Edition: August 2012
Publication No. SM3E-1E52U0

# NISSAN
## QUEST
## MODEL E52 SERIES



QUICK REFERENCE INDEX

# FOREWORD

**This manual contains maintenance and repair procedure for the 2013 NISSAN QUEST.**

**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.**

**NISSAN MOTOR CO., LTD.**

## PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

Your comments are important to NISSAN 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.*

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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 NISSAN 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 QUEST

PFP:00000

## ENGINE TUNE-UP DATA (VQ35DE)

ELS0003W

| | | | |
|---|---|---|---|
| Engine model | | | VQ35DE |
| Firing order | | | 1-2-3-4-5-6 |
| Idle speed rpm<br>CVT (In “P” or “N” position) | | | 650 ± 50 |
| Ignition timing (BTDC at idle speed)<br>CVT (In “P” or “N” position) | | | 12° ± 2° |
| Tensions of drive belt | | | Belt tension is not necessary, as it is automatically adjusted by drive belt auto-tensioner. |
| Radiator cap relief pressure | | kPa (kg/cm$^2$, psi) | |
| | Standard | | 122.3 - 151.7 (1.2 - 1.5, 17.7 - 22.0) |
| | Limit | | 108 (1.1, 15.6) |
| Cooling system leakage testing pressure | | kPa (kg/cm$^2$, psi) | 156 (1.59, 22.6) |
| Compression pressure | | kPa (kg/cm$^2$, psi)/rpm | |
| | Standard | | 1,275 (13.0, 185)/300 |
| | Minimum | | 981 (10.0, 142)/300 |
| Spark plug | Make | | DENSO |
| | Standard type | | FXE22HR11 |
| | Gap | Standard | 1.1 mm (0.043 in) |
| | | Limit | 1.4 mm (0.055 in) |

# FRONT WHEEL ALIGNMENT

ELS0003X

## FOR USA MODELS

| Item | | | Standard | |
|---|---|---|---|---|
| | | | Left side | Right side |
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 00′ (–1.00°) | –1° 15′ (–1.25°) |
| | | Nominal | –0° 15′ (–0.25°) | –0° 30′ (–0.50°) |
| | | Maximum | 0° 30′ (0.50°) | 0° 15′ (0.25°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Caster<br>Degree minute (Decimal degree) | | Minimum | 3° 55′ (3.92°) | 4° 05′ (4.09°) |
| | | Nominal | 4° 40′ (4.67°) | 4° 50′ (4.83°) |
| | | Maximum | 5° 25′ (5.41°) | 5° 35′ (5.58°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Kingpin inclination<br>Degree minute (Decimal degree) | | Minimum | 12° 00′ (12.00°) | |
| | | Nominal | 12° 45′ (12.75°) | |
| | | Maximum | 13° 30′ (13.50°) | |
| Toe-in | Total toe-in<br>Distance | Minimum | Out 1.4 mm (0.055 in) | |
| | | Nominal | In 0.6 mm (0.024 in) | |
| | | Maximum | In 2.6 mm (0.102 in) | |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 00′ (In 0.0°) | |
| | | Nominal | In 0° 08′ (In 0.13°) | |
| | | Maximum | In 0° 16′ (In 0.27°) | |

Measure value under unladen*2 conditions.
*1: A difference when assuming the left side a standard.
*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

## FOR CANADA MODELS

### For 3.5S Grade

| Item | | | Standard | |
|---|---|---|---|---|
| | | | Left side | Right side |
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 00′ (–1.00°) | –1° 15′ (–1.25°) |
| | | Nominal | –0° 15′ (–0.25°) | –0° 30′ (–0.50°) |
| | | Maximum | 0° 30′ (0.50°) | 0° 15′ (0.25°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Caster<br>Degree minute (Decimal degree) | | Minimum | 3° 50′ (3.84°) | 4° 05′ (4.09°) |
| | | Nominal | 4° 35′ (4.58°) | 4° 50′ (4.83°) |
| | | Maximum | 5° 20′ (5.33°) | 5° 35′ (5.58°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Kingpin inclination<br>Degree minute (Decimal degree) | | Minimum | 12° 00′ (12.00°) | |
| | | Nominal | 12° 45′ (12.75°) | |
| | | Maximum | 13° 30′ (13.50°) | |
| Toe-in | Total toe-in<br>Distance | Minimum | Out 1.4 mm (0.055 in) | |
| | | Nominal | In 0.6 mm (0.024 in) | |
| | | Maximum | In 2.6 mm (0.102 in) | |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 00′ (In 0.0°) | |
| | | Nominal | In 0° 08′ (In 0.13°) | |
| | | Maximum | In 0° 16′ (In 0.27°) | |

Measure value under unladen*2 conditions.
*1: A difference when assuming the left side a standard.
*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

# QUICK REFERENCE CHART QUEST

**2013**

## For 3.5SV Grade

| Item | | | Standard | |
|---|---|---|---|---|
| | | | Left side | Right side |
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 00′ (–1.00°) | –1° 15′ (–1.25°) |
| | | Nominal | –0° 15′ (–0.25°) | –0° 30′ (–0.50°) |
| | | Maximum | 0° 30′ (0.50°) | 0° 15′ (0.25°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Caster<br>Degree minute (Decimal degree) | | Minimum | 3° 50′ (3.84°) | 4° 00′ (4.00°) |
| | | Nominal | 4° 35′ (4.58°) | 4° 45′ (4.75°) |
| | | Maximum | 5° 20′ (5.33°) | 5° 30′ (5.50°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Kingpin inclination<br>Degree minute (Decimal degree) | | Minimum | 12° 00′ (12.00°) | |
| | | Nominal | 12° 45′ (12.75°) | |
| | | Maximum | 13° 30′ (13.50°) | |
| Toe-in | Total toe-in<br>Distance | Minimum | Out 1.4 mm (0.055 in) | |
| | | Nominal | In 0.6 mm (0.024 in) | |
| | | Maximum | In 2.6 mm (0.102 in) | |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 00′ (In 0.0°) | |
| | | Nominal | In 0° 08′ (In 0.13°) | |
| | | Maximum | In 0° 16′ (In 0.27°) | |

Measure value under unladen*2 conditions.
*1: A difference when assuming the left side a standard.
*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

## For 3.5SL and 3.5LE Grade

| Item | | | Standard | |
|---|---|---|---|---|
| | | | Left side | Right side |
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 00′ (–1.00°) | –1° 15′ (–1.25°) |
| | | Nominal | –0° 15′ (–0.25°) | –0° 30′ (–0.50°) |
| | | Maximum | 0° 30′ (0.50°) | 0° 15′ (0.25°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Caster<br>Degree minute (Decimal degree) | | Minimum | 3° 55′ (3.92°) | 4° 05′ (4.09°) |
| | | Nominal | 4° 40′ (4.67°) | 4° 50′ (4.83°) |
| | | Maximum | 5° 25′ (5.41°) | 5° 35′ (5.58°) |
| | | Left and right difference*1 | –0° 18′ (–0.30°) - 0° 48′ (0.80°) | |
| Kingpin inclination<br>Degree minute (Decimal degree) | | Minimum | 12° 00′ (12.00°) | |
| | | Nominal | 12° 45′ (12.75°) | |
| | | Maximum | 13° 30′ (13.50°) | |
| Toe-in | Total toe-in<br>Distance | Minimum | Out 1.4 mm (0.055 in) | |
| | | Nominal | In 0.6 mm (0.024 in) | |
| | | Maximum | In 2.6 mm (0.102 in) | |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 00′ (In 0.0°) | |
| | | Nominal | In 0° 08′ (In 0.13°) | |
| | | Maximum | In 0° 16′ (In 0.27°) | |

Measure value under unladen*2 conditions.
*1: A difference when assuming the left side a standard.
*2: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

# REAR WHEEL ALIGNMENT

ELS0003Y

## FOR USA MODELS

| Item | | | Standard |
|---|---|---|---|
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 06′ (–1.10°) |
| | | Nominal | –0° 36′ (–0.60°) |
| | | Maximum | –0° 06′ (–0.10°) |
| Toe-in | Total toe-in<br>Distance | Minimum | In 1.2 mm (0.047 in) |
| | | Nominal | In 2.8 mm (0.110 in) |
| | | Maximum | In 4.4 mm (0.173 in) |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 06′ (In 0.1°) |
| | | Nominal | In 0° 14′ (In 0.23°) |
| | | Maximum | In 0° 22′ (In 0.37°) |

Measure value under unladen* conditions.

*: Fuel, engine coolant and lubricant are full. Spare tire, jack, hand tools and mats are in designated positions.

## FOR CANADA MODELS

| Item | | | Standard | |
|---|---|---|---|---|
| Wheel size | | | 16 inch | 18 inch |
| Camber<br>Degree minute (Decimal degree) | | Minimum | –1° 05′ (–1.08°) | |
| | | Nominal | –0° 35′ (–0.58°) | |
| | | Maximum | –0° 05′ (–0.09°) | |
| Toe-in | Total toe-in<br>Distance | Minimum | In 0.8 mm (0.031 in) | In 0.9 mm (0.035 in) |
| | | Nominal | In 2.4 mm (0.094 in) | In 2.5 mm (0.098 in) |
| | | Maximum | In 4.0 mm (0.157 in) | In 4.1 mm (0.161 in) |
| | Total toe-angle<br>Degree minute (Decimal degree) | Minimum | In 0° 04′ (In 0.07°) | |
| | | Nominal | In 0° 12′ (In 0.2°) | |
| | | Maximum | In 0° 20′ (In 0.33°) | |

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 | 195.6 – 205.6 (7.70 – 8.09) |
| Depressed brake pedal height<br>[Depressing 490 N (50 kg, 110 lb) while turning the engine ON] | 105.0 (4.13) or more |
| Clearance between stop lamp switch and brake switch threaded end and the stopper rubber | 0.2 – 1.96 (0.008 – 0.0772) |
| Brake pedal play | 3 – 11 (0.12 – 0.43) |

# BRAKE BOOSTER

**Vacuum type**

Unit: mm (in)

| Item | Standard |
|---|---|
| Input rod length | 127.0 – 128.0 (5.00 – 5.04) |

## FRONT DISC BRAKE

Unit: mm (in)

| Item | | Limit |
|---|---|---|
| Brake pad | Wear thickness | 2.0 (0.079) |
| Disc rotor | Wear thickness | 26.0 (1.024) |
| | Runout (with it attached to the vehicle) | 0.040 (0.0016) |

## REAR DISC BRAKE

Unit: mm (in)

| Item | | Limit |
|---|---|---|
| Brake pad | Wear thickness | 2.0 (0.079) |
| Disc rotor | Wear thickness | 14.0 (0.551) |
| | Runout (with it attached to the vehicle) | 0.050 (0.0020) |

## FREFILL CAPACITIES

| UNIT | | Liter | US measure |
|---|---|---|---|
| Fuel tank | | 75.6 | 20 gal |
| Engine coolant capacity (With reservoir tank at “MAX” level) | | 11.3 | 12 qt |
| Engine oil capacity | Drain and refill | | |
| | With oil filter change | 4.6 | 4-7/8 qt |
| | Without oil filter change | 4.3 | 4-1/2 qt |
| | Dry engine (Overhaul) | 5.3 | 5-5/8 qt |
| Transmission | CVT | 10.2 | 10-3/4 qt |
| Power steering system | | 1.0 | 1-1/8 qt |
| Air conditioning system | Compressor oil | 0.25 | 8.5 fl oz |
| | Refrigerant | 0.9 kg | 1.98 lb |