

NISSAN 240SX

MODEL S14 SERIES

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FOREWORD

This manual contains maintenance and repair procedures for the 1997 Nissan 240SX.

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.

Overseas Service Department

Tokyo, Japan



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 photocopy this form and type or print 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: (810) 488-3910

SERVICE MANUAL: Model: _____ **Year:** _____

PUBLICATION NO. (Please photocopy back cover): _____

VEHICLE INFORMATION VIN: _____ **Production Date:** _____

Please describe any 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 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: 240SX 1997

ENGINE TUNE-UP DATA

| | | | |
|---|---|-----------------------------|---------------------------|
| Engine model | KA24DE | | |
| Firing order | 1-3-4-2 | | |
| Idle speed rpm | 700±50 | | |
| M/T | 700±50 | | |
| A/T (in "N" position) | 700±50 | | |
| Ignition timing (degree BTDC at idle speed) | 20°±2° | | |
| Idle "CO" (% at idle speed) | Idle mixture screw is preset and sealed at factory. | | |
| Valve clearance (Hot) mm (in) | 0.33 - 0.41 (0.013 - 0.016) | | |
| Intake & Exhaust | | | |
| High tension cable resistance kΩ | Less than 30 | | |
| Spark plug | | | |
| Standard | PFR5C-11 | | |
| Type | Cold | | |
| | PFR6C-11 | | |
| | PFR7C-11 | | |
| Drive belt deflection (Cold) mm (in) | Used belt deflection | | Deflection of new belt |
| | Limit | Deflection after adjustment | |
| Alternator | 11 (0.43) | 7 - 8 (0.28 - 0.31) | 6 - 7 (0.24 - 0.28) |
| Air conditioner compressor | 12 (0.47) | 7.5 - 8.5 (0.295 - 0.335) | 6.5 - 7.5 (0.256 - 0.295) |
| Power steering pump | 13 (0.51) | 7.5 - 8.5 (0.295 - 0.335) | 6.5 - 7.5 (0.256 - 0.295) |
| Applied pressed force N (kg, lb) | 98 (10, 22) | | |
| Tightening torque | N-m | kg-m | ft-lb |
| Spark plug | 20 - 29 | 2.0 - 3.0 | 14 - 22 |
| Oil pan drain plug | 29 - 39 | 3.0 - 4.0 | 22 - 29 |

CLUTCH PEDAL

| | |
|-----------------|-------------------------|
| | Unit: mm (in) |
| Pedal height | 192 - 202 (7.56 - 7.95) |
| Pedal free play | 9 - 16 (0.35 - 0.63) |

FRONT WHEEL ALIGNMENT (Unladen*)

| | | |
|---------------------------------|--------------------------------|---------------------|
| Camber | Minimum | -1°30' (-1.50°) |
| | Nominal | -0°45' (-0.75°) |
| | Maximum | 0°00' (0.00°) |
| | Left and right difference | 45' (0.75°) or less |
| Caster | Minimum | 6°00' (6.00°) |
| | Nominal | 6°45' (6.75°) |
| | Maximum | 7°30' (7.50°) |
| | Left and right difference | 45' (0.75°) or less |
| Total toe-in | Minimum | 1.5 (0.059) |
| | Nominal | 2.5 (0.098) |
| | Maximum | 3.5 (0.138) |
| | Distance (A - B) mm (in) | |
| Angle (left plus right) | Minimum | 8' (0.13°) |
| | Nominal | 14' (0.23°) |
| | Maximum | 20' (0.33°) |
| | Degree minute (Decimal degree) | |
| Wheel turning angle (Full turn) | Minimum | 39°00' (39.00°) |
| | Nominal | 42°00' (42.00°) |
| | Maximum | 43°00' (43.00°) |
| | Degree minute (Decimal degree) | |
| Inside | Nominal | 33°10' (33.17°) |
| | Degree minute (Decimal degree) | |
| Outside | Nominal | |
| | Degree minute (Decimal degree) | |

* Fuel, radiator coolant and engine oil full.
Spare tire, jack, hand tools and mats in designated positions.

REAR WHEEL ALIGNMENT (Unladen*)

| | | |
|--------------------------------|---------|-----------------|
| Camber | Minimum | -1°40' (-1.67°) |
| | Nominal | -1°10' (-1.17°) |
| | Maximum | -0°40' (-0.67°) |
| Total toe-in | Minimum | 0 (0) |
| | Nominal | 2.5 (0.098) |
| | Maximum | 5.0 (0.196) |
| Distance (A - B) mm (in) | Minimum | 0' (0.00°) |
| | Nominal | 14' (0.23°) |
| | Maximum | 28' (0.47°) |
| Angle (left plus right) | Minimum | |
| | Nominal | |
| | Maximum | |
| Degree minute (Decimal degree) | Minimum | |
| | Nominal | |
| | Maximum | |

* Fuel, radiator coolant and engine oil full.
Spare tire, jack, hand tools and mats in designated positions.

BRAKE

| | | | |
|------------------------------|---------------------|-------------------------|---------------|
| | | | Unit: mm (in) |
| Disc brake | Pad repair limit | Front side | 2.0 (0.079) |
| | | Rear side | 2.0 (0.079) |
| Rotor thickness repair limit | Front | 20.0 (0.787) | |
| | Rear | 8.0 (0.315) | |
| Pedal free height | M/T model | 181 - 191 (7.13 - 7.52) | |
| | A/T model | 191 - 201 (7.52 - 7.91) | |
| Pedal depressed height*1 | M/T model | Without ABS | 100 (3.94) |
| | | With ABS | 110 (4.33) |
| | A/T model | Without ABS | 115 (4.53) |
| | | With ABS | 115 (4.53) |
| Parking brake | Number of notches*2 | | 7 - 9 |

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

*2: At pulling force: 196 N (20 kg, 44 lb)

REFILL CAPACITIES

| | | | |
|-------------------------|---------------------|----------------|----------------|
| Unit | | Liter | US measure |
| Engine model | KA24DE | | |
| Fuel tank | | 65 | 17-1/8 gal |
| Coolant | With reservoir tank | 6.9 | 7-1/4 qt |
| | Without oil filter | 3.8 | 4 qt |
| Engine | With oil filter | 3.5 | 3-3/4 qt |
| | Without oil filter | 3.5 | 3-3/4 qt |
| Transmission | M/T | 2.5 | 5-1/4 pt |
| | A/T | 8.3 | 8-3/4 qt |
| Differential carrier | R200 | 1.3±0.1 | 2-3/4±1/4 pt |
| | R200V | 1.3±0.1 | 2-3/4±1/4 pt |
| Power steering system | | 0.9 | 1 qt |
| Air conditioning system | Lubricant | 0.25 | 8.5 fl oz |
| | Refrigerant | 0.60 - 0.70 kg | 1.32 - 1.54 lb |

TEST VALUE AND TEST LIMIT (GST ONLY — NOT APPLICABLE TO CONSULT-II)

The following is the information specified in Mode 6 of SAE J1979.

The test value is a parameter used to determine whether a system/circuit diagnostic test is “OK” or “NG” while being monitored by the ECM during self-diagnosis. The test limit is a reference value which is specified as the maximum or minimum value and is compared with the test value being monitored.

Items for which these data (test value and test limit) are displayed are the same as SRT code items.

These data (test value and test limit) are specified by Test ID (TID) and Component ID (CID) and can be displayed on the GST screen.

: Applicable * : Not applicable

| SRT item | Self-diagnostic test item | DTC | Test value (GST display) | | Test limit | Application | Unit |
|-------------|---|---------|-----------------------------|-----|------------|-------------|----------|
| | | | TID | CID | | | |
| CATALYST | Three way catalyst function | P0420 | 01H | 01H | Max. | X | - |
| | | P0420*1 | 02H | 81H | Min. | X | - |
| EVAP SYSTEM | EVAP control system (Small leak) | P0440 | 05H | 03H | Max. | X | - |
| | EVAP control system purge flow monitoring | P1447 | 06H | 83H | Min. | X | mV |
| H02S | Heated oxygen sensor 1 | P0130 | 09H | 04H | Max. | X | ms |
| | | P0130 | 0AH | 84H | Min. | X | mV |
| | | P0130 | 0BH | 04H | Max. | X | mV |
| | | P0130 | 0CH | 04H | Max. | X | mV |
| | | P0130 | 0DH | 04H | Max. | X | s |
| | Heated oxygen sensor 2 | P0136 | 19H | 86H | Min. | X | mV/500ms |
| | | P0136 | 1AH | 86H | Min. | X | mV |
| | | P0136 | 1BH | 06H | Max. | X | mV |
| | | P0136 | 1CH | 06H | Max. | X | mV |
| | | P0136 | 1DH | 06H | Max. | X | mV |
| H02S HTR | Heated oxygen sensor 1 heater | P0135 | 29H | 08H | Max. | X | mV |
| | | P0135 | 2AH | 88H | Min. | X | mV |
| | Heated oxygen sensor 2 heater | P0141 | 2DH | 0AH | Max. | X | mV |
| | | P0141 | 2EH | 8AH | Min. | X | mV |
| EGR SYSTEM | EGR function | P0400 | 31H | 8CH | Min. | X | °C |
| | | P0400 | 32H | 8CH | Min. | X | °C |
| | | P0400 | 33H | 8CH | Min. | X | °C |
| | | P0400 | 34H | 8CH | Min. | X | °C |
| | | P0400 | 35H | 0CH | Max. | X | °C |
| | EGRC-BPT valve function | P0402 | 36H | 0CH | Max. | X | - |
| | | P0402 | 37H | 8CH | Min. | X | - |

*1 : Models B15 GA16DE engine 1997MY only.