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# NISSAN

## 350Z

### MODEL Z33 SERIES

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# FOREWORD

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**This manual contains maintenance and repair procedure for the 2005 NISSAN 350Z.**

**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!

Your comments are important to NISSAN 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 NISSAN 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 350Z**  
**ENGINE TUNE-UP DATA (VQ35DE)**

PFP:00000

ELS0003W

Engine model			VQ35DE			
Firing order			1-2-3-4-5-6			
Idle speed		rpm	650 ± 50			
A/T (In “P” or “N” position)						
M/T (In “Neutral” position)						
Ignition timing (BTDC at idle speed)			15° ± 5°			
A/T (In “P” or “N” position)						
M/T (In “Neutral” position)						
CO% at idle			0.7 - 9.9 % and engine runs smoothly			
Drive belt	Deflection adjustment		Unit: mm (in)	Tension adjustment		
	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 (0.16 - 0.20)	3.5 - 4.5 (0.138 - 0.177)	294 (30, 66)	730 - 818 (74.5 - 83.5, 164 - 184)	838 - 926 (85.5 - 94.5, 188 - 208)
A/C compressor belt	12 (0.47)	9 - 10 (0.35 - 0.39)	8 - 9 (0.31 - 0.35)	196 (20, 44)	348 - 436 (35.5 - 44.5, 78 - 98)	470 - 559 (48 - 57, 106 - 126)
Applied pushing force	98 N (10kg, 22lb)			—		
Radiator cap relief pressure			kPa (kg/cm <sup>2</sup> , psi)			
Standard			78 - 98 (0.8 - 1.0, 11 - 14)			
Limit			59 (0.6, 9)			
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			
Standard			1,275 (13.0, 185)/300			
Minimum			981 (10.0, 142)/300			
Differential limit between cylinders			98 (1.0, 14)/300			
Spark plug	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

Tire			245/40R18	225/45R18
Camber	Degree minute (Decimal degree)	Minimum	- 1° 20' (- 1.33°)	
		Nominal	- 0° 35' (- 0.58°)	
		Maximum	0° 10' (0.17°)	
		Left and right difference	45' (0.75°)	
Caster	Degree minute (Decimal degree)	Minimum	7° 25' (7.42°)	
		Nominal	8° 10' (8.17°)	
		Maximum	8° 55' (8.92°)	
		Left and right difference	45' (0.75°)	
Kingpin inclination	Degree minute (Decimal degree)	Minimum	4° 20' (4.33°)	
		Nominal	5° 05' (5.08°)	
		Maximum	5° 50' (5.83°)	
Total toe-in Distance (A - B)		Minimum	0 mm (0 in)	
		Nominal	1 mm (0.04 in)	
		Maximum	2 mm (0.08 in)	
Wheel turning angle (Full turn)	Inside Degree minute (Decimal degree)	Minimum	35° 55' (35.9°)	
		Nominal	38° 55' (38.9°)	
		Maximum	39° 55' (39.9°)	
	Outside Degree minute (Decimal degree)	Nominal	30° 40' (30.7°)	

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

## REAR WHEEL ALIGNMENT (Unladen\*)

ELS0003Y

Tire			265/35R19	245/45R18
Camber	Degree minute (Decimal degree)	Minimum	- 2° 05' (- 2.08°)	
		Nominal	- 1° 35' (- 1.58°)	
		Maximum	- 1° 05' (- 1.08°)	
Total-in Distance (A - B)		Minimum	1.1 mm (0.043 in)	
		Nominal	1.9 mm (0.075 in)	
		Maximum	2.7 mm (0.106 in)	

\* : 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	Without Brembo : 26.0 (1.024) With Brembo : 28.4 (1.118)
Rear brake	Pad wear limit	2.0 (0.079)
	Rotor repair limit	Without Brembo : 14.0 (0.551) With Brembo : 20.2 (0.795)
Pedal free height		M/T : 154 - 164 (6.06 - 6.46) A/T : 162 - 172 (6.38 - 6.77)
Pedal depressed height*		M/T : More than 90 (3.54) A/T : 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)		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
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	0.55 kg	1.21 lb