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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
	STR Starting System
	ACC Accelerator Control System
C HYBRID	
D TRANSMISSION & DRIVE-LINE	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	SEC Security Control System
	GW Glass & Window System
	PWC Power Window Control System
	RF Roof
L DRIVER CONTROLS	BRM Body Repair
	MIR Mirrors
	EXL Exterior Lighting System
	INL Interior Lighting System
	WW Wiper & Washer
	DEF Defogger
	HRN Horn
M ELECTRICAL & POWER CONTROL	BCS Body Control System
	LAN LAN System
	PCS Power Control System
	CHG Charging System
	PG Power Supply, Ground & Circuit Elements
N DRIVER INFORMATION & MULTIMEDIA	WCS Warning Chime System
O CRUISE CONTROL & DRIVER ASSISTANCE	CCS Cruise Control System
	DAS Driver Assistance System
	DMS Drive Mode System
P MAINTENANCE	MA Maintenance

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FOREWORD

This manual contains maintenance and repair procedure for the 2011 INFINITI M37/M56.

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.



INFINITI®

QUICK REFERENCE CHART M37/M56
ENGINE TUNE-UP DATA (VQ37VHR)

PFP:00000

ELS0003W

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°
CO% at idle		0.7 - 9.9 % and engine runs smoothly
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	DENSO
	Standard type	FXE24HR11
	Gap (Nominal) mm (in)	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°		
CO% at idle	0.7 - 9.9 % and engine runs smoothly		
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	1,677 (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	NGK	
	Standard type	DILKAR7B11	
	Gap	mm (in)	
		Standard	1.1 (0.043)
	Limit	1.25 (0.049)	

FRONT WHEEL ALIGNMENT
2WD

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	0 mm (0 in)	
		Nominal	In 1 mm (0.04 in)	
		Maximum	In 2 mm (0.08 in)	
	Toe angle (left wheel or right wheel) Degree minute (Decimal Degree)	Minimum	0° 00' (0.00°)	
		Nominal	In 0° 02' 24" (0.04°)	
		Maximum	In 0° 04' 48" (0.08°)	

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	0 mm (0 in)	
		Nominal	In 1 mm (0.04 in)	
		Maximum	In 2 mm (0.08 in)	
	Toe angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0° 00' (0.00°)	
		Nominal	In 0° 02' 24" (0.04°)	
		Maximum	In 0° 04' 48" (0.08°)	

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	
		2WD	AWD
Axle type			
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 (0.114 in)
		Maximum	In 5.8 mm (0.228 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal degree)	Minimum	0° 00' (0.00°)
		Nominal	In 0° 07' (0.12°)
		Maximum	In 0° 14' (0.23°)

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 DISK 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 DISK 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)

QUICK REFERENCE CHART M37/M56

2011

REFILL CAPACITIES

ELS00040

UNIT		Liter	US measure
Fuel tank		75.6	20 gal
Engine coolant (With reservoir tank) at MAX level		VQ37VHR	8.4
		VK56VD	10.9
Engine oil	VQ37VHR	Drain and refill	
		With oil filter change	4.9
		Without oil filter change	4.6
		Dry engine (Overhaul)	5.7
	VK56VD	Drain and refill	
		With oil filter change	6.0
		2WD	
		AWD	
		Without oil filter change	5.7
		2WD	5.8
AWD			
Dry engine (Overhaul)	7.2		
Transmission		VQ37VHR	9.2
		VK56VD	10
Transfer		1.0	2-1/8 pt
Final drive	Front	0.65	1-3/8 pt
	Rear	VQ37VHR	1.4
		VK56VD	1.15
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