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NISSAN SENTRA

MODEL B17 SERIES

QUICK REFERENCE INDEX

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GI	General Information
EM	Engine Mechanical
LU	Engine Lubrication System
CO	Engine Cooling System
EC	Engine Control System
FL	Fuel System
EX	Exhaust System
STR	Starting System
ACC	Accelerator Control System
HBC	Hybrid Control System
CL	Clutch
TM	Transaxle & Transmission
DLN	Driveline
FAX	Front Axle
RAX	Rear Axle
FSU	Front Suspension
RSU	Rear Suspension
SCS	Suspension Control System
WT	Road Wheels & Tires
BR	Brake System
PB	Parking Brake System
BRC	Brake Control System
ST	Steering System
STC	Steering Control System
SB	Seat Belt
SBC	Seat Belt Control System
SR	SRS Airbag
SRC	SRS Airbag Control System
VTL	Ventilation System
HA	Heater & Air Conditioning System
HAC	Heater & Air Conditioning Control System
INT	Interior
IP	Instrument Panel
SE	Seat
ADP	Automatic Drive Positioner
DLK	Door & Lock
SEC	Security Control System
GW	Glass & Window System
PWC	Power Window Control System
RF	Roof
EXT	Exterior
BRM	Body Repair Manual
MIR	Mirrors
EXL	Exterior Lighting System
INL	Interior Lighting System
WW	Wiper & Washer
DEF	Defogger
HRN	Horn
PWO	Power Outlet
BCS	Body Control System
LAN	LAN System
PCS	Power Control System
CHG	Charging System
PG	Power Supply, Ground & Circuit Elements
MWI	Meter, Warning Lamp & Indicator
WCS	Warning Chime System
SN	Sonar System
AV	Audio, Visual & Navigation System
CCS	Cruise Control System
DMS	Drive Mode System
MA	Maintenance

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FOREWORD

This manual contains maintenance and repair procedure for the 2013 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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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

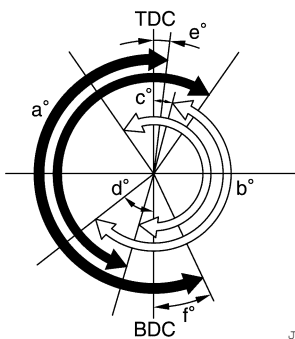
Engine Tune-up Data

INFOID:000000009022398

GENERAL SPECIFICATIONS

Engine type		MRA8DE
Cylinder arrangement		In-line 4
Displacement cm ³ (cu. in)		1,798 (109.7)
Bore and stroke mm (in)		79.7x90.1 (3.138x3.547)
Valve arrangement		DOHC
Firing order		1-3-4-2
Number of piston rings	Compression	2
	Oil	1
Compression ratio		9.9
Compression pressure kPa (bar, kg/cm ² , psi)/250 rpm	Standard	1,380 (13.8, 14.1, 200.2)
	Minimum	1,220 (12.2, 12.4, 176.9)
	Differential limit between cylinders	100 (1.0, 1.0, 14.5)

Unit: degree

Valve timing ↶ Intake valve ↷ Exhaust valve						
	a	b	c	d	e	f
	220	228	-4 (35) ATDC	52 (13) ABDC	4 (64) ATDC	36 (-24) BBDC

(): Valve timing control "ON"

Drive Belt

INFOID:000000009022399

DRIVE BELT

Tension of drive belt	Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
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Spark Plug

INFOID:000000009022400

SPARK PLUG

Unit: mm (in)

Make		NGK
Standard type*		DILKAR6A-11 (California) or PLZKAR6A-11 (except California)
Gap (Nominal)	Standard	0.9 (0.035)
	Limit	1.1 (0.043)

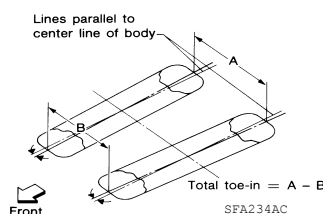
*:Always check with the Parts Department for the latest parts information.

Front Wheel Alignment (Unladen*¹)

INFOID:000000009022397

UNITED STATES and CANADA

Camber Degree minute (Decimal degree)	Minimum	-1° 04' (-1.07°)
	Nominal	-0° 25' (-0.42°)
	Maximum	0° 14' (0.23°)
	(LH) and (RH) difference* ²	-0° 35' (-0.58°) - 0° 35' (0.58°)
Caster Degree minute (Decimal degree)	Minimum	4° 05' (4.08°)
	Nominal	4° 50' (4.83°)
	Maximum	5° 35' (5.58°)
	(LH) and (RH) difference* ²	-0° 45' (-0.75°) - 0° 45' (0.75°)
Kingpin inclination Degree minute (Decimal degree)	Minimum	11° 20' (11.33°)
	Nominal	12° 05' (12.08°)
	Maximum	12° 50' (12.83°)



Total toe-in	Distance (A - B)	Minimum	In 1 mm (In 0.04 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.12 in)
	Angle (LH and RH) Degree minute (Decimal degree)	Minimum	In 0° 04' (In 0.07°)
		Nominal	In 0° 10' (In 0.17°)
		Maximum	In 0° 16' (In 0.27°)

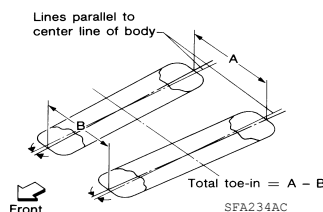
*1: Fuel, engine coolant, and lubricants are full. Spare tire, jack, hand tools, and mats are in designated positions.

*2: The difference when assuming the (LH) side is the standard.

Rear Wheel Alignment (Unladen*¹)

INFOID:000000009022395

Camber Degree minute (Decimal degree)	Minimum	-2° 00' (-2.00°)
	Nominal	-1° 30' (-1.50°)
	Maximum	-1° 00' (-1.00°)



QUICK REFERENCE CHART: SENTRA

2013

Total toe-in	Distance (A - B)	Minimum	Out 1.0 mm (Out 0.039 in)
		Nominal	In 3.0 mm (In 0.118 in)
		Maximum	In 7.0 mm (In 0.276 in)
	Angle (LH and RH)* ² Degree minute (Decimal degree)	Minimum	Out 0° 03' (Out 0.05°)
		Nominal	In 0° 20' (In 0.33°)
		Maximum	In 0° 43' (In 0.71°)

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

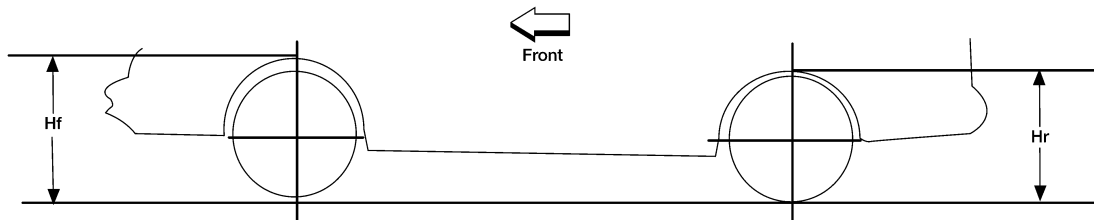
*2: Since an adjustment mechanism is not included, the value of the left and right wheels (both wheels) must be used as the standard value.

Wheelarch Height (Unladen*)

INFOID:000000009022396

UNITED STATES

Unit: mm (in)



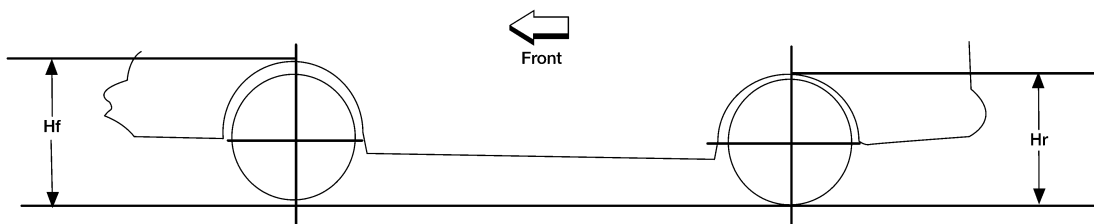
LEIA0085E

Transaxle	6M/T or CVT	CVT	
Tire size	205/55R16 (Except FE)	205/55R16 (FE)	205/50R17
Front (Hf)	703 (27.68)	706 (27.80)	708 (27.87)
Rear (Hr)	703 (27.68)	706 (27.80)	707 (27.83)

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

CANADA

Unit: mm (in)



LEIA0085E

Transaxle	6M/T or CVT	CVT
Tire size	205/55R16	205/50R17
Front (Hf)	704 (27.72)	709 (27.91)
Rear (Hr)	704 (27.72)	708 (27.87)

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

QUICK REFERENCE CHART: SENTRA

2013

Brake Specifications

INFOID:000000009022393

Unit: mm (in)

Front brake	Cylinder bore diameter	57.2 (2.252)
	Pad length × width × thickness	123.6 × 50.0 × 11.0 (4.866 × 1.969 × 0.433)
	Rotor outer diameter × thickness	280 × 24.0 (11.024 × 0.945)
Rear brake - drum	Cylinder bore diameter	19.05 (0.750)
	Lining length × width × thickness	Leading: 183.2 × 40 × 4.9 (7.213 × 1.575 × 0.193) Trailing: 219 × 40 × 4.9 (8.622 × 1.575 × 0.193)
	Drum inner diameter - new	228 (8.976)
Rear brake - disc	Cylinder bore diameter	34.93 (1.375)
	Pad length × width × thickness	83.0 × 33.0 × 8.5 (3.268 × 1.299 × 0.335)
	Rotor outer diameter × thickness	292 × 9.0 (11.496 × 0.354)
Master cylinder	Cylinder bore diameter	23.81 (0.937)
Control valve	Valve type	Electric brake force distribution
Brake booster	Diaphragm diameter	257 (10.118)

Brake Pedal

INFOID:000000009022394

Unit: mm (in)

Item	Standard
Brake pedal height	160.4 – 170.4 (6.31 – 6.71)
Depressed brake pedal height [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	70.0 (2.756) or more
Clearance between stop lamp switch and brake pedal position switch (with brake pedal position switch) threaded end and the brake pedal lever	0.74 – 1.96 (0.03 – 0.08)
Brake pedal play	3 – 11 (0.12 – 0.43)

Front Disc Brake

INFOID:000000009022390

Unit: mm (in)

Item	Limit
Brake pad	Wear thickness 2.0 (0.079)
Disc rotor	Wear thickness 22.0 (0.866)
	Thickness variation (measured at 8 positions) 0.008 (0.0003)
	Runout (with it attached to the vehicle) 0.035 (0.0014)

Rear Drum Brake

INFOID:000000009022391

Unit: mm (in)

Item	Limit
Brake lining	Wear thickness 1.0 (0.039)
Brake drum	Wear inner diameter- maximum 230 (9.055)

Rear Disc Brake

INFOID:000000009022392

Unit: mm (in)

Item	Limit
Brake pad	Wear thickness 1.0 (0.039)

QUICK REFERENCE CHART: SENTRA

2013

Item		Limit
Disc rotor	Wear thickness	8.0 (0.315)
	Thickness variation (measured at 8 positions)	0.016 (0.0006)
	Runout (with it attached to the vehicle)	0.1 (0.0039)

Fluids and Lubricants

INFOID:0000000009022389

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		50.0 ℓ	13-1/4 gal	11 gal
Engine oil Drain and refill	With oil filter change	4.0 ℓ	4-1/4 qt	3-1/2 qt
	Without oil filter change	3.8 ℓ	4 qt	3-3/8 qt
Dry engine (engine overhaul)		4.8 ℓ	5-1/8 qt	4-1/4 qt
Cooling system (with reservoir tank at MAX level)		6.6 ℓ	7 qt	5-7/8 qt
CVT fluid		6.9 ℓ	7-1/4 qt	6-1/8 qt
Manual transaxle gear oil		2.0 ℓ	4-1/4 pt	3-1/2 pt
Brake and clutch fluid		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	4-3/4 qt	4 qt
Air conditioner system refrigerant		0.45 ± 0.05 kg	0.992 ± 0.110 lb	0.992 ± 0.110 lb
Air conditioner system oil		90 m ℓ	3.0 fl oz	3.2 fl oz