# BODY

# 1. Impact Absorbing Structure

Reinforcement to the bottom of the front pillar, reinforcements and gussets to the bottom of the center pillar, and gussets connecting the lower part of the center pillar and the center floor cross members, have been newly adopted to realize and even excellent body rigidity.



An energy absorbing pads are provided at the upper shoulder and lower arm areas of the door trim to ensure a high level of energy absorbent for side collisions.

: Energy Absorbing Pad



# 2. Sound Absorbing Materials

Seal material has been newly provided to the bottom of the front pillar, and a quarter service hole cover has been newly provided to the quarter portion in order to reduce road noise while driving.



The material of sound absorbing material used in the roof side inner garnish, quarter trim, deck side trim and deck rear trim has been changed to reduce road noise.



# **CRUISE CONTROL SYSTEM**

#### 1. Actuator

The '97 Supra has adopted a new motor type actuator that is both lightweight and simple in construction.

The basic construction and operation of this actuator are the same as in the '96 4Runner with 5VZ-FE engine.

For details, see the 1996 4Runner New Car Features (Pub. No. NCF126U), page 71.

# 2. Cruise Control ECU

#### **Manual Cancel Function**

The manual cancel function, which cancels the cruise control when the parking brake is operated, has been discontinued.

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The manual cancel function, which cancels the cruise control when the parking brake is operated, has been discontinued.

#### DIFFERENTIAL

#### 1. General

A differential gear ratio has been changed on the 2JZ-GE engine model.

A Helical gear type torque-sensing LSD (Limited Slip Differential) is available as an option on the SJZ-GE engine model and 2JZ-GTE engine with automatic transmission model.

As in the '96 model, a worm gear type torque–sensing LSD is used on the model with the SJZ–GTE engine and manual transmission.

#### **Specifications**

Model		'97 Model				'96 Model			
Engi	ine Type	2J2	Z–GE	2JZ-GTE		2JZ-GE		2JZ-GTE	
Transm	ission Type	Monual	Automatia	Monual	Automatia	Monual	Automatia	Manual	Automatia
Item		Wanuar	Automatic	Wanuar	Automatic	Wallual	Automatic	Wanuar	Automatic
Differential Gear Ratio		4.803	$\leftarrow$	3.133	3.769	4.272	$\leftarrow$	3.133	3.769
No. of	Drive Pinion	12	$\leftarrow$	15	13	11	$\leftarrow$	15	13
Teeth	Ring Gear	49	$\leftarrow$	47	49	47	$\leftarrow$	47	49
Ring Gear Size mm (in.)		205 (8.07)	<i>~</i>	222 (8.74)	205 (8.07)	$\leftarrow$	<i>←</i>	222 (8.74)	205 (8.07)
No. of Differential Pinion		2,8*1,3	$\leftarrow$	6* <sup>2</sup>	2,8*1,3	2,6*2,3	<i>~</i>	6* <sup>2</sup>	<i>~</i>

\*1: Models with Helical Gear Type Torque–Sensing LSD

 $*^2$ : Models with Worm Gear Type Torque–Sensing LSD

\*<sup>3</sup> : Option

# 2. Helical Gear Type Torque–Sensing LSD

# Characteristics

Good traction of high bias ratio design is obtained through the utilization of two types of friction: One is the friction that is generated between the planet gear's tooth tips and the differential case's inner wall. The other is the friction that is generated between the side gear end face and the thrust washer.

Quick response and minimum time lag until differential limiting force is generated.

The bias ratio sustains minimal changes due to aging and maintains a stable performance.

A simple, compact, and lightweight differential configuration has been achieved through the use of the helical gear.

Ordinary differential oil must be used; do not use special LSD oil.

#### Construction

The helical gear type torque-sensing LSD consists of a differential case, 9 planet gears, 2 side gears and 4 thrust washers.

Planet gears mesh with one another as a pair, and each gear of the pair meshes with the side gear on its right or left side.

The planet gears are supported by the hole that is provided in the differential case. They are constructed so that they revolve while rotating over the side gear.



#### Operation

#### 1) Straight-Ahead Operation

Since side gears (left and right) and planet gears are rotating together with the differential case as a unit when the vehicle is running straight–forward, the driving force is transmitted from the ring gear to the differential case, planet gears and side gears.



#### 2) Cornering

Supposing that the differential case is not moving, rotating the left side gear counterclockwise, causes planet gear A (which meshes with the left side gear) to rotate clockwise.

Furthermore, planet gear B, which is paired with planet gear A, rotates counterclockwise, causing the right side gear (which meshes with planet gear B) to rotate clockwise.

Therefore the left and right side gears rotate in the opposite direction each other, thus accomplishing a motion differential.



#### 3) Limited Slip Differential Operation

Limited slip is accomplished primarily b the friction that is generated between the planet gear's tooth tips and the differential case's inner wall, and the friction that is generated between the side gear end face and the thrust washer.

The principle of limited slip enables the resultant reaction force F1 (which is created by the meshing reaction of the planet gear and the side gear and the meshing reaction of the planet gears themselves) to push the planet gear in the direction of the differential case in proportion to the input torque.

Due to the reaction force F1, the friction force u F2 (which is generated between the side gear end face and the thrust washer) applies a force to cancel out the rotational difference between the side gears themselves as well as between the side gear and the differential case.



# **DRIVE SHAFT**

The drive shaft outboard joint of the 2JZ–GE engine model has been changed from the cross–groove type CJV (Constant–Velocity Joint) to the Rzeppa type CVJ.

As in the '96 model, the 2JZ–GTE engine model uses the drive shaft consisting of cross–groove type CVJs for both the inboard and outboard joints.



**2JZ-GE Engine Model** 

# BRAKES

#### 1. General

The size of the master cylinder for the 2JZ–GTE engine model has been increased to realize excellent brake feeling.

The ABS actuator has been changed from the conventional three–position solenoid valves to a combination of compact two–position solenoid valves, thus achieving a compact and lightweight configuration.

3-channel type ABS with 4-speed sensor is used on the 2JZ-GE engine model.

4-channel type ABS with 4-speed sensors and linear type deceleration sensor is used on the 2JZ-GTE engine model.

#### **Specifications**

Model		'97 N	Iodel	'96 Model		
Engine Type		217 CE	217 GTE	217 GE	217 GTE	
Item		ZJZ-GE ZJZ-GIE		2JZ-OE	2JZ-GIE	
Master	Туре	Tandem	$\leftarrow$	$\leftarrow$	$\leftarrow$	
Cylinder	Dia. mm (in.)	25.4 (1.00)	26.9 (1.06)	25.4 (1.00)	$\leftarrow$	
ABS Type		3 Channel Type ABS with 4–Speed Sensors	4 Channel Type ABS with 4–Speed Sensors and Linear Type Deceleration Sensor	4–Channel Type ABS with 4–Speed Sensor and Lateral Acceleration Sensors	<i>←</i>	
ABS Type Actuator		6 Two Position Solenoid Valves	8 Two Position Solenoid Valves	4 Three Position Solenoid Valves	$\leftarrow$	

# 2. ABS

#### General

The ABS (Anti–Lock Brake System) is designed to control the brake fluid pressure of the brake wheel cylinder to help prevent wheel lock–up in instances of panic braking, and thus maintaining vehicle directional stability and control.

#### System Diagram



**2JZ-GE Engine Model** 

Master Cylinder with P & B Valve



# **2JZ-GTE Engine Model**

Wiring Diagram



#### Layout of Components



#### \*: Only 2JZ-GTE Engine Model

#### **Construction and Operation**

#### 1) Deceleration Sensor

The 2JZ–GTE engine model uses a linear type deceleration sensor to detect the deceleration rate in the vehicle's longitudinal direction and the acceleration rate in the vehicle's lateral direction.

Accordingly, the ABS in able to determine the vehicle's cornering condition and various road surface conditions to achieve a finely cornering control.

The basic construction and operation are the same as those of the '97 RAV4 4WD 2–door model. For details, see '96 RAV4 New Car Features (Pub. No. NCF124U), page 70.

#### 2) ABS Actuator

#### a. General

The ABS actuator consists of 6 or 8 two–position solenoid valves, 2 pumps, 2 reservoirs and a motor. The table below compares the actuator against that of the '96 model.

Model	'97 N	'96 Model	
Engine Type	2JZ–GE	2JZ-GTE	2JZ-GE, 2JZ-GTE
Actuator Type	2–Position	2–Position	3–Position
Component	Solenoid Valves	Solenoid Valves	Solenoid Valves
	6 Two–Position	8 Two–Position	
	Solenoid Valves	Solenoid Valves	
Control Unit	(3 pressure holding	(4 pressure holding	4 Three–Position
Control Onit	valves and	valves and	Solenoid Valves
	3 pressure	4 pressure	
	reduction valves)	reduction valves)	

#### **Comparison of ABS Actuators**

#### **b. Hydraulic Circuit**



**2JZ-GE Engine Model** 



**2JZ-GTE Engine Model** 

#### c. Operation

The hydraulic system of the ABS has 3 or 4 circuits. Although the hydraulic circuit described below has 1 circuit, it is applicable to other circuits as well.

#### i) During Normal Braking (ABS not Activated)

During normal braking, the ABS is not activated and the ECU dose not send control signal.

When the brake pedal is depressed, the fluid passes from port A to port B, and then flows to the brake wheel cylinder.

When the brake pedal is released, brake fluid returns from the brake wheel cylinder to the master cylinder through port  $\mathbf{B}$  to port  $\mathbf{A}$  and No. 1 Check Valve.

Part Name	Signal from ABS ECU	Operation	
Pressure Holding Valve	OFF	Port A	Open
Pressure Reduction Valve	OFF	Port B	Closed
Pump Motor	OFF	Rotating	

#### **Condition of Actuator**

#### ii) During Emergency Braking (ABS Activated)

#### **Pressure Reduction Mode**

When the wheel about to lock , the control signal from the ECU causes port A to close and port D to open, thus engaging the pressure reduction mode.

At this time the brake fluid flows from the wheel cylinder, through ports **C** and **D**, to the reservoir reducing the wheel pressure.

At the same time the brake fluid is pumped and returned to the master cylinder.

#### Condition of Actuator

Part Name	Signal from ABS ECU	Operation		
Pressure Holding Valve	ON	Port A	Closed	
Pressure Reduction Valve	ON	Port D	Open	
Pump Motor	ON	Rota	ting	

#### Hydraulic Circuit



#### Hydraulic Circuit



#### **Pressure Holding Mode**

After the fluid pressure in the wheel cylinder is reduced or increased to the required pressure, a control signal from the ECU causes ports **A** and **D** to close. As a result, the system engages in the pressure holding mode to maintain the fluid pressure in the wheel cylinder.

#### **Condition of Actuator**

Part Name	Signal from ABS ECU	Oper	peration	
Pressure Holding Valve	ON	Port A	Closed	
Pressure Reduction Valve	OFF	Port D	Closed	
Pump Motor	ON	Rota	ting	

#### Hydraulic Circuit



#### **Pressure Increase Mode**

When the fluid pressure in the wheel needs to be increased in order to apply more braking force, a control signal from the ECU causes port A to open, port D to close, thus engaging the increase mode.

Accordingly, the circuit will be in the same state as in normal braking, in which the brake fluid is sent from the master cylinder to the wheel cylinder to increase the fluid pressure in the wheel cylinder.

The fluid pressure increase rate is controlled by repetition of the pressure increase and pressure holding mode.

#### **Condition of Actuator**

Part Name	Signal from ABS ECU	Operation		
Pressure Holding Valve	OFF	Port A	Open	
Pressure Reduction Valve	OFF	Port D	Closed	
Pump Motor	ON	Rota	ting	

#### Hydraulic Circuit



#### 3) ABS ECU

#### a. Wheel Speed Control

The ECU constantly receives signals form the 4-speed sensors and a deceleration sensor (2JZ-GTE engine model), and estimates the speed and deceleration rate of the vehicle by calculating the speed and deceleration rate of each wheel.

#### **b. Initial Check**

An initial check is carried out every time once after the engine has started and the initial vehicle speed exceeds 6 km/h (4 mph).

#### c. Self-Diagnosis

If the ABS ECU detects a malfunction in the ABS, the ABS warning light and a master warning lights in the combination meter will light up and alert the driver that a malfunction has occurred. The ECU will also store the codes of the malfunctions.

# **SUSPENSION**

#### 1. General

The shock absorber of the 2JZ–GTE engine model with manual transmission has been changed from the mono–tube, gas–filled shock absorber to the twin–tube, gas–filled shock absorber, which is the same type that is used on the 2JZ–GE engine model.

The same rubber–integrated ball bushing that is used on the 2JZ–GTE engine model is used for the upper arm bushing of the rear suspension of the 2JZ–GE engine model.

The brace rod of the rear subframe has been relocated to realize excellent riding comfort, in addition, this provides excellent stability, an controllability.

# FOREWORD

To assist you in your service activities, this manual explains the main characteristics of the 1997 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.** ~ **11. Each Model** — Changed features for each model are explained.

12. Appendix — Major technical specifications of the vehicle.

CAUTION, NOTICE, *REFERENCE* and NOTE are used 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.

For the new features of the Camry, refer to the following New Car Features.

Manual Name	Pub. No.	Date of issue
◀ 997 Camry New Car Features	NCF134U	July, 1997

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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# **MODEL CODE**

# <u>JZA80 L – A J M V F A</u> 1 2 3 4 5 6 7

BASIC MODEL CODE
------------------

① JZA80 : With 2JZ–GE Engine or 2IZ–GTE Engine

	2JZ–GTE Engine		9	M: 5–Speed Manual, Floor
				P: 4–Speed Automatic, Floor
$\bigcirc$	STEERING WHEEL POSITION	ſ		GRADE
Ú	L: Left–Hand Drive	t–Hand Drive (6) V: —		V :
		Ľ		
$\sim$	MODEL NAME			ENGINE SPECIFICATION
(3)	A : Supra		7	F: SFI and DOHC
				Z: SFI and DOHC with Turbocharger
		-		
	BODY TYPE			DESTINATION
4	L : Liftback		8	A : U.S.A

L. LIIIDACK

J : Liftback with Sport Roof

K: Canada

# **MODEL LINE-UP**

TRANSAXLE			5–Speed Manual	6–Speed Manual	4–Speed	Automatic	
DESTI– NATION	ROOF	GRADE	ENGINE	W58	V160	A340E	A340E*
	Standard		217 GE	JZA80L– ALMVFA		JZA80L– ALPVFA	
IIGA	Sport	_	2JZ-GE	JZA80L– AJMVFA		JZA80L– AJPVFA	
U.S.A	Standard		2JZ-GTE		JZA80L– ALFVZA		JZA80L– ALPVZA
	Sport				JZA80L– AJFVZA		JZA80L– AJPVZA
Canada	Sport	_	2JZ-GTE		JZA80L– AJFVZK		JZA80L– AJPVZK

\*: Electronically Controlled Transmission with and intelligent sporty control

:New

:Discontinued

- GEARSHIFT TYPE
- F: 6–Speed Manual, Floor

8

# **NEW FEATURES**

# EXTERIOR DESIGN

# 1. Headlights, Turn Signal Light and Front Bumper

Multi–reflector type headlights, which contain a multiple paraboloid reflector, have been adopted for the high–beam headlights. Accordingly, the lens cut in headlights has been significantly decreased to improve the appearance.

The shape of the turn signal light lenses has been matched to the curvature of the bumper in order to make them appear integrated with the bumper. In addition, clear lenses are used, and the parking lights gave been changed from those enclosed in the headlights to those enclosed in the turn signal lights.

A bar has been added to the air intake opening in the center of the front bumper.



#### 2. Rear Combination Magnit

#### '96 Model

The lens cut of the rear combination lights has been changed from the vertical cut to the lateral cut. In addition, the rear combination lights have adopted multi–reflectors. As a result of these changes a light design has been achieved to give a sensor for translucency and depth.



'97 Model



# SUPRA

# **SUPRA**

# **OUTLINE NEW FEATURES**

The Supra, which represents Toyota's advanced automotive technology, has earned a reputation as a truly luxurious sports car. The following changes have been made for the 1997 model year.

# 1. Model Line-Up

The JZA80L-ALPVZA model has been discontinued.

The JZA80L-ALFVZA and JZA80L-AJFVZA models have been added.

# 2. Exterior Design

The multi-reflector type headlights are adopted.

The design of the turn signal light, front bumper and rear combination light has been changed.

#### 3. Interior Equipment

The front seats have been changed from the separate-headrest type seats of the '96 model to the integrated headrest type seats without changing their basic design.

# 4. 2JZ–GTE Engine

An aluminum radiator core is adopted for weight reduction.

# 5. Differential

A differential gear ratio has been changed on he 2JZ-GE engine model.

A helical gear type torque-sensing LSD is available as an option on the 2JZ-GE engine model and 2JZ-GTE engine with automatic transmission model.

# 6. Drive Shaft

An outboard joint of drive shaft has been changed from cross-groove type CVJ (Constant-Velocity Joint) to Rzeppa type CVJ on the 2JZ-GE engine model.

#### 7. Brakes

A master cylinder diameter has been changed on the 2JZ-GTE engine model.

An ABS has been changed to the 2-position solenoid valve type actuator.

#### 8. Suspension

Various areas of the suspension system have been revised to realize excellent riding comfort, in addition, this provides excellent stability, and controllability.

#### 9. Body

Reinforcements and gussets have been newly added to the bottom of the front and center pillars.

An energy absorbing pads are provided at the door trim.

Sound absorbing material is newly provided in the front pillar and in the quarter to reduce road noise.

The material of sound absorbing material used in the trim and garnish has been changed.

# 10.Light

An illuminated entry system has been discontinued.

#### 11.SRS Airbag

As in the '95 Avalon, a 1-sensor type airbag system has been adopted.

#### 12. Cruise Control System

As in the '97 Tercel/Paseo, a new motor type actuator has been adopted.

The control method for the manual and auto cancel functions have been changed.



# SUPRA

Item Area			U.S.A				
Body Type			2–Door Liftback (Standard Roof) 2–Door Liftback (Sport Roof)				
Vehicle Grade							
Model Code			JZA80L-ALMVFA	JZA80L–ALPVFA	JZA80L-AJMVFA	JZA80L–AJPVFA	
		Length mm (in.)	4515 (177.8)	$\leftarrow$	$\leftarrow$	$\leftarrow$	
	Overall	Width mm (in.)	1810 (71.3)	$\leftarrow$	$\leftarrow$	←	
ior Dimensions & Vehicle Weights		Height* mm (in.)	1275 (50.2)	$\leftarrow$	$\leftarrow$	$\leftarrow$	
	Wheel Base mm (in.)		2550 (100.4)	$\leftarrow$	$\leftarrow$	$\leftarrow$	
	Tread Front mm (in.)		1520 (59.8)	←	←	←	
	muu	Rear mm (in.)	1525 (60.0)	<i>←</i>	<i>←</i>	→	
	Effective Head Room Effective Leg Room	Front mm (in.)	953.2 (37.5)	<i>~</i>	946.8 (37.3)		
		Rear mm (in.)	834.5 (32.9)	←	←	<i>~</i>	
		Front mm (in.)	1117.0 (44.0)	←	4	<i>↓</i>	
		Rear mm (in.)	605.1 (23.8)				
	Shoulder Room	Pront mm (in.)	1112 2 (42.8)				
		Front mm (in )	950 (37.4)				
	Overhang	Rear mm (in )	1015 (40.0)			1	
	Min Running Ground Clear	ance mm (in.)	120 (47)				
	Angle of Approach degrees		13	× ×	<u>`</u>	× ×	
	Angle of Departure degrees		17	÷	÷	 ←	
	0 1	Front kg (lb)	762 (1680)	778 (1715)	773 (1705)	789 (1740)	
Maj	Curb Weight	Rear kg (lb)	694 (1530)	703 (1550)	710 (1565)	719 (1585)	
	Curb Weight	Total kg (lb)	1456 (3210)	1481 (3265)	1483 (3270)	1508 (3325)	
		Front kg (lb)	937 (2065)	→ →	→ →	← ·	
	Gross Vehicle Weight	Rear kg (lb)	1002 (2210)	$\leftarrow$	$\leftarrow$	$\leftarrow$	
	-	Total kg (lb)	1939 (4275)	$\leftarrow$	<del>~</del>	<del>~</del>	
	Fuel Tank Capacity I (U.S. gal., Imp. gal.)		70 (18.5, 15.4)	$\leftarrow$	$\leftarrow$	←	
	Luggage Compartment Capa	acity m <sup>3</sup> (cu. ft.)	_				
	Max. Speed	km/h (mph)	240 (150)	$\leftarrow$	$\leftarrow$	$\leftarrow$	
Performance	Max. Cruising Speed	km/h (mph)	193 (120)	←	$\leftarrow$	$\leftarrow$	
	A	0 to 100 km/h sec.	6.8	7.4	6.8	7.4	
	Max. Permissible Speed	0 to 400 m sec.	15.2	15.7	15.2	15.7	
		1st Gear km/h (mph)	54 (34)	61 (38)	54 (34)	61 (38)	
		2nd Gear km/h (mph)	94 (58)	112 (70)	94 (58)	112 (70)	
		3rd Gear km/h (mph)	139 (86)		139 (86)		
		4the Gear km/h (mph)					
	Turning Diameter (Outside Front)	Wall to Wall m (ft.)	11.5 (38)				
			10.9 (36)	→	→ 	~ ~	
	Engine Type		2JZ-GE				
	Valve Mechanism Pore v Stroko		24-Valve, DOHC				
	Bore x Stroke mm (in.)		2007 (182.0)				
ine	Displacement cm <sup>-2</sup> (cu. in)		10.0 : 1			1	
Eng	Carburetor Type		SFI	× ×	<u>`</u>	× ×	
	Research Octane No.	RON	96			× ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
	Max. Output (SAE–NET) kW/rpm (HP @ rpm)		164/5800 (220 @ 5800)	÷	÷	 ←	
	Max. Torque (SAE–NET) N·m/rpm (III @ rpm)		285/4800 (210 @ 4800)	←	←	←	
_	Battery Capacity (20HR)	Battery Capacity (20HR) Voltage & Amp. hr.		$\leftarrow$	←	←	
ne rical	Generator Output	Generator Output Watts		÷	÷	 ←	
Elect	Starter Output kW		1.4	←	$\leftarrow$	$\leftarrow$	
	Clutch Type		Dry, Single Plate	—	Dry, Single Plate	—	
	Transmission Type		W58	A340E	W58	A340E	
	Transmission Gear Ratio	In First	3.285	2.804	3.285	2.804	
		In Second	1.894	1.531	1.894	1.531	
		In Third	1.275	1.000	1.275	1.000	
		In Fourth	1.000	0.705	1.000	0.705	
		In Fifth	0.783		0.783		
		In Sixth	—				
	In Reverse		3.768	2.393	3.768	2.393	
	Differential Gear Size		4.083	<i>←</i>	$\leftarrow$	$\leftarrow$	
	Differential Gear Size mm (in.)		205 (8.07)	←	4	<i>↓</i>	
assi	Brake Type	Front	Ventilated Disc	<i>←</i>	<i>←</i>	<i>←</i>	
Chi	Rear Parking Brake Type		ventilated Disc	←	←	←	
	Farking Brake Type	Brake Booster Type and Style in		→ 	→ ,	← ,	
	Proportioning Valve Type		P & R Valva	← ∠		← ∠	
	Front		Double Wishbone			← ←	
	Suspension Type	Rear	Double Wishbone	` ~	` ~	` ~	
	Stabilizer Bar	Front	STD	~	←	~	
		Rear	STD	←	←	←	
	Steering Gear Type		Rack & Pinion	$\leftarrow$	$\leftarrow$	$\leftarrow$	
	Steering Gear Ratio (Overall)		17.5 : 1	←	$\leftarrow$	$\leftarrow$	
	Power Steering Type		Integral Type	$\leftarrow$	$\leftarrow$	$\leftarrow$	

\*: Unladen Vehicle, \*1: Electrically Controlled Transmission with an intelligent sporty control

	U.S.A	Canada		
2-Door Liftback (Standard Roof)		: (Sport Roof)		
		_		
JZA80L-ALFVZA	JZA80L-AJFVZA	JZA80L-AJPVZA	JZA80L-AJFVZK	JZA80L-AJPVZK
~	←	<i>~</i>	<i>←</i>	←
<i>—</i>	<i>→</i>	<i>←</i>	<i>→</i>	←
←	←	←	←	←
←	←	←	←	←
←	←	←	←	←
←	←	←	←	←
953.2 (37.5)	946.8 (37.3)	←	←	←
←	←	←	←	←
←	←	<i>←</i>	←	←
<i>~</i>	<i>←</i>	<i>↓</i>	<i>↓</i>	←
→	→ 	<i>←</i>	<i>←</i>	→
— —	→ 	→		→
<i>—</i>	→	→	→	— —
<i>—</i>	→	→	→	— —
<i>←</i>	<i>←</i>	←	<i>←</i>	<i>→</i>
<i>~</i>	<i>←</i>	<i>↓</i>	<i>↓</i>	←
<u> </u>	<i>←</i>	<i>←</i>	<i>←</i>	<i>←</i>
855 (1885)	866 (1910)	871 (1920)	866 (1910)	871 (1920)
708 (1560)	723 (1595)		← 1500 (2505)	
1563 (3445)	1589 (3505)	1594 (3515)	1589 (3505)	1594 (3515)
$\leftarrow$	<i>←</i>	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	→	$\leftarrow$	$\leftarrow$	←
~	→	<i>←</i>	→	<i>←</i>
←	<i>←</i>	←	←	←
_	—	—	—	—
250 (155)	<i>←</i>		<i>—</i>	←
200 (125)	<i>←</i>	→	<i>←</i>	←
5.1	5.1	5.8	5.1	5.8
13.5	13.5	14.1	13.5	14.1
60 (37)	←	66 (41)	60 (37)	66 (41)
97 (60)	$\leftarrow$	121 (75)	97 (60)	121 (75)
136 (85)	←	_	136 (85)	—
175 (109)	$\leftarrow$		175 (109)	—
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
←	←	$\leftarrow$	←	$\leftarrow$
2JZ-GTE	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
8.5 : 1	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
239/5600 (320 @ 5600)	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
427/4000 (315 @ 4000)	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	1200	1080	1200
$\leftarrow$	←	←	$\leftarrow$	$\leftarrow$
Dry, Single Plate	$\leftarrow$	_	Dry, Single Plate	_
V160	$\leftarrow$	A340E*1	V160	A340E*1
3.827	$\leftarrow$	2.804	3.827	2.804
2.360	$\leftarrow$	1.531	2.360	1.531
1.685	$\leftarrow$	1.000	1.685	1.000
1.312	<i>←</i>	0.705	1.312	0.705
1.000	$\leftarrow$	—	1.000	_
0.793	$\leftarrow$	—	0.793	—
3.280	<i>←</i>	2.393	3.280	2.393
3.133	$\leftarrow$	3.769	3.133	3.769
222 (8.74)	$\leftarrow$	205 (8.07)	222 (8.74)	205 (8.74)
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	<del>~</del>	$\leftarrow$	$\leftarrow$
$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$	$\leftarrow$
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