

Edition: September 2006
Revision: December 2006
Publication No. SM7E-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
	PG Power Supply, Ground & Circuit Elements
L MAINTENANCE	MA Maintenance
M INDEX	IDX Alphabetical Index

A

B

C

D

E

F

G

H

I

J

K

L

M

FOREWORD

This manual contains maintenance and repair procedures for the 2007 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

PFP:00000

Engine Tune-Up Data - MR20DE

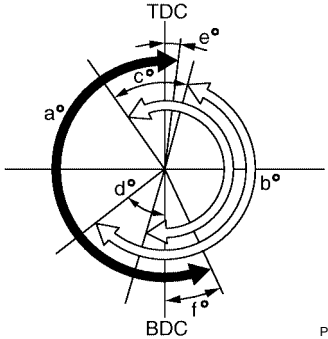
ELS002B5

General Specifications

Engine type		MR20DE
Cylinder arrangement		In-line 4
Displacement cm ³ (in ³)		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)

Valve Timing

Unit: degree

Valve timing						
	a	b	c	d	e	f
	220	232	-13 (27)	65 (25)	7	33

(): Valve timing control "ON"

QUICK REFERENCE CHART: SENTRA

2007

Drive Belt Deflection and Tension

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

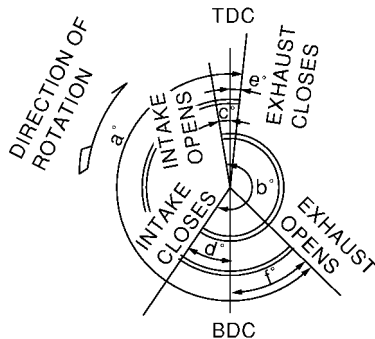
Spark Plug

Plug type	Platinum-tipped
Make	NGK
Standard type	PLZKAR6A-11
Spark plug gap	Nominal: 1.1 mm (0.043 in)

Engine Tune-Up Data - QR25DE

ELS002DJ

General Specifications

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
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		

Unit: degree

a	b	c	d	e	f
224°	244°	0°	64°	3°	41°

Drive Belt Deflection and Tension

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)

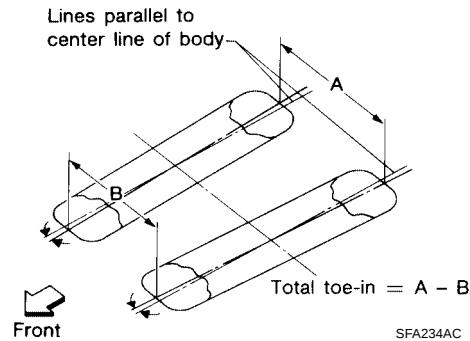
QUICK REFERENCE CHART: SENTRA

2007

Front Wheel Alignment (Unladen*)

ELS002B6

Engine		MR20DE	QR25DE	
Model		2.0, 2.0 S, 2.0 SL	SE-R	SE-R SPEC-V
Camber Degree minute (Decimal degree)	Minimum	-0° 55' (-0.92°)	-0° 55' (-0.92°)	-1° 00' (-1.00°)
	Nominal	-0° 10' (-0.17°)	-0° 10' (-0.17°)	-0° 15' (-0.25°)
	Maximum	0° 35' (0.58°)	0° 35' (0.58°)	0° 30' (0.50°)
	Left and right difference (RH - LH)	0° 45' (0.75°) or less	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Caster Degree minute (Decimal degree)	Minimum	4° 10' (4.17°)	4° 15' (4.25°)	4° 25' (4.42°)
	Nominal	4° 55' (4.92°)	5° 00' (5.00°)	5° 10' (4.17°)
	Maximum	5° 40' (5.67°)	5° 45' (5.75°)	5° 55' (5.92°)
	Left and right difference (RH - LH)	0° 45' (0.75°) or less	0° 45' (0.75°) or less	0° 45' (0.75°) or less
Kingpin inclination Degree minute (Decimal degree)		11° 05' (11.08°)	11° 05' (11.08°)	11° 20' (11.33°)



Total toe-in	Distance (A - B)	Minimum	-1 mm (-0.04 in)	-1 mm (-0.04 in)	-1 mm (-0.04 in)
		Nominal	0 mm (0.00 in)	0 mm (0.00 in)	0 mm (0.00 in)
		Maximum	1 mm (0.04 in)	1 mm (0.04 in)	1 mm (0.04 in)
	Angle (left or right, each side) Degree minute (Degree)	Minimum	-0° 02' (-0.03°)	-0° 02' (-0.03°)	-0° 02' (-0.03°)
		Nominal	0° 00' (0.00°)	0° 00' (0.00°)	0° 00' (0.00°)
		Maximum	0° 02' (0.03°)	0° 02' (0.03°)	0° 02' (0.03°)

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

Rear Wheel Alignment (Unladen*)

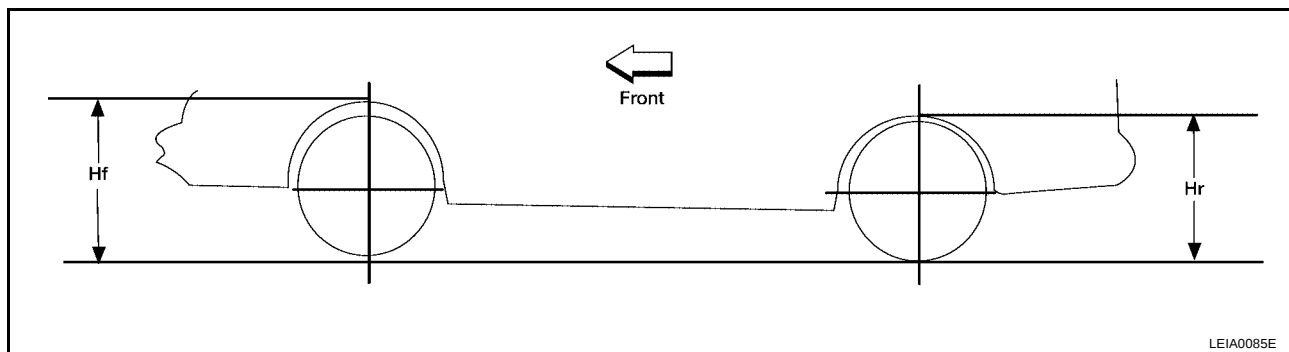
ELS002B7

Model		2.0, 2.0 S, 2.0 SL	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)	4.0 mm (0.157 in)
				7.0 mm (0.276 in)

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

Wheelarch Height (Unladen*)

ELS002B8



LEIA0085E

Engine	MR20DE		QR25DE	
Model	2.0	2.0 S, 2.0 SL	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 - General Specifications

ELS002B9

Applied model		MR20DE	QR25DE	
		Base	SE-R	SE-R Spec-V
Front disc brake	Brake model	CLZ25VF	CLZ25VJ	AD25V
	Cylinder bore diameter	57.2 mm (2.252 in)	57.2 mm (2.252 in)	57.15 mm (2.250 in)
	Pad thickness	11 mm (0.433 in)	11 mm (0.433 in)	11 mm (0.433 in)
	Rotor outer diameter × thickness	280 mm × 24.0 mm (11.02 in × 0.945 in)	296 mm × 26.0 mm (11.65 in × 1.024 in)	320 mm × 28.0 mm (12.60 in × 1.102 in)
Rear disc brake	Cylinder bore diameter	—	34.93 mm (1.375 in)	
	Pad thickness	—	8.5 mm (0.335 in)	
	Rotor outer diameter × thickness	—	292 mm × 9.0 mm (11.50 in × 0.354 in)	
Rear drum brake	Brake model	LT20D	—	—
	Cylinder bore diameter	15.87 mm (0.625 in)	—	—
	Lining Length × width × thickness	194.1 mm × 30.0 mm × 4.0 mm (7.642 in × 1.181 in × 0.157 in)	—	—
	Drum inner diameter	228.6 mm (9.000 in)	—	—
Master cylinder	Cylinder bore diameter	22.22 mm (0.875 in)		
Control valve	Valve model	Electric brake force distribution		
Brake booster	Booster model	C255		
	Diaphragm diameter	255 mm (10.04 in)		
Recommended brake fluid		Refer to ! Hyper-link Error ! .		

Front Disc Brake - Repair Limits CLZ25VF

ELS002DK

Unit: mm (in)

Brake pad	Standard thickness (new)	11 (0.433)
	Repair limit thickness	2.0 (0.079)

QUICK REFERENCE CHART: SENTRA

2007

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

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 - Repair Limits

ELS002DL

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 - Repair Limits

ELS002DM

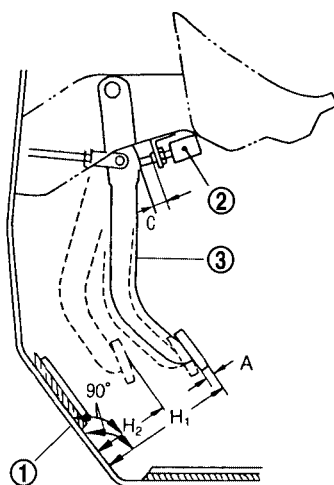
Unit: mm (in)

Brake model	LT20D	
Brake lining	Standard thickness (new)	4.0 (0.157)
	Repair limit thickness	1.5 (0.059)
Drum	Standard inner diameter (new)	228.6 (9.000)
	Repair limit inner diameter	230.0 (9.055)

Brake Pedal

ELS002DN

Unit: mm (in)



WFIA0511E

H1	Brake pedal initial height (from dash panel top surface)	164.0 - 174.0 mm (6.45 - 6.85 in)
H2	Brake pedal depressed height (under a force of 490 N (50 kg-f, 110 lb-f) with the engine running)	—
C	Clearance between the threaded end of stop lamp switch or ASCD switch, if equipped (2) and brake pedal lever (3).	0.74 - 1.96 mm (0.0291 - 0.0772 in)
A	Pedal play	3 - 11 mm (0.12 - 0.43 in)

Refill Capacities

ELS002BA

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	3.8	4 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	1 7/8 gal	1 1/2 gal
Manual transaxle fluid (MTF)		2.0	4 1/4 pt	3 1/2 pt
CVT fluid		8.3	8 3/4 qt	7 1/4 qt
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		120 mℓ	5.03 fl oz	5.3 fl oz

QUICK REFERENCE CHART: SENTRA

2007

ELS002D0

Refill Capacities MR20DE

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	3.8	4 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	1 7/8 gal	1 1/2 gal
Manual transaxle fluid (MTF)		2.0	4 1/4 pt	3 1/2 pt
CVT fluid		8.3	8 3/4 qt	7 1/4 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		120 m ℓ	5.03 fl oz	5.3 fl oz

QR25DE

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	4.9	5 1/8 qt	4 3/8 qt
	Without oil filter change	4.6	4 7/8 qt	4 qt
Dry engine (engine overhaul)		5.0	5 1/4 qt	4 3/8 qt
Cooling system (with reservoir at max level)		7.6	2 gal	1 5/8 gal
Manual transaxle fluid (MTF)		2.0	4 1/4 pt	3 1/2 pt
CVT fluid		8.3	8 3/4 qt	7 1/4 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		120 m ℓ	5.03 fl oz	5.3 fl oz