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**QUICK REFERENCE INDEX**



**Q45**

**MODEL F50 SERIES**



**INFINITI**

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<b>A GENERAL INFORMATION</b>	GI General Information
<b>B ENGINE</b>	EM Engine Mechanical
	LU Engine Lubrication System
	CO Engine Cooling System
	EC Engine Control System
	FL Fuel System
	EX Exhaust System
	ACC Accelerator Control System
	AT Automatic Transmission
<b>C TRANSMISSION/ TRANSAXLE</b>	
<b>D DRIVELINE/AXLE</b>	PR Propeller Shaft
	RFD Rear Final Drive
	FAX Front Axle
	RAX Rear Axle
	FSU Front Suspension
	RSU Rear Suspension
<b>E SUSPENSION</b>	WT Road Wheels & Tires
	SCS Suspension Control System
	BR Brake System
	PB Parking Brake System
<b>F BRAKES</b>	BRC Brake Control System
	PS Power Steering System
	STC Steering Control System
<b>G STEERING</b>	
<b>H RESTRAINTS</b>	SB Seat Belts
	SRS Supplemental Restraint System (SRS)
<b>I BODY</b>	BL Body, Lock & Security System
	GW Glasses, Window System & Mirrors
	RF Roof
	EI Exterior & Interior
	IP Instrument Panel
	SE Seat
<b>J AIR CONDITIONER</b>	ATC Automatic Air Conditioner
<b>K ELECTRICAL</b>	SC Starting & Charging System
	LT Lighting System
	DI Driver Information System
	WW Wiper, Washer & Horn
	LAN LAN System
	AV Audio, Visual, Navigation & Telephone System
	ACS Auto Cruise Control System
	PG Power Supply, Ground & Circuit Elements
<b>L MAINTENANCE</b>	MA Maintenance
<b>M INDEX</b>	IDX Alphabetical Index

**A**  
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# FOREWORD

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This manual contains maintenance and repair procedure for the 2005 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.

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## 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!**

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

## METRIC TO INCH CONVERSION TABLE

(Rounded-off for automotive use)

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

**QUICK REFERENCE CHART Q45**  
**ENGINE TUNE-UP DATA (VK45DE)**

PFP:00000

ELS0003W

Engine model	VK45DE	
Firing order	1-8-7-3-6-5-4-2	
Idle speed A/T (In "P" or "N" position) rpm	650±50	
Ignition timing (BTDC at idle speed)	12°±5°	
CO% at idle	0.7 - 9.9 % and engine runs smoothly	
Tensions of drive belts	Auto adjustment by auto tensioner	
Radiator cap relief pressure Standard kPa (kg/cm <sup>2</sup> , psi)	78-98 (0.8-1.0 , 11-14 )	
Cooling system leakage testing pressure kPa (kg/cm <sup>2</sup> , psi)	157(1.6, 23)	
Compression pressure Standard kPa (kg/cm <sup>2</sup> , psi)/rpm	1,320 (13.5, 191) /300	
Minimum	1,130 (11.5, 164)/300	
Spark plug Standard type	PLFR5A - 11	
Hot type	PLFR4A - 11	
Cold type	PLFR6A - 11	

**FRONT WHEEL ALIGNMENT (Unladen\* )**

ELS0003X

Camber	Degree minute (Decimal degree)	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	Degree minute (Decimal degree)	Minimum	5° 25' (5.42°)
		Nominal	6° 10' (6.17°)
		Maximum	6° 55' (6.92°)
		Left and right difference	45' (0.75°) or less
Kingpin inclination	Degree minute (Decimal degree)	Minimum	13° 15' (13.25°)
		Nominal	14° 00' (14.00°)
		Maximum	14° 45' (14.75°)
Total toe-in Distance (A - B) mm (in)	Degree minute (Decimal degree)	Nominal	1 (0.04)
		Minimum	0' (0°)
		Nominal	3' (0.05°)
		Maximum	6' (0.10°)
Wheel turning angle (Full turn) Inside	Degree minute (Decimal degree)	Minimum	39° 45' (39.75°)
		Nominal	42° 45' (42.75°)
		Maximum	43° 45' (43.75°)
		Nominal	33° 50' (33.83°)
Outside	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\*)**

ELS0003Y

Tire			17 inch	18 inch	
Camber Degree minute (Decimal degree)		Minimum	- 0° 55' (- 0.92°)	- 1° 05' (- 1.08°)	
		Nominal	- 0° 25' (- 0.42°)	- 0° 35' (- 0.58°)	
		Maximum	0° 05' (0.08°)	- 0° 05' (-0.08°)	
		Left and right difference	45'(0.75) or less		
Total toe-in	Distance (A-B)	mm (in)	Minimum	- 2.0 (- 0.079)	- 1.6 (- 0.063)
			Nominal	0.8 (0.031)	1.2 (0.047)
			Maximum	3.6 (0.142)	4.0 (0.157)
	Angle (left plus right)	Degree minute (Decimal degree)	Minimum	- 5' (0.08°)	- 4' (0.07°)
			Nominal	2' (0.03°)	3' (0.05°)
			Maximum	9' (0.15°)	10' (0.17°)

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

**BRAKE**

ELS0003Z

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		192.4 - 202.4 (7.57 - 7.97)
Pedal depressed height*		More than 90 (3.54)

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

**REFILL CAPACITIES**

ELS00040

UNIT		Liter	US measure
Fuel tank		80	21 - 1/8 gal
Coolant (With reservoir tank)		10.3	10 - 7/8 qt
Engine*	Drain and refill		
	With oil filter change	5.6	5 - 7/8 qt
	Without oil filter change	5.0	5 - 1/4 qt
	Dry engine (overhall)	6.7	7 - 1/8 qt
Transmission	A/T	10.3	10 - 7/8 qt
Differential carrier		1.4	3 pt
Power steering system		1.0	1 - 1/8 qt
Air conditioning system	Compressor oil	0.18	6.0 fl oz
	Refrigerant	0.60 kg	1.32 lb

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