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INFINITI

QX56

MODEL JA60 SERIES

QUICK REFERENCE INDEX

FOREWORD

This manual contains maintenance and repair procedure for the 2009 INFINITI QX56.

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.

INFINITI®

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) 488-3910

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.*

_____

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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?

_____

_____

_____

_____

DATE: _____ YOUR NAME: _____ POSITION: _____

DEALER: _____ DEALER NO.: _____ ADDRESS: _____

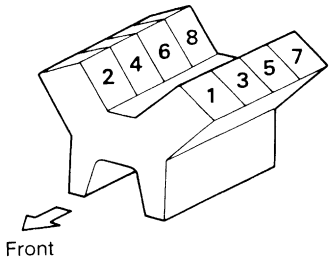
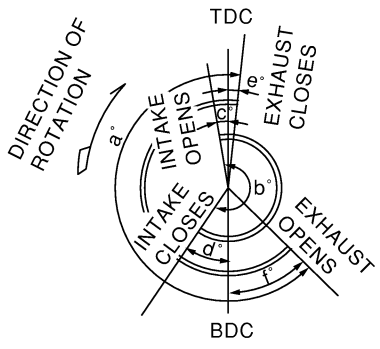
CITY:_____ STATE/PROV./COUNTRY: _____ ZIP/POSTAL CODE: _____

QUICK REFERNCE CHART: QX56

Engine Tune-up Data

INFOID:0000000005987162

GENERAL SPECIFICATIONS

Cylinder arrangement		V-8
Displacement $cm^3(in^3)$		5,552 (338.80)
Bore and stroke mm (in)		98 x 92 (3.86 x 3.62)
Valve arrangement		DOHC
Firing order		1-8-7-3-6-5-4-2
Number of piston rings	Compression	2
	Oil	1
Number of main bearings		5
Compression ratio		9.8:1
Compression pressure kPa (kg/cm^2, psi)/rpm	Standard	1,520 (15.5, 220)/200
	Minimum	1,324 (13.5, 192)/200
	Differential limit between cylinders	98 (1.0, 14)/200
Cylinder number	 SEM957C	
Valve timing	 PBIC0187E	

Unit: degree

a	b	c	d	e	f
244°	232°	-8°	60°	10°	54°

DRIVE BELTS

Tension of drive belts	Auto adjustment by auto tensioner

SPARK PLUG

QUICK REFERNCE CHART: QX56

2010

Unit: mm (in)

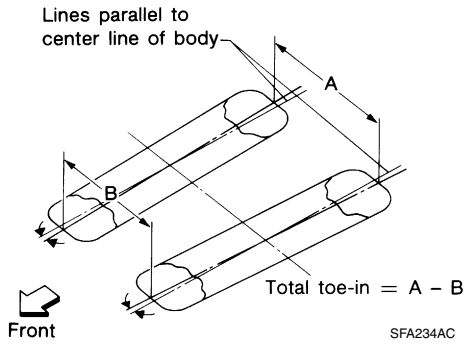
Make	NGK
Model	Standard model
Standard type*	DILFR5A-11
Gap (Nominal)	1.1 (0.043)

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

Front Wheel Alignment (Unladen*1)

INFOID:0000000005987161

Drive type		2WD	4WD
Camber*6 Degree minute (decimal degree)	Minimum	-0° 51′ (-0.85°)	-0° 33′ (-0.55°)
	Nominal	-0° 6′ (-0.10°)	0° 12′ (0.20°)
	Maximum	0° 39′ (0.65°)	0° 57′ (0.95°)
	Cross camber	0° 45′ (0.75°) or less	0° 45′ (0.75°) or less
Caster Degree minute (decimal degree)	Minimum	3° 15′ (3.25°)	2° 45′ (2.75°)
	Nominal	4° 0′ (4.00°)	3° 30′ (3.50°)
	Maximum	4° 45′ (4.75°)	4° 15′ (4.25°)
	Cross caster	0° 45′ (0.75°) or less	0° 45′ (0.75°) or less
Kingpin inclination Degree minute (decimal degree)		13° 32′ (13.53°)	13° 13′ (13.22°)



Total toe-in	Distance (A – B)	Minimum	1.8 mm (0.07 in)	1.8 mm (0.07 in)
		Nominal	2.8 mm (0.11 in)	2.8 mm (0.11 in)
		Maximum	3.8 mm (0.15 in)	3.8 mm (0.15 in)
	Angle (left side or right side) Degree minute (decimal degree)	Minimum	0° 3′ (0.05°)	0° 3′ (0.05°)
		Nominal	0° 5′ (0.08°)	0° 5′ (0.08°)
		Maximum	0° 7′ (0.12°)	0° 7′ (0.12°)
Wheel turning angle (full turn)	Inside Degree minute (decimal degree)		34° 31′ – 38° 31′ *2 (34.52° – 38.52°)	34° 44′ – 38° 44′ *4 (34.73° – 38.73°)
	Outside Degree minute (decimal degree)		30° 59′ – 34° 59′ *3 (30.98° – 34.98°)	30° 29′ – 34° 29′ *5 (30.48° – 34.48°)

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

*2: Target value 37° 31′ (37.52°)

*3: Target value 33° 59′ (33.98°)

*4: Target value 37° 44′ (37.73°)

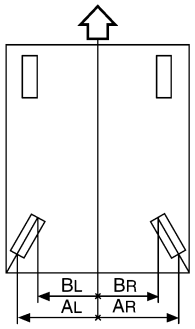
*5: Target value 33° 29′ (33.48°)

*6 Some vehicles may not be equipped with straight (non-adjustable) lower link bolts and washers. In order to adjust camber and caster on these vehicles, first replace the lower link bolts and washers with adjustable (cam) bolts and washers

Rear Wheel Alignment (Unladen*1)

INFOID:0000000005987159

Applied model			Without air leveling	With air leveling
Camber Degree minute (decimal degree)		Minimum	- 0° 25′ (- 0.4°)	- 1° 0′ (- 1°)
		Nominal	0° 5′ (0.1°)	- 0° 30′ (- 0.5°)
		Maximum	0° 35′ (0.6°)	0° 0′ (0°)
		Cross camber	0° 45' (0.75°) or less	



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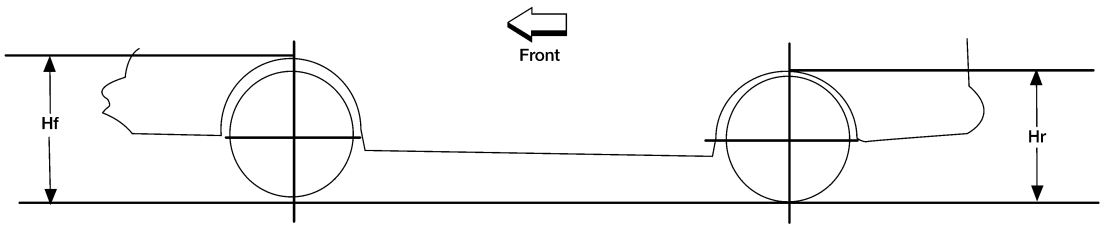
Toe-in	Distance	Toe-in (left side or right side) AL - BL or AR - BR mm (in) ⇦:Front	Minimum	- 2.4 mm (- 0.094 in)	0 mm (0 in)
			Nominal	0.9 mm (0.035 in)	3.3 mm (0.130 in)
			Maximum	4.2 mm (0.165 in)	6.6 mm (0.260 in)
		Cross toe (AL - BL) - (AR - BR) mm (in)		2 mm (0.079 in) or less	
	Angle	Toe angle (left side or right side) Degree minute (Decimal degree)	Minimum	- 0° 5' (- 0.08°)	0° 0' (0°)
			Nominal	0° 2' (0.03°)	0° 7' (0.11°)
			Maximum	0° 9' (0.14°)	0° 14' (0.22°)
		Cross toe Degree minute (Decimal degree)		0° 8' (0.14°) or less	

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

Wheelarch Height (Unladen*1)

INFOID:0000000005987160

Unit: mm (in)



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Suspension type	Air leveling*2	
Applied model	2WD	4WD
Front wheelarch height (Hf)	920 (36.22)	937 (36.89)
Rear wheelarch height (Hr)	917 (36.10)	937 (36.89)

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

*2: Verify the vehicle height. If vehicle height is not within ± 10 mm (0.39 in) of the specification, perform the control unit initialization procedure.

Brake Specifications

INFOID:0000000005987157

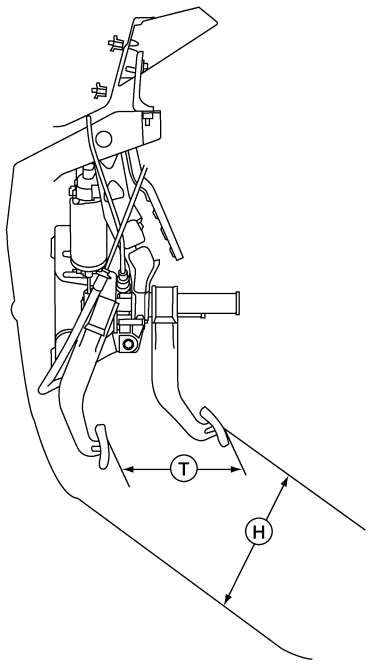
Unit: mm (in)

Front brake	Brake model	AD41VA
	Rotor outer diameter × thickness	350 x 30 (13.78 x 1.181)
	Pad Length × width × thickness	151.6 x 56.5 x 12.0 (5.97 x 2.22 x 0.476)
	Cylinder bore diameter	50.8 (2.00)
Rear brake	Brake model	AD14VE
	Rotor outer diameter × thickness	320 x 14 (12.60 x 0.551)
	Pad Length × width × thickness	83.0 x 33.0 x 12.0 (3.268 x 1.299 x 0.472)
	Cylinder bore diameter	48 (1.89)
Control valve	Valve model	Electric brake force distribution
Brake booster	Booster model	C215T
	Diaphragm diameter	215 (8.46)

Brake Pedal

INFOID:0000000005987158

Unit: mm (in)



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Pedal free height (H) with pedal in forward most position	182.3 - 192.3 (7.18 - 7.57)
Pedal travel (T)	153.3 (6.04)
Stop lamp switch and ASCD cancel switch threaded end to brake pedal bracket gap	0.74 - 1.96 (0.029 - 0.077)

CAUTION:

When equipped with adjustable pedal, the pedal must be in the forward most position (closest to the floor) for pedal height adjustment.

QUICK REFERNCE CHART: QX56

2009

Front Disc Brake

INFOID:0000000005987155

Unit: mm (in)

Brake model		AD41VA
Brake pad	Standard thickness (new)	12.0 (0.476)
	Repair limit thickness	1.0 (0.039)
Disc rotor	Standard thickness (new)	30 (1.181)
	Repair limit thickness	28.5 (1.122)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.03 (0.001)

Rear Disc Brake

INFOID:0000000005987156

Unit: mm (in)

Brake model		AD14VE
Brake pad	Standard thickness (new)	12.0 (0.472)
	Repair limit thickness	1.0 (0.039)
Disc rotor	Standard thickness (new)	14.0 (0.551)
	Repair limit thickness	12.5 (0.492)
	Maximum uneven wear (measured at 8 positions)	0.015 (0.0006)
	Runout limit (with it attached to the vehicle)	0.05 (0.002)

Fluids and Lubricants

INFOID:0000000005987154

Description		Capacity (Approximate)		
		Metric	US measure	Imp measure
Fuel		105.8 ℓ	28 gal	23 1/4 gal
Engine oil Drain and refill	With oil filter change	6.5 ℓ	6 7/8 qt	5 3/4 qt
	Without oil filter change	6.2 ℓ	6 1/2 qt	5 1/2 qt
Dry engine (engine overhaul)		7.6 ℓ	8 qt	6 3/4 qt
Cooling system	With reservoir at MAX level	14.4 ℓ	15 1/4 qt	12 5/8 qt
Automatic transmission fluid (ATF)		10.6 ℓ	11 1/4 qt	9 3/8 qt
Rear differential gear oil		1.75 ℓ	3 3/4 pt	3 1/8 pt
Transfer fluid		3.0 ℓ	3 1/8 qt	2 5/8 qt
Front differential gear oil		1.6 ℓ	3 3/8 pt	2 7/8 pt
Power steering fluid (PSF)		1.0 ℓ	1 1/8 qt	7/8 qt
Brake fluid		—	—	—
Brake grease		—	—	—
Multi-purpose grease		—	—	—
Windshield washer fluid		4.5 ℓ	4 3/4 qt	4 qt
Air conditioning system refrigerant		1.08 ± 0.05 kg	2.38 ± 0.11 lb	2.38 ± 0.11 lb
Air conditioning system oil		290 mℓ	9.8 fl oz	10.2 fl oz