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# NISSAN SENTRA

MODEL B16 SERIES

## QUICK REFERENCE INDEX

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	<b>EC Engine Control System</b>
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	<b>ACC Accelerator Control System</b>
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	<b>SE Seat</b>
<b>J AIR CONDITIONER</b>	<b>MTC Manual Air Conditioner</b>
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	<b>DI Driver Information System</b>
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	<b>BCS Body Control System</b>
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	<b>AV Audio Visual, Navigation &amp; Telephone System</b>
	<b>ACS Auto Cruise Control System</b>
	<b>PG Power Supply, Ground &amp; Circuit Elements</b>
<b>L MAINTENANCE</b>	<b>MA Maintenance</b>

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

# FOREWORD

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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.

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## 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.



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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.*

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**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: \_\_\_\_\_

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

Please comment: \_\_\_\_\_

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

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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:000000006057183

GENERAL SPECIFICATIONS

Engine type		MR20DE
Cylinder arrangement		In-line 4
Displacement	cm <sup>3</sup> (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 <sup>2</sup> , 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
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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:000000006057182

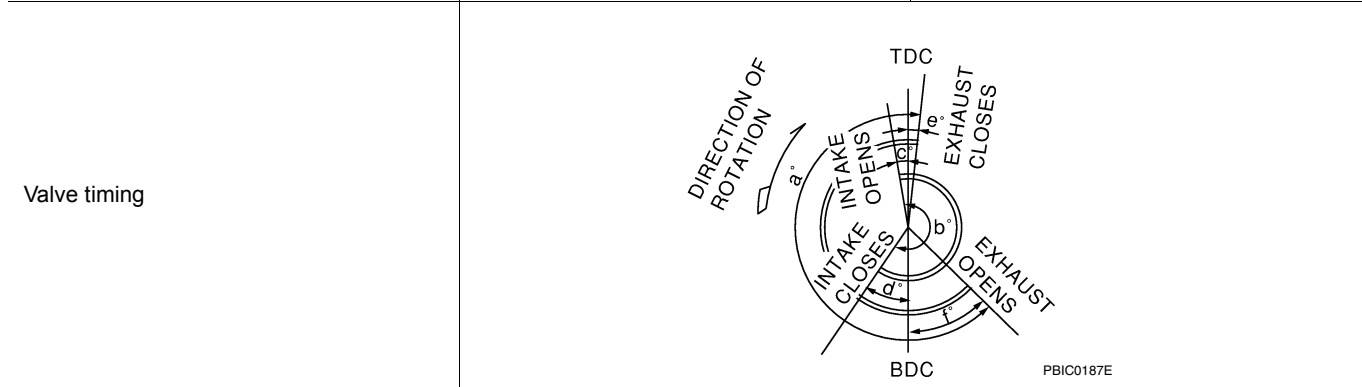
GENERAL SPECIFICATIONS

Model	SE-R	SE-R Spec V
Cylinder arrangement	In-line 4	
Displacement cm <sup>3</sup> (in <sup>3</sup> )	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 <sup>2</sup> , 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)



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
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## SPARK PLUG

Unit: mm (in)

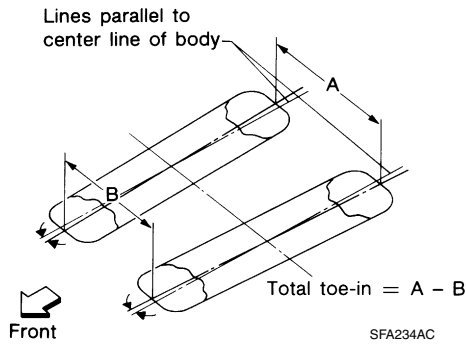
Make	NGK	
Type*	Standard	DILKAR6A-11
Gap (nominal)	1.1 (0.043)	

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

## Front Wheel Alignment (Unladen\*)

INFOID:000000006057181

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)* <sup>1</sup>	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)* <sup>2</sup>	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°)

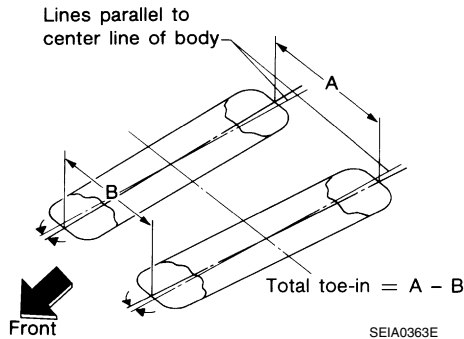
\*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

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

\*2: The LH caster angle shall be -14' ± 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)	-1.0 mm (-0.039 in)
		Nominal	1.0 mm (0.039 in)	2.0 mm (0.079 in)	3.0 mm (0.118 in)
		Maximum	5.0 mm (0.197 in)	6.0 mm (0.236 in)	7.0 mm (0.276 in)
	Angle (A-B) Per wheel Degree minute (Decimal degree)	Minimum	-0° 8' (-0.14°)	-0° 5' (-0.09°)	-0° 3' (-0.05°)
		Nominal	0° 3' (0.05°)	0° 5' (0.09°)	0° 8' (0.14°)
		Maximum	0° 14' (0.23°)	0° 17' (0.28°)	0° 19' (0.32°)

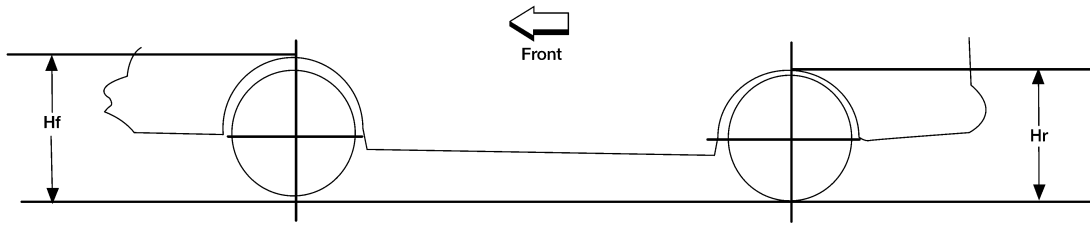
\*: Fuel, engine coolant and engine oil full. Spare tire, jack, hand tools and mats in designated positions.

# QUICK REFERENCE CHART: SENTRA

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## Wheelarch Height (Unladen\*)

INFOID:000000006057180



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:000000006057177

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		

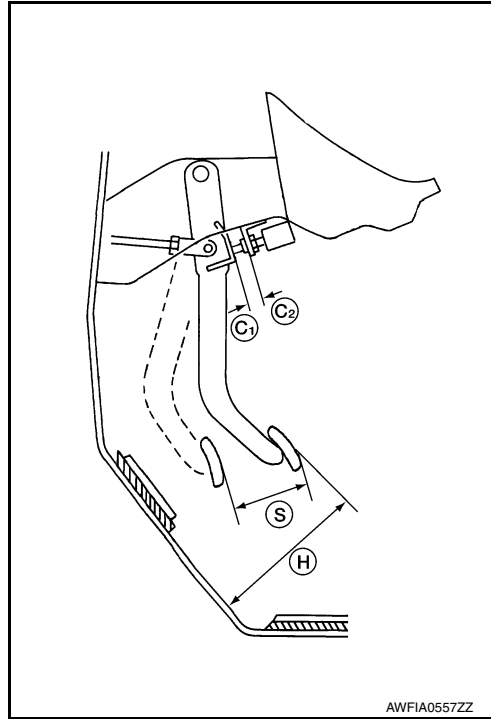
# QUICK REFERENCE CHART: SENTRA

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## Brake Pedal

INFOID:000000006057178

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:000000006057174

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

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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
	Without oil filter change	3.6	3 7/8 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