FOREWORD

To assist you in your service activities, this manual explains the main characteristics of the 2000 model year vehicles, in particular providing a technical explanation of the construction and operation of new mechanisms and new technology used.

This manual consists of the following sections.

1. General 2000 Features – Changed features common to all models are explained.

2.～ 9. Each Model – Changed features for each model are explained.

10. Appendix – Major technical specifications of the vehicle.

CAUTIONS, NOTICE*, REFERENCE* and **NOTE** are used in the following ways:

CAUTION	A potentially hazardous situation which could result in injury to people may occur if instructions on what to do or not do are ignored.
NOTICE	Damage to the vehicle or components may occur if instructions on what to do or not do are ignored.
REFERENCE	Explains the theory behind mechanisms and techniques.
NOTE	Notes or comments not included under the above 3 titles.

All information contained herein is the most up-to-date at the time of publication. We reserve the right to make changes without prior notice.

TOYOTA MOTOR CORPORATION

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TABLE OF CONTENTS

1 GENERAL 2000 FEATURES

DESCRIPTION 2
ENGINE
Evaporative Emission Control System 3
AUTOMATIC TRANSMISSION
Overdrive switch 4

2 COROLLA

OUTLINE OF NEW FEATURES 6
MODEL CODE 7
MODEL LINE-UP 7
NEW FEATURES
1ZZ-FE Engine
Description 8
Major Difference 9
Valve Mechanism 10
Ignition System 11
Engine Control System 12
Brakes
General 20
System Diagram 20
Hydraulic Circuit 20
Operation 21

3 CAMRY

OUTLINE OF NEW FEATURES 26
MODEL CODE 29
MODEL LINE-UP 30
NEW FEATURES
Exterior 31
Interior 32
5S-FE Engine
Description 33
Major Difference 34
Intake and Exhaust System 34
Fuel System 35
5S-FNE Engine
Description 36
Features of 5S-FNE Engine 38
Engine Proper 39
Valve Mechanism 40
Intake and Exhaust System 41
Fuel System 43
Ignition System 48
Engine Control System 49
1MZ-FE Engine 54
Automatic Transaxle 54
Brakes 55
Steering 56
Body 57
Lighting 58
Air Conditioning 59
SRS Airbag 59

4 CAMRY SOLARA

OUTLINE OF NEW FEATURES 62
MODEL CODE 64
MODEL LINE-UP 64

5 SIENNA

OUTLINE OF NEW FEATURES 66
MODEL CODE 67
MODEL LINE-UP 67

6 RAV4

OUTLINE OF NEW FEATURES 70
MODEL CODE 71
MODEL LINE-UP 71

7 TOYOTA TACOMA

OUTLINE OF NEW FEATURES 74
MODEL CODE 76
MODEL LINE-UP 77
NEW FEATURES
2RZ-FE and 3RZ-FE Engine
Description 78
LEV Compliance 78
Differential 82

8 4RUNNER

OUTLINE OF NEW FEATURES 84
MODEL CODE 86
MODEL LINE-UP 86

9 LAND CRUISER

OUTLINE OF NEW FEATURES 88
MODEL CODE 90
MODEL LINE-UP 90
NEW FEATURES
Engine 91
Differential 91
Brakes
General 92
Function 92
System Diagram 93
Layout of Components 94

Function of Components **95**
Construction and Operation of Main Components **96**
Operation **98**
System Cooperative Control **107**
VSC Operation Prohibit Control **107**
Self-Diagnosis **107**
Fail-Safe **108**
Combination Meter **108**
Wiper **109**

10 APPENDIX

MAJOR TECNICAL SPECIFICATIONS

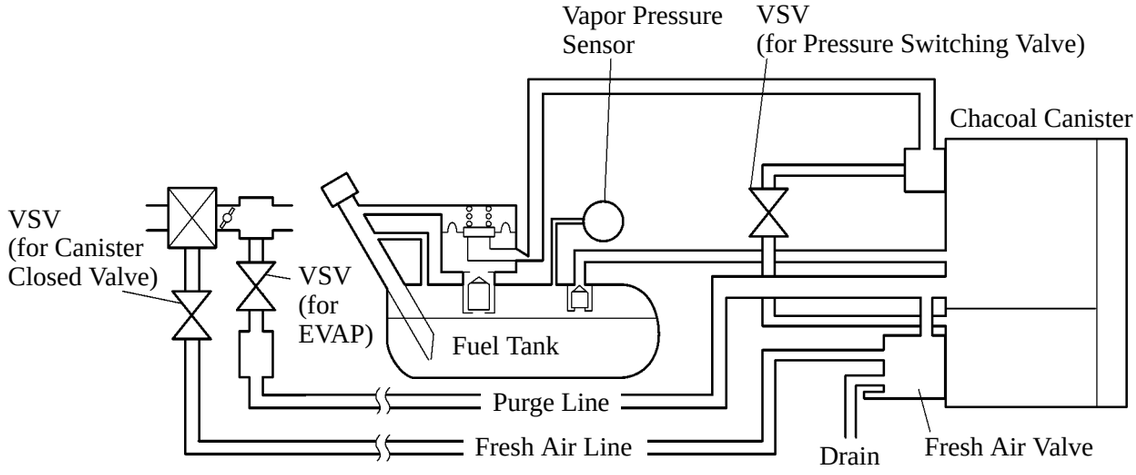
COROLLA **112**
CAMRY **116**
CAMRY SOLARA **120**
SIENNA **122**
RAV 4 . . . . . **124**
TOYOTA TACOMA **128**
4RUNNER **132**
LAND CRUISER **134**

ENGINE

◀EVAPORATIVE EMISSION CONTROL SYSTEM

The method for detecting evaporative emission leaks has been changed from the previous internal pressure monitor type to the vacuum type. The vacuum type forcefully introduces the purge vacuum into the entire system and a leak is detected by monitoring the transitions in pressure. The changes associated with this system are as follows:

- ▶A VSV for canister closed valve has been added to the fresh air introduction line.
- ▶The 3-way VSV for vapor pressure sensor has been discontinued, and a VSV for pressure switching valve has been added.
- ▶The sensing position of the vapor pressure sensor has been changed from the charcoal canister to the fuel tank in order to enhance the precision of the vapor pressure sensor.
- ▶The fresh air valve characteristics of the charcoal canister have been changed.
- ▶Diagnostic trouble codes (DTCs) have been added. For details on the DTCs, refer to the each Repair Manual.



170EG08

CAMRY

OUTLINE OF NEW FEATURES

The CAMRY is a high-quality family sedan with advanced technology and sporty performance. The following changes are made for the 2000 model year.

1. Model Line-Up

The 5S-FNE CNG (Compressed Natural Gas) engine model has been added.

2. Exterior

Four new exterior colors have been added, for a total of 10 colors.
The design of the front and rear bumpers has been changed.
The bumper and the radiator grille have been made separate, and the radiator grille is chrome-plated.
The side protection molding has been increased in size. On the XLE grade model, chrome stripes have been adopted for the side protection molding.
The 4-light multi-reflector type headlights are adopted with new styling.
The design and styling of the rear combination light has been changed.
The 16” aluminum alloy wheel and wheel cap has been added.
The styling of the 15” full wheel cover has been changed.

3. Interior

Wood-grain panels have been adopted in the interior of the XLE grade model.
CRS tether anchor brackets have been provided on the package tray trim. (except 5S-FNE engine Model)
A clock with an outside temperature gauge has been provided on the models with manual air conditioning.

4. 5S-FE Engine

The intake system from the inlet duct to the throttle body has been improved to increase torque and reduce noise.
The direction of the rotation of the radiator cooling fan has been reversed.
A 2-way exhaust control system has been adopted on the TMMK made model.
Along with the discontinuance of the air assist system, the fuel injectors and the IAC valve have been changed for the California specification model, in order to meet ULEV (Ultra-Low Emission Vehicle) requirement.
The system for detecting evaporative emission leaks has been changed. For details, see the General 2000 Features section.

5. 5S-FNE Engine

Based on the 5S-FE gasoline engine, the 5S-FNE engine uses compressed natural gas. The fuel lines have been designed exclusively for compressed natural gas application.

6. 1MZ-FE Engine

The system for detecting evaporative emission leaks has been changed. For details, see the General 2000 Features section.
A diagnostic trouble code (DTC) has been added for indicating a thermostat malfunction.

7. Automatic Transaxle

The overdrive switch has been changed to the momentary type. For details, see the General 2000 Features section.
The differential gear ratio of the A140E automatic transaxle has been changed for the 5S-FNE engine model to accommodate the performance of the 5S-FNE engine.

8. Brakes

The specifications of the front and rear brakes have been changed.

9. Suspension

The front and rear springs, stabilizers, and shock absorbers have been modified to realize excellent stability, controllability, and riding comfort.

10. Steering

A check valve has been added to the power steering gear box to help reduce kickback.
The rack stroke of the 5S-FE engine model has been changed to 145mm (5.71 in.), which is the same as in the 1MZ-FE engine.

11. Body

Hood support dampers are used.
Two utility hooks added in the luggage room for the gasoline engine model.
To install the fuel tank in the front area of the luggage compartment, the upper back panel has been cut out for the 5S-FNE engine model.
A performance rod that joins the tops of the right and left rear suspension strut towers has been adopted for the 5S-FNE engine model.
The shape of the rear floor pan has been changed to prevent the luggage compartment capacity from being reduced as a result of the installation of the fuel tank in the luggage compartment for the 5S-FNE engine model.

12. Seat

The seat cover of the LE grade model has been changed.
Optional driver power seat added for the LE grade model.
A fixed type seat back is used for the rear seat for the 5S-FNE engine model.

13. Seat Belt

2-point NR (Non-Retractor) seat belt is used for the rear center seat for the 5S-FNE engine model.

14. Wireless Door Lock Control

Audio answer back is adopted.

15. Lighting

Along with the adoption of the 4-beam headlights, the electrical circuit of the daytime running light system has been changed.

16. Air Conditioning

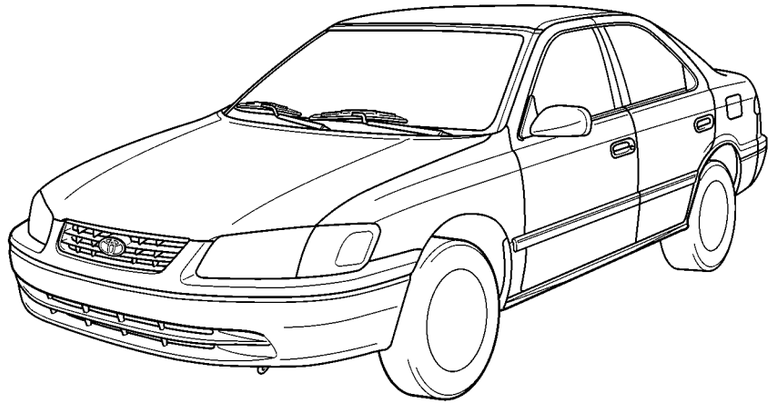
The air inlet mode selector of heater control panel has been changed from the lever type to the push button type on the CE and LE grade model.
When the air outlet mode is set to the DEF or FOOT/DEF mode, the air inlet mode also changes to the FRESH mode, has been also added on the CE and LE grade model.
A fully automatic controlled type air conditioning is used on the XLE grade model.
A defroster-linked air conditioning start up control has been continuing to use since the previous models with air conditioning.

17. SRS Airbag

The inflator of the SRS airbag for the driver has been made more compact and lightweight.
A signal that causes the supply of fuel to be cut off during a frontal collision is output by the airbag sensor assembly to the ECM for the 5S-FNE engine model.

18. Audio

An integrated, 2DIN size radio, cassette, and CD player unit is provided on the CE and LE grade models.
An integrated, 2DIN size radio, cassette, and CD changer unit and JBL speakers are provided on the XLE grade model as standard equipment, and on the LE grade model except the 5S-FNE engine model as optional equipment.
3-way rear speakers are used for the 5S-FNE engine model.



172CM01

MODEL CODE

MCV20 L – C E P G K A

1 2 3 4 5 6 7 8

	BASIC MODEL CODE
1	SXV20 : With 5S-FE Engine SXV23 : With 5S-FNE Engine MCV20 : With 1MZ-FE Engine

	STEERING WHEEL POSITION
2	L : Left-Hand Drive

	MODEL NAME
3	A : Camry (TMC*1 Mode) C : Camry (TMMK*2 Mode)

	BODY TYPE
4	E : 4-Door Sedan

	GEAR SHIFT TYPE
5	M : 5-Speed Manual, Floor P : 4-Speed Automatic, Floor

	GRADE
6	D : CE N : LE G : XLE

	ENGINE SPECIFICATION
7	K : DOHC and SFI C : CNG and DOHC

	DESTINATION
8	A : U.S.A. K : Canada

*1: TMC (Toyota Motor Corporation)

*2: TMMK (Toyota Motor Manufacturing Kentucky, Inc.)

MODEL LINE-UP

DESTI-NATION	ENGINE	BODY TYPE	GRADE	TRANSAXLE			
				5-Speed Manual		4-Speed Automatic	
				S51	E153	A140E	A541E*
U.S.A.	5S-FE	4-Door Sedan	CE	SXV20L-CEMDKA		SXV20L-CEPDKA	
			LE			SXV20L-A(C)EPNKA	
			XLE			SXV20L-A(C)EPGKA	
	1MZ-FE		LE		MCV20L-CEMNKA		MCV20L-A(C)EPNKA
			XLE				MCV20L-A(C)EPGKA
	5S-FNE		LE			SXV23L-AEPNCA	
Canada	5S-FE			SXV20L-AEMDKK		SXV20L-AEPDKK	
			LE			SXV20L-AEPNKK	
	1MZ-FE		CE				MCV20L-AEPDKK
			XLE				MCV20L-AEPGKK

*: Electronically Controlled Transaxle with an intelligent control system

: New

NEW FEATURES

EXTERIOR

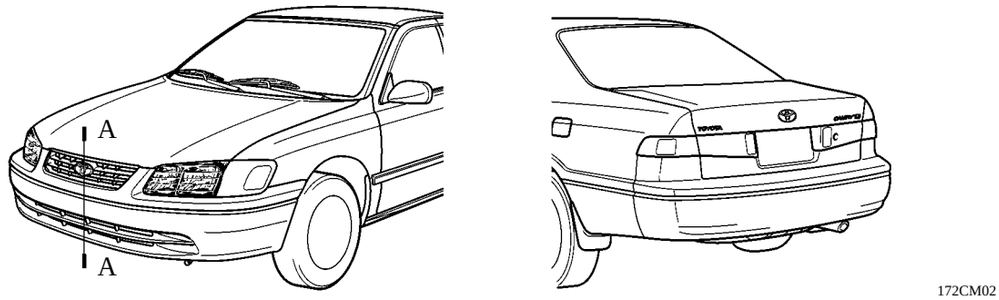
The design of the front and rear bumpers has been changed.

The bumper and the radiator grille have been made separate, and the radiator grille is chrome-plated.

The side protection molding has been increased in size. On the XLE grade model, chrome stripes have been adopted for the side protection molding.

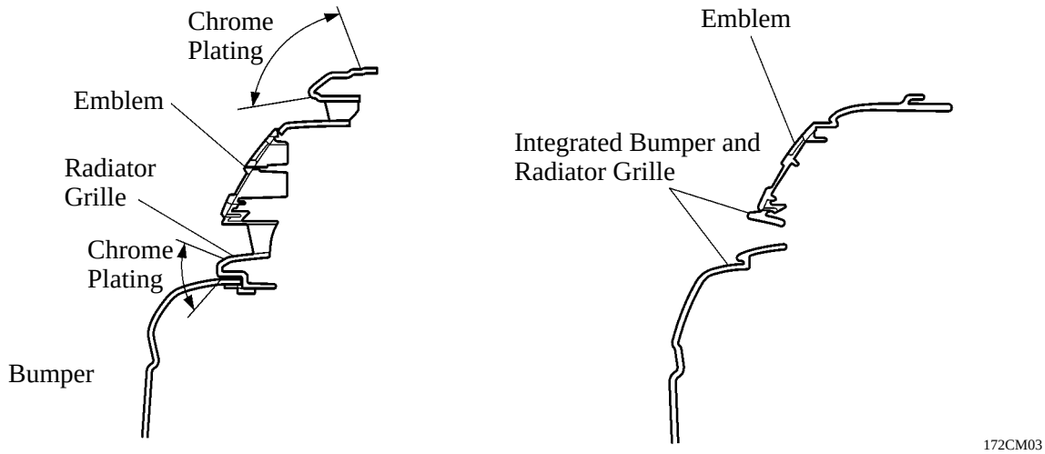
The 4-light multi-reflector type headlights are adopted with new styling.

The design and styling of the rear combination light has been changed.



172CM02

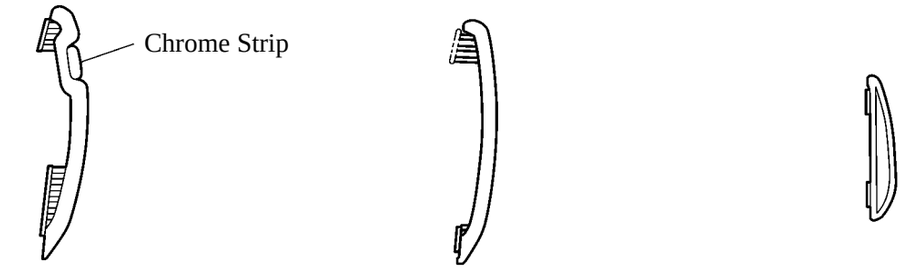
▶ Bumper and Radiator Grille (A – A) Cross Section ◀



172CM03

New **Previous**

▶ Side Protection Moulding Cross Section ◀



172CM04

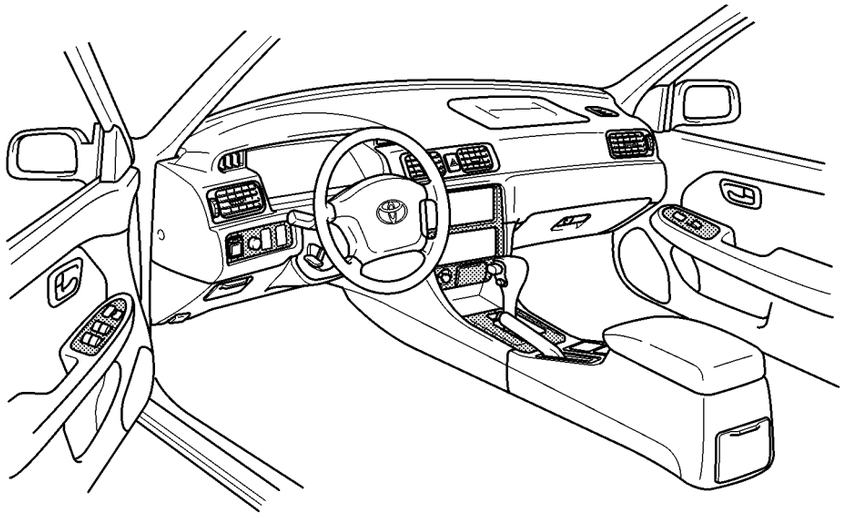
New **Previous**

INTERIOR

A clock with an outside temperature gauge has been provided on the models with manual air conditioning. Pressing the mode switch changes the display to show the clock, outside air temperature in Fahrenheit, outside air temperature in Centigrade, and back to the clock.
The models with the fully automatic control type air conditioning are provided with an outside temperature gauge on the heater control panel.

Wood-grain panels have been adopted in the interior of the XLE grade model.

: Wood-grain



172CM05

5S-FE ENGINE

1. Description

The intake and exhaust systems have been changed to increase torque and reduce noise. On the California specification model, the air assist system has been discontinued.

▶ Engine Specifications ◀

Item			New	Previous
No. of Cyls. & Arrangement			4-Cylinder, In-Line	←
Valve Mechanism			16-Valve DOHC, Belt & Gear Drive	←
Combustion Camber			Pentroof Type	←
Manifolds			Cross-Flow	←
Fuel System			SFI	←
Displacement cm^3 (cu. in.)			2164 (132.0)	←
Bore x Stroke mm (in.)			87.0 x 91.0 (3.43 x 3.58)	←
Compression Ratio			9.5 : 1	←
Max. Output [SAE-NET]			101 kW @ 5200 rpm (136 HP @ 5200 rpm) 99 kW @ 5200 rpm* (133 HP @ 5200 rpm)*	99 kW @ 5200 rpm (133 HP @ 5200 rpm) 97 kW @ 5200 rpm* (130 HP @ 5200 rpm)*
Max. Torque [SAE-NET]			203 N·m @ 4400 rpm (150 ft-lbf @ 4400 rpm) 201 N·m @ 4400 rpm* (148 ft-lbf @ 4400 rpm)*	199 N·m @ 4400 rpm (147 ft·lbf @ 4400 rpm) 197 N·m @ 4400 rpm* (145 ft·lbf @ 4400 rpm)*
Valve Timing	Intake	Open	3° BTDC	←
		Close	43° ABDC	←
	Exhaust	Open	45° BBDC	←
		Close	3° ATDC	←
Fuel Octane Number RON			91	←
Oil Grade			API SJ EC-II, ILSAC or Better	←

*: California Specification Models

2. Major Difference

The following changes have made to the 5S-FE engine.

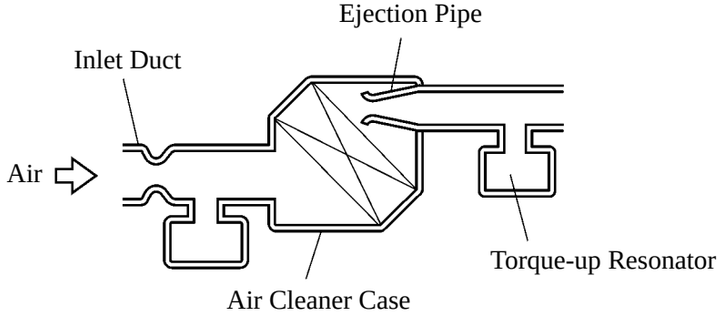
Item	Details
Intake and Exhaust System	The intake system from the inlet duct to the throttle body has been improved to increase torque and reduce noise. A 2-way exhaust control system has been adopted on the TMMK made model.
Fuel System	Along with the discontinuance of the air assist system, the fuel injectors and the IAC valve have been changed for the California specification model.
Cooling System	The direction of the rotation of the electric cooling fan has been reversed.
Engine Control System	The fast idle speed has been increased for the California specification model. The system for detecting evaporative emission leaks has been changed. For details, see the General 2000 Features section.

3. Intake and Exhaust System

Intake Air Line

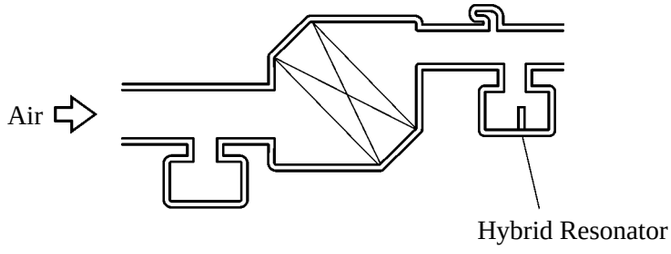
An ejection pipe that protrudes into the air cleaner case has been added. Accordingly, the hybrid resonator has been discontinued and a torque-up resonator has been added. Also, the shape of the inlet duct has been changed to improve the engine performance and to reduce noise.

▶ Intake System Diagram ◀



New

172CM06



Previous

172CM07

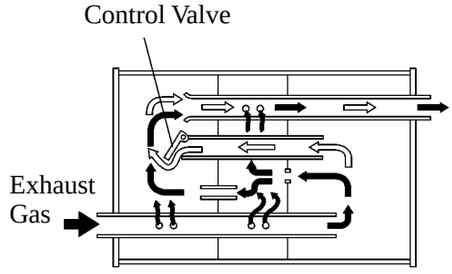
2-Way Exhaust Control System

A 2-way exhaust control system is used on the TMMK made model. This system reduces the back pressure by opening and closing a control valve that is enclosed in the main muffler, thus varying the exhaust gas passage.

The control valve opens steplessly in accordance with the operating condition of the engine, thus enabling a quieter operation at lower engine speeds, and reducing back pressure at higher engine speeds.

The basic operation is the same as that of the CAMRY SOLARA.

⇦ : Exhaust Gas Flow (High Engine Speed)
⬅ : Exhaust Gas Flow (Low Engine Speed)



172CM12

4. Fuel System

Fuel Injector

Along with the discontinuance of the air assist system on the California specification model, 12-hole fuel injectors with highly atomized injection have been adopted.

5S-FNE ENGINE

1. Description

The 5S-FNE engine is a new engine that uses CNG (Compressed Natural Gas) as fuel, which has been developed based on the 5S-FE gasoline engine.
The main component of natural gas is methane (CH_4), which has fewer carbous (C) than gasoline (mean molecular formula: $C_{7.5}H_{13.4}$). Therefore, the amount of CO_2 discharged by this engine is approximately 70% that of the gasoline engine. Furthermore, this engine achieves low-emission operation by precisely controlled air-fuel ratio and using special catalysts for the CNG application.
However, because the fuel is in the gaseous form, its volumetric efficiency is low, causing lower power output if this fuel is used in the base engine.
Therefore, the 5S-FNE engine has adopted the following features: a high compression ratio, the intake valves with early closed timing, the intake and exhaust valves with increased lift, a low back pressure muffler made possible by the 2-way exhaust system, injectors for gaseous fuel, and a catalytic converter designed exclusively for CNG application. At the same time, precision air-fuel ratio control is effected through the use of the air-fuel ratio sensor* and the heater oxygen sensor, thus achieving the level of performance that is equivalent to the base engine. Moreover, this engine realizes extremely low emissions and restoring engine torque.

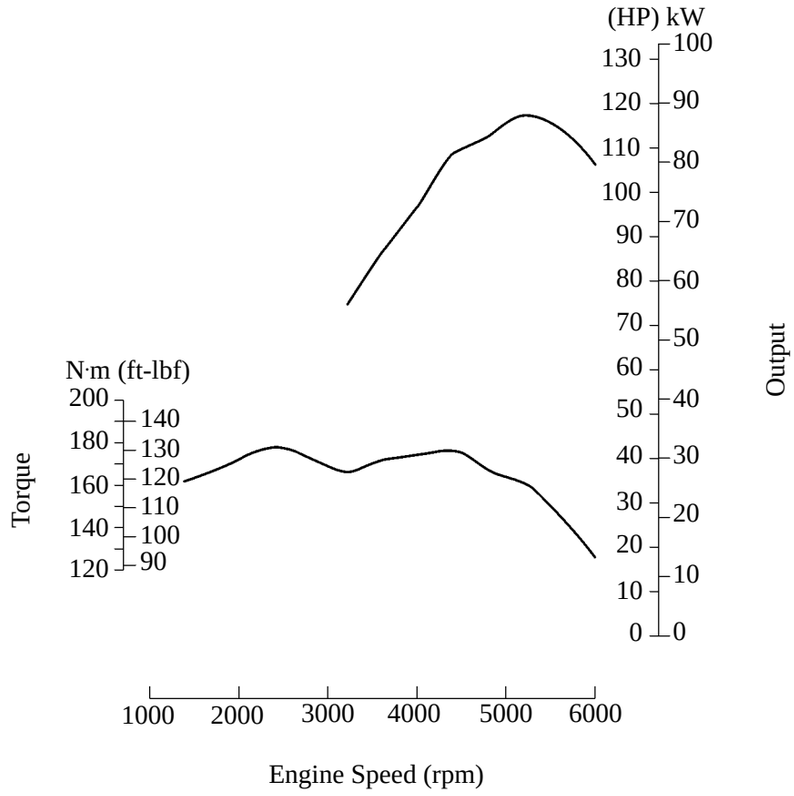
*: Already adopted on the California specification 5S-FE engine.

▶ Specifications ◀

Item			5S-FNE Engine	5S-FE Engine
No. of Cyls. & Arrangement			4-Cylinder, In-Line	←
Valve Mechanism			16-Valve DOHC, Belt & Gear Drive	←
Combustion Camber			Pentroof Type	←
Manifolds			Cross-Flow	←
Fuel System			SFI	←
Displacement		cm^3 (cu.in.)	2164 (312.0)	←
Bore x Stroke		mm (in.)	87.0 x 91.0 (3.43 x 3.58)	←
Compression Ratio			11.0 : 1	9.5 : 1
Max. Output		[SAE-NET]	88 kW @ 5200 rpm (118 HP @ 5200 rpm)	101 kW @ 5200 rpm (136 HP @ 5200 rpm) 97 kW @ 5200 rpm* (133 HP @ 5200 rpm)*
Max. Torque		[SAE-NET]	178 N·m @ 2400 rpm (131 ft-lbf @ 2400 rpm)	203 N·m @ 4400 rpm (150 ft-lbf @ 4400 rpm) 201 N·m @ 4400 rpm* (148 ft-lbf @ 4400 rpm)*
Valve Timing	Intake	Open	3° BTDC	←
		Close	38° ABDC	43° ABDC
	Exhaust	Open	45° BBDC	←
		Close	3° ATDC	←
Fuel Octane Number		RON	130	91
Oil Grade			API SJ EC or ILSAC	←

*: California Specification Models

▶ Performance Curve ◀



167CN20

2. Features of 5S-FNE Engine

Features of the 5S-FNE engine are listed below.

Item	Features
Performance	High compression ratio is used. High lift camshaft is used. Low back pressure muffler is used.
Fuel Economy	High compression ratio is used. Valve spring load has been reduced. Low-friction. TiN (titanium nitride) coated valve lifters has been adopted.
Low Emission	A fuel injection system containing gas injectors has been adopted. Because the fuel is in the gaseous state, it does not come in contact with the wall surface, making optimal air-fuel ratio control possible immediately after the engine has been started. Precision air-fuel ratio feedback control that uses an air-fuel ratio sensor and a heated oxygen sensor has been adopted. Two catalytic converters designed exclusively for the natural gas engine have been adopted: the WU-TWC (Warm Up Three-Way Catalytic Converter) and the TWC (Three-Way Catalytic Converter).
Other Features	Highly rigid pistons have been adopted to accommodate the high compression ratio. A CNG (Compressed Natural Gas) pressure regulator that precisely regulates the CNG has been adopted. A large-bore delivery pipe and fuel hose with minimal internal conduit resistance have been adopted. The electro magnetic fuel shutoff valve is added on the delivery pipe. A fuel pressure sensor that corrects the fuel injection volume and a fuel temperature sensor have been provided on the delivery pipe. The starting performance of the engine at low temperatures has been ensured by increasing the volume of the airflow of the IAC (Idle Air Control). Materials that excel in wear resistance have been adopted on the valves and valve seats for both the intake and exhaust. Rust-resistant spark plugs have been adopted. Aluminum lining and carbon fiber have been adopted in the fuel tank. For the fuel gauge, a fuel tank fuel temperature sensor and a fuel pipe fuel pressure sensor have been adopted.

3. Engine Proper

General

The cylinder head and the pistons have been changed for the CNG application.

Cylinder Head

Materials that excel in wear resistance have been adopted on the valve seats for both the intake and exhaust.

The shape of the holes into which the injectors mount has been changed to accommodate the injectors designed exclusively for the CNG application.

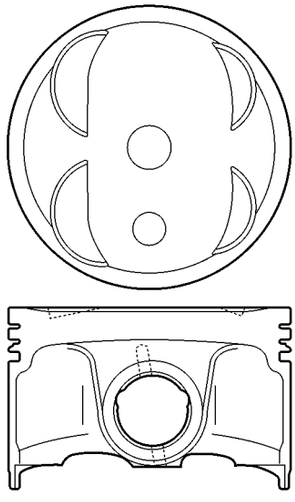
The shape of water jacket around plug has been modified to prevent the deformation.

Piston

To achieve a high compression ratio, the shape of the top of the piston has been changed and pin boss hole with taper has been adopted.

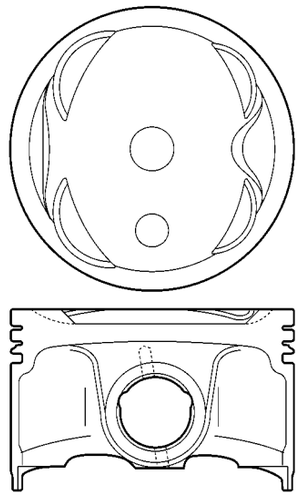
An additional surface treatment has been provided to improve heat resistance.

The material has been changed to increase rigidity.



5S-FNE Engine

167CN02



5S-FE Engine

167CN03

4. Valve Mechanism

Camshaft

To recover the reduction of engine performance, the intake valve timing and the amount of lift of the intake and exhaust valves have been changed from those of the base 5S-FE engine.

▶ Specificaitons ◀

Engine	Valve Timing				Valve Lift mm (in.)	
	Intake		Exhaust		Intake	Exhaust
	Open	Close	Open	Close		
5S-FNE	3° BTDC	38° ABDC	45° BBDC	3° ATDC	7.9 (0.311)	8.25 (0.325)
5S-FE	†	43° ABDC	†	†	7.7 (0.303)	7.7 (0.303)

Intake and Exhaust Valves

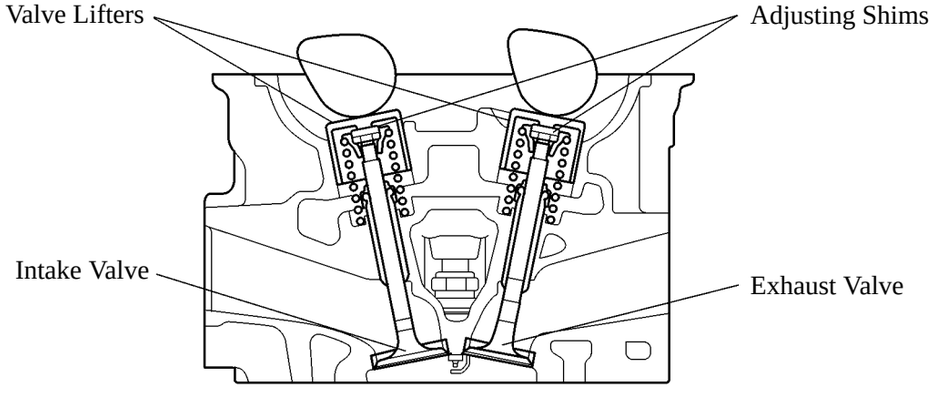
To improve their wear resistance, the intake valves have undergone special heat treatment, and the material of the exhaust vavles has been changed.

The shape of the stem to which the keepers attach has been changed to accommodate the adoption of the cam with a high lift and of the inner shim type valve adjusting shims.

Valve Lifter and Adjusting Shims

TiN (titanium nitride) coated valve lifter is used to reduce the friction.

To accommodate the high lift, inner shim type valve adjusting shims are used.



167CN04

Valve Spring

The valve springs for both the intake and exhaust sides accommodate the adoption of the cam with a high lift and of the inner shim type valve adjusting shims. In addition, their spring rate has been optimized to reduce friction.

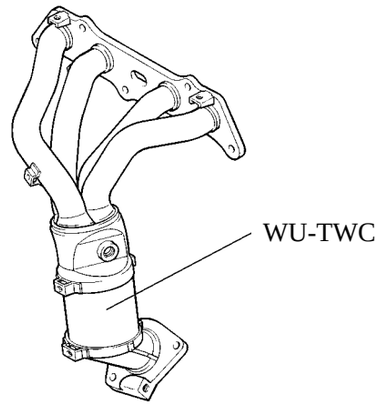
5. Intake and Exhaust System

Throttle Body

The throttle body is basically the same as that of the 5S-FE engine. However, to ensure the starting performance at low temperatures, the air passage for the IAC (Idle Air Control) has been increased on the 5S-FNE engine. The IAC valve is a 1-coil type with a built-in driver.

Exhaust Manifold

As in the California specification 5S-FE engine, the stainless steel exhaust manifold and WU-TWC (Warm Up Three-Way Catalytic Converter) have been integrated to improve the warm-up performance of TWC, thus reducing exhaust emissions.
However, the 5S-FNE engine uses a catalytic converter that has been designed exclusively for the CNG application, in which the loading of the noble metal has been increased.



167CN05

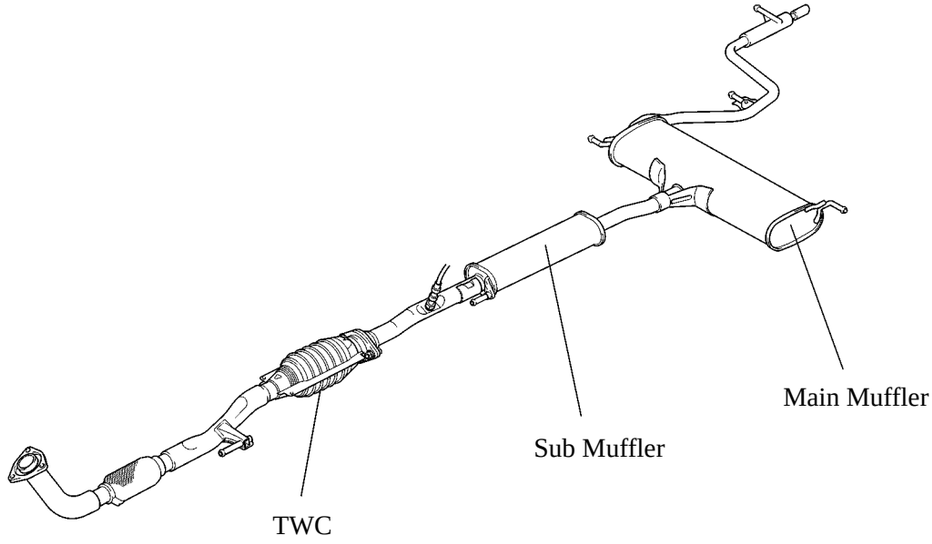
Exhaust Pipe

1) General

To secure sufficient luggage compartment capacity, the main muffler has been relocated below the rear seat. Furthermore, the muffler capacity has been increased.

A 2-way exhaust control system has been adopted to improve engine performance and reduce the exhaust noise.

Similar to the WU-TWC, the TWC (Three-Way Catalytic Converter) has been designed exclusively for the CNG application, in which the loading of the noble metal has been increased.



167CN06

2) 2-Way Exhaust Control System

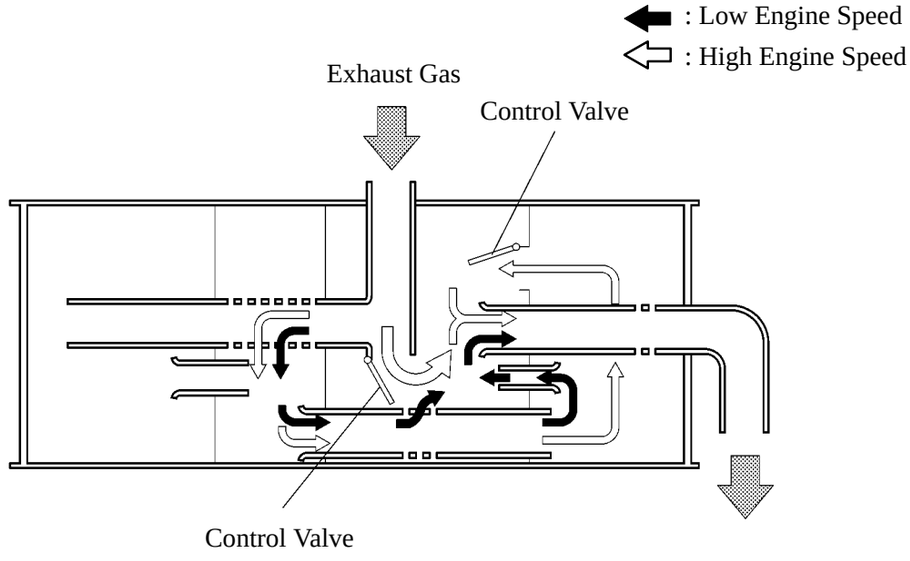
a. General

A 2-way exhaust control system reduces the back pressure by opening and closing two control valves that are enclosed in the main muffler, thus verying the exhaust gas passage.

The valves open steplessly in accordance with the operating condition of the engine, thus enabling a quieter operation at low engine speeds, and reducing back pressure at high engine speeds.

b. Operation

The control valves are closed at low engine speeds because the pressure in the main muffler is low. Therefore, the exhaust gas flows as indicated by the black arrow below, thus reducing the exhaust noise. The control valves open at high engine speeds because the exhaust gas pressure increased. Therefore, the exhaust gas flows as indicated by the white arrow below to reduce the back pressure, thus improving the engine's power output.



6. Fuel System

General

The compressed gas [maximum pressure approximately 250 kg/cm^2 (3600 psi, 24.8 MPa) @ 21°C (70°F)] from the CNG fuel tank located in the rear section of the vehicle is routed via a fuel filter to the engine compartment. The pressure of the fuel is then reduced to 8 kg/cm^2 (114 psi, 785 kPa).

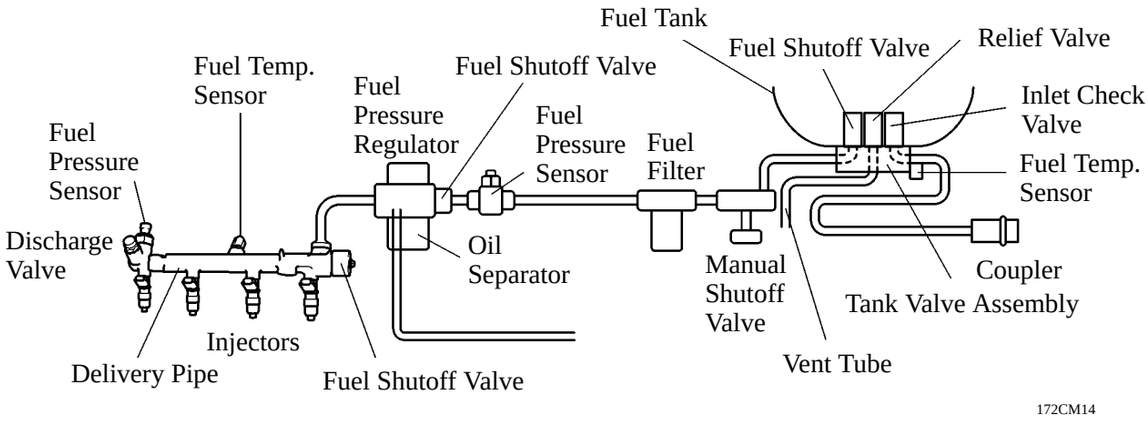
A pressure regulator and injectors designed exclusively for CNG application have been adopted.

A fuel pressure sensor and a fuel temperature sensor that are used for the correction of the fuel injection volume are located on the delivery pipe.

The fuel tank, pressure regulator, and the delivery pipe are provided with shutoff valves that shut off the fuel when the ignition switch is turned OFF.
In addition, these valves shut off the fuel when the engine stalls, the SRS airbag is deployed, or the pressure in the main pipe becomes abnormally low.

A fuel temperature sensor for the fuel gauge is mounted on the tank valve assembly, and a fuel pressure sensor is mounted immediately upstream of the pressure regulator.

▶ **Fuel System Diagram** ◀



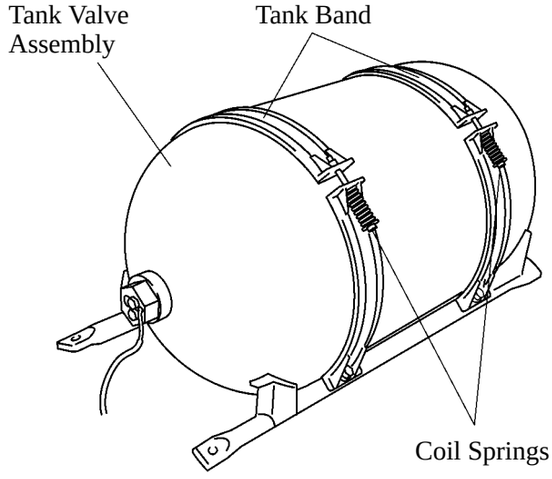
172CM14

Fuel Tank

A fuel tank made with carbon fiber and aluminum lining has been adopted to prevent weight increase.

Because the fuel tank expands along with the increase in the pressure of the compressed gas, the tank bands contain coil springs to accommodate the fluctuation in the perimeter of the tank.

The fuel tank is provided with a tank valve assembly.

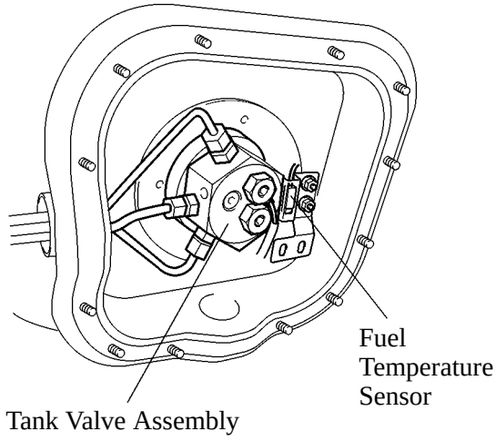


167CN08

Tank Valve Assembly

1) General

The tank valve assembly is mounted on the tank and consists of a fuel shutoff valve, inlet check valve, relief valve and two manual cut-off valves.



167CN26

2) Fuel Shutoff Valve for Fuel Tank

This valve uses an solenoid valve. The main pipe that supplies compressed gas to the engine is connected to this valve, which opens when the ignition switch is turned ON. If the engine stalls, this valve automatically shuts off the fuel even if the ignition switch is turned ON. The valve reopens upon restarting the engine.
Also, this valve shuts off the fuel if the SRS airbag is deployed in a collision or if the pressure in the main pipe becomes abnormally low.

3) Inlet Check Valve

Connected to a filler pipe that guides the fuel that fills through the coupler, the inlet check valve shuts off by the force of a spring and by the pressure of the gas in the tank.
During filling, the pressure of the filling gas opens the inlet check valve.

4) Relief Valve

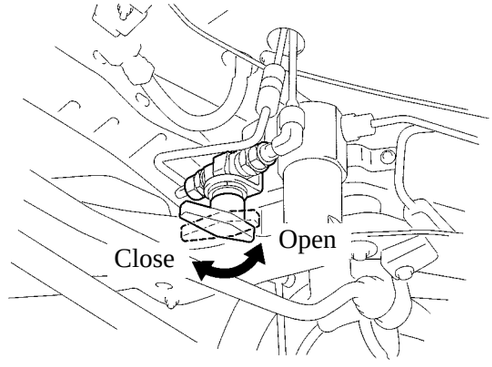
A vent tube is connected to this valve.
If the fuel tank is exposed to an abnormally high temperature, this valve opens (by melting) to discharge the CNG at a predetermined temperature, thus helping prevent the fuel tank from bursting due to the increase in gas pressure.
The discharged CNG is guided under the floor through a vent tube and is released outside of the vehicle.

Coupler

The coupler allows the fuel to be filled when it is connected with a fuel filling nozzle. The coupler has a built-in check valve to help prevent the CNG from flowing backward.

Manual Shutoff Valve

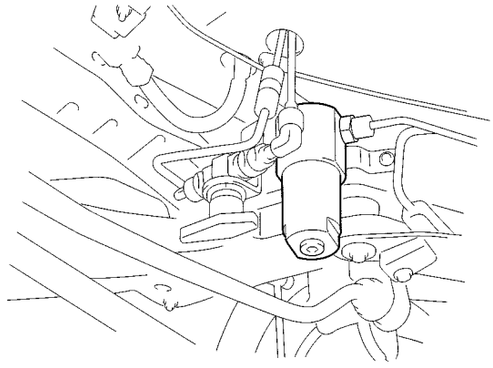
This valve is mounted below the vehicle floor. When servicing the vehicle, this valve can be manually turned 90 degrees to shut off the main pipe.



172CM17

Fuel Filter

Mounted below the vehicle floor, the fuel filter removes any moisture or oil from the fuel.



167CN10

Fuel Pressure Regulator

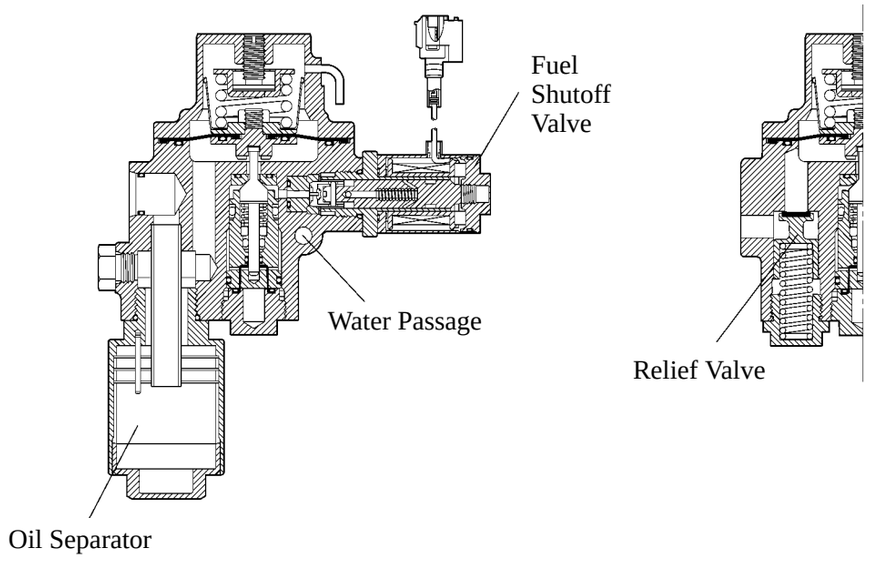
The fuel pressure regulator regulates the fuel pressure by reducing the pressure of the compressed natural gas from the fuel tank to the fuel injection pressure, which is 8 kg/cm^2 (114 psi, 785 kPa).

Similar to the fuel shutoff valve for the fuel tank, a fuel shutoff valve is provided on the fuel inlet side of the fuel pressure regulator to shut off the supply of fuel when the engine is stopped or during abnormal conditions.

An oil separator that traps the moisture and oil in the fuel is provided on the low pressure side.

A built-in relief valve is provided to protect the parts located on the low pressure side.

While the fuel pressure is being reduced by the fuel pressure regulator, the Joule-Thomson effect associated with the expansion of the gas causes the fuel pressure regulator to be cooled excessively, exerting unfavorable influence on the rubber parts such as diaphragms and fuel hoses.
Therefore, to raise the gas temperature, a water passage is provided in the fuel pressure regulator to allow the engine coolant to warm the regulator.



172CM15

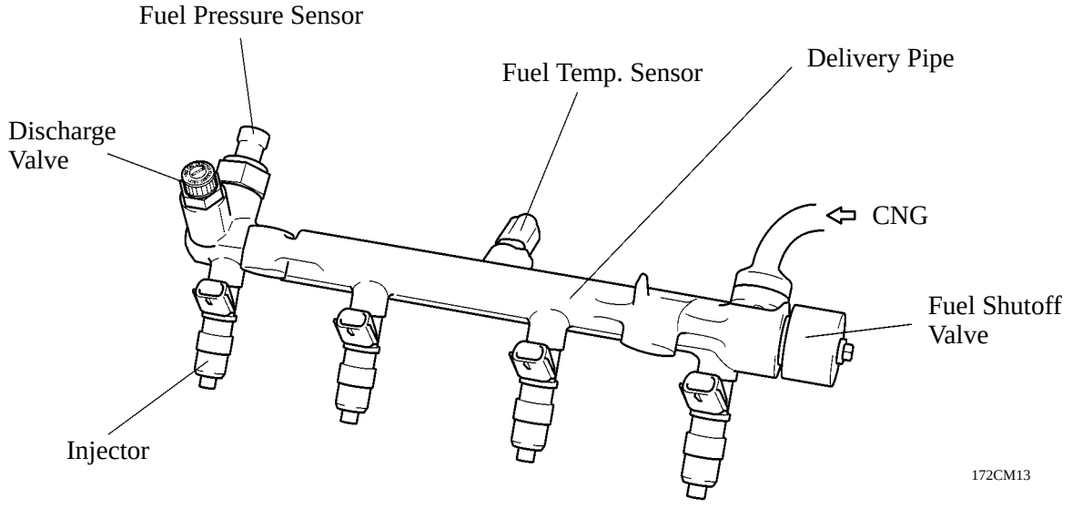
Delivery Pipe

A delivery pipe with a wide passage that enables a large volume of gas to flow responsively has been adopted to minimize the pressure loss.

A fuel pressure sensor and a fuel temperature sensor that help correct the fuel injection volume are mounted on the delivery pipe.

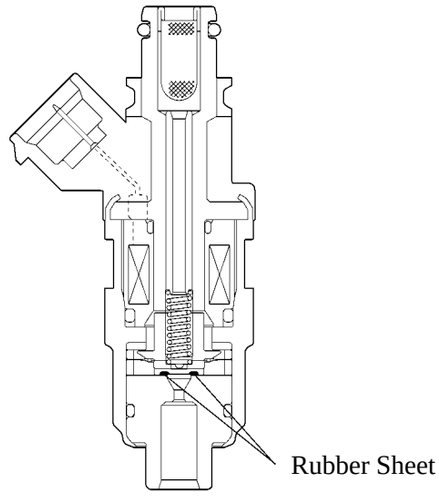
Similar to the fuel shutoff valves for the fuel tank and the fuel pressure regulator, a fuel shutoff valve is provided on the fuel inlet side of the delivery pipe to shut off the supply of fuel when the engine is stopped or during abnormal conditions.

To discharge the fuel out of the delivery pipe during service, a discharge valve is provided.



Injector

For the injection of fuel in the gaseous state, injectors that allow the flow of a large volume of fuel and provide improved sealing performance have been adopted.



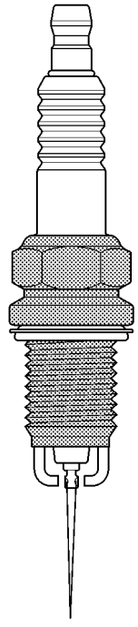
Fuel Temperature and Pressure Sensor for Fuel Gage

A fuel temperature sensor that detects the temperature in the fuel tank is provided on the tank valve assembly.
A fuel pressure sensor that detects the pressure in the fuel main pipe is provided immediately upstream of the fuel pressure regulator.
The pressure and the temperature of the fuel are detected by these sensors and are input into the ECM.
These values are then converted by the ECM into the equivalent pressure at 21°C to actuate the fuel gauge.

7. Ignition System

Because the spark plugs are susceptible to rust when used with natural gas, corrosion-resistant spark plugs have been adopted. These spark plugs are the platinum-tipped spark plugs that have their metallic portion plated.

: Plating Area



Platinum Tip

172CM16

▶ Recommended Spark Plug ◀

DENSO	PK20TR8-G
Plug Gap	0.8 – 1.0 mm (0.031 – 0.39 in.)

8. Engine Control System

General

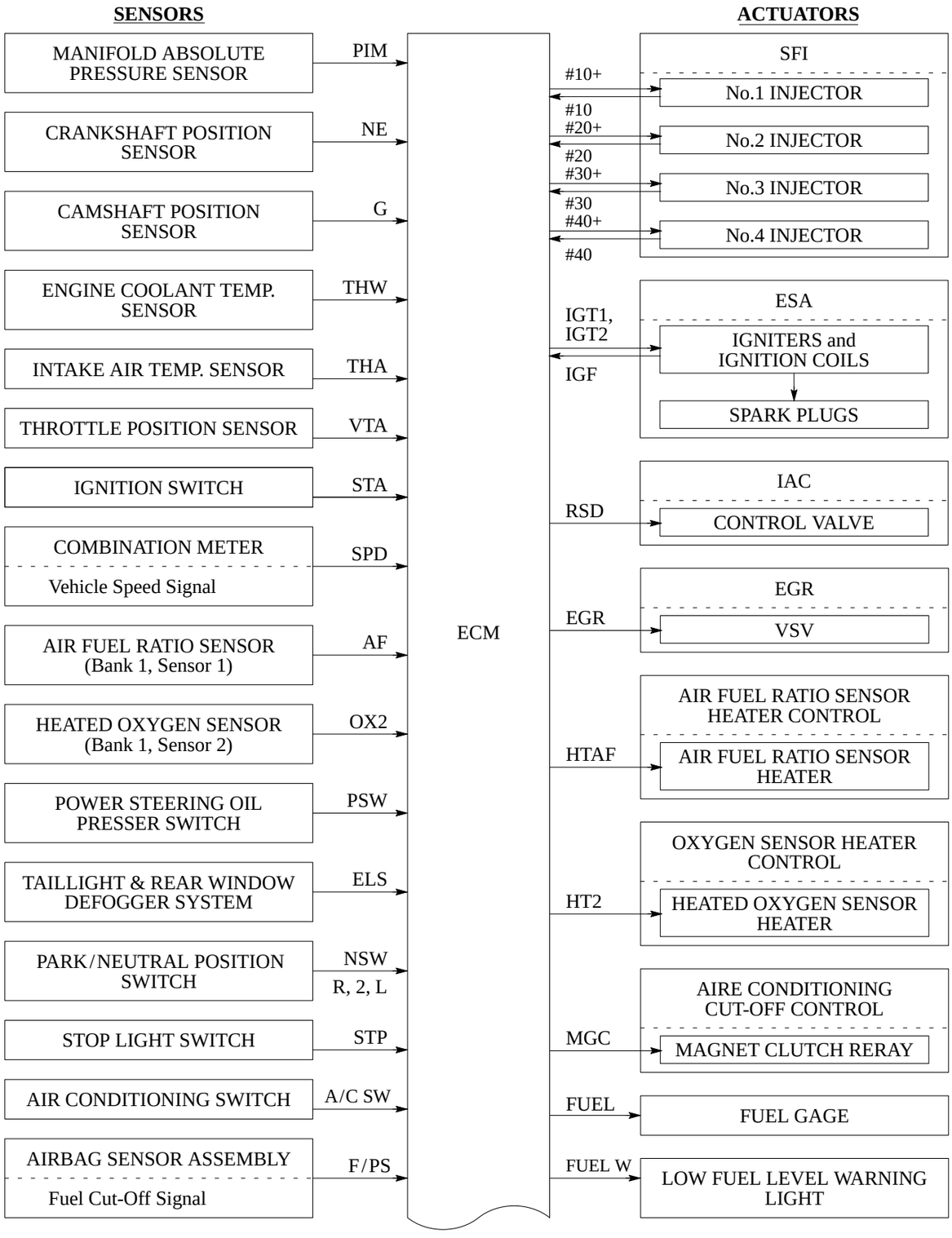
An engine control system based on the 5S-FE engine has been adopted. The knock sensor has been discontinued because natural gas has a high octane value and is less susceptible to knocking.
The engine control system of 5S-FNE and 5S-FE engines are compared below.

System	Outline	5S-FNE	5S-FE
SFI (Sequential Multiport Fuel Injection)	A D-type SFI system is used, which indirectly detects intake air volume by manifold absolute pressure sensor.	○	○
	The fuel injection system is a sequential multiport fuel injection system.	○	○
ESA (Electronic Spark Advance)	Ignition timing is determined by the ECM based on signals from various sensors.	○	○
	The ECM corrects the ignition timing in response to engine knocking in accordance with the signals received from the knock sensor.	—	○
	Torque control correction during gear shifting had been used to minimize the shift shock.	○	○*1
IAC (Idle Air Control)	A rotary solenoid type IAC valve controls the fast idle and idle speeds.	○ (1-Coil Type Built-in Driver)	○ (2-Coil Type)
Fuel Pump Control	Fuel pump operation is controlled by signal from the ECM.	—	○
Fuel Cut-Off Control	The fuel shutoff valves for the fuel tank, fuel pressure regulator, and delivery pipe are shut off to stop the supply of fuel when the ignition switch is turned OFF or during abnormal conditions (such as engine stalling, SRS airbag deployed, etc.).	○	—
Injector Control	Prevents the frozen stuck of the injector to ensure the startability of the engine at low temperature.	○	—
Oxygen Sensor and Air Fuel Ratio Sensor Heater Control	Maintains the temperature of the oxygen sensor and air fuel ratio sensor at an appropriate level to increase accuracy of detection of the oxygen concentration in the exhaust gas.	○	○*2
EGR Cut-Off Control	Cuts off EGR according to the engine condition to maintain drivability of the vehicle and durability of the EGR components.	○	○
Evaporative Emission Control	The ECM controls the purge flow of evaporative emissions (HC) in the charcoal canister in accordance with engine conditions.	—	○
Air Conditioning Cut-Off Control	By turning the air conditioning compressor ON or OFF in accordance with the engine condition, drivability is maintained.	○*3	○*3
Diagnosis	When the ECM detects a malfunction, the ECM diagnoses and memorized the failed section.	○	○
	The diagnosis system includes a function that detects a malfunction in the evaporative emission control system.	—	○
Fail-Safe	When the ECM detects a malfunction, the ECM stops or controls the engine according to the data already stored in memory.	○	○

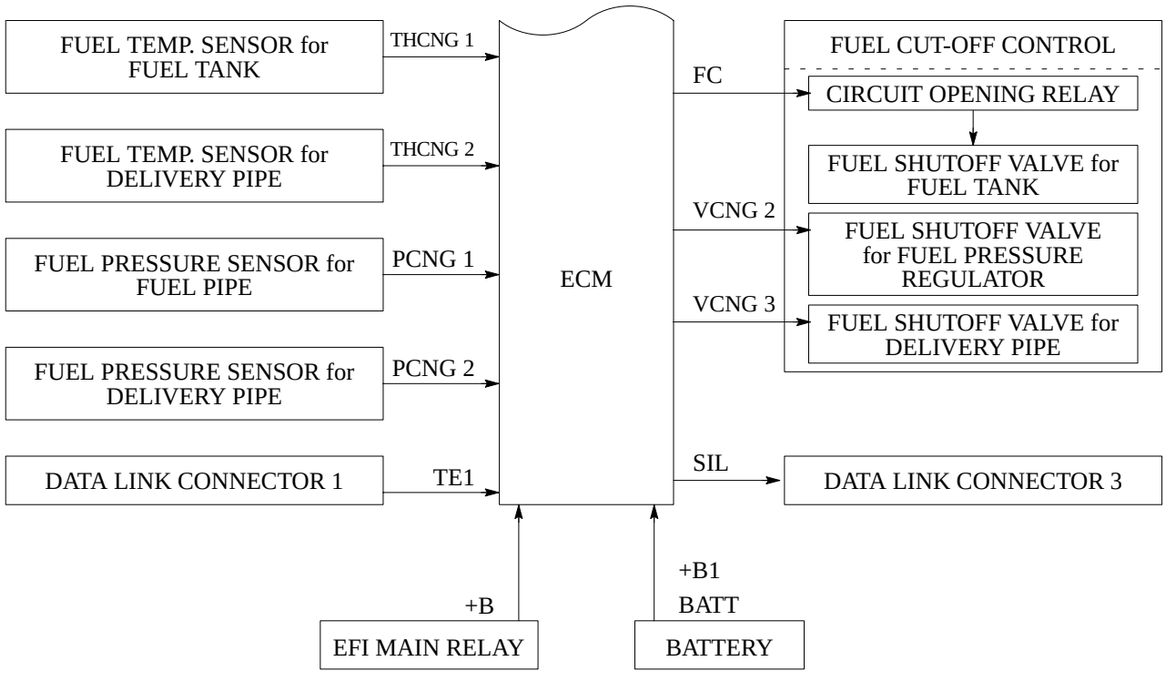
*1: Only for Automatic Transaxle Model
*2: Air fuel ratio sensor only for California specification model
*3: The air conditioning magnet clutch controled by the ECM

Construction

The configuration of the engine control system in the 5S-FNE engine is as shown in the following chart.

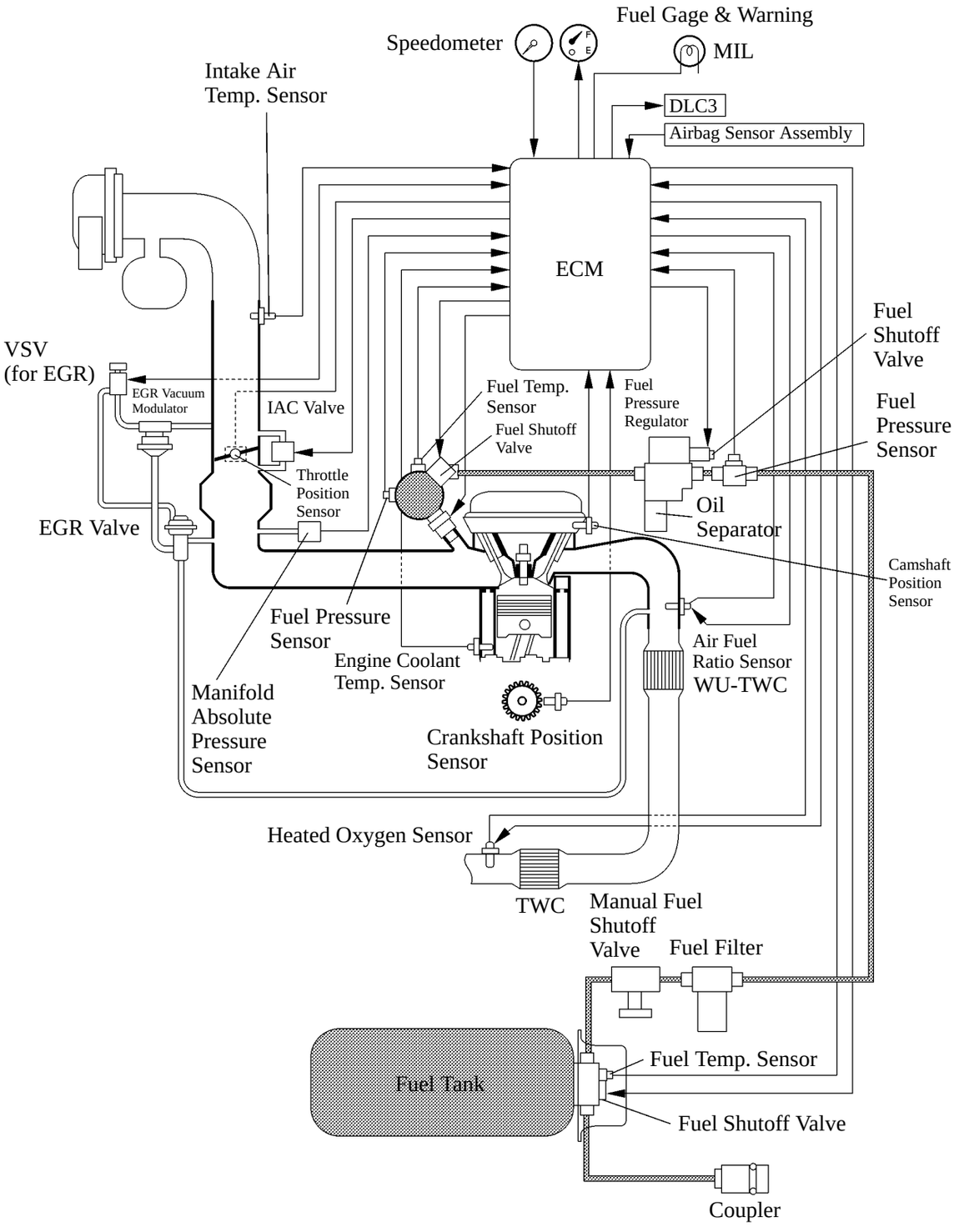


(Continued)


FUEL TEMP. SENSOR for FUEL TANK
THCNG 1
FUEL TEMP. SENSOR for DELIVERY PIPE
THCNG 2
FUEL PRESSURE SENSOR for FUEL PIPE
PCNG 1
FUEL PRESSURE SENSOR for DELIVERY PIPE
PCNG 2
DATA LINK CONNECTOR 1
TE1
ECM
FC
VCNG 2
VCNG 3
SIL
FUEL CUT-OFF CONTROL
CIRCUIT OPENING RELAY
FUEL SHUTOFF VALVE for FUEL TANK
FUEL SHUTOFF VALVE for FUEL PRESSURE REGULATOR
FUEL SHUTOFF VALVE for DELIVERY PIPE
DATA LINK CONNECTOR 3
+B
+B1
BATT
EFI MAIN RELAY
BATTERY

3

Engine Control System Diagram



167CN11

Injector Control

1) General

Fuel clearing control and injector unsticking control have been added to the injector control.

2) Fuel Clearing Control

While the vehicle is being driven at speeds higher than 60 km/h (37.5 mph), and the ignition switch is turned OFF after the ECM has detected a low temperature condition of less than 25°C (77°F) of intake air temperature, the ECM closes the fuel shutoff valve for the delivery pipe. However, instead of immediately stopping the engine, the fuel clearing control allows the engine to stop on its own after the fuel in the delivery pipe has been used up. If the engine is running even after 2 seconds or more have elapsed after the ignition switch has been turned OFF, the EFI relay is turned OFF to stop the engine.

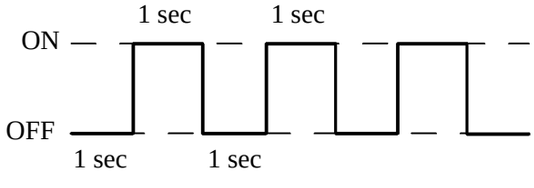
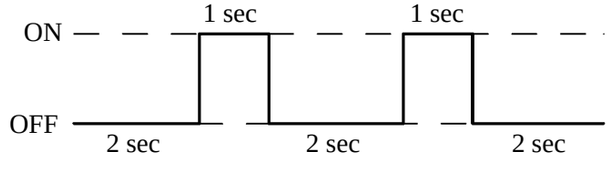
3) Injector Unsticking Control

When the ignition switch is turned ON after executing the fuel clearing control, the injector unsticking control activates two cylinders at a time to unstick the valve that is frozen stuck onto the valve seat. At low temperature conditions. At this time, the shutoff valve remains closed so that the injectors will not inject fuel.

Gas Leak Judgment

If the ECM has detected a gas leak through the signals received from the pressure sensors, the ECM closes the shutoff valves and flashes the low fuel level warning light.

These functions are canceled by resetting the ECM (by disconnecting the negative [-] terminal of the battery), which enables the engine to start.
(The ECM should be reset only after performing a gas leak check and making sure that the leak has been eliminated.)
NOTE: The low fuel level warning light also flashes when the fuel level is extremely low. The flashing patterns shown below differentiates a gas leak from a low fuel level.

	Flashing Pattern
Gas Leak	
Fuel Low Level	

1MZ-FE ENGINE

The following items have been changed in the ’00 CAMRY.

The system for detecting evaporative emission leaks has been changed.
For details, see the General 2000 Features section.

A thermostat monitor function has been newly provided. This function monitors the changes in the coolant temperature at the time the engine is started, and if the coolant temperature does not reach a specified value within a prescribed length of time, the thermostat is determined to be faulty.

AUTOMATIC TRANSAXLE

As in the 5S-FE engine model, the A140E automatic transaxle is used on the 5S-FNE engine model.
The gear ratio of the differential has been lowered to accommodate the performance of the 5S-FNE engine and to ensure fuel economy.

▶ Specifications ◀

Item		5S-FNE Engine	5S-FE Engine
Gear Ratio	1st	2.810	←
	2nd	1.549	←
	3rd	1.000	←
	4th (Overdrive)	0.706	←
	Reverse	2.296	←
Counter Gear Ratio		0.945	←
Differential Gear Ratio		4.176	3.944
Fluid Capacity Liters (US qts, Imp. qts)	Transmission	5.6 (5.9, 4.9)	←
	Differential	1.6 (1.7, 1.4)	←
Fluid Type		ATF D-II or DEXRON®III (DEXRON®II)	←

BRAKES

The specifications of the front and rear brakes have been changed.

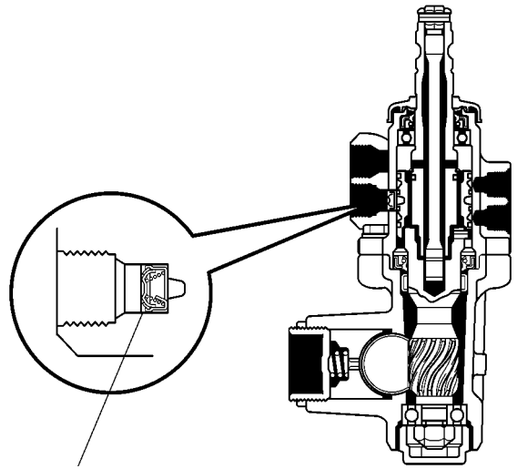
▶ Specifications ◀

Item		'00 Model	'00 Model	'99 Model	
		5S-FE 5S-FNE	1MZ-FE	5S-FE	1MZ-FE
Front Disc Brake	Type	Ventilated Disc	←	←	←
	Caliper Type	PE57*1, PE60*2	AX60	PE57	AX60
	Wheel Cylinder Dia. mm (in.)	57.22 (2.25)*1 60.33 (2.38)*2	60.33 (2.38)	57.22 (2.25)	60.33 (2.38)
	Rotor Size (D x T)*3 mm (in.)	255 x 28*1 (10.04 x 1.10) 275 x 28*2 (10.83 x 1.10)	275 x 28 (10.83 x 1.10)	255 x 28 (10.04 x 1.10)	275 x 28 (10.83 x 1.10)
Rear Drum Brake	Type	Leading-Trailing		Leading-Trailing	
	Wheel Cylinder Dia. mm (in.)	20.64 (0.81)		20.64 (0.81)	
	Drum Inner Dia. mm (in.)	288.6 (9.00)		288.6 (9.00)	
Rear Disc Brake	Type		Solid Disc		Solid Disc
	Caliper Type		PD35R*4 AXS35R*5		PD35R
	Wheel Cylinder Dia. mm (in.)		34.93 (1.38)		34.93 (1.38)
	Rotor Size (D x T)*3 mm (in.)		269 x 10 (10.59 x 0.39)		269 x 10 (10.59 x 0.39)

*1: Models with 14" Tire
*2: Models with 15" Tire
*3: D: Outer Diameter, T: Thickness
*4: TMC Made
*5: TMMK Made

STEERING

A check valve has been added to the power steering gear box to help reduce kickback.



172CM11

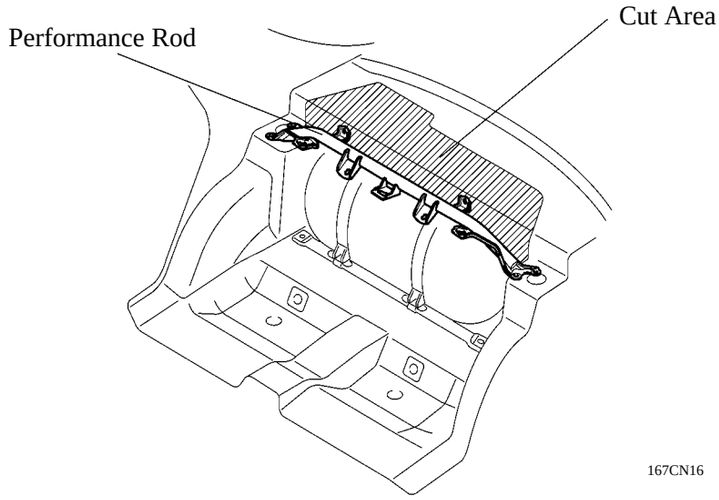
BODY

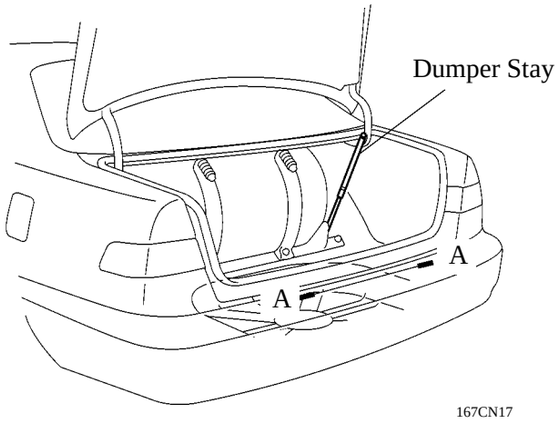
To install the fuel tank in the front area of the luggage compartment, the upper back panel has been cut for the 5S-FNE engine model.

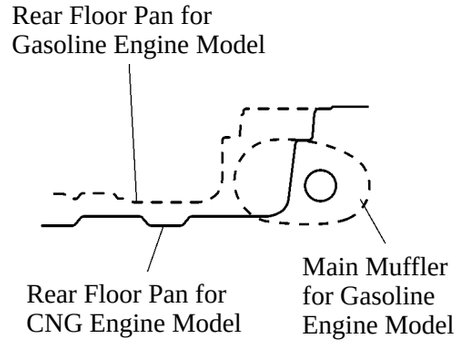
To prevent reducing the rigidity of the body due to the upper back panel that has been cut out, as well as for installing the fuel tank, rear seat back, and package tray trim, a performance rod is used for joining both rear suspension strut towers for the 5S-FNE engine model.

The luggage door support has been changed from the torsion bar to the damper stay type for the 5S-FNE engine model.

To prevent reducing the capacity of the luggage compartment due to the installation of the fuel tank in the luggage compartment, the shape of the rear floor pan has been changed.





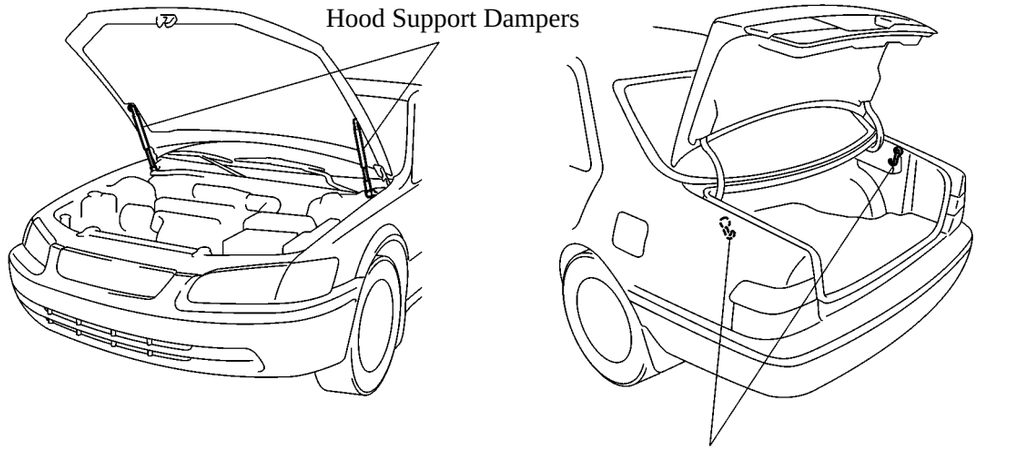


A – A Cross Section

167CN18

Hood support dampers are used.

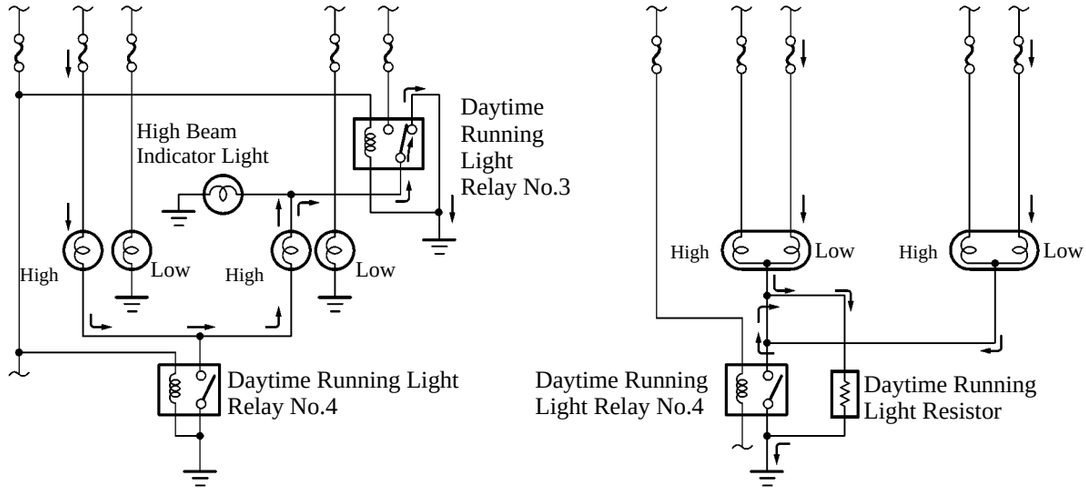
Two utility hooks added in the luggage room.



LIGHTING

The 4-light multi-reflector type headlights are adopted with new styling.

Along with the adoption of the 4-beam headlights, the daytime running light system has been changed from the ’99 model type that uses resistors to dim the low beams. On the 2000 model, the daytime running light is a type that dims the right and left high beams through a series circuit.



’00 Model **’99 Model**

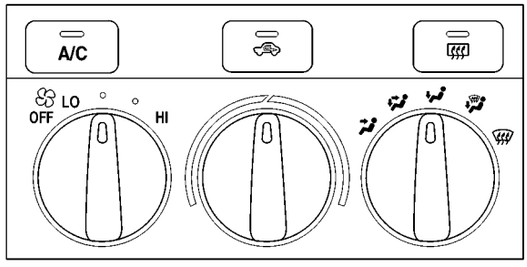
AIR CONDITIONING

The air inlet mode selector of heater control panel has been changed from the lever type to the push button type on the CE and LE grade models.
When the air outlet mode is set to the DEF or FOOT/DEF mode, the air inlet mode also changes to the FRESH mode, has been also added on the CE and LE grade model.

A fully automatic controlled type air conditioning is used on the XLE grade model.
The basic construction and operation are the same as in the CAMRY SOLARA.

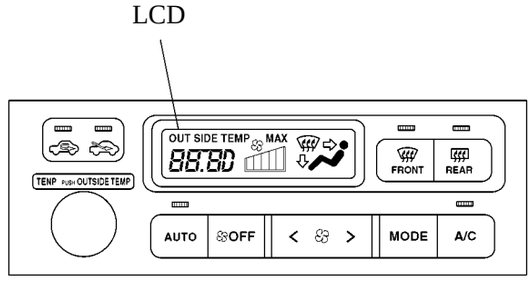
A defroster-linked air conditioning start up control has been continuing to use since the previous models with air conditioning.

▶ Heater Control Panel ◀



172CM10

CE and LE Grade Model



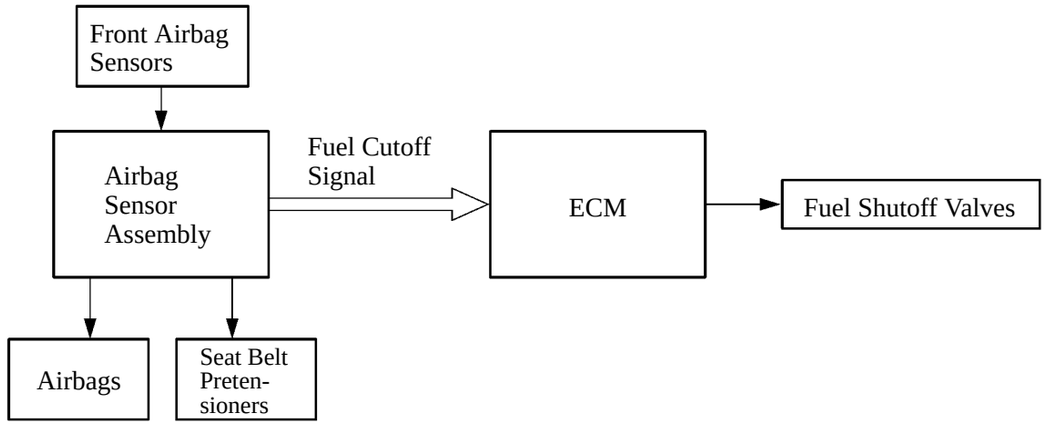
159BE05

XLE Grade Model

SRS AIRBAG

When the SRS airbag is deployed, a signal to shut off the supply of fuel is output by the airbag sensor assembly to the ECM for the 5S-FNE engine model.

▶ System Diagram ◀



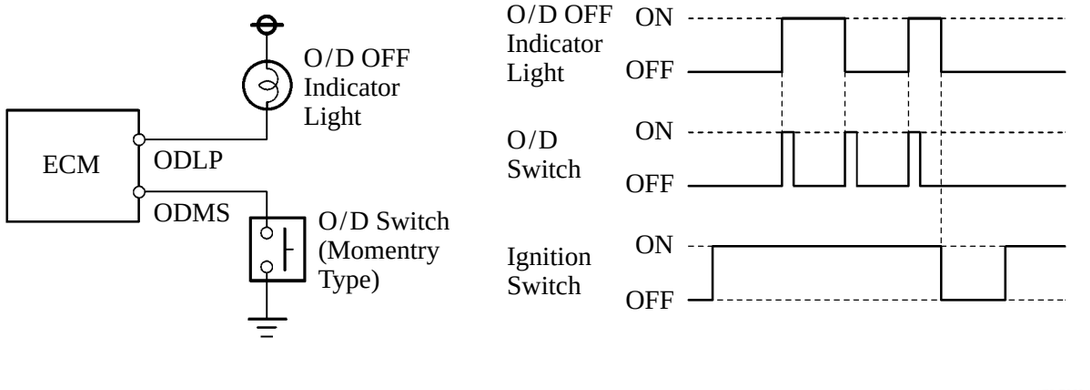
167CN19

– MEMO –

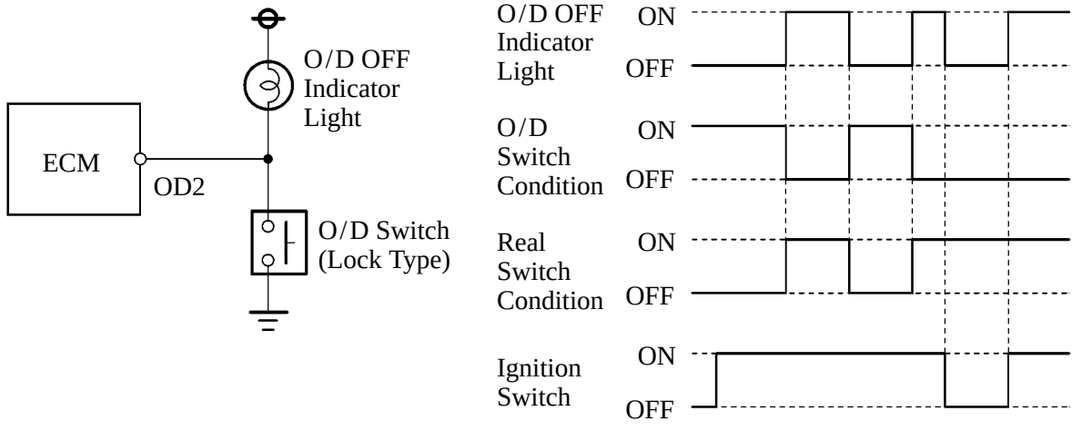
AUTOMATIC TRANSMISSION

▶OVERDRIVE SWITCH

The overdrive switch has been changed from the previous ON/OFF lock type to the momentary type switch. Pressing the momentary switch closes (turns ON) the contact points, and releasing the switch opens (turns OFF) the contact points. Accordingly, pressing the switch causes the signal to be input into the ECM. Pressing the switch in overdrive turns OFF the overdrive. Pressing it again turns the overdrive back ON. When the overdrive is OFF, turning the ignition switch from OFF to ON turns the overdrive back ON.



New



Previous

▶CAMRY

Item \ Area			U.S.A.			
Body Type			4-Door Sedan			
Vehicle Grade			CE		LE	XLE
Model Code			SXV20L-CEMDKA	SXV20L-CEPDKA	SXV20L-A(C)EPNKA	SXV20L-A(C)EPGKA
Major Dimensions & Vehicle Weights	Overall	Length mm (in.)	4790 (188.6)	†	†	†
		Width mm (in.)	1780 (70.1)	†	†	1785 (70.3)
		Height* mm (in.)	1415 (55.7)	†	†	†
	Wheel Base	mm (in.)	2670 (105.1)	†	†	†
	Tread	Front mm (in.)	1545 (60.8)	†	†	†
		Rear mm (in.)	1520 (59.8)	†	†	†
	Effective Head Room	Front mm (in.)	980 (38.6), 950 (37.4)*1	†	†	†
		Rear mm (in.)	940 (37.0), 914 (36.0)*1	†	†	†
	Effective Leg Room	Front mm (in.)	1102 (43.4)	†	†	†
		Rear mm (in.)	901 (35.5)	†	†	†
	Shoulder Room	Front mm (in.)	1427 (56.2)	†	†	†
		Rear mm (in.)	1425 (56.1)	†	†	†
	Overhang	Front mm (in.)	975 (38.4)	†	†	†
		Rear mm (in.)	1145 (45.1)	†	†	†
	Min. Running Ground Clearance	mm (in.)	130 (5.1)	†	†	†
	Angle of Approach	degrees	16◀	†	†	†
	Angle of Departure	degrees	16◀	†	†	†
	Curb Weight	Front kg (lb)	810 (1786)	835 (1841)	865 (1907)*2, 875 (1929)*3	870 (1918)*2, 875 (1929)*3
		Rear kg (lb)	550 (1213)	545 (1202)	540 (1191)*2, 550 (1213)*3	545 (1202)*2, 555 (1224)*3
		Total kg (lb)	1360 (2999)	1380 (3043)	1405 (3097)*2, 1425 (3142)*3	1415 (3120)*2, 1430 (3153)*3
	Gross Vehicle Weight	Front kg (lb)	965 (2130)	†	995 (2195)	†
		Rear kg (lb)	845 (1860)	†	900 (1985)	†
		Total kg (lb)	1810 (3990)	†	1895 (4180)	†
	Fuel Tank Capacity	ℓ (US.gal., Imp.gal)	70 (18.5, 15.4)	†	†	†
	Luggage Compartment Capacity	m³ (cu.ft.)	0.399 (14.1)	†	†	†
Performance	Max. Speed	km / h (mph)	180 (112)	†	†	†
	Max. Cruising Speed	km / h (mph)	—	—	—	—
	Acceleration	0 to 100 km / h sec.	—	—	—	—
		0 to 400 m sec.	—	—	—	—
	Max. Permissible Speed	1st Gear km / h (mph)	52 (32)	69 (43)	†	†
		2nd Gear km / h (mph)	93 (58)	125 (78)	†	†
		3rd Gear km / h (mph)	147 (91)	—	—	—
		4th Gear km / h (mph)	—	—	—	—
	Turning Diameter (Outside Front)	Wall to Wall m (ft.)	11.5 (37.7)	†	†	†
		Curb to Curb m (ft.)	11.0 (36.1)	†	†	†
Engine	Engine Type		5S-FE	†	†	†
	Valve Mechanism		16-Valve, DOHC	†	†	†
	Bore x Stroke	mm (in.)	87.0 x 91.0 (3.43 x 3.58)	†	†	†
	Displacement	cm³ (cu.in.)	2164 (132.0)	†	†	†
	Compression Ratio		9.5 : 1	†	†	†
	Carburetor Type		SFI	†	†	†
	Research Octane No.	RON	91	†	†	†
	Max. Output (SAE-NET)	kW / rpm (HP@rpm)	101 / 5200(136@5200),99 / 5200(133@5200)*4	†	†	†
	Max. Torque (SAE-NET)	N·m / rpm (lb-ft@rpm)	203 / 4400(150@4400),201 / 4400(148@4400)*4	†	†	†
Engine Electrical	Battery Capacity (5HR)	Voltage & Amp. hr.	12 - 55, 12 - 48*5	†	†	†
	Generator Output	Watts	960	†	†	†
	Starter Output	kW	1.4	†	†	†
Chassis	Clutch Type		Dry, Single Plate	—	—	—
	Transaxle Type		S51	A140E	†	†
	Transmission Gear Ratio	In First	3.538	2.810	†	†
		In Second	1.960	1.549	†	†
		In Third	1.250	1.000	†	†
		In Fourth	0.945	0.706	†	†
		In Fifth	0.731	—	—	—
		In Reverse	3.153	2.296	†	†
	Counter Gear Ratio		—	0.945	†	†
	Differential Gear Ratio (Final)		3.944	†	†	†
	Brake Type	Front	Ventilated Disc	†	†	†
		Rear	L.T. Drum	†	†	†
	Parking Brake Type		Drum	†	†	†
	Brake Booster Type and Size	in.	Tandem 8” + 9”	†	Tandem 8.5” + 8.5”*2, 8” + 9”*3	†
	Proportioning Valve Type		Dual-P Valve	†	†	†
	Suspension Type	Front	MacPherson Strut	†	†	†
		Rear	MacPherson Strut	†	†	†
	Stabilizer Bar	Front	STD	†	†	†
		Rear	STD	†	†	†
	Steering Gear Type		Rack and Pinion	†	†	†
	Steering Gear Ratio (Overall)		17.4 : 1	†	†	†
	Power Steering Type		Integral Type	†	†	†

*: Unladed Vehicle
*1: With Moor Roof
*2: Produced by TMC
*3: Produced by TMMK
*4: California Specification Model
*5: Without Cold Area Specification Model

U.S.A.			Canada		
4-Door Sedan					
CE	LE	XLE	CE		LE
MCV20L-CEMNKA	MCV20L-A(C)EPNKA	MCV20L-A(C)EPGKA	SXV20L-AEMDKK	SXV20L-AEPDKK	SXV20L-AEPNKK
†	†	†	†	†	†
1780 (70.1)	†	1785 (70.3)	1780 (70.1)	†	†
1420 (55.9)	†	†	1415 (55.7)	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
135 (5.3)	†	†	130 (5.1)	†	†
†	†	†	†	†	†
†	†	†	†	†	†
880 (1940)	920 (2028)*2, 920 (2028)*3	920 (2028)*2, 925 (2039)*3	810 (1786)	830 (1830)	870 (1918)
560 (1234)	1460 (3219)*2, 550 (1213)*3	545 (1202)*2, 555 (1224)*3	535 (1179)	†	540 (1191)
1440 (3174)	1460 (3219)*2, 1470 (3241)*3	1465 (3230)*2, 1480 (3263)*3	1345 (2965)	1365 (3009)	1410 (3109)
1040 (2290)	†	†	965 (2130)	†	995 (2195)
†	†	†	845 (1860)	†	900 (1985)
1940 (4275)	†	†	1810 (3990)	†	1895 (4180)
†	†	†	†	†	†
†	†	†	†	†	†
210 (130)	†	†	180 (112)	†	†
—	—	—	—	—	—
—	—	—	—	—	—
—	—	—	—	—	—
57 (35)	70 (43)	†	52 (32)	69 (43)	†
97 (60)	127 (79)	†	93 (58)	125 (78)	†
148 (92)	—	—	147 (91)	—	—
—	—	—	—	—	—
11.9 (39.0)	†	†	11.5 (37.7)	†	†
11.4 (37.4)	†	†	11.0 (36.1)	†	†
1MZ-FE	†	†	5S-FE	†	†
24-Valve, DOHC	†	†	16-Valve, DOHC	†	†
87.5 x 83.0 (3.44 x 3.27)	†	†	87.0 x 91.0 (3.43 x 3.58)	†	†
2995 (182.7)	†	†	2164 (132.0)	†	†
10.5 : 1	†	†	9.5 : 1	†	†
†	†	†	†	†	†
91 or higher	†	†	91	†	†
145 / 5200 (194@5200)	145/5200(194@5200),143/5200(192@5200)*4	†	101 / 5200 (136@5200)	†	†
283 / 4400 (209@4400)	283 /4400(209@4400),281/4400(207@4400)*4	†	203 / 4400 (150@4400)	†	†
†	†	†	12 - 55	†	†
†	†	†	†	†	†
†	†	†	†	†	†
Dry, Single Plate	—	—	Dry, Single Plate	—	—
E153	A541E	†	S51	A140E	†
3.230	2.810	†	3.538	2.810	†
1.913	1.549	†	1.960	1.549	†
1.258	1.000	†	1.250	1.000	†
0.918	0.735	†	0.945	0.706	†
0.731	—	—	0.731	—	—
3.545	2.296	†	3.153	2.296	†
—	0.945	†	—	0.945	†
3.933	†	†	3.944	†	†
†	†	†	†	†	†
Solid Disc	†	†	L.T. Drum	†	†
†	†	†	†	†	†
Tandem 8” + 9”	Tandem 8.5” + 8.5”*2, 8” + 9”*3	†	Tandem 8” + 9”	†	Tandem 8.5” + 8.5”*2, 8” + 9”*3
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†
†	†	†	†	†	†

Item \ Area			Canada		U.S.A.
Body Type			4-Door Sedan		4-Door Sedan
Vehicle Grade			CE	XLE	LE
Model Code			MCV20L-AEPDKK	MCV20L-AEPGKK	SXV23L-AEPNCA
Major Dimensions & Vehicle Weights	Overall	Length mm (in.)	4790 (188.6)	↑	↑
		Width mm (in.)	1780 (70.1)	1785 (70.3)	1780 (70.1)
		Height* mm (in.)	1420 (55.9)	↑	↑
	Wheel Base	mm (in.)	2670 (105.1)	↑	↑
	Tread	Front mm (in.)	1545 (60.8)	↑	↑
		Rear mm (in.)	1520 (59.8)	↑	↑
	Effective Head Room	Front mm (in.)	980 (38.6), 950 (37.4)*1	↑	980 (38.6)
		Rear mm (in.)	940 (37.0), 914 (36.0)*1	↑	940 (37.0)
	Effective Leg Room	Front mm (in.)	1102 (43.4)	↑	↑
		Rear mm (in.)	901 (35.5)	↑	↑
	Shoulder Room	Front mm (in.)	1427 (56.2)	↑	↑
		Rear mm (in.)	1425 (56.1)	↑	↑
	Overhang	Front mm (in.)	975 (38.4)	↑	↑
		Rear mm (in.)	1145 (45.1)	↑	↑
	Min. Running Ground Clearance	mm (in.)	135 (5.3)	↑	130 (5.1)
	Angle of Approach	degrees	16◀	↑	16◀
	Angle of Departure	degrees	16◀	↑	16◀
	Curb Weight	Front kg (lb)	860 (1896)	920 (2028)	860 (1896)
		Rear kg (lb)	540 (1190)	545 (1202)	595 (1312)
		Total kg (lb)	1400 (3086)	1465 (3230)	1455 (3208)
	Gross Vehicle Weight	Front kg (lb)	1040 (2290)	↑	970 (2140)
		Rear kg (lb)	900 (1985)	↑	950 (2095)
		Total kg (lb)	1940 (4275)	↑	1920 (4235)
	Fuel Tank Capacity	ℓ (US.gal., Imp.gal)	70 (18.5, 15.4)	↑	135 (35.7, 29.2)*4, 43 (11.4, 9.5)*5
	Luggage Compartment Capacity	m^3 (cu.ft.)	0.399 (14.1)	↑	0.332 m^3 *6, 8.921 ft^3 *7
Performance	Max. Speed	km / h (mph)	210 (130)	↑	180 (112)
	Max. Cruising Speed	km / h (mph)	—	↑	—
	Acceleration	0 to 100 km / h sec.	—	—	—
		0 to 400 m sec.	—	—	—
	Max. Permissible Speed	1st Gear km / h (mph)	70 (43)	↑	66 (41)
		2nd Gear km / h (mph)	127 (79)	↑	119 (74)
		3rd Gear km / h (mph)	—	—	—
		4th Gear km / h (mph)	—	—	—
	Turning Diameter (Outside Front)	Wall to Wall m (ft.)	11.9 (39.0)	↑	↑
		Curb to Curb m (ft.)	11.4 (37.4)	↑	↑
Engine	Engine Type		1MZ-FE	↑	5S-FNE
	Valve Mechanism		24-Valve, DOHC	↑	16-Valve, DOHC
	Bore x Stroke	mm (in.)	87.5 x 83.0 (3.44 x 3.27)	↑	87.0 x 91.0 (3.43 x 3.58)
	Displacement	cm^3 (cu.in.)	2995 (182.7)	↑	2164 (132.0)
	Compression Ratio		10.5 : 1	↑	11.0 : 1
	Carburetor Type		SFI	↑	↑
	Research Octane No.	RON	91 or higher	↑	130
	Max. Output (SAE-NET)	kW / rpm (HP@rpm)	145 / 5200 (194@5200)	↑	88 / 5200 (118@5200)
	Max. Torque (SAE-NET)	N·m / rpm (lb-ft@rpm)	283 / 4400 (209@4400)	↑	178 / 2400 (131@2400)
Engine Electrical	Battery Capacity (5HR)	Voltage & Amp. hr.	12 - 55	↑	↑
	Generator Output	Watts	960	↑	↑
	Starter Output	kW	1.4	↑	↑
Chassis	Clutch Type		—	—	—
	Transaxle Type		A541E	↑	A140E
	Transmission Gear Ratio	In First	2.810	↑	2.810
		In Second	1.549	↑	1.549
		In Third	1.000	↑	1.000
		In Fourth	0.735	↑	0.706
		In Fifth	—	—	—
		In Reverse	2.296	↑	↑
	Counter Gear Ratio		↑	↑	0.945
	Differential Gear Ratio (Final)		3.933	↑	4.176
	Brake Type	Front	Ventilated Disc	↑	↑
		Rear	Solid Disc	↑	L.T. Drum
	Parking Brake Type		Drum	↑	↑
	Brake Booster Type and Size	in.	Tandem 8" + 9"	Tandem 8.5" + 8.5"*2, 8" + 9"*3	Tandem 8" + 9"
	Proportioning Valve Type		Dual-P Valve	↑	↑
	Suspension Type	Front	MacPherson Strut	↑	↑
		Rear	MacPherson Strut	↑	↑
	Stabilizer Bar	Front	STD	↑	↑
		Rear	STD	↑	↑
	Steering Gear Type		Rack and Pinion	↑	↑
	Steering Gear Ratio (Overall)		17.4 : 1	↑	↑
	Power Steering Type		Integral Type	↑	↑

*: Unladed Vehicle
*1: With Moon Roof
*2: Produced by TMC
*3: Produced by TMMK
*4: Water Volume
*5: Equivalent Gasoline Capacity
*6: VDA
*7: SAE Suitcase