

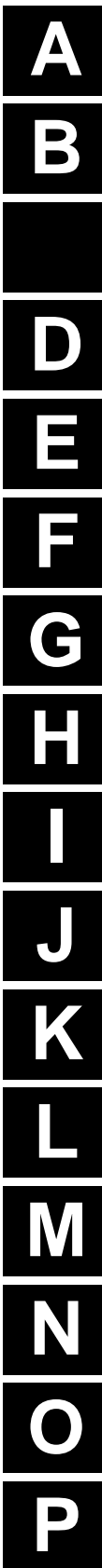
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**QUICK REFERENCE INDEX**



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

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# FOREWORD

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

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

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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®



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Please print this form and type or write your comments below. Mail or fax to:

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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.*

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**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: \_\_\_\_\_

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**Is the organization of the manual clear and easy to follow? (circle your answer) YES NO**

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

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**What information should be included in INFINITI Service Manuals to better support you in servicing or repairing customer vehicles?**

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DATE: \_\_\_\_\_ YOUR NAME: \_\_\_\_\_ POSITION: \_\_\_\_\_

DEALER: \_\_\_\_\_ DEALER NO.: \_\_\_\_\_ ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE/PROV./COUNTRY: \_\_\_\_\_ ZIP/POSTAL CODE: \_\_\_\_\_

QUICK REFERENCE CHART FX

PF0:00000

ENGINE TUNE-UP DATA (VQ35HR)

|  |                                    |                                    |
|--|------------------------------------|------------------------------------|
| Engine model   |                                    | VQ35HR                             |
| Firing order   |                                    | 1-2-3-4-5-6                        |
| Idle speed<br>A/T (In "P" or "N" position)                           | rpm                                | 675 ± 50                           |
| Ignition timing (BTDC at idle speed)<br>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<br>A/T (In "P" or "N" position)                           | rpm                                | 650 ± 50                           |
| Ignition timing (BTDC at idle speed)<br>A/T (In "P" or "N" position) |                                    | 17° ± 2°                           |
| 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<br>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<br>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<br>Degree minute (Decimal degree) | Minimum   | 7° 55' (7.92°)         |                       |
|   | Nominal   | 8°40' (8.67°)          |                       |
|   | Maximum   | 9° 25' (9.41°)         |                       |
| Toe-in  | Total toe-in<br>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)<br>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<br>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<br>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<br>Degree minute (Decimal degree) | Minimum   | 7° 55' (7.92°)         |                       |
|   | Nominal   | 8°40' (8.67°)          |                       |
|   | Maximum   | 9° 25' (9.41°)         |                       |
| Toe-in  | Total toe-in<br>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)<br>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<br>Degree minute (Decimal degree) | Minimum   | -1° 40' (-1.66°) |                      |                      |  |
|  | Nominal   | -1° 10' (-1.16°) |                      |                      |  |
|  | Maximum   | -0° 40' (-0.67°) |                      |                      |  |
| Toe-in                                   | Total toe-in<br>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)<br>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<br>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<br>limit | 1 piston type | 14.0 mm (0.551 in)                |
|                         |                     | 2 piston type | 18.0 mm (0.709 in)                |
| Brake pedal 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 |
| Engine coolant capacity [With reservoir tank ("MAX" level)] | VQ35HR                    | 9.2    | 9 - 3/4 qt   |
|   | VK50VE                    | 11     | 11 - 5/8 qt  |
| Engine oil capacity (VQ35HR)                                | Drain and refill          |        |              |
|   | With oil filter change    |        | 4.9          |
|   | Without oil filter change |        | 4.6          |
| Dry engine (Overhaul)                                       |                           | 5.7    | 6.5 qt       |
| Engine oil capacity (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      |
|   |                           |        | 5.07 fl oz   |
|   |                           |        | 1.21 lb      |