

SERVICE & ADJUSTMENT SPECIFICATIONS

2001 Chevrolet Camaro

2001 ENGINE PERFORMANCE
Service & Adjustment Specifications - Cars

MODEL IDENTIFICATION

Vehicle model is identified by fourth character of Vehicle Identification Number (VIN). VIN is stamped on metal pad on top of left end of instrument panel, near windshield. See MODEL IDENTIFICATION table.

MODEL IDENTIFICATION

Body Code (1)	Model
"C"	Park Avenue
"E"	Eldorado
"F"	Camaro & Firebird
"G"	Aurora
"H"	Bonneville & LeSabre
"J"	Cavalier & Sunfire, & Saturn ("L" Series)
"K"	DeVille & Seville
"M"	Metro
"N"	Alero, Grand Am & Malibu
"S"	Prizm
"V"	Catera
"W"	Century, Grand Prix, Impala, Intrigue, Lumina, Monte Carlo & Regal
"Y"	Corvette
"Z"	Saturn ("S" Series)

(1) - Vehicle body code is fourth character of VIN.

INTRODUCTION

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. This is a quick-reference article to use when you are familiar with proper adjustment procedures and only need a specification.

CAPACITIES

FLUID CAPACITY (CRANKCASE) (1)

Application	(2) Quantity Qts. (L)
1.3L	3.9 (3.7)
1.8L	3.9 (3.7)
1.9L & 2.4L	4.0 (3.8)
2.2L	
"J" Body	
Cavalier & Sunfire	4.0 (3.8)
Saturn ("L" Series)	5.0 (4.7)
3.0L	
"J" Body	5.0 (4.7)
"V" Body	6.0 (5.7)
3.1L, 3.4L & 3.8L	4.5 (4.3)
3.5L	

"G" Body	6.0 (5.7)
"W" Body	6.5 (6.2)
4.0L	7.0 (6.6)
4.6L	7.5 (7.1)
5.7L	
"F" Body	5.5 (5.2)
"Y" Body	6.5 (6.2)

- (1) - Fluid capacities listed are approximate. Always fill to FULL mark.
(2) - Includes oil filter capacity.

FLUID CAPACITY (COOLING SYSTEM) (1)

Application	(2) Quantity Qts. (L)
1.3L	6.0 (5.7)
1.8L	
Automatic Transmission	6.4 (6.1)
Manual Transmission	6.6 (6.2)
1.9L	7.0 (6.6)
2.2L	
"J" Body	
Cavalier & Sunfire	9.6 (9.1)
Saturn ("L" Series)	
Automatic Transmission	7.3 (6.9)
Manual Transmission	7.4 (7.0)
2.4L	10.2 (9.6)
3.0L	
"J" Body	7.8 (7.4)
"V" Body	10.6 (10.0)
3.1L	
"N" Body	13.6 (12.9)
"W" Body	11.6 (10.9)
3.4L	
"N" Body	13.6 (12.9)
"W" Body	11.3 (10.7)
3.5L	10.0 (9.5)
3.8L	
"C" Body	13.0 (12.3)
"H" Body	10.0 (9.5)
"F" & "W" Bodies	11.5 (10.8)
4.0L	13.0 (12.0)
4.6L	12.5 (11.8)
5.7L	
"F" Body	11.8 (11.2)
"Y" Body	12.6 (11.9)

- (1) - Fluid capacities listed are approximate. Always fill to FULL mark.
(2) - Includes heater.

FLUID CAPACITY (AUTOMATIC TRANSAXLE/TRANSMISSION) (1) (2)

Application	(3) Quantity Qts. (L)
"C" Body	6.0 (5.7)
"E" & "K" Bodies	11.0 (10.4)
"F" & "Y" Bodies	5.0 (4.7)
"G" Body	
4T65-E	7.4 (7.0)

4T80-E	11.0 (10.4)
"H" Body	7.4 (7.0)
"J" Body	
Cavalier & Sunfire	
3-Speed	4.0 (3.8)
4-Speed	7.0 (6.6)
Saturn ("L" Series)	7.0 (6.6)
"M" Body	
3-Speed	2.6 (2.5)
4-Speed	1.6 (1.5)
"N" Body	7.0 (6.6)
"S" Body	
3-Speed	2.6 (2.5)
4-Speed	1.6 (1.5)
"V" Body	7.0 (6.6)
"W" Body	7.4 (7.0)
"Z" Body	(3) 4.2 (4.0)

- (1) - Fluid capacities listed are approximate. Always fill to FULL mark.
(2) - Drain and refill capacity only. Does not include torque converter.
(3) - "Z" body uses Saturn Transaxle Fluid; all others use Dexron-III.

FLUID CAPACITY (MANUAL TRANSAXLE/TRANSMISSION) (1)

Application	Quantity Qts. (L)
"F" Body (2)	
5-Speed	3.4 (3.2)
6-Speed	4.0 (3.8)
"J" Body	
Cavalier & Sunfire (2)	1.8 (1.7)
Saturn ("L" Series) (2)	2.0 (1.9)
"M" Body (3)	2.5 (2.4)
"S" Body (3)	2.5 (2.4)
"Y" Body (2)	4.1 (3.9)
"Z" Body (2)	2.6 (2.5)

- (1) - Fluid capacities listed are approximate. Always fill to FULL mark.
(2) - Dexron III.
(3) - SAE 75W-90 GL-4 gear oil.

FLUID CAPACITY (DIFFERENTIAL)

Application	Quantity Pts. (L)
"F" Body	
Locking	(1) 3.5 (1.7)
Non-Locking	(2) 3.5 (1.7)

- (1) - Use Synthetic 75W-90 GL-5 gear lubricant with 4 oz. (118 ml) of limited slip differential additive (GM Part No. 1052358).
(2) - Use Synthetic 75W-90 GL-5 gear lubricant.

QUICK-SERVICE

SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS

Component	Miles
Air Filter	30,000
Accessory Drive Belt (1)	
"J" Body	
Cavalier & Sunfire	60,000
Saturn ("L" Series)	18,000
"M" Body	30,000
"Z" Body	18,000
All Others	60,000
Engine Coolant	
"J" Body	
Cavalier & Sunfire	150,000
Saturn ("L" Series)	100,000
"M" & "S" Bodies	30,000
"Z" Body	100,000
All Others	150,000
Fuel Filter	
"J" Body	
Cavalier & Sunfire	(2)
Saturn ("L" Series)	100,000
"M", "V" & "Z" Bodies	100,000
All Others	(2)
Oil & Filter	
"C", "H" & "W" Bodies	(3) 3000-7500
"E", "F", "K" & "Y" Bodies	3000-10,000
"V" Body	5000
All Others	3000
Spark Plugs	
"J" Body	
Cavalier & Sunfire	100,000
Saturn ("L" Series)	
2.2L	150,000
3.0L	100,000
"M" & "S" Bodies	30,000
"Z" Body	30,000
All Others	100,000
Timing Belt	
"J" Body (3.0L)	100,000
"M" & "V" Bodies	100,000

- (1) - Inspect and replace if necessary.
- (2) - Periodic replacement is not required. Check and replace as necessary.
- (3) - Replace at 3000 miles if not equipped with oil life monitor.

BELT ADJUSTMENT

Application	(1) Belt Deflection
1.3L	
A/C Compressor & Power Steering Pump .....	.28-.35" (7-9 mm)
Generator/Water Pump	
New Belt .....	.20-.28" (5-7 mm)
Used Belt (2) .....	.24-.32" (6-8 mm)
All Others	(3)

- (1) - Deflection is with 22 lbs. (10 kg) pressure applied midway on longest belt run.

- (2) - Used belt is a belt in operation for more than 5 minutes.
- (3) - Adjustment of serpentine belt is not necessary. Belt tension is maintained by spring-tensioned idler pulley (some equipped with belt wear indicator).

MECHANICAL CHECKS

ENGINE COMPRESSION

Check engine compression with engine at normal operating temperature, all spark plugs removed and throttle wide open.

ENGINE COMPRESSION SPECIFICATIONS

Application	Specification
Normal Compression Pressure	
1.3L	(1) 192 psi (13.5 kg/cm ²)
1.8L	(1) 218 psi (15.3 kg/cm ²)
1.9L	190 psi (13.4 kg/cm ²)
2.2L, 2.4L, 3.0L, 3.1L, 3.4L, 3.8L & 5.7L	(2)
3.5L, 4.0L & 4.6L	(3)
Minimum Compression Pressure	
1.3L	(1) 156 psi (11.0 kg/cm ²)
1.8L	(1) 145 psi (10.2 kg/cm ²)
1.9L	180 psi (12.7 kg/cm ²)
2.2L, 2.4L, 3.0L, 3.1L, 3.4L, 3.8L & 5.7L	(2)
3.5L, 4.0L & 4.6L	(3)

- (1) - No cylinder compression reading should be less than 15 psi (1.1 kg/cm²) of highest compression reading.
- (2) - Lowest compression reading should not be less than 70 percent of highest compression reading. No cylinder compression reading should be less than 100 psi (7.0 kg/cm²).
- (3) - Lowest compression reading should not be less than 70 percent of highest compression reading. No cylinder compression reading should be less than 140 psi (9.8 kg/cm²).

VALVE CLEARANCE

VALVE CLEARANCE SPECIFICATIONS

Application	In. (mm)
"S" Body	
Intake	(1) .006-.010 (.15-.25)
Exhaust	(1) .010-.014 (.25-.35)
All Others	(2)

- (1) - Adjustments are made with engine cold 77°F (25°C).
- (2) - Equipped with hydraulic lifters. Adjustment is not required.

IGNITION SYSTEM

HIGH TENSION WIRE RESISTANCE

HIGH TENSION WIRE RESISTANCE

Application	Ohms
1.3L	Less Than 30,000
1.8L, 2.4L, 3.0L, 3.5L & 4.6L	(1)
1.9L	1500-15,000 Per Ft.
2.2L	
"J" Body	
Cavalier & Sunfire	12,000 Per Ft.
Saturn ("L" Series)	(1)
3.1L & 3.4L	3000 Per Ft.
3.8L	
Except Police	3000 Per Ft.
Police	600 Per Ft.
5.7L	
"F" Body	700 Per Ft.
"Y" Body	700 Or Less Per Ft.

(1) - Not equipped with high tension wires. Ignition coils are connected directly to spark plugs by boots.

SPARK PLUGS

SPARK PLUG TYPE

Application	Spark Plug Type	Spark Plug No.
1.3L	Denso	SR16R11
1.8L	Denso	SR16R11
	NGK	BKR5EK-11
1.9L SOHC	NGK	BKR4EA-11
1.9L DOHC	NGK	BKR5EA-11
2.2L		
Cavalier & Sunfire	AC	41-928
Saturn	AC	41-628
2.4L		
Except Alero	AC	41-963
Alero	AC	41-942
3.0L	Bosch	FLR9LTE
3.1L & 3.4L	AC	41-940
3.5L & 4.0L	AC	41-950
3.8L	AC	41-921
4.0L & 4.6L	Denso	(1)
5.7L	AC	41-952

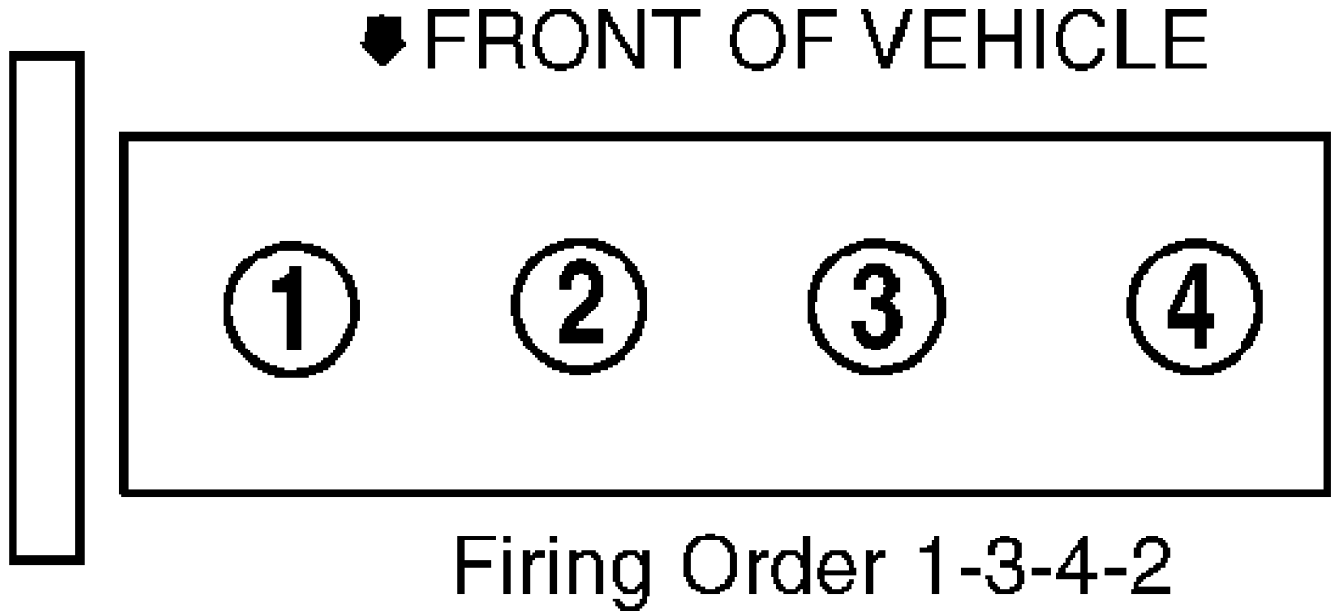
(1) - Information is not available from manufacturer.

SPARK PLUG SPECIFICATIONS

Application	Gap In. (mm)	Torque Ft. Lbs. (N.m)
1.3L & 1.8L .....	.040-.043 (1.00-1.10)	21 (28)
1.9L .....	.040 (1.00)	20 (27)
2.2L		
"J" Body		
Cavalier & Sunfire ....	.040 (1.00)	13 (18)
Saturn ("L" Series) ...	.045 (1.14)	15 (20)
2.4L .....	.050 (1.27)	13 (18)
3.0L .....	.035-.043 (0.90-1.10)	19 (25)
3.1L, 3.4L & 3.8L .....	.060 (1.52)	11 (15)
3.5L, 4.0L & 4.6L .....	.050 (1.27)	15 (20)

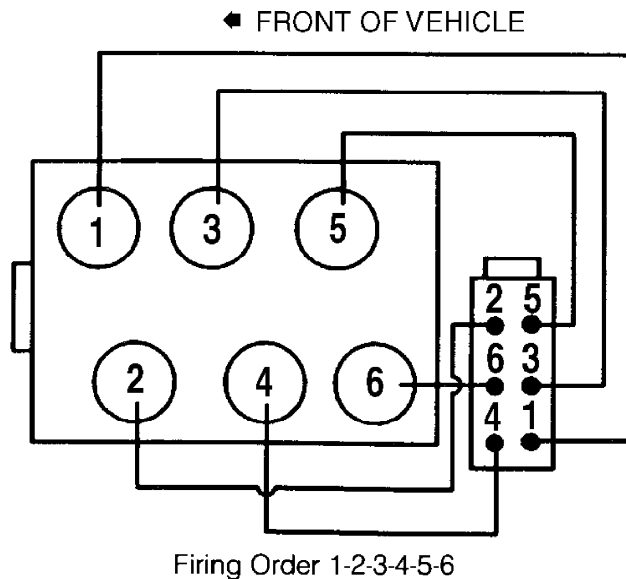
FIRING ORDER

NOTE: For firing order, refer to appropriate illustration. See Figs. 1-9.



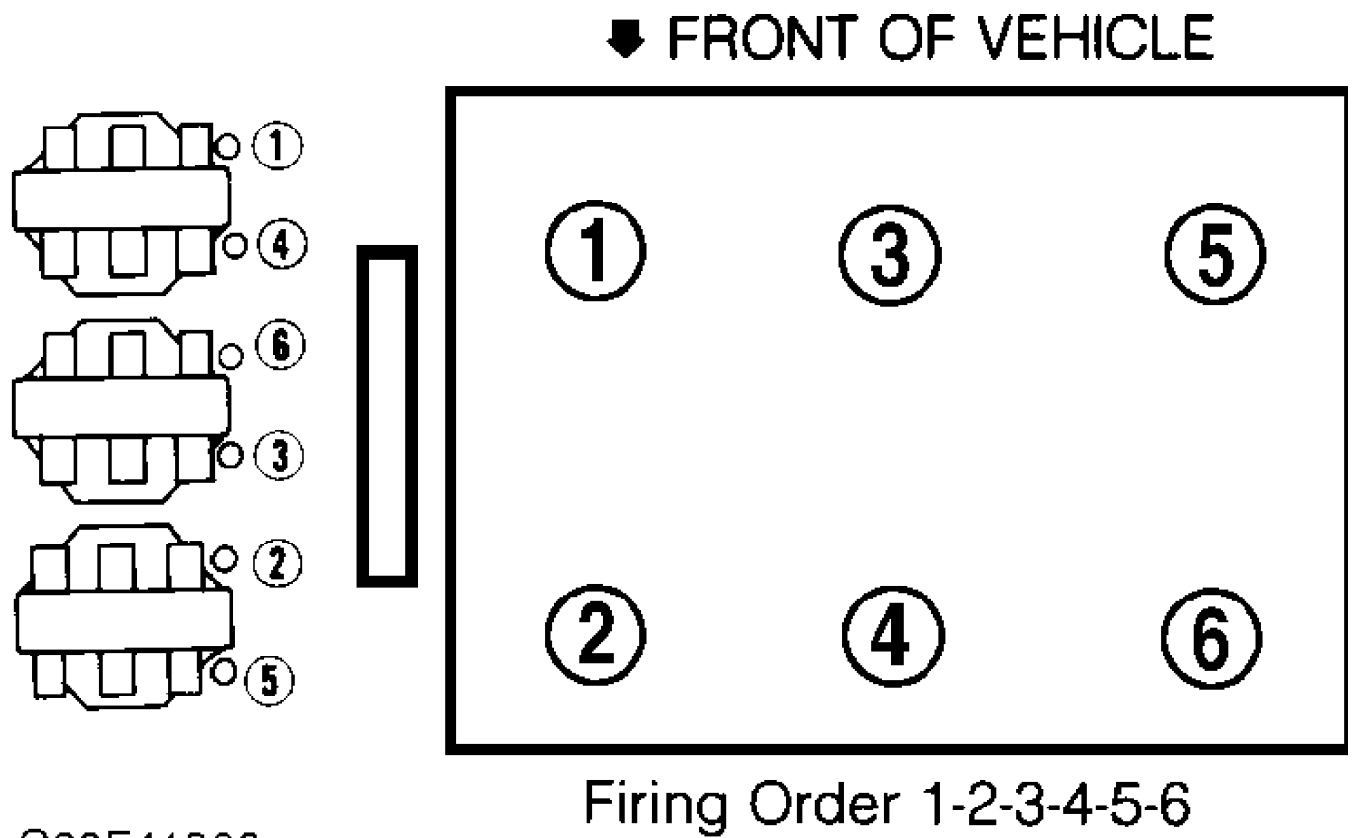
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Fig. 1: Firing Order (1.3L, 1.8L, 1.9L, 2.2L & 2.4L)
Courtesy of General Motors Corp.



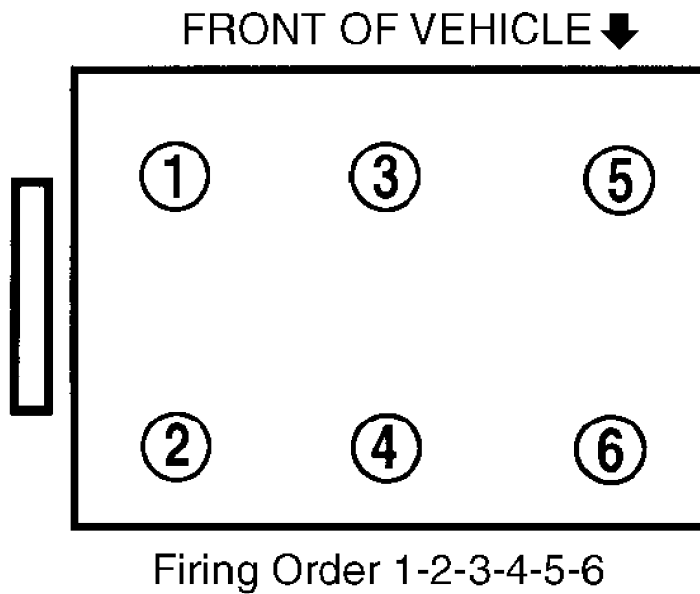
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Fig. 2: Firing Order (3.0L - Except "V" Body)
Courtesy of General Motors Corp.



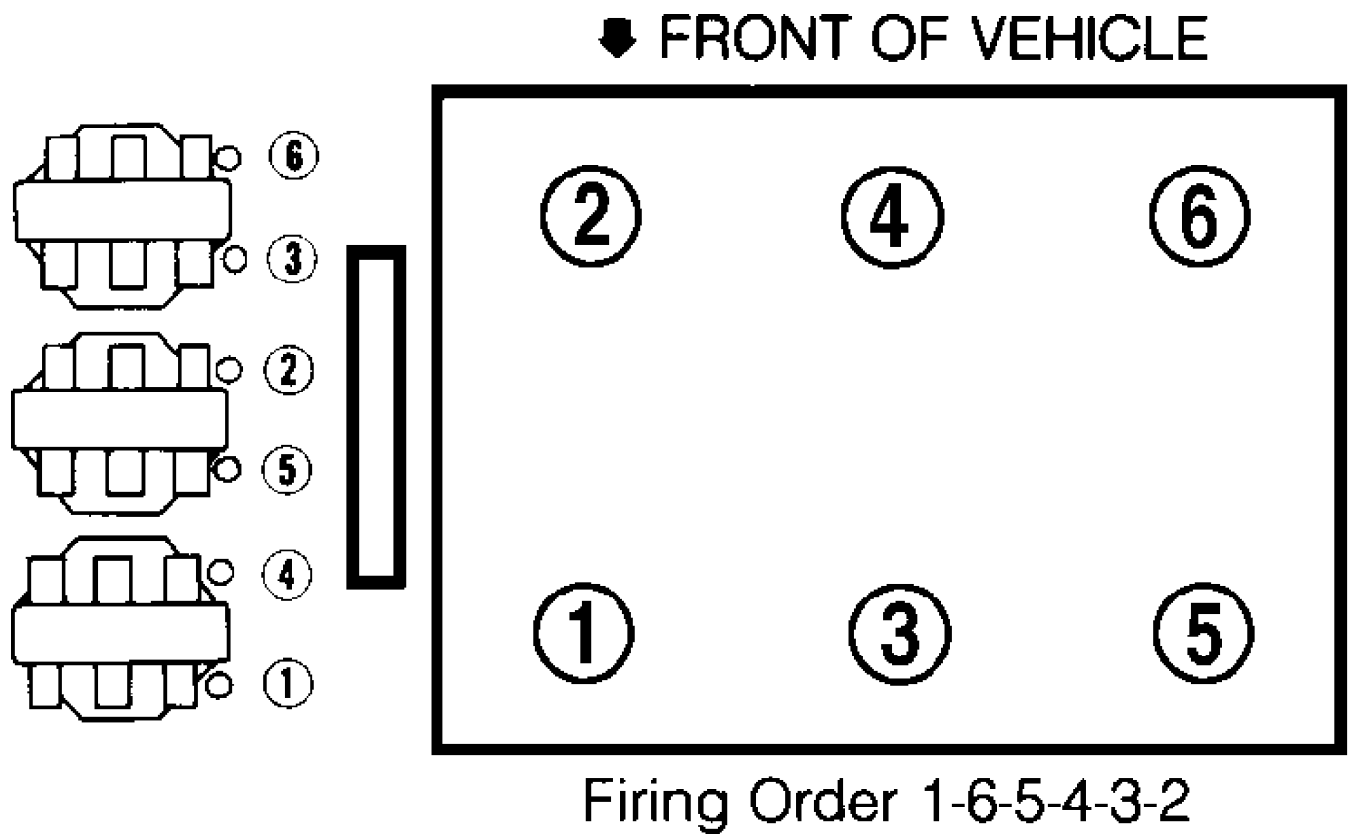
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Fig. 3: Firing Order (3.1L & 3.4L)
 Courtesy of General Motors Corp.



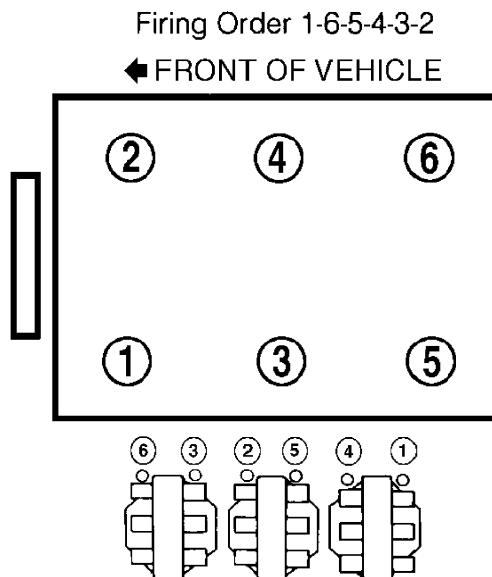
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Fig. 4: Firing Order (3.0L "V" Body & 3.5L)
 Courtesy of General Motors Corp.



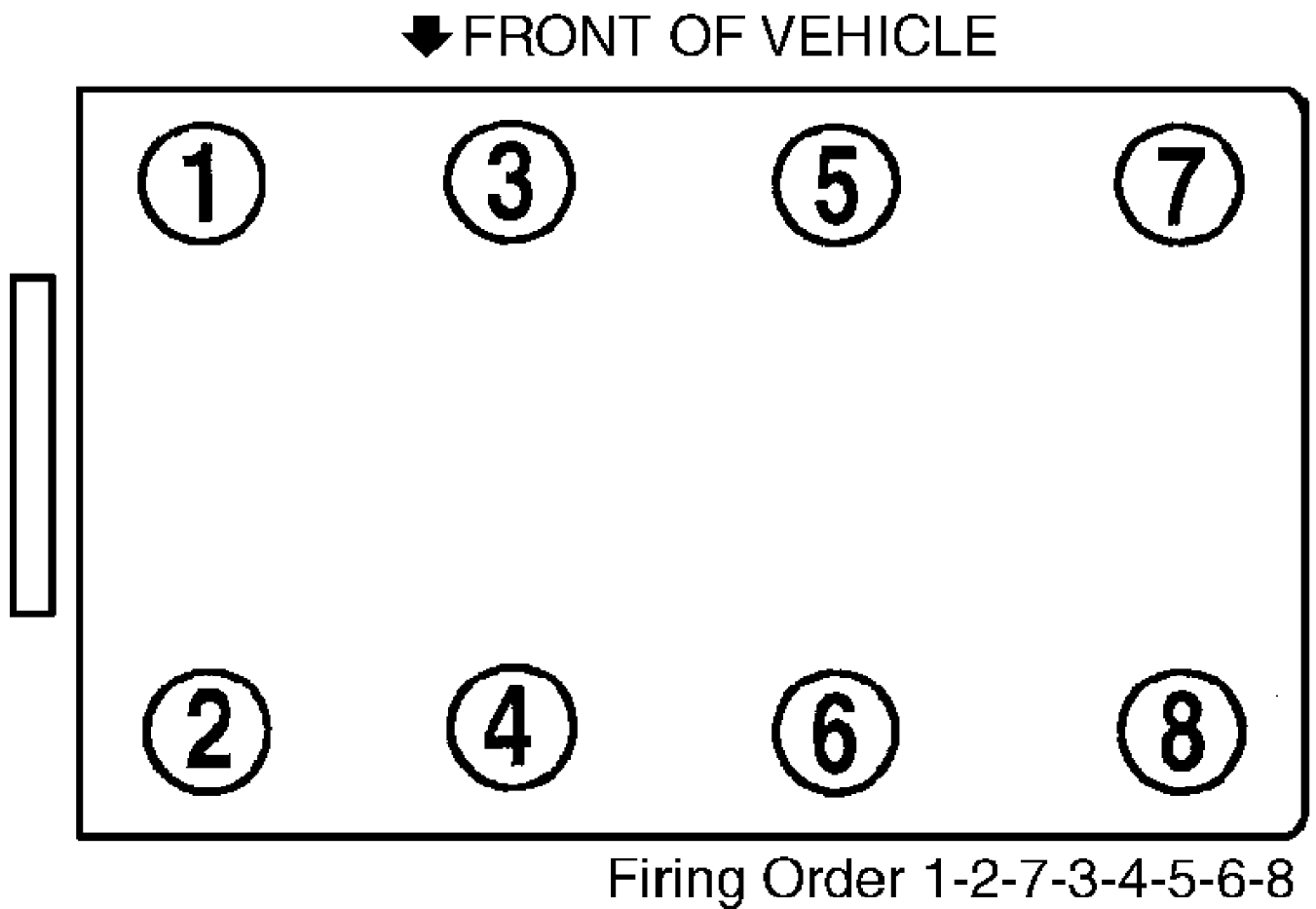
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Fig. 5: Firing Order (3.8L - Except "F" Body)
 Courtesy of General Motors Corp.



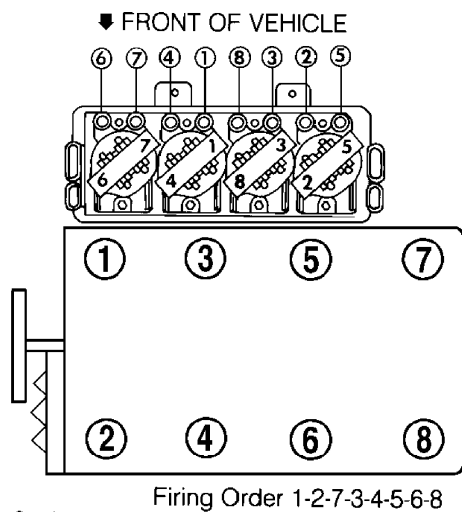
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Fig. 6: Firing Order (3.8L - "F" Body)



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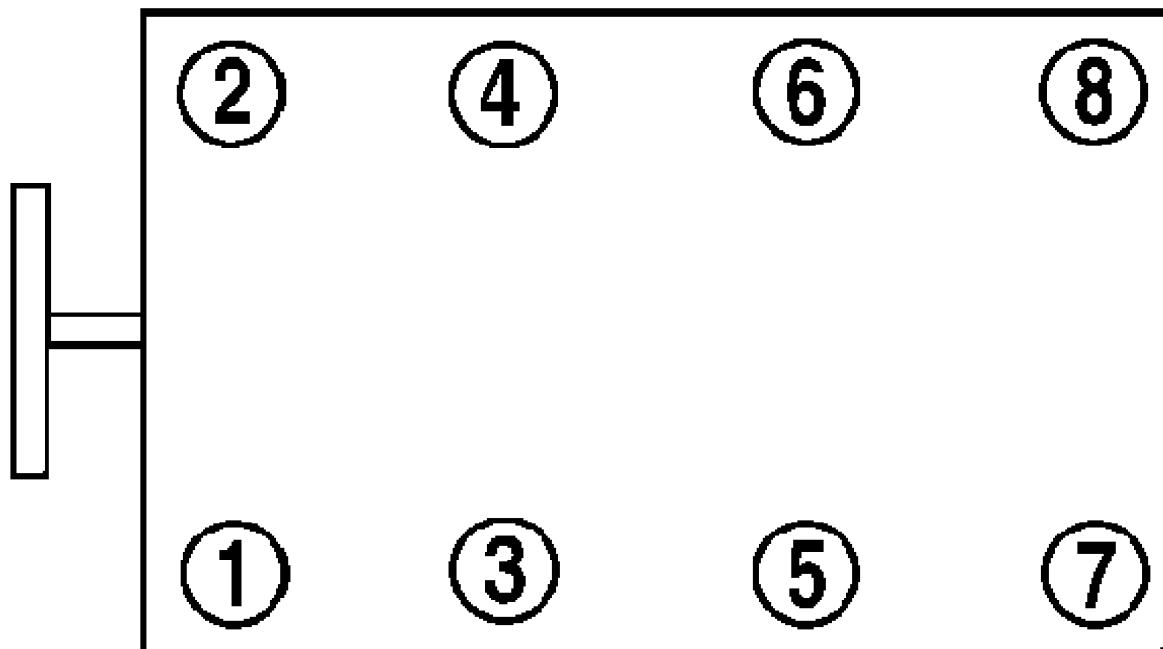
Fig. 7: Firing Order (4.0L)
Courtesy of General Motors Corp.



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Fig. 8: Firing Order (4.6L)
Courtesy of General Motors Corp.

◀ FRONT OF VEHICLE



Firing Order 1-8-7-2-6-5-4-3

G96J29362

Fig. 9: Firing Order (5.7L)
Courtesy of General Motors Corp.

IGNITION TIMING

NOTE: All models are equipped with an electronic computer-controlled ignition system. Timing is not adjustable.

FUEL SYSTEM

FUEL PUMP

FUEL PUMP PERFORMANCE

Application	(1) KOEO psi (kg/cm ²)
1.3L	39-44 (2.7-3.1)
1.8L	44-50 (3.1-3.5)
1.9L	40-55 (2.8-3.9)
2.2L	
"J" Body	
Cavalier & Sunfire	53-59 (3.8-4.2)
Saturn ("L" Series)	50-60 (3.5-4.2)
2.4L	53-59 (3.8-4.2)
3.0L	
"J" Body	39-49 (2.7-3.4)
"V" Body	40-46 (2.8-3.2)
3.5L & 4.6L	41-47 (2.9-3.3)

3.1L & 3.4L	.....	52-59	(3.7-4.2)
3.8L			
VIN K	.....	(2) 52-59	(3.7-4.2)
VIN 1	.....	48-55	(3.4-3.9)
4.0L	.....	41-47	(2.9-3.3)
5.7L	.....	55-62	(3.9-4.4)

- (1) - KOEO is ignition key ON and engine OFF.
(2) - 48-54 psi (3.4-3.8 kg/cm²) on Camaro and Firebird.

INJECTOR RESISTANCE

INJECTOR RESISTANCE SPECIFICATIONS

Application	(1) Ohms
1.3L	12.0-13.0
1.8L	13.4-14.4
1.9L	12.0
2.2L	
"J" Body	
Cavalier & Sunfire	11.0-14.0
Saturn ("L" Series)	12.0
2.4L, 3.1L, 3.4L, 3.5L, 3.8L, 4.0L, 4.6L & 5.7L	11.0-14.0
3.0L	
"J" Body	14.0-23.0
"V" Body	(2)

- (1) - Injector resistance specification is at 50-95°F (10-35°C).
(2) - Injector voltage is measured. Voltage reading should be 8.0-8.5 volts.

IDLE SPEED & MIXTURE

NOTE: Idle mixture is controlled by Powertrain Control Module (PCM). Idle speed is preset by manufacturer and is not adjustable.

THROTTLE POSITION (TP) SENSOR

NOTE: TP sensor is not adjustable unless specified otherwise. For further testing procedures, refer to appropriate SELF-DIAGNOSTICS or SYSTEM & COMPONENT TESTING article.

NOTE: On some models, throttle control is electronic with NO mechanical link from engine to accelerator pedal. The PCM and Throttle Actuator Control (TAC) module monitors the position of accelerator pedal based on signals from a nonadjustable Accelerator Pedal Position (APP) sensor. The APP sensor is mounted above accelerator pedal.

TP SENSOR ADJUSTMENT VOLTAGE

Application	(1) Volts
1.3L	0.2-1.0 To 4.8
1.8L	0.1 To 4.9
1.9L	0.4 To 4.7
2.2L	
"J" Body	
Cavalier & Sunfire	0.1

Saturn ("L" Series)	0.4 To 4.7
2.4L, 3.0L, 3.1L, 3.4L, 3.5L, 3.8L, 4.0L & 4.6L	(3)
5.7L ("F" Body)	(3)

- (1) - Voltage range is from idle position to wide open throttle position.
 - (2) - Ensure engine is at normal operating temperature. Connect a DVOM (backprobe) between ground and TP sensor signal circuit at PCM. See appropriate wiring diagram in WIRING DIAGRAMS article. Voltage reading should be 0.98-1.02 volts with a .140" (3.5 mm) feeler gauge placed between throttle stop screw and throttle lever. Adjust or replace as necessary.
 - (3) - Voltage range is from less than one volt at closed throttle to greater than 4 volts at wide open throttle.
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