

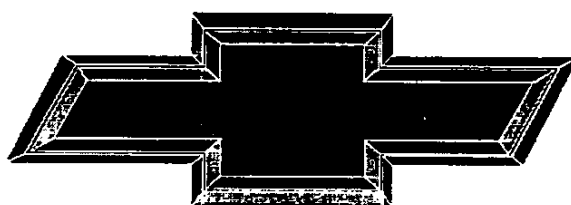
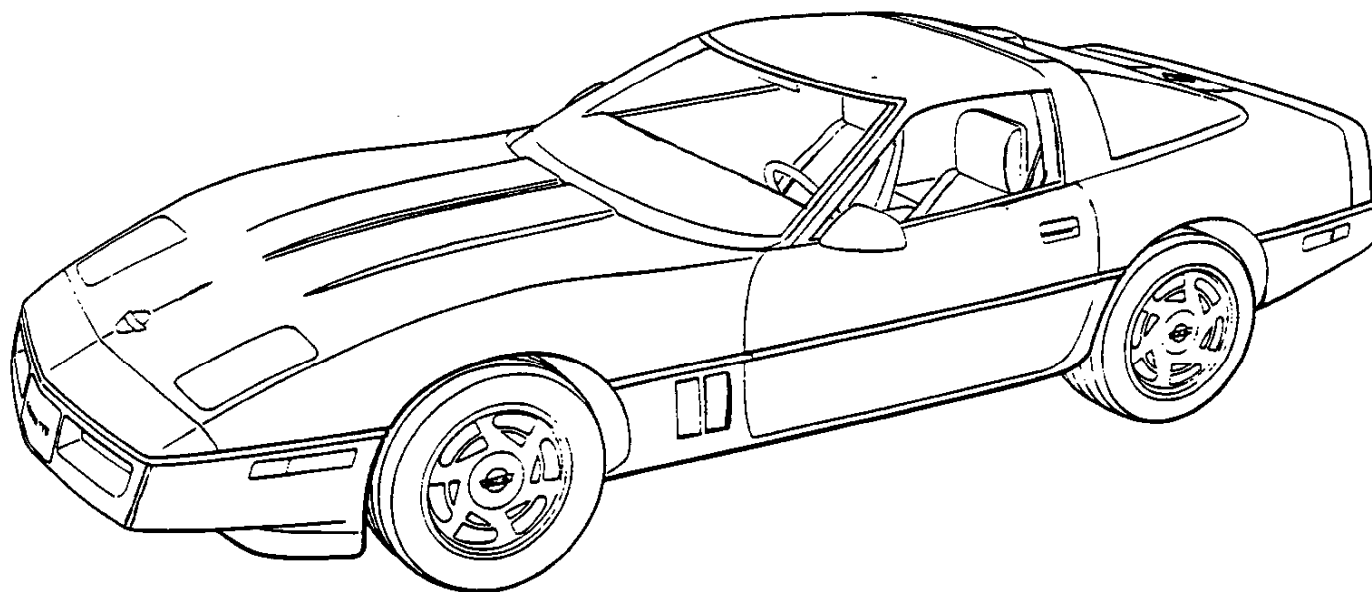
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1989

CORVETTE

SPECIFICATIONS



GENUINE CHEVROLET™

1989 CORVETTE

Production: 16,663 coupe, 9,749 convertible, 26,412 total

1989 NUMBERS

Vehicle: 1G1YY2186K5100001 thru 1G1YY2186K5126412

- For convertibles, sixth digit is a 3.
- Ninth digit is a check code and varies.

Suffix: ZRA: 350ci, 240/245hp, mt, oc ZRC: 350ci, 240/245hp, at, oc
ZRB: 350ci, 240/245hp, at

- For Callaway twin-turbo, Chevrolet engine coding was replaced as follows: First two digits for year, next three digits for Callaway sequence, last four digits to match last four digits of vehicle identification number.

Block: 14093638: All

Head: 10088113: All

Abbreviations: at=automatic transmission, ci=cubic inch, hp=horsepower, mt=manual transmission, oc=engine oil cooler.

1989 FACTS

- The RPO MN6 manual transmission no-cost option for 1989 was a new 6-speed designed jointly by ZF (Zahnradfabrik Friedrichshafen) and Chevrolet and built by ZF in Germany. A computer-aided gear selection (CAGS) feature bypassed second and third gears (and locked out fifth and sixth) for improved fuel economy in specific non-performance conditions.
- The Corvette Challenge race series terminated at the end of the 1989 season. For 1989, the Corvette assembly plant at Bowling Green built sixty Challenge cars with standard engines. Meanwhile, CPC Flint Engine built special, higher horsepower engines which were shipped to the Milford Proving Grounds for storage, then to Specialized Vehicles Inc. (SVI), Troy, Michigan, where they were equalized for power output and sealed. Bowling Green sent thirty cars to Powell Development America, Wixom, Michigan, where the roll cages and safety equipment were installed and the engines from SVI were switched with the original engines. At the end of the season, Chevrolet returned the original numbers-matching engines to each racer.
- The RPO Z51 performance handling package option continued in 1989, available only in coupes with manual transmissions. A new suspension option, RPO FX3, permitted three variations of suspension control regulated by a console switch. It could be ordered only with RPO Z51. The RPO Z52 sport suspension (1987-1988) was not a 1989 option. However, though all 1989 Corvettes with FX3 were Z51s, these had Z52 springs and stabilizers for a wider range of suspension control. The only exceptions were the sixty Corvettes built for the Challenge race series which had FX3 suspensions with Z51 springs and stabilizers.
- The standard six-slot, 16x8.5-inch wheel introduced in 1988 was discontinued for 1989. The twelve-slot, 17x9.5-inch style included with 1988's Z51 and Z52 options became 1989's standard equipment wheel.
- On April 19, 1989, Chevrolet advised dealers that the ZR-1 would be a 1990 model, not a late-release 1989. The reason cited was "insufficient availability of engines caused by additional development." About 100 1989 ZR-1 Corvettes were built for evaluation, testing, media preview and photography, but none were released for public sale.
- Seats were restyled, but the three choices of cloth, optional leather, or optional sport leather continued. Due to weight and fuel economy factors, Chevrolet intentionally limited sales of the sport leather seats by making them available exclusively with Z51-optioned models during 1989.
- The manual top mechanism was simplified for 1989 convertibles.

1989 OPTIONS

RPO#	DESCRIPTION	QTY	RETAIL #
1YY07	Base Corvette Sport Coupe	16,663	\$31,545.00
1YY67	Base Corvette Convertible	9,749	36,785.00
AC1	Power Passenger Seat	20,578	240.00
AC3	Power Driver Seat	25,606	240.00
AQ9	Sport Seats, leather	1,777	1,025.00
AR9	Base Seats, leather	23,364	400.00
B2K	Callaway Twin-Turbo (not GM installed)	69	25,895.00
B4P	Radiator Boost Fan	20,281	75.00
CC2	Auxiliary Hardtop (for convertible)	1,573	1,995.00
C2L	Dual Removable Roof Panels (for coupe)	5,274	915.00
24S	Removable Roof Panel, blue tint (coupe)	8,748	615.00
64S	Removable Roof Panel, bronze tint (coupe) .	4,042	615.00
C68	Electronic Air Conditioning Control	24,675	150.00
D74	Illuminated Driver Vanity Mirror	17,414	58.00
FX3	Selective Ride and Handling, electronic	1,573	1,695.00
G92	Performance Axle Ratio	10,211	22.00
K05	Engine Block Heater	2,182	20.00
KC4	Engine Oil Cooler	20,162	110.00
MN6	6-Speed Manual Transmission	4,113	0.00
NN5	California Emission Requirements	4,501	100.00
UJ6	Low Tire Pressure Warning Indicator	6,976	325.00
UU8	Stereo System, Delco-Bose	24,145	773.00
V01	Heavy-Duty Radiator	20,888	40.00
V56	Luggage Rack (for convertible)	616	140.00
Z51	Performance Handling Package (for coupe) .	2,224	575.00

• A 350ci, 240/245hp engine, 4-speed automatic transmission, removable body-color roof panel (coupe) or soft top (convertible), and cloth seats were included in the base price.

• RPO Z51 included B4P, KC4, V01, heavy-duty suspension, and fast steering ratio. Limited to manual transmission coupes..

• New convertible options for late 1989 introduction included an RPO V56 rear luggage rack, and RPO CC2 removable hardtop.

• RPO AQ9 leather sport seats and RPO FX3 selective ride and handling were available only when ordered with RPO Z51.

• RPO B2K generated a specific equipment build with standard engines at the Corvette assembly plant. The cars were then sent to Callaway's Connecticut shop for installation of Callaway-modified twin-turbo engines.

1989 COLORS

CODE	EXTERIOR	QTY	SOFT TOP	INTERIORS
10	White	5,426	Bk-S-W	B-Bk-G-R-S
20	Medium Blue Metallic	1,428	Bk-W	B-Bk
28	Dark Blue Metallic	1,931	Bk-S-W	Bk-S
41	Black	4,855	Bk-S-W	B-Bk-G-R-S
68	Dark Red Metallic	3,409	Bk-S-W	Bk-S
81	Bright Red	7,663	Bk-S-W	Bk-G-R-S
90	Gray Metallic	225	Bk-W	Bk-G
96	Charcoal Metallic	1,440	Bk-S-W	Bk-G-S

• Only interior-exterior combinations shown were considered acceptable.

• Restrictions applied to some soft top and interior color combinations.

• Code 90 Gray was cancelled in November, 1988.

• Though not listed on 1989 exterior color availability charts, Chevrolet records indicate six code 35 Yellow, and twenty-seven code 31 Arctic Pearl 1989 Corvettes were built.

• Interior colors sold in 1989 were 9,909 black, 7,139 red, 4,785 saddle, 3,096 gray, 1,483 blue.

Interior Codes: 19C=Bk/C, 192=Bk/L, 212=B/L, 60C=S/C, 602=S/L, 732=R/L, 902=G/L.

Abbreviations: B=Blue, Bk=Black, C=Cloth, G=Gray, L=Leather, R=Red, S=Saddle, W=White.

The Corvette Black Book

1953-1993

October 1992

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SECTION 0A

GENERAL INFORMATION

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HANDLING ELECTROSTATIC DISCHARGE (ESD) SENSITIVE PARTS

Figure 1

NOTICE: When handling an electronic part that has an ESD sensitive sticker, the service technician should use the following guidelines to reduce any possible electrostatic charge buildup on the service technician's body and the electronic part.

1. Do not open any package containing an electronic part until it is time to install the part.
2. Avoid touching the electrical terminals of the part.
3. Before removing the part from its package, ground the package to a known good ground.
4. Always touch a known good ground before handling the part. This should be repeated while handling the part and more frequently after sliding across the seat, sitting down from a standing position, or walking a distance.

FEDERAL VEHICLE THEFT PREVENTION STANDARD

(ANTI-THEFT LABELING)

Beginning with the 1987 model year, federal law requires General Motors to label certain parts, on selected vehicles, with the Vehicle Identification Number (VIN).

The purpose of this standard is to reduce the number of motor vehicle thefts by helping in the tracing and recovery of parts from stolen vehicles.

The label will be permanently affixed to an interior surface of the part and will contain the complete VIN. The label on replacement parts will contain the letter R, the manufacturer's logo, and the symbol "DOT."



Important

THESE LABELS ARE NOT TO BE DEFACED, REMOVED, OR COVERED OVER. The labels must be shielded from paint, rust proofing, and undercoating, dealer preparation included.



J36882-0A

Figure 1 Electrostatic Discharge Sensitive Parts Label

NOTICE: The anti-theft label found on some major body panels, engines, and transmissions must be masked prior to painting, rustproofing, undercoating, etc. The mask must be removed following the above operations. Failure to keep the label clean and readable may result in liability for violation of the Federal Vehicle Theft Prevention Standard, and subject the vehicle owner to possible suspicion that the part was stolen.

The parts involved are:

- Front and rear bumper assemblies.
- Hood.

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- Doors. The certification label on the driver's door qualifies as a theft prevention label.
- Right and left front fenders.

VEHICLE IDENTIFICATION PLATE

Figures 2 and 3

The vehicle identification plate is located on the left upper instrument panel and is visible from outside of the vehicle. Each sequential unit number is prefixed by letters and numbers, which are explained in Figure 3.

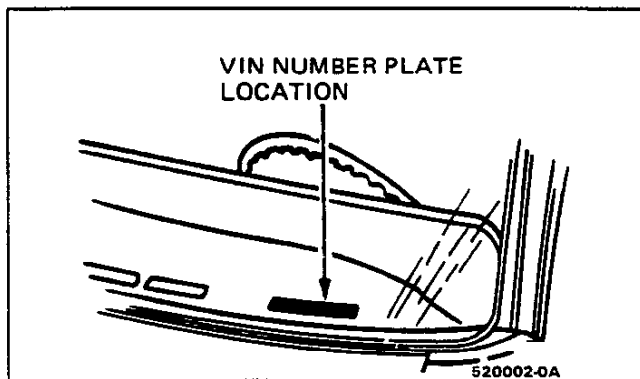


Figure 2 Vehicle Identification Number Plate Location

MODEL IDENTIFICATION

Figure 3

Models (series) and body styles for the current year are listed in Figure 3.

ENGINE IDENTIFICATION

Figures 3 and 4

The Vehicle Identification Chart provides detailed VIN code information by engine displacement and by the engine code letter located on the vehicle identification plate.

Stick-on labels attached to the engine, or laser etching, or stampings in the engine block, indicate the engine unit number or build date code.

All engines and transmissions are stamped with a partial Vehicle Identification Number. The stamping contains nine positions

Position one is the GM division identifier:

1 = Chevrolet, 2 = Pontiac, 3 = Oldsmobile,
4 = Buick, 6 = Cadillac

Position two is the model year:

K = 1989

Position three is the car assembly plant code.

Positions four through nine represent the assembly plant sequential number for the vehicle.

TRANSMISSION IDENTIFICATION

Figure 5

Figure 5 shows how to determine the model and serial number of an automatic transmission. The identification label on the ZF manual 6-speed transmission is located on the left side of the transmission case.

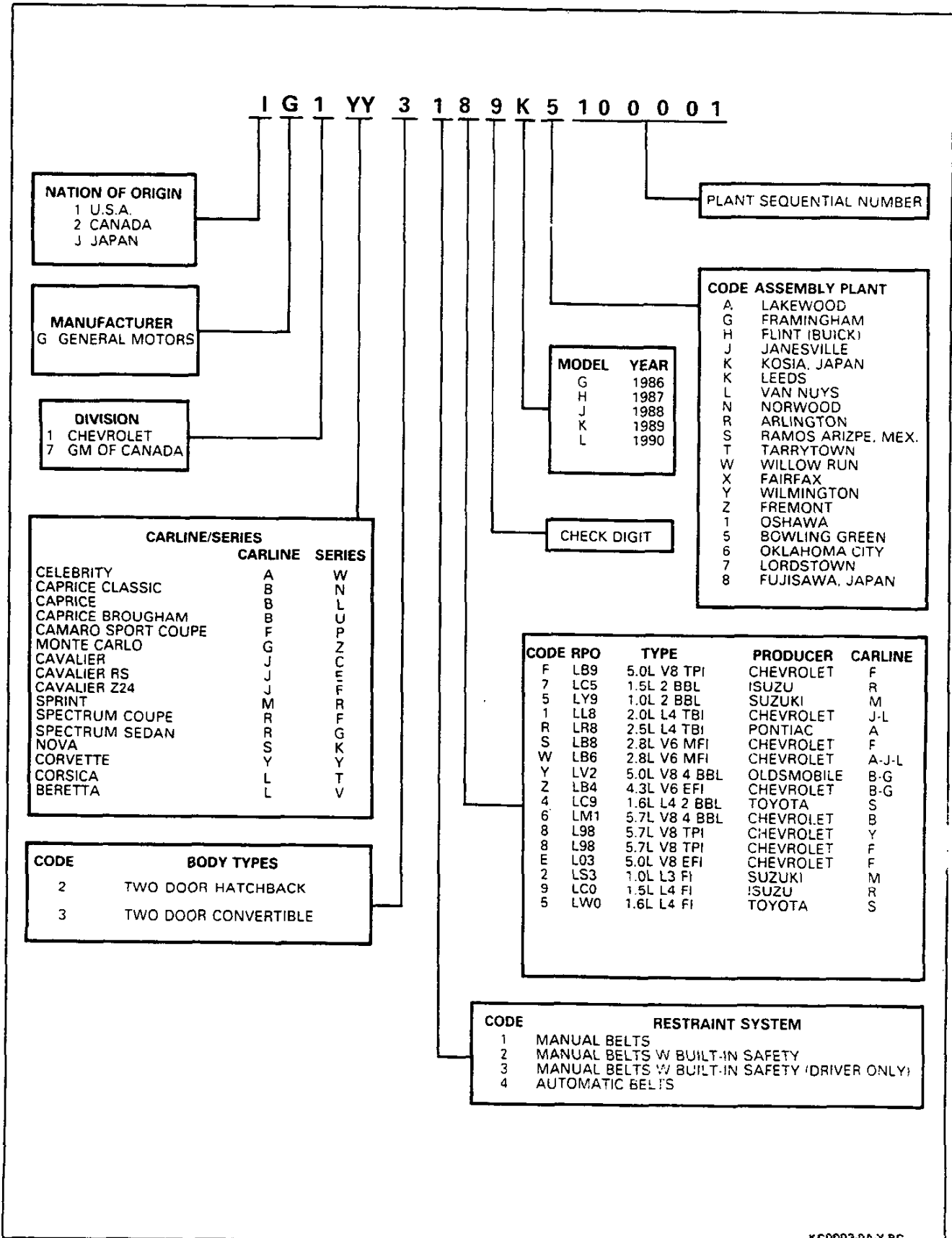


Figure 3 Vehicle Identification Chart

0A-4 GENERAL INFORMATION

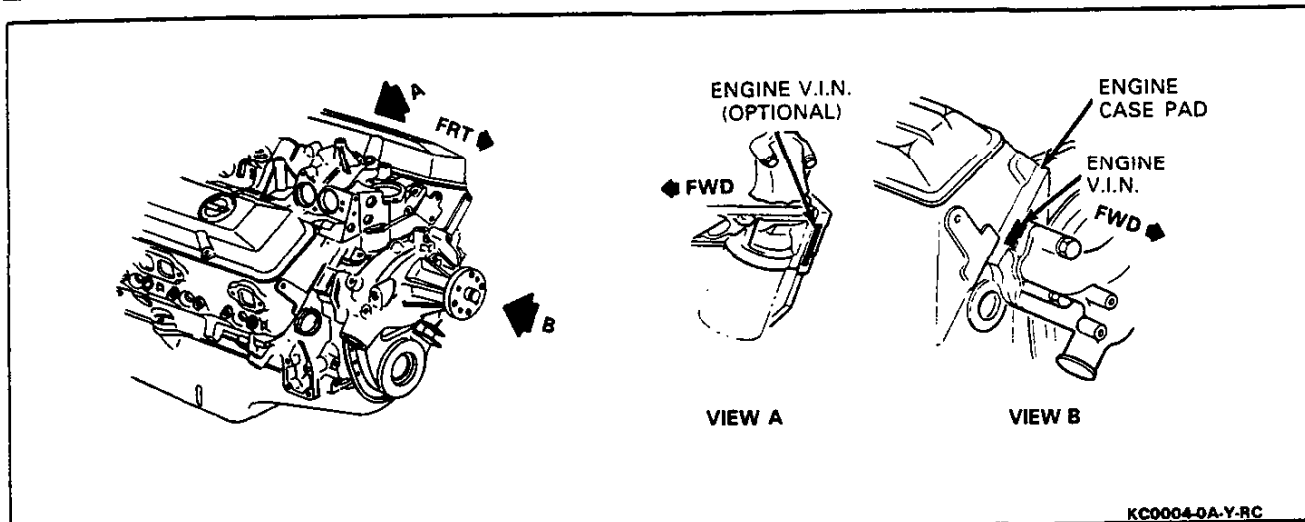


Figure 4 Engine Code Location

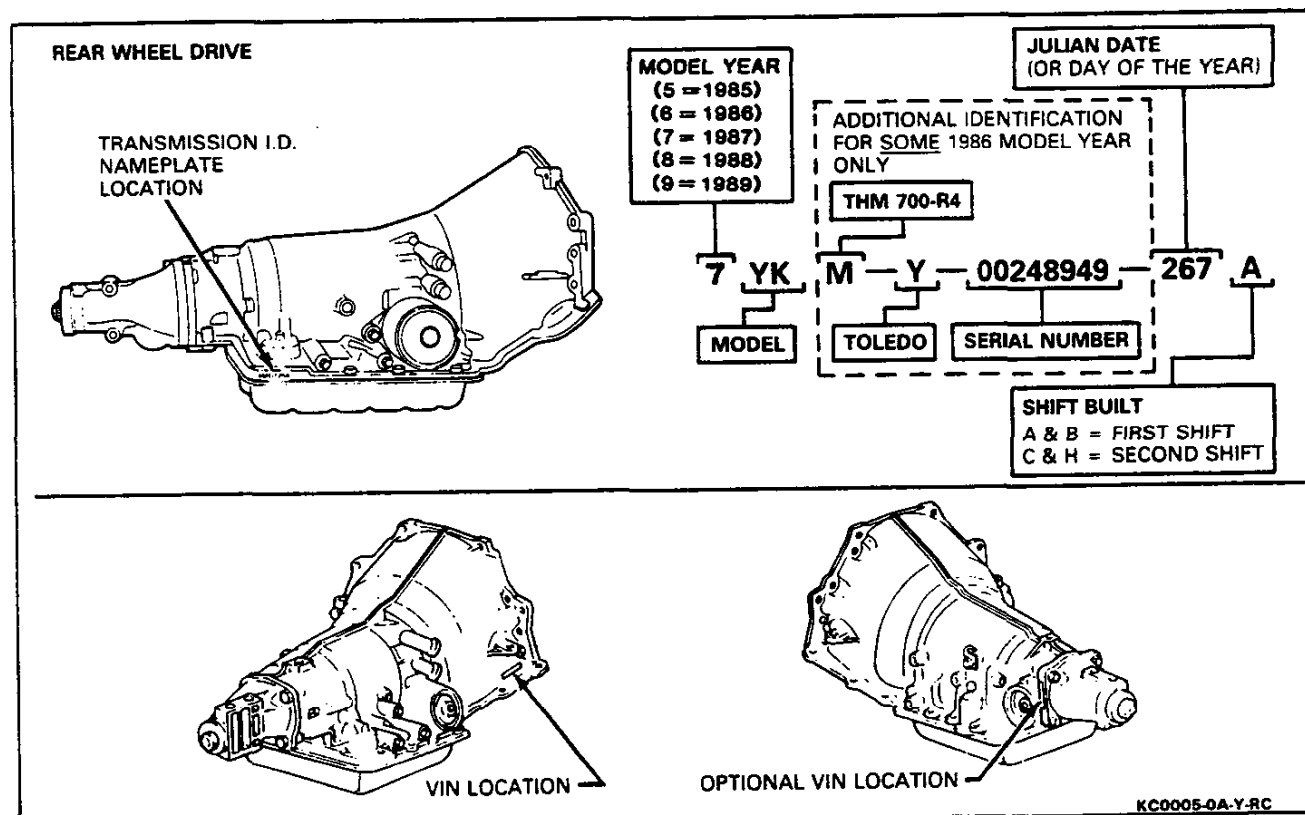


Figure 5 Transmission Identification

TRANSMISSION USAGE

Engine	Model	Transmission
5.7L V8 (L98)	Coupe	Manual 6-Speed (ML9)
		Automatic 700-R4 (MD8)
	Convertible	Automatic 700-R4 (MD8)

TIRE INFORMATION

Information on tire size, vehicle capacity weight, and recommended tire inflation pressure is found on the Tire Placard located on the driver's door.

GENERAL VEHICLE LIFTING AND JACKING PROCEDURES

Figures 6 and 7

NOTICE: When jacking or lifting a vehicle from the frame side rails, be certain the lift pads do not contact the catalytic converter as damage to the converter could result.

Figures 6 and 7 indicate the **preferred** methods of lifting the vehicle using a hoist. If any other hoist methods are used, special care must be used not to damage the fuel tank, filler neck, exhaust system or underbody.

Rear Spindle Support Protector Sleeve

Figure 8

The rear spindle support rods, along with a protector, may be used to support the rear end of the Corvette when using a twin post hoist to raise the vehicle.

A protector for the spindle support rods may be fabricated as shown in Figure 8 to prevent surface nicks or gouges where the lifts contact the rods.

METRIC FASTENERS

Figures 9 and 10

Current model GM vehicles are primarily dimensioned in the metric system. Most fasteners are metric and are very close in dimension to well-known customary fasteners in the inch system. It is important

that replacement fasteners be of the correct nominal diameter, thread pitch and strength.

Original equipment metric fasteners (except "beauty" bolts such as exposed bumper bolts, and cross-recess head screws) are identified by a number marking which indicates the strength of the material in the fastener. Metric cross-recess screws are identified by a Posidriv or Type 1A cross-recess. Either a Phillips head or Type 1A cross-recess screwdriver can be used in Posidriv cross-recess screw heads, but Type 1A will perform better.

NOTICE: Most metric fasteners have a blue color coating. However, this should not be used as positive identification, as some metric fasteners are not color coated.

General Motors Engineering Standards, along with other North American Industries, have adopted a portion of the standard metric fastener sizes defined by ISO (International Standards Organization). This was done to reduce the number of fastener sizes used and yet retain the best strength qualities in each thread size. For example, the customary 1/4-20 and 1/4-28 screws are replaced by the metric M6.0 X 1 screw, which has nearly the same diameter and 25.4 threads per inch. The thread pitch is in between the customary coarse and fine thread pitches.

Metric and customary thread notation differ slightly. The difference is shown in Figure 10.

FASTENER STRENGTH IDENTIFICATION

Figure 11

The most commonly used metric fastener strength property classes are 9.8 and 10.9, with the class identification being embossed on the head of each bolt. Customary (inch) strength classes range from grade 2 to grade 8. The number of markings is two lines

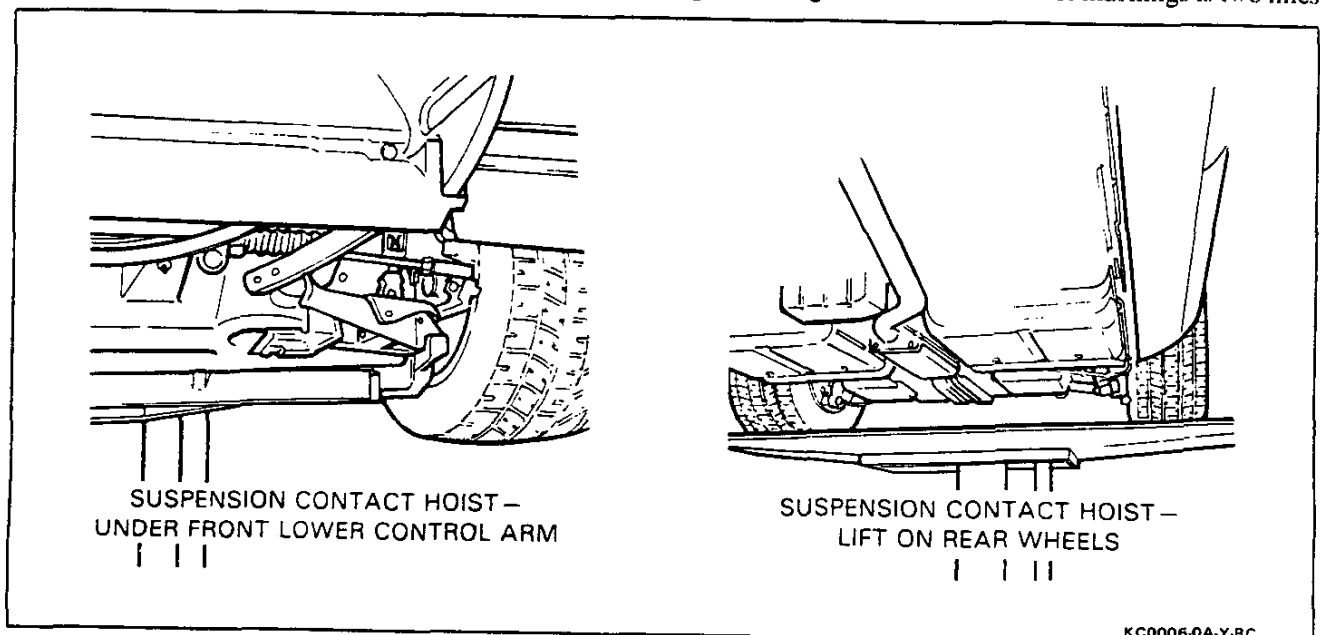
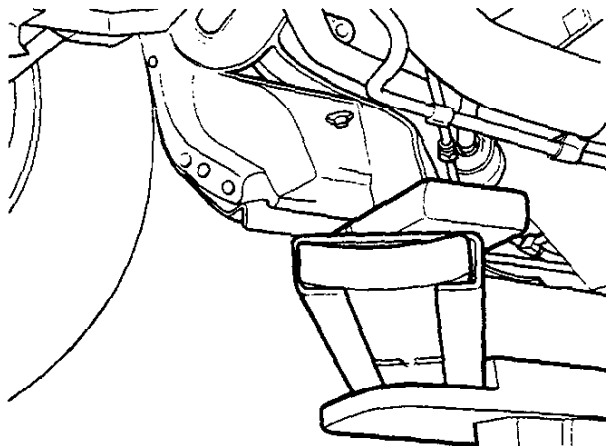
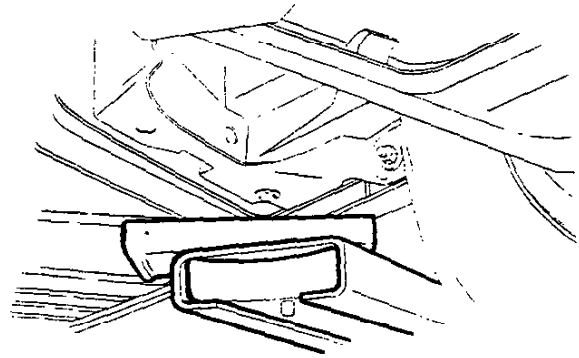


Figure 6 Vehicle Lift Points

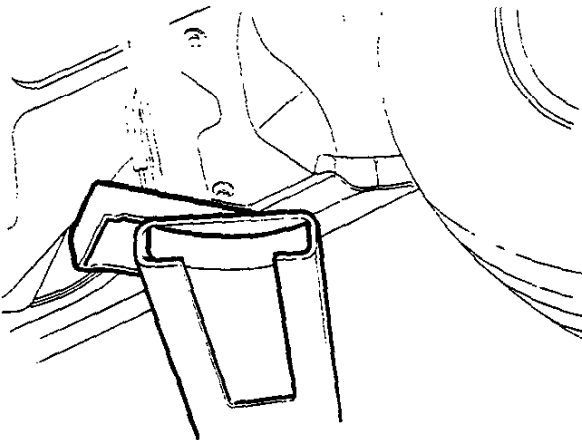
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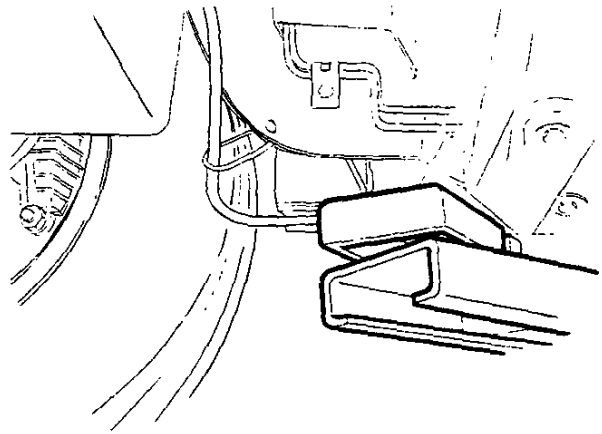
RIGHT SIDE
FRAME CONTACT HOIST
REARWARD OF FRONT WHEEL



LEFT SIDE
FRAME CONTACT HOIST
REARWARD OF FRONT WHEEL

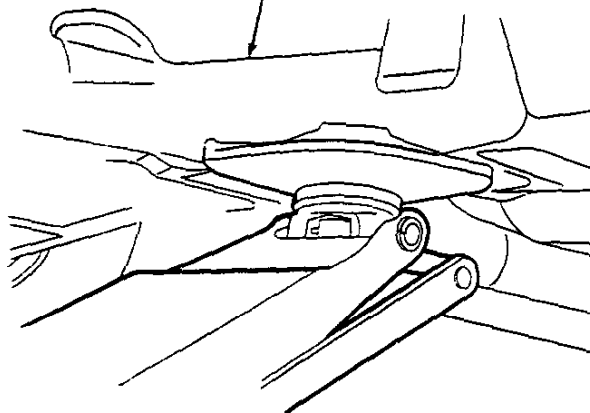


RIGHT SIDE
FRAME CONTACT HOIST
FORWARD OF REAR WHEEL



LEFT SIDE
FRAME CONTACT HOIST
FORWARD OF REAR WHEEL

FRONT CROSS MEMBER



FLOOR JACK-FRONT

KC0007-0A-Y-RC

Figure 7 Vehicle Lift Points (Continued)

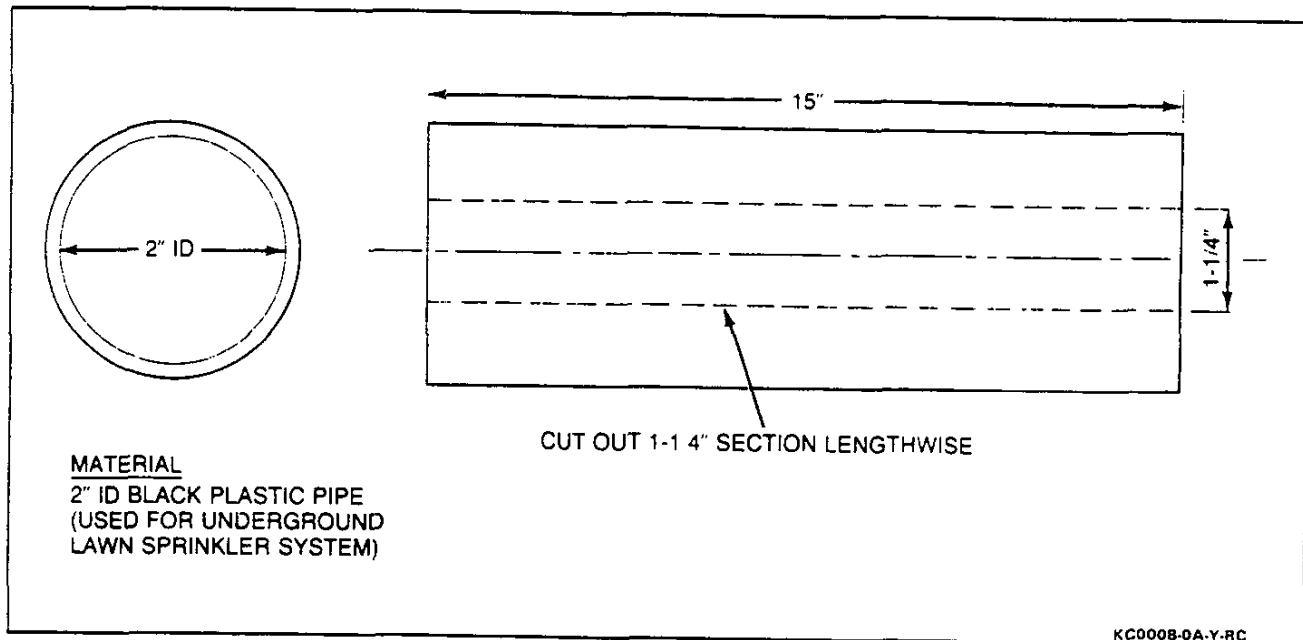


Figure 8 Support Rod Protector Sleeve

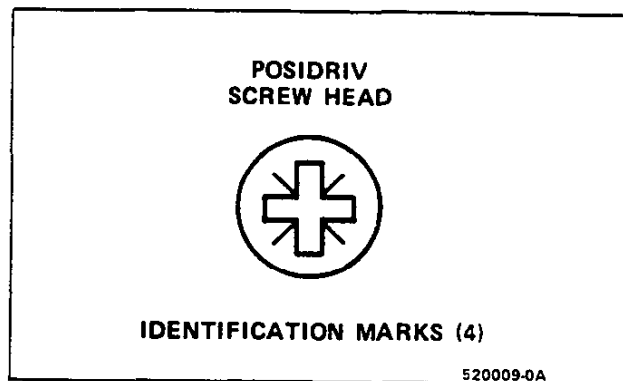


Figure 9 Cross-Recess Screw

less than the actual grade (i.e., grade 8 bolt will exhibit 6 embossed radial lines on the bolt head). Some metric nuts will be marked with single digit strength identification numbers on the nut face.

When replacing metric fasteners, be careful to use bolts and nuts of equal or greater strength than the original (the same number marking or higher). It is also important to select replacement fasteners of the correct

size. Correct replacement bolts and nuts are available through the parts division. Many metric fasteners available in the after-market parts channels were designed to metric standards of countries other than the United States and may be of a lower strength, and may not have the numbered head marking system, and may be of different thread pitch. The metric fasteners used on GM products are designed to new, international standards that may not yet be manufactured by some non-domestic bolt and nut suppliers. In general, except for special applications, the common sizes and pitches are: **M 6.0 X 1**, **M 8 X 1.25**, **M 10 X 1.5**, and **M 12 X 1.75**.

PREVAILING TORQUE FASTENERS

Figures 12 and 13

A prevailing torque nut is designed to develop an interference between the nut and bolt threads. This is most often accomplished by distortion of the top of an all metal nut, or by using a nylon patch on the threads in the middle of the hex flat. A nylon insert may also

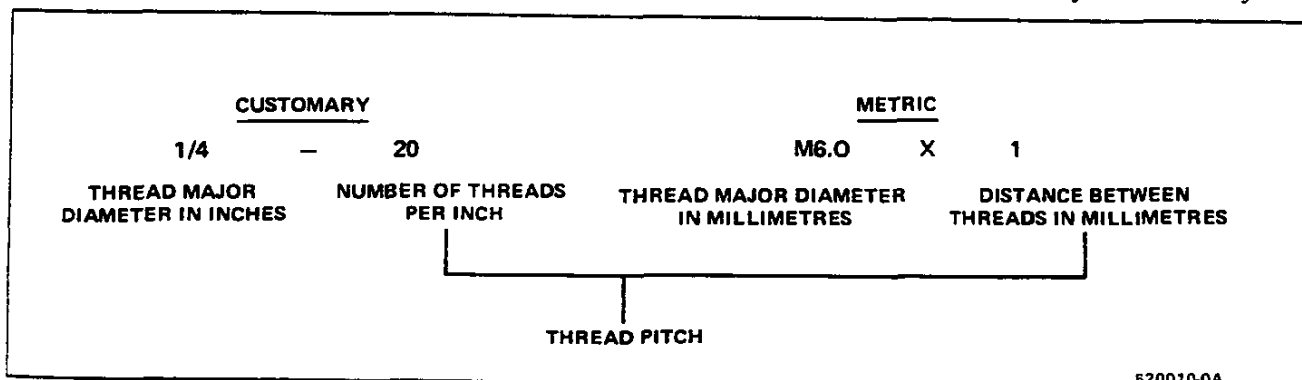


Figure 10 Thread Notation

0A-8 GENERAL INFORMATION

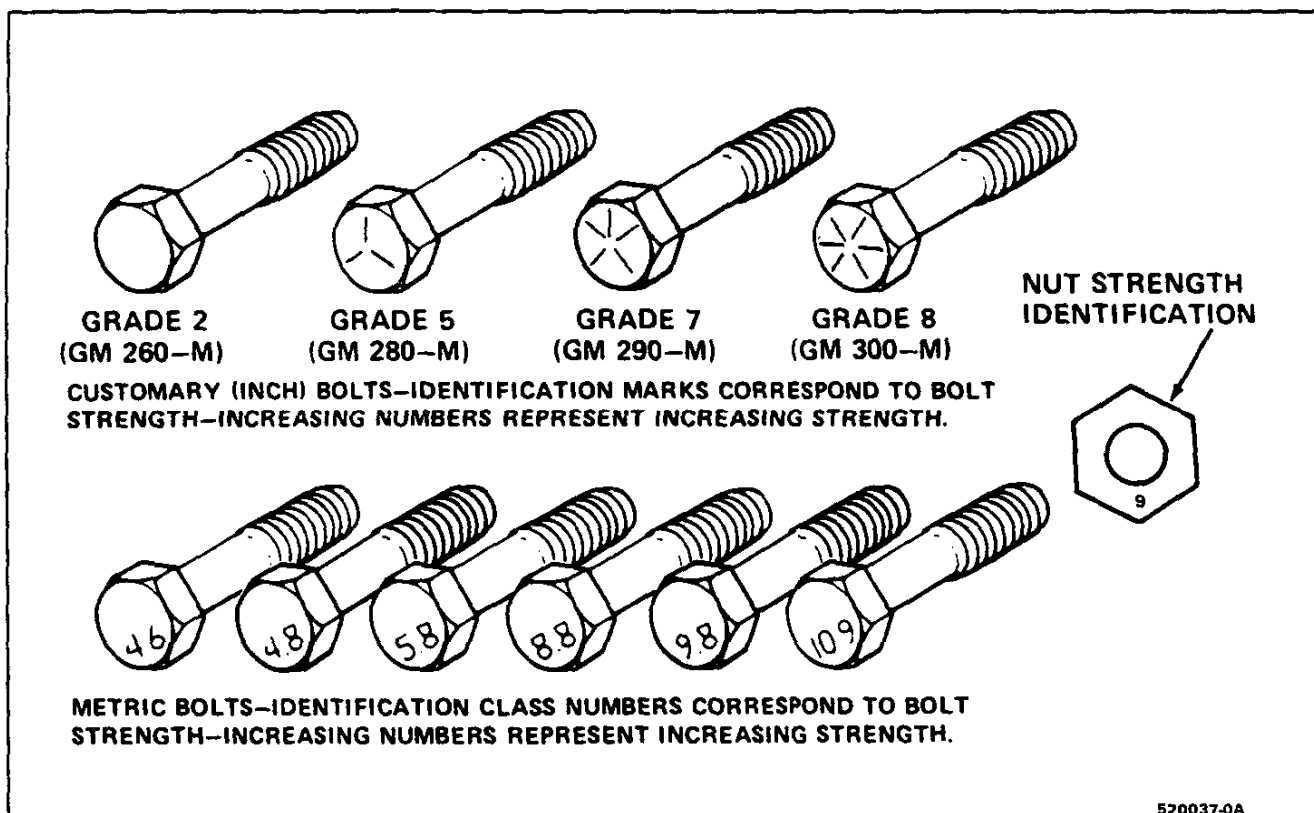


Figure 11 Fastener Strength Markings

be used as a method of interference between nut and bolt threads.

A prevailing torque bolt is designed to develop an interference between bolt and nut threads, or the threads of a tapped hole. This is accomplished by distorting some of the threads, or by using a nylon patch or adhesive.

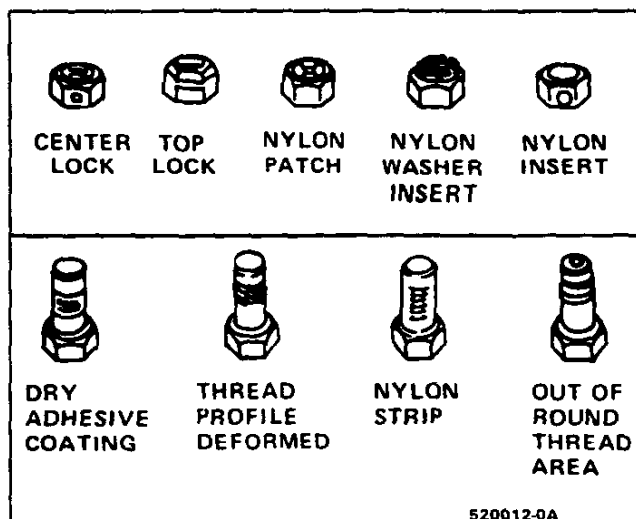


Figure 12 Prevailing Torque Nuts and Bolts

Recommendations For Reuse:

1. Clean, unrusted prevailing torque nuts and bolts may be reused as follows:
 - a. Clean dirt and other foreign material from nut or bolt.
 - b. Inspect nut or bolt to assure there are no cracks, elongation, or other signs of abuse or overtightening. If there is any doubt, replace with a new prevailing torque fastener of equal or greater strength.
 - c. Assemble parts and hand start nut or bolt.
 - d. Observe that, before fastener seats, it develops torque per the chart in Figure 13. If there is any doubt, replace with a new prevailing torque fastener of equal or greater strength.
 - e. Tighten fastener to torque specified in appropriate section of this manual.
2. Bolts and nuts which are rusty or damaged should be replaced with new parts of equal or greater strength.

DECIMAL AND METRIC EQUIVALENTS

Fractions	Decimal In.	Metric MM.	Fractions	Decimal In.	Metric MM.
1/64	.015625	.39688	33/64	.515625	13.09687
1/32	.03125	.79375	17/32	.53125	13.49375
3/64	.046875	1.19062	35/64	.546875	13.89062
1/16	.0625	1.58750	9/16	.5625	14.28750
5/64	.078125	1.98437	37/64	.578125	14.68437
3/32	.09375	2.38125	19/32	.59375	15.08125
7/64	.109375	2.77812	39/64	.609375	15.47812
1/8	.125	3.1750	5/8	.625	15.87500
9/64	.140625	3.57187	41/64	.640625	16.27187
5/32	.15625	3.96875	21/32	.65625	16.66875
11/64	.171875	4.36562	43/64	.671875	17.06562
3/16	.1875	4.76250	11/16	.6875	17.46250
13/64	.203125	5.15937	45/64	.703125	17.85937
7/32	.21875	5.55625	23/32	.71875	18.25625
15/64	.234375	5.95312	47/64	.734375	18.65312
1/4	.250	6.35000	3/4	.750	19.05000
17/64	.265625	6.74687	49/64	.765625	19.44687
9/32	.28125	7.14375	25/32	.78125	19.84375
19/64	.296875	7.54062	51/64	.796875	20.24062
5/16	.3125	7.93750	13/16	.8125	20.63750
21/64	.328125	8.33437	53/64	.828125	21.03437
11/32	.34375	8.73125	27/32	.84375	21.43125
23/64	.359375	9.12812	55/64	.859375	21.82812
3/8	.375	9.52500	7/8	.875	22.22500
25/64	.390625	9.92187	57/64	.890625	22.62187
13/32	.40625	10.31875	29/32	.90625	23.01875
27/64	.421875	10.71562	59/64	.921875	23.41562
7/16	.4375	11.11250	15/16	.9375	23.81250
29/64	.453125	11.50937	61/64	.953125	24.20937
15/32	.46875	11.90625	31/32	.96875	24.60625
31/64	.484375	12.30312	63/64	.984375	25.00312
1/2	.500	12.70000	1	1.00	25.40000

520014-0A

Figure 15 Decimal and Metric Equivalents

LIST OF AUTOMOTIVE ABBREVIATIONS WHICH MAY BE USED IN THIS MANUAL

A-6 - Axial 6 Cyl. A/C Compressor
A/C - Air Conditioning
Adj. - Adjust
A/F - Air/Fuel (As in Air/Fuel Ratio)
AIR - Air Injection Reaction System
ALC - Automatic Level Control
ALCL - Assembly Line Communications Link
Alt. - Altitude
AMP - Amperes(s)
APT - Adjustable Part Throttle
APS - Absolute Pressure Sensor
AT - Automatic Transmission/Transaxle
ATC - Automatic Temperature Control
ATDC - After Top Dead Center

BARO - Barometric Absolute Pressure Sensor
Bat. - Battery
Bat. + - Positive Terminal
Bbl. - Barrel
BCM - Body Control Module
BHP - Brake Horsepower
BP - Back Pressure
BTDC - Before Top Dead Center

Cat. Conv. - Catalytic Converter
CC - Cubic Centimeter
- Converter Clutch
CCC - Computer Command Control
C-4 - Computer Controlled Catalytic Converter
CB - Citizens Band (Radio)
CCOT - Cycling Clutch (Orifice) Tube
CCP - Controlled Canister Purge
CEAB - Cold Engine Airbleed
CEMF - Counter Electromotive Force
CID - Cubic Inch Displacement
CLOOP - Closed Loop
CLCC - Closed Loop Carburetor Control
CLTBI - Closed Loop Throttle Body Injection
CO - Carbon Monoxide
Conv. - Converter
CP - Canister Purge
CTS - Coolant Temperature Sensor
Cu. In. - Cubic Inch
CV - Constant Velocity
Cyl. - Cylinder(s)

DBB - Dual Bed Bead
DBM - Dual Bed Monolith
Diff. - Differential
Distr. - Distributor

EAC - Electric Air Control Valve
EAS - Electric Air Switching Valve
ECC - Electronic Comfort Control
ECM - Electronic Control Module
ECS - Emission Control System
ECU - Engine Calibration Unit
EEC - Evaporative Emission Control
EEVIR - Evaporator Equalized Valves in Receiver

EFE - Early Fuel Evaporation
EFI - Electronic Fuel Injection
EGR/TVS - Exhaust Gas Recirculation/
Thermostatic Vacuum Switch

ELC - Electronic Level Control
EMF - Electromotive Force
EMR - Electronic Module Retard
EOS - Exhaust Oxygen Sensor
ESC - Electronic Spark Control
EST - Electronic Spark Timing
ETC - Electronic Temperature Control
ETCC - Electronic Touch Comfort Control
ETR - Electronically Tuned Receiver
Exh. - Exhaust

Fed. - Federal (All States Exc. Calif.)
FMVSS - Federal Motor Vehicle Safety Standards
Ft. Lb. - Foot Pounds (Torque)
FWD - Front Wheel Drive
- Four Wheel Drive
4 x 4 - Four Wheel Drive

HC - Hydrocarbons
HD - Heavy Duty
HEI - High Energy Ignition
Hg. - Mercury
Hi. Alt. - High Altitude
HVAC - Heater-Vent-Air Conditioning
HVACM - Heater-Vent-Air Conditioning Module
HVM - Heater-Vent-Module

IAC - Idle Air Control
IC - Integrated Circuit
ID - Identification
- Inside Diameter
IGN - Ignition
INJ. - Injection
ILC - Idle Load Compensator
I/P - Instrument Panel
ISC - Idle Speed Control

km - Kilometers
km/hr - Kilometers Per Hour
KV - Kilovolts (Thousands of Volts)
km-L - Kilometers/Liter (mpg)
kPa - Kilopascals

L - Liter
L-4 - Four Cylinder In-Line (Engine)
L-6 - Six Cylinder In-Line (Engine)
LF - Left Front
LR - Left Rear

MAF - Mass Air Flow
Man. Vac. - Manifold Vacuum
MAP - Manifold Absolute Pressure
MAT - Manifold Air Temperature Sensor
M-C - Mixture Control
MPG - Miles Per Gallon
MPFI - Multi-Port Fuel Injection
MPH - Miles Per Hour
MT - Manual Transmission
MV - Milli Volt

N·m - Newton Metres (Torque)
NO_x - Nitrogen, Oxides of
OD - Outside Diameter

OHC - Overhead Cam
OL - Open Loop
OXY - Oxygen
O₂ - Oxygen (Sensor)

PAIR - Pulse Air Injection Reaction System
P/B - Power Brakes
PCV - Positive Crankcase Ventilation
PECV - Power Enrichment Control Valve
PFI - Port Fuel Injection
P/N - Park, Neutral
PROM - Programmable, Read Only Memory
P/S - Power Steering
PSI - Pounds Per Square Inch
Pt. - Pint
PTO - Power Takeoff

Qt. - Quart

R - Resistance
R-4 - Radial Four Cyl. A/C Compressor
Ref. - Reference
RF - Right Front
RPM - Revolutions Per Minute
RPO - Regular Production Option
RR - Right Rear
RTV - Room Temperature Vulcanizing (Sealer)
RVR - Response Vacuum Reducer
RWD - Rear Wheel Drive

SAE - Society of Automotive Engineers
SI - System International
Sol. - Solenoid
Syn. - Synchronizer

TAC - Thermostatic Air Cleaner
TACH - Tachometer
TBI - Throttle Body Injection
TCC - Transmission Converter Clutch
TCS - Transmission Controlled Spark
TDC - Top Dead Center
TPS - Throttle Position Sensor
TURB - Turbocharger
TV - Throttle Valve
TVBV - Turbocharger Vacuum Bleed Valve
TVRS - Television & Radio Suppression
TVS - Thermal Vacuum Switch

UJT - Universal Joint

V - Volt(s)
V-6 - Six Cylinder Engine - Arranged in a "V"
V-8 - Eight Cylinder Engine - Arranged in a "V"
Vac. - Vacuum
VATS - Vehicle Anti-Theft System
VIN - Vehicle Identification Number
VIR - Valves in Receiver
VMV - Vacuum Modulator Valve
V-REF - ECM Reference Voltage
VSS - Vehicle Speed Sensor

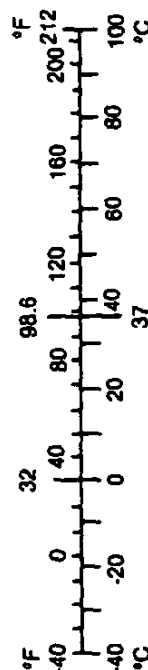
W/ - With
W/B - Wheel Base
W/O - Without
WOT - Wide Open Throttle
X-Valve - Expansion Valve

KC0016-0A.Y.RC

Figure 16 Abbreviations Chart

0A-10 GENERAL INFORMATION

Multiply	by	to get equivalent number of:	Multiply	by	to get equivalent number of:
Inch	25.4	millimeters (mm)	Foot/sec ²	0.304 8	meter/sec ² (m/s ²)
Foot	0.304 8	meters (m)	Inch/sec ²	0.025 4	meter/sec ²
Yard	0.914 4	meters	TORQUE		
Mile	1.609	kilometers (km)	Pound-inch	0.112 98	newton-meters (N·m)
			Pound-foot	1.355 8	newton-meters
Inch ²	645.2	millimeters ² (mm ²)	POWER		
Foot ²	6.45	centimeters ² (cm ²)	Horsepower	0.746	kilowatts (kW)
Yard ²	0.092 9	meters ² (m ²)	PRESSURE OR STRESS		
	0.836 1	meters ²	Inches of water	0.249 1	kilopascals (kPa)
			Pounds/sq. in.	6.895	kilopascals
Inch ³	16 387.	mm ³	ENERGY OR WORK		
	16.387	cm ³	BTU	1 055.	joules (J)
Quart	0.016 4	liters (l)	Foot-pound	1.355 8	joules
Gallon	0.946 4	liters	Kilowatt-hour	3 600 000.	joules (J = one W's)
Yard ³	3.785 4	liters		or 3.6 x 10 ⁶	
	0.764 6	meters ³ (m ³)	LIGHT		
			Foot candle	1.076 4	lumens/meter ² (lm/m ²)
Pound	0.453 6	kilograms (kg)	FUEL PERFORMANCE		
Ton	907.18	kilograms (kg)	Miles/gal	0.425 1	kilometers/liter (km/l)
Ton	0.907	tonne (t)	Gal/mile	2.352 7	liter/kilometer (l/km)
Kilogram	9.807	newtons (N)	VELOCITY		
Ounce	0.278 0	newtons	Miles/hour	1.609 3	kilometers/hr. (km/h)
Pound	4.448	newtons			
Degree Fahrenheit	(°F-32) ÷ 1.8	degree Celsius (C)			



METRIC-ENGLISH CONVERSION TABLE

G60230-0A-C

Figure 14 Metric-English Conversion Table

		METRIC SIZES (MM)							
NUTS AND ALL METAL BOLTS	Norm	6 & 6.3	8	10	12	14	16	20	
	IN. LBS.	0.4	0.8	1.4	2.2	3.0	4.2	7.0	
ADHESIVE OR NYLON COATED BOLTS	Norm	0.4	0.6	1.2	1.6	2.4	3.4	5.6	
	IN. LBS.	4.0	5.0	10	14	20	28	46	

		INCH SIZES							
NUTS AND ALL METAL BOLTS	Norm	.250	.312	.375	.437	.500	.562	.625	.750
	IN. LBS.	4.0	5.0	12	15	20	27	35	51
ADHESIVE OR NYLON COATED BOLTS	Norm	0.4	0.6	1.0	1.4	1.8	2.6	3.4	5.2
	IN. LBS.	4.0	5.0	9.0	12	15	22	28	43

520013-0A

Figure 13 Prevailing Torque Chart

0A-14 GENERAL INFORMATION

SERVICE PARTS IDENTIFICATION LABEL

The Service Parts Identification label has been developed and placed on the vehicle to aid service and

parts personnel in identifying parts and options originally installed on the vehicle. The label is located under the center console glove box lid.

PRODUCTION AND PROCESS CODES

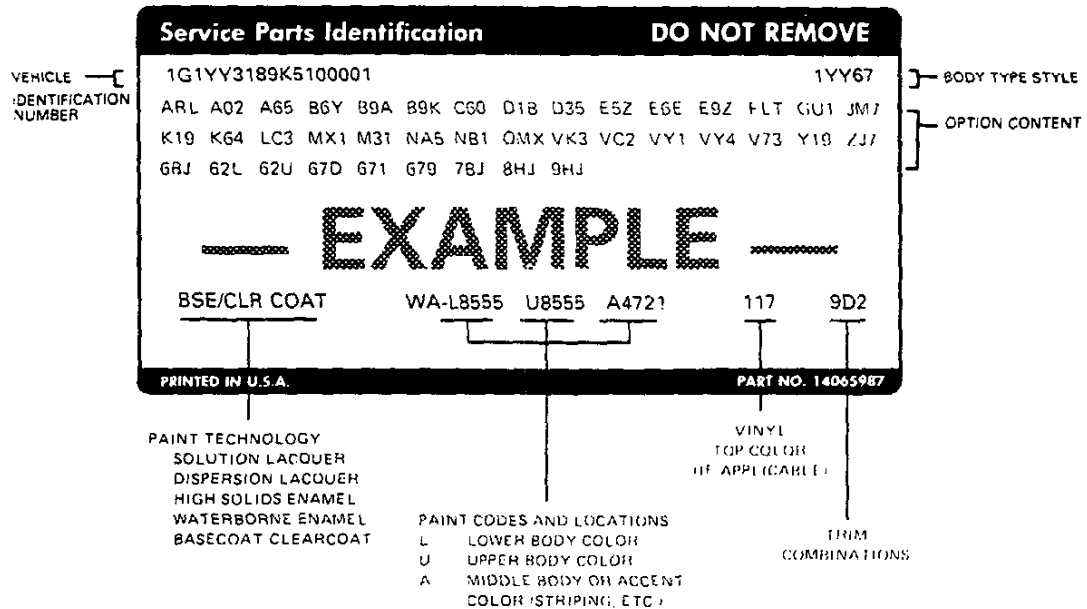
ACI	.....	Passenger's Seat Adjuster, 6-way Power
AC3	.....	Driver's Seat Adjuster, 6-way Power
AQ9	.....	Seat, Reclining
AR9	.....	Seat, European Style Reclining
AS8	.....	Restraint System, Manual
B4P	.....	Fan, Radiator Cooling
CC2	.....	Roof, Auxiliary
CC3	.....	Roof, Removable Panel (Plastic)
CF7	.....	Roof, Removable (Non-Transparent)
C2L	.....	Roof Package, Consists of CC3 and CF7
C49	.....	Defogger, Rear Window Electric
C60	.....	Air Conditioner, Manual Controls
C68	.....	Air Conditioner, Auto Electronic Controls
DL8	.....	Mirror, Heated Outside Electric Remote Control
D3X	.....	Gear, Speedometer Driven (25513049)
D4D	.....	Gear, Speedometer Driven (25513047)
D4L	.....	Gear, Speedometer Driven (25513050)
D7B	.....	Gear, Speedometer Driven (25513043)
D7C	.....	Gear, Speedometer Driven (25513045)
D74	.....	Mirror, Inside Visor Vanity
D9A	.....	Sensor, Speedometer (25007224)
D9B	.....	Sensor, Speedometer (25007308)
FE1	.....	Suspension, Soft Ride
FE7	.....	Suspension, Heavy Duty
FX3	.....	Ride and Handling, Electronic
GH0	.....	Rear Axle, 3.54 Ratio
GM1	.....	Rear Axle, 2.59 Ratio
GU2	.....	Rear Axle, 2.73 Ratio
GW4	.....	Rear Axle, 3.31 Ratio
G44	.....	Rear Axle, 3.07 Ratio
G92	.....	Rear Axle, Performance Ratio
JL9	.....	Brakes, Anti-Lock Front and Rear Disc
J55	.....	Brakes, Heavy Duty
KC4	.....	Cooler, Engine Oil
KO5	.....	Heater, Engine Block
K09	.....	Generator, 120 Amp
K68	.....	Generator, 105 Amp
L98	.....	Engine, Gas, 8 Cyl, 5.7L, MPFI
MD8	.....	Transmission, Auto, 4-speed, THM 700-R4
ML9	.....	Transmission, Manual, 6-speed, ZF
NA5	.....	Emission System, Leaded Fuel
NK4	.....	Steering Wheel, Sport Leather
QA1	.....	Wheel, 17 x 9.5 Styled Aluminum
QA2	.....	Wheel, 17 x 9.5 Front, 17 x 11 Rear, Styled Aluminum
T93	.....	Lamp, Tail and Stop Special
UJ6	.....	Indicator, Low Tire Pressure Warning
UM6	.....	Radio, AM/FM Stereo, Seek and Scan, Auto Rev. Cassette, Clock, ETR
UQ4	.....	Speaker System, Bose
UU8	.....	Radio, AM/FM Stereo, Cassette, Dolby, Clock, ETR
U19	.....	Cluster, Kilometers and Miles
U52	.....	Cluster, Electronic
V01	.....	Radiator, Heavy Duty
YAU	.....	Tire, Front, P275/40 ZR17
YAU	.....	Tire, Rear, P275/40 ZR17
YBE	.....	Tire, Rear, P315/35 VR17

SERVICE PARTS IDENTIFICATION LABEL

The Service Parts Identification Label provides identification of vehicle equipment to assist in servicing and determining replacement parts. Included on this label will be regular production options (RPO's) as well as standard and mandatory options. The label will be af-

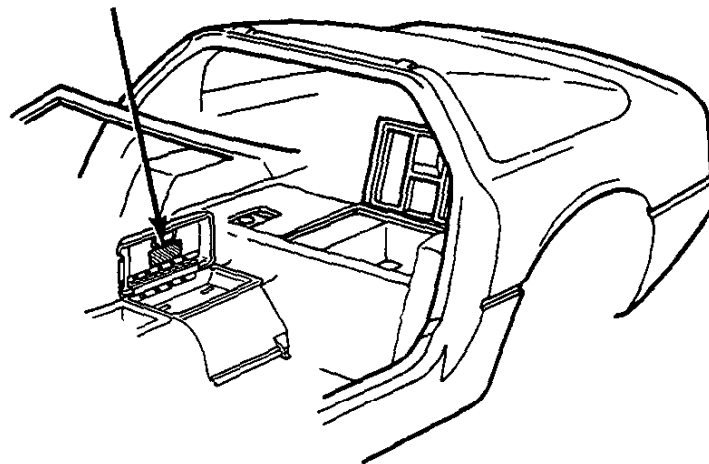
fixed to the inside of each passenger car vehicle at the assembly plant.

For additional information on the Service Parts Identification Label, see a GM Parts Catalog.



LABEL LOCATION

CORVETTE



KC0017-0A-Y-RC

Figure 17 Service Parts Identification Label

Z51	Performance Handling
Z6A	Defogger, Rear Windows and Outside Mirrors
11T	Top Color, White Vinyl
19C	Trim Combination, Black Cloth
191	Interior Trim, Black
19T	Top Color, Black Vinyl
192	Trim Combination, Black Leather
199	Seat Belts, Black
20U	Exterior Color, Nassau Blue Metallic
211	Interior Trim, Medium Blue
212	Trim Combination, Medium Blue Leather
219	Seat Belts, Medium Blue
24S	Roof, Blue Removable Panel
28U	Exterior Color, Black Sapphire Metallic
31U	Exterior Color, Arctic Pearl
35U	Exterior Color, Yellow
41U	Exterior Color, Black
60C	Trim Combination, Cognac Cloth
601	Interior Trim, Cognac
602	Trim Combination, Cognac Leather
609	Seat Belts, Cognac
64S	Roof, Bronze Removable Panel
67T	Top Color, Saddle Vinyl
68U	Exterior color, Brilliant Red Metallic
731	Interior Trim, Red
732	Trim Combination, Red Leather
739	Seat Belts, Flame Red
81U	Exterior Color, Bright Red
901	Interior Trim, Smoke Gray
90U	Exterior Color, Medium Smoke Gray Metallic
902	Trim Combination, Smoke Gray Leather
96U	Exterior Color, Dark Smoke Gray Metallic



'89 CORVETTE

CORVETTE

Coupe
Convertible

MODEL NUMBER

1YY07
1YY67

PASSENGER CAPACITY

All models 2



Corvette Coupe.

NEW FEATURES

- RPO Z52 Sport Handling package cancelled; most content (including Delco®/Bilstein gas-charged shock absorbers) now standard
- 17" x 9½" cast aluminum wheels with P275/40ZR-17 Eagle radial tires standard for '89
- Low Pressure Tire Warning System option (RPO UJ6) monitors tire air pressures
- Heated rear window standard (Coupe only)
- New design standard seat

STANDARD FEATURES

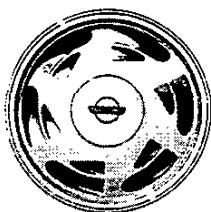
- Clamshell-opening front end assembly for easy engine access
- Power-operated retractable halogen headlamps
- Halogen fog lamps
- Dual electrically adjustable heated outside rearview mirrors
- Full-glass rear hatch with three remote releases and roller-shade cargo cover (Coupe)
- One-piece removable fiberglass roof panel (Coupe)
- Full folding roof for Convertible
- Rear side lamps
- Center high-mounted stop lamp (in rear fascia above license plate pocket on Convertible; roof-mounted on Coupe)
- PASS-Key™ anti-theft system with starter interrupt feature and security intrusion warning system
- Electronic liquid-crystal instrumentation with multi-colored analog and digital display; switchable English or metric readouts
- Headlamps-on reminder
- Intermittent wiper system
- Electronic speed control with Resume Speed
- Air conditioning
- Side window defoggers

- Rear window defogger (Coupe)
- Day/night rearview mirror with map and ashtray light
- AM/FM stereo radio with cassette and digital clock; four speakers and automatic power antenna
- Center console with coin tray, locking lighted storage compartment and control switches for power windows, air conditioning, radio, electric mirrors and optional power seats
- Leather-wrapped two-spoke sport steering wheel
- Tilt-Telescopic steering wheel and column
- Power door locks
- Power windows
- Cloth seats with lateral support and back angle adjustment plus wool-pad comfort liner
- 5.7 Liter V8 engine with Tuned-Port Fuel Injection (TPI) featuring an aluminum intake manifold with tuned runners, aluminum heads, magnesium valve rocker covers and hydraulic roller valve lifters
- Progressive throttle
- DelcoTron generator with built-in solid state regulator
- Outside air induction system
- 20-gallon fuel tank with electric in-tank twin-turbine fuel pump
- Bosch ABS II anti-lock braking system
- Independent front and rear suspension with transverse fiberglass leaf springs and forged aluminum A-arms
- Power rack-and-pinion steering
- Power front/rear disc brake system
- Underhood lamps
- Uniframe-design body structure with corrosion-resistant coating
- Acoustical insulation package

Refer to Passenger Car Order Guide for option availability and application.

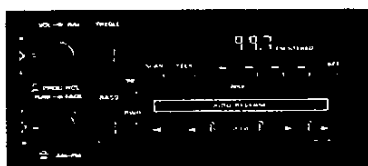
O R D E R I N G I N F O R M A T I O N

WHEEL TRIM



Standard Corvette 17" x 9 1/2" cast aluminum wheels.

RADIOS



Standard AM/FM stereo radio with Seek and Scan, cassette, power antenna and digital clock; four stereo speakers.



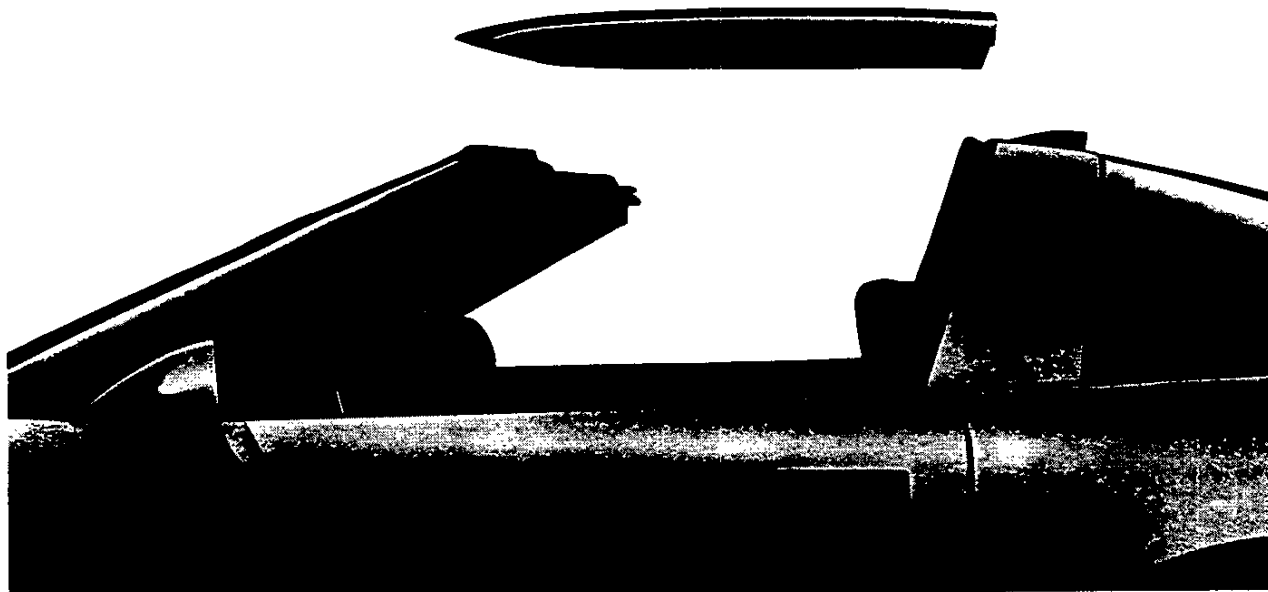
Optional Delco[®]/Bose Music system, includes electronically tuned AM/FM stereo radio with Seek and Scan, cassette and digital clock (RPO UU8).

Appearance of radios may vary by car model.

EXTERIOR DECOR

ROOF PACKAGE (RPO C2L)

Includes standard solid lift-off panel and transparent panel (RPO 24S-blue tint or RPO 64S-bronze tint).



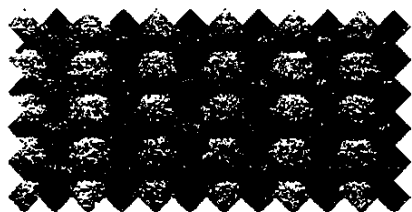
All illustrations and specifications in this brochure are based on the latest product information available at the time of publication approval. The right is reserved to make changes at any time, without notice, in colors, materials, specifications and models, and also to discontinue models. Chevrolet Motor Division, General Motors Corporation, Warren, Michigan 48090.



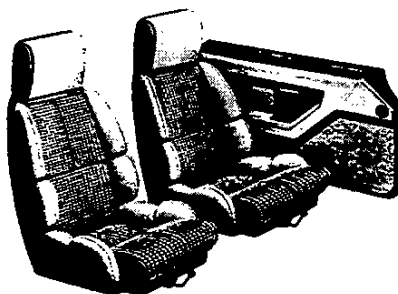
Refer to Passenger Car Order Guide for option availability and application.

SEAT TRIMS & COLORS

CORVETTE STANDARD CLOTH & OPTIONAL LEATHER SEAT TRIM



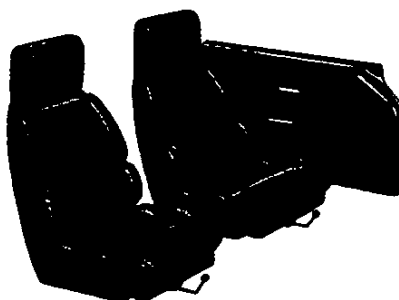
Standard sport cloth interior available in Black or Saddle.



Standard sport cloth reclining bucket seats with integral head restraints and wool-pad comfort liner.



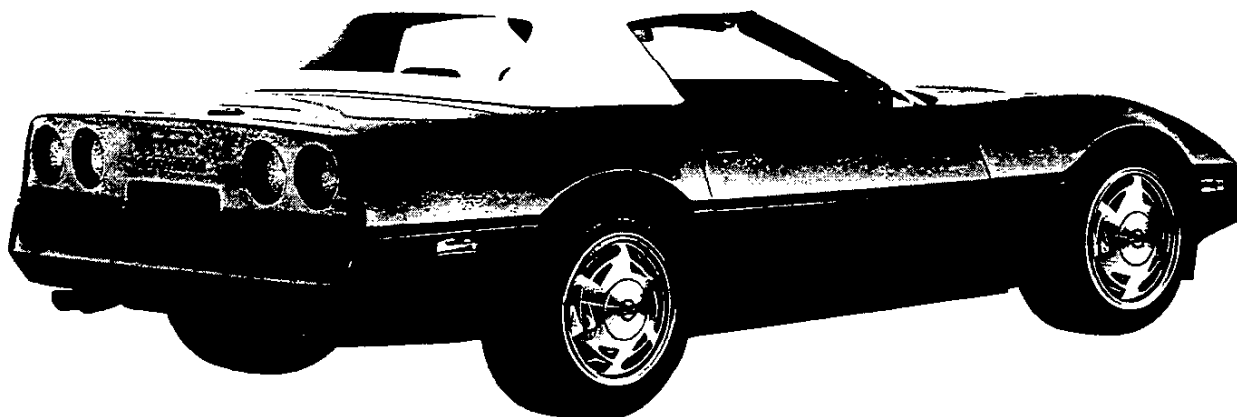
Optional leather seating surfaces available in Blue, Black, Gray, Red or Saddle.



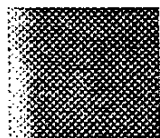
Optional reclining bucket seats with leather seating surfaces, integral head restraints and wool-pad comfort liner.

Refer to Passenger Car Order Guide for option availability and application.

CONVERTIBLE TOP COLORS



19T—Black



67T—Saddle

11T—White

CORVETTE OPTIONS

NOTE: NOT TO BE USED FOR ORDERING. REFER TO ORDER GUIDE FOR CURRENT USAGE AND AVAILABILITY.

☐ INCLUDED IN OPTION PACKAGE

● INDIVIDUAL OPTION AVAILABILITY

PACKAGED OPTIONS (Not available individually unless indicated.)

Delco/Bose Music System

Power Seat (Driver's)

Electronic Air Conditioning

ADDITIONAL INDIVIDUAL OPTIONS

Engine Oil Cooler

Radiator Fan Cooling Boost

Engine Block Heater

Illuminated Vanity Mirror (Driver's Side)

Heavy-Duty Radiator

Roof Panels, Lift-Off Transparent (Blue Tint)

Roof Panels, Lift-Off Transparent (Bronze Tint)

Roof Package (Solid Lift-Off Panel and Lift-Off Transparent Blue or Bronze Tint Panel)

Low Tire Pressure Warning

	CORVETTE COUPE	CORVETTE CONVERTIBLE
	PKG. 1	PKG. 1
	☐	☐
	☐	☐
	☐	☐
	●	●
	●	●
	●	●
	●	●
	●	●
	●	
	●	
	●	
	●	●

Refer to Passenger Car Order Guide for option availability and application.

V

JAN 10, 1989

UPDATE CONCERNING STANDARD AXLE RATIO FOR 1989 CORVETTES:

(Approx.)
FEB 6, 1989
All 1989 CORVETTES PRODUCED PRIOR TO ~~JAN 1, 1989~~ with
the Six (6) SPEED MANUAL transmission will HAVE A 3.54 AXLE
RATIO. All 1989 Six SPEED MANUAL CORVETTES PRODUCED AFTER
~~JAN 1, 1989~~ will HAVE A 3.33 STANDARD AXLE RATIO.
FEB 6, 1989
(Approx)

F.Y.I. only - THE 3.54 AXLE RATIO WILL BE STANDARD ON ZR1'S

NOTE THE CHANGE OF DATES IN THE
UPDATE OF 1/10/89.



CHEVROLET SPECIFICATIONS — 1989 CORVETTE

MODELS PASSENGERS

Coupe 1YY07	2
Convertible 1YY67	2

DIMENSIONS (inches)

EXTERIOR	
Wheelbase	96.2
Length (overall)	176.5
Width (overall)	71.0

INTERIOR	
Head Room—Front	36.4
Shoulder Room—Front	54.0
Hip Room—Front	49.3
Leg Room—Front	42.6

LUGGAGE/CARGO CAPACITY (cu. ft.)	
Luggage Compartment	Coupe 17.9
.....	Convertible 6.6

RATED FUEL TANK CAPACITY (gallons)	
.....	20.0

POWER TEAMS

STANDARD ENGINE
RPO - L98 5.7 Liter TPI V8

STANDARD TRANSMISSION
4-Speed Automatic Overdrive

OPTIONAL TRANSMISSION
6-Speed Manual

STANDARD EQUIPMENT SUMMARY

Clamshell—Opening Front End Assembly for Easy Engine Access
Power—Operated Retractable Halogen Headlamps
Halogen Fog Lamps
Dual Electrically Adjustable Heated Outside Rear View Mirrors
Full—Glass Rear Hatch with Three Remote Releases and Roller—Shade Cargo Cover (Coupe)
One—Piece Removable Fiberglass Roof Panel (Coupe)
Full Folding Roof for Convertible
Rear Back—up Lamps
Front Cornering Lamps
Center High—Mounted Stop Lamp (in Rear Fascia Above on License Plate Pocket on Convertible; Roof—Mounted coupe)
Vats II "Pass Key" Anti—Theft System

Electronic Liquid—Crystal Instrumentation with Multi—Covered Analog and Digital Display; Switchable English or Metric Readouts
Headlamps—on Reminder
Intermittent Wiper System
Electronic Speed Control with Resume Speed
Air Conditioning
Side Window Defoggers
Rear Window Defogger (Coupe)
Day/Night Rearview Mirror with Map and Ashtray Light
AM/FM Stereo Radio with Cassette and Digital Clock*; Four Speakers and Automatic Power Antenna
Center Console with Coin Tray, Cassette Storage
Locking Lighted Storage Compartment and Control Switches for Power Windows, Air Conditioning, Radio, Electric Mirrors and Optional Power Seats and Selective Ride Control
Leather—Wrapped Two—Spoke Sport Steering Wheel
Tilt—Telescopic Steering Wheel and Column
Power Door Locks
Power Windows
Cloth Seats with Lateral Support and Back Angle Adjustment
5.7 Liter V8 Engine with Aluminum Heads, Magnesium Valve Rocker Covers, Tuned—Port Fuel Injection (TPI), Aluminum Intake Manifold with Tuned Runners, and Roller Valve Lifters
Delcotron Generator with Built—in Solid State Regulator
Outside Air Induction System
20—Gallon Fuel Tank with Electric In—Tank Twin—Turbine Fuel Pump
17" x 9 1/2" Cast Aluminum Wheels with P275/40ZR—17 Eagle Tires
Bosch ABS II Anti—Lock Braking System
Independent Front and Rear Suspension with Transverse Fiberglass Leaf Springs and Forged Aluminum A—Arms
Bilstein Digressive Valving Monotube Shock Absorbers
Power Rack—and—Pinion Steering
Power Front/Rear Disc Brake System
Underhood Lamps
Uniframe—Design Body Structure with Corrosion—Resistant Coating
Acoustical Insulation Package

*May be upgraded

SEAT STYLES

STANDARD SEATS
Cloth Standard Bucket Seat

OPTIONAL SEATS
Leather Bucket
Leather Adjustable Sport Bucket

CORVETTE COUPE

COLOR AND TRIM SELECTION

PLEASE NOTE: The Exterior Paint and Interior Trim Combinations Shown Below are the Only Combinations that are Available.

Interior Trim Color		Blue	Black	Gray	Red	Saddle
MODEL	SEAT TYPE					
1YY07	Leather Bucket	ADD2	ABB2	AQQ2	ARR2	AUU2
	* Leather Adjustable Sport Bucket	ADD8	ABB8	AQQ8	ARR8	AUU8
	Cloth Bucket		HBB2			HUU2

*Reqs AC1 & AC3 Power Seats and Z51 Handling Package

SOLID PAINT APPLICATION

Exterior Paint Color	Color Code 1	Color Code 2	Blue	Black	Gray	Red	Saddle
Black	41	41	•	•	•	•	•
Blue, Corvette Med (Met)	20	20	•	•			
Blue, Corvette Dk (Met)	28	28		•			•
Charcoal, Corvette (Met)	96	96		•	•		•
Red, Corvette Bright	81	81		•	•	•	•
Red, Corvette Dk (Met)	68	68		•			•
White, Corvette	10	10	•	•	•	•	•

POWER TEAMS

ENGINE OPTION CONDITION	AXLE RATIO		
	2.59	3.07	3.33
WITH NA5 STANDARD EMISSIONS			
L98 MX0	Std	*G92	—
MN6	—	—	*Std
WITH NN5 CALIFORNIA EMISSIONS			
L98 MX0	Std	*G92	—
MN6	—	—	*Std

*Reqs KC4 Engine Oil Cooler, B4P Radiator Cooling Fan and VO1 Heavy-Duty Radiator

32,045.00 **Model 1YY07**

PREFERRED VEHICLE

MUST ORDER ONE GROUP — NO DELETIONS ALLOWED

1,163.00	Preferred Equipment Group 1	CVA1
	Air Conditioning — Electronic	x
	Delco/Bose Music System. Electronically Tuned AM/FM	
	Stereo Radio w/Seek-Scan, Stereo Cassette Tape and	
	Digital Clock	x
	Power Seat (Driver)	x

Base Vehicles may be ordered by specifying Preferred Equipment Group Code CVAB

✓ REGIONALIZED OPTIONS

ADDITIONAL OPTIONS MAY BE ORDERED FROM THIS LISTING ONLY

ENGINE (Must Order)			ADDITIONAL OPTIONS		
N.C.	L98	5.7 Liter TPI V8	150.00	C68	Air Conditioning, Electronic (Incl w/Group CVA1)
TRANSMISSION (Must Order One)			22.00	G92	Axle, Performance Ratio (Reqs KC4 Eng Oil Cooler, B4P Radiator Cooling Fan and V01 Heavy-Duty Radiator) (N/A Z51 Handling Package)
N.C.	MX0	4-Speed Automatic			
N.C.	MN6	6-Speed Manual (Reqs KC4 Engine Oil Cooler, B4P Radiator Cooling Fan and V01 Heavy-Duty Radiator)	110.00	KC4	Cooler, Engine Oil
EMISSION (Must Order One)			75.00	B4P	Fan, Radiator Cooling Boost
N.C.	NA5	Standard Emissions	20.00	K05	Heater, Engine Block
100.00	NN5	California Emissions	325.00	UJ6	Low Tire Pressure Warning
TIRES			58.00	D74	Mirror, Illuminated Vanity (Driver)
N.C.	---	P275/40 ZR17 B/W (Base)	575.00	Z51	Performance Handling Package (Reqs MN6 Trans) (Incls Special Suspension, KC4 Engine Oil Cooler, B4P Radiator Fan and V01 H.D. Radiator)
WHEELS			240.00	AC3	Power Seat, Six-Way (Driver) (Incl w/Group CVA1)
N.C.	---	17 X 9 1/2" Aluminum Wheels (Base)	240.00	AC1	Power Seat, Six-Way (Passenger) (Reqs AC3 Power Seat)
RADIO EQUIPMENT			40.00	V01	Radiator, Heavy-Duty
V.P.S.	---	AM/FM Stereo Radio w/Seek-Scan, Stereo Cassette Tape Player, Power Antenna and Digital Clock (Base)	615.00	24S	Roof Panels—Transparent Removable, Blue Tint
V.P.S.	UU8	Delco/Bose Music System. Electronically Tuned AM/FM Stereo Radio w/Seek-Scan, Stereo Cassette Tape and Digital Clock (Incl w/Group CVA1)	615.00	64S	Roof Panels—Transparent Removable, Bronze Tint
INTERIOR TRIM			915.00	C2L	Roof Package (Incls Std Solid Panel and Transparent Panel) (Reqs 24S or 64S Panel)
400.00	A**2	Leather Bucket	1695.00	FX3	Selective Ride and Handling, Electronic (Reqs Z51 Handling Package)
1025.00	A**8	Leather Adjustable Sport Bucket			
N.C.	H**2	Cloth Bucket			

REVISED: 1-30-89

1989 ORDER GUIDE
✓ Indicates Change

CORVETTE
Page 3

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CORVETTE CONVERTIBLE

COLOR AND TRIM SELECTION

PLEASE NOTE: The Exterior Paint and Interior Trim Combinations Shown Below are the Only Combinations that are Available.

Interior Trim Color		Blue	Black	Gray	Red	Saddle
MODEL	SEAT TYPE					
1YY67	Leather Bucket	ADD2	ABB2	AQQ2	ARR2	AUU2
	Cloth Bucket		HBB2			HUU2

✓ @CONVERTIBLE TOP SELECTOR

Exterior Paint Color	Color Code 1	Color Code 2	Blue	Black	Gray	Red	Saddle
Black	41	41	19T	10T/19T	10T/19T	19T	19T/67T
Blue, Corvette Med (Met)	20	20	10T/19T	10T/19T			
Blue, Corvette Dk (Met)	28	28		10T/19T			19T/67T
Charcoal, Corvette (Met)	96	96		10T/19T	10T/19T		19T/67T
Red, Corvette Bright	81	81		10T/19T	10T/19T	10T/19T	19T/67T
Red, Corvette Dk	68	68		10T/19T			19T/67T
White, Corvette	10	10	10T	10T/19T	10T/19T	10T/19T	10T/67T

@Convertible Top Option Must Be Specified In "Plus" (+) Option Section of Order Worksheet.

WHITE 10T CONVERTIBLE TOP COLOR BLACK 19T SADDLE 67T

POWER TEAMS

ENGINE OPTION CONDITION	AXLE RATIO		
	2.59	2.73	3.33
WITH NA5 STANDARD EMISSIONS			
L98 MX0	Std	*G92	—
MN6	—	—	*Std
WITH NN5 CALIFORNIA EMISSIONS			
L98 MX0	Std	*G92	—
MN6	—	—	*Std

*Reqs KC4 Engine Oil Cooler, B4P Radiator Cooling Fan and V01 Heavy-Duty Radiator

CORVETTE CONVERTIBLE

37,285.00 **Model 1YY67**

PREFERRED VEHICLE

MUST ORDER ONE GROUP — NO DELETIONS ALLOWED

1,163.00 Preferred Equipment Group 1	CYA1
Air Conditioning — Electronic	x
Delco/Bose Music System. Electronically Tuned AM/FM	
Stereo Radio w/Seek-Scan, Stereo Cassette Tape and	
Digital Clock	x
Power Seat (Driver)	x

Base Vehicles may be ordered by specifying Preferred Equipment Group Code CYAB

✓ REGIONALIZED OPTIONS

ADDITIONAL OPTIONS MAY BE ORDERED FROM THIS LISTING ONLY

ENGINE (Must Order)		INTERIOR TRIM	
N.C.	L98 5.7 Liter TPI V8	400.00.	A**2 Leather Bucket
TRANSMISSION (Must Order One)		N.C.	H**2 Cloth Bucket
N.C.	MX0 4-Speed Automatic	ADDITIONAL OPTIONS	
N.C.	MN6 6-Speed Manual (Reqs KC4 Engine	150.00	C68 Air Conditioning, Electronic (Incl
	Oil Cooler, B4P Radiator Cooling		w/Group CYA1)
	Fan and V01 Heavy-Duty Radiator)	22.00	G92 Axle, Performance Ratio (Reqs KC4
EMISSION (Must Order One)			Eng Oil Cooler, B4P Radiator Cooling
N.C.	NA5 Standard Emissions		Fan and V01 Heavy-Duty Radiator)
100.00	NN5 California Emissions	W.A.	V56 Carrier, Luggage: Black
TIRES		110.00	KC4 Cooler, Engine Oil
N.C.	--- P275/40 ZR17 B/W (Base)	75.00	B4P Fan, Radiator Cooling Boost
WHEELS		W.A.	CC2 Hardtop, Removable
N.C.	--- 17 X 9 1/2" Aluminum Wheels (Base)	20.00	K05 Heater, Engine Block
RADIO EQUIPMENT		325.00	UJ6 Low Tire Pressure Warning
V.P.S.	--- AM/FM Stereo Radio w/Seek-Scan,	58.00	D74 Mirror, Illuminated Vanity (Driver)
	Stereo Cassette Tape Player, Power	240.00	AC3 Power Seat, Six-Way (Driver) (Incl
	Antenna and Digital Clock (Base)		w/Group CYA1)
V.P.S.	UU8 Delco/Bose Music System Electronically	240.00	AC1 Power Seat, Six-Way (Passenger) (Reqs
	Tuned AM/FM Stereo Radio w/Seek-		AC3 Power Seat)
	Scan, Stereo Cassette Tape and	40.00	V01 Radiator, Heavy-Duty
	Digital Clock (Incl w/Group CYA1)		

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1989 ORDER GUIDE

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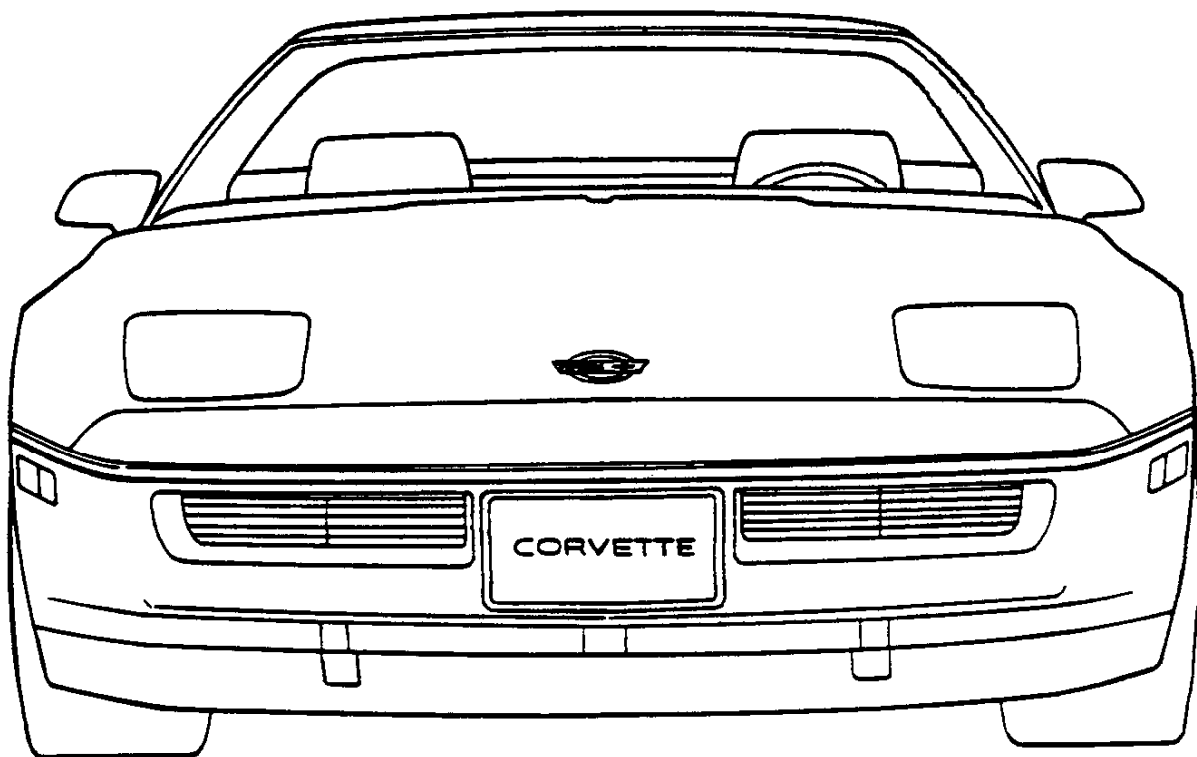
CORVETTE

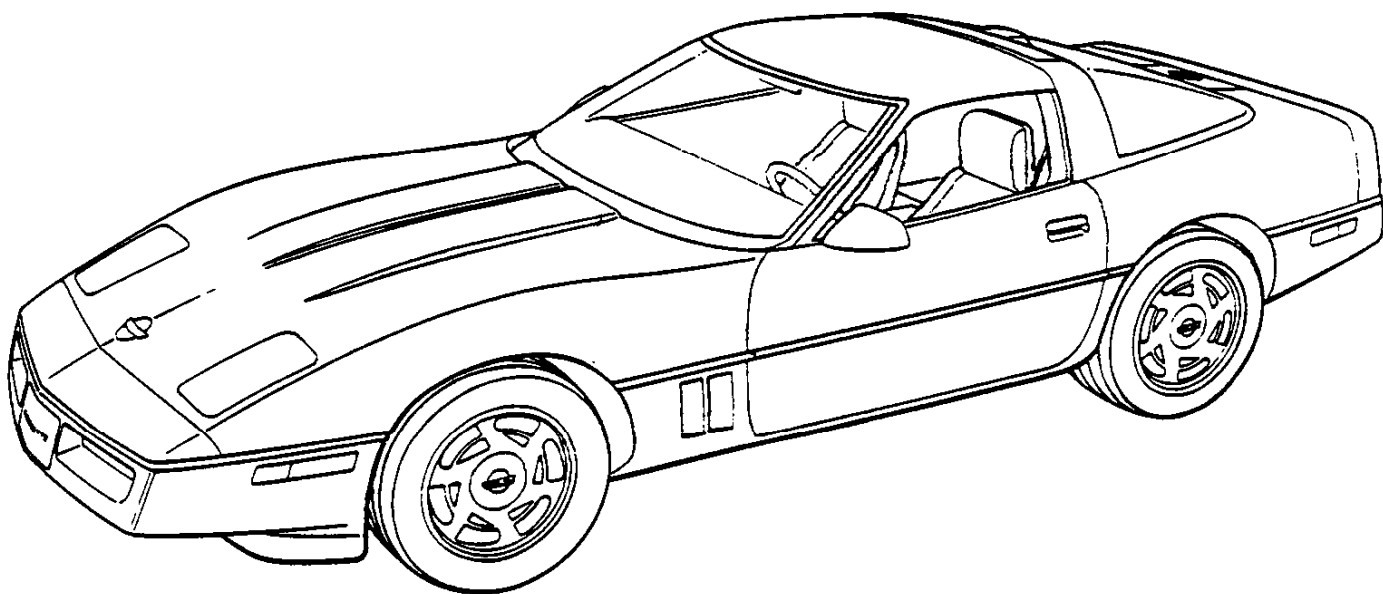
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NOTES

1989 Model Y Car





C-32.

PROGRAM HIGHLIGHTS

The 1989 model Corvette continues to offer the carryover coupe (1YY07) and convertible (1YY67). In addition, the 1989 Corvette includes a new model RPO - "ZR1". This performance coupe model has been introduced to maintain the Chevrolet Corvette image of being a world class competitor. The new model designator is (1YZ07). All models will include light weight body inner panels (except 1YY67 rear).

The ZR1 package consists of the new Lotus designed engine (LT5) which features aluminum case and heads, dual overhead cams, four valves per cylinder, a sixteen runner inlet manifold, two fuel injectors per cylinder, direct fire ignition, crankshaft with centrifugal oil feed and cast aluminum oil pan. It performs with 380 horsepower at 6000 rpm and 370 ft. lbs. torque at 4500 rpm. Also included with the ZR1 is a specific exhaust system, chassis tuning, underhood ECM, ZF six speed manual transmission (ML9), valet mode switch and other required electrical changes. In the ZR1 option are the P315/35ZR-17 tires mounted on 17"x11" wheels on the rear. The additional width of these tires requires widening the rear body of the car 3 inches. This widening begins in the doors and requires new doors, rear quarters, rockers and rear fascia.

A larger slope back radiator system is required due to the increased thermal output of the LT5.

A new convertible hardtop option (CC2) will be available mid-year with the 1989 1YY67 model. The top is constructed as a single piece removable shell. It is body colored with a black headliner and a standard heated backlight. The top weighs 65 lbs.

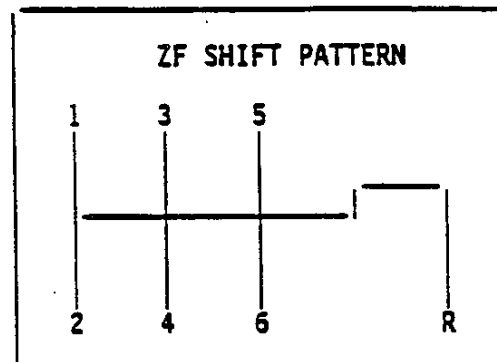
Beginning with S.O.P. for 1989, the Z52 Sport Handling Package is cancelled. All RPO's included in the Z52 package, except for the cooling package, are now part of the base car. QA1 17" wheels are now standard and all 16" wheels have been cancelled.

TRANSMISSION

The LT5 engine requires the "ZF" six speed manual transmission. An automatic transmission is not available with the LT5. The ZF also replaces the Doug Nash manual transmission for L98 applications and is the only manual transmission available in 1989. The ZF is fully synchronized (including reverse) with an internal rail shift mechanism. The shifter assembly is transmission mounted. A dual pivot shifter for compact gating completes the rubber isolated package (for vibration control). The main shaft to counter shaft spacing is 95mm providing a torque capacity rating of 450 ft. lbs.

The new transmission has computer aided gear selection (CAGS). The clutch is an 11 inch diameter unit and features a pull type hydraulic control for reduced pedal effort.

RATIO COMPARISON DOUG NASH VS. ZF		
GEAR	DNE	ZF
1	2.88	2.68
2	1.91	1.80
2 0/D	1.30	N/A
3	1.33	1.31
3 0/D	0.90	N/A
4	1.10	1.00
4 0/D	0.68	N/A
5	N/A	0.75
6	N/A	0.49



The computer-aided shift feature works in this way:

The "one to four" shift is engaged by a computer program which monitors road speed, coolant temperature, engine speed, transmission speed and throttle position. Starting from a standing start in first gear, a computer will select fourth gear when the driver upshifts, even if the driver intends to shift to second gear, if:

- coolant temperature is greater than 50°C, and
- the speed is between 17 and 19 mph (20 and 29 kph), and
- the throttle position is at 35% throttle or less

This programming activates the one to four shift under light acceleration hypherate conditions. Rapid acceleration from a stop cancels the one-to-four GGS engagement.

MANUAL TRANSMISSION MINIMUM RECOMMENDED SHIFT SPEEDS IN MPH (KM/H)

ENGINE	1-2	2-3	3-4	4-5	5-6
5.7L V8	15 (24)	25 (40)	40 (64)	45 (72)	50 (80)
5.7L V8	15 (24)	25 (40)	40 (64)	45 (72)	50 (80)

SUSPENSION

Effective S.O.P. for 1989 base suspension is the former Z52 package, except for cooling features which remain optional with the automatic.

Base Bilstein shocks are a new digressive strategy achieving the required body motion control with much reduced ride harshness. The Selective Ride shocks take advantage of the same digressive valving.

New "Bilstein Selective Ride Control" system (RPO FX3) will be available on both the L98 and LT5 engines. The system will allow the driver to select one of three speed variable control strategies which provide distinctly different ride characteristics. Features include three settings:

- Touring
- Sport
- Performance
- 18 different speed variable shock valving positions with each strategy controlled by a microprocessor
- Electric motors to vary the proportioning valve orifice in each shock to change the shocks damping characteristics
- Automatic over ride to default the system to the setting which provides maximum safety within the vehicles operating range
- 3 position switch for driver selection of control strategy, mounted on the center console panel
- Bilstein digressive valving

FX3 is an available option with L98 and Z51, and with ZR1.

1989 CORVETTE**ELECTRICAL**

A separate key operated switch will prevent unauthorized use of the LT5's maximum performance capabilities - valet mode. This is achieved through limiting engine power output. This will enable parking attendants to move the car safely. The key has a unique grip shape, and must be inserted into switch for full power availability.

Additional electrical engine features include: direct ignition system - 4 twin tower coils, cam sensor and crankshaft sensor, sequential fuel injection - 16 injectors.

CHASSIS

Hydraulic mounts will be standard with the LT5 engine. The intent of the hydraulic mounts is to provide improved engine isolation.

A 2-3/4 inch dual exhaust system is being designed for the KOH. It will provide low restriction to maintain the engine output capabilities. Catalytic converters, will be up-front at the exhaust manifold. Mufflers and resonators will be part of a net build exhaust assembly.

Wheels and tires on the 1989 Z51 & Base will be P275/40ZR17 on the 17x9.5 inch rims. The rear wheels and tires for the ZR1 will be the new P315/35ZR17 tires mounted on 17x11 inch rims. The front tires will be P275/40ZR17's.

DEALER SERVICE

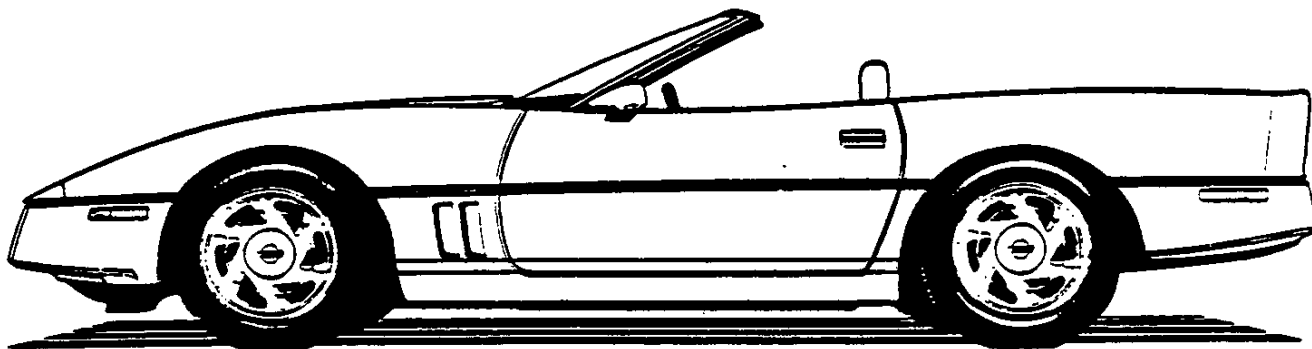
A select group of approximately 500 dealers will initially be selected to distribute the ZR1. This will permit us to monitor customer service problems while ensuring the customer that only qualified dealers will work on this vehicle.

TESTING

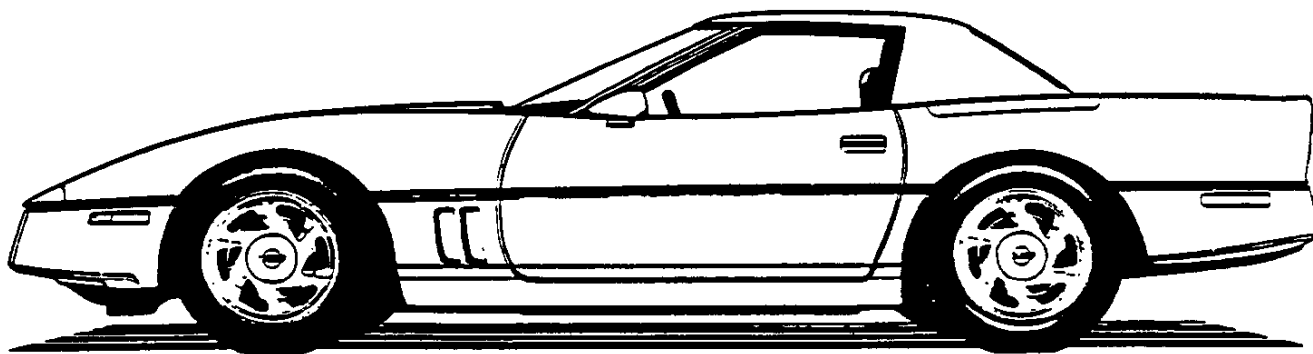
The performance envelope of this car is outside our normal testing limits. Special testing is called for in order to assure customer satisfaction and reliability. The test plan includes endurance testing using professional drivers; providing engine safeties such as a 7,000 RPM fuel shut-off, early throttle valve closure, etc. to protect against engine damage.

1989 CORVETTE

1YY67
CONVERTIBLE

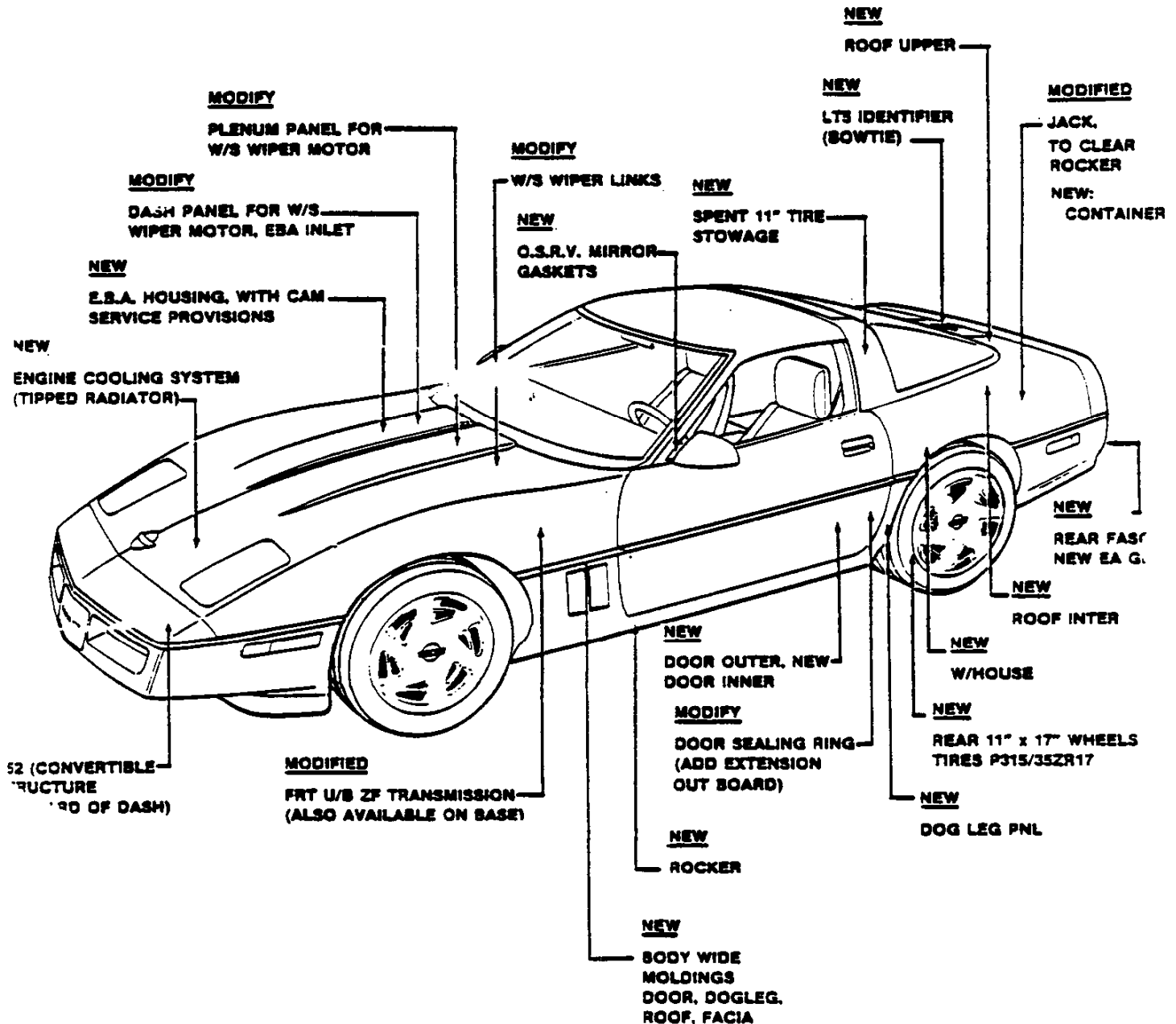


1YY67
CONVERTIBLE WITH
OPTIONAL HARD TOP



1989 CORVETTE MODEL: 1YZ07 - ZR1 BODY SUMMARY

1989 CORVETTE



1989 CORVETTE

1989 CORVETTE POWERTRAIN

ENGINE	TRANSMISSION	MODEL	AXLE USAGE CRITERIA			
			BASE	692	Z51	ZR1
L98	MD8 AUTOMATIC 4-SPEED	DOMESTIC COUPE	2.59	3.07	-	-
		CONV.	2.59	2.73	-	-
		CANADA COUPE	3.07	-	-	-
		CANADA CONV.	2.73	-	-	-
	ML9 6-SPEED MANUAL 2.68 LOW GEAR	DOMESTIC COUPE	3.54	-	3.54	-
		CONV.	3.54	-	-	-
		CANADA COUPE&CONV	3.54	-	3.54 (COUPE)	-
LT5	ML9 6-SPEED MANUAL 2.68 LOW GEAR	PERFORM. COUPE U.S. & CAN	-	-	-	3.54

RPO CODES:

GM1 = 2.59

GU2 = 2.73

G44 = 3.07

GHO = 3.54

1989 CORVETTE

1989½ CORVETTE POWERTRAIN

ENGINE	TRANSMISSION	MODEL	AXLE USAGE CRITERIA			
			BASE	G92	Z51	ZR1
L98	MD8 AUTOMATIC 4-SPEED	DOMESTIC COUPE	2.59	3.07	-	-
		CONV.	2.59	2.73	-	-
		CANADA COUPE	3.07	-	-	-
		CANADA CONV.	2.73	-	-	-
	ML9 6-SPEED MANUAL 2.68 LOW GEAR	DOMESTIC COUPE	3.33	-	3.33	-
		CONV.	3.33	-	-	-
		CANADA COUPE&CONV	3.33	-	3.33 (COUPE)	-
LT5	ML9 6-SPEED MANUAL 2.68 LOW GEAR	PERFORM. COUPE U.S. & CAN	-	-	-	3.54

RPO CODES:

GM1 = 2.59

GU2 = 2.73

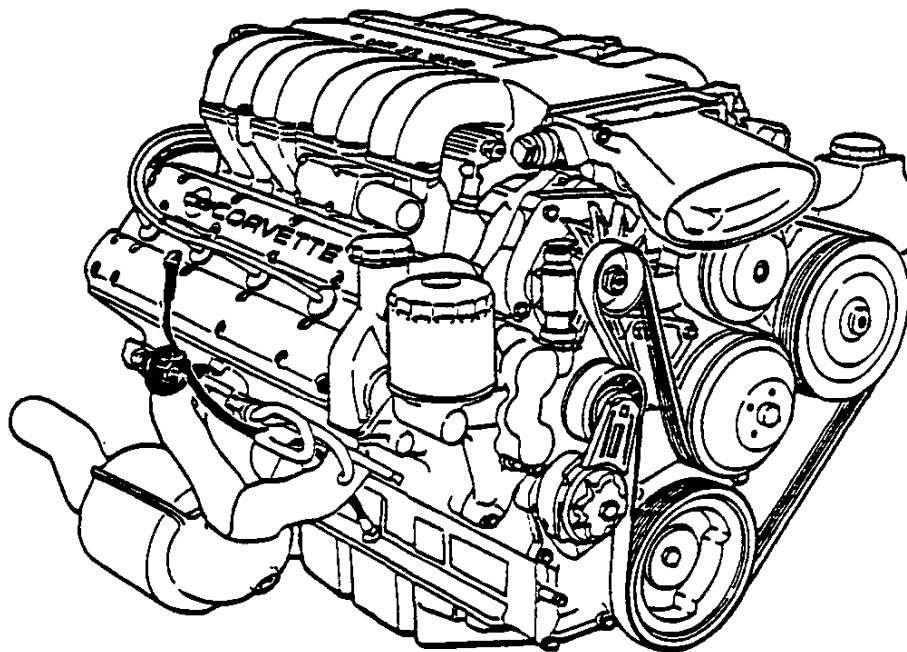
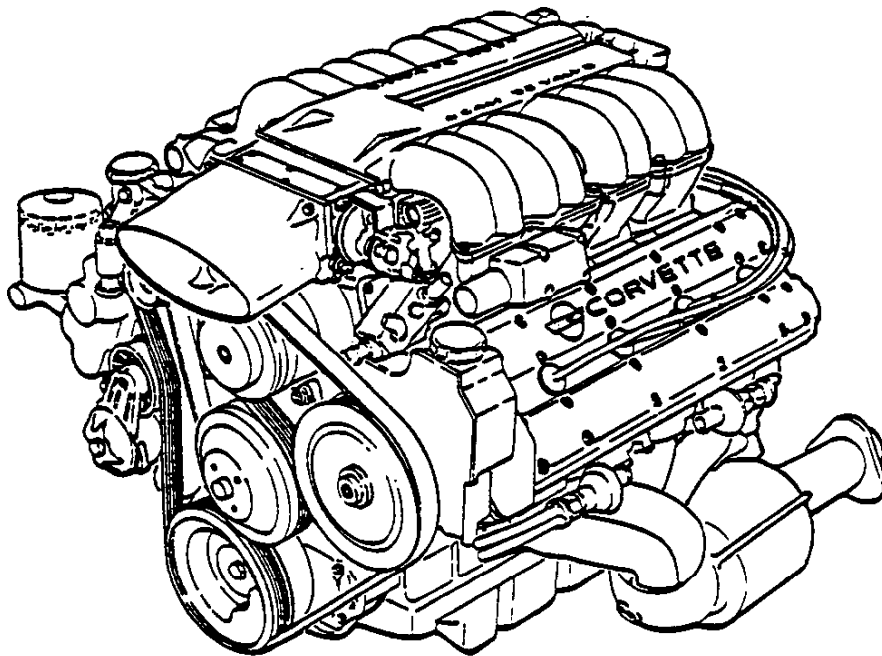
G44 = 3.07

***GT7 = 3.33 (INTERIM 1989 RELEASE)

GHO = 3.54

1989 CORVETTE

LT5 ENGINE



1989 CORVETTE

1989 COLOR CHARTEXTERIOR COLORS

<u>Name</u>	<u>GM Code</u>	<u>WA Code</u>	<u>Merchandising Name</u>
Black Sapphire Blue Metallic C/O	28	8743	Dark Blue
Medium Smoke Gray Metallic C/O	90	9191	Gray
Dark Smoke Gray Metallic C/O	96	9192	Charcoal
Bright Red C/O	81	8774	Bright Red
Medium Brilliant Red Metallic	68	9239	Dark Red
Arctic White	10	8554	White
Black C/O	41	8555	Black
Nassau Blue Metallic C/O	20	8770	Bright Blue

INTERIOR COLORS

		<u>Merchandising Name</u>	<u>Material</u>
Cognac C/O	60	Tan	Leather/cloth
Smoke Gray C/O	90	Gray	Leather
Black C/O	19	Black	Leather/cloth
Red C/O	73	Red	Leather
Blue C/O	21	Blue	Leather-metallic

CONVERTIBLE TOP COLORS

Black	848
White	8936
Saddle	8611

INTERIOR TRIMS

AR9	Bucket (Cloth) Base Leather Optional
AQ9	Sport Bucket Leather Optional

ENGINEERING PRODUCT DIRECTION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
AC1		ADJUSTER - SEAT, POWER 6 WAY PASSENGER	1YY07, 1YY67 Requires AC3
AC3		ADJUSTER - SEAT, POWER 6 WAY DRIVER	1YY07, 1YY67
AQ9		SPORT SEATS, ARTICULATED	Leather trim. Z51 & ZR only.
AU3		ELECTRIC DOOR LOCKS	Standard.
	AR9	SEAT ASSEMBLY - SPECIAL CONTOUR BUCKET	Standard.
B4P		RADIATOR COOLING BOOST FAN - INCLUDED IN Z51.	N.A. LT5
	CC2	REMOVABLE HARD-TOP	Body colored mid-year.
	CC3	ACRYLIC ROOF PANEL	Bronze or blue tint.
	CF7	SMC ROOF PANEL	1YY07
C2L		DUAL ROOF PANELS, SMC AND ACRYLIC - CONSISTS OF CF7 AND CC3.	Model 1YY07 only.
	C49	ELECTRO-CLEAR REAR WINDOW DEFOGGER	Merchandised only as part of Z6A.
	C60	AIR CONDITIONING, MANUAL CONTROL	Standard.
C68		AIR CONDITIONING, ELECTRONIC CONTROL	Not available on LT5.
D64		MIRROR - I/S, RH, VISOR VANITY ILLUM.	Standard
D74		MIRROR - I/S, LH, VISOR VANITY ILLUM.	Optional
DL8		HEATED DUAL SPORT MIRRORS	Electric remote control LH and RH. Convex RH. Standard.

ENGINEERING PRODUCT DIRECTION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
	FE7	SPORT SUSPENSION -Includes: HD lower control arm bushings HD front and rear springs Front and rear stabilizers Fast steering (13:1 OAR)	Merchandised only as part of Z51.
RG3		FRONT AND REAR SHOCK ABSORBERS - Bilstein : Pressure Design	Standard
FX3		ADJUSTABLE RIDE SHOCK ABSORBERS	Electronically Controlled Requires Z51 Suspension.
	GM1	AXLE - REAR, 2.73 RATIO POSITRACTION	Standard ratio for automatic transmission.
	GU2	AXLE - REAR, 2.73 RATIO - Available only on model 1YY67 with automatic transmission.	Optional ratio for G92 domestic. Standard ratio for Canada.
G44		AXLE - REAR, 3.07 RATIO - Available only on Model 1YY07 with automatic transmission.	Optional ratio for G92 domestic. Standard for Canada.
	G87	AXLE - REAR, POSITRACTION - 8-1/2 in. ring gear PD. - Available with manual transmissions only.	
G92		AXLE - REAR, POSITRACTION - Performance axle for automatic transmission.	Not available with LT5. Not available for Canada. Not available on auto. trans. Not available 1YY67 w/BOSE. UU8.
	GHO	AXLE - REAR 3.54 RATIO POSITRACTION	Standard on all manual transmission.
J55		HEAVY DUTY BRAKES	
KC4		ENGINE OIL COOLER - Included in Z51.	Not available with LT5.
	K05	ENGINE BLOCK HEATER - Z49 only.	Not available with LT5.

ENGINEERING PRODUCT DIRECTION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
K34		SPEED AND CRUISE CONTROL - Electronic. Resume feature and tap-up, tap-down.	Standard.
	K68	DELCOTRON - 120 AMP	Standard.
	L98	350 CID V8 ENGINE Port Fuel Injection	Standard.
	LT5	350 CID V8 ENGINE Dual overhead cam	Requires ML9 transmission.
MX0	MD8	AUTOMATIC TRANSMISSION - 4-Speed	Available only on L98.
MN6	ML9	ZF 6 SPEED MANUAL TRANS.	Available w/L-98, Required for LT5 engine.
	NA5	EMISSION SYSTEM - FEDERAL	
	NM5	EMISSION SYSTEM - CANADIAN REQUIREMENTS - Requires Z49.	
	NN5	EMISSION SYSTEM - CALIFORNIA OVERRIDE	
QA1		17 x 9-1/2 WHEEL	
QA2		17 x 9-1/2 WHEELS FRT 17 x 9-1/2 WHEELS RR	Standard on ZR1. Not available on 1YY07, 1YY67.
UJ6		LOW PRESSURE TIRE WARNING SYSTEM	
UM6		RADIO	Standard.
UU8		BOSE RADIO	
VO1		H.D. RADIATOR	
Z6A		REAR WINDOW DEFOGGER SYSTEM	Standard on 1YY07.

ENGINEERING PRODUCT DIRECTION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
	Base	SPORT HANDLING PACKAGE	1YY07, Consists of: Convertible structure (front of dash), 1YY07, 1YY67 RPO FG3 Shock Absorbers, RPO B1X Fast Ratio Steering Gear (13:1 ratio) RPO QA1 Wheel (Alum) 17x9.5 RPO MD8 (Auto) or ML9 (Manual) Transmission
Z51		PERFORMANCE HANDLING PACKAGE	1YY07 Consists of: Convertible structure (front of dash), RPO FE7 Suspension System RPO FG3 Shock Absorbers RPO GH0 3.54 Ratio RPO G87 Ring Gear RPO ML9 Transmission RPO KC4 Cooler RPO VO1 Radiator (heavy duty) RPO B4P Fan Power Steering Oil Cooler
ZR1		PERFORMANCE COUPE PACKAGE	1YZ07. Consists of: *Req' s Z51 package Conv' ble structure (i of dash), RPO L . 5.7 V8 Chevy- Lotus Engine RPO ML9 6 Speed Manual Transmission RPO J55 H.D. Brakes P315/35ZR17 tires mounted on 17 x 11" rims on rear.

PROGRAM HIGHLIGHTS

The 1989 Corvette continues to offer the carryover coupe (1YY07) and convertible (1YY67). In addition the 1989 Corvette includes a new option, RPO ZR1. Announcement is scheduled for spring, 1989. The Performance Coupe model ZR1, has been introduced to maintain the Chevrolet Corvette image of being a world class competitor. The new VIN designator is 1YZ07. All models will include lightweight body inner panels (except 1YY67 rear).

The ZR1 package consists of the Chevy/Lotus designed engine from Mercury Marine, (LT5). It features aluminum case & heads, dual overhead cams, four valves per cylinder, a sixteen runner inlet manifold, two fuel injectors per cylinder, direct fire ignition, crankshaft with centrifugal oil feed and cast aluminum oil pan. Approximate performance figures include 380 horsepower at 6000 rpm and 370 ft. lbs. torque at 4500 rpm. Also included with the ZR1 is a specific exhaust system, chassis tuning, underhood ECM, ZF six speed manual transmission (ML9), power control switch (limiting rpm's in all gears), and other required electrical changes. Also included with the ZR1 option are the P315/35ZR-17 tires mounted on 17" x 11" wheels on the rear. The additional width of these tires requires widening the rear body of the car by 3 inches. Widening begins at the doors and requires new doors, rear quarters, rockers and new rear fascia.

A larger, slope back radiator system is required due to the increased thermal output of the LT5.

A new convertible hard top option (CC2) will be available mid-year with the 1989 1YY67 model. The top is constructed as a single piece removable shell. It is body colored with a black headliner and a standard heated backlight. The top weighs about 65 lbs.

Beginning with SOP for 1989, the Z52 Sport Handling Package is cancelled. All RPO's included in the Z52 package, except for cooling features, are now part of the base car. QA1 17" wheels are now standard and all 16" wheels have been cancelled.

Selective Ride Control (FX3) is a new option feature giving the driver a choice of three separate suspension settings - Tour, Sport & Competition.

The new exterior colors for 1989 are Medium Brilliant Red Metallic & a new, brighter white called Arctic White. Interior colors are carryover.

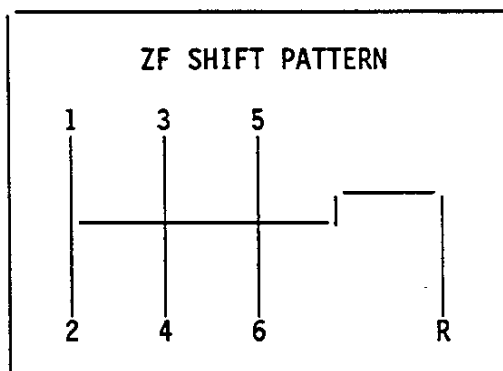
In 1989 Corvette seats have been completely redesigned offering more back support, comfort and better appearance. Trim covers have been revised and perforated leather is discontinued. High quality leather and leather sport seats with multiple power adjustments are optional. Seat backs have been raised 1" to accommodate taller drivers.

TRANSMISSION

The LT5 engine requires the "ZF" six speed manual transmission. An automatic transmission is not available with the LT5. The ZF also replaces the Doug Nash manual transmission for L98 applications and is the only manual transmission available in 1989. The ZF is fully synchronized (including reverse) with an internal rail shift mechanism. The shifter assembly is transmission mounted. A dual pivot shifter for compact gating completes the rubber isolated package (for vibration control). The main shaft to counter shaft spacing is 95mm providing a torque capacity rating of 450 ft. lbs.

The new transmission has computer aided gear selection (CAGS). The clutch is an 11 inch diameter unit and features a pull type hydraulic control for reduced pedal effort.

RATIO COMPARISON DOUG NASH VS. ZF		
GEAR	DNE	ZF
1	2.88	2.68
2	1.91	1.80
2 0/D	1.30	N/A
3	1.33	1.31
3 0/D	0.90	N/A
4	1.10	1.00
4 0/D	0.68	N/A
5	N/A	0.75
6	N/A	0.49



The computer-added shift feature works in this way:

The "one-to-four" shift is engaged by a computer program which monitors road speed, coolant temperature, engine speed, transmission speed and throttle position. Starting from a standing start in first gear, a computer will select fourth gear when the driver upshifts, even if the driver intends to shift to second gear, if:

- the coolant temperature is greater than 50°C, and
- the speed is between 13 and 18 mph (20 and 29 kph), and
- the throttle position is at 35% throttle or less

This programming activates the one-to-four shift under light acceleration hypherate conditions. Rapid acceleration from a stop cancels the one-to four CAGS engagement.

**MAN. TRANS. MINIMUM RECOMMENDED
SHIFT SPEEDS IN MPH (KM/H)**

ENGINE	1-2	2-3	3-4	4-5	5-6
5.7L V8	15	25	40	45	50
	(24)	(40)	(64)	(72)	(80)

COMPUTER AIDED MANUAL TRANSMISSION RECOMMENDED SHIFT SPEEDS IN MPH (KM/H)

ENGINE	1-4	4-5	5-6
5.7L V8	15	25*	40**
	(24)	(40)	(64)

* 30 MPH when accelerating to highway speeds

**** 45 MPH when accelerating to highway speeds**

1989 CORVETTE

VEHICLE SPECIFICATIONS

DIMENSIONS

	MODEL (1YY07)	1YY07 & 1YY67	1YY07 & 1YY67	(ZR1) 1YZ07
	Model Year	1988	1989	1989
L101	Wheelbase (inches)	96.2	96.2	96.2
W101	Tread Front	59.6	59.6	59.6
W102	Rear	60.4	60.4	61.9
	EXTERIOR			
L103	. . . . . Length	176.5	176.5	177.4
W103	. . . . . Width	71.0	71.0	73.2
H191	. . . . . Height	46.7	46.7	46.8
	INTERIOR			
H61	Head Room Front	36.4	36.4	36.4
L34	Leg Room Front	42.6	42.6	42.6
W3	Shoulder Room Front	54.0	54.0	54.0
W5	Hip Room Front	49.3	49.3	49.3
V1	Usable Luggage Cap. (Cu. Ft.) . .	17.9	17.9	17.9
		Top Down	4.19 FT ³	4.19 FT ³
		Top Up	6.59 FT ³	6.59 FT ³

1989 CORVETTE

REPT310
(KILOGRAMS)1989 CHEVROLET Y-CAR
MAJOR UPC SUMMARY

UPC/MODEL	DESCRIPTION	ENGINE CODE/TRANS	
		L98 & MD8 AUTO	L98 & ML9 MANUAL
1YY07	CORVETTE 2 DR COUPE		
1A1	BODY AS PURCHASED	477.5	477.4
1B	BODY MOUNTS	-	-
	TOTAL BODY MASS:	477.5	477.4
2	FRAME	22.2	21.2
3	SUSPENSION - FRONT	35.0	35.0
4	SUSPENSION - REAR	96.4	97.4
5	BRAKES	72.0	72.2
6	ENGINE	241.4	273.7
7	TRANSMISSION	88.1	68.6
8	FUEL & EXHAUST	59.8	60.0
9	STEERING	23.6	23.8
10	WHEELS & TIRES	115.6	115.6
11	FRT/END SHEET METAL	53.8	53.8
12	CHASSIS ELECTRICAL	66.0	66.3
13	RADIATOR & GRILL	6.1	7.2
14A1	BUMPERS - FRONT	17.7	17.7
14A2	BUMPERS - REAR	26.6	26.5
14Z	TOOLS & FUEL SHIP (11.4L)	13.2	13.2
	TOTAL CHASSIS MASS:	936.5	952.2
	SHIPPING MASS:	1414.0	1429.6
	FRONT:	748.0	756.3
	REAR:	666.0	673.3
	FUEL CAP. LESS 11.4L:	47.6	47.6
	FAMILY BASE CURB MASS:	1461.6	1477.2
	FRONT MASS:	735.1	743.3
	REAR MASS:	726.5	733.9
	EPA OPTION MASS:	11.9	11.2
	LOADED VEHICLE WEIGHT:	1609.5	1624.4
	EPA CLASS - LBS.:	3500.0	3625.0
	(EPA CLASS - KGS.):	1587.6	1644.3
	EPA CLASS UPPER LIMIT:	1615.9C	1672.6C
	PREMIUM MATERIAL CONTENT:	10.0	10.0
	EPA RESERVE:	6.4	48.2

1ST: 1YY07 & L98 & MD8.

2ND: 1YY07 & L98 & ML9.

1989 CORVETTE

REPT310
(KILOGRAMS)1989 CHEVROLET Y-CAR
MAJOR UPC SUMMARY

UPC/MODEL	DESCRIPTION	ENGINE CODE/TRANS	
		L98 & MD8 AUTO	L98 & ML9 MANUAL
1YY67	CORVETTE CONVERTIBLE		
1A1	BODY AS PURCHASED	493.1	493.5
1B	BODY MOUNTS	-	-
	TOTAL BODY MASS:	493.1	493.5
2	FRAME	21.2	21.2
3	SUSPENSION - FRONT	35.6	35.6
4	SUSPENSION - REAR	96.6	97.5
5	BRAKES	71.8	72.0
6	ENGINE	243.6	273.9
7	TRANSMISSION	88.1	68.6
8	FUEL & EXHAUST	59.7	59.6
9	STEERING	23.6	23.8
10	WHEELS & TIRES	115.6	115.6
11	FRT/END SHEET METAL	53.7	53.7
12	CHASSIS ELECTRICAL	66.7	66.4
13	RADIATOR & GRILL	6.1	7.2
14A1	BUMPERS - FRONT	17.7	17.7
14A2	BUMPERS - REAR	26.8	26.7
14Z	TOOLS & FUEL SHIP (11.4L)	12.8	12.8
	TOTAL CHASSIS MASS:	939.6	952.3
	SHIPPING MASS:	1432.7	1445.8
	FRONT:	753.6	760.5
	REAR:	679.1	685.3
	FUEL CAP. LESS 11.4L:	47.6	47.6
	FAMILY BASE CURB MASS:	1480.3	1493.4
	FRONT MASS:	740.7	747.5
	REAR MASS:	739.6	745.9
	EPA OPTION MASS:	42.7	42.0
	LOADED VEHICLE WEIGHT:	1659.0	1671.4
	EPA CLASS - LBS.:	3625.0	3625.0
	(EPA CLASS - KGS.):	1644.3	1644.3
	EPA CLASS UPPER LIMIT:	1672.6C	1672.6C
	PREMIUM MATERIAL CONTENT	0.0	0.0
	EPA RESERVE:	13.6	1.2

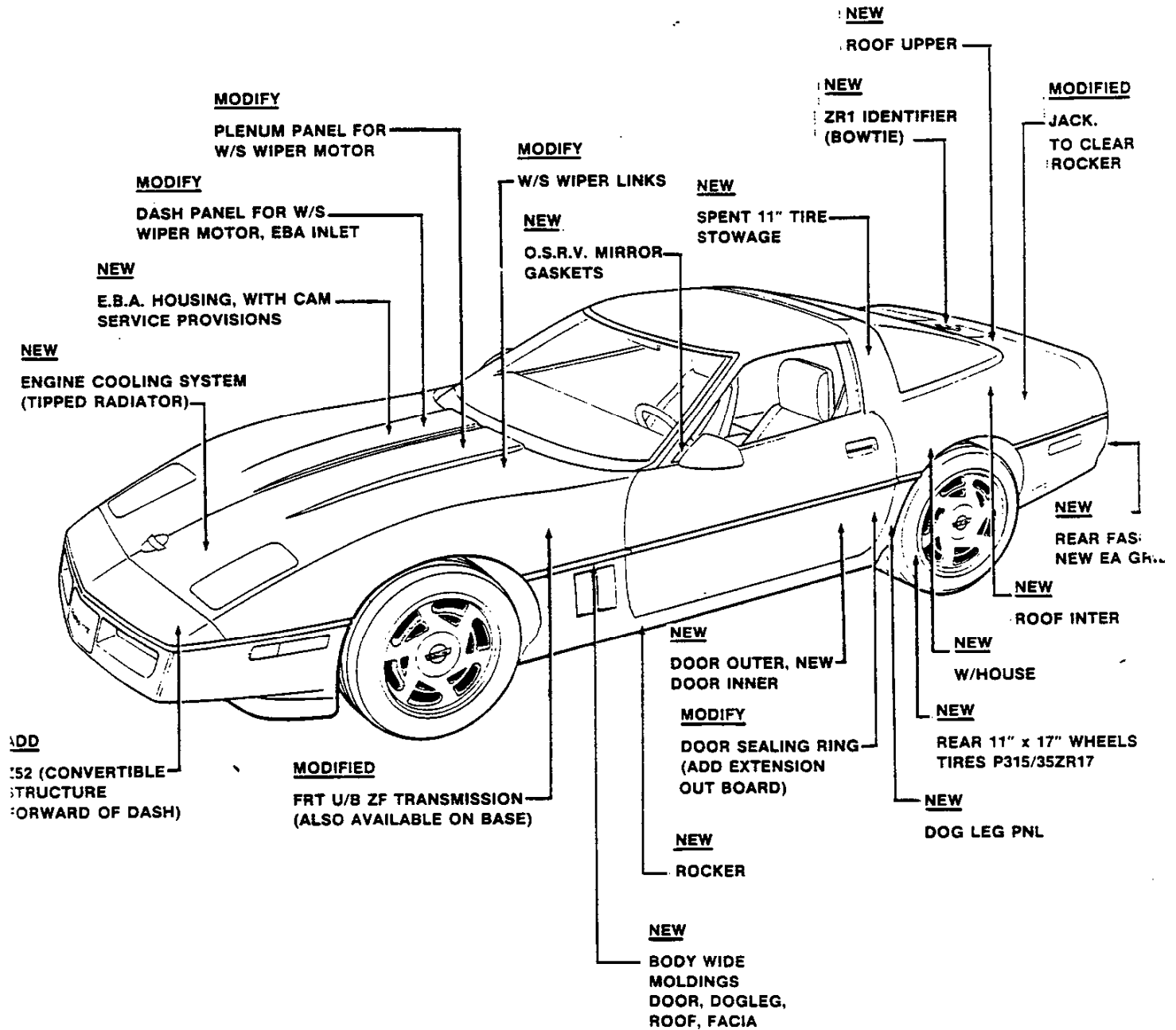
1ST: 1YY67 & L98 & MD8.

2ND: 1YY67 & L98 & ML9.

C -- CALCULATED

1989 CORVETTE RPO: 1YZ07 — ZR1 BODY SUMMARY

1989 CORVETTE



1989 CORVETTE

1989 MODEL CORVETTE BRAKE SPECIFICATIONSWHEEL BRAKES

	<u>BASE</u>	<u>Z51</u>	<u>ZR1</u>
Front:			
Rotor (l)	305 x 20 mm	330 x 28 mm	330 x 28 mm
Caliper Size	-----39 mm Dual Piston-----		
Lining IB	C-26	C-26	C-26
OB	C-26	C-26	C-26
Rotor Construction	Vented	Vented	Vented

Rear:

Rotor (l)	305 x 20 mm	305 x 20 mm	305 x 20 mm
Caliper Size	-----40.5 mm Single Piston-----		
Lining IB	B-33	B-33	B-33
OB	B-33	B-33	B-33
Rotor Construction	Vented	Vented	Vented

WHEEL SIZE

Front	17 x 9.5	17 x 9.5	17 x 9.5
Rear	17 x 9.5	17 x 9.5	17 x 11
Bolt Circle	120.65 mm	120.65 mm	120.65 mm

BEARING

Stud Size	12mm
Bolt Circle	120.65 mm
Uniformity	Studs .25mm from True Position
	Pilot .125mm from True Position

*Z51 option requires heavy duty brakes

*All LT5 require heavy duty brakes

1989 CORVETTE

1989 'Y' CAR
PRODUCT PROGRAM WEIGHT REPORT
33% EPA OPTION
ALL WEIGHTS IN KILOGRAMS

RPO	DESCRIPTION	1YY07	
		MD8	ML9
AC1	Seat Adjuster/6-Way Power, Passenger	4.1	4.1
AC3	Seat Adjuster/6-Way Power, Driver	4.1	4.1
B4P	Radiator Cooling Booster Fan	1.9	---
CC3	Removable Plastic Roof Hatch Panel	-1.4	-1.4
KC4	Engine Oil Cooler	1.7	---
UQ4	Bose Speaker System N/A 1YY07 w/3.07 Axle	3.7	3.7
UU8	AM/FM Stereo, Cass., Dolby, Clock, ETR	<u>.7</u>	<u>.7</u>
TOTALS		14.8	11.2

Federal and California EPA penetrations are equal.

1989 PRODUCT INFORMATION

1989 CORVETTE

PROGRAM HIGHLIGHTS

The 1989 model Corvette continues to offer the carryover coupe (1YY07) and convertible (1YY67). In addition, the 1989 Corvette includes a new model RPO - "ZR1". This performance coupe model has been introduced to maintain the Chevrolet Corvette image of being a world class competitor. The new model designator is 1YZ07.

The ZR1 package consists of the new Lotus designed engine (LT5) which features aluminum case and heads, dual overhead cams, four valves per cylinder, a sixteen runner inlet manifold, two fuel injectors per cylinder, direct fire ignition, crankshaft with centrifugal oil feed and cast aluminum oil pan. Also included with the ZR1 is a specific exhaust system, chassis tuning (Z51 or Z52 suspension), underhood ECM, ZF six speed manual transmission (ML9), valet mode switch and other required electrical changes. In the ZR1 option are the P315/35ZR-17 tires mounted on 17"x11" wheels on the rear. The size of this wheel-tire combination forces wheel flares and the new body panels. The flares begin at the front edge of the door cut line, requiring new door outers, rear roof, fascia lighting, and rocker panel.

The LT5 engine is available as a separate option on both the coupe and convertible. The larger wheels and tires are only available with the ZR1 option. A larger slope back radiator is required due to the increased thermal output of the LT5.

A new convertible hardtop option (CC2) is available with the 1989 1YY67 model. The top is constructed as a single piece removable shell. It is body colored with a black headliner and a standard heated backlight.

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A1

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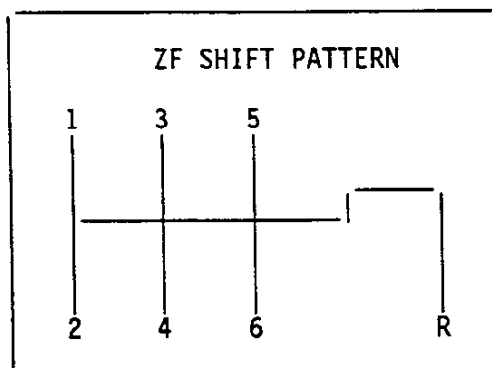
1989 CORVETTE

TRANSMISSION

The LT5 engine requires the "ZF" six speed manual transmission. A heavy duty automatic transmission is not available for use with the LT5. The ZF also replaces the Doug Nash manual transmission for L98 applications and is the only manual transmission available in 1989. (LT5 engine requires the ZF transmission although the ZF transmission can be used on either the L98 or the LT5). The ZF is fully synchronized with an internal rail shift mechanism. The shifter assembly is transmission mounted. A dual pivot shifter completes the package for vibration control. The main shaft to counter shaft spacing is 95mm providing a torque capacity rating of 450 ft. lbs.

The new transmission has computer aided gear selection. The clutch is an 11 inch diameter unit and features a push type hydraulic control for reduced pedal effort.

RATIO COMPARISON DOUG NASH VS. ZF		
GEAR	DNE	ZF
1	2.88	2.68
2	1.91	1.80
2 O/D	1.30	N/A
3	1.33	1.31
3 O/D	0.90	N/A
4	1.10	1.00
4 O/D	0.68	N/A
5	N/A	0.75
6	N/A	0.49



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A2

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1989 PRODUCT INFORMATION

1989 CORVETTE

1989 COLOR CHART

EXTERIOR COLORS

<u>Name</u>	<u>GM Code</u>	<u>WA Code</u>	<u>Merchandising Name</u>
Black Sapphire Blue Metallic C/O	28	8743	Dark Blue
Medium Smoke Gray Metallic C/O	90	9191	Gray
Dark Smoke Gray Metallic C/O	96	9192	Charcoal
Bright Red C/O	81	8774	Bright Red
Flame Red Metallic C/O	74	8748	Dark Red
Yellow C/O	35	8769	Yellow
White C/O	40	8554	White
Black C/O	41	8555	Black
Nassau Blue Metallic C/O	20	8770	Bright Blue
Silver Metallic C/O	13	7781	Silver

INTERIOR COLORS

Cognac C/O	60	Tan	Leather/cloth
Smoke Gray C/O	90	Gray	Leather
Black C/O	19	Black	Leather/cloth
Red C/O	73	Red	Leather
Blue C/O	21	Blue	Leather-metallic

CONVERTIBLE TOP COLORS

Black	848
White	8936
Saddle	8611

INTERIOR TRIMS

AR9	Bucket (Cloth) Base Leather Optional
AQ9	Sport Bucket Leather Optional

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A5

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1989 PRODUCT INFORMATION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
AC1		ADJUSTER - SEAT POWER 6 WAY PASS	1YY07, 1YY67
AC3		ADJUSTER - SEAT, POWER 6 WAY DRIVER	1YY07, 1YY67
AQ9		SPORT SEATS, ARTICULATED	Leather trim.
AU3		ELECTRIC DOOR LOCKS	Standard.
	A51	SEAT ASSEMBLY - SPECIAL CONTOUR BUCKET	Standard.
B4P		RADIATOR COOLING BOOST FAN - INCLUDED IN Z51.	N.A. LT5
	CC2	REMOVABLE HARD-TOP	Body colored.
	CC3	ACRYLIC ROOF PANEL	Bronze or blue tint.
	CF7	SMC ROOF PANEL	1YY07
Z2L		DUAL ROOF PANELS, SMC AND ACRYLIC - CONSISTS OF CF7 AND CC3.	Model 1YY07 only.
	C49	ELECTRO-CLEAR REAR WINDOW DEFOGGER	Merchandised only as part of Z6A.
	C60	AIR CONDITIONING, MANUAL CONTROL	Standard.
C68		AIR CONDITIONING, ELECTRONIC CONTROL	Not available on LT5.
	DG7	DUAL SPORT MIRRORS	Standard. Electric remote control, LH and RH. Convex RH.
D64		MIRROR - I/S, RH, VISOR VANITY ILLUM.	Standard
D74		MIRROR - I/S, LH, VISOR VANITY ILLUM.	Optional
DL8		HEATED DUAL SPORT MIRRORS - INCLUDED IN Z6A FOR MODEL 1YY07. - REQUIRED W/CC2	Electric remote control, LH and RH. Convex RH. Merchandised only as part of for model 1YY07.

1989 PRODUCT INFORMATION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
	FE7	SPORT SUSPENSION -Includes: HD lower control arm bushings HD front and rear springs Front and rear stabilizers Fast steering (13:1 OAR) Prop shafts with torsional damper.	Merchandised only as part of Z51 & Z52.
FG3		HD FRONT AND REAR SHOCK ABSORBERS - Bilstein Gas Pressure Design - Included in Z51, & Z52 for model 1YY07.	
	FX3	ADJUSTABLE RIDE SHOCK ABSORBERS	Electronically Controlled
	GM1	AXLE - REAR, 2.59 RATIO Positraction - Available only on model 1YY07.	Standard ratio for automatic transmission.
	GU2	AXLE - REAR, 2.73 RATIO - Available only on model 1YY67.	Standard ratio for automatic transmission.
G44		AXLE - REAR, 3.07 RATIO Positraction	Standard ratio for manual transmissions.
	G87	AXLE - REAR, 3.07 RATIO Positraction - 8-1/2 in. ring gear PD. - Available with manual transmissions only.	
G92		AXLE - REAR, 3.07 RATIO Positraction - Available on model 1YY67. - Available on Z52 for automatic on model 1YY07 & 1YY67.	Not available with LT5.
J55		HEAVY DUTY BRAKES	
KC4		ENGINE OIL COOLER - Included in Z51, Z52.	Not available with LT5.
	K05	ENGINE BLOCK HEATER - Z49 only.	

1989 PRODUCT INFORMATION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
K34		SPEED AND CRUISE CONTROL - Electronic. Resume feature and tap-up, tap-down.	Standard.
	K68	DELCOTRON - 120 AMP	Standard.
	L98	350 CID V8 ENGINE Port Fuel Injection	Standard.
	LT5	350 CID V8 ENGINE	Requires ML9 transmission.
	MD8	AUTOMATIC TRANSMISSION - 4-Speed	
	ML9	ZF 6 SPEED MANUAL TRANS.	Available w/L-98, Required for LT5 engine.
MX0		AUTOMATIC TRANSMISSION - Consists of MD8.	Merchandising option for MD8. Only available with L98.
	NA5	EMISSION SYSTEM - FEDERAL	
	NM5	EMISSION SYSTEM - CANADIAN REQUIREMENTS - Requires Z49.	
	NN5	EMISSION SYSTEM - CALIFORNIA OVERRIDE	
	PY3	16 x 8-1/2 CAST ALUMINUM WHEEL	Standard 1YY07 & 1YY67.
QA1		17 x 9-1/2 WHEEL	Standard on Z51, Z52.

* Interim

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C3

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1989 PRODUCT INFORMATION

1989 CORVETTE

REGULAR PRODUCTION OPTIONS - DOMESTIC

MERCHAN- DISING RPO	PROCESSING RPO	NAME AND USAGE	REMARKS
	QZD	P255/50ZR16 BLACKWALL EAGLE VR50 TIRE	Standard.
UJ6		LOW TIRE PRESSURE WARNING	
Z51		PERFORMANCE HANDLING PACKAGE	1YY07 Consists of: Convertible structure (front of dash), RPO FE7 Suspension System RPO FG3 Shock Absorbers RPO G44 Axle 3.07 Ratio RPO G87 Ring Gear RPO PW9 Wheel (Alum. 16x9.5) RPO ML9 Transmission RPO KC4 Cooler RPO V01 Radiator (heavy duty) RPO B4P Fan
Z52		SPORT HANDLING PACKAGE	1YY07, Consists of: Convertible structure (front of dash), 1YY07, 1YY67 RPO FG3 Shock Absorbers, RPO B1X Fast Ratio Steering Gear (13:1 ratio) RPO QA1 Wheel (Alum) 17x9.5 RPO MD8 (Auto) or ML9 (Manual) Transmission RPO KC4 Cooler RPO V01 Radiator (H.D.) RPO B4P Fan
ZR1		PERFORMANCE COUPE PACKAGE	1YZ07, Consists of: *Requires Z51/Z52 package Convertible structure (front of dash), RPO LT5 5.7 V8 Chevy- Lotus Engine RPO FX3 Selective Ride Shock Absorbers RPO ML9 6 Speed Manual Transmission RPO J55 H.D. Brakes P315/35ZR17 tires mounted on 17 x 11" rims on rear.

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C4

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1989 PRODUCT INFORMATION

1989 CORVETTE

1989 CORVETTE POWERTRAIN

COUPE (1YY07)	AXLE RATIOS	
	MANUAL (ML9)	AUTOMATIC (MD8)
Base	3.31 (1)	2.59
Z51 - Performance Handling	3.54	--
Z52 - Sport Handling	3.31 (1M)	2.59 (1A)
G92 - Performance Axle	--	3.07 Opt.
FX3 & Z52 - Adjustable Ride	3.54	3.07
Z49 - Canada	3.54	3.07
LT5 - DOHC	3.54	--

COUPE (1YYZ07)

ZR1 - Special Perf. Model	3.54 (4/6)	--
---------------------------	------------	----

CONVERTIBLE (1YY67)

Base	3.31 (3)	2.59
Z52 - Sport Handling	3.31	2.73
FX3 & Z52 - Adjustable Ride	3.54	3.07 (2)
Z49 - Canada	3.54	3.07
LT5 - DOHC	3.54 (5)	--

- (1A) - Fuel Economy Vehicle (3500/6.0)
- (1M) - Fuel Economy Vehicle (3625/6.0)
- (2) - Fed. A Selection Data Vehicle (3625/6.7)
- (3) - Fed. B Selection Data Vehicle (3625/6.9)
- (4) - Fuel Economy Vehicle (3750/6.3)
- (5) - Fed. A Selection Data Vehicle (3750/6.7)
- (6) - Fed/ B Selection Data Vehicle (3750/6.3)

Engine - 5.7L TPI L98 - Used with all models except LT5
5.7L DOHC TPI LT5.

Torque Converter - Code 68

Tires - P255/50VR16 - Standard
P275-40VR17 - Standard on Z51/Z52
- Standard ZR1 (Front)
P315/35VR17 - Standard ZR1 (Rear)

RPO DESCRIPTIONS

MD8 - 700R4 Automatic Transmission
ML9 - Z.F. 6 Speed Manual Transmission
Z49 - Mandatory Canadian Equipment

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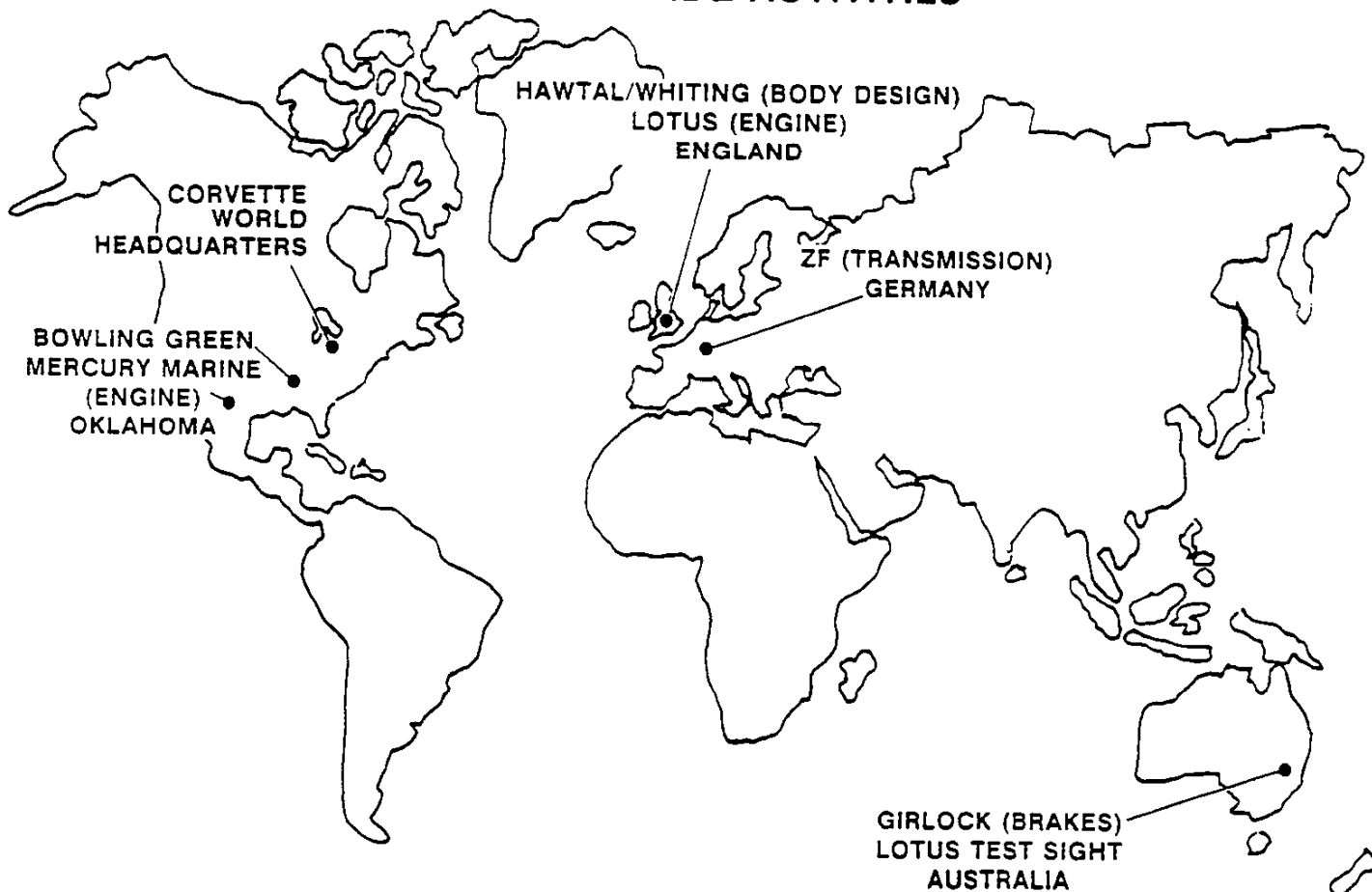
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ZR-1

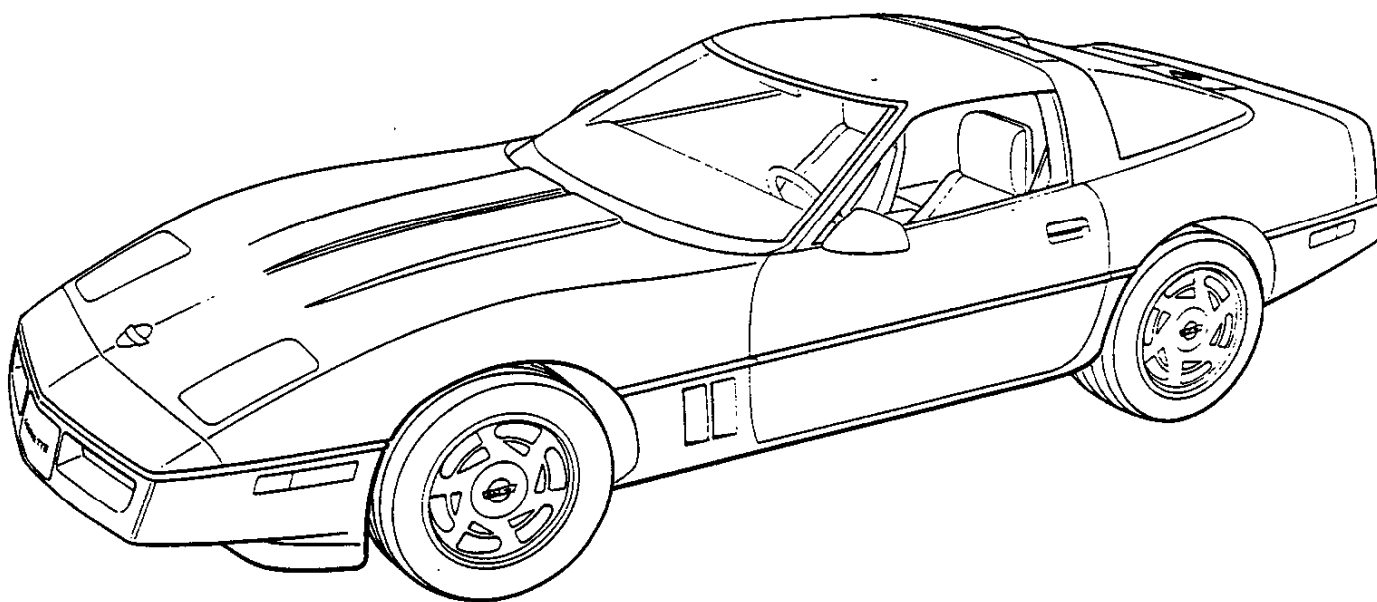
WORLD WIDE ACTIVITIES



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F1

1989 CORVETTE

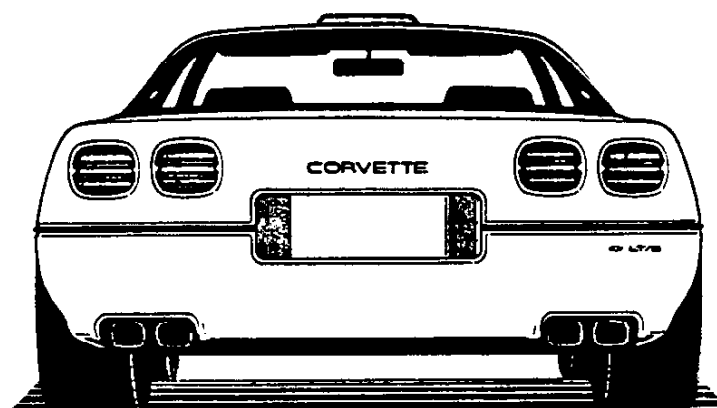
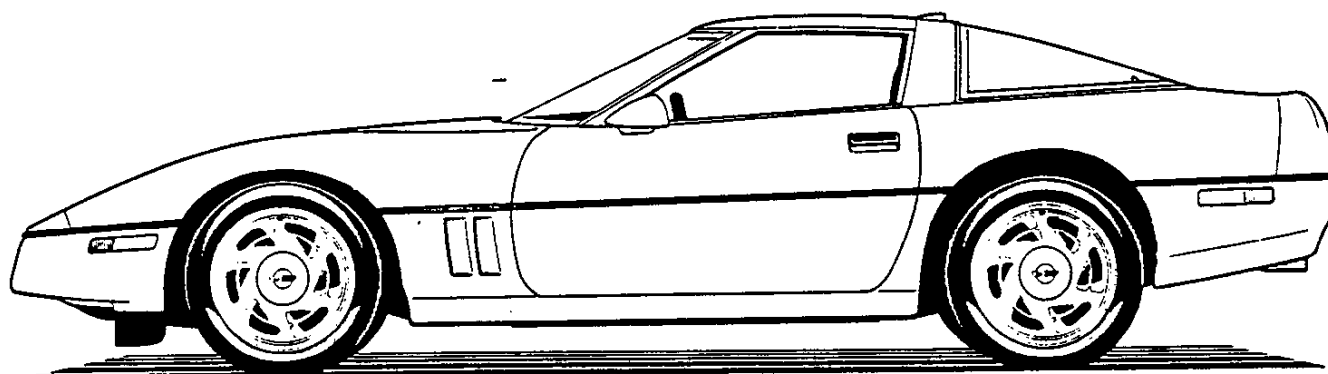
1YY07
COUPE



1989 PRODUCT INFORMATION

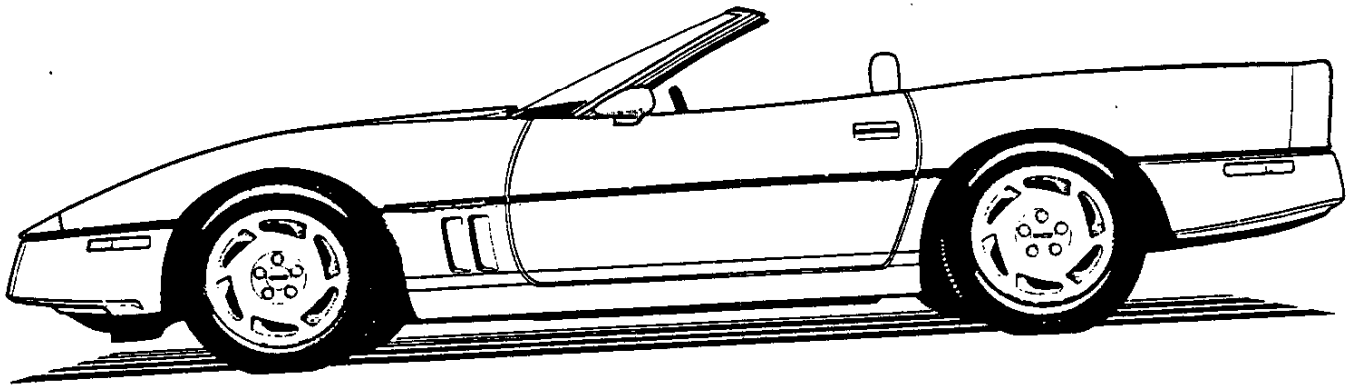
1989 CORVETTE

1YZ07
ZR1 COUPE
17" WHEELS

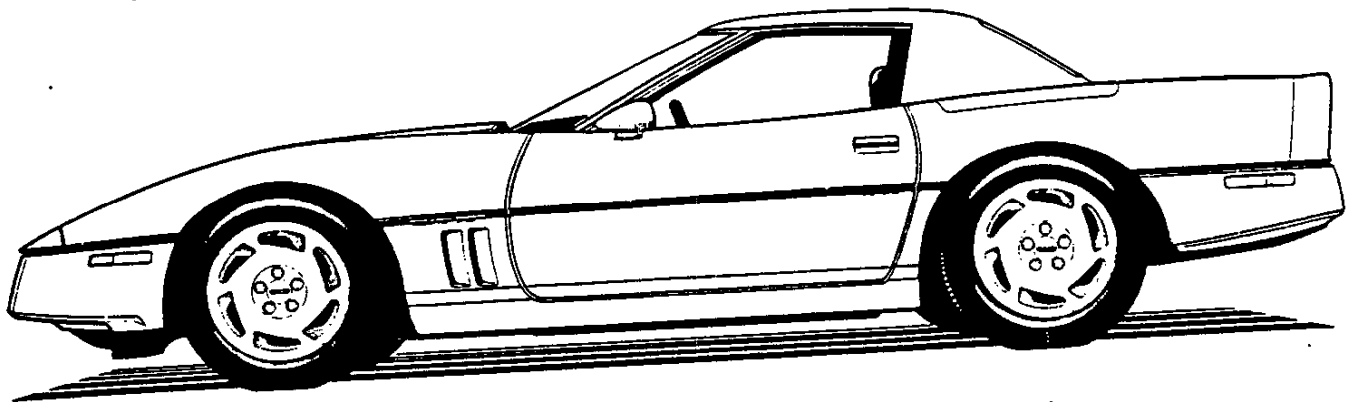


1989 PRODUCT INFORMATION

1YY67
CONVERTIBLE
16" WHEELS

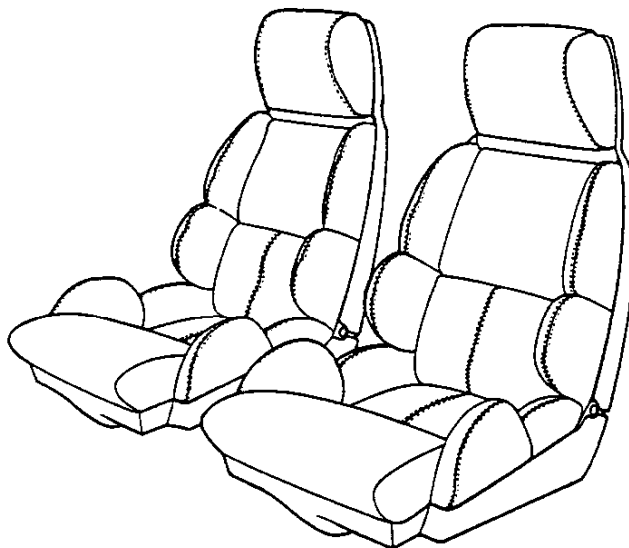


1YY67
CONVERTIBLE WITH
OPTIONAL HARDTOP

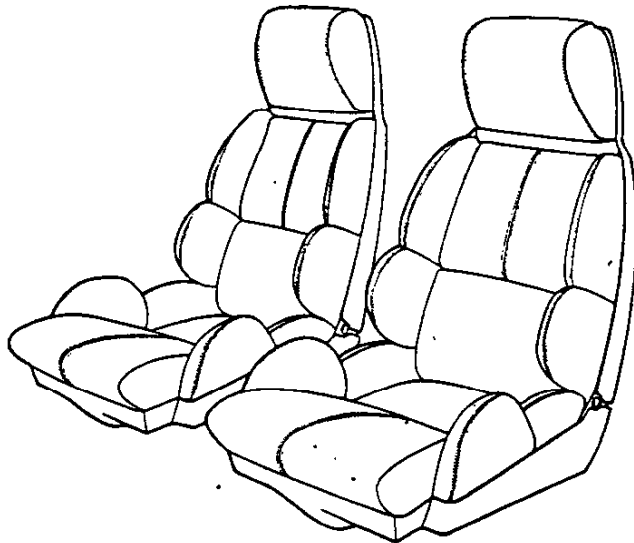


1989 PRODUCT INFORMATION

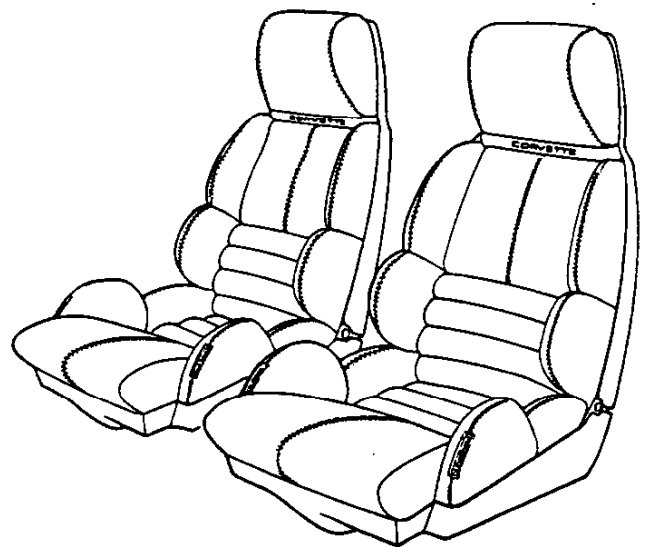
1989 CORVETTE



A51 — AVAILABLE (LEATHER)



A51 — STANDARD (CLOTH)

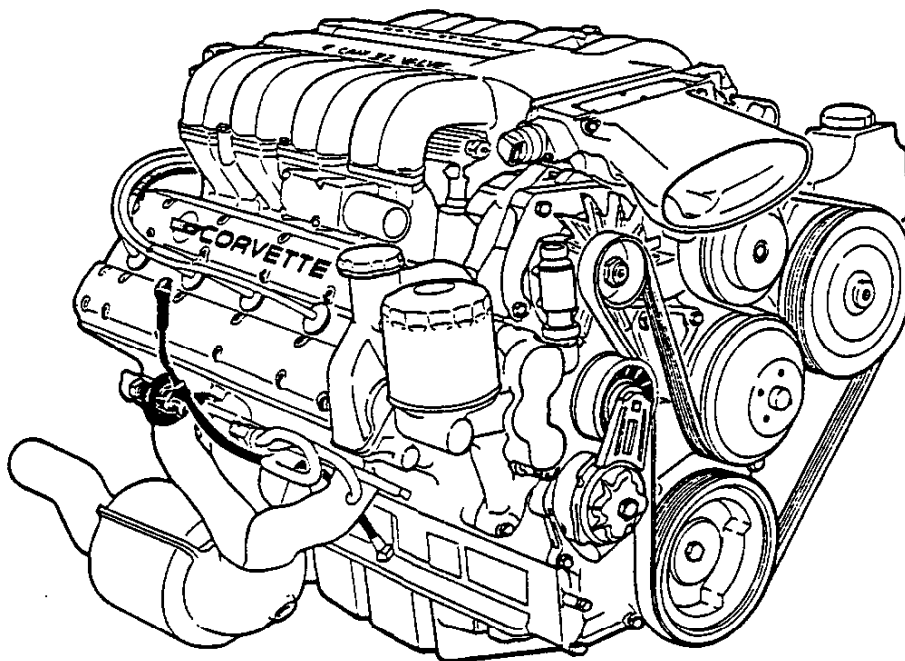
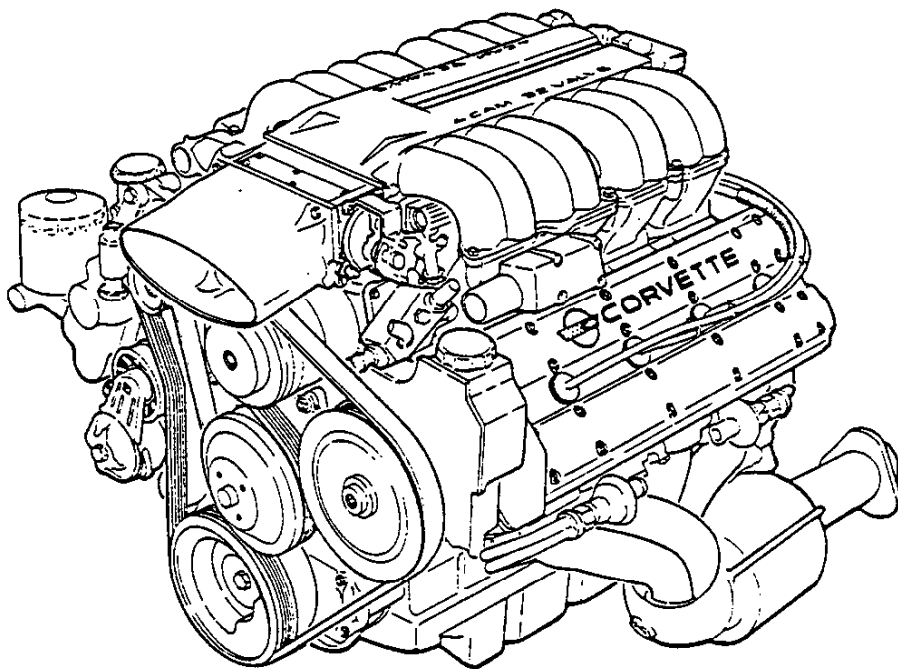


AQ9 — AVAILABLE

1989 PRODUCT INFORMATION

LT5

1989 CORVETTE

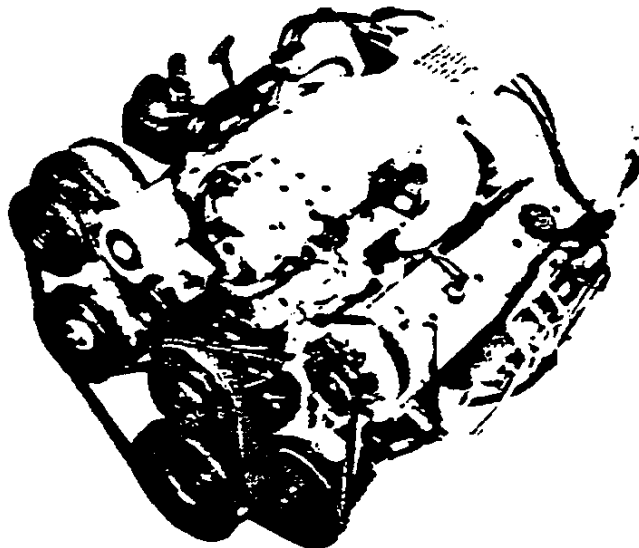


1989 PASSENGER CAR
POWER TRAIN COMPONENTS

FEATURES

ENGINES - CONTINUED

5.0L AND 5.7L TPI V8 ENGINES
(RPO LB9 CAMARO, FIREBIRD;
L98 CAMARO, FIREBIRD, CORVETTE)



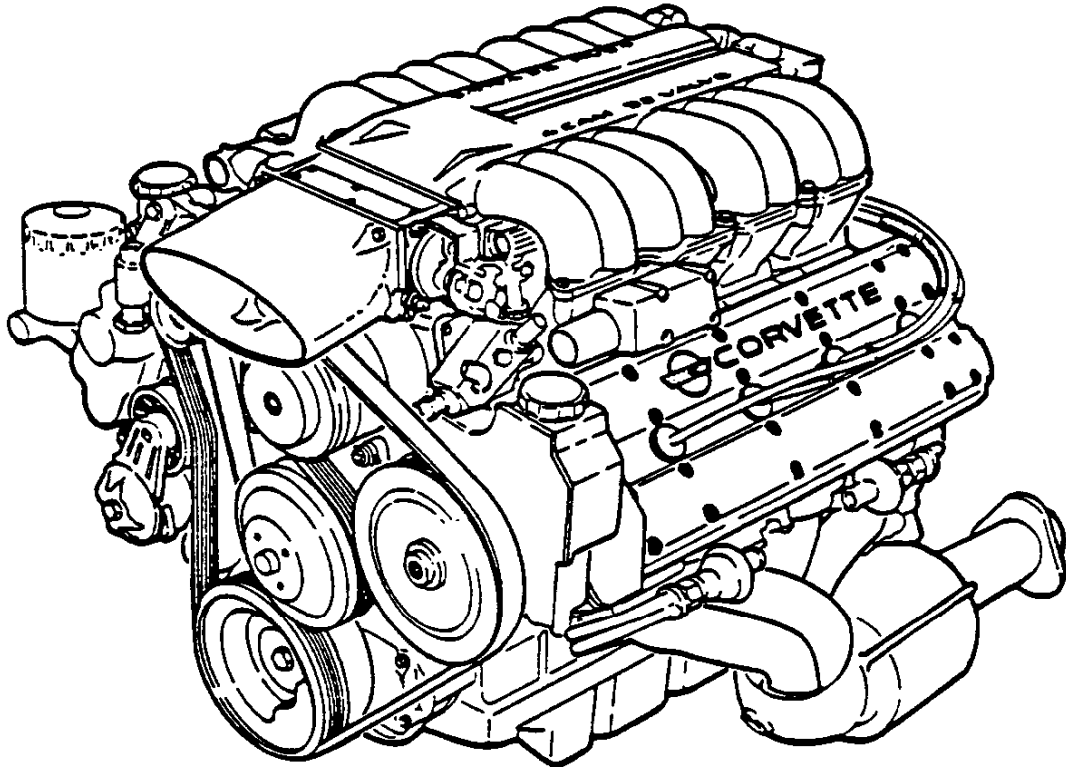
Prior to 1989, the 5.0L and 5.7L Tuned Port Fuel Injection V8 engines (RPO LB9 on Camaro and Firebird and RPO L98 on Camaro, Firebird and Corvette) utilized a cold start injector system. The separate injector sprayed fuel into the inlet manifold during engine crank to provide additional enrichment necessary to start a cold engine. The system provided total calibration flexibility. With the benefit of extended development experience, calibration maturity reached the point where the cold start injector system was no longer required. Thus, for 1989, the cold start injector has been eliminated. As a result, a high level of driveability is maintained at a lower cost with increased reliability.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

FEATURES

ENGINES

5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)



The new (interim 1989) Corvette "ZR1" performance coupe features an exciting powerplant known as the LT5. Pleasing to the eye, this efficiently packaged V8 engine is loaded with technologically advanced componentry.

The dual personality of the LT5 gives the customer, in effect, two engines in one. High performance and horsepower at the top-end is nicely balanced by smooth and responsive low-end operation. The engine delivers a fuel economy rating above the federal gas-guzzler level and meets all applicable emissions requirements.

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS****FEATURES****ENGINES****5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)****CONCEPT**

The LT5 is the only domestically produced dual overhead cam, 32 valve, all aluminum V8 engine. It represents the culmination of Chevrolet's efforts to be a world leader. Primary objectives of the program were all out performance, fuel efficiency and low emissions, with the reliability of our current V8 engines. The goal is a formidable one considering the fact that the engine is all new, and has a power increase of nearly 60% compared to the 1988 Corvette V8.

The engine was designed and developed by General Motors' Group Lotus Division in Hethel, England and is manufactured under contract by Mercury Marine in Stillwater, Oklahoma. C-P-C actively participated in the design process and the union was a natural one. Lotus applied their knowledge and experience in dual overhead cam racing engine technology. C-P-C added concept direction and knowledge of high volume production engines. In addition, there were many other ideas the C-P-C engineers already had and were able to act on because this was a new engine program. This synergistic effort resulted in a design that was better than either group would have done independently.

FEATURE HIGHLIGHTS

- o Fast-burn cloverleaf combustion chambers with centrally located spark plugs for smooth, efficient operation.
- o Four valves per cylinder (32 total) for optimum induction and exhaust system breathing.
- o High-speed dual spring direct-acting valve train.
- o Dual overhead camshafts (4 total) with direct lobe to lifter contact.
- o Camshaft duplex chain drive for durable, reliable operation and compact sprocket design.
- o Three valve, high-flow throttle body.
- o Sixteen runner inlet manifold tuned to the power peak.
- o Secondary inlet port throttling for optimum high speed performance and low speed driveability and economy.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

FEATURES

ENGINES

5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)

FEATURE HIGHLIGHTS (CONT.)

- o Two Multec fuel injectors per cylinder - each intake port has an injector for best fuel delivery range.
- o Sequential fuel injection system with camshaft sensor.
- o Direct fire ignition system with crankshaft sensor incorporating electronic spark control (ESC) - more accurate, durable, and reliable. ESC provides better driveability under varying conditions.
- o Center oiled forged steel crankshaft for strength and durability.
- o Thermostatically controlled oil cooler.
- o Gerotor oil pump for simple and efficient operation and more consistent oil pressure characteristics.
- o High capacity cooling system with high flow water pump.
- o Single belt accessory drive with tensioner for improved belt life, proper loading of accessory bearings, and reduced maintenance.
- o Remote electric AIR pump operates only when needed for engine warm up. Reduces parasitic losses.
- o Tubular stainless steel individual exhaust runners incorporated into engine compartment-mounted catalytic converters to reduce heat loss and allow the catalyst to react with maximum effectiveness.

APPEARANCE

The LT5 has a clean and unique exterior look. The intake manifold, cam cover, cylinder head, cylinder block, crank saddle, oil pan, and front cover are all made of lightweight, non-corroding aluminum.

The narrow included angle of 22° between the valves and the small camshaft drive sprockets assisted in obtaining the narrowest head configuration as possible so that engine width is 675mm (26.6 in). This allows the engine to fit between the frame rails of the vehicle to accommodate bottom assembly at the assembly plant.

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS****FEATURES****ENGINES**

**5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**

APPEARANCE (CONT.)

The single-belt driven accessories are efficiently packaged and completely utilize the space in the valley between the cylinder banks below the intake manifold. The water pump is also driven by the single belt and is mounted on the front cover which serves as the rear of the pump housing. The ignition module and starter are mounted at the rear end of the valley. This configuration makes room for the engine compartment-mounted catalytic converters.

The LT5 requires the use of the "ZF" six speed manual transmission which is described later in the "Features" section.

INDUCTION AND FUEL SYSTEMS

The LT5 induction system consists of a large forward mounted air cleaner, a cast aluminum throttle body assembly with three throttle blades, a large cast aluminum plenum, and sixteen individually tuned aluminum runners. Eight runners supply the primary inlet ports and eight runners are individually throttled and supply the secondary inlet ports, giving this engine a unique staged dual induction system. The fuel system consists of sixteen sequentially fired injectors, a fuel rail, and two fuel tank mounted electric fuel pumps.

Arrangement of the induction system components provides a system with highly efficient flow characteristics. Air is drawn into the induction system through the air cleaner, mounted in front of the radiator support, and collected in a large chamber behind it, then routed rearward through a large duct and into the throttle body. The amount of incoming air is controlled by the throttle body mounted throttle blades; one primary throttle blade of 22mm (.87 in.) diameter, and two secondary throttle blades of 59mm (2.32 in.) diameter.

The primary throttle blade is operational during normal city driving and up to approximately 70 miles per hour road load. At full throttle operation or after about 80° of primary throttle blade opening, the larger secondary throttle blades begin to open for additional air flow. The incoming air is collected in the large plenum on top of the engine and distributed evenly through the runners to the eight primary inlet ports. The eight secondary runners and inlet ports are independently throttled for optimal performance and driveability and also receive an even distribution of incoming air from the plenum, dependent on the amount of secondary inlet port throttle blade opening.

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS****FEATURES****ENGINES**

**5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**

INDUCTION AND FUEL SYSTEMS (CONT.)

The runners are carefully designed to provide the best tuning, or frequency of air pulses within the runners, for the best throttle response throughout the driving range. The length and diameter of the runners are selected to take advantage of the air pulses set up by the opening and closing of the inlet valves and are tuned to the power peak at approximately 6000 rpm. The high pressure pulses generated in the tuned runners result in a more dense volume of air at the inlet valve, and timing the pressure pulse to occur just prior to the valve opening forces more air into the combustion chamber. This concentrated air mass results in efficient charging of cylinders and increases volumetric efficiency.

Fuel is injected into the air stream through eight Rochester Products Multec injectors as the air flows through the primary inlet ports. The fuel injectors are triggered sequentially and are controlled by the engine electronic control module (ECM). Signals from a camshaft position sensor and an engine speed sensor are fed to the control module where calculations are made to determine the correct firing sequence and firing rate. The amount of fuel delivered at each injector firing is calculated by the ECM using a Speed Density Engine Control System.

The secondary inlet port throttle blades are controlled by the ECM based on signal inputs from the throttle position sensor, engine rpm sensor, coolant temperature sensor, and MAP sensor. When the parameters are met the ECM signals a vacuum actuator which opens the mechanically linked throttle blades. At this point the eight secondary fuel injectors are operational and the engine is in the full power, "second stage" mode.

As previously stated, all sixteen fuel injectors are fired sequentially and triggered by the ECM mounted in the left rear corner of the engine compartment. However, during engine starting the eight primary fuel injectors are placed in the "simultaneous double fire" mode so all cylinders get fuel immediately for quicker starts. After start-up, at approximately 350 rpm, the system is then switched to the sequential mode. Also, the ECM will prevent the secondary throttle blades and secondary fuel injectors from operating during abnormal temperature ranges.

A removeable key operated switch located on the center console can be activated. This "valet mode" switch disables the secondary system to prevent unauthorized use of the LT5's maximum power capabilities.

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS****FEATURES****ENGINES**

**5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**

INDUCTION AND FUEL SYSTEMS (CONT.)

The eight primary fuel injectors are shrouded at the outlets for better fuel spray distribution. The eight secondary fuel injectors are not shrouded because of higher air flow velocity in the secondary runners and inlet ports. All sixteen fuel injectors have a flow capacity of 2.8 grams per second.

In order for the fuel injectors to supply a precise amount of fuel at the command of the ECM, the fuel pressure regulator maintains a constant pressure of 50.7 psi (350 kPa) across the fuel injectors at all manifold depressions. That is, as manifold vacuum changes, the regulator adjusts the fuel pressure to compensate by varying the fuel recirculation and helps prevent fuel from heating up and causing vapor problems.

CAMSHAFT AND DRIVE SYSTEM

A key feature of this production street engine is the twin inlet and twin exhaust valve combinations in each of the eight combustion chambers which make the LT5 a "32 valve" V8 engine.

The engine features two camshafts above each bank of cylinders. One camshaft operates the intake valves and the other operates the exhaust valves. The inlet valves have distinct primary and secondary cam contours on each inlet camshaft to accommodate the LT5's unique induction system. Each pair of camshafts is driven by a highly durable duplex steel roller chain. Two hydraulic chain tensioners maintain proper tension. There are a total of seven chain guides in the system. One is a primary guide for the crankshaft to idler sprocket chain and the remaining six are used for the final camshaft drive chains. The overhead design allows for valve train simplification with cam lobe action transferred in a straight line directly to the valve stem.

Placement of the separate inlet and exhaust camshafts is arranged to benefit gas flow. The twin inlet valves are canted 11° toward the inlet ports and the exhaust valves 11° toward the exhaust ports. Consequently, flow is as uninterrupted as possible and direction changes are affected smoothly to enhance charging and scavenging the cylinders. There are no V8 engines today, except full race type, that boast such highly developed induction and exhaust system breathing.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSFEATURESENGINES5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**CYLINDER HEAD**

The cross-flow cylinder head is a semi-permanent mold aluminum casting. The four valves per cylinder have inserted valve seats and sintered guides. The valve springs fit inside the lifter body diameter for lowest camshaft to crankshaft centerline (370.5mm or 14.6 in.). The camshaft runs directly on the parent aluminum upper half of the cam bearing journal in the cam cover and on the lower half in the cylinder head. There is a bonded "O" ring and disc plug for the cam bores between the camshaft cover and the cylinder head and a composition gasket between the head and block. Fourteen mm (.55 in.) bolts are used to retain the cylinder head. They thread into the cylinder block at the bottom of the bore in a four bolt pattern.

The fast-burn cloverleaf combustion chamber is a compact, modified pentroof design with an included valve angle of 22°. This angle was determined to be the best compromise for chamber shape, air flow, and packaging requirements. The chamber also includes a sumped piston and centrally located spark plug. In addition, a high volume of coolant is routed around the exhaust valves. This fast burn chamber design allows little time for pre-ignition to occur. As a result, the engine was designed for a compression ratio of 11.25 to 1 and is operated on 87 octane (combined method) regular unleaded fuel.

IGNITION SYSTEM

A direct fire ignition system is used on this engine for improved ignition performance and reliability. With conventional distributors, timing advance is controlled by the ECM and mechanically distributed. Inaccuracy associated with component tolerances and wear compromises control accuracy, eventually requiring scheduled tune-ups.

In this system, the distributor is replaced by four coils mounted at the rear end of the engine just beneath the intake manifold. Each coil fires two spark plugs simultaneously while only one cylinder will be on a compression stroke. A crankshaft sensor reads the position of the machined notches on the integral crankshaft disc and sends a signal to the ECM, which in turn calculates the precise spark timing needed for the engine's immediate operational mode and signals the proper coil to fire the spark plugs. Due to the crankshaft sensor, correct timing of the system is built in and never varies or needs adjustment. Spark advance is modified by the ECM constantly to best match conditions as computed from engine speed, load (determined by manifold pressure), throttle position and coolant temperature.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSFEATURESENGINES5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**IGNITION SYSTEM (CONT.)**

Further enhancement is the electronic spark control system which minimizes the occasional spark "knock" drivers may hear under acceleration or with lower octane fuel. The system uses a piezoelectric sensor that responds to a characteristic vibration frequency which is transmitted through the engine block at the onset of knock. Spark advance is automatically adjusted for varying engine speed and load conditions. If detonation begins to occur (spark advance too great) the system immediately retards the ignition spark so that audible knock is controlled.

Electronic spark control allows the engine to more precisely adjust to various grades of unleaded fuel plus altitude, temperature and humidity. As long as there is no detonation, spark timing remains at the maximum advance as possible in order to provide the highest performance, and lowest fuel consumption and emissions.

CYLINDER BLOCK

The cylinder block is an open deck design made of aluminum cast in sand. Deck height is 229.24mm (9.03 in.) with 111.76mm (4.40 in.) bore center spacing. This bore center is identical to the millions of Chevrolet 90° small block V8 engines sold. Oil return passages are cast in the side of the block and run down to the crankshaft saddle and on into the oil pan. There are machined mounting surface provisions for the valley-mounted starter and the PCV oil separator housing.

Below the cylinder block is the cast aluminum crankshaft saddle with integrally cast iron bearing caps that are of the six bolt design. The cast iron framework serves to strengthen the bulkhead which is sealed to the cylinder block with anerobic sealer. There is an oil passage which is integrally cast into the saddle and runs from the pick-up tube to the oil pump.

The aluminum oil pan is sealed to the crankcase saddle with a composite-silicone bead gasket which insures a leak free union. The aluminum construction provides not only a lighter design but a stiffer one for an optimum sealing surface relationship. A separate baffle and shield is used inside the pan to ensure oil supply during extreme vehicle maneuvers.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSFEATURESENGINES5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**PISTONS - RODS - CYLINDERS**

The pistons are spherical sump-in-head type made of cast aluminum alloy with upper and lower compression rings and an oil control ring. This lightweight piston design reduces reciprocating mass which helps to minimize engine shaking forces and thus reduces driver-perceived noise and vibration. The forged steel connecting rods are 145.8mm (5.74 in.) long center to center and have a full floating piston pin. The cap is secured to the rod with a bolt through the cap and threaded into the rod. The pistons are select-fit to the cast aluminum free standing cylinders which slip fit into the block. The cylinder bore surface is plated with "Nikasil" for superior wear characteristics. The cylinders are sealed in the block with a special heat tolerant silicone adhesive. Coolant is routed around the entire upper half of each cylinder. The bore diameter is 99mm (3.90 in.), the stroke is 93mm (3.66 in.) and the compression height is 37.6mm (1.48 in.). The 5.7 liter displacement of the LT5 is identical to the L98 Corette engine, however, the LT5 has a smaller bore and a longer stroke.

CRANKSHAFT AND OILING SYSTEM

The internally balanced crankshaft is made of forged steel for high strength and durability. With the high torque output of this engine, proper crankshaft lubrication is critical. Consequently, the crankshaft is cross drilled to accommodate internal centrifugal oiling. Cooled and regulated oil is fed through the anulus on the nose of the crankshaft and fed through the center to the connecting rod pin bearing and the main bearing journal. It has an ignition wheel with nine notches machined into the counterweight so that the sensor can signal the ECM the exact position of the crankshaft at all times. The main bearing diameter is 70mm (2.76 in.) and the connecting rod bearing diameter is 53.3mm (2.10 in.).

The engine oil is air cooled and thermostatically controlled by the oil temperature control valve located in the oil filter housing assembly at the front of the engine. Lines are run from the housing assembly to the oil cooler at the radiator and back. An oil temperature sensor on the housing signals the valve to open or close. The oil filter contains an anti-drain back valve which prevents spillage when the filter is removed. Should the oil filter ever plug up, it has an internal bypass circuit. The new "10W30-SG" engine oil is specified for the LT5. This oil provides high temperature stability and improved wear protection.

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS****FEATURES****ENGINES**

**5.7L TPI DOHC 32 VALVE V8
(RPO LT5 CORVETTE)
(Continued)**

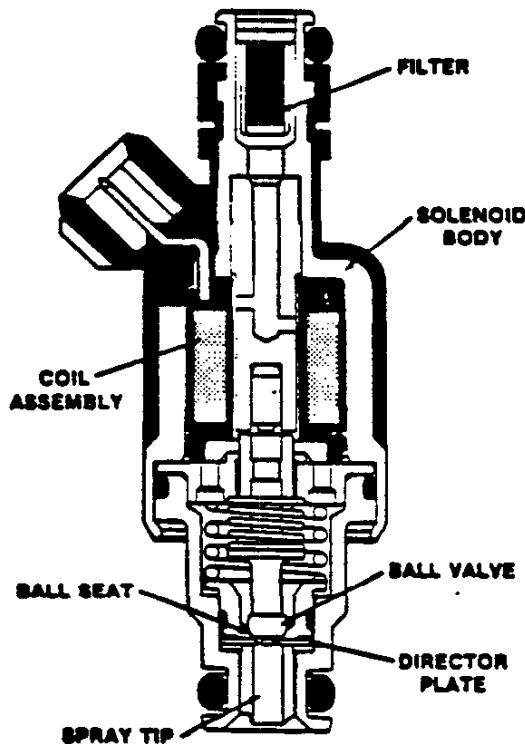
CRANKSHAFT AND OILING SYSTEM (CONT.)

The workhorse of the oiling system is the gerotor design oil pump. Coaxial with the front of the crankshaft, the oil pump has excellent oil pressure characteristics at all engine operating conditions. The gerotor design is a positive displacement pumping unit consisting of two main elements, an inner and an outer rotor. The inner rotor has one less tooth than the outer, and has its centerline positioned at a fixed eccentricity from the centerline of the outer rotor. This mechanism is simple and efficient and eliminates the additional components and machining required by gear oil pumps.

After regulation, filtration and cooling as required, the engine oil is directed to the crankshaft inlet holes for center feed.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSFEATURESENGINES - CONTINUED

MULTEC FUEL INJECTORS
2.8L & 3.1L MFI-V6, 5.0L AND 5.7L TPI-V8
RPO LB6 & LHO BERETTA, CELEBRITY, 6000, CORSICA & GRAND PRIX, RPO LB9
CAMARO, FIREBIRD, RPO L98 CAMARO, FIREBIRD CORVETTE



Multec Injector - Cross Section

The "Multec" (Multiple Technology) injector features quicker action, improved fuel atomization, improved spray control, low operating voltage for improved cold weather cranking performance, is less susceptible to plugging on any gasoline blend, and is smaller in size.

The Multec injectors are designed to be self cleaning with the use of a ball-type valve and seat and a fuel flow control director plate instead of the commonly used pintle. The director plate is insensitive to fuel properties and varnish build-up commonly apparent in pintle-type injectors that depend on the pintle and pintle seat for control of the spray pattern. Varnish build-up is eliminated due to the spray tip that shields the director plate from fuel particulates that are present in the intake manifold.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSFEATURESENGINES - CONTINUED

MULTEC FUEL INJECTORS
3.1L MFI-V6, 5.0L AND 5.7L TPI-V8
(RPO LHO GRAND PRIX, RPO LB9 CAMARO, FIREBIRD
RPO L98 CAMARO, FIREBIRD, CORVETTE)
(Continued)

The director plate has six evenly spaced holes made by an Electrical Discharge Machining process that precisely positions the holes toward the center of the plate. The fuel is forced through these holes, when the injector is energized, and merges in the center of the spray tip where it deflects into a spray cone. Precision control of the angle of the holes in the director plate results in precise direction control of the fuel spray toward the base of the inlet valve. The size of the director plate holes and the opening of the ball valve off its seat are precisely controlled to produce the proper fuel flow. This precise fuel flow is programmed into the ECM for calculation of the fuel required by the engine. Thus, the exact amount of fuel, from idle through wide open throttle, is delivered by the injectors for improved engine efficiency.

The ball valve and seat are finished to a near mirror polish to obtain a positive seal and, thus, prevent hot starting problems from excessive fuel and avoid excess evaporative emissions from fuel vapors.

Manufacturing processes include computerized setting and calculation equipment to calibrate fuel flow rate and to select return springs with the correct load. Laser welding is performed at two spots to ensure that the setting features are locked in place after calibration.

The Multec injectors operate by a sophisticated electronic controlled peak-hold driver in the ECM that opens the valve, holds it open, then closes it at the precise intervals required under all operating conditions. More precise delivery of fuel translates into improved engine efficiency, quicker throttle response, and improved overall operating pleaseability.

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**NEW CORVETTE TECHNOLOGY:
SELECTIVE RIDE CONTROL**

Effective S.O.P. for 1989 base suspension is the former Z52 package, except for cooling features which remain optional with the automatic.

Base Bilstein shocks provide variable mechanical valving achieving the required body motion control with much reduced ride harshness. The Selective Ride shocks take advantage of the same valving, combined with electronically variable valving.

New "Bilstein Selective Ride Control" system (RPO FX3) will be available on both the L98 and LT5 engines. The system will allow the driver to select one of three speed variable control settings which provide distinctly different ride characteristics. Features include three settings:

- Touring
 - Sport
 - Competition
-
- o 6 different speed variable shock valving levels with each setting are controlled by a microprocessor, providing 18 valve positions.
 - o Electric motors to vary the proportioning valve orifice in each shock to change the shocks damping characteristics.
 - o Automatic over ride to default the system to the setting which provides maximum safety within the vehicle's operating range.

- o 3 position switch for driver selection of control strategy, mounted on the center console panel.
- o Bilstein degressive valving (stepping between levels).
- o Micro-computer electronic control.
 - Monitors ECM data (VSS, TPS, brake switch, rpm, etc.)
 - Monitors shock actuators for valve position (all 4)
 - Powers up and checks operation prior to vehicle movement.
 - Provides diagnostic output using the "Service Selective Ride" light in the driver information center panel.

FX3 is an available option with L98 and 6-speed manual and with ZR1.

The Selective Ride Control option on Chevrolet's 1989 Corvette improves on the razor-sharp reflexes of the Z51 package and offers the ride quality of a luxury sedan - when desired.

This new performance option (RPO FX3) is available on only one American car - the 1989 Corvette Coupe with optional Z51 Performance Handling Package and 6-speed manual transmission.

Widely regarded as one of the world's best handling production automobiles on the track, Z51-equipped Corvettes are undefeated in SCCA-sanctioned Showroom Stock racing for the past three years.

With Selective Ride Control, the driver can tame Corvette for the boulevard with a simple switch that activates the electro-mechanical system. The change can be made easily by the driver with a switch located on the center console.

The driver can select Touring, Sport or Competition modes.

Within each mode, there are six different shock absorber damping levels, depending on vehicle speed. Damping levels are automatically adjusted by electric motors and will probably not be noticed by drivers. But they will feel a difference between each of the three modes:

Touring Mode gives the Corvette driver smoothness and comfort normally associated with luxury sedans.

Sport Mode is not unlike Corvette's standard Z52 suspension, offering precise handling and well-controlled ride motion.

Competition Mode provides a new ultimate level in Corvette handling - the race-proven Z51 package and then some!

FX3's variable damping feature automatically "firms up" the ride as speed increases. At high speeds, an automatic override adjusts the system to the setting which provides maximum handling capability.

Here's how it works:

All four shock absorbers carry an electrically powered actuator on top of their piston rods to set an internal valve to the desired position. Using the vehicle speed and select switch position as input signals, the control module determines the appropriate damping performance of the shocks.

The computerized control module powers up and checks the actuators for proper positioning of all valves. A micro-computer continuously checks all system components. Upon possible malfunction, all valves are rotated to a safe position to ensure safe vehicle behavior under all driving conditions.

A "Service Selective Ride" light, located in the Driver Information Center panel, is designed to indicate the need for system repair.

Selective Ride Control represents a joint effort between General Motors Engineering and Bilstein Engineering to develop the ultimate suspension option in a production sports car. These shocks are available on the Corvette, Porsche 959 and Formula One race cars.

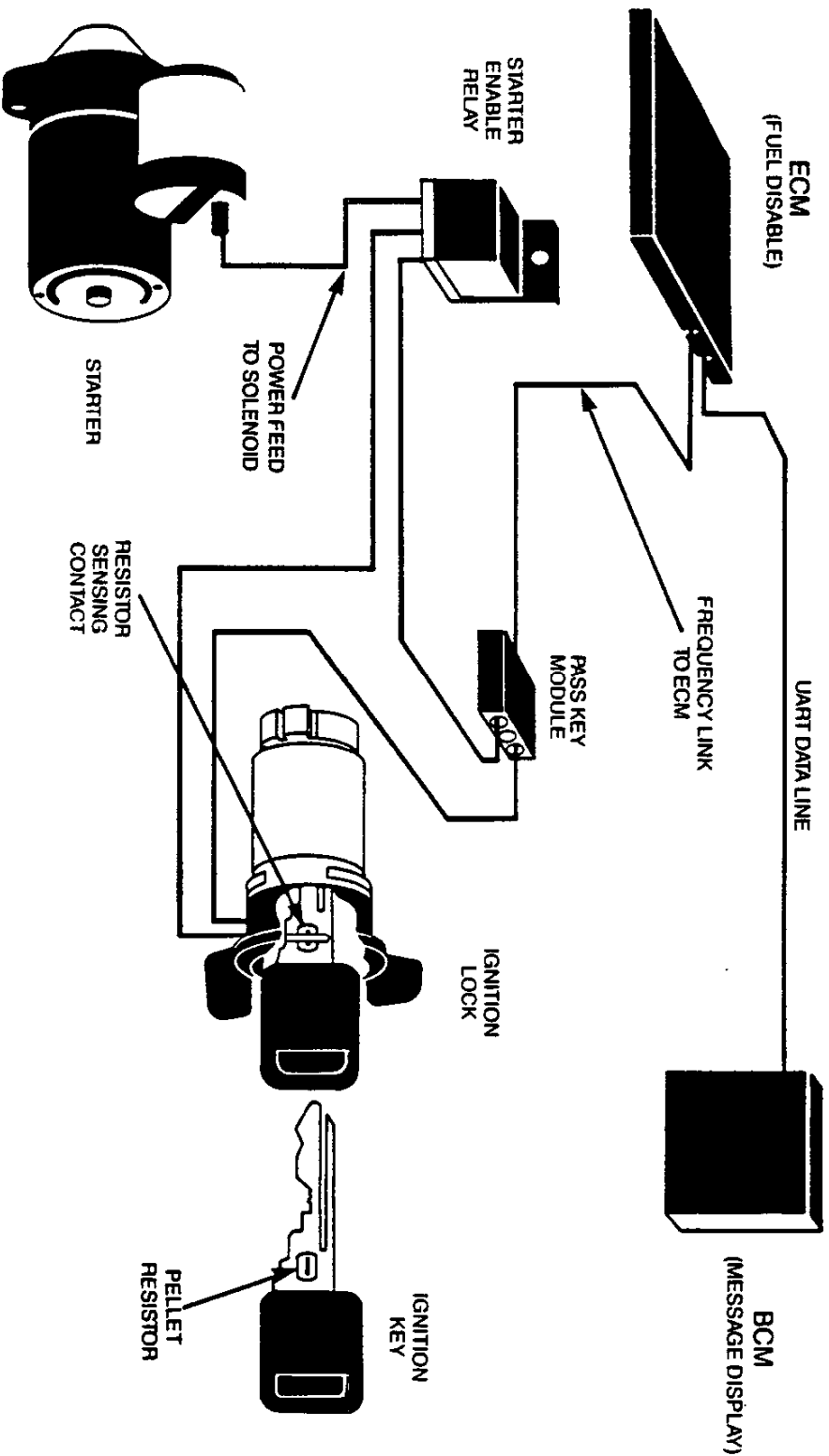
PERSONALIZED AUTOMOTIVE SECURITY SYSTEM

The General Motors Personalized Automotive Security System (PASS-Key), originally used on Corvette is not used on the Chevrolet F Car, Pontiac Firebird and Bonneville, and Cadillac Allante, Eldorado and Seville. PASS-Key features an ignition key with a build-in resistor value, that must be matched to a decoder. Only the correct key can transmit a signal to a decoder which permits the starter-enable relay to close so the engine may be started. The decoder also sends a signal to the E.C.M. to permit operation of the fuel injectors. If the resistor does not match the decoder module, the starting circuit and fuel delivery is disabled.

If a new key is required, it not only must be cut to match the ignition switch, but it must also have the correct resistor pellet installed.

The details of the operation, component location, diagnosis, and service are covered in the Certified Plus Video Training Program Course No. 59407.00.

PERSONALIZED AUTOMOTIVE SECURITY SYSTEM (PASS-KEY)



Personalized Automotive Security System (PASS-Key)

The new PASS-Key system requires no action by the owner of the vehicle other than normal starting operation. A resistor pellet in the ignition key must match the decoding circuit in the PASS-Key module. Only when resistance values match will the PASS-Key module engage the starter enable relay and signal the engine control module to deliver fuel to the injectors.

ENGINEERING PRODUCT DIRECTION

**1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES****DESIGN CHANGE LIST**

<u>ENGINE</u>	<u>DESCRIPTION</u>
RPO LB9 5.0L-V8 TPI ('F')	<ul style="list-style-type: none">- Low back pressure dual exhaust system- Eliminate cold start injector- Multec fuel injectors- Threaded oil fill cap
RPO L98 5.7L-V8 TPI ('F')	<ul style="list-style-type: none">- Low back pressure dual exhaust system- Eliminate cold start injector- Multec fuel injectors- Threaded oil fill cap
RPO L98 5.7L-V8 TPI ('Y')	<ul style="list-style-type: none">- Eliminate cold start injector- Multec fuel injectors- Dual mass flywheel with manual transmission- 280mm pull type clutch
RPO L05 5.7L-V8 EFI ('B' - Police)	<ul style="list-style-type: none">- New application on 'B' Police car- Threaded oil fill cap- Electronic fuel injection (TBI)- Single belt accessory drive
RPO LT5 5.7L DOHC - V8 TPI ('Y')	<ul style="list-style-type: none">- New engine for 1989- Dual overhead cam- Four valves per cylinder- Sixteen runner inlet manifold- Two multec injectors per cylinder- Secondary inlet port throttling- Three valve high flow throttle body- Single belt accessory drive- Crankshaft with centrifugal oil feed- Direct fire ignition- Sequential fuel injection- Dual mass flywheel with manual transmission- Progressive throttle linkage- 280mm pull type clutch

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

EMISSION CONTROL SYSTEMS

GLOSSARY

AIR -	Air Injection Reactor	EST -	Electronic Spark Timing @
CCC -	Computer Command Control	FEC -	Fuel Evaporation Control
CHA -	Carburetion Hot Air	HEI -	High Energy Ignition
COA -	Carburetion Outside Air	IAC -	Idle Air Control
CTS -	Cold Trapped Spark	OC -	Oxidizing Converter
EFE -	Exhaust Early Fuel Evaporation	ORC -	Oxidizing and Reducing Converter
EGR -	Exhaust Gas Recirculation	PCV -	Positive Crankcase Ventilation
ESC -	Electronic Spark Control *	MAS -	Mass Air Flow Sensor

APPLICATION

ENGINE	ENGINE USAGE		EMISSION CONTROL
	NAS FED & CAN	NB2 CALIF.	'B'-CAR
4.3 Liter-V6 (262 CID) EFI RPO LB4	X	X	AIR, CCC, CHA, EGR, ESC, EST, FEC, IAC, ORC/OC, PCV
5.0 Liter-V8 (305 CID) 4-Bbl. RPO LG4	X	X	AIR, CCC, CHA, EFE, EGR, ESC, EST, FEC, ORC/OC, PCV CHA, EFE, EGR, FEC, HEI, OC, PCV
5.0 Liter-V8 (305 CI) 4-Bbl. LV2	X	X	AIR, CCC, CHA, COA, EFE EGR, EST, ORC, OC, PCV, FEC
5.7 Liter-V8 (350 CID) EFI RPO LQ5	X		AIR, CCC, CHA, COA, EFE, EGR EST, FEC, ORC/OC/PCV/ESC

- @ - CCC programmed ignition timing.
* - Detonation control system.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

EMISSION CONTROL SYSTEM

APPLICATIONS - CONTINUED

ENGINE	ENGINE USAGE		EMISSION CONTROL		
	NA5 FED & CAN	NB2 CALIF	'F'-CAR	'J'-CAR 'L'-CAR	'Y'-CAR
2.0 Liter-L4 (121 CID) EFI RPO LL8	X	X	-	CCC,CHA,COA,EGR, EST,FEC,IAC,ORC, PCV	-
2.8 Liter-V6 (173 CID) MFI RPO LB6	X	X	-	CCC,EGR,EST,FEC, IAC,ORC,PCV	-
2.8 Liter-V6 (173 CID) MFI RPO LB8	X	X	AIR,CCC,EGR, EST,FEC,IAC, ORC,PCV,MAS	-	-
5.0 Liter-V8 (305 CID) TPI RPO L03	X	X	AIR,CCC,CHA, COA,EFE,EGR, ESC,FED,ORC/OC, PCV,HEI	-	-
5.0 Liter-V8 (305 CID) TPI RPO LB9	X	X	AIR,CCC,EGR, ESC,EST,FEC, HEI,IAC,ORC/OC, PCV,MAS	-	-
5.7 Liter-V8 (350 CID) TPI RPO L98	X	X	AIR,CCC,EGR, ESC,EST,FEC, HEI,IAC,ORC/OC, PCV,MAS		AIR,CCC,EGR, ESC,EST,FEC, HEI,IAC, ORC/OC,PCV, MAS

ENGINE	ENGINE USAGE		EMISSION CONTROL
	NA5 FED & CAN	NB2 CALIF.	'A'-CAR
2.5 Liter-L4 (151 CID) EFI RPO LR8	X	X	CCC, COA, EGR, EST, FEC, IAC, ORC, PCV
2.8 Liter-V6 (173 CID) MFI RPO LB6	X	X	CCC, EGR, EST, IAC, ORC, PCV, MAS

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC SYSTEM APPLICATIONS

SENSORS AND INPUT SIGNALS

SENSOR OR INPUT SIGNAL	L-3 1.0 LP2	L-4 1.5 LC5	L-4 1.5 LC0	L-4 1.6 LC9	L-4 1.6 LO1	L-4 1.6 LW0	L-4 1.6 L73	L-4 2.0 LL8	L-4 2.0 LT2	L-4 2.0 LT3	L-4 2.5 L68	L-4 2.5 LR8
A/C ON		X	X		X	X	X	X	X	X	X	X
BAROMETRIC PRESSURE	X							X	X	X		
BATTERY VOLTAGE				X	X	X		X			X	
COOLANT TEMPERATURE	X	X	X	X	X	X	X	X	X	X	X	X
ENGINE CRANKING				X				X	X	X		
ENGINE RPM	X	X	X	X	X	X	X	X	X	X	X	X
EXHAUST OXYGEN	X			X	X	X	X	X	X	X	X	X
INJECTOR VOLTAGE (IGN VOLTAGE)							X	X	X	X	X	X
INLET MANIFOLD VACUUM					X	X						
INTERNAL CLOCK	X						X	X			X	X
MANIFOLD ABSOLUTE PRESSURE							X	X	X	X	X	X
MANIFOLD AIR TEMPERATURE	X			X				X	X	X	X	X
MASS AIR FLOW SENSOR				X								
PARK/NEUTRAL *				X			X	X			X	X
THROTTLE POSITION	X	X	X	X			X	X	X	X	X	X
TRANSMISSION GEAR *								X	X	X	X	X
VEHICLE SPEED	X	X	X	X			X	X	X	X	X	X
A/C HEAD PRESSURE											X	X
CRANKSHAFT POSITION				X				X	X	X	X	X
BRAKES APPLIED		X	X	X				X	X	X	X	X
POWER STRG PRESSURE								X	X	X	X	X

(*) - WITH AUTOMATIC TRANSMISSION ONLY

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC SYSTEM APPLICATIONS

SENSORS AND INPUT SIGNALS

	V-6	V-6	V-6	V-6	V-8	V-8	V-8	V-8	V-8	V-8
SENSOR OR INPUT SIGNAL	2.8 LB6	2.8 LB8	3.1 LH0	4.3 LB4	5.0 LO3	5.0 LB9	5.0 LV2	5.7 LO5	5.7 L98	5.7 LT5
A/C ON	X	X	X	X		X	X		X	X
BAROMETRIC PRESSURE				X	X		X	X		
BATTERY VOLTAGE	X	X	X	X	X	X		X	X	X
COOLANT TEMPERATURE	X	X	X	X	X	X	X	X	X	X
ENGINE CRANKING				X						
ENGINE RPM	X	X	X	X	X	X	X	X	X	X
EXHAUST OXYGEN	X	X	X	X	X	X	X	X	X	X
INJECTOR VOLTAGE (IGN VOLTAGE)	X	X	X	X	X	X		X	X	X
INLET MANIFOLD VACUUM					X		X	X		
INTERNAL CLOCK	X	X	X	X	X	X	X	X	X	X
MANIFOLD ABSOLUTE PRESSURE				X						
MANIFOLD AIR TEMPERATURE	X	X	X			X			X	X
MASS AIR FLOW SENSOR		X				X			X	X
PARK/NEUTRAL *	X	X	X	X	X	X	X	X	X	X
THROTTLE POSITION	X	X	X	X	X	X	X	X	X	X
TRANSMISSION GEAR *	X	X	X	X	X	X	X	X	X	X
VEHICLE SPEED	X	X	X	X	X	X	X	X	X	X
A/C HEAD PRESSURE	X	X	X			X			X	X
CRANKSHAFT POSITION			X	X	X	X		X	X	X
BRAKES APPLIED				X	X	X		X	X	X
POWER STRG PRESSURE										

(*) - WITH AUTOMATIC TRANSMISSION ONLY

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC SYSTEM APPLICATIONS

SYSTEMS CONTROLLED

SYSTEMS CONTROLLED	L-3	L-4	L-4	L-4	L-4	L-4	L-4	L-4	L-4	L-4	L-4
	1.0	1.5	1.5	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.5
	LP2	LC5	LC0	LC9	LO1	LW0	L73	LL8	LT2	LT3	LR8
A/C CLUTCH CONTROL							X	X			X
FUEL MIXTURE CONTROL	X	X	X		X	X	X	X	X	X	X
AIR MANAGEMENT SYSTEM	X			X							
COOLING FAN CONTROL		X	X				X	X			X
EGR SYSTEM	X									X	
IAC (IDLE AIR CONTROL)	X	X	X		X	X	X	X	X	X	X
ELECTRONIC SPARK TIMING (EST)					X	X	X	X			X
ELECTRONIC SPARK CONTROL (ESC)									X	X	
FUEL METERING			X					X			X
TRANSMISSION (*) CONVERTER CLUTCH							X	X	X	X	X
DECEL THROTTLE KICKER											
SHIFT LIGHT (S)	X						X	X	X		X
PURGE CONTROL				X							
BOOST			X							X	

* - WITH AUTOMATIC TRANSMISSION ONLY
S - WITH MANUAL TRANSMISSION ONLY

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC SYSTEM APPLICATIONS

SYSTEMS CONTROLLED

	V-6	V-6	V-6	V-6	V-8	V-8	V-8	V-8	V-8	V-8	V-8
SYSTEMS CONTROLLED	2.8	2.8	3.1	4.3	5.0	5.0	5.0	5.0	5.7	5.7	5.7
	LB6	LB8	LH0	LB4	L03	L69	LB9	LV2	L05	L98	LT5
A/C CLUTCH CONTROL	X	X	X				X	X		X	X
FUEL MIXTURE CONTROL	X	X	X	X	X	X	X	X	X	X	X
AIR MANAGEMENT SYSTEM		X\$		X	X	X	X	X	X	X	X
COOLING FAN CONTROL	X	X	X				X			X	X
EGR SYSTEM	X	X	X	X	X	X	X	X	X	X	X
IAC (IDLE AIR CONTROL)	X	X	X	X			X			X	X
ELECTRONIC SPARK TIMING (EST)	X	X	X	X	X	X	X	X	X	X	X
ELECTRONIC SPARK CONTROL (ESC)				X	X	X	X		X	X	X
FUEL METERING	X	X	X	X	X	X	X	X	X	X	X
TRANSMISSION (*)											
CONVERTER CLUTCH	X	X	X	X	X	X	X	X	X	X	X
DECEL THROTTLE KICKER					X	X		X	X		
SHIFT LIGHT (\$)					X	X	X			X	X
PURGE CONTROL	X	X	X	X	X	X	X	X	X	X	X
BOOST											

* - WITH AUTOMATIC TRANSMISSION ONLY
\$ - WITH MANUAL TRANSMISSION ONLY

CCC SYSTEM SENSORS AND INPUT SIGNALS DEFINITIONS

A/C ON - signal is used by the ECM to adjust the engine idle speed to compensate for the increased engine load.

BAROMETRIC PRESSURE - provides information to the ECM for ambient pressure compensation of the controlled functions.

BATTERY VOLTAGE - provides information to the ECM to allow for voltage variation of the controlled function. It also is used by the ECM to adjust the engine idle speed to ensure the battery is being charged.

BRAKES APPLIED SWITCH - interrupts signal to converter clutch solenoid when the brake pedal is depressed and disengages clutch.

COOLANT TEMPERATURE - provides signal to ECM when coolant reaches a specific temperature, and is used in controlling various engine functions.

ENGINE CRANKING - provides a signal to the ECM when the engine is cranking.

ENGINE DETONATION - The electronic spark control knock sensor is a vibration sensor mounted on the engine that provides a signal to the ECM when engine detonation occurs.

ENGINE RPM - provides engine speed signals to the ECM for control of idle speed, ignition timing, canister purge and injector timing. This signal is generated as a function of time between pulses from the HEI distributor.

EXHAUST OXYGEN - generates a voltage which varies with the oxygen content in the exhaust gas and is used by the ECM to help determine the adjustment needed to provide the near stoichiometric A/F ratio required for most operating conditions.

INJECTOR VOLTAGE - provides information to the ECM to allow for voltage compensation of the controlled functions.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC SYSTEM SENSORS AND INPUT SIGNALS DEFINITIONS - Continued

- INLET MANIFOLD VACUUM** - provides information to the ECM for manifold pressure load compensation of the fuel air ratio, engine idle speed, spark timing and EGR vacuum signal.
- MANIFOLD ABSOLUTE PRESSURE** - provides information to the ECM for manifold pressure load compensation of the controlled functions.
- THROTTLE POSITION** - provides throttle position signals to the ECM for control of fuel injection, A/F ratio, idle speed, canister purge, transmission converter clutch, EGR vacuum signal, idle air and AIR control.
- TIME** - Time is generated by the ECM internal microprocessor clock. The signal is sent to purge the fuel evaporation system canister only after the engine has operated a specified time. Vehicle speed and engine RPM are also determined by the ECM using this time signal to measure the time between pulses of the speedometer optical sensor and the pulse width from the HEI.
- TRANSMISSION GEAR** - indicates the transmission gear selected and is used for control of engine idle speed and transmission converter clutch engagement.
- VEHICLE SPEED** - provides vehicle speed information to the ECM for control of idle speed and transmission converter clutch engagement and control canister purge of the fuel evaporation system. This signal is generated by an optical sensor in the speedometer head.
- PARK/NEUTRAL SWITCH** - indicates when the automatic transmission gear selector is in the park/neutral position or in a drive gear position and adjusts engine idle speed and spark timing accordingly.
- MASS AIR FLOW** - Functions by measuring the electrical power required to maintain the sensing element at a specific number of degrees centigrade above the incoming air temperature. As air enters the air sample tube it passes over and cools the sensing element which then requires additional current to maintain the prescribed uniform temperature.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS
ENGINES

CCC CONTROLLED SYSTEMS DEFINITIONS

- A/C CLUTCH CONTROL - used to control the air conditioner clutch. The ECM monitors engine speed, engine load, and vehicle speed to determine if the ECM output signal should be generated.
- AIR MANAGEMENT SYSTEM - directs air from the AIR pump to either the exhaust ports or exhaust manifold during engine warm-up when additional air is needed for control of HC and CO emissions, then to the converter after engine warm-up when additional air is needed for oxidation. Air is directed to the air cleaner or to an external silencer during engine overrun and other conditions when additional air is not needed in the manifold area or the converter. The ECM monitors exhaust oxygen, coolant temperature, throttle position, engine RPM and time to determine the proper mode of AIR control.
- COOLING FAN CONTROL - is used to control the cooling fan relay. The ECM monitors vehicle speed and coolant temperature to determine when the ECM output signal should be generated.
- EGR SYSTEM - controls NOx emissions by recycling exhaust gases through the combustion cycle. The ECM monitors coolant temperature, throttle position, manifold pressure and engine RPM's and generates the proper signals to admit exhaust gases into the intake manifold in response to specific operating conditions.
- IDLE AIR CONTROL (IAC) - controls engine idle speeds using a stepper motor to position a tapered pintle in an orifice to vary the amount of air that passes the throttle valve. The ECM monitors coolant temperature, throttle position, manifold pressure, vehicle speed, engine RPM, A/C compressor engagement and engine cranking and generates the appropriate signal to the stepper motor.
- ELECTRONIC SPARK TIMING (EST) - optimizes spark timing for better control of exhaust emissions and for fuel economy improvements. The ECM monitors engine load, RPM's and coolant temperature, and supplies signals to the distributor to change spark timing.
- ELECTRONIC SPARK CONTROL (ESC) - In addition to EST System a detonation sensor and analogue controller are added to provide the CCC on-board computer with data needed to retard the spark when detonation occurs. This permits programming an EST curve with added spark advance resulting in improved operational efficiency.

CCC CONTROLLED SYSTEMS DEFINITIONS - Continued

FUEL MIXTURE CONTROL - Adjusts fuel metering to yield a near stoichiometric fuel-air mixture assuring engine operational compatibility with the emission requirements, optimum fuel economy and overall vehicle performance.

CARBURETOR FUEL METERING - Computer controlled, solenoid operated (electromechanical) system which regulates the main fuel metering rod to accurately control fuel delivery so as to maintain a near stoichiometric fuel-air ratio.

THROTTLE BODY INJECTOR CONTROL - "Electronic Fuel Injection" (EFI) fuel is introduced into the air stream through solenoid ball and seat type electronic fuel injectors located in the throttle body above the throttle blades. The fuel delivery strategy is based on a speed-density calculation where the appropriate volume (pulse width) of fuel is calculated to yield a desired air-fuel ratio for each particular operating condition. The ECM monitors signals from coolant temperature sensor, manifold vacuum, exhaust oxygen sensor, throttle position sensor and engine cranking sensor and grounds the injectors to release the required amount of fuel.

PORT FUEL INJECTION - "2.8 Multi-Port FI" (MFI) and "Tuned Port Fuel Injection" (TPI). Fuel is introduced through ball type injectors at the individual inlet ports where it is mixed with the incoming air. The fuel delivery is scheduled based on mass air flow measurements and ECM calculations to yield a desired air/fuel ratio for each particular operating condition. These ECM calculations are dependent on signals provided by temperature sensors, throttle position sensors and oxygen sensors. To provide air/fuel ratios which assure engine operational compatibility with emissions requirements, optimum fuel economy, and overall vehicle performance.

TRANSMISSION CONVERTER CLUTCH SYSTEM - engages and disengages the transmission converter clutch during the various driving modes. The ECM monitors coolant temperature, throttle position, vehicle speed, transmission gear selection, A/C compressor engagement and time to determine if the transmission converter clutch should be engaged or disengaged.

DECEL THROTTLE KICKER SOLENOID - holds throttle blades open a predetermined amount when accelerator is suddenly released to prevent rapid evaporation of the fuel in the manifold and the richer than desired air/fuel ratio from entering the engine and catalytic converter on deceleration.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS ENGINES

BASIC SPECIFICATIONS - Continued

V8 (Cont.)					
Disp.- Liters	5.0	5.7	5.7	5.7	
- Cu. In.	305	350	350	350	
RPO	LV2	L98	L05	LT5	
Identification	BOC	CPC	CPC	CPC	
Bore - mm	96.50	101.60	101.60	99.00	
- in.	(3.80)	(4.00)	(4.00)	(3.90)	
Stroke - mm	85.98	88.39	88.39	93.00	
- in.	(3.385)	(3.48)	(3.48)	(3.66)	
Comp. Ratio (:1)	8.0	9	9.3	11.25	
Valve Diameter					
Inlet - mm	44.45	49.28	49.28	39.0 x 2	
- in.	(1.75)	(1.94)	(1.94)	(1.54)	
Exh. - mm	38.15	38.10	38.10	35.2 x 2	
- in.	(1.502)	(1.50)	(1.50)	(1.38)	
Cam Timing (°)				Pri.	Sec.
Inlet-BTC	24	36	38	12	22
-ABC	46	106	92	60	70
-Duration	250	322	310	252	272
Exh. -BBC	66	98	88	60	
-ATC	12	48	52	12	
-Duration	258	326	320	252	
Hydraulic Valve Lifters:					
Roller Follower	Yes	Yes	Yes	No	
Valve Lift					
Inlet - mm	10.038	10.541	9.779	9.900	
- in.	(0.395)	(0.415)	(0.385)	(0.390)	
Exh. - mm	10.20	10.922	10.262	9.900	
- in.	(0.402)	(0.430)	(0.404)	(0.390)	
Bore Centers-mm	117.5	111.76	111.76	111.76	
-in.	(4.625)	(4.40)	(4.40)	(4.40)	
Fuel System-Type	Quadrajets 4-Bbl.	Fuel Inj. TPI	Fuel Inj. EFI	Fuel Inj. TPI	
Throttle Bore					
Primary - mm	35.05	Twin	43.00	22.0	
- in.	(1.38)	Primaries	(1.69)	(0.866)	
Secondary-mm	57.15	2 x 48.00		2 x 59.0	
-in.	(2.25)	(1.89)		(2 x 2.32)	
Spark Plugs-Type	FR3LS6	● FR5LS+	● R45TS	N/A	
Gap - mm	1.52	0.89	0.89		
- in.	(0.060)	(0.035)	(0.035)		

\$ - 9.5:1 C.R. with aluminum cylinder heads (Corvette)

9.3:1 C.R. with cast iron cylinder heads (Camaro)

+ - Camaro uses R45TS

● - Copper core spark plugs

1989 PASSENGER CAR
POWER TRAIN COMPONENTSTRANSMISSIONS CLUTCHES AND AXLESMANUAL 4-SPEED

RPO/USE MAKE CASE MATERIAL DESIGNATION	BASE OPEL ALUMINUM LE MANS
RATIO (:1)	
1st Gear	3.54
2nd Gear	1.95
3rd Gear	1.30
4th Gear	0.89
Reverse	3.30
CLUTCH PLATE DIAMETER	200mm (7.8")

MANUAL 6-SPEED

RPO/USE MAKE CASE MATERIAL	ML9 Z-F ALUMINUM
RATIO (:1)	
1st Gear	2.68
2nd Gear	1.80
3rd Gear	1.30
4th Gear	1.00
5th Gear	0.75
6th Gear	0.50
Reverse	2.50
SHAFTS CENTER DISTANCE	95mm (3.75)
CLUTCH PLATE DIAMETER	280mm (11.02")

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

TRANSMISSIONS CLUTCHES AND AXLES

MANUAL 5-SPEED

RPO/USE MAKE CASE MATERIAL DESIGNATION	MB1 BORG WARNER ALUMINUM	MK7 ISUZU ALUMINUM	MR3 ISUZU ALUMINUM	MT2 ISUZU ALUMINUM	BASE ISUZU ALUMINUM SPECTRUM	OPT. OPEL ALUMINUM LE MANS
RATIO (:1)						
1st Gear	4.03	3.91	3.73	3.73	3.72	3.54
2nd Gear	2.37	2.15	2.15	2.04	2.04	1.95
3rd Gear	1.50	1.45	1.33	1.45	1.33	1.30
4th Gear	1.00	1.03	1.03	1.03	0.92	0.89
5th Gear	0.76	0.74	0.74	0.74	0.74	0.70
Reverse	3.76	3.58	3.50	3.58	3.58	3.38
CLUTCH PLATE DIAMETER	232mm (9.12")	203.2mm (8.0")	203.2mm (8.0")	215mm (8.46")	184mm (7.2")	200mm (7.8")

RPO/USE MAKE CASE MATERIAL DESIGNATION	TWIN-CAM TOYOTA ALUMINUM GEO PRIZM @	MG1 MUNCIE ALUMINUM HM282	MG2 MUNCIE ALUMINUM SPECTRUM	TURBO ISUZU ALUMINUM GEO METRO	BASE SUZUKI ALUMINUM HM290
RATIO (:1)					
1st Gear	3.54	3.50	3.50	3.50	3.42
2nd Gear	1.90	2.19	2.05	1.91	1.89
3rd Gear	1.23	1.38	1.38	1.33	1.28
4th Gear	0.88	0.94	0.94	0.92	0.91
5th Gear	0.72	0.72	0.72	0.74	0.76
Reverse	3.25	3.41	3.41	3.58	2.92
CLUTCH PLATE DIAMETER	200mm (7.8")	232mm (9.12")	232mm (9.12")	215mm (8.4")	160mm (6.3")

RPO/USE MAKE CASE MATERIAL DESIGNATION	MM1 MUNCIE ALUMINUM HM290	TWIN-CAM TOYOTA ALUMINUM GEO PRIZM*	M39 BORG-WARNER ALUMINUM	MK6 BORG-WARNER ALUMINUM
RATIO (:1)				
1st Gear	3.40	3.16	2.95	2.95
2nd Gear	1.96	1.90	1.94	1.94
3rd Gear	1.31	1.31	1.34	1.34
4th Gear	1.00	0.96	1.00	1.00
5th Gear	0.62	0.81	0.63	0.73
Reverse	3.16	3.25	2.76	2.76
CLUTCH PLATE DIAMETER	267mm (10.50")	200mm (7.8")	254mm (10.0")	254mm (10.0")

@ - WITH BASE L01 ENGINE.

* - WITH H.O. LWO ENGINE.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

TRANSMISSIONS CLUTCHES AND AXLES

AUTOMATIC 3-SPEED

DESIGNATION RPO/USE MAKE CASE MATERIAL	SPECTRUM OPT. ISUZU ALUMINUM	LE MANS OPT. OPEL ALUMINUM	'125c' MD9 HYDRAMATIC ALUMINUM	GEO METRO OPT. SUZUKI ALUMINUM	GEO PRIZM TWIN-CAM TOYOTA ALUMINUM
RATIO (:1)					
1st Gear	2.84	2.84	2.84	2.81	2.81
2nd Gear	1.54	1.60	1.60	1.55	1.54
3rd Gear	1.00	1.00	1.00@	1.00	1.00
Reverse	2.40	2.07	2.07	2.30	2.29
CONVERTER DIAMETER	224mm (8.8")	245mm (9.6")	245mm (9.65")	210mm (8.26")	230mm (9.05")

@ - Converter clutch engagement.

AUTOMATIC 4-SPEED

DESIGNATION RPO/USE MAKE CASE MATERIAL	GEO PRIZM TWIN-CAM TOYOTA ALUMINUM	'700-R4' MD8 CHEV. TOLEDO ALUMINUM	'440-T4' ME9 HYDRAMATIC ALUMINUM	'200-4R' MW9 HYDRAMATIC ALUMINUM
RATIO (:1)				
1st Gear	3.64	3.06	2.92	2.74
2nd Gear	2.00	1.63@	1.56	1.57
3rd Gear	1.29	1.00@	1.00@	1.00@
4th Gear	0.89	0.70@	0.70@	0.67@
Reverse	2.97	2.29	2.38	2.07
CONVERTER DIAMETER	230mm (9.05")	298mm (11.75") with 'F' V-8, Y & B 245mm (9.65") with 'F' (V6)	245mm (9.65")	298mm (11.75")

@ - Converter clutch engagement.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

TRANSMISSIONS CLUTCHES AND AXLES

REAR WHEEL DRIVE AXLES

AUTOMATIC AND MANUAL TRANSMISSIONS		
RPO/USE	AXLE RATIO	USE CAR LINE
GMB .	2.56	B
GM1	2.59	Y
GU2	2.73	B,F,Y
GH3	2.77	F
GW9	2.93	B
G44	3.07	Y
GU4	3.08	B,F
GU5	3.23	B,F
GW6	3.27	F
GU6	3.42	B,F
GM3	3.45	F
GH0	3.54	Y

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

TRANSMISSION, CLUTCHES AND AXLES

CLUTCH - 6-SPEED MANUAL TRANSMISSION

		With L98 or LT5 (Y)
Make, type, engagement (describe) (hydraulic, cable, rod.)		Valeo - Belleville spring cover asm. - Pull type Release bearing attached to cover asm spring. Dry single disk with no damper. Clutch to be used in conjunction with dual mass flywheel. Hydraulic linkage, automatic adjust.
Assist (yes, no, percent)		No
Total spring load (lb.)		2000
No of Clutch driven discs		One
Clutch Facing	Material	Non Asbestos
	Outside & Inside Dia. mm	280 x 170
	Total eff. Area cm ²	389
	Thickness	7.7
	Engagement Cushion Method	Driven plate wave springs
Release Bearing	Type & Method of Lubrication	Self centering, angular contact ball bearing, pre-packed and sealed. Pull type (attaches to clutch cover assembly). Unique parts for L98 & LT5.
Torsional Damping	Method: Springs, Friction Material	None. Torsional damper in flywheel.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

POWER TRAIN CHARTS

DOMESTIC 'T' CAR (LE MANS)

ENGINE			MODEL	TRANSMISSION	DRIVE RATIOS(:1)		
CONF DISP IND RPO	MANF	USE			FINAL GEAR	AXLE	OVERALL VEHICLE
1.6L L4 (97 CI) EFI L73	0	P	Cpe (Value Leader) (Base)	Man 4-Spd - Base (3.54 Low)	0.89	3.74	3.33
1.6L L4 (97 CI) TBI L73	0	P	Coupe & Sedan	Man 5-Spd (F13) - Base (3.54 Low)	0.71	3.74	2.66
				Auto 3-Spd (M40) - Opt	1.00	3.43	3.43
2.0L (121 CI) TBI LT2	0	P	Coupe & Sedan	Man 5-Spd (F16) (3.54 Low)	0.89	3.74	3.33
				Auto 3-Spd (M40)	1.00	3.18	3.18

DOMESTIC 'Y' CAR

ENGINE			MODEL	TRANSMISSION	DRIVE RATIOS(:1)		
CONF DISP IND RPO	MANF	USE			FINAL GEAR	AXLE	OVERALL VEHICLE
5.7L V8 (350 CI) TPI L98	CPC	C	Coupe	Man 6-Spd (ML9) 2.68 Low Base	0.50	3.31	1.65
				Z51/Z52	0.50	3.54	1.77
				Auto 700-R4 (MD8) Base or Z52	0.70	2.59	1.81
				G92	0.70	3.07	2.15
			Conv.	Man 6-Spd (ML9) 2.68 Low Opt.	0.50	3.31	1.65
				Auto 700-R4 (MD8) Base or Z52	0.70	2.73	1.91
				G92	0.70	3.07	2.15
5.7L V8 (350 CI) TPI-DOHC LT5 \$	CPC	C	Coupe & Conv.	Man 6-Spd (ML9) 2.68 Low Base	0.50	3.54	1.77

\$ - Base with ZR1 package
Z51 - Performance
Z52 - Sport Handling

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

TIRES AND WHEELS - Continued

VEHICLE LINE	DIV USE	TIRE DESCRIPTION	TIRE RPO	USE	INFLATION PRESSURE (psi, kPa)	WHEEL (DIA. X WIDTH)	SPARE TIRE
'Y' - Coupe	C	P255/50ZR16 BW (Non-All Seasons)	QZD	Base	35/240 (Fr. & Rr.)	16x8.5	Ref.6 Spare Tire Table
		P275/40ZR17 BW (Non-All Seasons)	XAU	Front tires only - Requires YAU or YBE rear tires.		17x9.5	Ref.7 Spare Tire Table
		P275/40ZR17 BW (Non-All Seasons)	YAU	Rear tires only - Requires YAU front tires and FE7 or Z52 suspension.			
		P315/35ZR17 BW (Non-All Seasons)	YBE	Rear tires only - Requires YAU front tires and ZR1		17x11	
'Y' - Convertible	C	P255/50VR16 BW (Non-All Seasons)	QZD	Base		16x8.5	Ref.6 Spare Tire Table
		P275/40ZR17 BW (Non-All Seasons)	XAU	Front tires only - Requires YAU rear tires.		17x9.5	Ref.7 Spa Tire Table
		P275/40ZR17 BW (Non-All Seasons)	YAU	Rear tires only - Requires YAU front tires or Z52 suspension.			

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

SPARE TIRE USAGE

REF. NO.	SPARE TIRE DESCRIPTION	INFLATION PRESSURE (psi, kPa)	WHEEL (DIA. X WIDTH)	COMMENTS
1	T125/70D15 BW Compact Spare, Bias Ply Nylon	60/415	15 x 4	
2	T125/80D16 BW Compact Spare, Bias Ply Nylon	60/415	16 x 4	Without Positraction, RPO G80
	T145/80D16 BW Compact Spare, Bias Ply Nylon	60/415	16 x 4	With Positraction, RPO G80
3	T145/80D16 BW Compact Spare, Bias Ply Nylon	60/415	16 x 4	
4	T125/70D15 BW Compact Spare, Bias Ply Nylon	60/415	15 x 4	Without Positraction, RPO G80
	P195/75D14 BW Space Saver Spare, Bias Ply Nylon	35/240	14 x 5	With Positraction, RPO G80
5	T115/70D14 BW Compact Spare, Bias Ply Nylon	60/415	14 x 4	
6	T155/80D16 BW Compact Spare, Bias Ply Nylon	60/415	16 x 4	
7	T155/70D17 BW Compact Spare, Bias Ply Nylon	60/415	17 x 4	
8	Same as on Axles	-	-	
9	P155/80D13	35/240	13 x 4.5	

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

BATTERIES

VEHICLE LINE	DIV. USE	ENGINE	RESERVE CAPACITY *		COLD CRANK AMPS AT -18°C (0°F)		MODEL	
			BASE	UA1	BASE	UA1	BASE	UA1
'A'	C, P	LR8	90	N/A	630	N/A	75-630	N/A
				90	525	570	75-525	75-570
'B'	C, P	LB4		N/A	630	N/A	75-630	N/A
		L03, LV2	75	90	525	570	70-525	75-570
'F'	C	LB8	90				75-525	
		L03-Man.						
		L03-Auto. Except IROC	75				70-525	
		L03-Auto. IROC	90				75-525	
		LB9	75				70-525	
		L98	90	N/A	630	N/A	75-630	N/A
	P	LB8, L03		90	525	570	75-525	75-570
		LB9	75				70-525	
		L98	90	N/A	630	N/A	75-630	N/A
'H'	P	LG2	75	90	525	570	70-525	75-570
'J'	C	LL8	75	90	525	630	75-525	75-630
		LB6	75	90	525	630	70-525	75-630
	P	LT2	75	90	525	630	70-525	75-630
		LT3	75	90	525	630	70-525	75-630
'L'	C	LL8-Man.	75	90	525	630	70-525	75-630
		LL8-Auto.	90	N/A	630	N/A	75-630	N/A
		LB6	75	90	525	630	70-525	75-630
'M'	C	LP2	70	N/A	400	N/A	55B24R(S)	N/A
		LP2-ER	70	N/A	400	N/A	55B24R(S)	N/A
'N'	P	L68	75	90	525	630	75-525	75-630
		LT3	75	90	525	630	75-525	75-630
		LD2	75	90	525	630	75-525	75-630
'R'	C	LC5	75	N/A	300	N/A	50D20L	N/A
		LC0	75	N/A	300	N/A	50D20L	N/A
'S'	C	LW0/L01	90	N/A	310	N/A	55D23L	N/A
'T'	P	L73	90	N/A	550	N/A	1981788	N/A
'W'	P	LB6	75	90	525	630	75-525	75-630
'Y'	C	L98/LT5	90	N/A	630	N/A	75-630	N/A

* Number of minutes to discharge battery to 10.5 volts with a 25-ampere load.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

ALTERNATORS - Cont.

			AMPERE RATING										
			BASE/OPTIONAL	WITH AIR CONDITIONING RPO C60/C67		WITH REAR WINDOW DEFOGGER RPO C49		WITH RPO C60/C67 AND RPO C49					
VEHICLE LINE	DIV. USE	ENGINE RPO		IDLE	MAX.	IDLE	MAX.	IDLE	MAX.	IDLE	MAX.		
'R'	C	LC5	Base	20	50	20	60	-	-	-	-		
		LC0	Base	20	50	20	60	-	-	-	-		
'S'	C	LWO/L01	Base	37	67	37	67	37	67	37	67		
'T'	P	L73	Base	24	55	-	-	-	-	-	-		
			Opt.	30	65	-	-	-	-	-	-		
'W'	P	LB6	Base-Without Fog Lamps	36	100	36*	100*	36	100	36*	100*		
			Base-With Fog Lamps	36	100	42	105	36	100	42	105		
			Opt.-Can.	42	105	42	105	42	105	42	105		
		O	LR8	Base-Without Fog Lamps	30	85	36	100	30	85	36	100	
				Base-With Fog Lamps	42	105	42	105	42	105	42	105	
				LB6	Base-Without Fog Lamps	36	100	36*	100*	36	100	36*	100*
				Base-With Fog Lamps	36	100	42	105	36	100	42	105	
		B	LR8	Base-Without Fog Lamps	30	85	36	100	30	85	36	100	
				Base-With Fog Lamps	42	105	42	105	42	105	42	105	
	LB6			Base-Without Fog Lamps	36	100	36*	100*	36	100	36*	100*	
				Base-With Fog Lamps	36	100	42	105	36	100	42	105	
	'Y'		C	L98	Base	42	105	42	105	42	105	42	105
				LT5	Optional	50	120	50	120	50	120	50	120

* - 42/105 amp with C67 and H.D. cooling, RPO V08.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSSPECIFIC COMPONENTSA/C COMPRESSORS

VEHICLE LINE	DIV. USE	ENGINE	A/C COMPRESSOR TYPE
'A'	C, P	LB8 LB6	V-5 (Variable Disp., 5-Cyl.)
'B'	C	LB4 L03 LV2	Radial-4
'F'	C, P	LB8 L03 LB9 L98	Radial-4
'H'	P	LG2	Radial-4
'J'	C	LL8 LB6	V-5 (Variable Disp., 5-Cyl.)
	P	LT2 LT3	Radial-4
'L'	C	LL8 LB6	V-5 (Variable Disp., 5-Cyl.)
'M'	C	LP2	Nippondenso
'N'	P	L68 LT3 LD2	V-5 (Variable Disp., 5-Cyl.)
'R'	C	LC5 LC0	Nippondenso
'S'	C	LW0/L01	Nippondenso
'T'	P	L73	V-5 (Variable Disp., 5-Cyl.)
'W'	P	LB6	V-5 (Variable Disp., 5-Cyl.)
'Y'	C	L98	Nippondenso
		LT5	Nippondenso 10 PA17

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

STARTER MOTORS

STARTER MOTOR					
VEHICLE LINE	DIV. USE	ENGINE	SERIES	TYPE OF MOUNTING	MANUFACTURER
'A'	C, P	LR8	5MT	Pad	Delco Remy
		LB6	5MT		
'B'	C	LB4, L03, L05	10MT		
	C, P	LV2			
'F'	C, P	LB8	5MT		
		L03, LB9-Man.			
		L03-Auto.			
		LB9-Auto.			
		L98			
'H'	P	LN3			
'J'	C	LL8			
		LB6			
	P	LT2			
		LT3			
'L'	C	LL8			
		LB6			
'M'	C	LP2	-		Nippondenso
'N'	P	L68	5MT		Delco Remy
		LT3			
		LD2			
'R'	C	LC5	-		Nippondenso
		LC0	-		
'S'	C	LW0/L01	-		Bosch
'T'	P	L73	-		
		LT2	-		
'W'	P	LB6	5MT		Delco Remy
'Y'	C	L98			Nippondenso
		LT5	06200	Flange Mounted, Rear of 'V'	Nippondenso

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

ENGINE FANS

VEHICLE LINE	DIV. USE	ENGINE RPO	APPLICATION	FAN				
				TYPE	DIAMETER mm (in.)	NO. BLADES	MATERIAL	CLUTCH/ SPACER
'A'	C, P	LR8	Base-Cpe. Sed	Electric *	292.5 (11.5)	5	Plastic	-
			Base-Wag	Electric @	388.5 (15.3)	5	Plastic	-
			C60 or V08-Cpe. Sed					
'B'	C	LB6	Base-A11	Belt Driven	508.0 (20.0)	5	Aluminum	Clutch
		LB4	Base-A11					
		L03	Base-A11					
	C, P	LV2	C60-A11		482.6 (19.0)	5	Aluminum	Spacer Clutch
			Base-A11					
			C60 & 2.93 Axle-A11					
'F'	C, P	LB8	Base-A11	Electric @	423.0 (16.7)	5	Plastic	-
		L03	Base-A11					
	C	LB9	Base-A11		423.0 (16.7)	5	Plastic	
			C60-Two Fans					
		L98	Base-A11					
	P		C60-Two Fans			7		
		LB9	Base-Two Fans					
		L98	Base-Two Fans					
'H'	P	LG2	Base	Electric	415.0 (16.3)	5*	Plastic	-
'J'	C	LL8	Base		291.0 (11.4)	4++	Plastic	-
		LB6	Base		352.5 (13.8)	7	Plastic	-
	P	LT2	Base		290* (11.4)	5§	Plastic	-
		LT3	Base					-
'L'	C	LL8	Base-A11	Electric @	351.6 (13.8)	7	Plastic	-
			C60-A11-Two Fans	Electric *	293.0 (11.5)	5		
		LB6	Base-A11	Electric @	351.6 (13.8)	7		
			C60-A11-Two Fans					

- + - 5 blades with A/C
- # - Clutch with A/C
- § - 7 blades with A/C
- * - 373 with A/C
- - 6 blades with A/C
- ++ - Opt 5 blade fan, 354.0 dia.

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

ENGINE FANS - Cont.

VEHICLE LINE	DIV. USE	ENGINE RPO	APPLICATION	FAN				
				TYPE	DIAMETER mm (in.)	NO. BLADES	MATERIAL	CLUTCH/ SPACER
'M'	C	LP2 LS3	A11	Electric	300mm (11.8)	4	Plastic	-
'N'	P	L68	A11	Electric	290mm (11.4)	5%	Plastic	-
		LT3	A11	Electric	290mm (11.4)	5%	Plastic	-
		LD2	A11	Electric	381mm (15.0)	6	Plastic	-
'R'	C	LC5 LC0	A11	Electric	294mm (11.6)	5	Plastic	-
'S'	C	LW0/L01	A11	Electric	280mm (11.0)	4	Plastic	-
'T'	P	L73 LT2	A11	Electric	366mm (14.36)	5	Plastic	-
'W'	P	LB6	Base-A11	Electric *	343.0 (13.5)	5	Plastic	-
			C67-A11		412.5 (16.2)			
			V08-A11-Two Fans		343.0 (13.5)			
'Y'	C	L98	Base	Electric *	423.0 (16.7)	5	Plastic	-
			Booster Fan (RPO B4P)	Electric	323.0 (12.7)			
		LT5	2x Fan (150W-220 RPM)	Electric	299.0 (11.77)	5@	Plastic	

- * - With reinforcement ring.
- @ - Shrouded with reinforcement ring.
- % - 6 blades with A/C, 373 dia.
- - 415 dia with A/C.

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

RADIATORS

VEHICLE LINE	DIV. USE	ENG. RPO	TRANS.	AXLE RATIO	APPLICATION	SIZES (mm)					MATERIAL (TANK/CORE)
						K*	H	W	D	F.A.	
'A'	C, P	LR8	A11	A11	Base-Cpe. & Sed.	3.5	429.7	430.0	25.0	1848.0	Copper/ Brass
					Base-Wag.		437.8	667.5	23.5	2922.3	
					C60 or V08						
					C60 & V08	3.0	429.7	668.0	40.2	2870.0	
					Base	4.0			25.0		
		LB6	A11	A11	C67-Pont. Sed.	2.5	437.8	667.5	34.0	2922.3	
					C60 or V08-Cpe & Sed	3.0	429.7	668.0	25.0	2870.0	
					C60 or V08-Wag.				40.2		
					C60 & V08-Cpe & Sed						
					C60 & V08-Wag						
'B'	C	LB4	A11	A11	Base	2.5	429.7	528.3	25.0	2270.0	Copper/ Brass
					V08				40.2		
		L03	A11	A11	Base	4.0		668.0	25.0	2870.0	
					C60	2.5					
	C, P	LV2	A11	A11	V08				40.2		
					Base	3.5	431.0	718.8	25.0	3098.0	
					C60 or V08	2.5					
					C60 & V08						
'F'	C	LB8	A11	A11	Base or C60 & T96	4.0	437.8	599.5	23.5	2624.6	Plastic/ Alum
					C60 without T96	3.0					
		L03	Man.	A11	Base-without T96	4.0		667.5		2922.3	
			Auto.	A11	Base-without T96	3.5					
			A11	A11	Base-with T96 or C60	2.5			34.0		
		LB9	A11	A11	Base						
		L98	A11	A11	Base						
	P	LB8	A11	A11	Base	4.0		599.5	23.5	2624.6	
					C60 or C67	3.0					
		L03	Man.	A11	Base-without T96	4.0		667.5		2922.3	
			Auto.	A11	Base-without T96	3.5					
			A11	A11	Base-with T96 or C60 or C67	2.5			34.0		
		LB9	A11	A11	Base						
		L98	A11	A11	Base						
'H'	P	LG2	A11	A11	Base	8.5	429	718	25	3080	Copper/ Brass
					C60	8.5	429	774	25	3320	
'J'	C	LL8	Man.	A11	Base	3.5	387.5	500.0	25.0	1937	Copper/ Brass
			4 & 5-Spd.		C60			600.0		2325	
			Auto.	A11	Base			500.0		1937	
			3-Spd.		C60			600.0		2325	

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR
POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

RADIATORS - Cont.

VEHICLE LINE	DIV. USE	ENG. RPO	TRANS.	AXLE RATIO	APPLICATION	SIZES (mm)					MATERIAL (TANK/CORE)
						K*	H	W	D	F.A.	
'J'	C	LB6	Man. 5-Spd.	3.61	Base or C60	4.0	360.4	599.5	34.0	2161	Plastic/Alum
			Auto. 3-Spd.	3.18	Base C60	3.5					
	P	LT2	A11	A11	Base C60	14.5	387.5	500	25.0	1937.5	Copper/Brass
					C60	20.3	387.5	600	40.0	2325	
		LT3	A11	A11	Base C60	14.5	387.5	500	25.0	1937.5	
'L'	C	LL8	A11	A11	Base C60	3.5	382.4	499.5	23.5	1910.1	Copper/Brass
					C60	3.5	382.4	659.5	34.0	2521.9	
		LB6	A11	A11	Base C60	3.5	382.4	499.5	23.5	1910.1	
					C60	3.5	382.4	659.5	34.0	2521.9	
'M'	C	LP2	A11	A11	Base	1.6	350	358	16	1253	Copper/Brass
		LS3	A11	A11	Base	1.6	350	358	16	1253	
'N'	P	L68	A11	A11	Base C60	8.5	314	600	25	1884	Copper/Brass
					C60	10	377	600	25	2262	
		LT3	A11	A11	Base C60	14.5	387.5	500	25	1937	Copper/Brass
					C60	20.3	387.5	600	40	2325.5	
		LD2	A11	A11	Base C60	10	382	600	23.5	2292	Alum/Plastic
'R'	C	LC5	A11	A11	Man. Trans.	10	358	410	17.3	1467.8	Copper/Brass
					Auto Trans.	15	358	475	17.3	1700.5	
		LC0	A11	A11	Base		358	410	17.3	1467.8	
'S'	C	LW0 LO1	A11	A11	Base	15.9	326	666	16	2164.5	Plastic/ Copper
'T'	P	L73	A11	A11	Base	8	382	635	23.5	2425	Plastic/Alum
		LT2	A11	A11	Base	8	382	635	23.5	2425	
'W'	P	LB6	A11	A11	Base	4.0	382.4	718.3	23.5	2746.8	
					C67 or V08	3.0					
					C67 & V08	2.5			34.0		
'Y'	C	L98	A11	A11	Base	2.5	382.4	599.5	23.5	2292.5	Plastic/Alum
					V01				34.0		

RPO's C60/C67 = Air Conditioning
V01 = Heavy Duty Radiator
V08 = Heavy Duty Cooling System
T96 = Fog Lamps

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

EXHAUST SYSTEMS

VEHICLE LINE	ENG.	USE	EXHAUST SYSTEM SIZES (MM)				NUMBER OF RESON.	NUMBER OF MUFFLERS	HEAT SHIELD LOCATION
			X-OVER PIPE	EXHAUST PIPE	INTER. PIPE	TAIL PIPE			
'A'-Sed. & Cpe.	LR8	Fed	-	50.8(1)	50.8(3)	50.8(3)	0	1	Conv. & Muff.
	LB6	A11	47.8(1)	50.8(2)	57.15(3)	57.15(3)(4)	0	1	
'A'-Wag.	LR8	Fed	-	50.8(1)	50.8(3)	50.8(3)	0	1	Conv. & Muff.
		Can.	-	50.8(1)	50.8(3)	50.8(3)	1	1	
	LB6	A11	47.8(1)	50.8(2)	50.15(3)	57.15(3)	0	1	
'B'-Sed.	LB4	Fed.	50.8(2)	57.15(1)	57.15(5)	50.8(3)	0	1	Conv.
	L03	A11	50.8(2)	57.15(1)	57.15(5)	63.5(3)	1	1	
	L05	Fed.	50.8(2)	57.15(1)	57.15(5)	50.8(3)	0	1	Conv. & Muff.
'B'-Wag.	LV2	A11	50.8(2)	57.15(1)	57.15(3)	63.5(3)	1	1	Conv.
'F' Except Z28	LB8	Fed	(8)	(9)	57.15(3)	57.15(10)	0	1	Exh. Pipe & Muff.
		Can.	44.5(2)	50.8(2)	57.15(3)	50.8(3)	0	1	
	L03	A11	(8)	(9)	57.15(3)	57.15(10)	0	1	
'F'-Z28	L03	A11	(8)	(9)	57.15(3)	63.5(10)	0	1	Conv., Exh. Pipe & Muff.
	L98	A11	(9)	(9)	57.15(3)	63.5(10)	0	1	
	LB9	A11	(9)	(11)	69.85(3)	63.5(10)	1	1	
'J'-2-Door	LL8	A11	-	50.8(2)	50.8(3)	50.8(3)(17)	0	1	Muff.
	LB6	A11	47.8(2)	50.8(2)	50.8(3)	50.8(3)	0	1	
'T'	L73	A11	-	45.0	45.0	45.0	0	2	
	LTZ								

ENGINEERING PRODUCT DIRECTION

1989 PASSENGER CAR POWER TRAIN COMPONENTS

SPECIFIC COMPONENTS

EXHAUST SYSTEMS - Continued

VEHICLE LINE	ENG.	USE	EXHAUST SYSTEM SIZES (MM)				NUMBER OF RESON.	NUMBER OF MUFFLERS	HEAT SHIELD LOCATION
			X-OVER PIPE	EXHAUST PIPE	INTER. PIPE	TAIL PIPE			
'J' - 4-Door	LL8	A11	-	50.8(2)	50.8(3)	50.8(3)	0	1	Muff.
	LB6	A11	47.8(2)	50.8(2)	50.8(3)	50.8(3)	0	1	
'J' - Wagon	LL8	A11	-	50.8(2)	50.8(3)	50.8(3)	0	1	Muff.
	LB6	A11	47.8(2)	50.8(2)	50.8(3)	50.8(3)	0	1	
'L'	LL8	A11	-	50.8(2)	50.8(1)	50.8(3)	0	1	Conv.
	LB6	A11	47.8(2)	50.8(2)	50.8(1)	50.8(3)	0	1	Conv.; Muff.
'Y' Corvette	L98	A11	57.15 (16)	57.15 (3) (15)	57.15 (3)	57.15 (3) (16)	0	2	Exh. Pipe Conv.

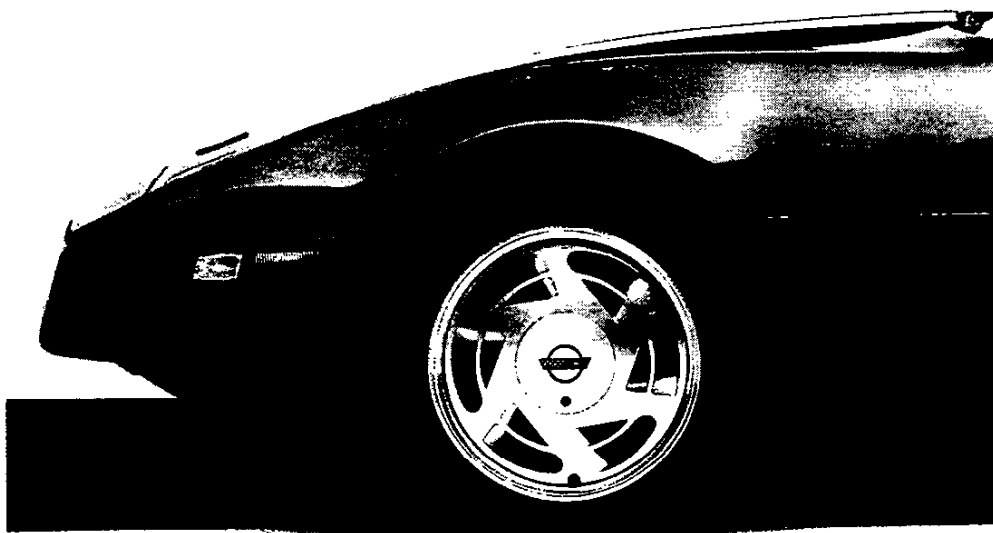
NOTES

1. Stainless steel.
2. Laminated tubing - stainless steel outer, steel inner.
3. Aluminum coated steel.
4. Dual tail pipes on Eurosport.
5. Steel tubing.
6. Aluminum coated steel - 57.15mm diameter from muffler to resonator, 63.5mm diameter behind resonator.
7. Stainless steel - outer pipe 57.15mm diameter, inner pipe 50.8mm diameter with 2.155mm air gap between pipes.
8. Stainless steel - outer pipe 63.5mm diameter, inner pipe 57.15mm diameter with 2.155mm air gap between pipes.
9. Dual tail pipes, aluminum coated steel.
10. Stainless steel - outer pipe 76.2mm diameter, inner pipe 69.85mm diameter with 2.155mm air gap between pipes.
11. Laminated tubing - steel inner, aluminum coated steel outer.
12. Oval shaped stainless steel, 91.2mm x 64.5mm.
13. Oval shaped aluminum coated steel, 91.2mm x 64.5mm with dual aluminum coated steel branches of 57.15mm diameter to dual mufflers.
14. Stainless steel inner and outer pipes with 2.00-2.15mm air gap between pipes.
15. Dual pipes to dual exhaust system.
16. Dual tail pipes on each muffler.
17. Dual tail pipes.

1989 PASSENGER CAR
POWER TRAIN COMPONENTSSPECIFIC COMPONENTS

FUEL TANK CAPACITIES

CARLINE	ENGINE	USABLE FUEL (GAL.)
'A'-Cpe., Sed. & Wag.	2.5L-L4 EFI	15.7
	2.8L-V6 MFI	15.7
'B'-Sedan	4.3L-V6 EFI	24.5
	5.0L-V8 EFI	24.5
'B'-Wagon	5.0L-V8 Carb.	22.0
'F'	2.8L-V6 MFI	15.5
	5.0L-V8 TPI	
	5.7L-V8 TPI	
'H'	3.8L-V6 SFI	18.0
'J'	2.0L-L4 EFI	13.6
	2.8L-V6 MFI	
'L'	2.0L-L4 EFI	13.6
	2.8L-V6 MFI	
'M'	1.0L-L3 EFI	8.7
'R'	1.5L-L4 Carb.	11.1
'S'	1.6L-L4	13.2
'T'	1.6L-L4	12.2
	2.0L-L4	
'Y'	5.7L-V8 TPI	20.0



Corvette

**CORVETTE.
SOPHISTICATED
HIGH PERFORMANCE.**

HIGHLIGHTS

- 5.7 Liter high-compression V8 with Tuned-Port Fuel Injection
- PASS-Key™ vehicle anti-theft system
- Bosch ABS II anti-lock brake system
- Power 4-wheel disc brakes, power steering
- AM/FM stereo with Seek and Scan, cassette, power antenna standard
- Many luxury/convenience features standard, including air conditioning, power windows, locks, twin remote heated mirrors.

NEW FOR '89

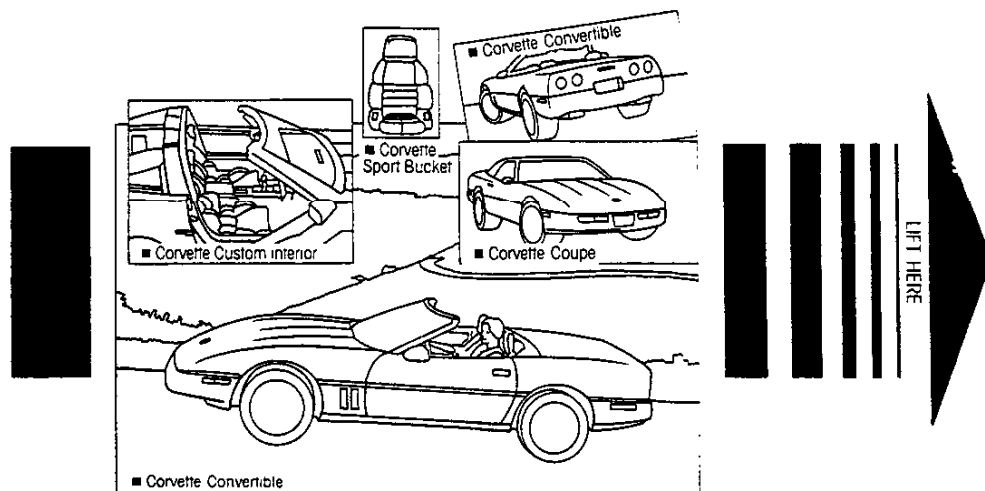
- Base suspension now incorporates most former Sport Handling Package componentry including Delco®/Bilstein gas-charged shocks
- 17" x 9½" cast aluminum wheels with P275/40ZR-17 radial tires standard
- Color palette revised with eight exterior color choices available for 1989
- Optional low tire pressure warning system
- 6-speed manual transmission* with computer-optimized gear selection available in place of standard automatic overdrive transmission
- Bilstein Selective Ride Suspension option (RPO FX3†) enables driver adjustment of suspension firmness to desired settings
- New base seats and optional adjustable sport bucket seats†

*Interim availability.

†Requires RPO Z51 Performance Handling Package with 6-speed manual; interim availability.

MODEL FEATURES • MODELS • INSTRUMENT PANEL FEATURES

Corvette



MODEL FEATURE HIGHLIGHTS

CORVETTE COUPE

- Power-operated retracting halogen headlamps
- Dual halogen foglamps
- Dual electrically adjusted heated outside rearview mirrors
- One-piece removable fiberglass roof panel
- Roof-mounted center stop lamp
- 17" x 9½" cast aluminum wheels
- P275/40ZR-17 Eagle radial tires
- Leather-wrapped steering wheel
- Tilt/Telescopic steering column
- Air conditioning
- Intermittent wiper system
- Electronic speed control with resume speed
- Power windows and door locks
- Individual cloth bucket seats with lateral support and back angle adjustment plus wool-pad comfort liner
- Delco®/Bilstein gas-charged shock absorbers.

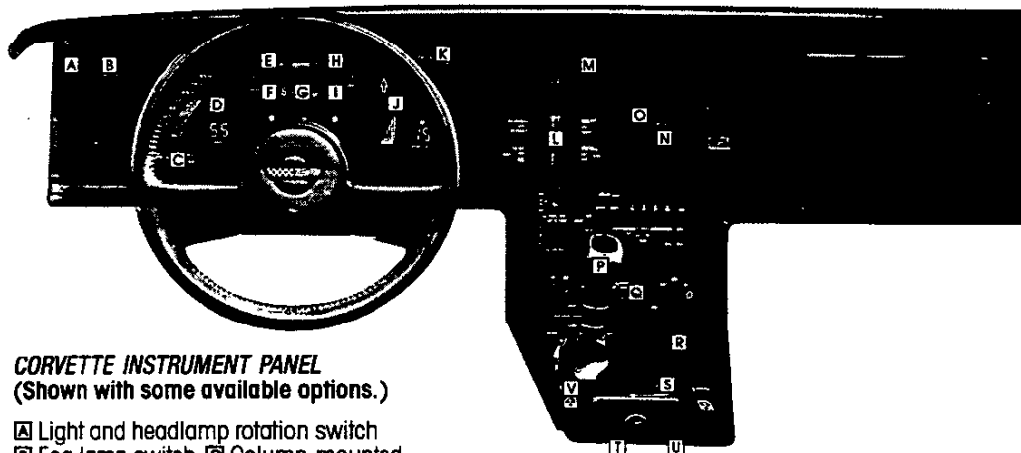
CORVETTE CONVERTIBLE

Features in addition to or replacing Corvette Coupe equipment include:

- Manual folding top with lightweight framework
- Hinged cover for top stowage well
- Center high-mounted stop lamp in rear fascia.

Corvette

INSTRUMENT PANEL FEATURES

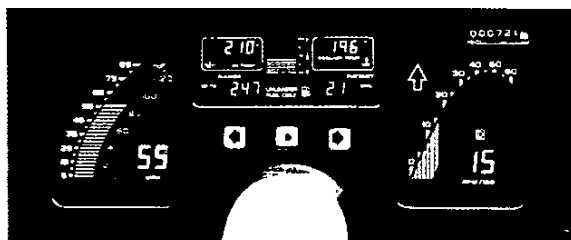


CORVETTE INSTRUMENT PANEL (Shown with some available options.)

- ☐ Light and headlamp rotation switch
- ☐ Fog lamp switch ☐ Column-mounted multi-function turn signals/headlamp dimmer switch and cruise control
- ☐ Speedometer—English and metric (analog—5-85 MPH, 10-140 kph; digital reads actual speed) ☐ Oil pressure or temperature readouts (metric or English)
- ☐ Range and trip odometer readouts (metric or English) ☐ Fuel gage with Reserve note ☐ Coolant temperature and voltage readouts (metric or English coolant temperature)
- ☐ Instantaneous or average fuel economy readouts (metric or English) ☐ 6000 RPM tachometer ☐ Odometer—miles

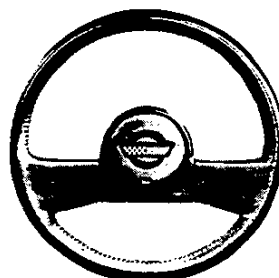
- ☐ Switches for English/metric readouts
- ☐ Ventilation outlets ☐ Service and warning lights ☐ AM/FM stereo radio with Seek and Scan, cassette and digital clock*
- ☐ Leather-wrapped shift lever knob and boot ☐ Heater and air conditioning controls ☐ Cigarette lighter and ashtray
- ☐ Power Sport mirror controls ☐ Lockable glove box includes cassette storage compartment and coin holder ☐ Electric rear hatch release (forward wall of glove compartment) ☐ Power window switches.

*Optional radio shown.



Corvette full LCD digital instrumentation readouts shown in regular (English) mode.

STEERING WHEEL



Corvette leather-wrapped two-spoke steering wheel.

OPTIONS • POWER TEAMS • WHEEL TRIM • EXTERIOR DECOR FEATURES

OPTION PACKAGES

NOTE: NOT TO BE USED FOR ORDERING. REFER TO ORDER GUIDE FOR CURRENT USAGE AND AVAILABILITY.

- INCLUDED IN OPTION PACKAGE
- INDIVIDUAL OPTION AVAILABILITY

PACKAGED OPTIONS (Not available individually unless indicated.)

	CORVETTE COUPE	CORVETTE CONVERTIBLE
	PKG CVA1	PKG CVA1
Delco®/Bose Music System	■	■
Power Seat (Driver's)	■	■
Electronic Air Conditioning	■	■
ADDITIONAL INDIVIDUAL OPTIONS		
Engine Oil Cooler	●	●
Radiator Fan Cooling Boost	●	●
Performance Axle Ratio	●	●
Engine Block Heater	●	●
Illuminated Vanity Mirror (Driver's Side)	●	●
Heavy-Duty Radiator	●	●
Roof Panels, Lift-Off Transparent (Blue Tint)	●	
Roof Panels, Lift-Off Transparent (Bronze Tint)	●	
Roof Package (Solid Lift-Off Panel and Lift-Off Transparent Blue or Bronze Tint Panel)	●	
Low Tire Pressure Warning	●	●
Z51 Performance Handling Package	●*	

*Requires 6-speed manual transmission, interim availability.

POWER TEAMS

Engine	Ordering Code	Engine Availability	Transmission Availability		Rear-Axle Ratios	
			6-Speed Manual w/Overdrive (RPO MN6)	4-Speed Automatic w/Overdrive (RPO MX0)	6-Speed Manual w/Overdrive (RPO MN6)	4-Speed Automatic w/Overdrive (RPO MX0)
ALL STATES						
5.7 Liter V8 with TPI*	RPO L98	STD	OPT†	STD	3.31**	2.59††

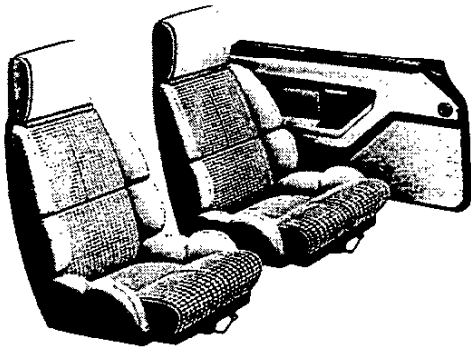
STD—Standard OPT—Optional at no extra cost *Tuned-Port Fuel Injection. †Interim availability. **3.54 with RPO Z51 or RPO FX3. ††3.07 on Coupe with optional RPO G92 performance ratio (requires RPO KC4 engine oil cooler, B48 radiator cooling boost fan and V01 heavy-duty radiator); 2.73 on Conv. with optional RPO G92.

WHEEL TRIM

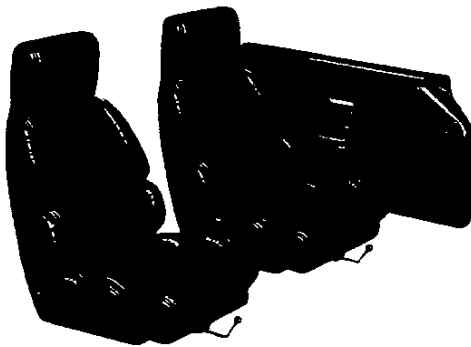


Standard Corvette 17" x 9½" cast aluminum wheels.

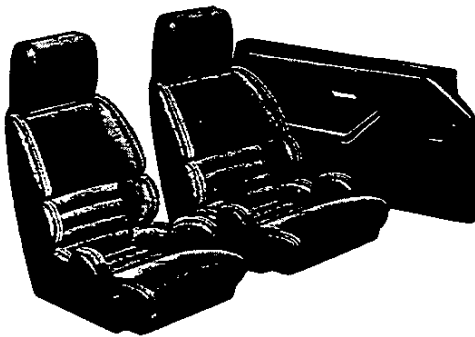
SEAT & DOOR TRIM



Standard sport cloth reclining bucket seats with integral head restraints and wool-pad comfort liner.



Optional reclining bucket seats with leather seating surfaces, integral head restraints and wool-pad comfort liner.



Optional leather adjustable sport buckets with integral head restraints and wool-pad comfort liner. Both driver and passenger seats feature full power adjustment for lumbar, backrest and backrest bolster (requires RPO AC3 and AC1, power six-way driver and passenger seat adjustment and Z51 Performance Handling Package, not available on Convertible, interim availability).

Corvette

COLOR & TRIM SELECTIONS

SEAT STYLE & TRIM COMBINATIONS		INTERIOR COLORS				
Model	Seat Type	Blue	Black	Gray	Red	Saddle
Corvette Coupe	Cloth Bucket		HBB2			HUU2
	Leather Bucket	ADD2	ABB2	AQQ2	ARR2	AUU2
	Leather Adjustable Sport Bucket*	ADD8	ABB8	AQQ8	ARR8	AUU8
Corvette Convertible	Cloth Bucket		HBB2			HUU2
	Leather Bucket	ADD2	ABB2	AQQ2	ARR2	AUU2

*Requires RPO AC1 and AC3 Power Seats, Z51 Performance Handling Package with 6-speed manual transmission (interim availability).

CORVETTE COUPE (Exterior/Interior Combinations)

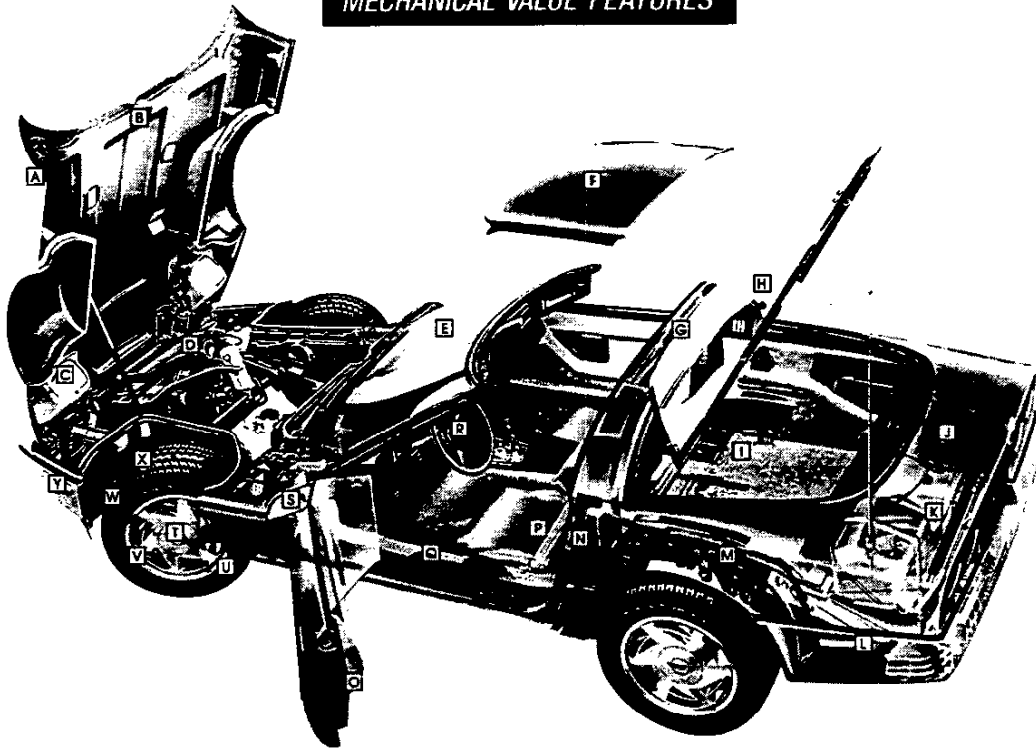
Exterior Paint Color	Color Code	Blue	Black	Gray	Red	Saddle
Black	41	X	X	X	X	X
Blue, Medium (Metallic)	20	X	X			
Blue, Dark (Metallic)	28		X			X
Charcoal (Metallic)	96		X	X		X
Gray (Metallic)	90		X	X		
Red, Bright	81		X	X	X	X
Red, Dark (Metallic)	68		X			X
White	10	X	X	X	X	X

CORVETTE CONVERTIBLE (Exterior/Interior Combinations)

Exterior Paint Color	Color Code	Blue	Black	Gray	Red	Saddle
Black	41	19T*	11T*/19T*	11T*/19T*	19T*	19T*/67T*
Blue, Medium (Metallic)	20	11T*/19T*	11T*/19T*			
Blue, Dark (Metallic)	28		11T*/19T*			19T*/67T*
Charcoal (Metallic)	96		11T*/19T*	11T*/19T*		19T*/67T*
Gray (Metallic)	90		11T*/19T*	11T*/19T*		
Red, Bright	81		11T*/19T*	11T*/19T*	11T*/19T*	11T*/67T*
Red, Dark (Metallic)	68		11T*/19T*			19T*/67T*
White	10	11T*	11T*/19T*	11T*/19T*	11T*/19T*	11T*/67T*

*Convertible Top Colors: 11T—White, 19T—Black, 67T—Saddle.

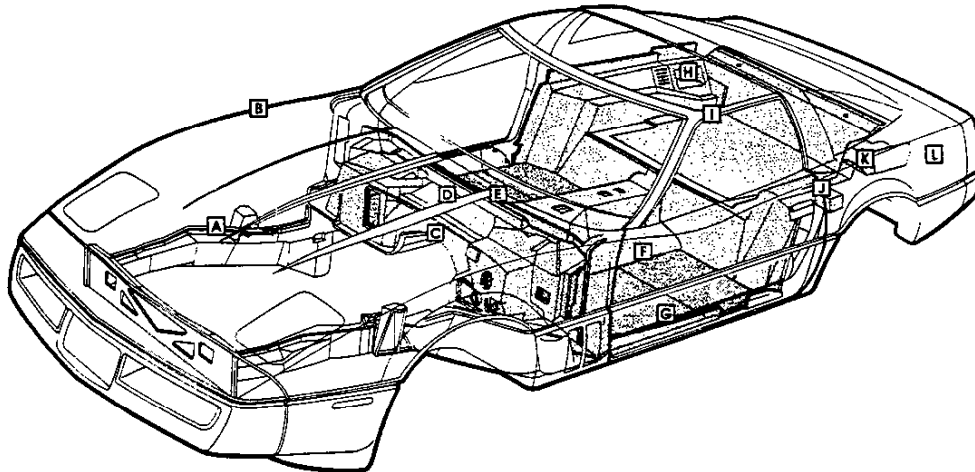
MECHANICAL VALUE FEATURES



A Twin underhood lamps B Clamshell hood opening for convenient engine access C Retractable, aerodynamic halogen headlamps D Thermostatically controlled electric cooling fan E 64° windshield angle F One-piece removable roof panel G Center high-mounted stop lamp H Full-opening glass hatch with concealed hinges I Roller-shade-type cargo cover and twin, covered storage bins J Concealed gas filler with cap holder K 20-gallon fuel tank with positive displacement roller vane electric fuel pump L Rear clear-lense illuminating side marker lamps M Five-link independent rear suspension with transverse component epoxy spring N Body vent pressure system aids

ventilation flow through cockpit O Rear hatch release at each door and in console P Contoured reclining seats with lateral support and wool-pad comfort liner Q Parking brake system integral with rear discs, handle returns to down position when released R Tilt-Telescopic steering wheel S Electrically operated heated outside mirrors T Special wheel-bolt locks standard U Zero-scrub front suspension V 17" x 9½" cast aluminum wheels W Four-wheel anti-lock disc brakes with 11.9" diameter rotors and finned aluminum calipers. Two-piston front calipers X P275/40ZR-17 Eagle blackwall radial tires standard Y Front cornering lamps.

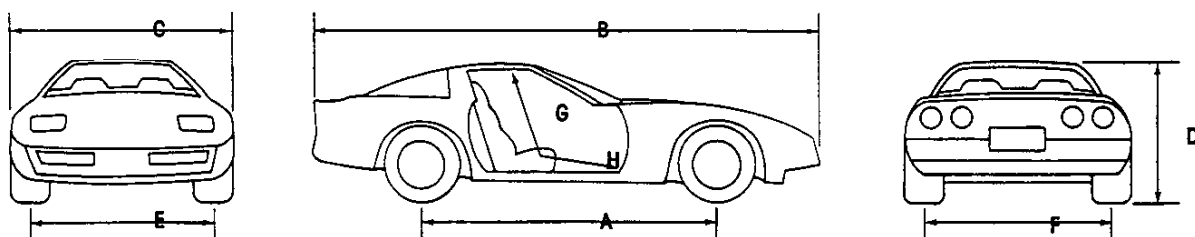
BODY VALUE FEATURES



A Two side galvanized steel under frame B High solids acrylic enamel base paint coat with clear finish coat C Transmission sound deadener D Cowl-area insulation E Under-dash insulator/absorber F Body floor insulator pads G Sill area noise-control adhesive

pads H Rear quarter pocket insulators I Cargo area insulator pads J Noise-control blocks help to diminish road noise K Rear wheelhousing/sidewall pads L Side-wall and cargo area insulator pads.

DIMENSIONS



EXTERIOR DIMENSIONS (in.)

	Coupe	Convertible
A Wheelbase	96.2	96.2
B Length (overall)	176.5	176.5
C Width (overall)	71.0	71.0
D Height (overall)	46.7	46.4
E Tread—front	59.6	59.6
F Tread—rear	60.4	60.4
Minimum ground clearance	4.9	4.9

INTERIOR ROOMINESS (in.)

G Head room—front	36.4	36.4
H Leg room—front	42.6	42.6
Shoulder room—front	54.1	54.1
Hip room	49.3	49.3

LUGGAGE COMPARTMENT CAPACITY

Usable luggage space (cu. ft.)	17.9	6.6*
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RATED FUEL TANK CAPACITY (gallons)

	20.0	20.0
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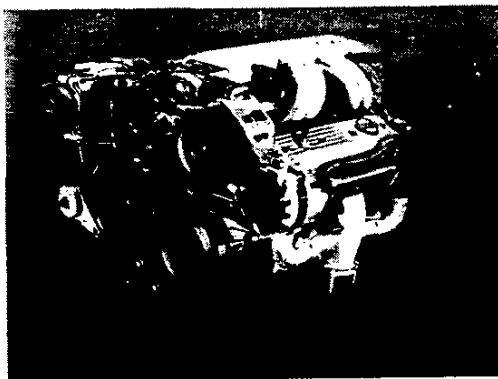
CURB WEIGHT (approx. pounds)

With automatic transmission	3223	3263
With manual transmission	3229	3269

*With top up, 4.2 cu. ft. with top down.

Corvette

ENGINES



5.7 Liter V8 with TPI (RPO L98).

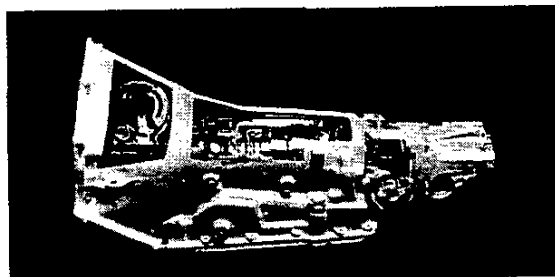
Chevrolet's most powerful engine, reserved exclusively for Corvette in its highest state of tune, is further refined for 1989. This engine's standard Tuned-Port Fuel Injection (TPI) is now equipped with Multec fuel injectors. The Multec injectors are designed to reduce clogging. Refined calibration aids cold start ability so that separate cold-start injectors are no longer required. Corvette's TPI system continues to feature individual tuned runners that both enhance performance and contribute to the

engine's impressive appearance. Many components are cast in aluminum, including the cylinder heads. A high-lift camshaft, hydraulic roller valve lifters and guided valve rocker arms are used in the valve train. Maximum ignition advance is maintained for performance at all times while smoothness and flexibility are aided with the engine's Electronic Spark Control (ESC) system. ESC monitors combustion, retarding ignition spark timing when potential engine "knock" or "pinging" threatens.

TRANSMISSIONS

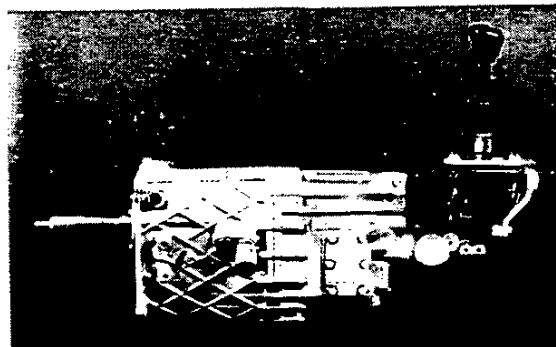
4-Speed Automatic Transmission with Overdrive (RPO MX0).

This 4-speed automatic transmission with overdrive is included in Corvette's base power team. The transmission automatically shifts into overdrive when the vehicle reaches a precalibrated speed, with the shift selector in the Drive position. A converter clutch engages when the transmission shifts into its second gear range and remains engaged through all subsequent forward upshift gear selections including overdrive.



6-Speed Manual Transmission with Overdrive* (RPO MM6).

Coming to Corvette for 1989,* this 6-speed manual transmission features 5th and 6th gear overdrive. All gears are fully synchronized—including reverse. The shift lever mechanism is mounted directly to the transmission. Gear selections are accomplished through an internal shift rail mechanism within the transmission's aluminum case. A computer-optimized shift program aids the driver in gear selection and locks out inappropriate gears in certain driving situations. The clutch assembly utilizes a new pull-type hydraulic control for reduced pedal effort. The 6-speed manual may be ordered* in place of Corvette's base automatic transmission at no extra cost.



*Interim availability.

ENGINE SPECIFICATIONS

	5.7 Liter V8 with TPI (RPO L98)
ENGINE TYPE	90° V8—OHV
DISPLACEMENT (CU. IN.)	350
BORE AND STROKE (IN.)	4.00 x 3.48
HP* @ RPM	See Note 1
TORQUE* @ RPM (LBS.-FT.)	See Note 2
COMPRESSION RATIO	9.5:1
FUEL INDUCTION	Tuned-Port Fuel Injection (TPI)
FUEL REQUIREMENT	91-Octane Rating Unleaded Gasoline†
CHOKE	None Required
VALVE LIFTERS	Roller Type Hydraulic
ENGINE EXHAUST	Dual
CATALYTIC CONVERTER	Dual Bed with Monolith Substrate**
MUFFLER/S	Dual Reverse Flow Type
RESONATOR/S	None
TAILPIPE/S	Dual
IGNITION SYSTEM	12-Volt High-Energy Ignition
DELCOTRON GENERATOR	105 Amp
BATTERY (SAE CAPACITY RATING) —Cold Crank Amps	<i>Per Corvette Action Center, only ZR1 will have 630 CCA -- others will be 525</i> 525 / 630 Amp (ZR1 only)
SPARK PLUGS	FR5LS
COOLING SYSTEM CAPACITY (QTS.)	14.6 Manual, 14.5 Automatic
CRANKCASE CAPACITY (QTS.)	4—Less Filter

Note 1: 240 HP @ 4000 RPM with single outlet mufflers (base Coupe with 2.59 axle and Convertible).

245 HP @ 4300 RPM with dual outlet mufflers (all others).

Note 2: 335 Lbs. Ft. @ 3200 RPM with single outlet mufflers (base Coupe with 2.59 axle and Convertible).

340 Lbs. Ft. @ 3200 RPM with dual outlet mufflers (all others).

OHV—Overhead Valve. *SAE net. †85 octane rating may be used in certain high-altitude areas specified in Owner's Manual. Gasohol of equivalent octane rating may also be used, provided it is blended of not more than 10% ethanol. **Free-flow converter with wide-oval inlet and outlet.

SERVICE INTERVALS*

Engine Oil 12 months or 7,500 miles
Oil Filter 12 months or 7,500 miles; every 15,000 miles thereafter
Spark Plugs Up to 30,000 miles

Chassis Lubrication . . . 12 months or 7,500 miles
Automatic Transmission
Fluid Change Every 100,000 miles

*Consult Owner's Maintenance Schedule for operating conditions requiring more frequent service intervals.

EQUIPMENT SUMMARY

MECHANICAL	Corvette Coupe	Corvette Conv.
POWER TEAM FEATURES		
Styled engine compartment	S	S
5.7L (350 CID) V8 with Tuned-Port Fuel Injection	S	S
Outside air induction system	S	S
Aluminum intake plenum, tuned crossover runner manifold	S	S
Roller hydraulic valve lifters	S	S
Exhaust valve rotators	S	S
Aluminum cylinder heads	S	S
Magnesium rocker covers	S	S
Stainless steel exhaust manifolds	S	S
Dual reverse flow mufflers	S	S
Single serpentine belt accessory drive	S	S
Computer Command Control (CCC)	S	S
High Energy Ignition (HEI) system	S	S
Electric engine coolant fan	S	S
Delco Freedom Plus II maintenance-free battery	S	S
Underhood lamps	S	S
4-speed automatic transmission with overdrive	S*	S
CHASSIS FEATURES		
Power rack-and-pinion steering	S	S
Power 4-wheel disc brakes	S	S
Anti-lock Brake System (ABS)	S	S
Monoleaf glass-epoxy composite transverse front and rear springs	S	S
Delco®/Bilstein gas-charged shock absorbers	S	S
Forged aluminum front and rear suspension arms	S	S
Full independent suspension	S	S
Zero-scrub front suspension	S	S
20-gallon fuel tank with electric in-tank twin turbine pump	S	S
TIRES/WHEELS		
17" x 9 1/2" cast aluminum wheels	S	S
P275/40ZR-17 Eagle tires	S	S
BODY FEATURES		
Uniframe-design body structure with corrosion-resistant coating	S	S
Corrosion-resistant fiberglass body panels	S	S
Lightweight under body panels	S	S

S—Standard NA—Not Available
 *6-speed manual with 5th and 6th gears overdrive optional (interim availability)

EXTERIOR	Corvette Coupe	Corvette Conv.
Power-operated quartz-halogen retractable headlamps	S	S
Dual quartz-halogen fog lamps in grille opening	S	S
Body-color soft front and rear fascias	S	S
Energy-absorbing bumper systems	S	S
Front cornering lamps	S	S
Front fender louvers	S	S
Full-tilting "clam-shell" hood and fender assembly	S	S
Concealed wipers with integral washers in arms	S	S
Dual electric remote-control heated sport mirrors	S	S
Flush mounted tinted glass	S	S
Designed-in body side moldings	S	S
Single fiberglass removable roof panel	S	NA
Folding convertible top with aluminum framework	NA	S
Hinged top stowage well panel cover	NA	S
Frameless rear hatch glass with three remote releases (one on each door panel, one on instrument panel)	S	NA
Power automatic retracting antennae	S	S
Center high-mounted stop lamp (roof-mounted on Coupe, in rear fascia on Conv.)	S	S
Clear lens illuminating rear marker lamps	S	S

INTERIOR	Corvette Coupe	Corvette Conv.
INSTRUMENT PANEL / CONTROLS/CONSOLE		
Electronic liquid-crystal instrumentation with multi-color analog and digital display; readouts include speedometer, tachometer (6,000 RPM), fuel level, oil pressure, oil temp., volts	S	S
Conventional readouts for odometer, turn signals and high-beam headlamps	S	S
Driver information system; includes instant MPG, average MPG and range in digital readouts	S	S
PASS-Key™ anti-theft ignition	S	S
Air conditioning	S	S
Headlamps-on reminder	S	S
Intermittent wiper system	S	S
Electronic Speed Control with Resume Speed	S	S
Side window defoggers	S	S
Illuminated RH visor mirror	S	S
Manual inside hood release	S	S
Under-dash courtesy lamps	S	S
AM/FM stereo radio with Seek and Scan, cassette, digital clock and four speakers	S*	S*
Leather-wrapped tilt-telescopic steering wheel	S	S
Day/night rearview mirror with integral map lamps	S	S
SEATS/DOOR PANELS		
Contour-shell cloth bucket seats with lateral support and back angle adjustment	S	S
Soft-padded and carpeted door panels	S	S
Power windows (switches on doors)	S	S
Power door locks (switches on console)	S	S
High-intensity interior lamps on door and pillar (Coupe) or in rear compartment (Conv.)	S	S
LUGGAGE/CARGO AREA		
Deep-twist floor and stowage area carpet	S	S
Rear underfloor storage compartments (2)	S	NA
Acoustical insulation package	S	S
Luggage compartment concealment roller shade	S	NA

*May be upgraded.

CHEVROLET PRODUCTIVITY NETWORK



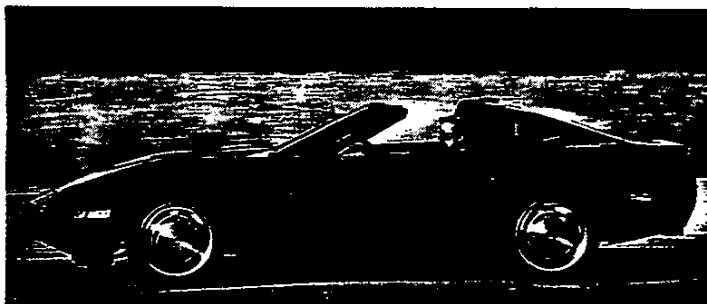
PRO PASSENGER CAR

CHEVROLET
PERFORMANCE
SYSTEM



CORVETTE

CORVETTE



MODEL AVAILABILITY

	CORVETTE
2-DOOR COUPE	X
2-DOOR CONVERTIBLE	X

MAJOR STANDARD FEATURES

- 5.7-Liter V8 engine with Tuned-Port Fuel Injection
- Aluminum intake manifold with tuned runners and aluminum cylinder heads
- 4-speed automatic overdrive transmission
- Power rack-and-pinion steering
- Bosch ABS II 4-wheel anti-lock disc brakes with power assist
- Independent front and rear suspension with transverse fiberglass leaf springs and forged aluminum A-arms
- Delco-Bilstein gas-charged shock absorbers
- Seating for two
- Sport cloth reclining bucket seats with integral head restraints plus lateral support and back-angle adjustments
- Electronic liquid crystal instrumentation with multicolored analog and digital displays in either English or Metric readout
- Electronically tuned AM/FM stereo cassette, Seek and Scan, digital clock, four speakers and power-operated antenna
- Power remote-control heated outside rearview mirrors
- 17-inch cast-alloy aluminum wheels with Goodyear Eagle P275/40ZR-17 steel-belted radial tires
- Air conditioning
- Power windows and power door locks
- Intermittent windshield wipers
- Leather-wrapped steering wheel and tilt-telescopic column
- Electronic speed control
- Underhood lamps
- Full glass rear hatch with three remote releases and roller-shade cargo cover (coupe)
- One-piece removable fiberglass roof panel (coupe)
- VATS II "Pass Key" anti-theft system with starter-interrupt feature
- Day/night rearview mirror with map and ashtray light
- Headlamps-on reminder
- Power-operated, retractable halogen headlamps
- Progressive throttle
- Halogen fog lamps
- Side window defoggers
- Electric rear window defogger (coupe)

CORVETTE CONVERTIBLE ADDS:

- Folding top in black, white or saddle vinyl plus storage compartment
- Structurally reinforced uniframe and rear underbody

POPULAR OPTIONS

- 6-way power seats
- Removable roof panel (blue or bronze transparent tint)
- Electronic-control air conditioning that adjusts to preset interior temperature
- Delco-Bose Music system with sound tailored to Corvette interior
- Illuminated vanity mirror on driver's sunshade
- Low-Pressure Tire Warning system monitors tire air pressure
- Performance Handling package (Z51) including heavy-duty lower control arm bushings, heavy-duty front and rear springs, 17-inch cast aluminum wheels with P275/40ZR-17 Eagle tires, engine oil and power steering coolers, handling package, heavy-duty front and rear stabilizers, 13:1 quick-steering ratio, heavy-duty front and rear Bilstein gas shock absorbers, heavy-duty braking system and more (coupe only)
- Leather bucket seats
- Selective Ride Control system with three shock-valve settings—touring, sport and competition
- ZR1 package with 32-valve 4-cam all-aluminum engine teamed with 6-speed manual overdrive transmission and P315/35ZR17 rear tires, P275/40ZR17 front tires (interim 1989)
- Heavy-duty radiator
- Engine block heater
- Radiator fan cooling boost



CORVETTE

CORVETTE

NEW FOR 1989

- 17-inch cast aluminum wheels with P275/40 ZR-17 Eagle radial tires now standard
- New standard seat design
- Electric rear window defogger now standard (coupe)
- New Low-Pressure Tire Warning system now available to monitor tire air pressure
- Most of former Sport Handling package equipment made standard, including Delco/Bilstein gas-charged shock absorbers

- New optional Selective Ride Control system provides three shock valve settings, allowing drivers to adjust the ride to their desires—either touring, sport or competition (available interim 1989)
- New ZR1 Corvette with high-performance 32-valve engine, 6-speed manual transmission, P315 tires and more (available interim 1989)
- New hardtop convertible model (available interim 1989)

MARKET OVERVIEW

By their very nature, prestigious performance automobiles in the High Sport Market are exclusive purchases. The average man-on-the street mostly looks at these vehicles through the showroom window . . . and simply dreams. Corvette is the ultimate "dream car". For years, the world's auto manufacturers

have chased this ultimate technology machine—yet none have equaled the 'Vette—either on the street or the track. Those in the chase include Porsche 944 and, to a lesser extent, Nissan 300ZX, Toyota Supra and Mazda RX-7.

TOP FIVE REASONS FOR PURCHASE

1. Fun to drive—a Corvette tradition for more than 35 years
2. Exterior styling—the "hottest" performance look on the road
3. Handling—enhanced with the addition of new standard suspension components in 1989

4. Price/cost to buy
5. Prestige—no other performance car carries the Corvette reputation

TOP FIVE TRADE-INS/ VEHICLES DISPOSED

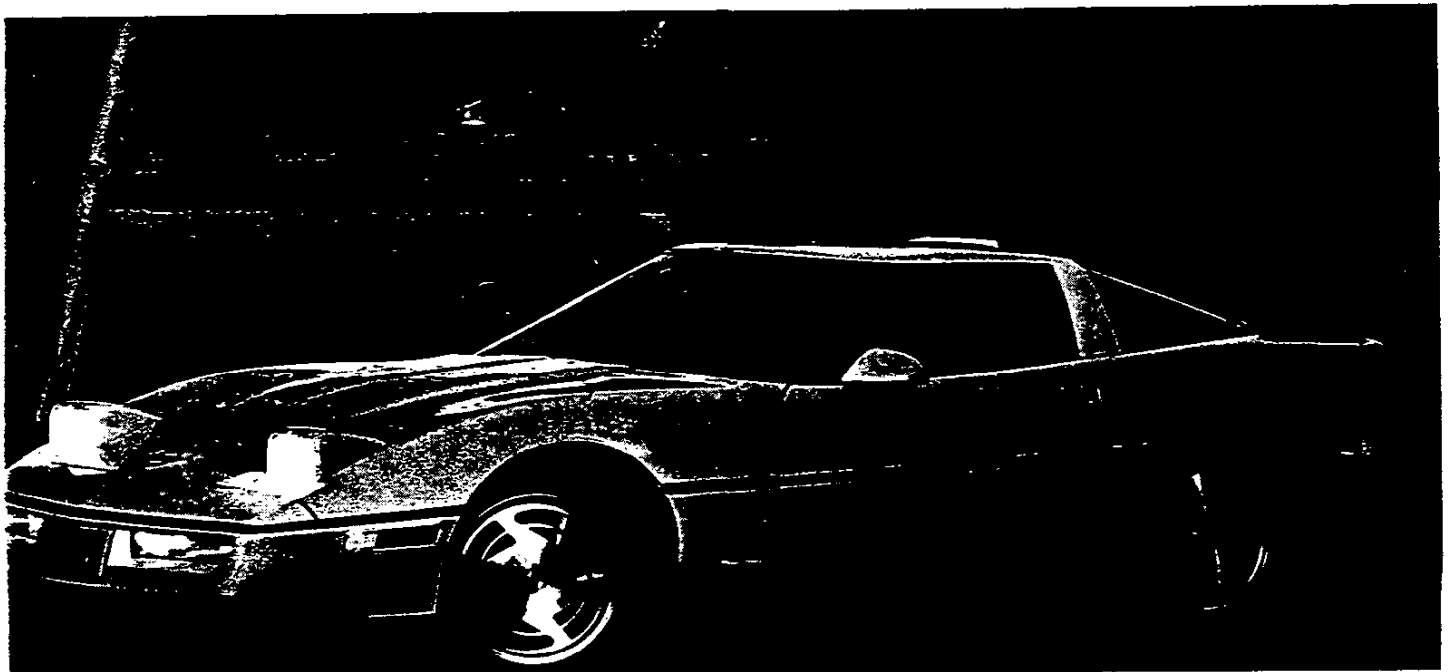
1. Chevrolet Corvette
2. Nissan 280ZX/ 300ZX
3. Chevrolet Camaro

4. Pontiac Firebird
5. Pontiac Fiero

MODEL YEAR SALES

1987 25,266

1988 23,471
(Through August 20, 1988)



MVMA Specifications Form

Vehicle Line CORVETTE
 Model Year 1989 Issued 6-88 Revised (•) 9-88

METRIC (U.S. Customary)

Power Teams (Indicate whether standard or optional)

SAE J1349 Net bhp (brake horsepower) and net torque corrected to 77°F/25° C and 29.61 in. Hg/100 kPa atmospheric pressure.

SERIES AVAILABILITY	ENGINE						E x h a u s t S/D*	TRANSMISSION/ TRANSAXLE	AXLE RATIO (std. first)
	Code	Displ. Liters (in ³)	Induction (FI, CARB/ BBL, etc.)	Compr. Ratio	SAE Net at RPM				
					Power kW (bhp)	Torque N • m (lb. ft.)			
Base - All States Coupe	L98	5.7 Liter (350 CID)	TPI @	9.5:1	179 (240) @ 4000	454 (335) @ 3200	D	Auto '700-R4' Base	2.59/ 3.07 (Opt)
Base - All States Convertible								Man. 6-Spd. (2.68 Low) Opt.	3.54
								Auto '700-R4' Base	2.73/ 3.07 (Opt)
								Man. 6-Spd. (2.68 Low) Opt.	3.54
@-Tuned Port Fuel Injection									

* Single / Dual

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line CORVETTE
Model Year 1989 Issued 6-88 Revised (e) 9-88

Vehicle Origin

Design & development (company)	<u>Chevrolet-Pontiac-GM of Canada Engineering</u>
Where built (country)	<u>U.S.A.</u>
Authorized U.S. sales marketing representative	<u>Chevrolet Motor Division</u>

Vehicle Models

Model Description & Drive (FWD/RWD/4WD)*	Introduction Date	Make, Vehicle Models, Series, Body Type (Mfr's Model Code)	No. of Designated Seating Positions (Front/Rear)	Max. Trunk/Cargo Load—Kilograms (Pounds)
2-Door Hatchback Coupe (RWD)		1YY07	2 (2/0)	45.4 (100)
2-Door Convertible (RWD)		1YY67	2 (2/0)	45.5 (100)

NOTE: Any specifications on the following pages specific to California requirements are indicated accordingly.

* FWD - Front Wheel Drive RWD - Rear Wheel Drive
AWD - All Wheel Drive 4WD - Four Wheel Drive

MVMA Specifications Form

Vehicle Line CORVETTEModel Year 1989Issued 6-88Revised (09-88)

METRIC (U.S. Customary)

Engine Description/Carb.
Engine Code5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection (TPI) RPO L98

Engine - Valve System

Hydraulic lifters (std., opt., NA)	Standard
Valves	Number intake / exhaust
	8/8
Valves	Head O.D. intake / exhaust
	49.28 (1.94)/38.10 (1.50)

Engine - Connecting Rods

Material & mass (kg., (weight, lbs.))*	1037 or 1038 steel - .388 (0.855)
Length (axes to axes) mm	144.78

Engine - Crankshaft

Material & mass (kg., (weight, lbs.))*	Nodular cast iron - 22.900 (50.49)
End thrust taken by bearing (no.)	5
Length & number of main bearings	5
Seal (material, one, two piece design, etc.)	Front
	Fluroelastomer/one piece, lip seal
Seal (material, one, two piece design, etc.)	Rear
	Fluroelastomer/one piece, lip seal

Engine - Lubrication System

Normal oil pressure (kPa (psi) at engine rpm)	345-450 (50-65) @ 2000
Type oil intake (floating, stationary)	Stationary
Oil filter system (full flow, part, other)	Full flow
Capacity of crcase, less filter-refill-L (qt.)	3.8 (4.0)

Engine - Diesel Information

Diesel engine manufacturer	
Glow plug, current drain at 0°F	Not
Injector nozzle	Type
	Applicable
Pre-chamber design	Opening pressure (kPa (psi))
	--
Fuel in-jection pump	Manufacturer
Fuel in-jection pump	Type
Fuel injection pump drive (belt, chain, gear)	--
Supplementary vacuum source (type)	--
Fuel heater (yes/no)	--
Water separator, description (std., opt.)	--
Turbo manufacturer	--
Oil cooler-type (oil to engine coolant; oil to ambient air)	--
Oil filter	--

Engine - Intake System

Turbo charger - manufacturer	Not
Super charger - manufacturer	Applicable
Intercooler	--

*Finished State

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line CORVETTE

Model Year 1989 Issued 6-88 Revised (e) 9-88

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection (TPI) RPO 198

ENGINE - GENERAL

Type & description (inline, V, angle, flat, location, front, mid, rear, transverse, longitudinal, sohc, dohc, ohv, hemi, wedge, pre-camber, etc.)	90°V Front Longitudinal
Manufacturer	Chevrolet
No. of cylinders	8
Bore	101.6 (4.00)
Stroke	88.4 (3.48)
Bore spacing (C/L to C/L)	111.8 (4.40)
Cylinder block material & mass kg (lbs.) (machined)	Cast alloy iron 64.750 (142.7)
Cylinder block deck height	229.2 (9.025)
Cylinder block length	506.2 (19.93)
Deck clearance (minimum) (above or below block)	.025 below
Cylinder head material & mass kg (lbs.)	Aluminum 9.979 (22.0)
Cylinder head volume (cm³)	--
Cylinder liner material	Not Applicable
Head gasket thickness (compressed)	.021
Minimum combustion chamber total volume (cm³)	75.47 (+)
Cyl. no. system (front to rear)*	L. Bank 1-3-5-7
	R. Bank 2-4-6-8
Firing order	1-8-4-3-6-5-7-2
Intake manifold material & mass (kg (lbs.))**	Cast aluminum 6.700 (14.77)
Exhaust manifold material & mass (kg (lbs.))**	Stainless steel 2.895 (6.38) L.H., 2.895 (6.38) R.H.
Fuel required unleaded, diesel, etc.	Unleaded
Fuel antiknock index (R + M) + 2	91
Engine mounts	Number 2
	Material and type (elastomeric, hydroelastic, hydraulic damper, etc.)
	Added isolation (sub-frame, crossmember, etc.)
Total dressed engine mass (wt) dry***	245.5 (541.2) auto., 268.6 (592.2) manual

Engine - Pistons

Material & mass, g (weight, oz.) - piston only	Impact cast aluminum, .597 (1.3)
--	----------------------------------

Engine - Camshaft

Location	In cylinder block "V" above crankshaft
Material & mass kg (weight, lbs.)	Steel, 4.200 (9.3)
Drive type	Chain / belt Chain
	Width / pitch 15.87 (.625)/12.70 (.500)

* Rear of engine - drive takeoff. View from drive takeoff end to determine left & right side of engine

** Finished state.

*** Dressed engine mass (weight) includes the following:

All those items necessary to make the engine a complete ready-to-run unit.

(+) - Combustion chamber with piston at top dead center and all components in place torqued to specifications.

MVMA Specifications Form

Vehicle Line CORVETTE
Model Year 1989 Issued 6-88 Revised (•) 9-88

METRIC (U.S. Customary)

Engine Description Carb.
Engine Code

**5.7 Liter V8 (350 CID)
Tuned-Port Injection RPO L98**

Engine - Fuel System (See supplemental page for details of Fuel Injection, Supercharger, Turbocharger, etc. if used)

Induction type: carburetor, fuel injection system, etc.		TPI - Tuned Port Fuel Injection
Manufacturer		Rochester Products Division
Carburetor no. of barrels		None
Idle A/F mix.		Preset-No Adjustment Provided
Fuel injection	Point of injection (no.)	Fuel Injectors at Inlet Ports
	Constant, pulse, flow	Pulse
	Control (electronic, mech.)	Electronic - On Board Computer
	System pressure [kPa (psi)]	
Idle spd.-rpm (spec. neutral or drive and propane if used)	Manual	None
		"
	Automatic	"
Intake manifold heat control (exhaust or water thermostatic or fixed)		Water, thermostat
Air cleaner type		Replaceable paper element
Fuel filter (type / location)		Electric - dual turbine
Fuel pump	Type (elec. or mech.)	In fuel tank
	Location (eng., tank)	
	Pressure range [kPa (psi)]	
Z	Flow rate at regulated pressure (L (gal) / hr @ xPa (psi))	

Fuel Tank

Capacity (refill L (gallons))		75.7 (20.0)
Location (describe)		Under rear deck
Attachment		Rests on rear frame extension, held with straps
Material & Mass [kg (weight lbs)]		Super Terne coated steel with high density polyethylene liner (*)
Filler pipe	Location & material	Center of rear deck
	Connection to tank	Bolted with gasket on top of tank
Fuel line (material)		Super Terne coated steel
Fuel hose (material)		Viton
Return line (material)		Super Terne coated steel
Vapor line (material)		Super Terne coated steel
Extended range tank	Opt., n.a.	Not available
	Capacity [L (gallons)]	--
	Location & material	--
	Attachment	--
Auxiliary tank	Opt., n.a.	Not available
	Capacity [L (gallons)]	--
	Location & material	--
	Attachment	--
	Selector switch or valve	--
	Separate fill	--

(*) - 13.600 kg. (30.0 lbs.)

MVMA Specifications Form

Vehicle Line CORVETTE
Model Year 1989 Issued 6-88 Revised (e) _____

METRIC (U.S. Customary)

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection (TPI) RPO L98

Engine - Cooling System

Coolant recovery system (std., opt., n.a.)		Standard
Coolant fill location (rad., bottle)		Bottle, coolant recovery
Radiator cap relief valve pressure (kPa (psi))		124.1 (18.0)
Circulation thermostat	Type (choke, bypass)	Choke
	Starts to open at °C (°F)	90.6 (195°)
Water pump	Type (centrifugal, other)	Centrifugal with cast aluminum housing
	GPM 1000 pump rpm	13
	Number of pumps	One
	Drive (V-belt, other)	Single belt poly 'V' accessory drive (serpentine)*
	Bearing type	Sealed double row ball
	Impeller material	Steel
	Housing material	Cast Iron
By-pass recirculation (type (inter... ext.))		Internal
Cooling system capacity	With heater—L.(qt.)	--
	With air cond.—L.(qt.)	Manual 13.86 (14.65), Automatic 13.73 (14.51)
	Opt. equipment (specify—L.(qt.))	--
Water jackets full length of cyl. (yes, no)		Yes
Water all around cylinder (yes, no)		Yes
Water jackets open at head face (yes, no)		No
Radiator core	Std., A/C, HD	A/C, Standard
	Type (cross-flow, etc.)	Cross-flow
	Construction (fin & tube mechanical, braze, etc.)	Fin & Tube
	Material, mass (kg (wgt. lbs.))	Alum. header, tubes and fins, plastic tanks
	Width	599.5 (23.6)
	Height	382.4 (15.0)
	Thickness	23.5 (0.9) base, 34.0 (1.3) V01
	Fins per inch @	2.5
Radiator end tank material		Plastic
Fan	Std., elec., opt.	Electric, Standard - Optional, Electric Boost Fan
	Number of blades & type (flex, solid, material)	5-blades, high efficiency curved blades and ring shroud, plastic
	Diameter & projected width	423.0 (16.7)
	Ratio (fan to crankshaft rev.)	--
	Fan cutout type	Temp. switch
	Drive type (direct, remote)	Electric
	RPM at idle (elec.)	2100
	Motor rating (wattage) (elec.)	150 wattage
	Motor switch (type & location) (elec.)	Temp. switch
	Switch point (temp., pressure) (elec.)	106°C
	Fan shroud (material)	Plastic ring shroud

@ - Distance between top of fins

* - 21.36 mm (0.84") wide, 5.20 mm (0.20") thick, with uniform dynamic tensioner.

MVMA Specifications Form

Vehicle Line CORVETTE

Model Year 1989

Issued 6-88

Revised (e) _____

METRIC (U.S. Customary)

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection RPO L98

Transmissions/Transaxle (Std., Opt., N.A.)

Manual 3-speed (manufacturer/country)	Not Available
Manual 4-speed (manufacturer/country)	" "
Manual 5-speed (manufacturer/country)	" "
Manual 6-speed (manufacturer/country)	Standard
Automatic (manufacturer/country)	Standard
Automatic overdrive (manufacturer/country)	Standard

Manual Transmission/Transaxle RPO-ML9-Base

Number of forward speeds		
Gear ratios	1st	2.678
	2nd	1.804
	3rd	1.305
	4th	1.00
	5th	.751
	6th	.499
	Reverse	2.495
Synchronous meshing (specify gears)		All
Shift lever location		Floor
Trans. case mat'l. & mass kg (lbs)*		Aluminum 63.5 Kg (140 lbs.)
Lubricant	Capacity [L (pt.)]	2.1 l
	Type recommended	5W-30 Texaco Code 1650 TL11408A, GM 9985535

Clutch (Manual Transmission)

Clutch manufacturer		Valen Clutches and Transmissions, Inc.
Clutch type (dry, wet, single, multiple disc)		280MM Pull Type - Dry Clutch
Linkage (hydraulic, cable, rod, lever, other)		Hydraulic Pre-Filled
Max. pedal effort (nom. spring load, new) N (lbs)	Depressed	(39 lbs.)
	Released	(30 lbs.)
Assist (spring, power/percent, nominal)		None
Type pressure plate springs		Diaphragm
Total spring load (nominal, new) N (lbs)		10,750 N
Clutch facing	Facing mat'g. & material coding	Valeo, F-202
	Facing material & construction	Non-asbestos Woven
	Rivets per facing	9
	Outside x inside dia. (nominal)	280MMX180MM
	Total eff. area (cm ² (in. ²))	361.28 CM ²
	Thickness (pressure plate side/ fly wheel side)	3.3MM
	Rivet depth (pressure plate side/ fly wheel side)	1.0MM
	Engagement cushion method	Cushions Springs
Release bearing type & method lub.		Angular Contact Ball Bearing
Torsional damping method, springs, hysterisis		Dual Mass Flywheel (Non-Dampened Clutch Disk)

* Includes shift linkage, lubricant, and clutch housing if other specify

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line CORVETTE

Model Year 1989 Issued 6-88 Revised (•) 9-88

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection RPO 198

Vehicle Emission Control

Exhaust Emission Control	Type (air injection, engine modifications, other)		Air injection w/Computer Command Control
	Air injection	Pump or pulse	Vane
		Driven by	Serpentine - single belt poly 'V' drive
		Air distribution (head, manifold, etc.)	Exhaust manifold and converter (CCC controlled)
		Point of entry	Exhaust manifold ports
	Exhaust Gas Recirculation	Type (controlled flow, open orifice, other)	Controlled flow
		Exhaust source	Inlet manifold exhaust cross-over passage#
		Point of exhaust injection (spacer, carburetor, manifold, other)	Center of inlet manifold plenum
	Catalytic Converter	Type	Dual-bed
		Number of	Two front and one rear
		Location(s)	Front - one on each exhaust pipe Rear - underbody tunnel below console
		Volume [L (in ³)]	2.7822 (169.8)
Substrate type		Monolith	
Noble metal type		Platinum/Palladium/Rhodium	
Noble metal concentration (g/cm ³)		0.000451 (FRT) 0.001007 (RR)	
Crankcase Emission Control	Type (ventilates to atmosphere, induction system, other)		Induction system
	Energy source (manifold vacuum, carburetor, other)		Manifold vacuum
	Discharges (to intake manifold, other)		Inlet manifold
	Air inlet (breather cap, other)		Air cleaner
Evaporative Emission Control	Vapor vented to (crankcase, canister, other)	Fuel tank	Canister
		Carburetor	--
Electronic system	Vapor storage provision		Canister
	Closed loop (yes/no)	Yes	
	Open loop (yes/no)	No	

Engine - Exhaust System

Type (single, single with cross-over, dual, other)		Dual
Muffler no. & type (reverse flow, straight thru, separate resonator) Material & Mass [kg (weight lbs)]		Two, reverse flow (Stainless steel body, aluminum coated steel inlet and outlets)
Resonator no. & type		None
Exhaust pipe	Branch o.d., wall thickness	0tr pipe 63.5x.96(2.50x.038), inr pipe 57.0x.96(2.25x.038)
	Main o.d., wall thickness	76.2 x 1.83 (3.0 x .072)
	Material & Mass [kg (weight lbs)]	Stainless steel tubing (*)
Inter-mediate pipe	o.d. & wall thickness	57.15 x 1.83 (2.25 x .072)
	Material & Mass [kg (weight lbs)]	Aluminum coated steel
Tail pipe	o.d. & wall thickness	Dual outlets - 57.15 x 1.83 (2.25 x .072)
	Material & Mass [kg (weight lbs)]	Aluminum coated steel

(*) - 2.29 (.09) air gap between pipes for heat control and sound dampening.

(**) - Muffler & tail pipe unit L.H. 6.565 (14.5)
R.H. 6.565 (14.5)

MVMA Specifications Form

Vehicle Line CORVETTE

Model Year 1989

Issued 6-88

Revised (e)

METRIC (U.S. Customary)

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)

Tuned-Port Fuel Injection RPO 198

Propeller Shaft - Rear Wheel Drive

Manufacturer Type (straight tube, tube-in-tube, internal-external damper, etc.)		Straight tube, internal-external damper		
Outer diam. x length* x wall thickness	Manual 3-speed transmission	Not available		
	Manual 4-speed transmission	Not available		
	Manual 5-speed transmission	Not available		
	Manual 6-speed transmission	Aluminum 76.2 x 804.9 x 3.05 (3.00 x 31.69 x 0.12)		
	Overdrive			
	Automatic transmission **	Steel 63.5 x 825.5 x 1.65 (2.50 x 32.5 x .065)	Alum. 76.2 x 825.5 x 3.05 (3.00 x 32.5 x 0.12)	Opt(RPO-Z51) & Power Seat
Inter- mediate bearing	Type (plain, anti-friction)	None		
	Lubrication (fitting, prepack)	--		
Slip yoke	Type	Splined Yoke		
	Number of teeth	Manual transmissions - 32 Automatic transmissions - 26		
	Spline o.d.	Manual transmissions - 34.95 (1.38) Automatic transmissions - 29.7 (1.17)		
Universal joints	Make and mtg. no.	Front	#1311	
		Rear	#1318	
	Number used	Two		
	Type (ball and thimble, cross)	Cross		
	Rear attach (u-bolt, clamp, etc.)	Strap and Bolt		
	Bearing	Type (plain, anti-friction)	Anti-Friction	
		Lubrication (fitting, prepack)	Prepack	
Drive taken through (torque tube, arms or springs)		Driveline Beam		
Torque taken through (torque tube, arms or springs)		Torque control arms		

* Centerline to centerline of universal joints, or to centerline of rear attachment.

** - Aluminum

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line CORVETTE

Model Year 1989

Issued 6-88

Revised (e) 9-88

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned Port Fuel Injection RPO 198

Automatic Transmission/Transaxle

Trade name		4-Speed Automatic (overdrive 4th gear)
Type and special features (describe)		Torque converter with planetary gears
Selector	Location	Floor mounted in console
	Ltr./No. designation	PRN D D21
Gear ratios	1st	3.06
	2nd	1.63@
	3rd	1.00@
	4th	0.70@
	Reverse	2.29
Max. upshift speed - drive range [km/h (mph)]		1-2=43 MPH, 2-3=79 MPH, 3-4=116 MPH (at wide open throttle)
Max. lockdown speed - drive range [km/h (mph)]		4-3=105 MPH, 3-2=72 MPH, 2-1=35 MPH
Min. overdrive speed [km/h (mph)]		38 MPH
Torque converter	Number of elements	3
	Max. ratio at stall	1.85
	Type of cooling (air, liquid)	Liquid
	Nominal diameter	298 (11.75)
	Capacity factor "K"	
Lubricant	Capacity [refill L (pt.)]	3.8 (8.0)
	Type Recommended	Dexron II
Oil cooler (std., opt., NA, internal, external, air, liquid)		Standard, external, liquid
Transmission case material & mass kg (lbs)**		Aluminum

@ - Computer controlled torque converter clutch 2nd, 3rd and 4th gears.

Axle or Front Wheel Drive Unit

Type (front, rear)		Rear
Description		Overhung pinion gear
Limited slip differential (type)		Standard - disc clutches
Drive pinion offset		38.1 (1.50), 216mm ring gear; 28.6 (1.125), 200mm ring gear
Drive pinion (type)		Hypoid
No. of differential pinions		Two
Pinion/differential adjustment (shim, other)		Shim
Pinion/differential bearing adjustment (shim, other)		Shim
Driving wheel bearing (type)		Tapered roller
Lubricant	Capacity [L (pt.)]	1.8 (3.75)
	Type recommended	GL-5 Gear Lubricant
		80W or 80W-90
		80W or 80W-90
		80W or 80W-90

Axle or Transaxle Ratio and Tooth Combinations (See 'Power Teams' for axle ratio usage.)

Axle ratio (or overall top gear ratio)		2.59:1	2.73:1	3.07:1	3.54:1
No. of teeth	Pinion	17	15	14	13
	Ring gear or gear	44	41	43	46
Ring gear o.d.		200 (7-7/8)	200 (7-7/8)	200 (7-7/8)	216 (8-1/2)
Transaxle	Transfer gear ratio	--	--	--	--
	Final drive ratio	--	--	--	--

* Input speed + $\sqrt{\text{torque}}$

** Includes shift linkage, lubricant, & clutch housing if other specify

MVMA Specifications Form

Vehicle Line CORVETTE
Model Year 1989 Issued 6-88 Revised (•) _____

METRIC (U.S. Customary)

SUPPLEMENTAL PAGE

Provision For Jacking

Place jackhead between locator triangles on rocker flange nearest to wheel being changed. Make sure jack is under the steel flange.

Shock Absorber (Front and Rear) Type

All: Monotube. Gas charged.

Piston Diameter

Front: Base - 25.0mm, Z51, & FG3, 36.0mm.

Rear: Base - 32.0mm (1.26), Z51, & FG3, 46.0mm (1.81)

Suspension - Front

Independent sla. forged aluminum upper and lower control arms and steering knuckle, transverse monoleaf spring and steel stabilizer, spindle offset.

Suspension - Rear

Independent 5-link design with tow and camber adjustment, forged aluminum control links and knuckle, transverse monoleaf spring steel tie rods and stabilizer tubular U-jointed aluminum driveshafts.

MVMA Specifications Form

Vehicle Line CORVETTE
Model Year 1989 Issued 6-88 Revised (e) _____

METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

2-Door 1YY07
Hatchback Coupe

2-Door 1YY67
Convertible

☒ Suspension - General Including Electronic Controls

Car leveling	Standard/optional/not avail.	Not Applicable
	Manual/automatic control	" "
	Type (air/hydraulic)	" "
	Primary/assist spring	" "
	Rear only/4 wheel leveling	" "
	Single/dual rate spring	" "
	Single/dual ride heights	" "
	Provision for jacking	(See Attached Sheet)
Shock absorber damping controls	Standard/option/not avail.	Optional /
	Manual/automatic control	Manual
	Number of damping rates	18
	Type of actuation (manual/electric motor/air, etc.)	Manual selection & speed control
	S e n s o r s	Not Applicable
		Lateral acceleration
		Deceleration
		Acceleration
Shock absorber (front & rear)	Type	(See Attached Sheet)
	Make	Base - Bilstein
	Piston diameter	(See Attached Sheet)
	Rod diameter	Base-12.4mm, Z51, FG3: 11.3mm

☒ Suspension - Front

Type and description		(See Attached Sheet)
Travel*	Full jounce	92.0mm
	Full rebound	95.0mm
Spring	Type (coil, leaf, other) & material	Monoleaf, Filament Wound Glass - Epoxy Composite
	Insulators (type & material)	Pivot: Teflon-Filled Nylon and Alumn., Enclosed in Rubber
	Size (coil design height & i.d., bar length x dia.)	1160.0 x 110.0 x 13.22 std. Z51 14.3 (45.7 x 3.9 x 0.52 std.) (Z51 0.56)
	Spring rate [N/mm (lb./in.)]	Base & Conv. - 90.0 Z51 - 110.0
Stabilizer	Rate at wheel [N/mm (lb./in.)]	Base & Conv. - 24.64 Nmm Z51 - 27.98 Nmm
	Type (link, linkless, frameless)	Link
Material & bar diameter		HR Stl; 26.0mm (0.9") Dia - Std. 30.0mm (1.2") dia. - Z51

☒ Suspension - Rear

Type and description		(See Attached Sheet)
Travel*	Full jounce	All Models - 89.0mm
	Full rebound	Base & Conv. - 76.0mm, Z51 - 71.0mm
Spring	Type (coil, leaf, other) & material	Monoleaf, Filament Wound Glass-Epoxy Composite
	Size (length x width, coil design height & i.d., bar length & dia.)	Base - 1236 x 57.0 x 22.2, Z51 - 25.0 (Base - 48.7 x 2.24 x 0.87) (Z51 - 0.98)
	Spring rate [N/mm (lb./in.)]	Base 40.0 (233.0), Z51-57.8 (330.0) Conv. 40.0 (233.0)
	Rate at wheel [N/mm (lb./in.)]	Base 26.36 (130.2), Z51-35.68 (173.6) Conv. 26.36 (130.2)
	Insulators (type & material)	Dual Rubber Polyisoprene
	If leaf	Monoleaf
		Shackle (comp or tens.)
Stabilizer	Type (link, linkless, frameless)	Link
	Material & bar diameter	HR Steel; Base - 19.0mm Solid, Z51 - 24.0mm
Track bar (type)		None Solid Painted to protect against corrosion

* Define load condition:

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METRIC (U.S. Customary)

Body Type And/Or
Engine Displacement

2-Door
Hatchback Coupe 1YY07

2-Door
Convertible 1YY67

Tires And Wheels (Standard)

Tires	Size (load range, ply)		P275/40ZR17 B/W - Base
	Type (bias, radial, steel, nylon, etc.)		High speed steel belted radial Eagle 40ZR (Goodyear), unidirectional
	Inflation pressure (cold) for recommended max. vehicle load	Front [kPa (psi)]	240 (35)
		Rear [kPa (psi)]	240 (35)
	Rev./mile—at 70 km/h (45 mph)		497
Wheels	Type & material		Left-Right alum alloy road wheels with specific vent design
	Rim (size & flange type)		17 x 9.5 Front, 17 x 9.5 Rear, Left-Right specific
	Wheel offset		56mm (1.97")
	Attachment	Type (bolt or stud)	Stud
		Circle diameter	120.7 (4.75)
		Number & size	5 Hex nuts, one anti-theft: M12 x 1.5-6H
Spare	Tire and wheel		T155/70D17, (17 x 4 wheel)
	Storage position & location (describe)		Horizontal under fuel tank

Tires And Wheels (Optional)

Tire size (load range, ply), rear		P315/35ZR17
Type (bias, radial, steel, nylon, etc.), rear		High speed steel belted radial Eagle 35ZR (Goodyear)
Wheel (type & material), rear		Left-right alum alloy road wheels w/ specific vent design
Rim (size, flange type and offset), rear		17 x 11 rear, left-right specific
Tire size (load range, ply)		
Type (bias, radial, steel, nylon, etc.)		
Wheel (type & material)		
Rim (size, flange type and offset)		
Tire size (load range, ply)		
Type (bias, radial, steel, nylon, etc.)		
Wheel (type & material)		
Rim (size, flange type and offset)		
Tire size (load range, ply)		
Type (bias, radial, steel, nylon, etc.)		
Wheel (type & material)		
Rim (size, flange type and offset)		
Spare tire and wheel size (if configuration is different than road tire or wheel, describe optional spare tire and/or wheel location & storage position)		

Brakes - Parking

Type of control		Lever apply, button release, auto cable adjust
Location of control		Inner left door sill
Operates on		Integral rear caliper lock plate actuator
If separate from service brakes	Type (internal or external)	Not Applicable
	Drum diameter	" "
	Lining size (length x width x thickness)	" "

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Brakes - Service

Description		Hydraulic power brake front and rear disc base J19 and heavy duty J55 systems		
Manufacturer and brake type (std., opt., n.a.)	Front (disc or drum)	R C I A standard pad guided caliper		
	Rear (disc or drum)	R C I A standard pin guided caliper		
Valving type (proportion, delay, metering, other)		Rear proportioner integral with master cylinder		
Power brake (std., opt., n.a.)		Standard		
Booster type (remote, integral, vac., hyd., etc.)		Vac 240mm single diaph 65 in ²		
Vacuum	Source (inline, pump, etc.)	Engine plenum		
	Reservoir (volume in. ³) and source	Not Applicable		
	Pump-type (elec. gear driven, belt driven)	" "		
Traction control	Operational speed range	" "		
	Type engine intervention (electronic, mech.)	" "		
Anti-lock device	Front/rear (std., opt., n.a.)	Standard front and rear		
	Manufacturer	Bosch		
	Type (electronic, mech.)	Electrohydraulic		
	Number sensors or circuits	Four front wheel sensors		
	Number anti-lock hydraulic circuits	Three (two front and one rear) hydraulic		
	Integral or add-on system	Add-on		
	Yaw control (yes, no)	Yes		
Hydraulic power source (elect., vac. mtr., pwr. seg.)		Electronic motor pump		
Effective area [cm ² (in. ²)]* w/out Grooves		Front linings 209 cm ² Rear linings 119 cm ²		
Gross lining area [cm ² (in. ²)]**(F/R) w/Grooves		Front 53.2 x .4 = 213 cm ² Rear 29.7 x .4 = 119 cm ²		
Swept area [cm ² (in. ²)]*** (F/R)		Front 660 cm ² Base/722 cm ² H.D. Front 589 cm ² Rear		
Rotor %	Outerworking diameter	F/R	302.3mm Front Base 327.3mm H.D. Front 302.7 Rear	
	Inner working diameter	F/R	222.3mm Front Base 247.3mm H.D. Front 232.7 Rear	
	Thickness	F/R	20mm Front Base 28mm H.D. Front 20mm Rear	
	Material & type (vented solid)	F/R	Gray iron vented front, HCF iron vented rear	
Drum	Diameter & width	F/R	Not Applicable	
	Type and material	F/R	" "	
Wheel cylinder bore		Front dual piston 38mm (1.5 in) Rear 40.5mm (1.6 in)		
Master cylinder	Bore/stroke	F/R	Front 22.2mm/20mm (.87"/.79") Rear 22.2/12 (.87"/.47")	
Pedal arc ratio		3.5:1		
Line pressure at 445 N(100 lb) pedal load [kPa (psi)]		W/power frt 8625 Kpa (1250 psi) Rear 5175 Kpa(750 psi)		
Lining clearance		F/R	Front and Rear self adjusting	
Brake lining	Front wheel	Bonded or riveted (rivets seg.)		Integral Mold
		Rivet size		Not Applicable
		Manufacturer		Japan Brake Industries
		Lining code*****		JB CP26, FF code
		Material		Semi-metallic nonasbestos
		****	Primary or out-board	Front 135 x 40 x 9.5
		Size	Secondary or in-board	" " " "
	Rear wheel	Shoe thickness (no lining)		6.0mm
		Bonded or riveted (rivets seg.)		Integral Mold
		Manufacturer		Japan Brake Industries
		Lining code*****		JB H3H - B33, GF code
		Material		Semi-metallic nonasbestos
		****	Primary or out-board	108 x 35 x 8.5mm
		Size	Secondary or in-board	94 x 35 x 8.5mm
Shoe thickness (no lining)		O.B. 4mm, I.B. 5.5mm		

*Excludes rivet holes, grooves, chamfers, etc

**Includes rivet holes, grooves, chamfers, etc

***Total swept area for four brakes. (Drum brake: Widest lining contact width for each brake x its contact circumference.)
(Disc brake: Square of Outer Working Dia minus Square of inner Working Dia multiplied by Pi/2 for each brake.)

****Size for drum brakes includes length x width x thickness

*****Manufacturer I.D., catalog or formulation designation and coefficient of friction classification.

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Hatchback Coupe 1YY07

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Convertible 1YY67

Wheel Alignment

Front wheel at curb mass (wt.)	Service checking	Caster (deg.)	6.0°, +/- 0.5°
		Camber (deg.)	0.8 +/- 0.5 °
		Toe-in [outside track-mm (in.)]	0.0 +/- .10
	Service reset*	Caster	--
		Camber	--
		Toe-in	--
	Periodic M.V. inspection	Caster	--
		Camber	--
		Toe-in	--
Rear wheel at curb mass (wt.)	Service checking	Camber (deg.)	0°, +/- 0.5°
		Toe-in [outside track-mm (in.)]	0.0°, +/- .1°
	Service reset*	Camber	--
		Toe-in	--
	Periodic M.V. inspection	Camber	--
		Toe-in	--

* Indicates pre-set, adjustable, trend set or other.

Electrical – Instruments and Equipment

Speedometer	Type (analog, digital, std., opt.)	Electronic liquid crystal-digital and analog
	Trip odometer (std., opt., n.a.)	Standard
EGR maintenance indicator		Not Available
Charge indicator	Type	Digital display
	Warning device (light, audible)	Standard-warning indicator and digital read-out
Temperature indicator	Type	Digital display
	Warning device (light, audible)	Standard-warning indicator and digital read-out
Oil pressure indicator	Type	Digital display
	Warning device (light, audible)	Standard-warning indicator and digital read-out
Fuel indicator	Type	Electric liquid crystal-analog
	Warning device (light, audible)	Standard-warning indicator signals-low fuel
Windshield wiper	Type (standard)	Intermittent control system
	Type (optional)	Not available
	Blade length	508 mm (20 in.)
	Swept area (cm ² (in. ²))	6920 (1072.9)
Windshield washer	Type (standard)	Push button-manual
	Type (optional)	Not Available
	Fluid level indicator (light, audible)	Not Available
Rear window wiper, wiper/washer (std., opt., n.a.)		Not Available
Horn	Type	Vibrator
	Number used	Two
Other	Tell-tale lights warning of unfastened seat belts (FASTEN BELTS), low brake line pressure or parking brake on (BRAKE), anti-theft alert (SECURITY), electronic control module malfunction (CHECK ENGINE), door ajar (DOOR AJAR), hatch ajar (HATCH AJAR), (ABS ACTIVE), select ride control (SERVICE RIDE SELECT), Low Tire Pressure Warning System (Low Tire Pressure) (Service LTPWS), Antilock Brake System Check (ANTILOCK) (ABS ACTIVE), Low Coolant (LOW COOLANT), Drivers information system mileage range, instant and average MPG, and trip odometer also included as standard equipment.	

*English or Metric

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Hatchback Coupe 1YY07

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Steering

Manual (std., opt., n.a.)

Not Available

Power (std., opt., n.a.)

Standard

Adjustable
steering wheel/column
(tilt, telescope, other)

Type

Tilt and Telescopic

Manufacturer

Saginaw Steering Gear

(Std., opt., n.a.)

Standard

Wheel diameter**
(W8) SAE J1100

Manual

Not Available

Power

368 (14.5)

Turning
diameter
m (ft.)

Outside
front

Wall to wall (l. & r.)

12.6 (41.3)

Curb to curb (l. & r.)

12.2 (40.0)

Inside
rear

Wall to wall (l. & r.)

Not Available

Curb to curb (l. & r.)

" "

Scrub Radius*

Manual

Gear

Type

Not Available

Manufacturer

--

Ratios

Gear

--

Overall

--

No. wheel turns (stop to stop)

--

Power

Type

(coaxial, elec., hyd., etc.)

Alloy Rack and Pinion

Manufacturer

Saginaw Steering Gear; lt. wt. transverse compact pump

Gear

Type

End Take-Off

Ratios

Gear

--

Overall

13.0:1

Pump (drive)

Accessory Belt Driven

No. wheel turns (stop to stop)

1.96 Turns-751 Handling Package

Linkage

Type

End Take-Off

Location (front or rear
of wheels, other)

Front of Wheel

Tie rods (one or two)

Two

Steering
axis

Inclination at camber (deg.)

8.744°

Bearings
(type)

Upper

Ball Joint (M/M w/anti-friction washer); anti-corrosive

Lower

Ball Joint (M/M w/anti-friction washer); anti-corrosive

Thrust

Lower Ball Joint

Steering spindle & joint type

Upper and Lower Ball Joints; anti-corrosive

Wheel
spindle/hub

Diameter

Inner bearing

51 mm (2.0 in)

Outer bearing

51 mm (2.0 in)

Thread (size)

Not Available

Bearing (type)

Unit hub-bearing assembly with double row balls;

anti-corrosive

*The horizontal distance in the front elevation between wheel centerline and kingpin (ball joint) axis at ground.

**See Page 22

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Vehicle Models CORVETTE

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METRIC (U.S. Customary)

Body Type

2-Door

Hatchback Coupe 1YY07

2-Door

Convertible 1YY67

Body

Structure Integral perimeter frame-birdcage forms strong unitized body structure. Aerodynamically shaped body with deeply angled windshield (64°), all body panels SMC reinforced composite with molded-in coating. Single lift off roof panel effective pass. compartment insulation tinted glass all around. "Unibase" paint process, final clear coat paint finish

Bumper system front - rear

Front - full-width honeycomb energy absorber backed up by an impact bar of strong continuous glass fiber plastic. Body color, glass-reinforced rim fascia, rear-similar honeycomb design.

Anti-corrosion treatment

All encompassing corrosion protection including extensive use of aluminum; galvanization; use of specially treated fasteners; austenitic stainless steel on specially coated brackets, clamps, clips and braces; use of aluminized steel, dip painted; use of materials that resist corrosion.

Body - Miscellaneous Information

Type of finish (lacquer, enamel, other)	High solids base coat enamel with high solids clear coat	
Hood	Material & mass	Sheet molded compound with steel reinforcements, 33.6 (74.1 lbs)
	Hinge location (front, rear)	Front
	Type (counterbalance, prop)	Hinged clamshell hood, w/upper wheelhouse attached
	Release control (internal, external)	Internal w/dual gas struts
Trunk lid	Material & mass	Not Applicable
	Type (counterbalance, other)	" "
	Internal release control (elec., mech., n.a.)	" "
* Hatch-back lid	Material & mass	Tempered, tinted safety glass 19.05 kg (42.0 lbs.)
	Type (counterbalance, other)	Dual gas struts
	Internal release control (elec., mech., n.a.)	Electric release, std (each door and console glove box)
Tailgate	Material & mass	Not Applicable
	Type (drop, lift, door)	" "
	Internal release control (elec., mech., n.a.)	" "
Vent window control (crank, friction, pivot, power)	Front	None
	Rear	"
Window regulator type (cable, tape, flex, drive, etc.)	Front	Drive
	Rear	None
Seat cushion type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Bucket seat, full cloth trim w/wool pad comfort liner @
	Rear	None
	3rd seat	"
Seat back type (e.g., 60/40, bucket, bench, wire, foam etc.)	Front	Bucket seat, full cloth trim w/wool pad comfort liner @
	Rear	None
	3rd seat	"

- (*) Gives easy access to engine and chassis components; SMC reinforced composite.
 (e) Polypropylene reinforced composite frame for seat cushion and backrest.

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METRIC (U.S. Customary)

Engine Description/Carb.
Engine Code

5.7 Liter V8 (350 CID)
Tuned-Port Fuel Injection (TPI) RPO 198

Electrical - Supply System

Battery	Manufacturer	Delco Remy
	Model, std., (opt.)	75-630, Standard
	Voltage	12 Volts
	Amps at 0°F cold crank	630 cold cranking amps. (CCA)
	Minutes-reserve capacity	90 minute reserve capacity
	Amp/hrs. - 20 hr. rate	54 Amp-Hrs.
	Location	Engine compartment directly behind left wheel opening
Alternator	Manufacturer	Delco Remy
	Rating (idle/max. rpm)	105 Amps
	Ratio (alt. crank/rev.)	3.24:1
	Output at idle (rpm, park)	
	Optional (type & rating)	None
Regulator	Type	Micro circuit unit; integral with alternator

Electrical - Starting System

Start, motor	Manufacturer	Delco Remy
	Current drain at 0°F	350 Amps
	Power rating (kw (hp))	1.6 (2.1)
Motor drive	Engagement type	Positive shift solenoid
	Pinion engages from (front, rear)	Rear

Electrical - Ignition System

Type	Electronic (std., opt., n.a.)	--
	Other (specify)	High Energy Ignition (HEI)
Coil	Manufacturer	Delco Remy
	Model	Integral with distributor
	Current	Engine stopped - A --
		Engine idling - A --
Spark plug	Manufacturer	AC
	Model	FR5LS
	Thread (mm)	M14 x 1.25
	Tightening torque (N-m (lb. ft))	24-30 (18-22)
	Gap	0.89 (0.035)
	Number per cylinder	One
Distributor	Manufacturer	Delco Remy
	Model	

Electrical - Suppression

Locations & type	Internal alternator capacitor, non-metallic high-tension cables, resistor spark plugs, ignition coil by-pass capacitor, internal AC blower motor by-pass capacitor & A/C compression diode, with radio provisions; hood grounding clip, engine to dash panel ground strap, fuse block capacitor and on "heater only" blower motors and coax capacitor.
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MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line CORVETTE
 Model Year 1988 Issued 6-87 Revised (●) _____

Body Type

2-Door
Hatchback Coupe 1YY07

2-Door
Convertible 1YY67

Convenience Equipment (standard, optional, n.a.)

<input checked="" type="checkbox"/> Air conditioning (manual, auto. temp control)	Standard, four season manual control
Clock (digital, analog)	Standard, digital read-out with all radios
Compass/thermometer	Not Available
Console (floor, overhead)	Standard, floor
Defroster, elec. backlight	Standard
Diagnostic monitor (integrated, individual)	STD.-ALCL (Assembly Line Communications Link); Integrated
Instrument cluster (list instruments)	Speedo, Tach, Oil & Coolant Temps, Oil Press, Volts, Fuel
Keyless entry	Not Available
Electronic Tripminder (avg. spd., fuel)	Range, average and instant MPG
Voice alert (list items)	Not Available LCD and digital instrumentation standard
Other	
Fuel door lock (remote, key, electric)	Not Available
Auto head on/off delay, dimming	Not Available
Comenng	Front and rear, standard
Courtesy (map, reading)	Std - one lamp in each door pnl. Mntd. on I/S R/V mirror
Door lock, ignition	Std. - inside door lock-door open, delay when closed
Engine compartment	Standard
Fog	Standard
Glove compartment	Standard - in console
Trunk	Std - two lamps mounted in 'B' pillars Back of seat
Illuminated entry system (list lamps, activation)	Not Applicable
Other	--
Day/night (auto man.)	Standard, manual
L.H. (remote, power, heated)	Power standard, heated
R. H. (convex, remote, power, heated)	Power standard, heated
Visor vanity (RH - LH, illuminated)	RH standard/LH optional
<input checked="" type="checkbox"/> Navigation system (describe)	None
Parking brake-auto release (warning light)	Manual release, telltale-std.

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Body Type

2-Door
 Hatchback Coupe 1YY07

2-Door
 Convertible 1YY67

☒ **Restraint System**

Seating Position			Left	Center	Right
Active	Type & description (lap & shoulder belt, lap belt, etc.)	First seat	3 Pt. Active L/S		3 Pt. Active L/S
		Second seat			
	Standard / optional	Third seat			
Passive	Type & description (air bag, motorized - 2-point belt, fixed belt, knee bolster, manual - lap belt)	First seat			
		Second seat			
	Standard / optional	Third seat			

Glass	SAE Ref. No.	
Windshield glass exposed surface area [cm ² (in. ²)]	S1	8710.0 (1350.0)
Side glass exposed surface area [cm ² (in. ²)] - total 2-sides	S2	4007.2 (621.1)
Backlight glass exposed surface area [cm ² (in. ²)]	S3	6205.0 (961.8) 2554.8 (396.0)
Total glass exposed surface area [cm ² (in. ²)]	S4	18922.2 (2932.9) 15272.0 (2367.1)
Windshield glass (type)		Curved - Laminated Plate - Tinted
Side glass (type)		Curved - Tempered Plate - Tinted
Backlight glass (type)		Curved - Tempered Plate - Tinted (Hatchback) Vinyl

☒ **Lamps and Headlamp Locations**

Headlamps	Description - sealed beam, halogen, replaceable bulb, etc.	Sealed Beam
	Shape	Rectangular
	Lo-beam type (2A1, 2B1, 2C1, etc.)	2B1 on both - 1 capsule per side
	Quantity	
	Hi-beam type (1A1, 2A1, 1C1, 2C1, etc.)	
	Quantity	

Frame

Type and description (separate frame, unitized frame, partially-unitized frame)	All-welded steel body-frame construction, 100% galvanized. Bolt-on front crossmember to allow bottom loaded engine.
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Vehicle Models CORVETTE
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METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

All dimensions to ground are for comparative purposes only. Dimensions are to be shown for all base body models of each vehicle line.
SAE Ref. no. refers to the definition published in SAE Recommended Practice J1100 "Motor Vehicle Dimensions," unless otherwise specified.

Body Type	SAE Ref. No.	2-Door Hatchback Coupe 1YY07	2-Door Convertible 1YY67
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Width

Tread (front)	W101	1513 (59.6)
Tread (rear)	W102	1534 (60.4)
Vehicle width	W103	1804 (71.0)
Body width at Sg RP (front)	W117	1752 (69.0)
Vehicle width (front doors open)	W120	3706 (145.9)
Vehicle width (rear doors open)	W121	--
Front fender overall width	W106	1743 (68.6)
Rear fender overall width	W107	1779 (70.0)
Tumble-home (deg.)	W122	36.9*
Vehicle width including mirrors		

Length

Wheelbase	L101	2444 (96.2)
Vehicle length	L103	4483 (176.5)
Overhang (front)	L104	1030 (40.5)
Overhang (rear)	L105	1009 (39.7)
Upper structure length	L123	2309 (90.9)
Rear wheel C-L "X" coordinate	L127	1886 (74.2)
Cowl point "X" coordinate	L125	174 (6.9)
Front end length at centerline	L126	1761 (69.3)
Rear end length at centerline	L129	360 (14.2)

Height**

Passenger distribution (front/rear)	PD1.2.3		**
Trunk/cargo load			**
Vehicle height	H101	1186 (46.7)	1179 (46.4)
Cowl point to ground	H114	845 (33.4)	
Deck point to ground	H138		
Rocker panel-front to ground	H112	175 (6.9)	
Bottom of door closed-front to ground	H133	250 (9.8)	
Rocker panel-rear to ground	H111	175 (6.9)	
Bottom of door closed-rear to ground	H135	--	
Windshield slope angle	H122	64.7	
Backlight slope angle	H121	72.5	

Ground Clearance**

Front bumper to ground	H102	124 (4.9)
Rear bumper to ground	H104	330 (13.0)
Bumper to ground (front at curb mass (wt.))	H103	130 (5.1)
Bumper to ground (rear at curb mass (wt.))	H105	353 (13.9)
Angle of approach (degrees)	H106	10.6*
Angle of departure (degrees)	H107	20.2
Ramp breakover angle (degrees)	H147	12.3*
Axle differential to ground (front : rear)	H153	172 (6.8)
Min. running ground clearance	H156	120 (4.7)
Location of min. run. grd. clear.		Catalytic Converter

** All Vehicle Height And Ground Clearance Are Made Using EPA Loaded Vehicle Weight, Loading Conditions.
EPA Loaded Vehicle Weight is the Base Vehicle Weight Plus All Coolant And Fluids Necessary For Operation Plus 100% Of The Fuel Capacity Plus The Weight Of All Options And Accessories Which Weigh Three Pounds Or More And Which Are Sold On At Least 33% Of The Car Line. Plus Two Occupants

MVMA Specifications Form
METRIC (U.S. Customary)

Vehicle Line CORVETTE
 Model Year 1989 Issued 6-88 Revised (•) _____

Body Type

2-Door Hatchback Coupe 1YY07	2-Door Convertible 1YY67
---------------------------------	-----------------------------

Convenience Equipment (standard, optional, n.a.)

Power equipment	Deck lid (release, pull down)		
	Door locks (manual, automatic, describe system)		Standard Deck Lid Hatch, Standard Door Locks
	Seats	2 - 4 - 6 way, etc.	6 way optional
		Reclining (R.H., L.H.)	Manual standard, power optional
		Memory (R.H., L.H., preset, recline)	Not Available
		Lumber, hip, thigh, support	Power optional
		Heated (R.H., L.H., other)	Not Available
	Side windows		Standard
	Vent windows		Not Available
	Rear windows		Standard-Electric Hatch Release (3 Remote Location)
	Convertible deck lid		Standard release
Antenna (location, whip, w / shield, power)		Rear Power Antenna	
Radio systems	Standard		AM/FM Stereo Cassette
	Optional	AM, FM, stereo, tape, compact disc, graphic equalizer, theft deterrent, radio prep package, headphone jacks, etc.	AM/FM Stereo Cassette/Bose
	Speaker (number, location)		Standard - 2 front, 2 rear Bose-One each door, 2 rear
	Roof open air fixed (flip-up, sliding, "T")		Single, full width lift-off roof panel conv. fldg. top
Speed control device		Std.-electronic speed & cruise cntrl. w/resume feature	
Speed warning device (light, buzzer, etc.)		Not Available	
Tachometer (rpm)		6,000 RPM	
Telephone system (describe)		Not Available	
Theft deterrent system		"VATS" System includes special module with resistor decoder and ignition key with embedded pellets of specified resistance. Built-in time lag, forces delay between attempts to start vehicle with improper key. Also includes anti-theft horn alarm system with starter interrupt (doors and hatch).	

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Vehicle Line **CORVETTE**

Model Year **1989**

Issued **6-88**

Revised (•)

Body Type

**2-Door
Hatchback Coupe 1YY07**

SAE
Ref.
No.

Station Wagon - Third Seat

Seat facing direction	SD1	Not
Sg RP couple distance	L85	Applicable
Shoulder room	W85	
Hip room	W86	
Effective leg room	L86	
Effective head room	H86	
Sg RP to heel point	H87	
Knee clearance	L87	
Back angle	L88	
Hip angle	L89	
Knee angle	L90	
Foot angle	L91	

Station Wagon - Cargo Space

Cargo length (open front)	L200	Not
Cargo length (open second)	L201	Applicable
Cargo length (closed front)	L202	
Cargo length (closed second)	L203	
Cargo length at belt (front)	L204	
Cargo length at belt (second)	L205	
Cargo width (wheelhouse)	W201	
Rear opening width at floor	W203	
Opening width at belt	W204	
Min. rear opening width above belt	W205	
Cargo height	H201	
Rear opening height	H202	
Tailgate to ground height	H250	
Front seat back to load floor height	H197	
Cargo volume index (m ³ (ft. ³))	V2	
Hidden cargo volume index (m ³ (ft. ³))	V4	
Cargo volume index-rear of 2-seat	V10	

Hatchback - Cargo Space

Cargo length at front seatback height	L208	792 (31.2)
Cargo length at floor (front)	L209	838 (33.0)
Cargo length at second seatback height	L210	
Cargo length at floor (second)	L211	
Front seatback to load floor height	H197	454 (17.9)
Second seatback to load floor height	H198	
Cargo volume index (m ³ (ft. ³))	V3	5081 (17.9)
Hidden cargo volume index (m ³ (ft. ³))	V4	--
Cargo volume index-rear of 2-seat	V11	--

Aerodynamics*

Wheel lip to ground, front	685 (27.0)
Wheel lip to ground, rear	695 (27.4)
Frontal area (m ² (ft. ²))	1.80 (19.4)
Drag coefficient (Cd)	

* EPA Loaded Vehicle Weight, Loading Conditions

MVMA Specifications Form

METRIC (U.S. Customary)

Vehicle Dimensions See Key Sheets for definitions

Vehicle Models CORVETTE

Model Year 1989 Issued 6-88 Revised (•)

Body Type

2-Door
Hatchback Coupe 1YY07

2-Door
Convertible 1YY67

SAE
Ref.
No.

Front Compartment

Sg RP front "X" coordinate	L31	1150 (45.3)	
Effective head room	H61	926 (36.4)	927 (36.5)
Max. eff. leg room (accelerator)	L34	1083 (42.6)	
SgRP to heel point	H30	188 (7.4)	
SgRP to heel point	L53	898 (35.4)	
Back angle	L40	28.0	
Hip angle	L42	98.0	
Knee angle	L44	130.0	
Foot angle	L46	87.0	
Design H-point front travel	L17	146 (5.7)	
Normal driving & riding seat track trvl.	L23	146 (5.7)	
Shoulder room	W3	1373 (54.1)	
Hip room	W5	1253 (49.3)	
• • Upper body opening to ground	H50	1092 (43.0)	
Steering wheel maximum diameter	W9	368 (14.5)	
Steering wheel angle	H18	18.4	
Accel. heel pt. to steer. whl. cntr	L11		
Accel. heel pt. to steer. whl. cntr	H17		
Steering wheel to C/L of thigh	H13	84 (3.3)	
Steering wheel torso clearance	L7	390 (15.4)	
Headlining to roof panel (front)	H37	10 (0.4)	
Undepressed floor covering thickness	H67	24 (0.9)	

Front Compartment Interior Dimensions Are Measured With The Seating Reference Point (SgRP) _____ n
Forward And _____ mm Upward of Rearmost Position.

Rear Compartment

Sg RP Point couple distance	L50		
Effective head room	H63	Not	
Min. effective leg room	L51		
Sg RP (second to heel)	H31	Applicable	
Knee clearance	L48		
Compartment room	L3		
Shoulder room	W4		
Hip room	W6		
• • Upper body opening to ground	H51		
Back angle	L41		
Hip angle	L43		
Knee angle	L45		
Foot angle	L47		
Headlining to roof panel (second)	H38		
Depressed floor covering thickness	H73		

Luggage Compartment

Usable luggage capacity [L (cu. ft.)]	V1	--	186.9 (6.6)
• • Luggage height	H195	902 (35.5)	

Interior Volumes (EPA Classification)

Vehicle class		Mini-compact	
Interior volume index (cu. ft.)		Not available, on two passenger vehicles	
Trunk / cargo index (cu. ft.)		--	

All linear dimensions are in millimeters (inches).

• • EPA Loaded Vehicle Weight, Loading Conditions

METRIC (U.S. Customary)

Model Year 1989

issued 6-88

Revised (●)

SHIPPING MASS (weight) = Curb Weight Less Kg. (lbs.) Curb weight less 47.2 kg. (104.0 lbs)

* Reference - SAE J1100 Motor vehicle dimensions, curb weight definition.

** ETWC - Equivalent Test Weight Class - U.S. Environmental Protection Agency emission certifications are based on the ETWC's shown.

NA - Not Applicable - applies to model/series combinations not requiring testing.

MVMA Specifications Form
METRIC (U.S. Customary)

Vehicle Line CORVETTE

Model Year 1989

Issued 6-88

Revised (•) _____

Body Type

2-Door
Hatchback Coupe 1YY07

2-Door
Convertible 1YY67

Vehicle Fiducial Marks

Fiducial Mark Number*	Define Coordinate Location										
Front	<p>X - Fiducial mark to vertical base grid line - front measured horizontally, from the base grid line to the front fiducial mark located on top of the front seat adjuster mounting bolt.</p> <p>Y - Fiducial mark to centerline of car - front, width measurement made from centerline of car to the fiducial mark located on top of the front seat adjuster mounting bolt.</p> <p>Z - Fiducial mark to horizontal base grid line - front, measured vertically from base grid line to front fiducial mark located on top of the front seat adjuster mounting bolt.</p>										
Rear	<p>X - Fiducial mark to vertical base grid line - rear, measured horizontally from the base grid line to rear fiducial mark located on the rail (compartment pan - longitudinal).</p> <p>Y - Fiducial mark to centerline of car - rear, width measurement made from centerline of car to fiducial mark located on the rail (compartment pan longitudinal).</p> <p>Z - Fiducial mark to horizontal base grid line - rear, measured vertically from the base grid line to rear fiducial mark located on the rail (compartment pan - longitudinal).</p>										
Front	<table> <tr> <td>W21*</td><td>552 (21.7)</td></tr> <tr> <td>L54*</td><td>831 (32.7)*</td></tr> <tr> <td>H81*</td><td>-181 (-7.1)#</td></tr> <tr> <td>H161*</td><td>178 (7.0)</td></tr> <tr> <td>** H163*</td><td>120 (4.7)</td></tr> </table>	W21*	552 (21.7)	L54*	831 (32.7)*	H81*	-181 (-7.1)#	H161*	178 (7.0)	** H163*	120 (4.7)
W21*	552 (21.7)										
L54*	831 (32.7)*										
H81*	-181 (-7.1)#										
H161*	178 (7.0)										
** H163*	120 (4.7)										
Rear	<table> <tr> <td>W22*</td><td>296 (11.7)</td></tr> <tr> <td>L55*</td><td>2714 (106.9)*</td></tr> <tr> <td>H82*</td><td>46 (1.8)#</td></tr> <tr> <td>H162*</td><td>367 (14.4)</td></tr> <tr> <td>** H164*</td><td>345 (13.6)</td></tr> </table>	W22*	296 (11.7)	L55*	2714 (106.9)*	H82*	46 (1.8)#	H162*	367 (14.4)	** H164*	345 (13.6)
W22*	296 (11.7)										
L55*	2714 (106.9)*										
H82*	46 (1.8)#										
H162*	367 (14.4)										
** H164*	345 (13.6)										
	<p>* Vertical base grid 2000 mm line # Horizontal base grid 500 mm line</p>										

* Reference - SAE Recommended Practice J162, Motor Vehicle Fiducial Marks

All linear dimensions are in millimeters (inches).

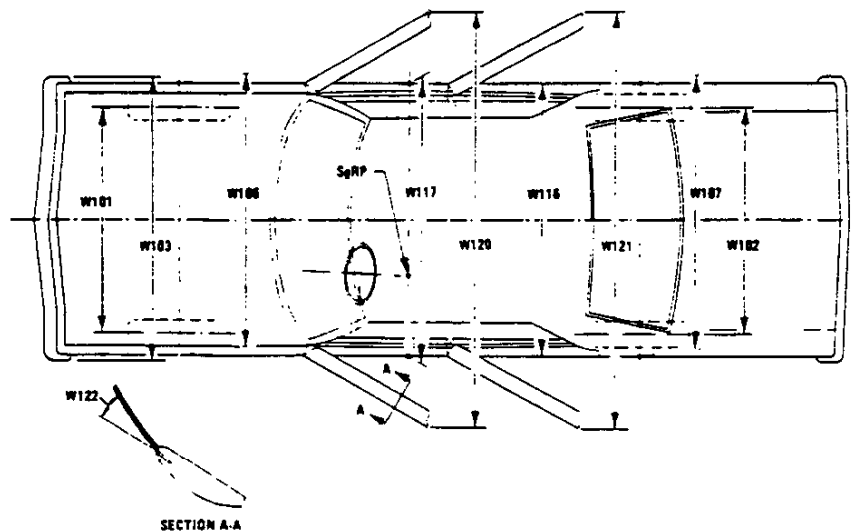
** EPA Loaded Vehicle Weight, Loading Conditions

MVMA Specifications Form

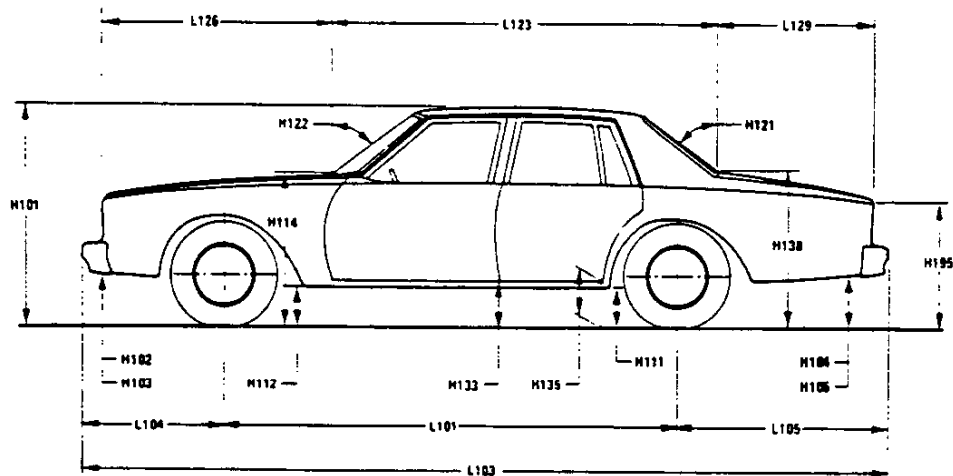
METRIC (U.S. Customary)

Exterior Vehicle And Body Dimensions – Key Sheet

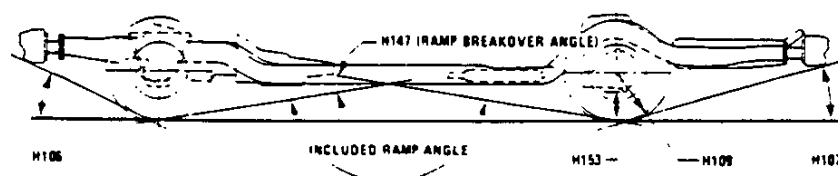
Exterior Width



Exterior Length & Height



Exterior Ground Clearance



MYMA Specifications Form

METRIC (U.S. Customary)

Vehicle Line LUKVELLE

Model Year 1989

Issued 6-88

Revised (e)

		Optional Equipment Differential Mass (weight)*			
Code	Equipment	MASS, kg. (lb.)			Remarks Restrictions, Requirements
		Front	Rear	Total	
RPO A09	Custom Adjustable Seats	2.8 (6.2)	3.3 (7.39)	6.1 (13.5)	Power adjust for backrest lateral restraints, lumbar support and back angle, special cloth trim.
RPO B16	Leather Seat Trim	.6 (1.3)	1.0 (2.2)	1.6 (3.5)	A51 required (special contour bucket seat).
RPO CC3	Removable Plastic Roof Panel	-.4 (-0.9)	-1.0 (-2.2)	-1.4 (-3.1)	Acrylic plastic, lighter, blue tinted for glare and sun load control, coated for scratch resistance. Not available on convertible.
RPO C68	Automatic Air Conditioning	1.0 2.205	--	1.0 2.205	Automatic temperature control.
RPO M19	Manual Transmission	1.5 (3.3)	1.3 (2.9)	2.8 (6.2)	
RPO U15	Radio Delete	-2.4 (-5.3)	-2.6 (-5.7)	-5.0 (-11.0)	
Delco/Bose	Premium Audio System	1.5 (3.3)	2.9 (6.4)	4.4 (9.7)	Includes specific AM/FM stereo radio with cassette player. Bose power amplified, direct reflecting speakers (one in each door and at each side of luggage area). Also features Dolby sound, dynamic noise reduction and automatic suppression system.
RPO V08	Heavy Duty Cooling Req'd except base	5.8 (12.8)	-1.2 (-2.6)	4.6 (10.2)	Includes HD radiator, aux. boost fan, and oil cooler.
	Electric Defogger System (Hatch and outside rear view mirrors)	.2 (0.4)	.2 (0.4)	.4 (0.8)	Mirrors only on convertible.
RPO Z51	Performance Handling Package, consists of FE7, EG3, GZ0, V01, KC4, B4P	1.9 (4.2)	2.4 (5.3)	4.3 (9.5)	Includes left-right 17 x 9-1/2 wheels, fast steering HD cooling and 3.07 axle ratio for auto.

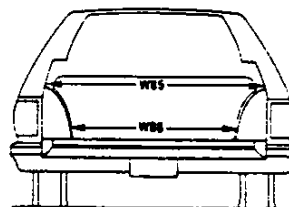
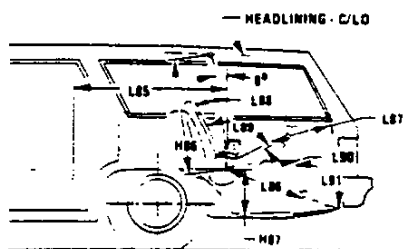
* Also see Engine - General Section for dressed engine mass (weight).

MVMA Specifications Form

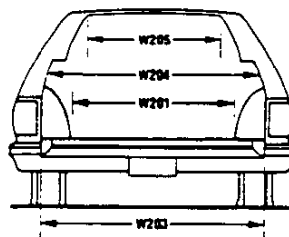
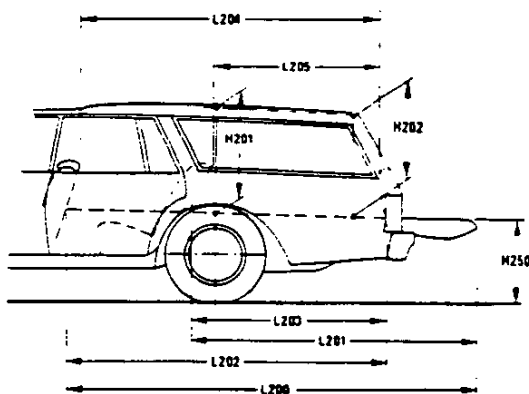
METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet

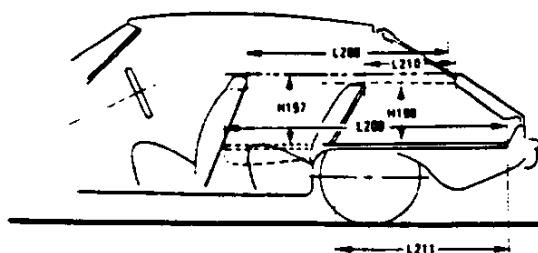
Third Seat



Cargo Space



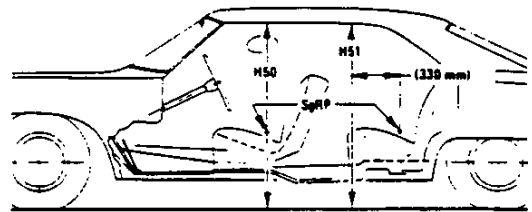
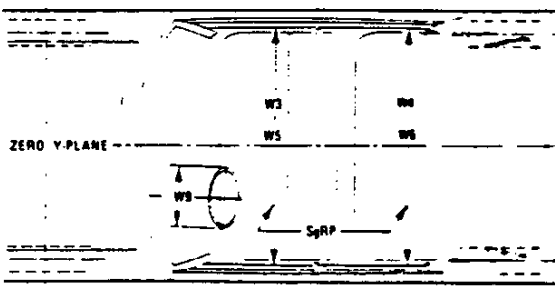
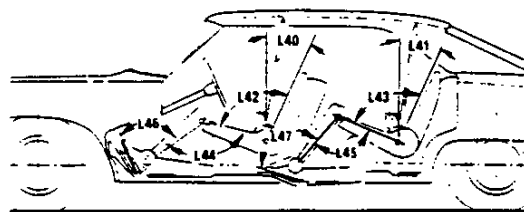
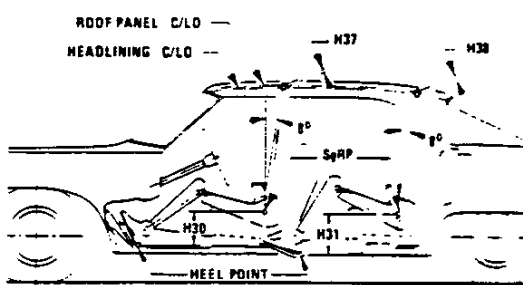
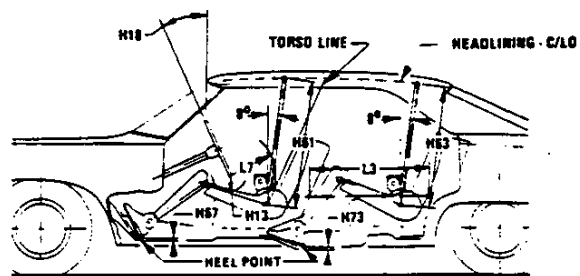
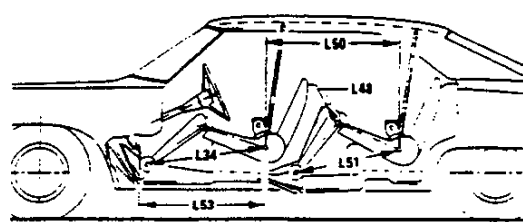
Station Wagon



Hatchback

MVMA Specifications Form
METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet



MVMA Specifications Form

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

- H104 REAR BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the rear bumper to ground, including bumper guards, if standard equipment.
- H105 REAR BUMPER TO GROUND – CURB MASS (WT.). Measured in the same manner as H104.
- H106 ANGLE OF APPROACH. The angle measured between a line tangent to the front tire static loaded radius arc and the initial point of structural interference forward of the front tire to ground. The limiting structural component shall be designated.
- H107 ANGLE OF DEPARTURE. The angle measured between a line tangent to the rear tire static loaded radius arc and the initial point of structural interference rearward of the rear tire to ground. The limiting component shall be designated.
- H147 RAMP BREAKOVER ANGLE. The angle measured between two lines tangent to the front and rear tire static loaded radius and intersecting at a point on the underside of the vehicle which defines the largest ramp over which the vehicle can roll.
- H153 REAR AXLE DIFFERENTIAL TO GROUND. The minimum dimension measured from the rear axle differential to ground.
- H156 MINIMUM RUNNING GROUND CLEARANCE. The minimum dimension measured from the sprung vehicle to ground. Specify location.

Glass Areas

- S1 Windshield area.
- S2 Side windows area. Includes the front door, rear door, vents, and rear quarter windows on both sides of the vehicle.
- S3 Backlight areas.
- S4 Total area. Total of all areas (S1 + S2 + S3).

Fiducial Mark Dimensions

Fiducial Mark – Number 1

- L54 "X" coordinate.
- W21 "Y" coordinate.
- H81 "Z" coordinate.
- H161 Height "Z" coordinate to ground at curb weight.
- H163 Height "Z" coordinate to ground.

Fiducial Mark – Number 2

- L55 "X" coordinate.
- W22 "Y" coordinate.
- W82 "Z" coordinate.
- H162 Height "Z" coordinate to ground at curb weight.
- H164 Height "Z" coordinate to ground.

Front Compartment Dimensions

- L7 STEERING WHEEL TORSO CLEARANCE. The minimum dimension measured in the side view from the rearmost edge of the steering wheel, with front wheels in the straight ahead position, to the torso line.
- L11 ACCELERATOR HEEL POINT TO STEERING WHEEL CENTER. The dimension measured horizontally from the AHP to the intersection of the steering column centerline and a plane tangent to the upper surface of the steering wheel rim.
- L17 DESIGN H-POINT–FRONT TRAVEL. The dimension measured horizontally between the design H-point–front in the foremost and rearmost seat track positions (See SAE J1100).
- L23 NORMAL DRIVING AND RIDING SEAT TRACK TRAVEL. The dimension measured horizontally between a point on the design H-point travel line from the SgRP to the displaced point on the design H-point travel line with the seat moved to the foremost seat position, but not to include seat track travel used for purposes other than normal driving and riding positions. (See SAE J1100)

- L31 SgRP–FRONT. "X" COORDINATED.
- L34 MAXIMUM EFFECTIVE LEG ROOM–ACCELERATOR. The dimension measured along a line from the ankle pivot center to the SgRP–front plus 254 mm (10.0 in) measured with right foot on the undepressed accelerator pedal. For vehicles with SgRP to heel (H30) greater than 18 in., the accelerator pedal may be depressed as specified by the manufacturer. If the accelerator is depressed, the manufacturer shall place foot flat on pedal and note the depression of the pedal.
- L40 BACK ANGLE–FRONT. The angle measured between a vertical line through the SgRP–front and the torso line. If the seatback is adjustable, use the normal driving and riding position specified by the manufacturer.
- L42 HIP ANGLE–FRONT. The angle measured between torso line and thigh centerline.
- L44 KNEE ANGLE–FRONT. The angle measured between thigh centerline and lower leg centerline measured on the right leg.
- L46 FOOT ANGLE–FRONT. The angle measured between the lower leg centerline and a line tangent to the ball and heel of the bare foot flesh line measured on the right leg. Ref SAE J826.
- L53 SgRP–FRONT TO HEEL. The dimension measured horizontally from the SgRP–front to the accelerator heel point.
- W3 SHOULDER ROOM–FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP–front at height between the belt line and 254 mm (10.0 in.) above the SgRP–front, excluding the door assist strap and attaching parts.
- W5 HIP ROOM–FRONT. The minimum dimension measured laterally between the trimmed surfaces on the "X" plane through the SgRP–front within 25 mm (1.0 in.) below and 76 mm (3.0 in.) above the SgRP–front and 76 mm (3.0 in.) fore and aft of the SgRP–front.
- W9 STEERING WHEEL MAXIMUM OUTSIDE DIAMETER. Define if other than round.
- H13 STEERING WHEEL TO CENTERLINE OF THIGH. The minimum dimension measured from the bottom of steering wheel, with front wheels in the straight position, to the thigh centerline.
- H17 ACCELERATOR HEEL POINT TO THE STEERING WHEEL CENTER. The dimension measured vertically from the AHP–front to the intersection of the steering column centerline to a plane tangent to the upper surface of the steering wheel rim.
- H18 STEERING WHEEL ANGLE. The angle measured from a vertical to the surface plane of the steering wheel.
- H30 SgRP–FRONT TO HEEL. The dimension measured vertically from the SgRP–front to the accelerator heel point.
- H37 HEADLINING TO ROOF PANEL–FRONT. The dimension measured from the intersection of the headlining and the extended effective head room line normal to the sheet metal.
- H50 UPPER BODY OPENING TO GROUND–FRONT. The dimension measured vertically from the trimmed body opening to the ground on the SgRP–front "X" plane.
- H61 EFFECTIVE HEAD ROOM–FRONT. The dimension measured along a line 8 deg. rear of vertical from the SgRP–front to the headlining plus 102 mm (4.0 in.).
- H67 FLOOR COVERING THICKNESS–UNDEPRESSED–FRONT. The dimension measured vertically from the surface of the undepressed floor covering to the underbody sheet metal at the accelerator heel point.

Rear Compartment Dimensions

- L3 COMPARTMENT ROOM–SECOND. The dimension measured horizontally from the back of the front seat to the front of the second seatback at a height tangent to the top of the second seat cushion.

MVMA Specifications Form

METRIC (U.S. Customary)

Exterior Vehicle And Body Dimensions—Key Sheet Dimensions Definitions

Seating Reference Point

SEATING REFERENCE POINT means the manufacturer's design reference point which—

- (a) Establishes the rearmost normal design driving or riding position of each designated seating position in a vehicle;
- (b) Has coordinates established relative to the design vehicle structure;
- (c) Simulates the position of the pivot center of the human torso and thigh; and
- (d) Is the reference point employed to position the two dimensional templates described in SAE Recommended Practice J826, "Devices for Use in Defining and Measuring Vehicle Seating Accommodations,".

Width Dimensions

- W101 TREAD—FRONT. The dimension measured between the tire centerlines at the ground.
- W102 TREAD—REAR. The dimension measured between the tire centerlines at the ground. In case of dual wheels, the dimension will be measured to the centerline of tire and wheel assemblies.
- W103 VEHICLE WIDTH. The maximum dimension measured between the widest point on the vehicle, excluding exterior mirrors, flexible mud flaps, marker lamps, but including bumpers, moldings, sheet metal protrusions or dual wheels, if standard equipment.
- W106 FRONT FENDER WIDTH. The dimension measured between the widest points at the front wheel centerline, excluding moldings.
- W107 REAR FENDER WIDTH. The dimension measured between the widest points at the rear wheel centerline, excluding moldings.
- W117 BODY WIDTH AT SgRP—FRONT. The dimension measured laterally between the widest points on the body at the SgRP-front, excluding door handles, applied moldings, or appliques.
- W120 VEHICLE WIDTH—FRONT DOORS OPEN. The dimension measured between the widest point on the front doors in maximum hold-open position.
- W121 VEHICLE WIDTH—REAR DOORS OPEN. The dimension measured between the widest point on the rear doors in maximum hold-open position. For vehicles with a rear door on only one side, this dimension is to the zero "Y" plane.
- W122 TUMBLE—HOME. STRAIGHT SIDE GLASS. The angle measured from a vertical to the outside surface of the front door glass at the SgRP "X" plane.
CURVED SIDE GLASS. The angle measured from a vertical to a chord extending from the upper DLO to the lower DLO at the outside surface of the front door glass at the front SgRP "X" plane.

Length Dimensions

- L101 WHEELBASE (WB). The dimension measured longitudinally between front and rear wheel centerlines. In case of dual rear axles, the dimension shall be to the midpoint of the centerlines of the rear wheels.
- L103 VEHICLE LENGTH. The maximum dimension measured longitudinally between the foremost point and the rearmost point on the vehicle, including bumper, bumper guards, tow hooks and or rub strips, if standard equipment.
- L104 OVERHANG—FRONT. The dimension measured longitudinally from the centerline of the front wheels to the foremost point on the vehicle including bumper, bumper guards, tow hooks and or rub strips, if standard equipment.
- L105 OVERHANG—REAR. The dimension measured longitudinally from the centerline of the rear wheels, or in the case

of dual rear axles, the dimension shall be the midpoint of the centerlines of the rear wheels, to the rearmost point on the vehicle including rear bumpers, bumper guards, tow hooks and rub strips, if standard equipment.

- L123 UPPER STRUCTURE LENGTH. The dimension measured longitudinally from the cowl point to the deck point.
- L125 COWL POINT "X" COORDINATE.
- L126 FRONT END LENGTH. The dimension measured longitudinally from the cowl point to the foremost point on the vehicle at the zero "Y" plane excluding ornamentation or bumpers. In cases where bumpers and/or grills are integrated with the profile, measurement is made at the foremost point of front end contour.
- L127 REAR WHEEL CENTERLINE "X" COORDINATE or in the case of dual rear axles, the coordinate shall be the midpoint of the distance between the rear axle centerlines.
- L129 REAR END LENGTH. The dimension measured longitudinally from the deck point to the rearmost visible point of the body sheet metal at the zero "Y" plane, excluding ornamentation or bumpers.

Height Dimensions

- H101 VEHICLE HEIGHT. The dimension measured vertically from the highest point on the vehicle body to ground.
- H111 ROCKER PANEL—REAR TO GROUND. The dimension measured vertically from the bottom of the rocker or side quarter panel at the front of the rear wheel opening, excluding flanges, to ground.
- H112 ROCKER PANEL—FRONT TO GROUND. The dimension measured vertically from the foremost point on the bottom of the rocker panels, excluding flanges, to ground.
- H114 COWL POINT TO GROUND. Measured at zero "Y" plane.
- H121 BACKLIGHT SLOPE ANGLE. The angle between the vertical reference line and the surface of backlight at vehicle zero "Y" plane. For curve backlight, the angle is to chord of backlight arc from lower DLO to upper DLO.
- H122 WINDSHIELD SLOPE ANGLE. The angle between the vertical reference line and a chord of the windshield arc running from the lower DLO to the upper DLO at the vehicle zero "Y" plane. In the case of wrap over glass, the angle to be measured will be formed by a chord 457 mm (18.0 in) long drawn from the lower DLO to the intersecting point on the windshield.
- H133 BOTTOM OF DOOR CLOSED—FRONT TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum closed position, to ground.
- H135 BOTTOM OF DOOR CLOSED—REAR TO GROUND. The dimension measured vertically from the bottom outside corner of the door on the lock pillar side, in maximum closed position, to ground.
- H138 DECK POINT TO GROUND. Measured at zero "Y" plane.
- H109 STATIC LOAD—TIRE RADIUS—REAR. Specified by the manufacturer in accordance with composite TIRE SECTION STANDARD.

Ground Clearance Dimensions

- H102 FRONT BUMPER TO GROUND. The minimum dimension measured vertically from the lowest point on the front bumper to ground, including bumper guards, if standard equipment.
- H103 FRONT BUMPER TO GROUND—CURB MASS (WT.). Measured in the same manner as H102.



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MANUFACTURERS MOTOR VEHICLE SPECIFICATIONS

METRIC (U.S. Customary)

1989

Manufacturer	Chevrolet Motor Division General Motors Corporation	Vehicle Line CORVETTE	
Mailing Address	Chevrolet-Pontiac-Canada Group Engineering Center General Motors Corporation 30003 Van Dyke Warren, MI 48090-9060	Issued June, 1988	Revised September, 1988

Direct questions concerning these specifications to the manufacturer listed above.

The information contained herein is prepared, distributed by, and is solely the responsibility of the vehicle manufacturing company to whose products it relates. This specification form was developed by the vehicle manufacturing companies under the auspices of the Motor Vehicle Manufacturers Association of the United States, Inc.

The General Specifications herein are those in effect at date of compilation and are subject to change without notice or incurring obligation by the manufacturer.



Motor Vehicle Manufacturers Association
of the United States, Inc.

Blank Forms Provided by Technical Affairs Division

MAJOR CORVETTE ADVANTAGES VS. COMPETITION

NISSAN 300 ZX

- Corvette's standard 5.7-Liter V8 engine with Tuned-Port Fuel Injection puts out 240 horsepower; Nissan's base 3.0-Liter fuel-injected V6 engine is rated at only 165 horsepower (205 horsepower in the turbocharged version)
- Comparing base engines, Corvette puts out 335 foot-pounds of torque vs. 300 ZX's 173 foot-pounds of torque (227 for turbo)
- Corvette's standard automatic transmission is an extra-cost option on Nissan
- 16-inch P255/VR50 Goodyear Eagle unidirectional tires give a wider stance and more rubber to the road than Nissan's standard P215s or the Turbo's P225s; Eagles available only on 300 ZX Turbo with manual transmission
- 4-wheel power-assisted disc brakes with a standard anti-lock control system for added security; 300 ZX does not offer an anti-lock feature
- Standard liquid crystal instrumentation is extra cost on 300 ZX
- Three cubic feet more cargo room than 300 ZX (comparing two-seaters)
- A convertible model is not available for 300 ZX
- 300 ZX offers nothing like Corvette's optional lighted driver's visor mirror, 6-way power passenger's seat or heated outside rearview mirrors
- 300 ZX offers nothing like Corvette's low-pressure tire warning system that monitors tire air pressure
- Corvette's ZR1 with 32-valve aluminum engine and P315 tires leaves 300 ZX, who offers nothing like it, in the dust

MAZDA RX-7

- 240 horsepower standard for Corvette vs. 146 horsepower for RX-7's standard 1.3-Liter Rotary Engine (Mazda's turbo-charged model produces only 182)
- 335 foot-pounds net torque vs. 138 foot-pounds for RX-7 (183 Turbo)
- Automatic transmission, standard on Corvette, is extra cost on RX-7
- Corvette's standard anti-lock brake system is not available on the base model RX-7, extra cost on the up-level GXL and Turbo models
- Liquid crystal instrumentation is not available on RX-7—there's no trip computer or way to monitor instant mpg and average mpg driver information
- Standard 16-inch P255/VR50 Goodyear Eagle Unidirectional tires give a wider stance and more rubber to the road than RX-7's standard P185 or largest P205 tires
- Standard Corvette features such as air conditioning, theft-deterrent system, leather wrapped-steering wheel, power steering, power windows, electronic speed control, power door locks and tilt steering are extra cost or restricted to up-levels on RX-7
- RX-7 offers nothing like Corvette's available lighted driver's visor mirror, 6-way power driver's and passenger's seats or heated outside rearview mirrors
- RX-7 provides nothing like Corvette's low-tire pressure warning system that monitors tire air pressure
- Corvette's ZR1 with 32-valve aluminum engine and P315 tires leaves RX-7, who offers nothing like it, in the dust

TOYOTA SUPRA

- 240 standard horsepower vs. Supra's standard 200 (extra-cost Turbo model reaches 232 horsepower)
- 335 foot-pounds of torque vs. Supra's standard 188 foot-pounds of torque (extra-cost Turbo model rated at 254 foot-pounds torque)
- Anti-lock braking system is standard for Corvette, extra cost on Supra
- Corvette's removable roof panels are extra cost on Supra
- Supra does not offer anything like Corvette's low-pressure tire warning system that monitors tire air pressure
- Corvette's ZR1 with 32-valve aluminum engine and P315 tires leaves Supra, who offers nothing like it, in the dust
- Electronic liquid crystal instrumentation is standard on Corvette, not available on Supra
- Corvette buyers can select the standard automatic transmission or no charge 4-speed manual with three over-drive gears; automatic transmission is extra cost on Supra
- Supra does not offer a Convertible model

MODEL	CORVETTE 2-DR. COUPE	CORVETTE 2-DR. CONVERTIBLE	
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VOLUME INDEX

PASSENGER CAPACITY	2	2	
EPA CLASS	Two-Seater	Two-Seater	
EPA PASS./CARGO VOL. (cu. ft.)	—	—	
CARGO VOL. (cu. ft.)	—	—	
REAR SEAT UP/DOWN	—	—	
TRUNK	17.9	6.59†	

INTERIOR DIMENSIONS (in.)

FRONT: HEADROOM	36.4	36.5	
LEGROOM	42.6	42.6	
SHOULDER ROOM	54.1	54.1	
HIP ROOM	49.3	49.3	
REAR: HEADROOM	—	—	
LEGROOM	—	—	
SHOULDER ROOM	—	—	
HIP ROOM	—	—	

EXTERIOR DIMENSIONS (in.)

WHEELBASE	96.2	96.2	
OVERALL LENGTH	176.5	176.5	
OVERALL WIDTH	71.0	71.0	
OVERALL HEIGHT	46.7	46.4	
TREAD—FRONT/REAR	59.6 / 60.4	59.6 / 60.4	
TURNING DIAMETER	40.0	40.0	
CURB-TO-CURB (ft.)	—	—	
CURB WEIGHT (lbs.)	3,233	3,263	
TOWING CAPACITY (lbs.)	Not Recommended	Not Recommended	

COMPONENTS

DRIVETRAIN	Rear-Wheel Drive	Rear-Wheel Drive	
STEERING TYPE	Power Rack-&-Pinion	Power Rack-&-Pinion	
SUSPENSION: FRONT	Independent Control Arms	Independent Control Arms	
REAR	Independent 5-Link	Independent 5-Link	
STABILIZER	Front / Rear	Front / Rear	

POWERTEAMS AND FUEL ECONOMY*

MODEL	ENGINE SIZE/TYPE/ FUEL SYSTEM AVAIL./ HORSEPOWER AND TORQUE	TRANSMISSION AVAILABILITY	EPA EST. CITY MPG	EST. RANGE (MILES)**	HWY. MPG	HWY. RANGE (MILES)***	FUEL CAPACITY (GALLONS)
CORVETTE COUPE & CONVERTIBLE	5.7L / V8 / TPI / STD. 240 H.P. @ 4,000 RPM‡ 335 Lbs.-Ft. @ 3,200 RPM‡	M60D	16	320	25	500	20.0
		A40D	17	340	25	500	

*Use for comparison. Your mileage may differ.

**Driving range calculated by multiplying EPA city MPG by fuel capacity.

***Driving range calculated by multiplying EPA hwy. MPG by fuel capacity.

†With convertible top down usable luggage capacity is 4.19 cu. ft.

‡With single outlet muffler; 245 H.P. @ 4,300 RPM and 340 Lbs.-Ft. @ 3,200 RPM with dual outlet muffler.

MVMA Specifications Form

METRIC (U.S. Customary)

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NOTE:

1. This form uses both SI metric units and U.S. Customary units. The metric unit of measure is present and any unit follows in parentheses.
2. UNLESS OTHERWISE INDICATED:
 - a. Specifications apply to standard models without optional equipment. Significant deviations are noted.
 - b. Nominal design dimensions are used throughout these specifications.
 - c. All linear dimensions are in millimeters (inches), and all mass (weight) specifications are in kilograms (pounds).
3. The General Specifications herein are those in effect at date of compilation and are subject to change without obligation by the manufacturer.
4. Additional Vehicle Dimensions (based in part on SAE J1100 "Motor Vehicle Dimensions") may be available.



MVMA Specifications Form

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

- L41 **BACK ANGLE-SECOND.** The angle measured between a vertical line through the SgRP-second and the torso line.
- L43 **HIP ANGLE-SECOND.** The angle measured between torso line and thigh centerline.
- L45 **KNEE ANGLE-SECOND.** The angle measured between thigh centerline and lower leg centerline.
- L47 **FOOT ANGLE-SECOND.** The angle measured between the lower leg centerline and a line tangent to the ball and heel of the three-dimensional devices bare foot flesh line (Reference J826).
- L48 **KNEE CLEARANCE-SECOND.** The minimum dimension measured from the knee pivot center to the back of the front seatback minus 51 mm (2.0 in.).
- L50 **SgRP COUPLE DISTANCE-SECOND.** The dimension measured horizontally from the driver SgRP-front to the SgRP-second.
- L51 **MINIMUM EFFECTIVE LEG ROOM-SECOND.** The dimension measured along a line from the ankle pivot center to the SgRP-second plus 254mm (10.0 in.).
- W4 **SHOULDER ROOM-SECOND.** The minimum dimension measured laterally between door or quarter trimmed surfaces on the "X" plane through the SgRP-second at height between 254-406 mm (10.0-16.0 in.) above the SgRP-second, excluding the door assist straps and attaching parts.
- W6 **HIP ROOM-SECOND.** Measured in the same manner as W5.
- H31 **SgRP-SECOND TO HEEL.** The dimension measured vertically from the SgRP-second to the two dimensional device heel point on the depressed floor covering.
- H38 **HEADLINING TO ROOF PANEL-SECOND.** The dimension measured from the intersection of the headlining and the extended effective head room line normally to the roof sheet metal.
- H51 **UPPER BODY OPENING TO GROUND-SECOND.** The dimension measured vertically from the trimmed body opening to the ground on the "X" plane 330 mm (13.0 in.) forward of the SgRP-second.
- H63 **EFFECTIVE HEAD ROOM-SECOND.** The dimension measured along a line 8 deg. rear of vertical from the SgRP to the headlining, plus 102 mm (4.0 in.).
- H73 **FLOOR COVERING-DEPRESSED-SECOND.** The dimension measured vertically from the heel point to the underbody sheet metal.

Luggage Compartment Dimensions

- V1 **USABLE LUGGAGE CAPACITY-Total** of volumes of individual pieces of standard luggage set plus H-boxes stowed in the luggage compartment in accordance with the procedure described in paragraph 8.2 of SAE-J1100a.
- H195 **LIFTOVER HEIGHT.** The dimension measured vertically from the luggage compartment lower opening at the zero "Y" plane to ground.

Interior Volumes (EPA Classification)

The Interior Volume Index is listed for each body style except two seaters. The interior volume index estimates the space in a car. It is based on four measurements – head room, shoulder room, hip room, and leg room – for the front and rear seats, plus trunk capacity. The interior volume index is an estimate of the size of the passenger compartment.

The Trunk/Cargo Index is an estimate of the size of the trunk cargo space. In station wagons and hatchbacks it is an estimate of the space behind the second seat.

Station Wagon – Third Seat Dimensions

- L85 **SgRP COUPLE DISTANCE-THIRD.** The dimension measured horizontally from the SgRP-second to the SgRP-third.
- L86 **EFFECTIVE LEG ROOM-THIRD.** The dimension measured along a line from the ankle pivot center to the SgRP-third plus 254 mm (10.0 in.).
- L87 **KNEE CLEARANCE-THIRD.** The minimum dimension from the knee pivot center to the back of second seatback minus a constant of 51mm (2.0 in.). With rear-facing third seat, dimension is measured to closure.
- L88 **BACK ANGLE-THIRD.** Measured in the same manner as L41.
- L89 **HIP ANGLE-THIRD.** Measured in the same manner as L43.
- L90 **KNEE ANGLE-THIRD.** Measured in the same manner as L45.
- L91 **FOOT ANGLE-THIRD.** Measured in the same manner as L47.
- W85 **SHOULDER ROOM-THIRD.** Measured in the same manner as W4.
- W86 **HIP ROOM-THIRD.** Measured in the same manner as W5.
- H86 **EFFECTIVE HEAD ROOM-THIRD.** The dimension, measured along a line 8 deg. from the SgRP-third to the headlining rear of vertical plus a constant of 102 mm (4.0 in.).
- H87 **SgRP-THIRD TO HEEL POINT.**
- SD1 **SEAT FACING DIRECTION-THIRD.**

Station Wagon – Cargo Space Dimensions

- L200 **CARGO LENGTH-OPEN-FRONT.** The minimum dimension measured longitudinally from the back of the front seatback at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the open tailgate or cargo surface if the rear closure is a conventional door type tailgate at the zero "Y" plane.
- L201 **CARGO LENGTH-OPEN-SECOND.** The dimension measured longitudinally from the back of the second seatback at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the open tailgate or cargo floor surface if the rear closure is a conventional door type tailgate, at the zero "Y" plane.
- L202 **CARGO LENGTH-CLOSED-FRONT.** The minimum dimension measured horizontally from the back of the front seat at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L203 **CARGO LENGTH-CLOSED-SECOND.** The dimension measured horizontally from the back of the second seat at the height of the undeepressed floor covering to the rearmost point on the undeepressed floor covering on the closed tailgate or taildoor for station wagons, trucks and mpv's at the zero "Y" plane.
- L204 **CARGO LENGTH AT BELT-FRONT.** The minimum dimension measured horizontally from the back of the front seatback at the seatback top to the foremost normal surface of the closed tailgate or inside surface of the cab backpanel at the height of the belt, on the zero "Y" plane.
- L205 **CARGO LENGTH AT BELT-SECOND.** The minimum dimension measured horizontally from the back of the second seatback at the seatback top to the foremost normal surface of the closed tailgate at the height of the belt, on the zero "Y" plane.
- W201 **CARGO WIDTH-WHEELHOUSE.** The minimum dimension measured laterally between the trimmed wheelhouseings at floor level. For any vehicle not trimmed, measure to the sheet metal.

MVMA Specifications Form

METRIC (U.S. Customary)

Interior Vehicle And Body Dimensions – Key Sheet Dimensions Definitions

- W203 REAR OPENING WIDTH AT FLOOR.** The minimum dimension measured laterally between the limiting interferences of the rear opening at floor level.
- W204 REAR OPENING WIDTH AT BELT.** The minimum dimension measured laterally between the limiting interferences of the rear opening at belt height or top of pick up box.
- W205 REAR OPENING WIDTH ABOVE BELT.** The minimum dimension measured laterally between the limiting interferences of the rear opening above the belt height.
- H197 FRONT SEATBACK TO LOAD FLOOR HEIGHT.** The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H201 CARGO HEIGHT.** The dimension measured vertically from the top of the undepressed floor covering to the headlining at the rear wheel "X" coordinate on the zero "Y" plane.
- H202 REAR OPENING HEIGHT.** The dimension measured vertically from the top of the undepressed floor covering to the upper trimmed opening on the zero "Y" plane with rear door fully open.
- H250 TAILGATE TO GROUND CURB MASS (WT.).** The dimension measured vertically from the top of the undepressed floor covering on the lowered tailgate to ground on the zero "Y" plane.
- V2 STATION WAGON**
Measured in inches:

$$\frac{W4 \times H201 \times L204}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{W4 \times H201 \times L204}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT**
The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.
- V5 TRUCKS AND MPV'S WITH OPEN AREA.**
Measured in inches:

$$\frac{L506 \times W500 \times H503}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{L506 \times W500 \times H503}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V6 TRUCKS AND MPV'S WITH CLOSED AREA.**
Measured in inches:

$$\frac{L204 \times W500 \times H505}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{L204 \times W500 \times H505}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V8 HIDDEN LUGGAGE CAPACITY-REAR OF SECOND SEAT.** The total volume of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the second seat.
- V10 STATION WAGON CARGO VOLUME INDEX.**
Measured in inches:

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{H201 \times L205 \times \frac{W4 + W201}{2}}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

Hatchback – Cargo Space Dimensions

All hatchback cargo dimensions are to be taken with the front seat in full down and rear position, and the rear seat folded down. The hatchback door is in the closed position. (For electrically adjusted seats, see the manufacturer's specifications for Design "H" Point).

- L208 CARGO LENGTH AT FRONT SEATBACK HEIGHT.** The minimum horizontal dimension from the "X" plane tangent to the rearmost surface of the driver's seatback to the inside limiting interference of the hatchback door on the vehicle zero "Y" plane.
- L209 CARGO LENGTH AT FLOOR-FRONT-HATCHBACK.** The minimum horizontal dimension measured at floor level from the rear of the front seatback to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.
- L210 CARGO LENGTH AT SECOND SEATBACK HEIGHT-HATCHBACK.** The minimum dimension measured from the "X" plane tangent to the rearmost surface of second seatback or the load floor which is stowed at least one half of the H198 dimension height above the rear load floor, to the rearmost inside limiting interference on the zero "Y" plane.
- L211 CARGO LENGTH AT FLOOR-SECOND HATCHBACK.** The minimum horizontal dimension measured at floor level from the rear of the second seatback or load floor panel to the normal limiting interference of the hatchback door on the vehicle zero "Y" plane.
- H197 FRONT SEATBACK TO LOAD HEIGHT.** The dimension measured vertically from the horizontal tangent to the top of the seatback to the undepressed floor covering.
- H198 SECOND SEATBACK TO LOAD FLOOR HEIGHT:** The dimension measured vertically from the second seat back to the undepressed floor covering.
- V3 HATCHBACK.**
Measured in inches:

$$\frac{\frac{L208 + L209}{2} \times W4 \times H197}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{\frac{L208 + L209}{2} \times W4 \times H197}{10^9} = \text{m}^3 \text{ (cubic meter)}$$
- V4 HIDDEN LUGGAGE CAPACITY-REAR OF FRONT SEAT.** The total volumes of individual pieces of one set of standard luggage stowed in any hidden cargo area below the load floor rear of the front seat.
- V11 HATCHBACK CARGO VOLUME INDEX.** Usable luggage (one (1) stand and luggage set) below floor:
Measured in inches:

$$\frac{\frac{L210 + L211}{2} \times W4 \times H198}{1728} = \text{ft}^3$$
 Measured in mm:

$$\frac{\frac{L210 + L211}{2} \times W4 \times H198}{10^9} = \text{m}^3 \text{ (cubic meter)}$$

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