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# NISSAN CUBE MODEL Z12 SERIES

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## QUICK REFERENCE INDEX

<b>A GENERAL INFORMATION</b>	<b>GI General Information</b>
<b>B ENGINE</b>	<b>EM Engine Mechanical</b>
	<b>LU Engine Lubrication System</b>
	<b>CO Engine Cooling System</b>
	<b>EC Engine Control System</b>
	<b>FL Fuel System</b>
	<b>EX Exhaust System</b>
	<b>STR Starting System</b>
<b>ACC Accelerator Control System</b>	
<b>C HYBRID</b>	
<b>D TRANSMISSION &amp; DRIVE-LINE</b>	<b>CL Clutch</b>
	<b>TM Transaxle &amp; Transmission</b>
<b>E SUSPENSION</b>	<b>FAX Front Axle</b>
	<b>RAX Rear Axle</b>
	<b>FSU Front Suspension</b>
	<b>RSU Rear Suspension</b>
	<b>WT Road Wheels &amp; Tires</b>
<b>F BRAKES</b>	<b>BR Brake System</b>
	<b>PB Parking Brake System</b>
	<b>BRC Brake Control System</b>
<b>G STEERING</b>	<b>ST Steering System</b>
	<b>STC Steering Control System</b>
<b>H RESTRAINTS</b>	<b>SB Seat Belt</b>
	<b>SBC Seat Belt Control System</b>
	<b>SR SRS Airbag</b>
	<b>SRC SRS Airbag Control System</b>
<b>I VENTILATION, HEATER &amp; AIR CONDITIONER</b>	<b>VTL Ventilation System</b>
	<b>HA Heater &amp; Air Conditioning System</b>
	<b>HAC Heater &amp; Air Conditioning Control System</b>
<b>J BODY INTERIOR</b>	<b>INT Interior</b>
	<b>IP Instrument Panel</b>
	<b>SE Seat</b>
<b>K BODY EXTERIOR, DOORS, ROOF &amp; VEHICLE SECURITY</b>	<b>DLK Door &amp; Lock</b>
	<b>SEC Security Control System</b>
	<b>GW Glass &amp; Window System</b>
	<b>PWC Power Window Control System</b>
	<b>EXT Exterior</b>
<b>L DRIVER CONTROLS</b>	<b>BRM Body Repair</b>
	<b>MIR Mirrors</b>
	<b>EXL Exterior Lighting System</b>
	<b>INL Interior Lighting System</b>
	<b>WW Wiper &amp; Washer</b>
	<b>DEF Defogger</b>
	<b>HRN Horn</b>
<b>M ELECTRICAL &amp; POWER CONTROL</b>	<b>PWO Power Outlet</b>
	<b>BCS Body Control System</b>
	<b>LAN LAN System</b>
	<b>PCS Power Control System</b>
	<b>CHG Charging System</b>
<b>PG Power Supply, Ground &amp; Circuit Elements</b>	
<b>N DRIVER INFORMATION &amp; MULTIMEDIA</b>	<b>MWI Meter, Warning Lamp &amp; Indicator</b>
	<b>WCS Warning Chime System</b>
	<b>SN Sonar System</b>
	<b>AV Audio, Visual &amp; Navigation System</b>
<b>O CRUISE CONTROL</b>	
<b>P MAINTENANCE</b>	<b>MA Maintenance</b>

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# FOREWORD

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This manual contains maintenance and repair procedure for the 2009 NISSAN CUBE.

In order to assure your safety and the efficient functioning of the vehicle, this manual should be read thoroughly. It is especially important that the PRECAUTIONS in the GI section be completely understood before starting any repair task.

All information in this manual is based on the latest product information at the time of publication. The right is reserved to make changes in specifications and methods at any time without notice.

## IMPORTANT SAFETY NOTICE

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The proper performance of service is essential for both the safety of the technician and the efficient functioning of the vehicle.

The service methods in this Service Manual are described in such a manner that the service may be performed safely and accurately. Service varies with the procedures used, the skills of the technician and the tools and parts available. Accordingly, anyone using service procedures, tools or parts which are not specifically recommended by NISSAN must first be completely satisfied that neither personal safety nor the vehicle's safety will be jeopardized by the service method selected.

**NISSAN MOTOR CO., LTD.**

**QUICK REFERENCE CHART CUBE**  
**ENGINE TUNE-UP DATA (MR18DE)**

PFP:00000

ELS0003W

Engine model		MR18DE
Firing order		1-3-4-2
Idle speed CVT (In "P or N" position) M/T (In Neutral position)	rpm	700 ± 50
Ignition timing (BTDC at idle speed)		13° ± 5°
CO% at idle		3 - 11 % and engine runs smoothly
Tensions of drive belts		Auto adjustment by auto tensioner
Radiator cap relief pressure	kPa (kg/cm <sup>2</sup> , psi)	
Standard		78 - 98 (0.8 - 1.0, 11 - 14)
Limit		59 (0.6, 9)
Cooling system leakage testing pressure	kPa (kg/cm <sup>2</sup> , psi)	156 (1.59, 22.6)
Compression pressure	kPa (kg/cm <sup>2</sup> , psi)/250 rpm	
Standard		1,500 (15.3, 217.5)
Minimum		1,200 (12.2, 174)
Differential limit between cylinders		100 (1.0, 14.5)
Spark plug (Iridium-tipped type)		
Make		DENSO
Standard type		FXE20HR11
Gap (Nominal)	mm (in)	1.1 (0.043)

**FRONT WHEEL ALIGNMENT**

ELS0003X

Camber Degree minute (Decimal degree)		Minimum	-0° 35' (-0.58°)
		Nominal	0° 10' (0.17°)
		Maximum	0° 55' (0.91°)
		Left and right difference	-0° 45' (-0.75°)
Caster Degree minute (Decimal degree)		Minimum	3° 55' (3.92°)
		Nominal	4° 40' (4.67°)
		Maximum	5° 25' (5.41°)
		Left and right difference	-0° 45' (-0.75°)
Kingpin inclination Degree minute (Decimal degree)		Minimum	9° 10' (9.17°)
		Nominal	9° 55' (9.92°)
		Maximum	13° 25' (13.41°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 1.0 mm (0.05 in)
		Maximum	In 2.0 mm (0.07 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0° 00' (0.00°)
		Nominal	In 0° 03' (0.05°)
		Maximum	In 0° 06' (0.10°)

Measure value under unladen\* conditions.

\*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

**REAR WHEEL ALIGNMENT**

ELS0003Y

Camber Degree minute (Decimal degree)		Minimum	-2° 00' (-2.01°)
		Nominal	-1° 31' (-1.51°)
		Maximum	-1° 01' (-1.01°)
Toe-in	Total toe-in Distance	Minimum	Out 1.0 mm (Out 0.039 in)
		Nominal	In 3.0 mm (In 0.118 in)
		Maximum	In 7.0 mm (In 0.275 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	Out 0° 02' (Out 0.04°)
		Nominal	In 0° 08' (In 0.13°)
		Maximum	In 0° 19' (In 0.32°)

Measure value under unladen\* conditions.

\*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

**BRAKE PEDAL**

Unit: mm (in.)

Depressed brake pedal height (H1)	M/T	162.3 - 172.3 (6.39 - 6.78)
	CVT	172.4 - 182.4 (6.79 - 7.18)
Brake pedal reserve height (H2) [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	M/T	80 (3.15) or more
	CVT	85 (3.35) or more

**FRONT DISK BRAKE**

Unit: mm (in.)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	22.0 (0.866)

**REAR DRUM BRAKE**

Unit: mm (in.)

Item		Limit
Brake lining	Wear thickness	1.5 (0.059)
Brake drum	Wear inner diameter	230.0 (9.06)

**REFILL CAPACITIES**

ELS00040

UNIT		Liter	US measure	Imp measure
Fuel tank		50.0	13-1/4 gal	11 gal
Engine Coolant (With reservoir tank) at MAX level	CVT models	7.1	7-1/2 qt	6-1/4 qt
	M/T models	6.8	7-1/4 qt	6 qt
Engine oil	Drain and refill			
	With oil filter change	4.1	4-2/8 qt	3-5/8 qt
	Without oil filter change	3.8	4 qt	3-3/8 qt
	Dry engine (Overhaul)	4.9	5-1/8 qt	4-3/8 qt
Transmission	CVT	7.4	7-7/8 qt	6-1/2 qt
	M/T	2	4-1/4 pt	3-1/2 pt
Air conditioning system	Compressor oil	0.12	4.1 fl oz	4.2 fl oz
	Refrigerant	0.45 kg	1.0 lb	1.0 lb