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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

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FOREWORD

This manual contains maintenance and repair procedures for the 2012 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.



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Technical Publications Department



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Technical Service Information
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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:000000007738592

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 (kg/cm ² , psi) / 250 rpm	Standard	1,390 (14.2, 202)
	Minimum	1,140 (11.6, 165)
	Differential limit between cylinders	100 (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:000000007738591

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
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)	

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Valve timing	PBIC0187E
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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*)

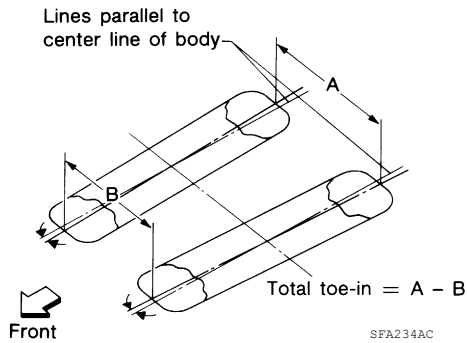
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Model			MR20DE	QR25DE SE-R	QR25DE SE-R SPEC-V
Camber Degree minute (Decimal degree)	LH	Minimum	-0° 37' (-0.62°)		-0° 42' (-0.70°)
		Nominal	-0° 10' (-0.17°)		-0° 15' (-0.25°)
		Maximum	0° 29' (0.48°)		0° 24' (0.40°)
	RH	Minimum	-0° 49' (-0.82°)		-0° 54' (-0.90°)
		Nominal	-0° 10' (-0.17°)		-0° 15' (-0.25°)
		Maximum	0° 17' (0.28°)		0° 12' (0.20°)
	LH - RH	Minimum	-0° 22' (-0.37°)		-0° 22' (-0.37°)
		Nominal	0° 0' (0.0°)		0° 0' (0.0°)
		Maximum	0° 46' (0.77°)		0° 46' (0.77°)
Caster Degree minute (Decimal degree)	LH	Minimum	4° 15' (4.25°)		4° 30' (4.50°)
		Nominal	4° 48' (4.80°)		5° 3' (5.05°)
		Maximum	5° 21' (5.35°)		5° 36' (5.60°)
	RH	Minimum	4° 29' (4.48°)		4° 44' (4.73°)
		Nominal	5° 02' (5.03°)		5° 17' (5.28°)
		Maximum	5° 35' (5.58°)		5° 50' (5.83°)
	LH - RH	Minimum	-0° 48' (-0.80°)		-0° 48' (-0.80°)
		Nominal	-0° 14' (-0.23°)		-0° 14' (-0.23°)
		Maximum	0° 20' (0.33°)		0° 20' (0.33°)

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Kingpin inclination	LH	10° 58' (10.97°)	11° 13' (11.22°)
Degree minute (Decimal degree)	RH	11° 12' (11.20°)	11° 27' (11.45°)

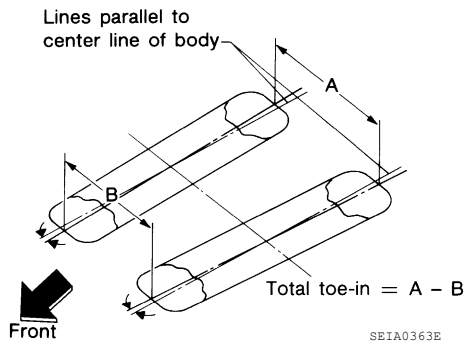


Toe-in	Distance (A - B)	Minimum	Out 2.0 mm (Out 0.07 in)	Out 2 mm (Out 0.07 in)
		Nominal	0.0 mm (0.00 in)	0.0 mm (0.00 in)
		Maximum	In 2.0 mm (In 0.07 in)	In 2 mm (In 0.07 in)
	Angle Degree minute (Decimal degree)	Minimum	Out 0° 9' 36" (Out 0.16°)	Out 0° 9' 36" (Out 0.16°)
		Nominal	In 0° 0' 0" (In 0.00°)	In 0° 0' 0" (In 0.00°)
		Maximum	In 0° 9' 36" (In 0.16°)	In 0° 9' 36" (In 0.16°)

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

Rear Wheel Alignment (Unladen*)

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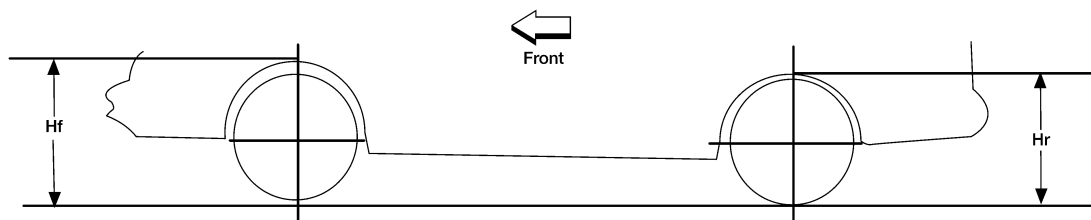


Model			MR20DE	QR25DE	
				SE-R	SE-R SPEC-V
Camber Degree minute (Decimal degree)		Minimum	- 2° 00' (- 2.00°)	- 2° 00' (- 2.00°)	- 2° 00' (- 2.00°)
		Nominal	- 1° 30' (- 1.50°)	- 1° 30' (- 1.50°)	- 1° 30' (- 1.50°)
		Maximum	- 1° 00' (- 1.00°)	- 1° 00' (- 1.00°)	- 1° 00' (- 1.00°)
Toe-in	Distance (A - 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 Degree minute (Decimal degree)	Minimum	Out 0° 6' (Out 0.10°)	Out 0° 1' 12" (Out 0.02°)	In 0° 4' 48" (Out 0.08°)
		Nominal	In 0° 6' (In 0.10°)	In 0° 10' 48" (In 0.18°)	In 0° 16' 48" (In 0.28°)
		Maximum	In 0° 18' (In 0.30°)	In 0° 22' 48" (In 0.38°)	In 0° 28' 48" (In 0.48°)

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

Wheelarch Height (Unladen*)

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Engine	MR20DE		QR25DE	
Tire Size	P205/60HR15	P205/55HR16	P225/45VR17	P225/45WR17
Front (Hf) mm (in)	689 (27.13)	692 (27.24)	690 (27.17)	679 (26.73)
Rear (Hr) mm (in)	688 (27.09)	692 (27.24)	690 (27.17)	677 (26.65)

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

Brake Specifications

INFOID:000000007738586

Unit: mm (in)

Applied model		MR20DE	QR25DE	
		Base, S, SR, SL	SE-R	SE-R SPEC-V
Front disc brake	Brake model	CLZ25VB	CLZ25VJ	AD25
	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		

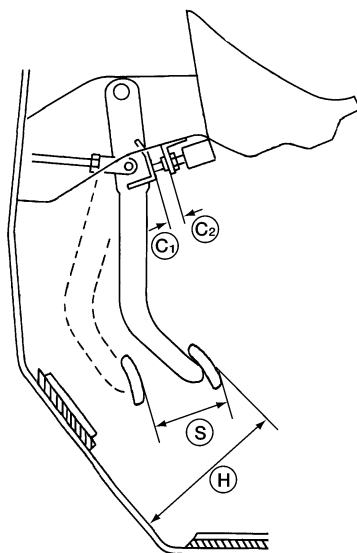
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Brake Pedal

INFOID:000000007738587

Unit: mm (in)



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Brake pedal height (H) (from dash lower panel top surface)	164.0 +10.0/-0.0 (6.46 +39.0/-0.0)
Brake pedal full stroke (S)	135.1 (5.32)
Clearance between pedal stopper bracket and threaded end of the stop lamp switch (C1) and ASCD cancel switch (C2), if equipped.	0.74 - 1.96 (0.0291 - 0.0772)

Front Disc Brake

INFOID:000000007738583

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 (0.0008) 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 (0.0008) or less

AD25

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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 (0.0008) or less

Rear Disc Brake

INFOID:000000007738584

AD9A/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 (0.0006) or less

Rear Drum Brake

INFOID:000000007738585

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)

MR20DE

INFOID:000000007738581

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 ± 0.025 kg	1.10 ± 0.055 lb	1.10 ± 0.055 lb
Air conditioning system oil		150 mℓ	5.03 fl oz	5.3 fl oz

QUICK REFERENCE CHART: SENTRA

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QR25DE

INFOID:000000007738582

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 ± 0.025 kg	1.10 ± 0.055 lb	1.10 ± 0.055 lb
Air conditioning system oil		150 m ℓ	5.03 fl oz	5.3 fl oz