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INFINITI®

Q45

MODEL FY33 SERIES

QUICK REFERENCE INDEX

INFINITI®

FOREWORD

This manual contains maintenance and repair procedures for the 1999 INFINITI Q45.

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 INFINITI must first be completely satisfied that neither personal safety nor the vehicle's safety will be jeopardized by the service method selected.

INFINITI®

NISSAN MOTOR CO., LTD.
Overseas Service Department
Tokyo, Japan

INFINITI®

PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

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) 488-3910

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.*

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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:_____

INCH TO METRIC CONVERSION TABLE

(Rounded-off for automotive use)

inches	**mm**	inches	**mm**
.100	**2.54**	.610	**15.49**
.110	**2.79**	.620	**15.75**
.120	**3.05**	.630	**16.00**
.130	**3.30**	.640	**16.26**
.140	**3.56**	.650	**16.51**
.150	**3.81**	.660	**16.76**
.160	**4.06**	.670	**17.02**
.170	**4.32**	.680	**17.27**
.180	**4.57**	.690	**17.53**
.190	**4.83**	.700	**17.78**
.200	**5.08**	.710	**18.03**
.210	**5.33**	.720	**18.29**
.220	**5.59**	.730	**18.54**
.230	**5.84**	.740	**18.80**
.240	**6.10**	.750	**19.05**
.250	**6.35**	.760	**19.30**
.260	**6.60**	.770	**19.56**
.270	**6.86**	.780	**19.81**
.280	**7.11**	.790	**20.07**
.290	**7.37**	.800	**20.32**
.300	**7.62**	.810	**20.57**
.310	**7.87**	.820	**20.83**
.320	**8.13**	.830	**21.08**
.330	**8.38**	.840	**21.34**
.340	**8.64**	.850	**21.59**
.350	**8.89**	.860	**21.84**
.360	**9.14**	.870	**22.10**
.370	**9.40**	.880	**22.35**
.380	**9.65**	.890	**22.61**
.390	**9.91**	.900	**22.86**
.400	**10.16**	.910	**23.11**
.410	**10.41**	.920	**23.37**
.420	**10.67**	.930	**23.62**
.430	**10.92**	.940	**23.88**
.440	**11.18**	.950	**24.13**
.450	**11.43**	.960	**24.38**
.460	**11.68**	.970	**24.64**
.470	**11.94**	.980	**24.89**
.480	**12.19**	.990	**25.15**
.490	**12.45**	1.000	**25.40**
.500	**12.70**	2.000	**50.80**
.510	**12.95**	3.000	**76.20**
.520	**13.21**	4.000	**101.60**
.530	**13.46**	5.000	**127.00**
.540	**13.72**	6.000	**152.40**
.550	**13.97**	7.000	**177.80**
.560	**14.22**	8.000	**203.20**
.570	**14.48**	9.000	**228.60**
.580	**14.73**	10.000	**254.00**
.590	**14.99**	20.000	**508.00**
.600	**15.24**		

METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

mm	inches	**mm**	inches
1	.0394	**51**	2.008
2	.079	**52**	2.047
3	.118	**53**	2.087
4	.157	**54**	2.126
5	.197	**55**	2.165
6	.236	**56**	2.205
7	.276	**57**	2.244
8	.315	**58**	2.283
9	.354	**59**	2.323
10	.394	**60**	2.362
11	.433	**61**	2.402
12	.472	**62**	2.441
13	.512	**63**	2.480
14	.551	**64**	2.520
15	.591	**65**	2.559
16	.630	**66**	2.598
17	.669	**67**	2.638
18	.709	**68**	2.677
19	.748	**69**	2.717
20	.787	**70**	2.756
21	.827	**71**	2.795
22	.866	**72**	2.835
23	.906	**73**	2.874
24	.945	**74**	2.913
25	.984	**75**	2.953
26	1.024	**76**	2.992
27	1.063	**77**	3.031
28	1.102	**78**	3.071
29	1.142	**79**	3.110
30	1.181	**80**	3.150
31	1.220	**81**	3.189
32	1.260	**82**	3.228
33	1.299	**83**	3.268
34	1.339	**84**	3.307
35	1.378	**85**	3.346
36	1.417	**86**	3.386
37	1.457	**87**	3.425
38	1.496	**88**	3.465
39	1.535	**89**	3.504
40	1.575	**90**	3.543
41	1.614	**91**	3.583
42	1.654	**92**	3.622
43	1.693	**93**	3.661
44	1.732	**94**	3.701
45	1.772	**95**	3.740
46	1.811	**96**	3.780
47	1.850	**97**	3.819
48	1.890	**98**	3.858
49	1.929	**99**	3.898
50	1.969	**100**	3.937

QUICK REFERENCE CHART: Q45 [ ] 1999

ENGINE TUNE-UP DATA

Engine model		VH41DE		
Firing order		1-8-7-3-6-5-4-2		
Idle speed A/T (in "N" position) rpm		650±50		
Ignition timing (BTDC at idle speed)		15°±2°		
CO% at idle		Idle mixture screw is preset and sealed at factory.		
Drive belt deflection (Cold) mm (in)		Used belt deflection		
		Limit	Deflection after adjustment	Deflection of new belt
	Alternator	8 (0.31)	4 - 5 (0.16 - 0.20)	3.5 - 4.5 (0.138 - 0.177)
	Air conditioner compressor	13 (0.51)	9 - 10 (0.35 - 0.39)	8 - 9 (0.31 - 0.35)
	Power steering oil pump	14 (0.55)	9 - 10 (0.35 - 0.39)	8 - 9 (0.31 - 0.35)
	Water pump	9 (0.35)	6 - 7 (0.24 - 0.28)	5 - 6 (0.20 - 0.24)
	Applied pushing force N (kg, lb)	98 (10, 22)		
Drive belt tension (Cold)* N (kg, lb)		Used belt tension		
		Limit	Tension after adjustment	Tension of new belt
	Alternator	196 (20, 44)	736 - 814 (75 - 83, 165 - 183)	843 - 922 (86 - 94, 190 - 207)
	Air conditioner compressor	196 (20, 44)	500 - 579 (51 - 59, 112 - 130)	608 - 686 (62 - 70, 137 - 154)
	Power steering oil pump	137 (14, 31)	353 - 432 (36 - 44, 79 - 97)	451 - 530 (46 - 54, 101 - 119)
	Water pump	196 (20, 44)	539 - 618 (55 - 63, 121 - 139)	657 - 736 (67 - 75, 148 - 165)
Radiator cap relief pressure kPa (kg/cm², psi)		98 - 118 (1.0 - 1.2, 14 - 17)		
Cooling system leakage testing pressure kPa (kg/cm², psi)		157 (1.6, 23)		
Compression pressure kPa (kg/cm², psi)/rpm				
	Standard	1,285 (13.1, 186)/300		
	Minimum	991 (10.1, 144)/300		
Spark plug	Standard type	PFR5G-11		
	Hot type	PFR4G-11		
	Cold type	PFR6G-11		

* If the belt tension gauge cannot be installed at check points, check drive belt tension at a different location on the belt.

FRONT WHEEL ALIGNMENT (Unladen*)

Camber		Minimum	−1°25′ (−1.42°)
		Nominal	−0°40′ (−0.67°)
		Maximum	0°05′ (0.08°)
	Degree minute (Decimal degree)	Left and right difference	1° (1.00°) or less
Caster		Minimum	5°40′ (5.67°)
		Nominal	6°25′ (6.42°)
		Maximum	7°10′ (7.17°)
	Degree minute (Decimal degree)	Left and right difference	1° (1.00°) or less
Kingpin inclination		Minimum	12°25′ (12.42°)
		Nominal	13°10′ (13.17°)
	Degree minute (Decimal degree)	Maximum	13°55′ (13.92°)
Total toe-in		Minimum	1 (0.04)
Distance (A – B) mm (in)		Nominal	2 (0.08)
		Maximum	3 (0.12)
Angle (left plus right)		Minimum	4′ (0.07°)
		Nominal	10′ (0.17°)
	Degree minute (Decimal degree)	Maximum	16′ (0.27°)
Wheel turning angle (Full turn)		Minimum	36°50′ (36.83°)
Inside		Nominal	39°50′ (39.83°)
	Degree minute (Decimal degree)	Maximum	40°50′ (40.83°)
Outside	Degree minute (Decimal degree)	Nominal	32°25′ (32.42°)

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

REAR WHEEL ALIGNMENT (Unladen*)

Camber		Minimum	−0°15′ (−0.25°)
	Degree minute (Decimal degree)	Nominal	−0°45′ (−0.75°)
		Maximum	−1°15′ (−1.25°)
Total toe-in		Minimum	0 (0)
Distance (A – B) mm (in)		Nominal	2.5 (0.098)
		Maximum	5 (0.20)
Angle (left plus right)		Minimum	0′ (0.00°)
	Degree minute (Decimal degree)	Nominal	14′ (0.23°)
		Maximum	28′ (0.47°)

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

BRAKE

Unit: mm (in)

Front brake	
Pad wear limit	2.0 (0.079)
Rotor repair limit	26.0 (1.024)
Rear brake	
Pad wear limit	2.0 (0.079)
Rotor repair limit	14.0 (0.551)
Pedal free height	183 - 193 (7.20 - 7.60)
Pedal depressed height*	More than 95 (3.74)

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

REFILL CAPACITIES

Unit		Liter	US measure
Fuel tank		80	21-1/8 gal
Coolant (With reservoir tank)		11.7	12-3/8 qt
Engine*	Drain and refill		
	With oil filter change	5.3	5-5/8 qt
	Without oil filter change	5.0	5-1/4 qt
	Dry engine (overhaul)	6.2	6-1/2 qt
Transmission	A/T	10.5	11-1/8 qt
Differential carrier		1.3	2-3/4 pt
Power steering system		1.3	1-3/8 qt
Air conditioning system	Compressor oil	0.250	8.5 fl oz
	Refrigerant	0.675 - 0.725 kg	1.488 - 1.599 lb

* For further details, see "Changing Engine Oil" in MA section.

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)		Te s t limit	Application	Unit
			TID	CID			
CATALYST	Three way catalyst function (Bank 1)	P0420	01H	01H	Max.	X	−
	Three way catalyst function (Bank 2)	P0430	03H	02H	Max.	X	−
EVAP SYSTEM	EVAP control system (Small leak)	P0440	05H	03H	Max.	X	−
		P1440	05H	03H	Max.	X	−
	EVAP control system purge flow monitoring	P1447	06H	83H	Min.	X	mV
HO2S	Heated oxygen sensor 1(Bank 1)	P0133	09H	04H	Max.	X	ms
		P0131	0AH	84H	Min.	X	mV
		P0130	0BH	04H	Max.	X	mV
		P0132	0CH	04H	Max.	X	mV
		P0134	0DH	04H	Max.	X	s
	Heated oxygen sensor 1(Bank 2)	P0153	11H	05H	Max.	X	ms
		P0151	12H	85H	Min.	X	mV
		P0150	13H	05H	Max.	X	mV
		P0152	14H	05H	Max.	X	mV
		P0154	15H	05H	Max.	X	s
	Heated oxygen sensor 2(Bank 1)	P0139	19H	86H	Min.	X	mV/500ms
		P0137	1AH	86H	Min.	X	mV
		P0140	1BH	06H	Max.	X	mV
		P0138	1CH	06H	Max.	X	mV
	Heated oxygen sensor 2(Bank 2)	P0159	21H	87H	Min.	X	mV/500ms
		P0157	22H	87H	Min.	X	mV
		P0160	23H	07H	Max.	X	mV
		P0158	24H	07H	Max.	X	mV
HO2S HTR	Heated oxygen sensor 1 heater(Bank 1)	P0135	29H	08H	Max.	X	mV
		P0135	2AH	88H	Min.	X	mV
	Heated oxygen sensor 2 heater(Bank 2)	P0155	2BH	09H	Max.	X	mV
		P0155	2CH	89H	Min.	X	mV
	Heated oxygen sensor 2 heater(Bank 1)	P0141	2DH	0AH	Max.	X	mV
		P0141	2EH	8AH	Min.	X	mV
	Heated oxygen sensor 2 heater(Bank 2)	P0161	2FH	0BH	Max.	X	mV
		P0161	30H	8BH	Min.	X	mV
EGR SYSTEM	EGR function	P0400	31H	8CH	Min.	X	℃
		P0400	32H	8CH	Min.	X	℃
		P0400	33H	8CH	Min.	X	℃
		P0400	34H	8CH	Min.	X	℃
		P1402	35H	0CH	Max.	X	℃
	EGRC-BPT valve function	P0402	36H	0CH	Max.	X	−
		P0402	37H	8CH	Min.	X	−