

Edition: July 2009
Revision: January 2010
Publication No. SM0E-1B16U1

NISSAN SENTRA

MODEL B16 SERIES

QUICK REFERENCE INDEX

A GENERAL INFORMATION	GI General Information
B ENGINE	EM Engine Mechanical
	LU Engine Lubrication System
	CO Engine Cooling System
	EC Engine Control System
	FL Fuel System
	EX Exhaust System
	ACC Accelerator Control System
C TRANSMISSION/ TRANSAXLE	CL Clutch
	MT Manual Transaxle
	CVT CVT
D DRIVELINE/AXLE	FAX Front Axle
	RAX Rear Axle
E SUSPENSION	FSU Front Suspension
	RSU Rear Suspension
	WT Road Wheels & Tires
F BRAKES	BR Brake System
	PB Parking Brake System
	BRC Brake Control System
G STEERING	PS Power Steering System
	STC Steering Control System
H RESTRAINTS	SB Seat Belts
	SRS Supplemental Restraint System (SRS)
I BODY	BL Body, Lock & Security System
	GW Glasses, Window System & Mirrors
	RF Roof
	EI Exterior & Interior
	IP Instrument Panel
	SE Seat
J AIR CONDITIONER	MTC Manual Air Conditioner
K ELECTRICAL	SC Starting & Charging System
	LT Lighting System
	DI Driver Information System
	WW Wiper, Washer & Horn
	BCS Body Control System
	LAN LAN System
	AV Audio Visual, Navigation & Telephone System
	ACS Auto Cruise Control System
L MAINTENANCE	PG Power Supply, Ground & Circuit Elements
	MA Maintenance

A
B
C
D
E
F
G
H
I
J
K
L
M

FOREWORD

This manual contains maintenance and repair procedures for the 2010 NISSAN SENTRA.

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

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 NORTH AMERICA, INC.
Technical Publications Department



PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

Your comments are important to NISSAN and will help us to improve our Service Manuals.
Use this form to report any issues or comments you may have regarding our Service Manuals.
Please print this form and type or write your comments below. Mail or fax to:

Nissan North America, Inc.
Technical Service Information
39001 Sunrise Drive, P.O. Box 9200
Farmington Hills, MI USA 48331
FAX: (248) 488-3910

SERVICE MANUAL: Model: _____ Year: _____

PUBLICATION NO. (Refer to Quick Reference Index): _____

Please describe any Service Manual issues or problems in detail:

Page number(s) _____ *Note: Please include a copy of each page, marked with your comments.*

Are the trouble diagnosis procedures logical and easy to use? (circle your answer) YES NO

If no, what page number(s)? _____ *Note: Please include a copy of each page, marked with your comments.*

Please describe the issue or problem in detail: _____

Is the organization of the manual clear and easy to follow? (circle your answer) YES NO

Please comment: _____

What information should be included in NISSAN Service Manuals to better support you in servicing or repairing customer vehicles?

DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

CITY: _____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERENCE CHART: SENTRA

Engine Tune-up Data: MR20DE

INFOID:0000000006057183

GENERAL SPECIFICATIONS

Engine type		MR20DE
Cylinder arrangement		In-line 4
Displacement	cm ³ (cu in)	1,997 (121.86)
Bore and stroke	mm (in)	84.0 x 90.1 (3.307 x 3.547)
Valve arrangement		DOHC
Firing order		1-3-4-2
Number of piston rings	Compression	2
	Oil	1
Compression ratio		10.2
Compression pressure kPa (bar, kg/cm ² , psi) / 250 rpm	Standard	1,390 (13.9, 14.2, 202)
	Minimum	1,140 (11.4, 11.6, 165)
	Differential limit between cylinders	100 (1.0, 1.0, 15)

DRIVE BELT

Tension of drive belt	Auto adjustment by auto-tensioner
-----------------------	-----------------------------------

SPARK PLUG

Unit: mm (in)

Application	Except for California	For California
Make	NGK	Denso
Standard type*	PLZKAR6A-11	FXE20HR-11
Spark plug gap	Nominal: 1.1 (0.043)	

*: Always check with the Parts Department for the latest parts information

Engine Tune-up Data: QR25DE

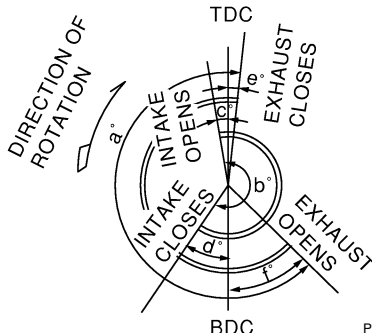
INFOID:0000000006057182

GENERAL SPECIFICATIONS

Model		SE-R	SE-R Spec V
Cylinder arrangement		In-line 4	
Displacement	cm ³ (in ³)	2,488 (151.82)	
Bore and stroke	mm (in)	89.0 x 100 (3.50 x 3.94)	
Valve arrangement		DOHC	
Firing order		1-3-4-2	
Number of piston rings	Compression	2	
	Oil	1	
Compression ratio		9.5:1	10.5:1

QUICK REFERENCE CHART: SENTRA

2010

Compression pressure kPa (kg/cm ² , psi) / 250 rpm	Standard	1,250 (12.8, 181.3)
	Minimum	1,060 (10.8, 153.7)
	Differential limit between cylinders	100 (1.0, 14)
Valve timing	 PBIC0187E	

Unit: degree

a	b	c	d	e	f
224°	244°	0°	64°	3°	41°

DRIVE BELTS

Tension of drive belts	Auto adjustment by auto tensioner
------------------------	-----------------------------------

SPARK PLUG

Unit: mm (in)

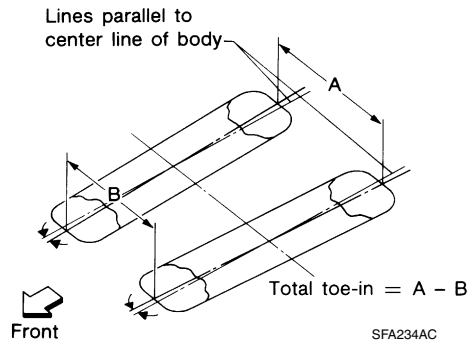
Make	NGK	
Type*	Standard	DILKAR6A-11
Gap (nominal)	1.1 (0.043)	

*: Always check with the Parts Department for the latest parts information

Front Wheel Alignment (Unladen*)

INFOID:0000000006057181

Engine			MR20DE	QR25DE
Model			2.0, 2.0 S, 2.0 SR, 2.0 SL, 2.0 FFV	SE-R, SE-R SPEC-V
Camber Degree minute (Decimal degree)*1	LH	Minimum	-0° 31' (-0.52°)	-0° 46' (-0.77°)
		Nominal	0° 7' (0.12°)	-0° 8' (-0.13°)
		Maximum	0° 45' (0.75°)	0° 30' (0.50°)
	RH	Minimum	-0° 45' (-0.75°)	-1° 0' (-1.00°)
		Nominal	-0° 7' (-0.12°)	-0° 22' (-0.37°)
		Maximum	0° 31' (0.52°)	0° 16' (0.27°)
Caster Degree minute (Decimal degree)*2	LH	Minimum	4° 5' (4.08°)	4° 25' (4.42°)
		Nominal	4° 43' (4.72°)	5° 3' (5.05°)
		Maximum	5° 21' (5.35°)	5° 41' (5.68°)
	RH	Minimum	4° 19' (4.32°)	4° 39' (4.65°)
		Nominal	4° 57' (4.95°)	5° 17' (5.28°)
		Maximum	5° 35' (5.58°)	5° 55' (5.92°)
Kingpin inclination Degree minute (Decimal degree)	LH		10° 48' (10.80°)	11° 13' (11.22°)
	RH		11° 2' (11.03°)	11° 27' (11.45°)



Total toe-in	Distance (A - B)	Minimum	-0.8 mm (-0.03 in)	-1 mm (-0.04 in)
		Nominal	0.2 mm (0.01 in)	0 mm (0.00 in)
		Maximum	1.2 mm (0.05 in)	1 mm (0.04 in)
	Angle (left or right, each side) Degree minute (Degree)	Minimum	-0° 2' 12" (-0.04°)	-0° 2' 42" (-0.045°)
		Nominal	0° 0' 30" (0.01°)	0° 00' (0.00°)
		Maximum	0° 3' 12" (0.05°)	0° 2' 42" (0.045°)

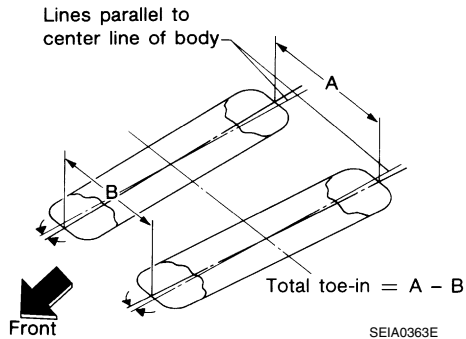
*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

*1: The LH camber angle shall be $+14' \pm 39'$ with respect to RH camber angle.

*2: The LH caster angle shall be $-14' \pm 39'$ with respect to RH caster angle.

Rear Wheel Alignment (Unladen*)

INFOID:000000006057179



Model		2.0, 2.0 S, 2.0 SR, 2.0 SL	SE-R	SE-R SPEC-V
Camber Degree minute (Decimal degree)	Minimum	- 2° 00' (- 2.00°)	- 2° 00' (- 2.00°)	- 2° 00' (- 2.00°)
	Nominal	- 1° 30' (- 1.50°)	- 1° 30' (- 1.50°)	- 1° 30' (- 1.50°)
	Maximum	- 1° 00' (- 1.00°)	- 1° 00' (- 1.00°)	- 1° 00' (- 1.00°)
Total toe-in	Distance (A - B)	Minimum	- 3.0 mm (- 0.118 in)	- 2.0 mm (- 0.079 in)
		Nominal	1.0 mm (0.039 in)	2.0 mm (0.079 in)
		Maximum	5.0 mm (0.197 in)	6.0 mm (0.236 in)
	Angle (A-B) Per wheel Degree minute (Decimal degree)	Minimum	- 0° 8' (- 0.14°)	- 0° 5' (- 0.09°)
		Nominal	0° 3' (0.05°)	0° 5' (0.09°)
		Maximum	0° 14' (0.23°)	0° 17' (0.28°)

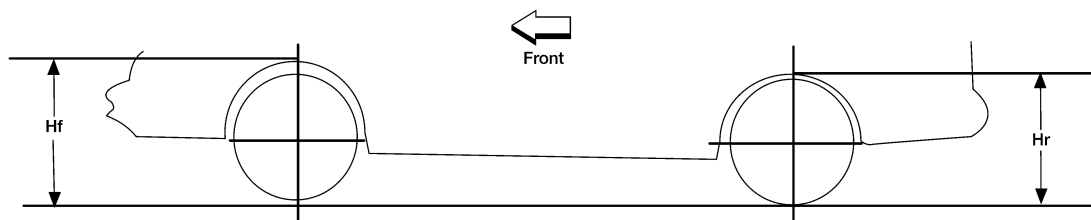
*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

QUICK REFERENCE CHART: SENTRA

2010

Wheelarch Height (Unladen*)

INFOID:0000000006057180



LEIA0085E

Engine	MR20DE		QR25DE	
Model	2.0	2.0 S, 2.0 SR, 2.0 SL	SE-R	SE-R SPEC-V
Tire Size	P205/60HR15	P205/55HR16	P225/45VR17	P225/45WR17
Front (Hf) mm (in)	691 (27.20)	694 (27.32)	690 (27.17)	679 (26.73)
Rear (Hr) mm (in)	693 (27.28)	696 (27.40)	690 (27.17)	677 (26.65)

*: Fuel, radiator coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

Brake Specification

INFOID:0000000006057177

Unit: mm (in)

Applied model		MR20DE	QR25DE	
		Base, S, SR, SL	SE-R	SE-R SPEC-V
Front disc brake	Brake model	CLZ25VB	CLZ25VJ	AD25V
	Cylinder bore diameter	57.2 (2.252)	57.2 (2.252)	57.15 (2.250)
	Pad thickness	11 (0.433)	11 (0.433)	11 (0.433)
	Rotor outer diameter × thickness	280 × 24.0 (11.02 × 0.945)	296 × 26.0 (11.65 × 1.024)	320 × 28.0 (12.60 × 1.102)
Rear disc brake	Brake model	—	AD9A/DS17	
	Cylinder bore diameter	—	34.93 (1.375)	
	Pad thickness	—	8.5 (0.335)	
	Rotor outer diameter × thickness	—	292 × 9.0 (11.50 × 0.354)	
Rear drum brake	Brake model	LT23E	—	—
	Cylinder bore diameter	19.05 (0.750)	—	—
	Lining Length × width × thickness	194.1 × 35 × 2.9 (7.642 × 1.378 × 0.114)	—	—
	Drum inner diameter	228.6 (9.000)	—	—
Master cylinder	Cylinder bore diameter	23.81 (0.937)		
Brake booster	Booster model	C255		
	Diaphragm diameter	255 (10.04)		
Recommended brake fluid		DOT 3		

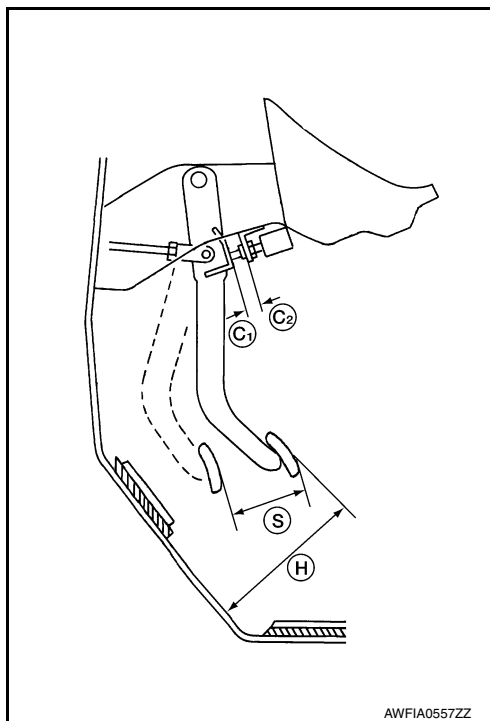
QUICK REFERENCE CHART: SENTRA

2010

Brake Pedal

INFOID:0000000006057178

Unit: mm (in)



Brake pedal height (H) (from dash lower panel top surface)	CVT	164.0 - 174.0 (6.46 - 6.85)
	M/T	164.0 - 174.0 (6.46 - 6.85)
Brake pedal full stroke (S) [under a force of 490 N (50 kg-f, 110 lb-f) with engine running]	CVT	135.1 (5.32)
	M/T	135.1 (5.32)
Clearance between stopper bracket and threaded end of the stop lamp switch and ASCD cancel switch (C1 and C2)		0.74 - 1.96 (0.0291 - 0.0772)

Front Disc Brake

INFOID:0000000006057174

CLZ25VB

Unit: mm (in)

Brake pad	Standard thickness (new)	11 (0.433)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	24.0 (0.945)
	Repair limit thickness	22.0 (0.866)
	Runout limit	0.035 (0.0014)
	Maximum uneven wear (measured at 8 positions)	0.02 mm (0.0008 in) or less

CLZ25VJ

Unit: mm (in)

Brake pad	Standard thickness (new)	11 (0.433)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	26.0 (1.024)
	Repair limit thickness	24.0 (0.945)
	Runout limit	0.035 (0.0014)
	Maximum uneven wear (measured at 8 positions)	0.02 mm (0.0008 in) or less

AD25V

QUICK REFERENCE CHART: SENTRA

2010

Unit: mm (in)

Brake pad	Standard thickness (new)	11 (0.433)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	28.0 (1.102)
	Repair limit thickness	26.0 (1.024)
	Runout limit	0.035 (0.0014)
	Maximum uneven wear (measured at 8 positions)	0.02 mm (0.0008 in) or less

Rear Disc Brake

INFOID:000000006057175

DA9A/DS17

Unit: mm (in)

Brake pad	Standard thickness (new)	8.5 (0.335)
	Repair limit thickness	2.0 (0.079)
Disc rotor	Standard thickness (new)	9.0 (0.354)
	Repair limit thickness	8.0 (0.315)
	Runout limit	0.07 (0.0028)
	Maximum uneven wear (measured at 8 positions)	0.015 mm (0.0006 in) or less

Rear Drum Brake

INFOID:000000006057176

LT23E

Unit: mm (in)

Brake lining	Standard thickness (new)	2.9 (0.114)
	Repair limit thickness	1.5 (0.059)
Drum	Standard inner diameter (new)	228.6 (9.000)
	Repair limit inner diameter	230.0 (9.055)

Fluids and Lubricants: MR20DE

INFOID:000000006057172

Description		Capacity (Approximate)		
		Liter	US measure	Imp measure
Fuel		55.0	14 1/2 gal	12 1/8 gal
Engine oil Drain and refill	With oil filter change	3.9	4 1/8 qt	3 3/8 qt
	Without oil filter change	3.6	3 7/8 qt	3 1/8 qt
Dry engine (engine overhaul)		4.4	4 5/8 qt	3 7/8 qt
Cooling system (with reservoir at MAX level)		7.0	7 3/8 qt	6 1/8 qt
Manual transaxle fluid (MTF)		2.0	4 1/4 pt	3 1/2 pt
CVT fluid		7.3	7 3/4 qt	6 3/8 qt
Brake and clutch fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		3.5	3 3/4 qt	3 1/8 qt
Air conditioning system refrigerant		0.50 ± 0.05 kg	1.10 ± 0.11 lb	1.10 ± 0.11 lb
Air conditioning system oil		150 mℓ	5.03 fl oz	5.3 fl oz

QUICK REFERENCE CHART: SENTRA

2010

Fluids and Lubricants: QR25DE

INFOID:000000006057173

Description		Capacity (Approximate)		
		Liter	US measure	Imp measure
Fuel		55.0	14 1/2 gal	12 1/8 gal
Engine oil Drain and refill	With oil filter change	4.3	4 1/2 qt	3 3/4 qt
	Without oil filter change	4.0	4 1/4 qt	3 1/2 qt
Dry engine (engine overhaul)		5.1	5 3/8 qt	4 1/2 qt
Cooling system (with reservoir at MAX level)	M/T models	6.9	7 1/4 qt	6 1/8 qt
	CVT models	7.1	7 1/2 qt	6 1/4 qt
Manual transaxle fluid (MTF)		1.7	3 5/8 pt	3 pt
CVT fluid		7.5	7 7/8 qt	6 5/8 qt
Brake and clutch fluids		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		3.5	3 3/4 qt	3 1/8 qt
Air conditioning system refrigerant		0.50 ± 0.05 kg	1.10 ± 0.11 lb	1.10 ± 0.11 lb
Air conditioning system oil		150 m ℓ	5.03 fl oz	5.3 fl oz