

Edition: March 2008
 Revision: March 2009
 Publication No. SM9E-1S51U1



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 |
| | SCS Suspension Control System |
| | WT Road Wheels & Tires |
| F BRAKES | 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 |
| | DLK Door & Lock |
| K BODY EXTERIOR, DOORS, ROOF & VEHICLE SECURITY | SEC Security Control System |
| | GW Glass & Window System |
| | PWC Power Window Control System |
| | RF Roof |
| | EXT Exterior |
| | BRM Body Repair |
| | MIR Mirrors |
| L DRIVER CONTROLS | EXL Exterior Lighting System |
| | INL Interior Lighting System |
| | WW Wiper & Washer |
| | DEF Defogger |
| | HRN Horn |
| | PWO Power Outlet |
| | BCS Body Control System |
| M ELECTRICAL & POWER CONTROL | LAN LAN System |
| | PCS Power Control System |
| | CHG Charging System |
| | PG Power Supply, Ground & Circuit Elements |
| | MWI Meter, Warning Lamp & Indicator |
| N DRIVER INFORMATION & MULTIMEDIA | WCS Warning Chime System |
| | AV Audio, Visual & Navigation System |
| O CRUISE CONTROL | CCS Cruise Control System |
| P MAINTENANCE | MA Maintenance |

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FOREWORD

This manual contains maintenance and repair procedure for the 2009 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®

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 belts | | 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 | | 1,275 (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 belts | | 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 | | 1,226 (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 | 5 - 1/8 qt | |
| | Without oil filter change | 4.6 | 4 - 7/8 qt | |
| | Dry engine (Overhaul) | 5.7 | 6 qt | |
| Engine (VK50VE) | Drain and refill | | | |
| | With oil filter change | 6.7 | 7 - 1/8 qt | |
| | Without oil filter change | 5.8 | 6 - 1/8 qt | |
| | Dry engine (Overhaul) | 7.2 | 7 - 5/8 qt | |
| Transmission | A/T | 10.3 | 10 - 7/8 qt | |
| Transfer | | 1.0 | 2 - 1/8 pt | |
| Differential gear | Front | 0.65 | 1 - 3/8 pt | |
| | Rear | VQ35HR | 1.4 | 3 pt |
| | | VK50VE | 1.75 | 3 - 3/4 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 | |