

Edition: June 2008

Revision: October 2008

Publication No. SM9E-1A35U0

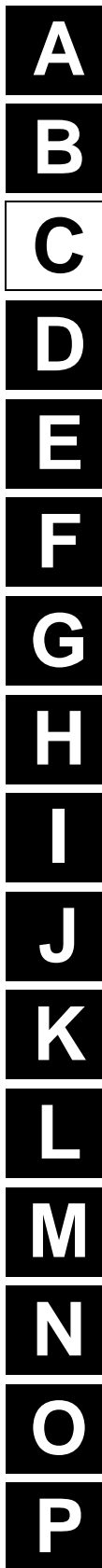
QUICK REFERENCE INDEX

NISSAN MAXIMA

MODEL A35 SERIES

All rights reserved. No part of this Service Manual may be reproduced or stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photo-copying, recording or otherwise, without the prior written permission of Nissan North America, Inc.

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	
	STR Starting System	
	ACC Accelerator Control System	
	C HYBRID	HBC Hybrid Control System
		HBB Hybrid Battery System
HBR Hybrid Brake System		
D TRANSMISSION & DRIVE-LINE	CL Clutch System	
	TM Transaxle & Transmission	
	DLN Driveline	
	FAX Front Axle	
	RAX Rear Axle	
E SUSPENSION	FSU Front Suspension	
	RSU Rear Suspension	
	SCS Suspension Control System	
	WT Road Wheels & Tires	
F BRAKES	BR Brake System	
	PB Parking Brake System	
	BRC Brake Control System	
G STEERING	ST Steering System	
H RESTRAINTS	STC Steering Control System	
	SB Seat Belt	
	SBC Seat Belt Control System	
	SR SRS Airbag	
	SRC SRS Airbag Control System	
I VENTILATION, HEATER & AIR CONDITIONER	VTL Ventilation System	
	HA Heater & Air Conditioning System	
	HAC Heater & Air Conditioning Control System	
	INT Interior	
J BODY 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	
K BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY	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	
L DRIVER CONTROLS	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		
O CRUISE CONTROL	CCS Cruise Control System	
P MAINTENANCE	MA Maintenance	



FOREWORD

This manual contains maintenance and repair procedure for the 2009 NISSAN Maxima.

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: MAXIMA

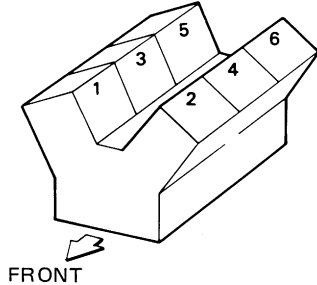
Engine Tune-up Data

INFOID:000000004455940

GENERAL SPECIFICATIONS

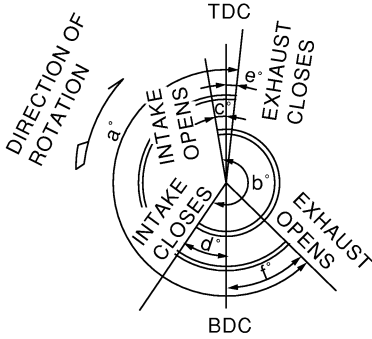
Cylinder arrangement		V-6
Displacement cm ³ (cu in)		3,498 (213.45)
Bore and stroke mm (in)		95.5 x 81.4 (3.760 x 3.205)
Valve arrangement		DOHC
Firing order		1-2-3-4-5-6
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		4
Compression ratio		10.3:1
Compression pressure kPa (kg/cm ² , psi)/300 rpm	Standard	1,275 (13.0, 185)
	Minimum	981 (10.0, 142)
	Differential limit between cylinders	98 (1.0, 14)

Cylinder number



SEM713A

Valve timing
(Valve timing control - "OFF")



PBIC0187E

Unit: degree

a	b	c	d	e	f
240	240	-10	70	10	50

INFOID:000000004455941

DRIVE BELT

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

QUICK REFERENCE CHART: MAXIMA

2009

INFOID:000000004455942

SPARK PLUG

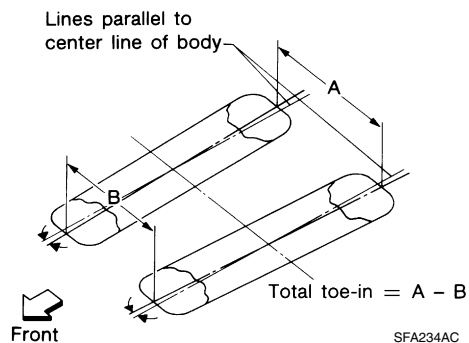
Unit: mm (in)

Make	DENSO		
Standard type	FXE22HR11		
Gap	Standard	1.1 (0.043)	
	Limit	1.4 (0.055)	

Front Wheel Alignment (Unladen*)

INFOID:000000004455943

Market		USA/Canada		Mexico	
Tire size		245/45R18	245/40R19	245/45R18	245/40R19
Camber Degree minute (Decimal degree)	LH	Minimum	-1°5' (-1.10°)	-1°10' (-1.15°)	-0°55' (-0.95°)
		Nominal	-0°20' (-0.35°)	-0°40' (-0.65°)	-0°10' (-0.20°)
		Maximum	0°25' (0.40°)	0°20' (0.35°)	0°35' (0.55°)
	RH	Minimum	-1°20' (-1.35°)	-1°25' (-1.40°)	-1°10' (-1.20°)
		Nominal	-0°35' (-0.60°)	-0°40' (-0.65°)	-0°25' (-0.45°)
		Maximum	0°10' (0.15°)	0°05' (0.10°)	0°20' (0.30°)
	Maximum left and right difference		-0°15' ± 0°33' (-0.25° ± 0.55°)		
Caster Degree minute (Decimal degree) Against ground surface	Minimum	4°10' (4.20°)	4°15' (4.25°)	3°45' (3.75°)	
	Nominal	4°55' (4.95°)	5°00' (5.00°)	4°30' (4.50°)	
	Maximum	5°40' (5.70°)	5°45' (5.75°)	5°15' (5.25°)	
	Maximum left and right difference	0°33' (0.55°)			
Kingpin offset Degree minute (Decimal degree)	Minimum	13°40' (13.65°)		13°20' (13.35°)	
	Nominal	14°25' (14.40°)		14°05' (14.10°)	
	Maximum	15°10' (15.15°)		14°50' (14.85°)	



Total toe-in	Distance (A - B)	Minimum	0 mm
		Nominal	1 mm
		Maximum	2 mm

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

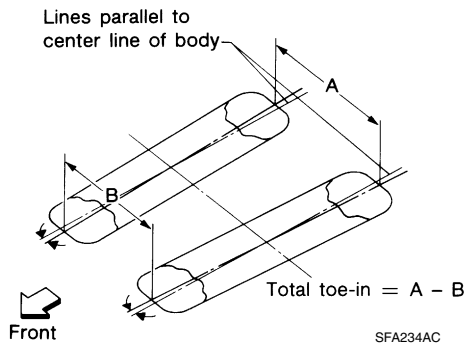
QUICK REFERENCE CHART: MAXIMA

2009

Rear Wheel Alignment (Unladen*)

INFOID:000000004455945

Market		USA*1	USA*2	Canada*1	Canada*2	Mexico
Camber Degree minute (Decimal degree)	Minimum	-0° 55' (-0.92°)	-1° 02' (-1.03°)	-0° 52' (-0.87°)	-1° 02' (-1.03°)	-0° 10' (-0.17°)
	Nominal	-0° 25' (-0.42°)	-0° 32' (-0.53°)	-0° 22' (-0.37°)	-0° 32' (-0.53°)	0° 20' (0.33°)
	Maximum	0° 05' (0.08°)	-0° 02' (-0.03°)	0° 8' (0.13°)	-0° 02' (-0.03°)	0° 50' (0.83°)



Total toe-in	Distance (A - B) mm (in)	Minimum	-0.4 (0.02)	0 (0)	-0.4 (0.02)	0 (0)	0 (0)
		Nominal	1.2 (0.05)	1.6 (0.06)	1.2 (0.05)	1.6 (0.06)	1.6 (0.06)
		Maximum	2.8 (0.11)	3.2 (0.13)	2.8 (0.11)	3.2 (0.13)	3.2 (0.13)
	Distance difference between RH or LH side mm (in)	Minimum	-2 (-0.08)				
		Nominal	0 (0)				
		Maximum	2 (0.08)				
	Angle (left or right) Degree minute (decimal degree)	Minimum	-0° 1' (-0.02°)	0° 0' (0.00°)	-0° 1' (-0.02°)	0° 0' (0.00°)	0° 0' (0.00°)
		Nominal	0° 3' (0.05°)	0° 4' (0.07°)	0° 3' (0.05°)	0° 4' (0.07°)	0° 4' (0.07°)
		Maximum	0° 7' (0.12°)	0° 8' (0.13°)	0° 7' (0.12°)	0° 8' (0.13°)	0° 8' (0.13°)

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

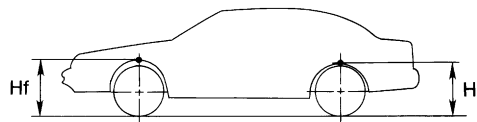
*1: 18" tire.

*2: 19" tire.

Wheelarch Height (Unladen*1)

INFOID:000000004455944

Unit: mm (in)



SFA818A

Market	USA/Canada			Mexico	
Tire size	P245/45R18 *2	P245/45R18 *3	P245/40R19	P245/45R18	P245/40R19
Front (Hf)	721 (28.39)	721 (28.39)	724 (28.50)	730 (28.74)	733 (28.86)
Rear (Hr)	736 (28.98)	734 (28.90)	736 (28.98)	754 (29.68)	757 (29.80)

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

QUICK REFERENCE CHART: MAXIMA

2009

*2: Without top load sunroof

*3: With top load sunroof

Brake Specifications

INFOID:000000004455946

Unit: mm (in)

Brake model		Kiriū	
Wheel size		457 (18)	483 (19)
Front brake	Cylinder bore diameter	57.15 (2.250)	
	Pad length × width × thickness	123.6 × 47.5 × 11 (4.866 × 1.870 × 0.433)	
	Rotor outer diameter × thickness	320 × 28 (12.598 × 1.102)	TBD
Rear brake	Brake model	Kiriū	
	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	308 × 16 (12.126 × 0.630)	
Master cylinder	Cylinder bore diameter	23.81 (0.937)	
Control valve	Valve model	Electric brake force distribution	
Brake booster	Booster model	Bosch	
Recommended brake fluid		DOT 3	

Front Disc Brake

INFOID:000000004455947

Unit: mm (in)

Brake model		Kiriū	
Wheel size		457 (18)	483 (19)
Brake pad	Standard thickness (new)	11.0 (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)	
	Thickness variation (measured at 8 positions)	0.015 (0.0006)	
	Maximum runout (with it attached to the vehicle)	0.035 (0.0014)	

Rear Disc Brake

INFOID:000000004455948

Unit: mm (in)

Brake model		Kiriū	
Wheel size		457 (18)	483 (19)
Brake pad	Standard thickness (new)	8.5 (0.335)	
	Repair limit thickness	1.0 (0.039)	
Disc rotor	Standard thickness (new)	16.0 (0.630)	
	Repair limit thickness	14.0 (0.551)	
	Thickness variation (measured at 8 positions)	0.015 (0.0006)	
	Maximum runout (with it attached to the vehicle)	0.05 (0.002)	

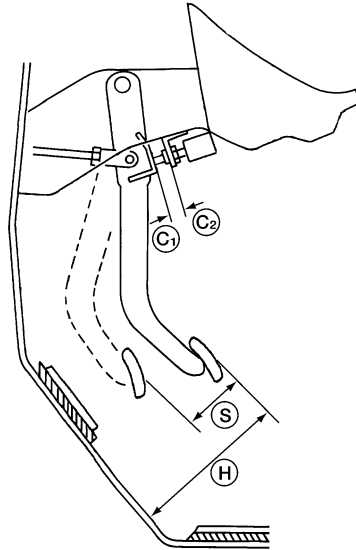
QUICK REFERENCE CHART: MAXIMA

2009

Brake Pedal

INFOID:000000004455949

Unit: mm (in)



AWFIA0433ZZ

Brake pedal free height (H)	190.7 - 202.7 (7.51 - 7.98)
Brake pedal full stroke (S)	130.0 (5.12)
Clearance between brake pedal bracket and threaded end of stop lamp switch and ASCD cancel switch (C1) or (C2)	0.74 - 1.96 (0.0291 - 0.0772)

Fluids and Lubricants - US and Canada

INFOID:000000004455950

Description	Capacity (Approximate)			Recommended Fluids/Lubricants
	US measure	Imp measure	Liter	
Fuel	20 gal	16-5/8 gal	75.6	Unleaded gasoline with an octane rating of at least 91 AKI (RON 96)
Engine oil Drain and refill	With oil filter change	4-7/8 qt	4 qt	<ul style="list-style-type: none"> Engine oil with API Certification Mark *1*2 Viscosity SAE 5W-30 *2
	Without oil filter change	4-1/2 qt	3-3/4 qt	
Dry engine (Overhaul)	5-1/4 qt	4-3/8 qt	5.0	
Cooling system with reservoir tank	2-1/8 gal	1-3/4 gal	8.2	Genuine NISSAN Long Life Antifreeze/Coolant or equivalent
CVT fluid	10-3/4 qt	9 qt	10.2	Genuine NISSAN CVT Fluid NS-2 *3
Power steering fluid (PSF)	1-1/8 qt	7/8 qt	1.0	Genuine NISSAN PSF or equivalent*4
Brake fluid	—	—	—	Genuine NISSAN Super Heavy Duty Brake Fluid*4 or equivalent DOT 3 (US FMVSS No. 116)
Brake grease	—	—	—	PBC (poly butyl cuprysil)
Brake pad plate grease	—	—	—	Molykote AS880N grease or equivalent
Multi-purpose grease	—	—	—	NLGI No. 2 (Lithium soap base)
Air conditioning system refrigerant	1.21 ± 0.055 lb	—	0.55 ± 0.025 kg	HFC-134a (R-134a) *5

QUICK REFERENCE CHART: MAXIMA

2009

Description	Capacity (Approximate)			Recommended Fluids/Lubricants
	US measure	Imp measure	Liter	
Air conditioning system oil	5.03 fl oz	5.3 fl oz	150 mℓ	NISSAN A/C System Oil Type S or equivalent *5
Windshield washer fluid	—	—	—	Genuine NISSAN Windshield Washer Concentrate Cleaner & Antifreeze or equivalent

*1: For further details, see "Engine Oil Recommendation".

*2: NISSAN recommends Genuine NISSAN Ester Engine Oil available at your NISSAN dealer.

***3: Using automatic transmission fluid other than Genuine NISSAN CVT Fluid NS-2 will damage the CVT, which is not covered by the NISSAN new vehicle limited warranty.**

*4: DEXRON™ VI type ATF or Canada NISSAN Automatic Transmission Fluid may also be used.

*5: For further details, see "Air conditioning specification label".

Fluids and Lubricants - Mexico

INFOID:000000004455951

		Capacity (Approximate)		Recommended Fluids/Lubricants
		Liter	Imp measure	
Engine oil Drain and refill	With oil filter change	4.6	4 qt	Genuine NISSAN engine oil*1 API grade SL or SM*1
	Without oil filter change	4.3	3-3/4 qt	
Dry engine (engine overhaul)		5.4	4-3/4 qt	ILSAC grade GF-2, GF-3 or GF-4*1 Viscosity SAE 10W-30
Cooling system (with reservoir)		8.2	1-3/4 gal	Genuine NISSAN Engine Coolant or equivalent in its quality*2
CVT fluid		10.2	9 qt	Genuine NISSAN CVT fluid NS-2*3
Brake fluid		—	—	DOT 3 (US FMVSS No. 116)
Power steering fluid		1.0	7/8 qt	Genuine NISSAN PSF or equivalent *4
Multi-purpose grease		—	—	NLGI No. 2 (Lithium soap base)

*1: For further details, see "SAE Viscosity Number".

*2: Use Genuine NISSAN Engine Coolant or equivalent in its quality, in order to avoid possible aluminum corrosion within the engine cooling system caused by the use of non-genuine engine coolant.

Note that any repairs for the incidents within the engine cooling system while using non-genuine engine coolant may not be covered by the warranty even if such incidents occurred during the warranty period.

***3: Using transmission fluid other than Genuine NISSAN CVT fluid NS-2 will damage the CVT, which is not covered by the warranty.**

*4: DEXTRON™ VI type ATF may also be used.