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# NISSAN ALTIMA

## MODEL L33 SERIES

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	<b>BRM Body Repair Manual</b>
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	<b>INL Interior Lighting System</b>
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	<b>DEF Defogger</b>
	<b>HRN Horn</b>
	<b>PWO Power Outlet</b>
	<b>BCS Body Control System</b>
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	<b>PCS Power Control System</b>
	<b>CHG Charging System</b>
<b>PG Power Supply, Ground &amp; Circuit Elements</b>	
<b>M ELECTRICAL &amp; POWER CONTROL</b>	<b>MWI Meter, Warning Lamp &amp; Indicator</b>
	<b>WCS Warning Chime System</b>
	<b>SN Sonar System</b>
<b>N DRIVER INFORMATION &amp; MULTIMEDIA</b>	<b>AV Audio, Visual &amp; Navigation System</b>
	<b>CCS Cruise Control System</b>
<b>O CRUISE CONTROL</b>	<b>DAS Driver Assistance System</b>
	<b>MA Maintenance</b>
<b>P MAINTENANCE</b>	

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**A**

**B**

**C**

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# FOREWORD

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This manual contains maintenance and repair procedure for the 2014 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

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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.

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Nissan North America, Inc.  
Technical Service Information  
39001 Sunrise Drive, P.O. Box 9200  
Farmington Hills, MI USA 48331  
FAX: (248) 488-3880

**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: ALTIMA

Engine Tune-up Data: QR25DE

INFOID:0000000011552840

GENERAL SPECIFICATIONS

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

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:0000000011552841

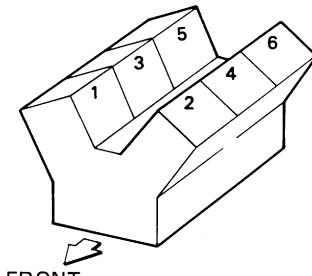
GENERAL SPECIFICATIONS

Cylinder arrangement		V-6
Displacement cm <sup>3</sup> (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 <sup>2</sup> , psi)/300 rpm	Standard	1,275 (13.0, 185)
	Minimum	981 (10.0, 142)
	Differential limit between cylinders	98 (1.0, 14)

# QUICK REFERENCE CHART: ALTIMA

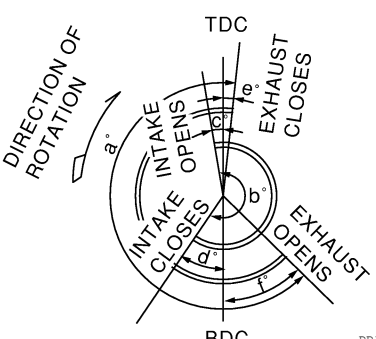
2014

Cylinder number



SEM713A

Valve timing  
(Valve timing control - "OFF")



PBIC0187E

Unit: degree					
a	b	c	d	e	f
240	240	-10 (-35) ATDC	70(25) ABDC	10	50

## Drive Belt

INFOID:0000000011552842

### 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:0000000011552843

### 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\*<sup>1</sup>)

INFOID:0000000011552839

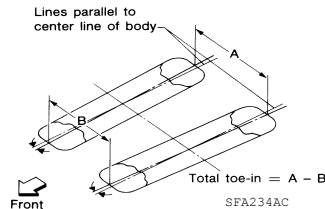
### UNITED STATES

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

# QUICK REFERENCE CHART: ALTIMA

2014

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  $-0° 15' \pm 0° 33'$  ( $-0.25° \pm 0.55°$ ) with respect to the LH camber angle.

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

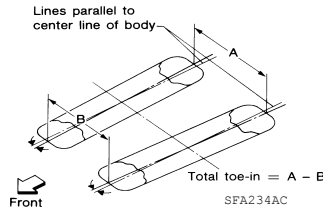
## CANADA

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°)		

# QUICK REFERENCE CHART: ALTIMA

2014

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.

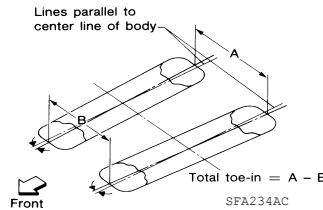
\*2: The RH camber angle shall be  $-0^{\circ} 15' \pm 0^{\circ} 33'$  ( $-0.25^{\circ} \pm 0.55^{\circ}$ ) with respect to the LH camber angle.

\*3: For the caster angle, the difference between right and left against the ground surface shall be  $\pm 0^{\circ} 30'$  ( $\pm 0.50^{\circ}$ ) maximum.

## Rear Wheel Alignment (Unladen\*)

INFOID:000000011552838

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\*<sup>1</sup>)

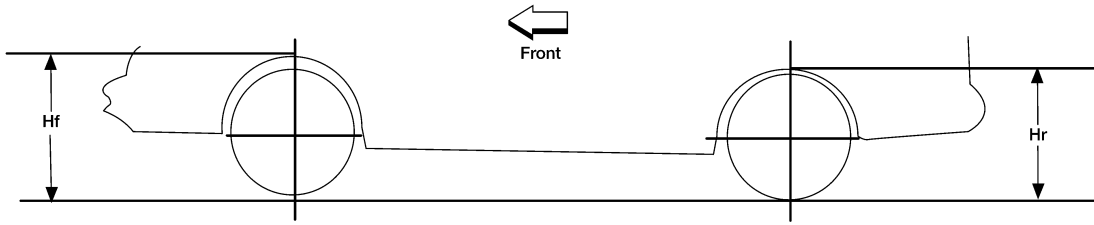
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UNITED STATES

# QUICK REFERENCE CHART: ALTIMA

2014

Unit: mm (in)



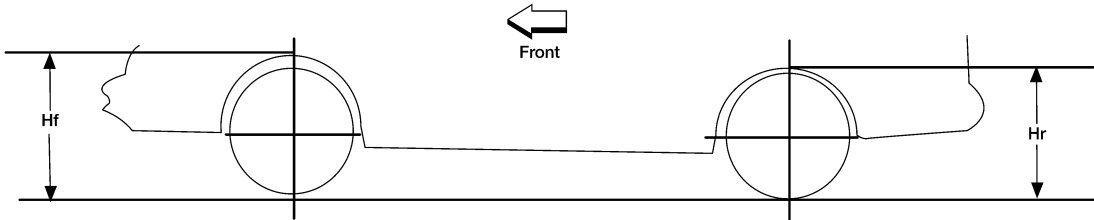
LEIA0085E

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 engine oil full. Spare tire, jack, hand tools and mats 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 engine oil full. Spare tire, jack, hand tools and mats in designated positions.

## Brake Specifications

INFOID:0000000011552836

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



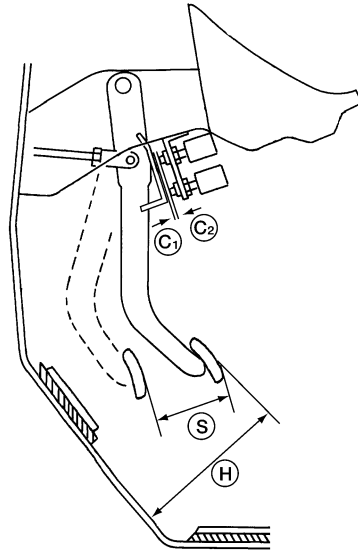
# QUICK REFERENCE CHART: ALTIMA

2014

## Brake Pedal

INFOID:000000011552835

Unit: mm (in)



AWFIA09132Z

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 (C1) and threaded end of the stop lamp switch and brake pedal position switch (C2)	0.74 - 1.96 (0.0291 - 0.0772)

## Front Disc Brake

INFOID:000000011552834

Unit: mm (in)

Brake pad	Standard thickness (new)	11.0 (0.433)
	Wear limit thickness	2.0 (0.079)
Disc 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:000000011552833

Unit: mm (in)

Brake pad	Standard thickness (new)	8.5 (0.335)
	Wear limit thickness	1.0 (0.039)
Disc 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)

# QUICK REFERENCE CHART: ALTIMA

2014

## FOR USA AND CANADA : Fluids and Lubricants

INFOID:000000011552832

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 fil- ter 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	