

Edition: January 2011
Revision: September 2013
Publication No. SM2E-1Y51U2

QUICK REFERENCE INDEX



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
C ELECTRIC POWER TRAIN	STR Starting System
	ACC Accelerator Control System
D TRANSMISSION & DRIVELINE	
	TM Transaxle & Transmission
	DLN Driveline
	FAX Front Axle
	RAX Rear Axle
E SUSPENSION	FSU Front Suspension
	RSU Rear Suspension
F BRAKES	WT Road Wheels & Tires
	BR Brake System
	PB Parking Brake System
	BRC Brake Control System
G STEERING	ST Steering System
	STC Steering Control System
H RESTRAINTS	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
J BODY INTERIOR	INT Interior
	IP Instrument Panel
	SE Seat
	ADP Automatic Drive Positioner
K BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY	DLK Door & Lock
	SEC Security Control System
	GW Glass & Window System
	PWC Power Window Control System
	RF Roof
	EXT Exterior
	BRM Body Repair
	MIR Mirrors
	EXL Exterior Lighting System
L DRIVER CONTROLS	INL Interior Lighting System
	WW Wiper & Washer
	DEF Defogger
	HRN Horn
M ELECTRICAL & POWER CONTROL	PWO Power Outlet
	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
N DRIVER INFORMATION & MULTIMEDIA	
	AV Audio, Visual & Navigation System
	CCS Cruise Control System
	DAS Driver Assistance System
O CRUISE CONTROL & DRIVER ASSISTANCE	DMS Drive Mode System
P MAINTENANCE	MA Maintenance

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FOREWORD

This manual contains maintenance and repair procedure for the 2012 INFINITI M.

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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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

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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: _____

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QUICK REFERENCE CHART M

ENGINE TUNE-UP DATA (VQ37VHR)

PFP:00000

Engine model	VQ37VHR
Firing order	1-2-3-4-5-6
Idle speed A/T (In "P or N" position)	rpm 650 ± 50
Ignition timing (BTDC at idle speed)	10° ± 2°
Tensions of drive belt	Auto adjustment by auto tensioner
Radiator 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) 157 (1.6, 23)
Compression pressure	kPa (kg/cm ² , psi)/rpm
Standard	1,667 - 2,354 (17 - 24, 242 - 341)/200
Minimum	1,226 (12.5, 178)/200
Differential limit between cylinders	98 (1.0, 14)/200
Spark plug (Iridium-tipped type)	Make Standard type Gap (Nominal) mm (in)
	DENSO
	FXE24HR11
	1.1 (0.043)

ENGINE TUNE-UP DATA (VK56VD)

Engine model	VK56VD
Firing order	1-8-7-3-6-5-4-2
Idle speed A/T (In "P or N" position)	rpm 600 ± 50 (Without 4WAS) 675 ± 50 (With 4WAS)
Ignition timing (BTDC at idle speed)	11° ± 2°
Tensions of drive belt	Auto adjustment by auto tensioner
Radiator 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) 157 (1.6, 23)
Compression pressure	kPa (kg/cm ² , psi)/rpm
Standard	1,667 (17, 242)/200
Minimum	1,422 (14.5, 206)/200
Differential limit between cylinders	98 (1.0, 14)/200
Spark plug (Iridium-tipped type)	Make Standard type Gap mm (in)
	NGK
	DILKAR7B11
	Standard Limit
	1.1 (0.043) 1.25 (0.049)

FRONT WHEEL ALIGNMENT
2WD

ELS0003X

Item		Standard	
Wheel size		18 inch	20 inch
Camber Degree minute (Decimal degree)	Minimum	-0° 55' (-0.91°)	-1° 00' (-1.00°)
	Nominal	-0° 10' (-0.17°)	-0° 15' (-0.25°)
	Maximum	0° 35' (0.58°)	0° 30' (0.50°)
	Left and right difference	0° 33' (0.55°) or less	
Caster Degree minute (Decimal degree)	Minimum	3° 10' (3.17°)	
	Nominal	4° 30' (4.50°)	
	Maximum	5° 50' (5.83°)	
	Left and right difference	0° 39' (0.65°) or less	
Kingpin inclination Degree minute (Decimal degree)	Minimum	6° 25' (6.42°)	6° 30' (6.50°)
	Nominal	7° 10' (7.17°)	7° 15' (7.25°)
	Maximum	7° 55' (7.91°)	8° 00' (8.00°)
Toe-in Total toe-in Distance	Minimum	Out 1 mm (Out 0.03 in)	
	Nominal	In 1 mm (In 0.04 in)	
	Maximum	In 3 mm (In 0.11 in)	

Measure value under unladen* conditions.

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

AWD

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° 33' (0.55°) or less	
Caster Degree minute (Decimal degree)	Minimum	2° 40' (2.67°)	
	Nominal	4° 00' (4.00°)	
	Maximum	5° 20' (5.33°)	
	Left and right difference	0° 39' (0.65°) 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 1 mm (In 0.04 in)	
	Maximum	In 3 mm (In 0.11 in)	

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

ELS0003Y

Item			Standard	
Axle type			2WD	AWD
Camber Degree minute (Decimal degree)		Minimum	-1° 30' (-1.50°)	-1° 00' (-1.00°)
		Nominal	-1° 00' (-1.00°)	-0° 30' (-0.50°)
		Maximum	-0° 30' (-0.50°)	0° 00' (0.00°)
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)	
		Nominal	In 2.9 mm (In 0.114 in)	
		Maximum	In 5.8 mm (In 0.228 in)	

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)

Depressed brake pedal height (H1)	170.5 - 180.5 (6.71 - 7.11)
Brake pedal reserve height (H2) [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	110.32 (4.34) or more

FRONT DISC BRAKE

2 Piston Type

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	26.0 (1.024)

4 Piston Type

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	30.0 (1.181)

REAR DISC BRAKE

1 Piston Type

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	14.0 (0.551)

2 Piston Type

Unit: mm (in)

Brake pad	Wear limit thickness	2.0 (0.079)
Disc rotor	Wear limit thickness	18.0 (0.709)

REFILL CAPACITIES

ELS00040

UNIT				Liter	US measure
Fuel tank				75.6	20 gal
Engine coolant (With reservoir tank) at MAX level		VQ37VHR		8.4	8-7/8 qt
		VK56VD		10.9	11-4/8 qt
Engine oil	VQ37VHR	Drain and refill			
		With oil filter change		4.9	5-1/8 qt
		Without oil filter change		4.6	4-7/8 qt
		Dry engine (Overhaul)		5.7	6 qt
	VK56VD	Drain and refill			
		With oil filter change	2WD	6.0	6-3/8 qt
			AWD	6.1	6-4/8 qt
		Without oil filter change	2WD	5.7	6 qt
			AWD	5.8	6-1/8 qt
		Dry engine (Overhaul)		7.2	7-5/8 qt
Transmission		VQ37VHR		9.2	9-3/4 qt
		VK56VD		10	10-5/8 qt
Transfer				1.0	2-1/8 pt
Final drive	Front			0.65	1-3/8 pt
	Rear	VQ37VHR		1.4	3 pt
		VK56VD		1.15	2-3/8 pt
Power steering system				1.0	1-1/8 qt
Air conditioning system	Compressor oil			0.15	5.07 fl oz
	Refrigerant			0.55 kg	1.21 lb