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NISSAN ALTIMA

MODEL L33 SERIES

QUICK REFERENCE INDEX

FOREWORD

This manual contains maintenance and repair procedure for the 2015 NISSAN ALTIMA Sedan.

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
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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.*

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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?

_____

_____

_____

_____

DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

CITY:_____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERENCE CHART: ALTIMA

Engine Tune-up Data: QR25DE

INFOID:0000000011378265

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		10.0:1
Compression pressure kPa (kg/cm^2, psi) / 250 rpm	Standard	1410 (1.41, 14.4, 204.5)
	Minimum	1220 (1.22, 12.4, 176.9)
	Differential limit between cylinders	100 (1.0, 14)

DRIVE BELTS

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

SPARK PLUG

Unit: mm (in)

Make		DENSO
Type*	Standard	FXE20HE11C
Gap (nominal)		1.1 (0.043)

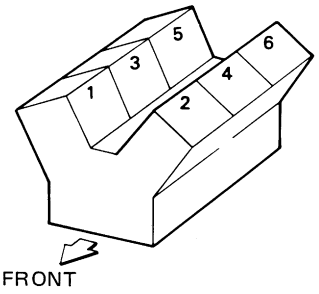
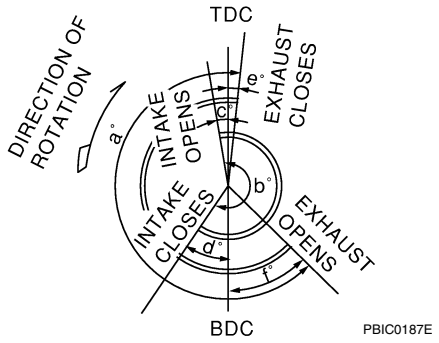
*: Always check with the Parts Department for the latest parts information.

Engine Tune-up Data: VQ35DE

INFOID:0000000011378262

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 (12.75, 13.0, 185)
	Minimum	981 (9.81, 10.0, 142)
	Differential limit between cylinders	98 (0.98, 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

Drive Belt

INFOID:0000000011378263

DRIVE BELT

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

Spark Plug

INFOID:0000000011378264

SPARK PLUG

Unit: mm (in)

Make		DENSO
Standard type*		FXE22HR11
Gap	Standard	1.1 (0.043)

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

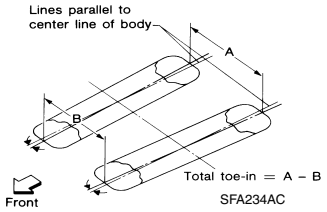
Front Wheel Alignment (Unladen*1)

INFOID:0000000011378261

UNITED STATES

Engine type	QR25DE		VQ35DE
Tire size	215/60R16	215/55R17	235/45R18

Camber *2 Degree minute (Decimal degree)	(LH)	Minimum	-1° 05′ (-1.08°)	
		Nominal	-0° 20′ (-0.33°)	
		Maximum	0° 25′ (0.42°)	
	(RH)	Minimum	-1° 20′ (-1.33°)	
		Nominal	-0° 35′ (-0.58°)	
		Maximum	0° 10′ (0.17°)	
Caster *3 Degree minute (Decimal degree)		Minimum	4° 10′ (4.17°)	4° 15′ (4.25°)
		Nominal	4° 55′ (4.92°)	5° 00′ (5.00°)
		Maximum	5° 40′ (5.67°)	5° 45′ (5.75°)
Kingpin inclination Degree minute (Decimal degree)	(LH)	Minimum	13° 35′ (13.58°)	13° 40′ (13.67°)
		Nominal	14° 20′ (14.33°)	14° 25′ (14.42°)
		Maximum	15° 05′ (15.08°)	15° 10′ (15.17°)
	(RH)	Minimum	13° 50′ (13.83°)	13° 55′ (13.92°)
		Nominal	14° 35′ (14.58°)	14° 40′ (14.67°)
		Maximum	15° 20′ (15.33°)	15° 25′ (15.42°)



Total toe-in	Distance (A - B)	Minimum	Out 1.7 mm (Out 0.07 in)
		Nominal	In 0.3 mm (In 0.01 in)
		Maximum	In 2.3 mm (In 0.09 in)
	Angle (LH and RH) Degree minute (Decimal degree)	Minimum	Out 0° 05′ 38″ (Out 0.094°)
		Nominal	In 0° 03′ 57″ (In 0.066°)
		Maximum	In 0° 13′ 33″ (In 0.226°)

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

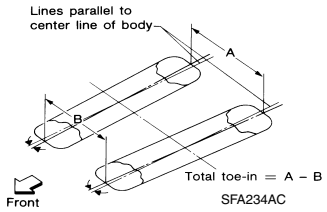
*2: The RH camber angle shall be -0° 15′± 0° 33′ (-0.25°± 0.55°) with respect to the LH camber angle.

*3: For the caster angle, the difference between right and left against the ground surface shall be ± 0° 30′ (± 0.50°) maximum.

CANADA

Engine type			QR25DE		VQ35DE
Tire size			215/60R16	215/55R17	235/45R18
Camber *2 Degree minute (Decimal degree)	(LH)	Minimum	-1° 05′ (-1.08°)		
		Nominal	-0° 20′ (-0.33°)		
		Maximum	0° 25′ (0.42°)		
	(RH)	Minimum	-1° 20′ (-1.33°)		
		Nominal	-0° 35′ (-0.58°)		
		Maximum	0° 10′ (0.17°)		
Caster *3 Degree minute (Decimal degree)		Minimum	4° 10′ (4.17°)		
		Nominal	4° 55′ (4.92°)		
		Maximum	5° 40′ (5.67°)		

Kingpin inclination Degree minute (Decimal degree)	(LH)	Minimum	13° 35′ (13.58°)	13° 40′ (13.67°)
		Nominal	14° 20′ (14.33°)	14° 25′ (14.42°)
		Maximum	15° 05′ (15.08°)	15° 10′ (15.17°)
	(RH)	Minimum	13° 50′ (13.83°)	13° 55′ (13.92°)
		Nominal	14° 35′ (14.58°)	14° 40′ (14.67°)
		Maximum	15° 20′ (15.33°)	15° 25′ (15.42°)



Total toe-in	Distance (A - B)	Minimum	Out 1.7 mm (Out 0.07 in)
		Nominal	In 0.3 mm (In 0.01 in)
		Maximum	In 2.3 mm (In 0.09 in)
	Angle (LH and RH) Degree minute (Decimal degree)	Minimum	Out 0° 05′ 38″ (Out 0.094°)
		Nominal	In 0° 03′ 57″ (In 0.066°)
		Maximum	In 0° 13′ 33″ (In 0.226°)

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

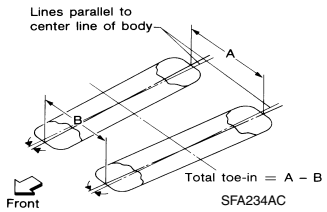
*2: The RH camber angle shall be -0° 15′± 0° 33′ (-0.25°± 0.55°) with respect to the LH camber angle.

*3: For the caster angle, the difference between right and left against the ground surface shall be ± 0° 30′ (± 0.50°) maximum.

Rear Wheel Alignment (Unladen*)

INFOID:0000000011378259

Market		United States	Canada
Camber Degree minute (Decimal degree)	Minimum	−1° 10′ (−1.17°)	−1° 05′ (−1.08°)
	Nominal	−0° 40′ (−0.67°)	−0° 35′ (−0.58°)
	Maximum	−0° 10′ (−0.17°)	−0° 05′ (−0.08°)



Total toe-in	Distance (A - B)	Minimum	Out 2.2 mm (Out 0.087 in)
		Nominal	In 0.8 mm (In 0.031 in)
		Maximum	In 3.8 mm (In 0.150 in)
	Angle (LH and RH) Degree minute (Decimal degree)	Minimum	Out 0° 08′ 02″ (Out 0.134°)
		Nominal	In 0° 03′ 58″ (In 0.066°)
		Maximum	In 0° 15′ 58″ (In 0.266°)

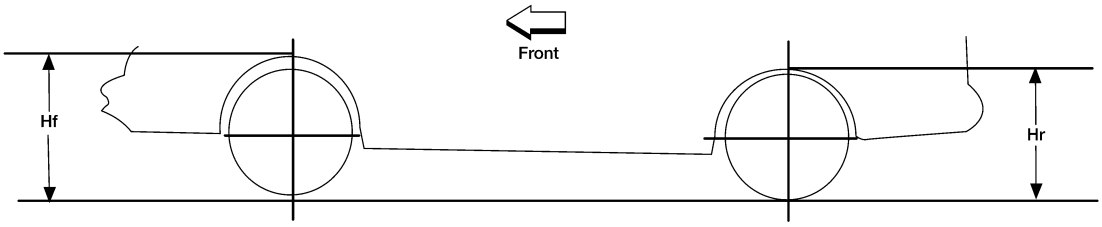
*: Fuel, engine coolant, and lubricants are full. Spare tire, jack, hand tools, and mats are in designated positions.

Wheelarch Height (Unladen*[1])

INFOID:0000000011378260

UNITED STATES

Unit: mm (in)



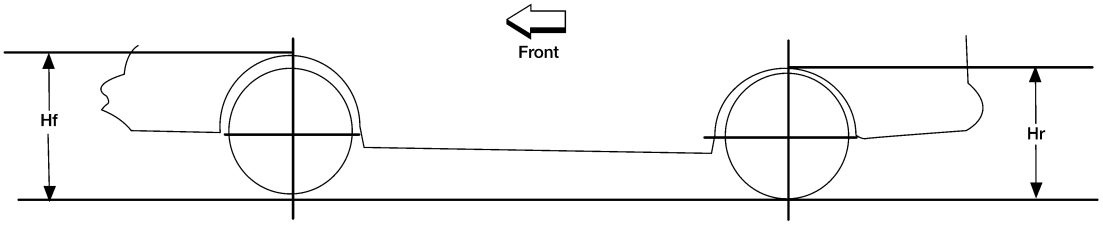
LEIA0085E

Engine	QR25DE		VQ35DE
Tire size	215/60R16	215/55R17	235/45R18
Front (Hf)	708 (27.87)	711 (27.99)	714 (28.11)
Rear (Hr)	706 (27.80)	709 (27.91)	711 (27.99)

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

CANADA

Unit: mm (in)



LEIA0085E

Engine	QR25DE		VQ35DE
Tire size	215/60R16	215/55R17	235/45R18
Front (Hf)	707 (27.83)	710 (27.95)	715 (28.15)
Rear (Hr)	706 (27.80)	710 (27.95)	712 (28.03)

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

Brake Specifications

INFOID:0000000011378257

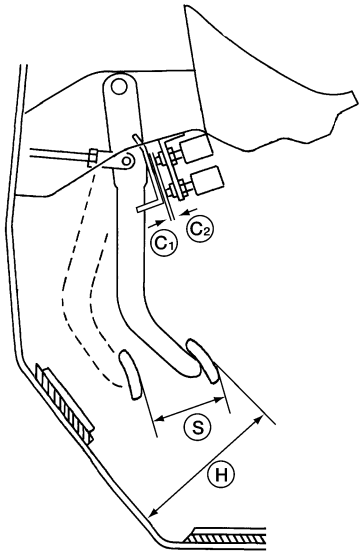
Unit: mm (in)

Front brake	Cylinder bore diameter	57.2 (2.252)
	Pad length × width × thickness	114 × 47 × 10 (4.488 × 1.850 × 0.394)
	Rotor outer diameter × thickness	296 × 26 (11.654 × 1.024)
Rear brake	Cylinder bore diameter	34.93 (1.375)
	Pad length × width × thickness	83 × 33 × 8.5 (3.268 × 1.299 × 0.335)
	Rotor outer diameter × thickness	292 × 9 (11.496 × 0.354)
Master cylinder	Cylinder bore diameter	25 (0.984)
Control valve	Valve model	Electric brake force distribution
Brake booster	Diaphragm diameter	280 (11)
Recommended brake fluid		DOT 3

Brake Pedal

INFOID:0000000011378258

Unit: mm (in)



AWFIA0913ZZ

Item	Standard
Brake pedal height (H) (from dash lower panel top surface)	181.4 - 191.4 (7.1 - 7.5)
Brake pedal full stroke (S)	135.3 (5.3)
Clearance between stopper bracket (C_1) and threaded end of the stop lamp switch and brake pedal position switch (C_2)	0.74 - 1.96 (0.0291 - 0.0772)

Front Disc Brake

INFOID:0000000011378255

Unit: mm (in)

Brake pad	Standard thickness (new)	11.0 (0.433)
	Wear limit thickness	2.0 (0.079)
Disc brake rotor	Standard thickness (new)	26.0 (1.024)
	Wear limit thickness	24.0 (0.945)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Maximum runout (with it attached to the vehicle)	0.040 (0.0016)

Rear Disc Brake

INFOID:0000000011378256

Unit: mm (in)

Brake pad	Standard thickness (new)	8.5 (0.335)
	Wear limit thickness	1.0 (0.039)
Disc brake rotor	Standard thickness (new)	9.0 (0.354)
	Wear limit thickness	8.0 (0.315)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Maximum runout (with it attached to the vehicle)	0.05 (0.0020)

Fluids and Lubricants

INFOID:0000000011378254

The following are approximate capacities. The actual capacities may be slightly different.When refilling, follow the procedures described elsewhere in this manual.

Description			Capacity (Approximate)		
			Metric	US measure	Imp measure
Fuel		QR25DE	68 ℓ	18 gal	15 gal
		VQ35DE			
Engine oil Drain and refill	With oil filter change	QR25DE	4.6 ℓ	4-7/8 qt	4 qt
		VQ35DE	4.8 ℓ	5-1/8 qt	4-1/4 qt
	Without oil filter change	QR25DE	4.3 ℓ	4-1/2 qt	3-3/4 qt
		VQ35DE	4.5 ℓ	4-3/4 qt	4 qt
Dry engine (engine overhaul)		QR25DE	5.3 ℓ	5-5/8 qt	4-5/8 qt
		VQ35DE	5.2 ℓ	5-1/2 qt	4-5/8 qt
Cooling system (with reservoir tank at MAX level)		QR25DE	7.9 ℓ	8-3/8 qt	7 qt
		VQ35DE	9.2 ℓ	9-3/4 qt	8-1/8 qt
CVT fluid		RE0F10D	7.4 ℓ	7-7/8 qt	6-1/2 qt
		RE0F10H	8.2 ℓ	8-5/8 qt	7-1/4 qt
Power steering fluid (E-PSF)			1.1 ℓ	1-1/8 qt	1 qt
Brake fluid			—	—	—
Multi-purpose grease			—	—	—
Windshield washer fluid			4.2 ℓ	4-1/2 qt	3-3/4 qt
Air conditioner system refrigerant			0.525 ± 0.025 kg	1.158 ± 0.055 lb	1.158 ± 0.055 lb
Air conditioner system oil			128 mℓ	4.3 fl oz	4.5 fl oz