

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
CLUTCH	CL
MANUAL TRANSAXLE	MT
AUTOMATIC TRANSAXLE	AT
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®

G20

MODEL P11 SERIES



INFINITI®

© 1998 NISSAN MOTOR CO., LTD. Printed in Japan

All rights reserved. No part of this Service Manual may be reproduced or stored in a retrieval system, or transmitted in any form, or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written permission of Nissan Motor Company Ltd., Tokyo, Japan.

FOREWORD

This manual contains maintenance and repair procedures for the 1999 INFINITI G20.

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



PLEASE HELP MAKE THIS SERVICE MANUAL BETTER!

INFINITI®

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.*

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 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	24.13
.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: G20

1999

ENGINE TUNE-UP DATA

Engine model		SR20DE	
Firing order		1-3-4-2	
Idle speed	rpm	800±50	
	M/T (in "N" position)	800±50	
Ignition timing (degree BTDC at idle speed)		M/T: A/T: 15°±2°	
CO% at idle		Idle mixture screw is preset and sealed at factory.	
Drive belt deflection adjustment (Cold)		Used belt	
Alternator	mm (in)	Limit	New belt
		Deflection after adjustment	
With air conditioner compressor		11.5 - 12.5 (0.453 - 0.492)	7 - 8 (0.28 - 0.31) 6.5 - 7.5 (0.256 - 0.295)
Without air conditioner compressor		12 - 13 (0.47 - 0.51)	8 - 9 (0.31 - 0.35) 0.28 - 0.31
Power steering oil pump		6 - 7 (0.24 - 0.28)	4 - 5 (0.16 - 0.20) 3.5 - 4.5 (0.138 - 0.177)
Applied pressed force		N (kg, lb) 98 (10, 22)	
Drive belt tension adjustment (Cold)		Used belt	
Alternator	N (kg, lb)	Limit	New belt
		After adjustment	
Air conditioner compressor		294 (30, 65)	549 - 647 (56 - 66, 125 - 145) 677 - 755 (69 - 77, 150 - 170)
Power steering pump		294 (30, 65)	549 - 647 (56 - 66, 125 - 145) 677 - 755 (69 - 77, 150 - 170)
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	Standard	1,226 (12.5, 178)/300	
	Minimum	1,030 (10.5, 149)/300	
High tension cable resistance		kΩ —	
Spark plug		Platinum tipped type	Conventional type
Type	Standard	PFR5B-11	BKR6E
	Hot	—	BKR5E
	Cold	PFR6B-11, PFR7B-11	BKR7E
Gap		mm (in)	0.8 - 0.9 (0.031 - 0.035)

FRONT WHEEL ALIGNMENT (Unladen*)

Camber	Degree minute (Decimal degree)	Minimum	-0°45' (-0.75°)
		Nominal	0° (0°)
		Maximum	0°45' (0.75°)
Left and right difference		45' (0.75°) or less	
Caster	Degree minute (Decimal degree)	Minimum	1°10' (1.17°)
		Nominal	1°55' (1.92°)
		Maximum	2°40' (2.67°)
Left and right difference		45' (0.75°) or less	
Total toe-in	mm (in)	Minimum	0 (0)
		Nominal	1 (0.04)
		Maximum	2 (0.08)
Angle (left plus right)		Minimum 0 (0.00°)	
Degree minute (Decimal degree)	Nominal	6° (0.10°)	
	Maximum	12° (0.20°)	
Wheel turning angle (Full turn)		Minimum 31°00' (31.00°)	
Inside	Degree minute (Decimal degree)	Nominal	34°00' (34.00°)
		Maximum	35°00' (35.00°)
Outside	Degree minute (Decimal degree)	Nominal	29°00' (29.00°)

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

REAR WHEEL ALIGNMENT (Unladen*)

Camber	Degree minute (Decimal degree)	Minimum	-2°03' (-2.05°)
		Nominal	-1°18' (-1.30°)
		Maximum	-0°33' (-0.55°)
Total toe-in		Minimum 0 (0)	
Distance (A - B)	mm (in)	Nominal	4 (0.16)
		Maximum	8 (0.31)
Angle (left plus right)		Minimum 0 (0.00°)	
Degree minute (Decimal degree)	Nominal	24° (0.40°)	
	Maximum	48° (0.80°)	

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

CLUTCH PEDAL

Unit: mm (in)	
Pedal height	158 - 168 (6.22 - 6.61)
Pedal free play	9 - 16 (0.35 - 0.63)

BRAKE

Unit: mm (in)	
Front brake	
Pad wear limit	2.0 (0.079)
Rotor repair limit	20.0 (0.787)
Rear brake	
Pad wear limit	1.5 (0.059)
Rotor repair limit	8.0 (0.315)
Pedal free height	M/T: 151 - 161 (5.94 - 6.34) A/T: 159 - 169 (6.26 - 6.65)
Parking brake	
Number of notches*1	6 - 7

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

REFILL CAPACITIES

Unit		Liter	US measure
Coolant with reservoir	M/T	6.2	6-1/2 qt
	A/T	6.2	6-1/2 qt
Engine*	Drain and refill		
	With oil filter		3.4 3-5/8 qt
	Without oil filter		3.2 3-3/8 qt
Dry engine (engine overhaul)		3.6 3-7/8 qt	
Transaxle	M/T	RS5F32A	3.6 - 3.8 7-5/8 - 8 pt
		RS5F32V	3.7 - 3.9 7-7/8 - 8-1/4 pt
	A/T	RE4F03A/V	7.0 7-3/8 qt
Power steering system		0.9	1 qt
Air conditioning system	Refrigerant	0.55 - 0.65 kg	1.21 - 1.43 lb
	Compressor oil	0.25	8.5 fl oz

* 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)		Test limit	Application	Unit
			TID	CID			
CATALYST	Three way catalyst function	P0420	01H	01H	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
H02S	Heated oxygen sensor 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 2	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
		H02S HTR	Heated oxygen sensor 1 heater	P0135	29H	08H	Max.
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.
P0400		32H		8CH	Min.	X	°C
P0400		33H		8CH	Min.	X	°C
P0400		34H		8CH	Min.	X	°C
P1402		35H		0CH	Max.	X	°C
EGRC-BPT valve function		P0402	36H	0CH	Max.	X	-
		P0402	37H	8CH	Min.	X	-