QUICK REFERENCE INDEX

GENERAL INFORMATION	GI
MAINTENANCE	MA
ENGINE MECHANICAL	EM
ENGINE LUBRICATION & COOLING SYSTEMS	LC
ENGINE CONTROL SYSTEM	EC
ACCELERATOR CONTROL, FUEL & EXHAUST SYSTEMS	FE
AUTOMATIC TRANSMISSION	AT
TRANSFER	TF
PROPELLER SHAFT & DIFFERENTIAL CARRIER	PD
FRONT & REAR AXLE	AX
FRONT & REAR SUSPENSION	SU
BRAKE SYSTEM	BR
STEERING SYSTEM	ST
RESTRAINT SYSTEM	RS
BODY & TRIM	BT
HEATER & AIR CONDITIONER	HA
STARTING & CHARGING SYSTEM	SC
ELECTRICAL SYSTEM	EL
ALPHABETICAL INDEX	IDX

INFINITI®

QX4

MODEL R50 SERIES

INFINITI®

 Printed in Japan

FOREWORD

This manual contains maintenance and repair procedures for the 1998 INFINITI QX4.

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 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.*

_____

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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: _____

_____

_____

_____

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?

_____

_____

_____

_____

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	**24.11**
.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: QX4 [ ] 1998

ENGINE TUNE-UP DATA

Engine model		VG33E		
Firing order		1-2-3-4-5-6		
Idle speed rpm	A/T (in "N" position)	750±50		
Ignition timing (degree 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 of new belt
		Limit	Deflection after adjustment	
Alternator		10.5 (0.413)	6 - 7 (0.24 - 0.28)	5.5 - 6.5 (0.217 - 0.256)
Air conditioner compressor		16.5 (0.650)	9 - 11 (0.35 - 0.43)	9 - 10 (0.35 - 0.39)
Power steering oil pump		18 (0.71)	9 - 10 (0.35 - 0.39)	9 - 11 (0.35 - 0.43)
Applied pressed force N (kg, lb)		98 (10, 22)		
Radiator cap relief pressure kPa (kg/cm^2, psi)		78 - 98 (0.8 - 1.0, 11 - 14)		
Cooling system leakage testing pressure kPa (kg/cm^2, psi)		157 (1.6, 23)		
Compression pressure kPa (kg/cm^2, psi)/rpm	Standard	1,196 (12.20, 173.4)/300		
	Minimum	883 (9.01, 128.0)/300		
Spark plug	Type (Standard)	BKR5E-11		
	Gap mm (in)	1.0 - 1.1 (0.039 - 0.043)		

WHEEL ALIGNMENT (Unladen*)

Applied model		245/70 R16 tire
Camber	Minimum	−0°35′ (−0.58°)
	Nominal	0°10′ (0.17°)
	Maximum	0°55′ (0.92°)
Degree minute (Decimal degree)	Left and right difference	45′ (0.75°) or less
Caster	Minimum	2°15′ (2.25°)
	Nominal	3°00′ (3.00°)
	Maximum	3°45′ (3.75°)
Degree minute (Decimal degree)	Left and right difference	45′ (0.75°) or less
Total toe-in	Minimum	1 (0.04)
Distance (A − B)	Nominal	2 (0.08)
mm (in)	Maximum	3 (0.12)
Angle (left plus right)	Minimum	5′ (0.08°)
	Nominal	10′ (0.17°)
Degree minute (Decimal degree)	Maximum	15′ (0.25°)
Wheel turning angle (Full turn)	Minimum	30°00′ (30.00°)
Inside	Nominal	33°00′ (33.00°)
Degree minute (Decimal degree)	Maximum	34°00′ (34.00°)
Outside	Minimum	28°00′ (28.00°)
Degree minute (Decimal degree)	Nominal	31°00′ (31.00°)
	Maximum	32°00′ (32.00°)

* 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	
Lining wear limit	1.5 (0.059)
Drum repair limit	296.5 (11.67)
Pedal free height	175 - 185 (6.89 - 7.28)
Pedal depressed height*1	70 (2.76)
Parking brake	
Number of notches*2	6 - 8

*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
Coolant with reservoir			10.6	11-1/4 qt
Engine	With oil filter		3.7	3-7/8 qt
	Without oil filter		3.4	3-5/8 qt
Transmission	A/T	4WD	8.5	9 qt
All-mode 4WD transfer			3.0	2-5/8 qt
Differential carrier		Front	2.05	4-3/8 pt
		Rear	2.8	5-7/8 pt
Power steering system			0.9	1 qt
Air conditioning system		Refrigerant	0.60 - 0.70 kg	1.32 - 1.54 lb
		Compressor oil	0.20	6.8 fl oz

FRONT WHEEL BEARING

Preload (At hub bolt) N (kg, lb)	Wheel bearing lock nut Tightening torque N·m (kg-m, ft-lb)	78 - 98 (8 - 10, 58 - 72)
	Retightening torque after loosening wheel bearing lock nut N·m (kg-m, in-lb)	0.5 - 1.5 (0.05 - 0.15, 4.3 - 13.0)
	Axial end play mm (in)	0 (0)
	Starting force at wheel hub bolt N (kg, lb)	A
	Turning angle degree	15° - 30°
	Starting force at wheel hub bolt N (kg, lb)	B
	Wheel bearing preload at wheel hub bolt B − A N (kg, lb)	7.06 - 20.99 (0.72 - 2.14, 1.59 - 4.72)

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.

SRT item	Self-diagnostic test item	DTC	Test value (GST display)		Test limit	Conversion
			TID	CID		
CATALYST	Three way catalyst function (Bank 1)	P0420	01H	01H	Max.	1/128
	Three way catalyst function (Bank 2)	P0430	03H	02H	Max.	1/128
EVAP SYSTEM	EVAP control system (Small leak)	P0440	05H	03H	Max.	1/128mm^2
		P1440	05H	03H	Max.	1/128mm^2
	EVAP control system purge flow monitoring	P1447	06H	83H	Min.	20mV
HO2S	Heated oxygen sensor 1 (Bank 1)	P0133	09H	04H	Max.	16ms
		P0131	0AH	84H	Min.	10mV
		P0130	0BH	04H	Max.	10mV
		P0132	0CH	04H	Max.	10mV
		P0134	0DH	04H	Max.	1s
	Heated oxygen sensor 1 (Bank 2)	P0153	11H	05H	Max.	16ms
		P0151	12H	85H	Min.	10mV
		P0150	13H	05H	Max.	10mV
		P0152	14H	05H	Max.	10mV
		P0154	15H	05H	Max.	1s
	Heated oxygen sensor 2 (Bank 1)	P0139	19H	86H	Min.	10mV/500ms
		P0137	1AH	86H	Min.	10mV
		P0140	1BH	06H	Max.	10mV
		P0138	1CH	06H	Max.	10mV
	Heated oxygen sensor 2 (Bank 2)	P0159	21H	87H	Min.	10mV/500ms
		P0157	22H	87H	Min.	10mV
		P0160	23H	07H	Max.	10mV
		P0158	24H	07H	Max.	10mV
HO2S HTR	Heated oxygen sensor 1 heater (Bank 1)	P0135	29H	08H	Max.	20mV
		P0135	2AH	88H	Min.	20mV
	Heated oxygen sensor 1 heater (Bank 2)	P0155	2BH	09H	Max.	20mV
		P0155	2CH	89H	Min.	20mV
	Heated oxygen sensor 2 heater (Bank 1)	P0141	2DH	0AH	Max.	20mV
		P0141	2EH	8AH	Min.	20mV
	Heated oxygen sensor 2 heater (Bank 2)	P0161	2FH	0BH	Max.	20mV
		P0161	30H	8BH	Min.	20mV
EGR SYSTEM	EGR function	P0400	31H	8CH	Min.	1℃
		P0400	32H	8CH	Min.	1℃
		P0400	33H	8CH	Min.	1℃
		P0400	34H	8CH	Min.	1℃
		P1402	35H	0CH	Max.	1℃
	EGRC-BPT valve function	P0402	36H	0CH	Max.	1count
		P0402	37H	8CH	Min.	1count