Mirror , inside rearview, manual day/night, includes dual reading lights 1 - Required with (UE1) OnStar.	S	S ¹	S	S ¹	S	S ¹
UE1		OnStar , 1-year Safe and Sound Service, includes automatic notification of air bag deployment, stolen vehicle tracking, emergency services, roadside assistance, remote door unlock, remote horn and lights, GM Goodwrench remote diagnostics, AccidentAssist and online concierge. Drivers can also obtain the available voice-activated, hands-free Personal Calling service and Virtual Advisor that provides location-based traffic and weather reports and other personalized information 1 - Requires (ZQ6) Power Convenience Package and (DC4) Mirror, inside rearview. Not available with (DF8) Mirror, inside rearview, electrochromic. Visit www.onstar.com for system information and details. Not available with a ship-to of Puerto Rico or the Virgin Islands.	—	A ¹	—	A ¹	—	A ¹
ZQ6		Power Convenience Package , includes power windows and door locks, programmable; mirrors, outside, driver and passenger; and keyless entry, remote 1 - May upgrade to (DF8) Mirror, inside rearview, electrochromic without (UE1) OnStar.	—	A ¹	—	A ¹	—	A ¹
R7L		(ZQ6) Power Convenience Package, delete 1 - Must specify (ZQ6) Power Convenience Package or (R7L) (ZQ6) Power Convenience Package, delete when ordering.	—	A ¹	—	A ¹	—	A ¹
		Power outlets , auxiliary, covered, 2, 12-volt	S	S	S	S	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
BKE		Regular production accessory , Floor mats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Requires (B30) Floor covering, color-keyed carpeting. Rear floor mats not included on Regular Cabs. Not available with (B32) Floor mats.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
		Safety belts , 3-point, outboard, driver and front passenger, adjustable with center front position lap belt	S	S	S	S	S	S
	AJ2	Seats , driver and passenger side, rear, forward facing, flat folding, includes rear seat storage compartment (Extended Cab) 1 - Included and only available with (B30) Floor covering, color-keyed carpeting.	A ¹	■	A ¹	■	A ¹	■
AR9		Seats , front reclining buckets, includes integral outboard head restraint, manual recliners, center floor console with storage and armrest	--	A	--	A	--	S
	AM6	Seats , front, Base Cloth, 60/40 split-bench, integral outboard head restraints and dual cupholders	S	--	S	--	S	--
	AM6	Seats , front, LS Deluxe Cloth, 60/40 split-bench, manual reclining, integral outboard head restraints, armrest with integral storage and dual cupholders	--	S	--	S	--	--
	UM7	Sound system , ETR AM/FM stereo, includes seek-and-scan, digital clock, 2-speakers on Regular Cab models and 4-speakers on Extended Cab models	S	--	S	--	S	--
US8		NEW! Sound system , ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS), 2-speakers on Regular Cab models with Base decor (4 on LS decor) and 4-speakers on Extended Cab models with Base decor (6 on LS decor)	A	S	A	S	A	S
UC6		Sound system , ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed-compensated volume, TheftLock, Radio Data System (RDS), 4-speakers on Regular Cab models and 6-speakers on Extended Cab and Crew Cab models	--	A	--	A	--	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
U2K		Sound system feature , XM Satellite Radio. 100% commercial-free music. Over 120 channels. In-depth local traffic and weather in major metro markets. Digital quality sound with coast to coast signal coverage. 3-month trial - no charge and no obligation. 1 - Requires (US8) Sound system, ETR AM/FM stereo with CD/MP3 player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. Subscription fees apply. Available only in the 48 contiguous U.S.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
		Steering column , non-tilt, steel sleeve, includes theft-deterrent locking feature 1 - C*15403 Regular Cab Models only.	S	S ¹	S	—	S	—
		Steering wheel , 4-spoke, deluxe	S	S	—	—	—	—
	NP5	Steering wheel , leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	—	A ¹	■	■	■	■
CF5		NEW! Sunroof , power, sliding	A	A	A	A	A	A
		Theft-deterrent system , PASSlock	S	S	S	S	S	S
		Visors , padded, Cloth, includes vanity mirror, passenger-side	S	S	S	S	S	S
		Warning tones , headlamp on, key-in-ignition, driver safety belt unfasten, turn signal on and critical Driver Information Center active	S	S	S	S	S	S
A28		Window , rear sliding	A	A	A	A	A	A
		Windows , manual, driver and front passenger	S	S	S	S	S	S

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

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

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

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 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
		Accents , interior, includes titanium colored air outlets, center control stack, door handle bezels and uplevel instrument cluster bezel	S	S	S	S	S	S
		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	S ¹	S ¹	S ¹	S ¹	S ¹
ASF		Air bags , side-impact, 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.	A ¹	■ ¹	A ¹	■ ¹	A ¹	■ ¹
	C60	Air conditioning , front manual	■	■	■	■	■	■
		Assist handle , front passenger and outboard rear seats	S	S	S	S	S	S
		Coat hooks , driver and passenger side	S	S	S	S	S	S
	ZQ3	Comfort Convenience Package , Tilt-Wheel and cruise control	■	■	■	■	■	■
		Door locks , power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Door trim , with integral armrest, driver and passenger side map pockets	S	S	S	S	S	S
	B30	Floor covering , color-keyed carpeting	S	S	S	S	S	S
	B32	Floormats , includes front rubberized vinyl floormats 1 - Upgradeable to (BKE) Regular production accessory, Floormats, carpeted, molded. Includes Floormats, rear, rubberized vinyl.	□ ¹	-	□ ¹	-	□ ¹	-
		Instrumentation , analog, includes speedometer, odometer with trip odometer, fuel level, engine temperature, tachometer and Driver Information Center	S	S	S	S	S	S
	YC3	LS decor	S	S	S	S	S	S
DF8		Mirror , inside rearview, electrochromic (light-sensitive auto dimming), includes map lights, compass and outside temperature indicator 1 - Not available with (UE1) OnStar.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	DC4	Mirror , inside rearview, manual day/night, includes dual reading lights 1 - Required with (UE1) OnStar.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
UE1		OnStar , 1-year Safe and Sound Service, includes automatic notification of air bag deployment, stolen vehicle tracking, emergency services, roadside assistance, remote door unlock, remote horn and lights, GM Goodwrench remote diagnostics, AccidentAssist and online concierge. Drivers can also obtain the available voice-activated, hands-free Personal Calling service and Virtual Advisor that provides location-based traffic and weather reports and other personalized information 1 - Requires (ZQ6) Power Convenience Package and (DC4) Mirror, inside rearview. Not available with (DF8) Mirror, inside rearview, electrochromic. Visit www.onstar.com for system information and details. Not available with a ship-to of Puerto Rico or the Virgin Islands.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
	ZQ6	Power Convenience Package , includes power windows and door locks, programmable; mirrors, outside, driver and passenger; and keyless entry, remote	■	■	■	■	■	■
		Power outlets , auxiliary, covered, 2, 12-volt	S	S	S	S	S	S
BKE		Regular production accessory , Floor mats, carpeted, molded, includes front and rear (SPO-supplied, dealer installed) 1 - Not available with (B32) Floor mats.	A ¹	■	A ¹	■	A ¹	■
		Safety belts , 3-point, driver and front passenger, with center front position lap belt	S	S	S	S	S	S
		Safety belts , 3-point, rear, all positions	S	S	S	S	S	S
	AG1	Seat adjuster , power with heated seats, driver 8-way includes power lumbar and recliner, passenger 6-way includes power lumbar and manual recliner 1 - Included and only available with leather trim and (ZQ6) Power Convenience Package.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
AM6		Seats , front 60/40 split bench, manual reclining, integral outboard head restraints, armrest with integral storage, dual cupholders 1 - Requires cloth trim and (M30) Transmission, 4-speed automatic. 2 - Requires cloth trim.	A ¹	A ¹	S ²	--	--	--
AR9		Seats , front reclining buckets, includes manual recliners, center console with storage and armrest 1 - Adjustable head restraints available on (692) or (922) leather seating only.	S ¹	S ¹	A ¹	■ ¹	S ¹	S ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	AM4	Seats , rear 2nd row, flat-folding 1 - Adjustable head restraints available on (692) or (922) leather seating only.	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹	■ ¹
	US8	NEW! Sound System , ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS) and 6-speakers	S	S	S	S	S	S
UC6		Sound system , ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed compensated volume, TheftLock and Radio Data System (RDS) and 6-speakers	A	A	A	A	A	A
U2K		Sound system feature , XM Satellite Radio. 100% commercial-free music. Over 120 channels. In-depth local traffic and weather in major metro markets. Digital quality sound with coast to coast signal coverage. 3-month trial - no charge and no obligation. 1 - Requires (US8) Sound system, ETR AM/FM stereo with CD/MP3 player or (UC6) Sound system, ETR AM/FM stereo with 6-disc CD changer. Subscription fees apply. Available only in the 48 contiguous U.S.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
		Steering wheel , 4-spoke, deluxe	S	S	—	—	—	—
	NP5	Steering wheel , leather-wrapped rim 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
CF5		NEW! Sunroof , power, sliding	A	A	A	A	A	A
		Theft-deterrent system , PASSlock	S	S	S	S	S	S
		Visors , padded, Cloth, driver and passenger side with vanity mirror	S	S	S	S	S	S
		Warning tones , headlamp on, key-in-ignition, driver safety belt unfasten, turn signal on and critical Driver Information Center active	S	S	S	S	S	S
A28		Window , rear sliding	A	A	A	A	A	A
		Windows , power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S 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.

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 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Air dam, Ebony	S	S	S	S	--	--
		Bumpers, front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Bumpers, front and rear, chrome, rear step includes Ebony pad	S	S	S	S	--	--
B4U		Color-keyed Appearance Package, includes grille surround, center bar, front and rear bumpers, wheel flares (4x4 Models only), (NP5) Steering wheel, leather-wrapped rim, (T96) Fog lamps and front bumper fascia 1 - Not available with (B84) Moldings, bodyside, Dark Smoke Gray. Requires Exterior Colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	--	A ¹	--	--	--	--
		Daytime running lamps, includes automatic exterior lamp control	S	S	S	S	S	S
		Doors, rear, driver and passenger side, rear opening and rear hinged 1 - C*15653 Extended Cab Models only.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹
		Fascia, front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Fascia, front, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	S	S ¹	S	S	--	--
	T96	Fog lamps, front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	--	A ¹	■	■	■	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Extended Cab Models)	A	■	A	■	A	■
AJ1		Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger) (Regular Cab Models)	A	A	A	■	A	■
		Grille, color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Grille, color-keyed surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	--	S	--	--	--	--

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Grille, Dark Smoke Gray surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	S	--	S	S	--	--
		Mirrors, outside rearview, foldaway, manual	S	S	S	S	S	S
B84		Moldings, bodyside, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	A	A ¹	A	A	--	--
	VFU	Pickup bed mat 1 - Included and only available with (PDC) Work Ready Package.	A ¹	A ¹	--	--	--	--
	E63	Pickup box, Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position	S	S	S	S	S	S
E62		Pickup box, Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position, includes recessed steps on left-hand and right-hand side of pick-up box	A	A	A	A	--	--
V76		Recovery hooks, 2 front, frame-mounted 1 - Available on 4WD Models only.	A ¹	A ¹	■	■	--	--
E15		Regular production accessory, Assist steps, chrome, tubular (SPO-supplied, dealer installed)	--	--	A	A	--	--
E01		Regular production accessory, Assist steps, Dark Smoke Gray, steel, tubular (SPO-supplied, dealer installed) 1 - Available on 4WD Models only. - Requires (B4U) Color-keyed Appearance Package. - Not available with (BVE) Regular production accessory, Running boards.	--	A ¹	--	--	--	--
PPB		Regular production accessory, Bed extender, brushed aluminum (SPO-supplied, dealer installed)	A	A	A	A	A	A
PUB		Regular production accessory, Bed rail protectors, side, molded (SPO-supplied, dealer installed) 1 - Not available with (E95) Regular production accessory, Cargo cover, soft tonneau or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
EN6		Regular production accessory, Cargo cover, hard tonneau, lockable, Black (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded, (E95) Regular production accessory, Cargo cover, soft tonneau or (VJA) Regular production accessory, Tailgate edge protector.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
E95		Regular production accessory , Cargo cover, soft tonneau, Black, includes silkscreen with "Colorado" badging (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
BVE		Regular production accessory , Running boards (SPO-supplied, dealer installed) 1 - Not available with (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	A	A ¹	--	--	--	--
VH4		Regular production accessory , Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	A	■	A	A
VJA		Regular production accessory , Tailgate edge protector, molded (SPO-supplied, dealer installed) 1 - Not available with (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
	ZAA	Tire , spare, compact, located at rear underbody of vehicle. 1 - Upgradeable to (ZCE) Tire, spare, P205/75R15 all-season for Fleet or Government types on CS15403. Upgradeable to (ZCE) Tire, spare, P205/75R15 all-season on CS15653 or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models on all order types. 2 - Upgradeable to (ZET) Tire, spare P225/75R15, all-season, blackwall on 2WD Models or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models.	S ¹	S ²	--	--	--	--
ZCE		Tire , spare P205/75R15, all-season, blackwall, located at rear underbody of vehicle, includes steel wheel 1 - Included and only available with (PDC) Work Ready Package for non-Fleet or Government types only on CS15403. Available on CS15653 on all order types.	A ¹	--	--	--	S	S
ZET		Tire , spare P225/75R15, all-season, blackwall, located at rear underbody of vehicle, includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum 1 - Included and only available with (PDC) Work Ready Package for non-Fleet or Government types only on CS15403. Available on CS15653 on all order types.	--	A ¹	--	--	--	--
ZFL		Tire , spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Includes Wheel, 15" steel. 2 - Available on 4WD Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum.	A ¹	A ²	S ¹	S ¹	--	--
	QCE	Tires , P205/75R15, all-season, blackwall 1 - 2WD Models only.	S ¹	--	--	--	--	--
	QET	Tires , P225/75R15, all-season, blackwall 1 - 2WD Models only.	--	S ¹	--	--	--	--
	QGR	Tires , P235/50R17, all-season, blackwall	--	--	--	--	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	QFL	Tires, P235/75R15, all-season, blackwall 1 - 4WD Models only.	S ¹	S ¹	--	--	--	--
	QWU	Tires, P265/75R15, on-/off-road, blackwall	--	--	S	S	--	--
	QKU	NEW! Tires, P235/50R18, all-season, blackwall 1 - Included and only available with (V4A) Xtreme Appearance Package.	--	--	--	--	--	A ¹
	B71	Wheel flares, front and rear, large, body-color 1 - Not available with Exterior Color (85U) Sunburst Orange Metallic.	--	--	--	A ¹	--	--
		Wheel flares, front and rear, large, Dark Smoke Gray	--	--	S	S	--	--
		Wheel flares, front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	--	A ¹	--	--	S	S
		Wheel flares, front and rear, small, Dark Smoke Gray 1 - Standard on 4WD Models only.	S ¹	S ¹	--	--	--	--
	PG1	Wheels, 4 - 15" x 6" (38.1 cm x 15.2 cm) steel	S	--	--	--	--	--
	PF3	Wheels, 4 - 15" x 6.5" (38.1 cm x 16.5 cm) aluminum	--	S	--	--	--	--
	N90	Wheels, 4 - 15" x 7" (38.1 cm x 17.8 cm) aluminum, cast	--	--	S	S	--	--
	QA8	Wheels, 4 - 17" x 8" (43.2 cm x 20.4 cm) aluminum	--	--	--	--	S	S
	N87	NEW! Wheels, 18" (45.7 cm) aluminum 1 - Included and only available with (V4A) Xtreme Appearance Package.	--	--	--	--	--	A ¹
		Wipers, intermittent, front, includes pulse washers	S	S	S	S	S	S
PDC		Work Ready Package, includes (Z82) Regular production accessory, trailer hitch, (VFU) Pickup bed mat and (ZCE) Tire, spare, includes steel wheel or (ZET) Tire, spare P225/75R15, all-season 1 - Requires 2WD Regular Cab Models. Not available with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI.	A ¹	A ¹	--	--	--	--
D98		NEW! Xtreme Accent Strip Package, includes dual hood stripes and driver and front passenger door stripes 1 - Requires (V4A) Xtreme Appearance Package.	--	--	--	--	--	A ¹
V4A		NEW! Xtreme Appearance Package, includes unique wheel flares, chrome composite headlamps, body-color rear spoiler, grille mesh with chrome accents, color-keyed front and rear bumper fascias, bodyside ground effects, (QKU) Tires, P235/50R18, all-season, blackwall (N87) Wheels, 18" (45.7 cm) aluminum and Xtreme badging 1 - Requires exterior colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	--	--	--	--	--	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.

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Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
		Air dam, Ebony	S	S	S	S	--	--
		Bumpers, front and rear, body-color, rear step includes Ebony pad 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S	S
		Bumpers, front and rear, chrome, rear step includes Ebony pad	S	S	S	S	--	--
B4U		Color-keyed Appearance Package, includes grille surround, center bar, front and rear bumpers, wheel flares (4x4 Models only), (NP5) Steering wheel, leather-wrapped rim, (T96) Fog lamps and front bumper fascia 1 - Not available with (B84) Moldings, bodyside, Dark Smoke Gray. Requires Exterior Colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	A ¹	A ¹	--	--	--	--
		Daytime running lamps, includes automatic exterior lamp control	S	S	S	S	S	S
		Doors, rear, full opening, front hinged, includes child safety door locks	S	S	S	S	S	S
		Fascia, front, body-color 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S	S
		Fascia, front, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	S ¹	S ¹	S	S	--	--
	T96	Fog lamps, front 1 - Included and only available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	■	■	■	■
	AJ1	Glass, Solar-Ray deep tinted (all windows except light tinted glass on windshield, driver and front passenger)	■	■	■	■	■	■
		Grille, color-keyed surround and bar with Dark Smoke Gray mesh and composite headlamps 1 - Requires (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S	S
		Grille, color-keyed surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	S	S	--	--	--	--
		Grille, Dark Smoke Gray surround with Dark Smoke Gray mesh, chrome bar and composite headlamps	--	--	S	S	--	--
		Mirrors, outside rearview, foldaway, power 1 - Included with (ZQ6) Power Convenience Package.	S ¹	S ¹	S ¹	S ¹	S ¹	S ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
B84		Moldings, bodyside, Dark Smoke Gray 1 - Not available with (B4U) Color-keyed Appearance Package.	A ¹	A ¹	A	A	--	--
	E63	Pickup box, Fleetside, all-welded steel with double wall construction and corrosion protection with 8 cargo tie-downs and tailgate, locking, 2-position	S	S	S	S	S	S
V76		Recovery hooks, 2 front, frame-mounted 1 - Available on CT15643 4WD Crew Cab Models only.	A ¹	A ¹	■	■	--	--
E15		Regular production accessory, Assist steps, chrome, tubular (SPO-supplied, dealer installed) 1 - Not available with (BVE) Regular production accessory, Running boards or (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	--	--	A ¹	■ ¹	--	--
E01		Regular production accessory, Assist steps, Dark Smoke Gray, steel, tubular (SPO-supplied, dealer installed) 1 - Available on CT15643 4WD Crew Cab Models only. Requires (B4U) Color-keyed Appearance Package. Not available with (BVE) Regular production accessory, Running boards and (E15) Regular production accessory, Assist steps, chrome.	A ¹	A ¹	--	--	--	--
PPB		Regular production accessory, Bed extender, brushed aluminum (SPO-supplied, dealer installed)	A	A	A	A	A	A
PUB		Regular production accessory, Bed rail protectors, side, molded (SPO-supplied, dealer installed) 1 - Not available with (E95) Regular production accessory, Cargo cover, soft tonneau or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
EN6		Regular production accessory, Cargo cover, hard tonneau, lockable, Black (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded, (E95) Regular production accessory, Cargo cover, soft tonneau or (VJA) Regular production accessory, Tailgate edge protector.	A ¹	A ¹	A ¹	A ¹	--	--
E95		Regular production accessory, Cargo cover, soft tonneau, Black, includes silkscreen with "Colorado" badging (SPO-supplied, dealer installed) 1 - Not available with (PUB) Regular production accessory, Bed rail protectors, molded or (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
BVE		Regular production accessory, Running boards (SPO-supplied, dealer installed) 1 - Not available with (E01) Regular production accessory, Assist steps, Dark Smoke Gray.	A ¹	A ¹	--	--	--	--
VH4		Regular production accessory, Splash guards, molded, Dark Smoke Gray (SPO-supplied, dealer installed)	A	A	■	■	A	A

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
VJA		Regular production accessory , Tailgate edge protector, molded (SPO-supplied, dealer installed) 1 - Not available with (EN6) Regular production accessory, Cargo cover, hard tonneau, lockable.	A ¹	A ¹	A ¹	A ¹	--	--
		Tailgate , locking, 2-position	S	S	S	S	S	S
	ZAA	Tire , spare, compact, located at rear underbody of vehicle. 1 - Upgradeable to (ZET) Tire, spare P225/75R15, all-season, blackwall on 2WD Models or (ZFL) Tire, spare, P235/75R15, all-season, blackwall on 4WD Models.	S ¹	S ¹	--	--	--	--
	ZCE	Tire , spare P205/75R15, all-season, blackwall, located at rear underbody of vehicle, includes steel wheel	--	--	--	--	S	S
ZET		Tire , spare P225/75R15, all-season, blackwall, located at rear underbody of vehicle, includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum 1 - Requires CS15643 2WD Crew Cab Models only.	A ¹	A ¹	--	--	--	--
ZFL		Tire , spare P235/75R15, all-season, blackwall, located at rear underbody of vehicle 1 - Available on CT15643 4WD Crew Cab Models only. Includes (PF3) Wheel, 15" x 6.5" (38.1 cm x 16.5 cm) aluminum. 2 - Includes Wheel, 15", steel.	A ¹	A ¹	S ²	S ²	--	--
	QET	Tires , P225/75R15, all-season, blackwall 1 - Requires CS15643 2WD Crew Cab Models only.	S ¹	S ¹	--	--	--	--
	QGR	Tires , P235/50R17, all-season, blackwall	--	--	--	--	S	S
	QFL	Tires , P235/75R15, all-season, blackwall 1 - CT15643 4WD Crew Cab Models only.	S ¹	S ¹	--	--	--	--
	QWU	Tires , P265/75R15, on-/off-road, blackwall	--	--	S	S	--	--
	QKU	NEW! Tires , P235/50R18, all-season, blackwall 1 - Included and only available with (V4A) Xtreme Appearance Package.	--	--	--	--	A ¹	A ¹
	B71	Wheel flares , front and rear, large, body-color 1 - Not available with Exterior Color (85U) Sunburst Orange Metallic.	--	--	A ¹	A ¹	--	--
		Wheel flares , front and rear, large, Dark Smoke Gray	--	--	S	S	--	--
		Wheel flares , front and rear, small, body-color 1 - Requires 4WD Models and (B4U) Color-keyed Appearance Package.	A ¹	A ¹	--	--	S	S
		Wheel flares , front and rear, small, Dark Smoke Gray 1 - Standard on 4WD Models only.	S ¹	S ¹	--	--	--	--
	PF3	Wheels , 4 - 15" x 6.5" (38.1 cm x 16.5 cm) aluminum	S	S	--	--	--	--
	N90	Wheels , 4 - 15" x 7" (38.1 cm x 17.8 cm) aluminum, cast	--	--	S	S	--	--
	QA8	Wheels , 4 - 17" x 8" (43.2 cm x 20.4 cm) aluminum	--	--	--	--	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	N87	NEW! Wheels, 18" (45.7 cm) aluminum 1 - Included and only available with (V4A) Xtreme Appearance Package.	--	--	--	--	A ¹	A ¹
		Wipers, intermittent, front, includes pulse washers	S	S	S	S	S	S
D98		NEW! Xtreme Accent Strip Package , includes dual hood stripes and driver and front passenger door stripes 1 - Requires (V4A) Xtreme Appearance Package.	--	--	--	--	A ¹	A ¹
V4A		NEW! Xtreme Appearance Package , includes unique wheel flares, chrome composite headlamps, body-color rear spoiler, grille mesh with chrome accents, color-keyed front and rear bumper fascias, bodyside ground effects, (QKU) Tires, P235/50R18, all-season, blackwall (N87) Wheels, 18" (45.7 cm) aluminum and Xtreme badging 1 - Requires exterior colors (41U) Black, (43U) Yellow, (50U) Summit White or (74U) Victory Red.	--	--	--	--	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.

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 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Alternator, 100 amps	S	S	S	S	S	S
		Battery, heavy-duty, 690 cold-cranking amps, includes rundown protection	S	S	S	S	S	S
	JA1	Brakes, 4-wheel antilock, front disc/rear drum	S	S	S	S	S	S
G80		Differential, automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	A ¹	■	■	A ¹	A ¹
YF5		Emissions, California state requirements	A	A	A	A	A	A
FE9		Emissions, Federal requirements	A	A	A	A	A	A
NE1		Emissions, Maine, Massachusetts, New York or Vermont state requirements	A	A	A	A	A	A
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, Maine, Massachusetts and Vermont. Option (YF5) should be ordered for all vehicles ordered in California. Option (NE1) should be ordered for all vehicles ordered in Maine or Vermont.	A	A	A	A	A	A
NB8		Emissions override, California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Emissions, Federal requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
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 requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
K05		Engine block heater 1 - Required in the "Ship to" states Alaska, Minnesota, Montana, North Dakota and South Dakota.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
LK5		Engine , 2.8L DOHC, 4-cylinder, MFI (175 HP [130.5 kW] @ 5600 rpm, 185 lb.-ft. [249.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
L52		Engine , 3.5L DOHC, 5-cylinder, MFI (220 HP [164.1 kW] @ 5600 rpm, 225 lb.-ft. [303.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
	SKP	Front underbody shield 1 - 4WD Models only.	■ ¹	—	—	—	—	—
	NZZ	Front underbody shield 1 - 4WD Models only.	—	■ ¹	■ ¹	■ ¹	—	—
	C3A	GVWR , 4400 lbs. (1996 kg) 1 - Standard on CS15403 2WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	—	—	—	—	S ¹	S ¹
	C5D	GVWR , 4600 lbs. (2087 kg) 1 - Standard on CS15653 2WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	—	—	—	—	S ¹	S ¹
	C6I	GVWR , 4850 lbs. (2200 kg) 1 - Standard on CS15403 2WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	—	—	—	—
	C5C	GVWR , 5000 lbs. (2268 kg) 1 - Standard on CS15653 2WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	—	—	—	—
	C6F	GVWR , 5150 lbs. (2336 kg) 1 - Standard on CT15403 4WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on CS15403 2WD Regular Cab Models. Standard on CT15403 4WD Regular Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	—	—

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	C3H	GVWR, 5300 lbs. (2404 kg) 1 - Standard on CT15653 4WD Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on C*15653 Extended Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	--	--
		Jounce bumpers, rubber	S	S	--	--	--	--
		Jounce bumpers, Urethane 1 - Combination Urethane and rubber.	--	--	S	S	S ¹	S ¹
GU6		Rear axle, 3.42 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT4		Rear axle, 3.73 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT5		Rear axle, 4.10 ratio 1 - 4WD Models only. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	--	--
Z82		Regular production accessory, Trailer hitch, includes harness (SPO-supplied, dealer installed) 1 - Required on 2WD Regular Cab Models when (L52) Engine, 3.5L DOHC, 5-cylinder, MFI and (MA5) Transmission, 5-speed manual with overdrive are ordered. Included with (PDC) Work Ready Package.	A ¹	A ¹	A	A	A	A
		Shock absorber, twin-tube, hydraulic 1 - 2WD Models only.	S	S	S ¹	S ¹	--	--
		Shock absorber, monotube 1 - 4WD Models only.	--	--	S ¹	S ¹	S	S
		Steering, power, rack-and-pinion	S	S	S	S	S	S
	Z71	Suspension Package, Off-Road	--	--	■	■	--	--
	ZQ8	Suspension Package, Sport 1 - Includes 22mm rear stabilizer bar.	--	--	--	--	■ ¹	■ ¹
	Z85	Suspension Package, Standard	■	■	--	--	--	--
		Suspension, front, independent coil springs 1 - Standard on 2WD Models only.	S ¹	S ¹	--	--	S	S
		Suspension, front, independent torsion bar, and stabilizer bar 1 - Standard on 4WD Models only.	S ¹	S ¹	S	S	--	--
		Suspension, rear, semi-floating axle with 2-stage multi-leaf springs	S	S	S	S	S	S
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	A ¹	■	■	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
	NP1	Transfer case, electronic shift, Insta-Trac, includes dash-mounted controls 1 - Standard on 4WD Models only.	S ¹	S ¹	S ¹	S ¹	--	--
M30		Transmission, 4-speed automatic, electronically controlled with overdrive 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
MA5		Transmission, 5-speed manual with overdrive 1 - Requires (Z82) Regular production accessory, Trailer Hitch when ordered in combination with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI on CS15403. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

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■ = 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 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
		Alternator, 100 amps	S	S	S	S	S	S
		Battery, heavy-duty, 690 cold-cranking amps, includes rundown protection	S	S	S	S	S	S
	JA1	Brakes, 4-wheel antilock, front disc/rear drum	S	S	S	S	S	S
G80		Differential, automatic, locking, rear 1 - Requires (NW7) Traction Control, electronic on 2WD Models	A ¹	■	■	■	A ¹	■
YF5		Emissions, California state requirements	A	A	A	A	A	A
FE9		Emissions, Federal requirements	A	A	A	A	A	A
NE1		Emissions, Maine, Massachusetts, New York or Vermont state requirements	A	A	A	A	A	A
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, Maine, Massachusetts and Vermont. Option (YF5) should be ordered for all vehicles ordered in California. Option (NE1) should be ordered for all vehicles ordered in Maine or Vermont.	A	A	A	A	A	A
NB8		Emissions override, California, Massachusetts or New York (for vehicles ordered by dealers in states of California, Massachusetts or New York with Federal emissions) 1 - Requires (FE9) Emissions, Federal requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
NC7		Emissions override, Federal (for vehicles ordered by dealers in Federal emission states with California, New York, Vermont, Massachusetts or Maine emissions; may also be used by dealers in states of California, New York, Vermont, Massachusetts or Maine to order different state-specific emissions) 1 - Requires (YF5) Emissions, California requirements or (NE1) Emissions, New York, Vermont, Massachusetts or Maine state requirements.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
K05		Engine block heater 1 - Required in the "Ship to" states Alaska, Minnesota, Montana, North Dakota and South Dakota.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
LK5		Engine, 2.8L DOHC, 4-cylinder, MFI (175 HP [130.5 kW] @ 5600 rpm, 185 lb.-ft. [249.7 N-m] @ 2800 rpm) 1 - Requires Cloth trim. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	--	--	--	--
L52		Engine, 3.5L DOHC, 5-cylinder, MFI (220 HP [164.1 kW] @ 5600 rpm, 225 lb.-ft. [303.7 N-m] @ 2800 rpm) 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S ¹
	NZZ	Front underbody shield 1 - 4WD Models only.	■ ¹	■ ¹	■ ¹	■ ¹	--	--
	CTY	GVWR, 4700 lbs. (2132 kg) 1 - Standard on CS15643 2WD Crew Cab Models with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI. Refer to the Engine and Axle section for compatibility requirements.	--	--	--	--	S ¹	S ¹
	C5C	GVWR, 5000 lbs. (2268 kg) 1 - Standard on CS15643 2WD Crew Cab Models. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	--	--	--	--
	C3H	GVWR, 5300 lbs. (2404 kg) 1 - Standard on CT15643 4WD Crew Cab Models. Refer to the Engine and Axle section for compatibility requirements. 2 - Standard on C*15643 Crew Cab Models with (L52) Engine, 3.5L DOHC, 5-cylinder, MFI. Refer to the Engine and Axle section for compatibility requirements.	S ¹	S ¹	S ²	S ²	--	--
		Jounce bumpers, rubber	S	S	--	--	--	--
		Jounce bumpers, Urethane 1 - Combination Urethane and rubber.	--	--	S	S	S ¹	S ¹
GU6		Rear axle, 3.42 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT4		Rear axle, 3.73 ratio 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
GT5		Rear axle, 4.10 ratio 1 - 4WD Models only. Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	A ¹	A ¹	--	--
Z82		Regular production accessory, Trailer hitch, includes harness (SPO-supplied, dealer installed)	A	A	A	A	A	A
		Shock absorber, twin-tube, hydraulic 1 - 2WD Models only.	S	S	S ¹	S ¹	--	--
		Shock absorber, monotube 1 - 4WD Models only.	--	--	S ¹	S ¹	S	S
		Steering, power, rack-and-pinion	S	S	S	S	S	S

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
	Z71	Suspension Package, Off-Road	--	--	■	■	--	--
	ZQ8	Suspension Package, Sport 1 - Includes 22mm rear stabilizer bar.	--	--	--	--	■ ¹	■ ¹
	Z85	Suspension Package, Standard 1 - Includes (AR9) Seats, front reclining bucket. (AM6) Seats, front 60/40 bench, manual reclining with armrest available for credit except when (LK5) Engine, 2.8L DOHC, 4-cylinder, MFI and (MA5) Transmission, 5-speed manual with overdrive are ordered in combination.	■ ¹	■ ¹	--	--	--	--
		Suspension, front, independent coil springs 1 - Standard on CS15643 2WD Crew Cab Models only.	S ¹	S ¹	--	--	S	S
		Suspension, front, independent torsion bar, and stabilizer bar 1 - Standard on CT15643 4WD Crew Cab Models only.	S ¹	S ¹	S	S	--	--
		Suspension, rear, semi-floating axle with 2-stage multi-leaf springs	S	S	S	S	S	S
NW7		Traction control, electronic 1 - Requires (G80) Differential, Automatic, locking, rear on 2WD Models. Not available on 4WD Models.	A ¹	■	■	■	A ¹	■
	NP1	Transfer case, electronic shift, Insta-Trac, includes dash-mounted controls 1 - Standard on CT15643 4WD Crew Cab Models only.	S ¹	S ¹	S ¹	S ¹	--	--
M30		Transmission, 4-speed automatic, electronically controlled with overdrive 1 - Refer to the Engine and Axle section for compatibility requirements. Must specify.	A ¹	A ¹	S ¹	S ¹	S ¹	S ¹
MA5		Transmission, 5-speed manual with overdrive 1 - Requires (LK5) Engine, 2.8L DOHC, 4-cylinder, MFI and (AR9) Seats, front Deluxe Cloth reclining buckets. Refer to the Engine and Axle section for compatibility requirements. Must specify.	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.												
Model	Engine	Transmissions		Axles			GVWR lbs. (kg)					
		MA5 5-Speed Manual with OD	M30 4-Speed Automatic with OD	GU6 3.42	GT4 3.73	GT5 4.10	C3A 4400 (1996)	C5D 4600 (2087)	C6I 4850 (2200)	C5C 5000 (2268)	C6F 5150 (2336)	C3H 5300 (2404)
CS15403 2WD Regular Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	A ¹	A	--	A ²	--	A ³	--	A ⁴	--
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A	--	A ²	--	A ³	--	A ⁴	--
	L52 3.5L DOHC, 5-cylinder, MFI	A	--	A ¹	A ⁴	--	A ²	--	A ³	--	A ⁴	--
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A	A	--	A ²	--	A ³	--	A ⁴	--
CT15403 4WD Regular Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	--	A ³	A ⁵	--	--	--	--	A ⁵	--
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A ⁵	A ⁵	--	--	--	--	A ⁵	--
	L52 3.5L DOHC, 5-cylinder, MFI	A	--	A ³	A ⁵	A ⁴	--	--	--	--	A ⁵	--
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A ³	A ⁵	A ⁴	--	--	--	--	A ⁵	--
CS15653 2WD Extended Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	A ¹	A	--	--	A ²	--	A ³	--	A ⁵
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A	--	--	A ²	--	A ³	--	A ⁴
	L52 3.5L DOHC, 5-cylinder, MFI	A	--	A ¹	A ⁴	--	--	A ²	--	A ³	--	A ⁴
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A	A	--	--	A ²	--	A ³	--	A ⁴

Model	Engine	Transmissions		Axles			GVWR lbs. (kg)					
		MA5 5-Speed Manual with OD	M30 4-Speed Automatic with OD	GU6 3.42	GT4 3.73	GT5 4.10	C3A 4400 (1996)	C5D 4600 (2087)	C6I 4850 (2200)	C5C 5000 (2268)	C6F 5150 (2336)	C3H 5300 (2404)
CT15653 4WD Extended Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	--	--	A	--	--	--	--	--	A ⁵
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A ³	A	--	--	--	--	--	A ⁵
	L52 3.5L DOHC, 5-cylinder, MFI	A	--	A ³	A ⁵	A ⁴	--	--	--	--	--	A ⁵
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A ³	A ⁵	A ⁴	--	--	--	--	--	A ⁵
1 - Requires (Z85) Suspension Package, Standard or (ZQ8) Suspension Package, Sport. 2 - Requires (ZQ8) Suspension Package, Sport. 3 - Requires (Z85) Suspension Package, Standard. 4 - Requires (Z71) Suspension Package, Off-Road. 5 - Requires (Z85) Suspension Package, Standard or (Z71) Suspension Package, Off-Road.												

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.

Model	Engine	Transmissions		Axles			GVWR lbs. (kg)		
		MA5 5-Speed Manual with OD	M30 4-Speed Automatic with OD	GU6 3.42	GT4 3.73	GT5 4.10	C7Y 4700 (2132)	C5C 5000 (2268)	C3H 5300 (2404)
CS15643 2WD Crew Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	A ¹	A ¹	--	--	A ¹	--
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A ¹	--	--	A ¹	--
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A	A	--	A ²	A ¹	A ³
CT15643 4WD Crew Cab	LK5 2.8L DOHC, 4-cylinder, MFI	A	--	--	--	A ¹	--	--	A ¹
	LK5 2.8L DOHC, 4-cylinder, MFI	--	A	--	A ¹	A ¹	--	--	A ¹
	L52 3.5L DOHC, 5-cylinder, MFI	--	A	A ¹	A ⁴	A ³	--	--	A ⁴
1 - Requires (Z85) Suspension Package, Standard. 2 - Requires (ZQ8) Suspension Package, Sport. 3 - Requires (Z71) Suspension Package, Off-Road. 4 - Requires (Z85) Suspension Package, Standard or (Z71) Suspension Package, Off-Road.									

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		
				Medium Dark Pewter	Very Dark Pewter	Sport Pewter ¹
Base	60/40 split-bench	AM6	Cloth	92D	--	--
LS (Reg and Ext Cabs)	60/40 reclining split-bench with armrest	AM6	Deluxe Cloth	92H	69H	--
LS (Reg and Ext Cabs)	Reclining high-back buckets	AR9	Deluxe Cloth	92H	69H	97H
LS (Crew Cab)	60/40 reclining split-bench with armrest	AM6	Deluxe Cloth	92H	69H	--
LS (Crew Cab)	Reclining high-back buckets	AR9	Deluxe Cloth	92H	69H	97H
LS (Crew Cab)	Leather reclining high-back buckets	AR9	Deluxe Leather seating surfaces	922 ²	692 ²	--

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior		
			Medium Dark Pewter	Very Dark Pewter	Sport Pewter ¹
NEW! Superior Blue Metallic ³	22U	WA-703J	A	A	A
Black ⁴	41U	WA-8555	A	A	A
Yellow ⁵	43U	WA-5456	A	A	A
Dark Green Metallic ³	47U	WA-9539	A	A	A
Summit White ⁴	50U	WA-8624	A	A	A
Silver Birch Metallic ³	59U	WA-926L	A	A	A
Victory Red ⁴	74U	WA-9260	A	A	A
Sunburst Orange Metallic ³	85U	WA-802K	A	A	A
Dark Cherry Red Metallic ³	94U	WA-9088	A	A	A

1 - Requires (AR9) Seats, front Deluxe Cloth reclining buckets and (YC3) LS decor.

2 - Requires (L52) Engine, 3.5L DOHC, 5-cylinder, MFI and (ZQ6) Power Convenience Package.

3 - Not available with (ZQ8) Suspension Package, Sport or (B4U) Color-keyed Appearance Package.

4 - Required when (ZQ8) Suspension Package, Sport, (V4A) Xtreme Sport Appearance Package or (B4U) Color-keyed Appearance Package is ordered.

5 - Required when (ZQ8) Suspension Package, Sport, (V4A) Xtreme Sport Appearance Package or (B4U) Color-keyed Appearance Package is ordered. Additional charge-premium color.

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.

Decor Level	Seat Type	Seat Code	Seat Trim	Interior		
				Medium Dark Pewter	Very Dark Pewter	Sport Pewter ¹
Base	60/40 split-bench	AM6	Cloth	92D	--	--
LS (Reg and Ext Cabs)	60/40 reclining split-bench with armrest	AM6	Deluxe Cloth	92H	69H	--
LS (Reg and Ext Cabs)	Reclining high-back buckets	AR9	Deluxe Cloth	92H	69H	97H
LS (Crew Cab)	60/40 reclining split-bench	AM6	Deluxe Cloth	92H	69H	--
LS (Crew Cab)	Reclining high-back buckets	AR9	Deluxe Cloth	92H	69H	97H
LS (Crew Cab)	Leather reclining high-back buckets	AR9	Deluxe Leather seating surfaces	922 ²	692 ²	--

Exterior Solid Paint	Color Code	Touch Up Paint Number	Interior		
			Medium Dark Pewter	Very Dark Pewter	Sport Pewter ¹
Yellow	none	WA-5456	A	A	A
Green	none	WA-7941	A	A	A
Green, Woodland	9V5	WA-9015	A	A	A
Doeskin Tan	9V9	WA-9403	A	A	A
Yellow	none	WA-9411	A	A	A
Yellow	none	WA-9414	A	A	A
Tangier Orange	9W4	WA-9417	A	A	A
Light Stellar Blue	none	WA-146B	A	A	A
Wheatland Yellow	9W3	WA-253A	A	A	A

1 - Requires (AR9) Seats, front Deluxe Cloth reclining buckets and (YC3) LS decor.

2 - Requires (L52) Engine, 3.5L DOHC, 5-cylinder, MFI and (ZQ6) Power Convenience Package.

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 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
		Interior						
B5T		Vinyl Floor Covering (MSRP = - \$70.00 Credit) Provides vinyl floor covering that replaces standard carpet. Vinyl floor coloring will be Medium Pewter. 1 - Requires Model T15403 or S15403 and a Fleet or Federal Government Sales order. Not available with RPO (B32) Vinyl floor mats.	-	A ¹	-	A ¹	-	A ¹
		Exterior						
9M4		Decal delete, tailgate (MSRP = No Charge)	A	A	A	A	A	A
8E1		Fuel, additional 3 gallons (MSRP = \$8.00) 3 gallons in addition to normal assembly plant fill.	A	A	A	A	A	A
8X1		Label, fasten safety belts (MSRP = \$2.00) "Fasten Safety Belts" reminder label on side door window glass.	A	A	A	A	A	A
9V9		Paints, solid (MSRP = No Charge), Doeskin Tan, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	-	-
9W4		Paints, solid (MSRP = No Charge), Tangier Orange, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A	A	A	A ¹	-	-

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SA, 1SB, 1SD and 1SE available on C*15403 and C*15653. 2 - Equipment groups 1SG and 1SH available on CS15403 and CS15653.	2WD and 4WD Reg. and Ext. Cab				2WD Reg. and Ext. Cab	
			Z85 Base 1SA ¹	Z85 LS 1SB ¹	Z71 Base 1SD ¹	Z71 LS 1SE ¹	ZQ8 Base 1SG ²	ZQ8 LS 1SH ²
9W3		Paints, solid (MSRP = No Charge), Wheatland Yellow, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	--	--
9V5		Paints, solid (MSRP = No Charge), Woodland Green, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	--	--
TGK		Solid Paint SEO solid paint, one color 1 - Required with any SEO paint selection.	A ¹	A ¹	A ¹	A ¹	--	--
5EB		Tires P235/75R15 White Outline Letter On-Off Road (MSRP = \$194.00) Provides front rear and spare tires. 1 - Requires RPO (Z85) Suspension package, Model T15403 or T15653 and a Fleet or Federal Government Sales order.	A ¹	A ¹	--	--	--	--

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

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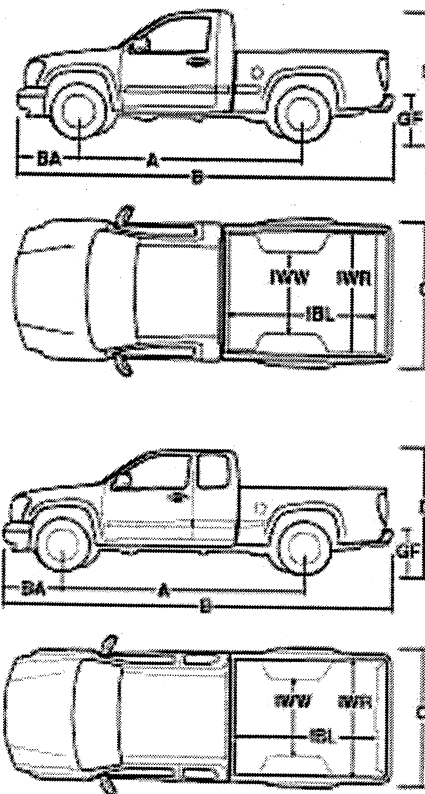
*Indicates availability of feature on multiple models. For example, it indicates feature availability on 2WD and 4WD Models or Rear wheel drive and All-wheel drive Models.

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 groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
		Exterior						
9M4		Decal delete, tailgate (MSRP = No Charge)	A	A	A	A	A	A
8E1		Fuel, additional 3 gallons (MSRP = \$8.00) 3 gallons in addition to normal assembly plant fill.	A	A	A	A	A	A
8X1		Label, fasten safety belts (MSRP = \$2.00) "Fasten Safety Belts" reminder label on side door window glass.	A	A	A	A	A	A
9V9		Paints, solid (MSRP = No Charge), Doeskin Tan, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
9W4		Paints, solid (MSRP = No Charge), Tangier Orange, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A	A	A	A ¹	A ¹	A ¹
9W3		Paints, solid (MSRP = No Charge), Wheatland Yellow, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹

Free Flow RPO Code	Ref. Only RPO Code	Description 1 - Equipment groups 1SB, 1SC, 1SE and 1SF available on C*15643. 2 - Equipment groups 1SH and 1SJ available on CS15643.	2WD and 4WD Crew Cab				2WD Crew Cab	
			Z85 LS 1SB ¹	Z85 LS 1SC ¹	Z71 LS 1SE ¹	Z71 LS 1SF ¹	ZQ8 LS 1SH ²	ZQ8 LS 1SJ ²
9V5		Paints, solid (MSRP = No Charge), Woodland Green, includes dark smoke gray grille trim in lieu of color-keyed, black rear bumper in lieu of chrome, and fender flares will be dark smoke gray in lieu of color keyed. 1 - Requires SEO (TGK), Special Paint-One Color. Requires RPO (E63) Pickup box, Fleetside. Requires RPO (Z71) Suspension Package, Off-Road, or RPO (Z85) Suspension Package, Standard. Not available with RPO (B4U) Color-Keyed Appearance Package. Not available with RPO (ZQ8) Suspension Package, Sport. Not available with RPO (B71) Wheel flares.	A ¹	A ¹	A ¹	A ¹	A ¹	A ¹
5EB		Tires P235/75R15 White Outline Letter On-Off Road (MSRP = \$194.00) Provides front rear and spare tires. 1 - Requires RPO (Z85) Suspension package, Model T15403, T15643 or T15653 and a Fleet or Federal Government Sales order.	A ¹	--	--	--	--	--

All dimensions in inches (mm) unless otherwise stated.

	Specifications		Regular Cab	Regular Cab	Extended Cab	Extended Cab
			2WD	4WD	2WD	4WD
			CS15403	CT15403	CS15653	CT15653
	A	Wheelbase	111.20 (2824)	111.20 (2824)	125.90 (3198)	125.90 (3198)
	B	Overall length, without rear bumper	192.80 (4897)	192.80 (4897)	207.10 (5260)	207.10 (5260)
	C	Body width	67.60 (1717)	67.60 (1717)	67.60 (1717)	67.60 (1717)
	D	Overall height	64.90 (1648)	67.60 (1717)	64.90 (1648)	67.60 (1717)
		Head room, front	39.60 (1006)	39.60 (1006)	39.60 (1006)	39.60 (1006)
		Head room, rear	—	—	37.90 (963)	37.90 (963)
		Shoulder room, front	57.10 (1450)	57.10 (1450)	57.10 (1450)	57.10 (1450)
		Shoulder room, rear	—	—	57.20 (1453)	57.20 (1453)
		Hip room, front	53.30 (1354)	53.30 (1354)	53.30 (1354)	53.30 (1354)
		Hip room, rear	—	—	57.60 (1463)	57.60 (1463)
		Leg room, front	44.00 (1118)	44.00 (1118)	44.00 (1118)	44.00 (1118)
		Leg room, rear	—	—	23.10 (587)	23.10 (587)
		Tailgate width, Fleetside	52.40 (1331)	52.40 (1331)	52.40 (1331)	52.40 (1331)
	CA	Cab to axle	34.20 (869)	34.20 (869)	34.20 (869)	34.20 (869)
	BA	Front bumper to axle	33.90 (861)	33.90 (861)	TBD	TBD
	BBC	Front bumper to back of cab	110.90 (2817)	110.90 (2817)	125.60 (3190)	125.60 (3190)
	GF	Ground to top of rear load floor	26.90 (683)	26.90 (683)	26.90 (683)	26.90 (683)
	IBL	Inside length, at floor	72.80 (1849)	72.80 (1849)	72.70 (1847)	72.70 (1847)
		Inside height	18.60 (472)	18.60 (472)	18.60 (472)	18.60 (472)
	IWR	Inside width, at floor, Fleetside	57.20 (1453)	57.20 (1453)	57.20 (1453)	57.20 (1453)
	IWW	Inside width, between	42.60	42.60	42.60	42.60

All dimensions in inches (mm) unless otherwise stated.

	Specifications	Regular	Regular	Extended	Extended
		Cab	Cab	Cab	Cab
		2WD	4WD	2WD	4WD
		CS15403	CT15403	CS15653	CT15653
	wheelhousing, Fleetside	(1082)	(1082)	(1082)	(1082)
	Ground clearance, front	TBD	9.00 (229)	TBD	TBD
	Ground clearance, rear	7.50 (190)	8.40 (213)	8.20 (208)	TBD

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.

All dimensions in inches (mm) unless otherwise stated.

	Specifications	Crew Cab 2WD CS15643	Crew Cab 4WD CT15643
	A Wheelbase	126.00 (3200)	126.00 (3200)
	B Overall length, without rear bumper	207.10 (5260)	207.10 (5260)
	C Body width	68.60 (1742)	68.60 (1742)
	D Overall height	65.20 (1656)	67.90 (1725)
	Head room, front	39.60 (1006)	39.60 (1006)
	Head room, rear	38.30 (973)	38.30 (973)
	Shoulder room, front	57.10 (1450)	57.10 (1450)
	Shoulder room, rear	57.10 (1450)	57.10 (1450)
	Hip room, front	53.30 (1354)	53.30 (1354)
	Hip room, rear	52.90 (1344)	52.90 (1344)
	Leg room, front	44.00 (1118)	44.00 (1118)
	Leg room, rear	34.80 (884)	34.80 (884)
	Tailgate width, Fleetside	52.40 (1331)	52.40 (1331)
	CA Cab to axle	22.60 (574)	22.60 (574)
	BA Front bumper to axle	TBD	TBD
	BBC Front bumper to back of cab	137.30 (3487)	137.30 (3487)
	GF Ground to top of rear load floor	26.90 (683)	26.90 (683)
	IBL Inside length, at floor	61.10 (1552)	61.10 (1552)
	Inside height	18.60 (472)	18.60 (472)
	IWR Inside width, at floor, Fleetside	57.20 (1453)	57.20 (1453)
	IWW Inside width, between wheelhousing, Fleetside	42.60 (1082)	42.60 (1082)
	Ground clearance, front	TBD	TBD

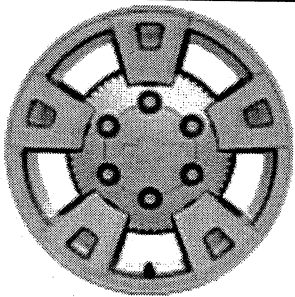

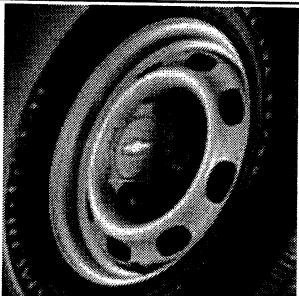
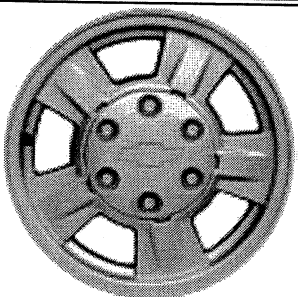
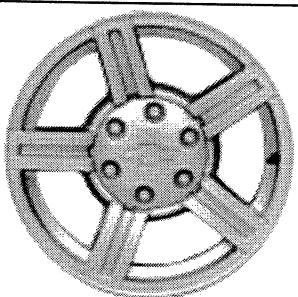
All dimensions in inches (mm) unless otherwise stated.

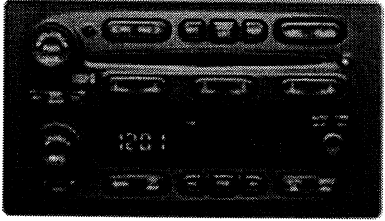
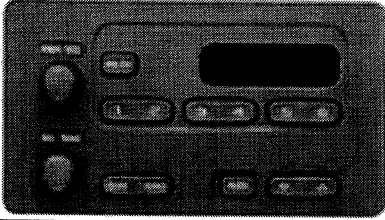
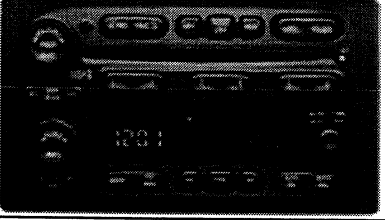
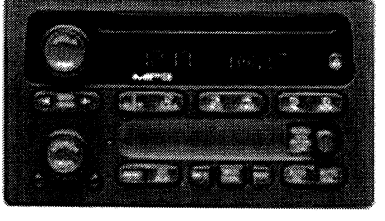
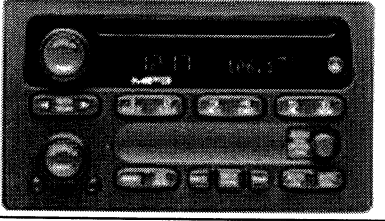
	Specifications	Crew Cab 2WD CS15643	Crew Cab 4WD CT15643
	Ground clearance, rear	8.20 (208)	TBD

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.

	2WD Regular Cab CS15403	4WD Regular Cab CT15403	2WD Extended Cab CS15653	4WD Extended Cab CT15653
Specifications				
Front shock absorber diameter, in. (mm)	1.18 (30)	1.18 (30)	1.18 (30)	1.18 (30)
Front stabilizer bar diameter, in. (mm)	1.10 (28)	1.10 (28)	1.10 (28)	1.10 (28)
Rear shock absorber diameter, in. (mm)	1.18 (30)	1.18 (30)	1.18 (30)	1.18 (30)
Turning diameter, curb-to-curb, ft. (m)	40.7 (12.4)	40.7 (12.4)	44.6 (13.6)	44.6 (13.6)
Capacities				
Front axle, lbs. (kg)	2533 (1149)	2753 (1249)	2533 (1149)	2753 (1249)
Front spring capacity, lbs. (kg)	2535 (1150)	2755 (1250)	2535 (1150)	2755 (1250)
Rear axle, lbs. (kg)	2896 (1314)	2896 (1314)	2896 (1314)	2896 (1314)
Rear spring capacity, lbs. (kg)	2755 (1250)	2900 (1315)	2755 (1250)	2900 (1315)
Curb weight, lbs. (kg)	3117 (1414)	3603 (1634)	3346 (1518)	3656 (1658)
Cargo volume, cargo box, cu. ft. (liters)	43.9 (1243.2)	43.9 (1243.2)	43.9 (1243.2)	43.9 (1243.2)
Payload ¹ , lbs. (kg)	1733 (786)	1547 (702)	1654 (750)	1644 (746)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	4850 (2200)	5150 (2336)	5000 (2268)	5300 (2404)
Front Gross Axle Weight Rating (GAWR), lbs. (kg)	2533 (1149)	2753 (1249)	2533 (1149)	2753 (1249)
Rear Gross Axle Weight Rating (GAWR), lbs. (kg)	2896 (1314)	2896 (1314)	2896 (1314)	2896 (1314)
Fuel capacity, approximate, gallon (liters)	19 (72)	19 (72)	19 (72)	19 (72)
Seating capacity (front/rear)	3	3	3 (2)	3 (2)
1. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.				

	2WD Crew Cab CS15643	4WD Crew Cab CT15643
Specifications		
Front shock absorber diameter, in. (mm)	1.18 (30)	1.18 (30)
Front stabilizer bar diameter, in. (mm)	1.10 (28)	1.10 (28)
Rear shock absorber diameter, in. (mm)	1.18 (30)	1.18 (30)
Turning diameter, curb-to-curb, ft. (m)	44.6 (13.6)	44.6 (13.6)
Capacities		
Front axle, lbs. (kg)	2533 (1149)	2753 (1249)
Front spring capacity, lbs. (kg)	2535 (1150)	2755 (1250)
Rear axle, lbs. (kg)	2896 (1314)	2896 (1314)
Rear spring capacity, lbs. (kg)	2755 (1250)	2900 (1315)
Curb weight, lbs. (kg)	3511 (1593)	3802 (1725)
Cargo volume, cargo box, cu. ft. (liters)	36.7 (1039.3)	36.7 (1039.3)
Payload ² , lbs. (kg)	1489 (675)	1498 (679)
Gross Vehicle Weight Rating (GVWR), lbs. (kg)	5000 (2268)	5300 (2404)
Front Gross Axle Weight Rating (GAWR), lbs. (kg)	2533 (1149)	2753 (1249)
Rear Gross Axle Weight Rating (GAWR), lbs. (kg)	2896 (1314)	2896 (1314)
Fuel capacity, approximate, gallon (liters)	19 (72)	19 (72)
Seating capacity (front/rear)	3 (3)	3 (3)
2. Maximum payload capacity includes weight of driver, passengers, optional equipment and cargo.		

	<p>N90 Wheels, 4 - 15" x 7" (38.1 cm x 17.8 cm) aluminum, cast</p>
	<p>N87 Wheels, 18" (45.7 cm) aluminum</p>
	<p>PG1 Wheels, 4 - 15" x 6" (38.1 cm x 15.2 cm) steel</p>
	<p>PF3 Wheels, 4 - 15" x 6.5" (38.1 cm x 16.5 cm) aluminum</p>
	<p>QA8 Wheels, 4 - 17" x 8" (43.2 cm x 20.4 cm) aluminum</p>

	<p>UC6 Sound system, ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed-compensated volume, TheftLock, Radio Data System (RDS), 4-speakers on Regular Cab models and 6-speakers on Extended Cab and Crew Cab models</p>
	<p>UM7 Sound system, ETR AM/FM stereo, includes seek-and-scan, digital clock, 2-speakers on Regular Cab models and 4-speakers on Extended Cab models</p>
	<p>UC6 Sound system, ETR AM/FM stereo with 6-disc CD changer, includes seek-and-scan, digital clock and auto-tone control, speed compensated volume, TheftLock and Radio Data System (RDS) and 6-speakers</p>
	<p>US8 Sound system, ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS), 2-speakers on Regular Cab models with Base decor (4 on LS decor) and 4-speakers on Extended Cab models with Base decor (6 on LS decor)</p>
	<p>US8 Sound System, ETR AM/FM stereo with CD/MP3 player, includes seek-and-scan, digital clock, auto-tone control, automatic volume, Theftlock, Radio Data System (RDS) and 6-speakers</p>

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

Manual Transmission Ratings with Ball Hitch				
Model	(LK5) 2.8L DOHC, 4-cylinder, MFI		(L52) 3.5L DOHC, 5-cylinder, MFI	
	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)
CS15403	3.42	2000 (907)	3.42	3500 (1588)
	3.73	2500 (1134)	3.73	3900 (1769)
CS15653	3.42	1700 (771)	3.42	3200 (1452)
	3.73	2200 (998)	3.73	3600 (1633)
CS15643	3.42	1600 (726)		
	3.73	2100 (953)		
CT15403	3.73	2100 (953)	3.42	3100 (1406)
	4.10	2100 (953)	3.73	3600 (1633)
			4.10	3500 (1588)
CT15653	4.10	1900 (862)	3.42	2900 (1315)
			3.73	3400 (1542)
			4.10	3300 (1497)
CT15643	4.10	1800 (816)		

GCWR For Engine/Rear Axle Ratio Combination with Manual Transmission				
Engine	(GCWR) Gross Combination Weight Ratings lbs. (kg)			
	5500 (2495)	6000 (2722)	7000 (3175)	7500 (3402)
(LK5) 2.8L DOHC, 4-cylinder, MFI	3.42	3.73		
(L52) 3.5L DOHC, 5-cylinder, MFI			3.42	3.73

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

Automatic Transmission Ratings with Ball Hitch				
Model	(LK5) 2.8L DOHC, 4-cylinder, MFI		(L52) 3.5L DOHC, 5-cylinder, MFI	
	Axle Ratio	Maximum Trailer Weight lbs. (kg)	Axle Ratio	Maximum Trailer Weight lbs. (kg)
CS15403	3.73	3500 (1588)	3.42	4000 (1814)
			3.73	4000 (1814)
CS15653	3.73	3200 (1452)	3.42	4000 (1814)
			3.73	4000 (1814)
CS15643	3.73	3100 (1406)	3.42	4000 (1814)
			3.73	4000 (1814)
CT15403	3.73	3100 (1406)	3.42	4000 (1814)
	4.10	3100 (1406)	3.73	4000 (1814)
			4.10	4000 (1814)
CT15653	3.73	2900 (1315)	3.42	4000 (1814)
	4.10	2900 (1315)	3.73	4000 (1814)
			4.10	4000 (1814)
CT15643	3.73	2800 (1270)	3.42	4000 (1814)
	4.10	2800 (1270)	3.73	4000 (1814)
			4.10	4000 (1814)

GCWR For Engine/Rear Axle Ratio Combination with Automatic Transmission			
Engine	(GCWR) Gross Combination Weight Ratings lbs. (kg)		
	7000 (3175)	8500 (3856)	9000 (4082)
(LK5) 2.8L DOHC, 4-cylinder, MFI	3.73		
(L52) 3.5L DOHC, 5-cylinder, MFI		3.42	3.73

