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**G35**

MODEL V35 SERIES



**INFINITI**

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## QUICK REFERENCE INDEX

|                                      |                                                           |
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|                                      | <b>BCS Body Control System</b>                            |
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**A**

**B**

**C**

**D**

**E**

**F**

**G**

**H**

**I**

**J**

**K**

**L**

**M**

# FOREWORD

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This manual contains maintenance and repair procedure for the 2004 INFINITI G35.

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 G35**  
**ENGINE TUNE-UP DATA (VQ35DE)**

PFP:00000

ELS0003W

|                                             |                       |                         |                                    |                                      |                                       |                                       |
|---------------------------------------------|-----------------------|-------------------------|------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
| Engine model                                |                       |                         |                                    | VQ35DE                               |                                       |                                       |
| Firing order                                |                       |                         |                                    | 1-2-3-4-5-6                          |                                       |                                       |
| Idle speed<br>A/T (In "N" position)<br>M/T  |                       |                         |                                    | rpm<br>650±50                        |                                       |                                       |
| Ignition timing<br>(BTDC at idle speed)     |                       |                         |                                    | 15°±5°                               |                                       |                                       |
| CO% at idle                                 |                       |                         |                                    | 0.7 - 9.9 % and engine runs smoothly |                                       |                                       |
| Drive Belt                                  | Deflection adjustment |                         | Unit: mm (in)                      | Tension adjustment                   |                                       | Unit: N(kg, lb)                       |
|                                             | Used belt             |                         | New belt                           | Used belt                            |                                       | New belt                              |
|                                             | Limit                 | After adjustment        |                                    | Limit                                | After adjustment                      |                                       |
| Alternator and power steering oil pump belt | 7 (0.28)              | 4 - 5<br>(0.16 - 0.20)  | 3.5 - 4.5<br>(0.138 - 0.177)       | 294 (30, 66)                         | 730 - 818<br>(74.5 - 83.5, 164 - 184) | 838 - 926<br>(85.5 - 94.5, 188 - 208) |
| A/C compressor belt                         | 12 (0.47)             | 9 - 10<br>(0.35 - 0.39) | 8 - 9<br>(0.31- 0.35)              | 196 (20, 44)                         | 348 - 436<br>(35.5 - 44.5, 78 - 98)   | 470 - 559<br>(48 - 57, 106 - 126)     |
| Applied pushing force                       | 98 N (10 kg, 22 lb)   |                         |                                    | —                                    |                                       |                                       |
| Radiator cap relief pressure                |                       |                         | kPa (kg/cm <sup>2</sup> , psi)     | 78 - 98 (0.8 - 1.0, 11 - 14)         |                                       |                                       |
| Standard                                    |                       |                         | Limit                              |                                      |                                       |                                       |
| Cooling system leakage testing pressure     |                       |                         | kPa (kg/cm <sup>2</sup> , psi)     | 157(1.6, 23)                         |                                       |                                       |
| Compression pressure                        |                       |                         | kPa (kg/cm <sup>2</sup> , psi)/rpm | 1,270 (13.0, 184) /300               |                                       |                                       |
| Standard                                    |                       |                         | Minimum                            |                                      |                                       |                                       |
| Differential limit between cylinders        |                       |                         | 100 (1.0, 15) /300                 |                                      |                                       |                                       |
| Spark plug<br>(Platinum-tipped type)        | Make                  |                         | NGK                                |                                      |                                       |                                       |
|                                             | Standard type         |                         | PLFR5A - 11                        |                                      |                                       |                                       |
|                                             | Hot type              |                         | PLFR4A - 11                        |                                      |                                       |                                       |
|                                             | Cold type             |                         | PLFR6A - 11                        |                                      |                                       |                                       |
|                                             | Gap (Nominal)         |                         | mm(in)                             | 1.1 ( 0.043 )                        |                                       |                                       |

FRONT WHEEL ALIGNMENT (Unladen\*)

ELS0003X

| AXLE                             |                                           |                           | 2WD                  | AWD                  |
|----------------------------------|-------------------------------------------|---------------------------|----------------------|----------------------|
| Camber                           | Degree minute (Decimal degree)            | Minimum                   | - 0° 50' ( - 0.83° ) | -1° 00' (-1.00°)     |
|                                  |                                           | Nominal                   | - 0° 05' ( - 0.08° ) | - 0° 15' ( - 0.25° ) |
|                                  |                                           | Maximum                   | 0° 40' ( 0.67° )     | 0° 30' (0.50° )      |
|                                  |                                           | Left and right difference | 45' ( 0.75° )        |                      |
| Caster                           | Degree minute (Decimal degree)            | Minimum                   | 7° 00' ( 7.00° )     | 5° 55' (5.92°)       |
|                                  |                                           | Nominal                   | 7° 45' ( 7.75° )     | 6° 40' (6.67°)       |
|                                  |                                           | Maximum                   | 8° 30' ( 8.50° )     | 7° 25' (7.42°)       |
|                                  |                                           | Left and right difference | 45' ( 0.75° )        |                      |
| Kingpin inclination              | Degree minute (Decimal degree)            | Minimum                   | 3° 45' ( 3.75° )     | 5° 15' (5.25°)       |
|                                  |                                           | Nominal                   | 4° 30' ( 4.50° )     | 6° 00' (6.00°)       |
|                                  |                                           | Maximum                   | 5° 15' ( 5.25° )     | 6° 45' (6.75°)       |
| Total toe-in<br>Distance (A - B) | mm (in)                                   | Minimum                   | 0 ( 0 )              |                      |
|                                  |                                           | Nominal                   | 1 ( 0.04 )           |                      |
|                                  |                                           | Maximum                   | 2 ( 0.08 )           |                      |
| Wheel turning angle (Full turn)  | Inside<br>Degree minute (Decimal degree)  | Minimum                   | 37° 30' ( 37.5° )    | 38° 00' ( 38.0° )    |
|                                  |                                           | Nominal                   | 40° 30' ( 40.5° )    | 41° 00' ( 41.0° )    |
|                                  |                                           | Maximum                   | 41° 30' ( 41.5° )    | 42° 00' ( 42.0° )    |
|                                  | Outside<br>Degree minute (Decimal degree) | Nominal                   | 32° 30' ( 32.5° )    | 31° 40' ( 31.7° )    |

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

REAR WHEEL ALIGNMENT (Unladen\*)

ELS0003Y

| TRANSMISSION                   |                                |                           | A/T                  | M/T                  |
|--------------------------------|--------------------------------|---------------------------|----------------------|----------------------|
| Camber                         | Degree minute (Decimal degree) | Minimum                   | - 1° 05' ( - 1.08° ) | - 1° 10' ( - 1.17° ) |
|                                |                                | Nominal                   | - 0° 35' ( - 0.58° ) | - 0° 40' ( - 0.67° ) |
|                                |                                | Maximum                   | - 0° 05' ( - 0.08° ) | - 1° 10' ( - 0.17° ) |
|                                |                                | Left and right difference | 45' ( 0.75° )        |                      |
| Total-in<br>Distance ( A - B ) | mm (in)                        | Minimum                   | 0.1 (0.004)          |                      |
|                                |                                | Nominal                   | 2.8 (0.110)          |                      |
|                                |                                | Maximum                   | 5.5 (0.217)          |                      |

\* : Fuel, engine 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 |                           | 22.0 ( 0.866 ) |
| Rear brake              | Pad wear limit     |                           | 2.0 ( 0.079 )  |
|                         | Rotor repair limit |                           | 14.0 ( 0.551 ) |
| Pedal free height       | M/T model          | 154 - 164 ( 6.06 - 6.46 ) |                |
|                         | A/T model          | 162 - 172 ( 6.38 - 6.77 ) |                |
| Pedal depressed height* | M/T model          | More than 90 ( 3.54 )     |                |
|                         | A/T model          | More than 95 ( 3.74 )     |                |

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

## REFILL CAPACITIES

ELS00040

| UNIT                                                |                           | Liter   | US measure  |
|-----------------------------------------------------|---------------------------|---------|-------------|
| Fuel tank                                           |                           | 76      | 20 gal      |
| Engine Coolant ( With reservoir tank ) at MAX level |                           | 8.7     | 9-1/4 qt    |
| Engine                                              | Drain and refill          |         |             |
|                                                     | With oil filter change    | 4.7     | 5 qt        |
|                                                     | Without oil filter change | 4.4     | 4 - 5/8 qt  |
|                                                     | Dry engine (Overhaul)     | 5.4     | 5 - 3/4 qt  |
| Transmission                                        | A/T                       | 10.3    | 10 - 7/8 qt |
|                                                     | M/T                       | 2.9     | 3 - 1/8 qt  |
| Transfer                                            |                           | 1.25    | 2-5/8 pt    |
| Differential carrier                                | Front                     | 0.65    | 1-3/8 pt    |
|                                                     | Rear                      | 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               | 0.55 kg | 1.21 lb     |