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INFINITI®

Q50

MODEL V37 SERIES

QUICK REFERENCE INDEX

FOREWORD

This manual contains maintenance and repair procedure for the 2016 INFINITI Q50.

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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PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

Your comments are important to INFINITI 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) 488-3880

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 INFINITI Service Manuals to better support you in servicing or repairing customer vehicles?

_____

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DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

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QUICK REFERENCE CHART Q50

PFP:00000

ENGINE TUNE-UP DATA (VR30DDTT)

Engine model			VR30DDTT
Firing order			1-2-3-4-5-6
Idle speed (In “P” or “N” position)		rpm	650 ± 50
Ignition timing (BTDC at idle speed) (In “P” or “N” position)			10° ± 2°
Tensions of drive belt			Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
Radiater cap relief pressure		kPa (kg/cm^2, psi)	
	Standard		122.3 - 151.7 (1.2 - 1.5, 18 - 22)
	Limit		107 (1.1, 16)
Cooling system leakage testing pressure		kPa (kg/cm^2, psi)	200 (2.04, 29)
Compression pressure		kPa (kg/cm^2, psi)	
	Standard		1,667 - 2,354 (17 - 24, 242 - 341)
	Minimum		1,226 (12.5, 178)
	Differential limit between cylinders		98 (1.0, 14)
Spark plug (Iridium-tipped type)	Make		DENSO
	Standard type		FXE24HR11
	Gap (Nominal)	mm (in)	1.1 (0.043)

ENGINE TUNE-UP DATA (2.0L TURBO GASOLINE ENGINE)

Engine model				2.0L TURBO GASOLINE ENGINE
Firing order				1-3-4-2
Idle speed (In “P” or “N” position)			rpm	750
Ignition timing (BTDC at idle speed) (In “P” or “N” position)				(-15°) - (+20°)
Tensions of drive belt				Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner.
Radiater cap relief pressure			kPa (kg/cm^2, psi)	
	Standard	Stage1		130.0 - 150.0 (1.33 - 1.53, 18.85 - 21.75)
		Stage2		180.0 - 220.0 (1.84 - 2.24, 26.1 - 31.9)
	Testing pressure			140.0 (1.42, 20.3)
Cooling system leakage testing pressure			kPa (kg/cm^2, psi)	196.0 (1.99, 28.4)
Compression pressure			kPa (kg/cm^2, psi)	
	Standard			1,550 (15.81, 224.75)
	Minimum			1,150 (11.73, 166.75)
	Differential limit between cylinders			150 (1.53, 21.75)
Spark plug (Iridium-tipped type)	Make			DENSO
	Standard type			SILZKFR8C7S
	Gap (Nominal)		mm (in)	–

FRONT WHEEL ALIGNMENT

VR30DDTT (2WD MODELS FOR USA AND CANADA)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Except Premium Sport Grade

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 10′ (–1.16°)
		Nominal	–0° 25′ (–0.42°)
		Maximum	0° 20′ (0.33°)
		Left and right difference	0° 30′ (0.50°) or less
Caster Degree minute (Decimal degree)		Minimum	3° 15′ (3.25°)
		Nominal	4° 35′ (4.58°)
		Maximum	5° 55′ (5.91°)
		Left and right difference	0° 30′ (0.50°) or less
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 40′ (6.67°)
		Nominal	7° 25′ (7.42°)
		Maximum	8° 10′ (8.16°)
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.11 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)
		Nominal	In 0° 05′ 02″ (In 0.08°)
		Maximum	In 0° 15′ 07″ (In 0.25°)

Measure value under unladen* conditions.

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

Premium Sport Grade

Item			Standard	
Tire Size		Front	245/40RF19	245/40RF19
		Rear		265/35RF19
Camber Degree minute (Decimal degree)		Minimum	–1° 05′ (–1.08°)	
		Nominal	–0° 20′ (–0.33°)	
		Maximum	0° 25′ (0.41°)	
		Left and right difference	0° 30′ (0.50°) or less	
Caster Degree minute (Decimal degree)		Minimum	3° 20′ (3.34°)	3° 25′ (3.42°)
		Nominal	4° 40′ (4.67°)	4° 45′ (4.75°)
		Maximum	6° 00′ (6.00°)	6° 05′ (6.08°)
		Left and right difference	0° 30′ (0.50°) or less	
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 35′ (6.59°)	
		Nominal	7° 20′ (7.33°)	
		Maximum	8° 05′ (8.08°)	
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)	
		Nominal	In 2 mm (In 0.08 in)	
		Maximum	In 3 mm (In 0.11 in)	
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)	
		Nominal	In 0° 05′ 02″ (In 0.08°)	
		Maximum	In 0° 15′ 07″ (In 0.25°)	

Measure value under unladen* conditions.

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

VR30DDTT (2WD MODELS EXCEPT FOR USA AND CANADA)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–0° 50′ (–0.83°)
		Nominal	–0° 05′ (–0.08°)
		Maximum	0° 40′ (0.66°)
		Left and right difference	0° 30′ (0.50°) or less
Caster Degree minute (Decimal degree)		Minimum	3° 00′ (3.00°)
		Nominal	4° 20′ (4.33°)
		Maximum	5° 40′ (5.66°)
		Left and right difference	0° 30′ (0.50°) or less
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 20′ (6.34°)
		Nominal	7° 05′ (7.08°)
		Maximum	7° 50′ (7.83°)
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.11 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)
		Nominal	In 0° 05′ 02″ (In 0.08°)
		Maximum	In 0° 15′ 07″ (In 0.25°)

Measure value under unladen* conditions.

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

2.0L TURBO GASOLINE ENGINE (2WD MODELS)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 20′ (–1.33°)
		Nominal	–0° 35′ (–0.58°)
		Maximum	0° 10′ (0.16°)
		Left and right difference	0° 30′ (0.50°) or less
Caster Degree minute (Decimal degree)		Minimum	3° 00′ (3.00°)
		Nominal	4° 20′ (4.33°)
		Maximum	5° 40′ (5.66°)
		Left and right difference	0° 30′ (0.50°) or less
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 45′ (6.75°)
		Nominal	7° 30′ (7.50°)
		Maximum	8° 15′ (8.25°)
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.11 in)
	Total toe angle Degree minute (Decimal Degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)
		Nominal	In 0° 05′ 02″ (In 0.08°)
		Maximum	In 0° 15′ 07″ (In 0.25°)

Measure value under unladen* conditions.

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

VR30DDTT (AWD MODELS)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 20′ (–1.33°)
		Nominal	–0° 35′ (–0.58°)
		Maximum	0° 10′ (0.16°)
		Left and right difference	0° 30′ (0.50°) or less
Caster Degree minute (Decimal degree)		Minimum	2° 55′ (2.92°)
		Nominal	4° 15′ (4.25°)
		Maximum	5° 35′ (5.58°)
		Left and right difference	0° 30′ (0.50°) or less
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 45′ (6.75°)
		Nominal	7° 30′ (7.50°)
		Maximum	8° 15′ (8.25°)
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.11 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)
		Nominal	In 0° 05′ 02″ (In 0.08°)
		Maximum	In 0° 15′ 07″ (In 0.25°)

Measure value under unladen* conditions.

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

2.0L TURBO GASOLINE ENGINE (AWD MODELS)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 20′ (–1.33°)
		Nominal	–0° 35′ (–0.58°)
		Maximum	0° 10′ (0.16°)
		Left and right difference	0° 30′ (0.50°) or less
Caster Degree minute (Decimal degree)		Minimum	3° 00′ (3.00°)
		Nominal	4° 20′ (4.33°)
		Maximum	5° 40′ (5.66°)
		Left and right difference	0° 30′ (0.50°) or less
Kingpin inclination Degree minute (Decimal degree)		Minimum	6° 45′ (6.75°)
		Nominal	7° 30′ (7.50°)
		Maximum	8° 15′ (8.25°)
Toe-in	Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)
		Nominal	In 2 mm (In 0.08 in)
		Maximum	In 3 mm (In 0.11 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	Out 0° 05′ 02″ (Out 0.08°)
		Nominal	In 0° 05′ 02″ (In 0.08°)
		Maximum	In 0° 15′ 07″ (In 0.25°)

Measure value under unladen* conditions.

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

REAR WHEEL ALIGNMENT

VR30DDTT (2WD MODELS FOR USA AND CANADA)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Except Premium Sport Grade

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 40′ (–1.66°)
		Nominal	–1° 10′ (–1.17°)
		Maximum	–0° 40′ (–0.67°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 2.8 mm (In 0.110 in)
		Maximum	In 5.6 mm (In 0.220 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	0° 00′ (0.00°)
		Nominal	In 0° 14′ (In 0.23°)
		Maximum	In 0° 28′ (In 0.46°)

Measure value under unladen* conditions.

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

Premium Sport Grade

Item			Standard	
Tire Size		Front	245/40RF19	245/40RF19
		Rear		265/35RF19
Camber Degree minute (Decimal degree)		Minimum	–1° 40′ (–1.66°)	
		Nominal	–1° 10′ (–1.17°)	
		Maximum	–0° 40′ (–0.67°)	
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)	0 mm (0 in)
		Nominal	In 2.8 mm (In 0.110 in)	In 2.7 mm (In 0.106 in)
		Maximum	In 5.6 mm (In 0.220 in)	In 5.4 mm (In 0.210 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	0° 00′ (0.00°)	
		Nominal	In 0° 14′ (In 0.23°)	
		Maximum	In 0° 28′ (In 0.46°)	

Measure value under unladen* conditions.

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

VR30DDTT (2WD MODELS EXCEPT FOR USA AND CANADA)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 25′ (–1.41°)
		Nominal	–0° 55′ (–0.92°)
		Maximum	–0° 25′ (–0.42°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 2.8 mm (In 0.110 in)
		Maximum	In 5.6 mm (In 0.220 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	0° 00′ (0.00°)
		Nominal	In 0° 14′ (In 0.23°)
		Maximum	In 0° 28′ (In 0.46°)

Measure value under unladen* conditions.

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

VR30DDTT (AWD MODELS)

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 40′ (–1.66°)
		Nominal	–1° 10′ (–1.17°)
		Maximum	–0° 40′ (–0.67°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 2.8 mm (In 0.110 in)
		Maximum	In 5.6 mm (In 0.220 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	0° 00′ (0.00°)
		Nominal	In 0° 14′ (In 0.23°)
		Maximum	In 0° 28′ (In 0.46°)

Measure value under unladen* conditions.

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

2.0L TURBO GASOLINE ENGINE

WARNING:

If the vehicle is equipped with the ICC system and the rear toe has been adjusted during a wheel alignment, the ICC sensor must be aligned.

Item			Standard
Camber Degree minute (Decimal degree)		Minimum	–1° 25′ (–1.41°)
		Nominal	–0° 55′ (–0.92°)
		Maximum	–0° 25′ (–0.42°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)
		Nominal	In 2.8 mm (In 0.110 in)
		Maximum	In 5.6 mm (In 0.220 in)
	Total toe-angle Degree minute (Decimal degree)	Minimum	0° 00′ (0.00°)
		Nominal	In 0° 14′ (In 0.23°)
		Maximum	In 0° 28′ (In 0.46°)

Measure value under unladen* conditions.

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

BRAKE PEDAL

Unit: mm (in)

Item	Standard
Brake pedal height	183.0 - 193.0 (7.20 - 7.60)
Depressed brake pedal height [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	126.0 (4.96) or more

FRONT DISC BRAKE

2 Piston Type

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	1.5 (0.059)
Disc rotor	Wear thickness	26.0 (1.024)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

4 Piston Type

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	30.0 (1.181)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.035 (0.0014)

REAR DISC BRAKE

1 Piston Type

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	14.0 (0.551)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.055 (0.0022)

2 Piston Type

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
Disc rotor	Wear thickness	18.0 (0.709)
	Thickness variation (measured at 8 positions)	0.015 (0.0006)
	Runout (with it attached to the vehicle)	0.055 (0.0022)

REFILL CAPACITIES

UNIT				Liter	US measure
Fuel tank		VR30DDTT		75.6	20 gal
		2.0L turbo gasoline engine		76.0	20-1/8 gal
Engine coolant capacity [With reservoir tank (“MAX” level)]		VR30DDTT		9.3	9-7/8 qt
		2.0L turbo gasoline engine		9.0	9-4/8 qt
Engine oil	Drain and refill				
	With oil filter change	VR30DDTT (2WD models)		4.6	4-7/8 qt
		VR30DDTT (AWD models)		5.2	5-4/8 qt
		2.0L turbo gasoline engine (2WD models)		6.3	6-5/8 qt
		2.0L turbo gasoline engine (AWD models)		6.6	7 qt
	Without oil filter change	VR30DDTT (2WD models)		4.8	5-1/8 qt
		VR30DDTT (AWD models)		5.4	5-6/8 qt
		2.0L turbo gasoline engine (2WD models)		5.8	6-1/8 qt
		2.0L turbo gasoline engine (AWD models)		6.1	6-4/8 qt
	Dry engine (Overhaul)	VR30DDTT (2WD models)	Oil cooler (Air cooling type)	6.1	6-4/8 qt
			Oil cooler (Water cooling type)	6.6	7 qt
		VR30DDTT (AWD models)	Oil cooler (Air cooling type)	5.7	6 qt
			Oil cooler (Water cooling type)	6.2	6-4/8 qt
		2.0L turbo gasoline engine (2WD models)		–	–
		2.0L turbo gasoline engine (AWD models)		–	–
Transmission				10.1	10-5/8 qt
Transfer				1.0	2-1/8 pt
Final drive	Front			0.65	1-3/8 pt
	Rear			1.05	2-1/4 pt
Power steering system (HYDRAULIC PUMP ELECTRIC P/S)				1.0	1-1/8 qt
Air conditioning system	Compressor oil	VR30DDTT		0.09	3.0 fl oz
		2.0L turbo gasoline engine		0.12	4.1 fl oz
	Refrigerant			0.5 kg	1.1 lb