

Edition: September 2010  
Revision: October 2011  
Publication No. SM1E-1J50U1

## QUICK REFERENCE INDEX

### A GENERAL INFORMATION

### B ENGINE

### C ELECTRIC POWER TRAIN

### D TRANSMISSION & DRIVELINE

### E SUSPENSION

### F BRAKES

### G STEERING

### H RESTRAINTS

### I VENTILATION, HEATER & AIR CONDITIONER

### J BODY INTERIOR

### K BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY

### L DRIVER CONTROLS

### M ELECTRICAL & POWER CONTROL

### N DRIVER INFORMATION & MULTIMEDIA

### O CRUISE CONTROL & DRIVER ASSISTANCE

### P MAINTENANCE

GI General Information

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

TM Transaxle & Transmission

DLN Driveline

FAX Front Axle

RAX Rear Axle

FSU Front Suspension

RSU Rear Suspension

WT Road Wheels & Tires

BR Brake System

PB Parking Brake System

BRC Brake Control System

ST Steering System

STC Steering Control System

SB Seat Belt

SR SRS Airbag

SRC SRS Airbag Control System

VTL Ventilation System

HA Heater & Air Conditioning System

HAC Heater & Air Conditioning Control System

INT Interior

IP Instrument Panel

SE Seat

ADP Automatic Drive Positioner

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

INL Interior Lighting System

WW Wiper & Washer

DEF Defogger

HRN Horn

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

AV Audio, Visual & Navigation System

CCS Cruise Control System

DAS Driver Assistance System

MA Maintenance



**INFINITI**  
**EX**  
MODEL J50 SERIES

All Rights Reserved. No part of this Service Manual may be reproduced or stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, recording or otherwise, without the prior written permission of NISSAN MOTOR CO., LTD.

A

B

D

E

F

G

H

I

J

K

L

M

N

O

P

# FOREWORD

---

**This manual contains maintenance and repair procedure for the 2011 INFINITI EX.**

**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.**



**I N F I N I T I ®**



## PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

**INFINITI®**

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.*

---

---

---

---

---

---

---

---

**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

Please comment: \_\_\_\_\_

---

---

---

---

**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 REFERENCE CHART EX**  
**ENGINE TUNE-UP DATA (VQ35HR)**

PFP:00000

ELS0003W

Engine model		VQ35HR
Firing order		1-2-3-4-5-6
Idle speed A/T (In "N" position)	rpm	650 ± 50
Ignition timing (BTDC at idle speed)		16° ± 5°
Tensions of drive belt		Auto adjustment by auto tensioner
Radiator cap relief pressure	kPa (kg/cm <sup>2</sup> , 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 <sup>2</sup> , psi)	157 (1.6, 23)
Compression pressure	kPa (kg/cm <sup>2</sup> , psi)/rpm	
Standard		1,275 (13.0, 185)/300
Minimum		981 (10.0, 142)/300
Differential limit between cylinders		98 (1.0, 14)/300
Spark plug (Iridium-tipped type)	Make	DENSO
	Standard type	FXE22HR11
	Gap (Nominal)	1.1 (0.043)

## FRONT WHEEL ALIGNMENT

### 2WD

ELS0003X

Item		Standard	
Camber Degree minute (Decimal degree)	Minimum	−0° 40′ (−0.66°)	
	Nominal	0° 05′ (0.08°)	
	Maximum	0° 50′ (0.83°)	
	Left and right difference	0° 33′ (0.55°) or less	
Caster Degree minute (Decimal degree)	Minimum	3° 30′ (3.50°)	
	Nominal	4° 15′ (4.25°)	
	Maximum	5° 00′ (5.00°)	
	Left and right difference	0° 39′ (0.65°) or less	
Kingpin inclination Degree minute (Decimal degree)	Minimum	6° 05′ (6.09°)	
	Nominal	6° 50′ (6.83°)	
	Maximum	7° 35′ (7.58°)	
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	−1° 05′ (−1.08°)	
	Nominal	−0° 20′ (−0.33°)	
	Maximum	0° 25′ (0.41°)	
	Left and right difference	0° 33′ (0.55°) or less	
Caster Degree minute (Decimal degree)	Minimum	3° 25′ (3.42°)	
	Nominal	4° 10′ (4.17°)	
	Maximum	4° 55′ (4.91°)	
	Left and right difference	0° 39′ (0.65°) 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	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
Camber Degree minute (Decimal degree)	Minimum		-1° 05' (-1.08°)
	Nominal		-0° 35' (-0.58°)
	Maximum		-0° 05' (-0.09°)
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)

Item		Standard
Brake pedal height	Without DCA	171.5 – 181.5 (6.75 – 7.15)
	With DCA	158.4 – 195.4 (7.30 – 7.69)
Clearance between the stop lamp switch and ASCD brake switch threaded end and the stopper rubber		0.74 – 1.96 (0.0291 – 0.0772)
Brake pedal play		3.0 – 11.0 (0.118 – 0.433)
Depressed brake pedal height [Depressing 490 N (50 kg, 110 lb) while turning the engine ON]	Without DCA	114.0 (4.49) or more
	With DCA	120.8 (4.76) or more

## FRONT DISC BRAKE

Unit: mm (in)

Item		Limit
Brake pad	Wear thickness	2.0 (0.079)
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)

## REAR DISC BRAKE

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)

## REFILL CAPACITIES

ELS00040

UNIT		Liter	US measure
Fuel tank		Approx. 76	20 gal
Engine Coolant ( With reservoir tank ) at MAX level		8.6	9-1/8 qt
Engine oil	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
Transmission	A/T	9.2	9-3/4 qt
Transfer		1.0	2-1/8 pt
Final drive	Front	0.65	1-3/8 pt
	Rear	1.4	3 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