

## QUICK REFERENCE INDEX



<b>A GENERAL INFORMATION</b>	<b>GI General Information</b>
<b>B ENGINE</b>	<b>EM Engine Mechanical</b>
	<b>LU Engine Lubrication System</b>
	<b>CO Engine Cooling System</b>
	<b>EC Engine Control System</b>
	<b>FL Fuel System</b>
	<b>EX Exhaust System</b>
	<b>STR Starting System</b>
<b>C ELECTRIC POWER TRAIN</b>	<b>ACC Accelerator Control System</b>
<b>D TRANSMISSION &amp; DRIVELINE</b>	<b>TM Transaxle &amp; Transmission</b>
	<b>DLN Driveline</b>
	<b>FAX Front Axle</b>
	<b>RAX Rear Axle</b>
<b>E SUSPENSION</b>	<b>FSU Front Suspension</b>
	<b>RSU Rear Suspension</b>
	<b>SCS Suspension Control System</b>
	<b>WT Road Wheels &amp; Tires</b>
<b>F BRAKES</b>	<b>BR Brake System</b>
	<b>PB Parking Brake System</b>
	<b>BRC Brake Control System</b>
<b>G STEERING</b>	<b>ST Steering System</b>
	<b>STC Steering Control System</b>
<b>H RESTRAINTS</b>	<b>SB Seat Belt</b>
	<b>SBC Seat Belt Control System</b>
	<b>SR SRS Airbag</b>
	<b>SRC SRS Airbag Control System</b>
<b>I VENTILATION, HEATER &amp; AIR CONDITIONER</b>	<b>VTL Ventilation System</b>
	<b>HA Heater &amp; Air Conditioning System</b>
	<b>HAC Heater &amp; Air Conditioning Control System</b>
<b>J BODY INTERIOR</b>	<b>INT Interior</b>
	<b>IP Instrument Panel</b>
	<b>SE Seat</b>
	<b>ADP Automatic Drive Positioner</b>
<b>K BODY EXTERIOR, DOORS, ROOF &amp; VEHICLE SECURITY</b>	<b>DLK Door &amp; Lock</b>
	<b>SEC Security Control System</b>
	<b>GW Glass &amp; Window System</b>
	<b>PWC Power Window Control System</b>
	<b>RF Roof</b>
	<b>EXT Exterior</b>
	<b>BRM Body Repair</b>
<b>L DRIVER CONTROLS</b>	<b>MIR Mirrors</b>
	<b>EXL Exterior Lighting System</b>
	<b>INL Interior Lighting System</b>
	<b>WW Wiper &amp; Washer</b>
	<b>DEF Defogger</b>
	<b>HRN Horn</b>
<b>M ELECTRICAL &amp; POWER CONTROL</b>	<b>PWO Power Outlet</b>
	<b>BCS Body Control System</b>
	<b>LAN LAN System</b>
	<b>PCS Power Control System</b>
	<b>CHG Charging System</b>
	<b>PG Power Supply, Ground &amp; Circuit Elements</b>
<b>N DRIVER INFORMATION &amp; MULTIMEDIA</b>	<b>MWI Meter, Warning Lamp &amp; Indicator</b>
	<b>WCS Warning Chime System</b>
<b>O CRUISE CONTROL &amp; DRIVER ASSISTANCE</b>	<b>AV Audio, Visual &amp; Navigation System</b>
	<b>CCS Cruise Control System</b>
	<b>DAS Driver Assistance System</b>
<b>P MAINTENANCE</b>	<b>MA Maintenance</b>

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 2012 INFINITI FX35/FX50.

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®



**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 FX35/FX50

PFP:00000

ENGINE TUNE-UP DATA (VQ35HR)

Engine model		VQ35HR
Firing order		1-2-3-4-5-6
Idle speed A/T (In "P" or "N" position)	rpm	675 ± 50
Ignition timing (BTDC at idle speed) A/T (In "P" or "N" position)		15° ± 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
Spark plug	Standard type	FXE22HR11

ENGINE TUNE-UP DATA (VK50VE)

Engine model		VK50VE
Firing order		1-8-7-3-6-5-4-2
Idle speed A/T (In "P" or "N" position)	rpm	650 ± 50
Ignition timing (BTDC at idle speed) A/T (In "P" or "N" position)		15° ± 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		1,667 (17, 242)/200
Minimum		1,226 (12.5, 178)/200
Spark plug	Standard type	FXE22HR11

**FRONT WHEEL ALIGNMENT (Unladen\*)**

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	2° 55' (2.92°)	
	Nominal	3° 40' (3.67°)	
	Maximum	4° 25' (4.41°)	
	Left and right difference	0° 39' (0.65°) or less	
Kingpin inclination Degree minute (Decimal degree)	Minimum	7° 55' (7.92°)	
	Nominal	8°40' (8.67°)	
	Maximum	9° 25' (9.41°)	
Toe-in	Total toe-in Distance	Minimum	In 1 mm (0.04 in)
		Nominal	In 2 mm (0.08 in)
		Maximum	In 3 mm (0.11 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal Degree)	Minimum	In 0° 02' 12" (0.04°)
		Nominal	In 0° 04' 24" (0.07°)
		Maximum	In 0° 06' 36" (0.11°)

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	2° 55' (2.92°)	
	Nominal	3° 40' (3.67°)	
	Maximum	4° 25' (4.41°)	
	Left and right difference	0° 39' (0.65°) or less	
Kingpin inclination Degree minute (Decimal degree)	Minimum	7° 55' (7.92°)	
	Nominal	8°40' (8.67°)	
	Maximum	9° 25' (9.41°)	
Toe-in	Total toe-in Distance	Minimum	In 1 mm (0.04 in)
		Nominal	In 2 mm (0.08 in)
		Maximum	In 3 mm (0.11 in)
	Toe angle (left wheel or right wheel) Degree minute (Decimal Degree)	Minimum	In 0° 02' 12" (0.04°)
		Nominal	In 0° 04' 24" (0.07°)
		Maximum	In 0° 06' 36" (0.11°)

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 (Unladen\*)**

Item		Standard		
Tire size		265/60R18	265/50R20	265/45R21
Camber Degree minute (Decimal degree)	Minimum	-1° 40' (-1.66°)		
	Nominal	-1° 10' (-1.16°)		
	Maximum	-0° 40' (-0.67°)		
Toe-in	Total toe-in Distance	Minimum	0 mm (0 in)	
		Nominal	In 3.2 mm (0.126 in)	In 3.1 mm (0.122 in)
		Maximum	In 6.4 mm (0.252 in)	In 6.2 mm (0.244 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**

Front brake	Pad repair limit		2.0 mm (0.079 in)
	Rotor wear limit	2 piston type	32.0 mm (1.260 in)
		4 piston type	30.0 mm (1.181 in)
Rear brake	Pad repair limit		2.0 mm (0.079 in)
	Rotor wear limit	1 piston type	14.0 mm (0.551 in)
		2 piston type	18.0 mm (0.709 in)
Pedal free height	Without DCA		171.5 - 181.5 mm (6.75 - 7.15 in)
	With DCA		185.4 - 195.4 mm (7.30 - 7.69 in)
Pedal depressed height*	Without DCA		114.0 mm (4.49 in) or more
	With DCA		120.8 mm (4.76 in) or more

\* : Under force of 490 N (50 kg, 110 lb) with engine running.

**STEERING ANGLE**

Unit: Degree minute (Decimal degree)

Item		Standard
Inner wheel	Minimum	38°00' (38.0°)
	Nominal	41°00' (41.0°)
	Maximum	42°00' (42.0°)
Outer wheel	Nominal	32°15' (32.3°)

**REFILL CAPACITIES**

UNIT		Liter	US measure
Fuel tank		90	23 - 3/4 gal
Coolant (With reservoir tank)	VQ35HR	9.2	9 - 3/4 qt
	VK50VE	11	11 - 5/8 qt
Engine (VQ35HR)	Drain and refill		
	With oil filter change		4.9
	Without oil filter change		4.6
Dry engine (Overhaul)		5.7	6 qt
Engine (VK50VE)	Drain and refill		
	With oil filter change		6.7
	Without oil filter change		5.8
Dry engine (Overhaul)		7.2	7 - 5/8 qt
Transmission	A/T	VQ35HR	9.2
		VK50VE	11.3
Transfer		1.0	2 - 1/8 pt
Differential gear	Front		0.65
	Rear	VQ35HR	1.4
		VK50VE	1.75
Power steering system		1.0	1 - 1/8 qt
Air conditioning system	Compressor oil		0.15
	Refrigerant		0.55 kg