

**YOU MUST READ THIS  
or  
YOU WILL DO DAMAGE!!**

1<sup>ST</sup> OFF, WE TAKE NO RESPONSIBILITY WHATSOEVER FOR ANY DAMAGE DIRECTLY OR INDIRECTLY CAUSED BY THE USE OF THIS DOCUMENT.

IF YOU ARE NOT A QUALIFIED TOYOTA TRAINED MECHANIC YOU ARE TAKING ALL THE RISKS ASSOCIATED WITH ANYTHING YOU DO TO YOUR CAR.

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## KG.cm to something useful. MOST Necessary!

<b>kg.cm</b>	<b>N.m</b>	<b>lbf.in</b>	<b>lbf.ft</b>
1	0.098	0.868	0.072
55	5.394	47.738	3.978
60	5.884	52.078	4.340
65	6.374	56.418	4.701
70	6.865	60.757	5.063
75	7.355	65.097	5.425
80	7.845	69.437	5.786
85	8.336	73.777	6.148
90	8.826	78.117	6.510
95	9.316	82.456	6.871
100	9.807	86.796	7.233
105	10.297	91.136	7.595
110	10.787	95.476	7.956
115	11.278	99.816	8.318
120	11.768	104.155	8.680
125	12.258	108.495	9.041
130	12.749	112.835	9.403
135	13.239	117.175	9.765
140	13.729	121.515	10.126
145	14.220	125.854	10.488
150	14.710	130.194	10.850
155	15.200	134.534	11.211
160	15.691	138.874	11.573
165	16.181	143.214	11.934
170	16.671	147.553	12.296
175	17.162	151.893	12.658
180	17.652	156.233	13.019
185	18.142	160.573	13.381
190	18.633	164.913	13.743
195	19.123	169.253	14.104
200	19.613	173.592	14.466
205	20.104	177.932	14.828
210	20.594	182.272	15.189
215	21.084	186.612	15.551
220	21.575	190.952	15.913
225	22.065	195.291	16.274
230	22.555	199.631	16.636
235	23.046	203.971	16.998
240	23.536	208.311	17.359
245	24.026	212.651	17.721
250	24.517	216.990	18.083
255	25.007	221.330	18.444
260	25.497	225.670	18.806
265	25.988	230.010	19.167
270	26.478	234.350	19.529
275	26.968	238.689	19.891
280	27.459	243.029	20.252
285	27.949	247.369	20.614
290	28.439	251.709	20.976
295	28.930	256.049	21.337
300	29.420	260.388	21.699
305	29.910	264.728	22.061
310	30.401	269.068	22.422
315	30.891	273.408	22.784
320	31.381	277.748	23.146
325	31.872	282.088	23.507

330	32.362	286.427	23.869
335	32.852	290.767	24.231
340	33.343	295.107	24.592
345	33.833	299.447	24.954
350	34.323	303.787	25.316
355	34.814	308.126	25.677
360	35.304	312.466	26.039
365	35.794	316.806	26.400
370	36.285	321.146	26.762
375	36.775	325.486	27.124
380	37.265	329.825	27.485
385	37.756	334.165	27.847
390	38.246	338.505	28.209
395	38.736	342.845	28.570
400	39.227	347.185	28.932
405	39.717	351.524	29.294
410	40.207	355.864	29.655
415	40.698	360.204	30.017
420	41.188	364.544	30.379
425	41.678	368.884	30.740
430	42.169	373.224	31.102
435	42.659	377.563	31.464
440	43.149	381.903	31.825
445	43.640	386.243	32.187
450	44.130	390.583	32.549
455	44.620	394.923	32.910
460	45.111	399.262	33.272
465	45.601	403.602	33.634
470	46.091	407.942	33.995
475	46.582	412.282	34.357
480	47.072	416.622	34.718
485	47.562	420.961	35.080
490	48.053	425.301	35.442
495	48.543	429.641	35.803
500	49.033	433.981	36.165
505	49.524	438.321	36.527
510	50.014	442.660	36.888
515	50.504	447.000	37.250
520	50.995	451.340	37.612
525	51.485	455.680	37.973
530	51.975	460.020	38.335
535	52.466	464.359	38.697
540	52.956	468.699	39.058
545	53.446	473.039	39.420
550	53.937	477.379	39.782
555	54.427	481.719	40.143
560	54.917	486.059	40.505
565	55.408	490.398	40.867
570	55.898	494.738	41.228
575	56.388	499.078	41.590
580	56.879	503.418	41.951
585	57.369	507.758	42.313
590	57.859	512.097	42.675
595	58.350	516.437	43.036
600	58.840	520.777	43.398
605	59.330	525.117	43.760
610	59.821	529.457	44.121
615	60.311	533.796	44.483
620	60.801	538.136	44.845
625	61.292	542.476	45.206

630	61.782	546.816	45.568
635	62.272	551.156	45.930
640	62.763	555.495	46.291
645	63.253	559.835	46.653
650	63.743	564.175	47.015
655	64.234	568.515	47.376
660	64.724	572.855	47.738
665	65.214	577.194	48.100
670	65.705	581.534	48.461
675	66.195	585.874	48.823
680	66.685	590.214	49.184
685	67.176	594.554	49.546
690	67.666	598.894	49.908
695	68.156	603.233	50.269
700	68.647	607.573	50.631
705	69.137	611.913	50.993
710	69.627	616.253	51.354
715	70.118	620.593	51.716
720	70.608	624.932	52.078
725	71.098	629.272	52.439
730	71.589	633.612	52.801
735	72.079	637.952	53.163
740	72.569	642.292	53.524
745	73.060	646.631	53.886
750	73.550	650.971	54.248
755	74.040	655.311	54.609
760	74.531	659.651	54.971
765	75.021	663.991	55.333
770	75.511	668.330	55.694
775	76.002	672.670	56.056
780	76.492	677.010	56.418
785	76.982	681.350	56.779
790	77.473	685.690	57.141
795	77.963	690.029	57.502
800	78.453	694.369	57.864
805	78.944	698.709	58.226
810	79.434	703.049	58.587
815	79.924	707.389	58.949
820	80.415	711.729	59.311
825	80.905	716.068	59.672
830	81.395	720.408	60.034
835	81.886	724.748	60.396
840	82.376	729.088	60.757
845	82.866	733.428	61.119
850	83.357	737.767	61.481
855	83.847	742.107	61.842
860	84.337	746.447	62.204
865	84.828	750.787	62.566
870	85.318	755.127	62.927
875	85.808	759.466	63.289
880	86.299	763.806	63.651
885	86.789	768.146	64.012
890	87.279	772.486	64.374
895	87.770	776.826	64.735
900	88.260	781.165	65.097
905	88.750	785.505	65.459
910	89.241	789.845	65.820
915	89.731	794.185	66.182
920	90.221	798.525	66.544
925	90.712	802.865	66.905

930	91.202	807.204	67.267
935	91.692	811.544	67.629
940	92.183	815.884	67.990
945	92.673	820.224	68.352
950	93.163	824.564	68.714
955	93.654	828.903	69.075
960	94.144	833.243	69.437
965	94.634	837.583	69.799
970	95.125	841.923	70.160
975	95.615	846.263	70.522
980	96.105	850.602	70.884
985	96.596	854.942	71.245
990	97.086	859.282	71.607
995	97.576	863.622	71.968
1000	98.067	867.962	72.330
1005	98.557	872.301	72.692
1010	99.047	876.641	73.053
1015	99.537	880.981	73.415
1020	100.028	885.321	73.777
1025	100.518	889.661	74.138
1030	101.008	894.000	74.500
1035	101.499	898.340	74.862
1040	101.989	902.680	75.223
1045	102.479	907.020	75.585
1050	102.970	911.360	75.947
1055	103.460	915.700	76.308
1060	103.950	920.039	76.670
1065	104.441	924.379	77.032
1070	104.931	928.719	77.393
1075	105.421	933.059	77.755
1080	105.912	937.399	78.117
1085	106.402	941.738	78.478
1090	106.892	946.078	78.840
1095	107.383	950.418	79.201
1100	107.873	954.758	79.563
1105	108.363	959.098	79.925
1110	108.854	963.437	80.286
1115	109.344	967.777	80.648
1120	109.834	972.117	81.010
1125	110.325	976.457	81.371
1130	110.815	980.797	81.733
1135	111.305	985.136	82.095
1140	111.796	989.476	82.456
1145	112.286	993.816	82.818
1150	112.776	998.156	83.180
1155	113.267	1002.496	83.541
1160	113.757	1006.835	83.903
1165	114.247	1011.175	84.265
1170	114.738	1015.515	84.626
1175	115.228	1019.855	84.988
1180	115.718	1024.195	85.350
1185	116.209	1028.535	85.711
1190	116.699	1032.874	86.073
1195	117.189	1037.214	86.435
1200	117.680	1041.554	86.796
1205	118.170	1045.894	87.158
1210	118.660	1050.234	87.519
1215	119.151	1054.573	87.881
1220	119.641	1058.913	88.243
1225	120.131	1063.253	88.604

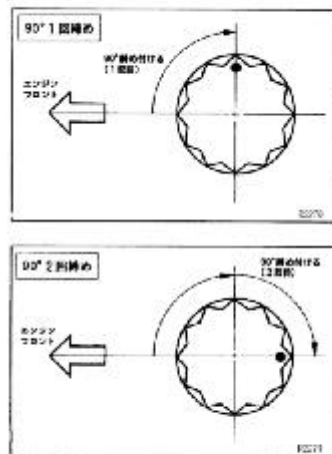
1230	120.622	1067.593	88.966
1235	121.112	1071.933	89.328
1240	121.602	1076.272	89.689
1245	122.093	1080.612	90.051
1250	122.583	1084.952	90.413
1255	123.073	1089.292	90.774
1260	123.564	1093.632	91.136
1265	124.054	1097.971	91.498
1270	124.544	1102.311	91.859
1275	125.035	1106.651	92.221
1280	125.525	1110.991	92.583
1285	126.015	1115.331	92.944
1290	126.506	1119.671	93.306
1295	126.996	1124.010	93.668
1300	127.486	1128.350	94.029
1305	127.977	1132.690	94.391
1310	128.467	1137.030	94.752
1315	128.957	1141.370	95.114
1320	129.448	1145.709	95.476
1325	129.938	1150.049	95.837
1330	130.428	1154.389	96.199
1335	130.919	1158.729	96.561
1340	131.409	1163.069	96.922
1345	131.899	1167.408	97.284
1350	132.390	1171.748	97.646
1355	132.880	1176.088	98.007
1360	133.370	1180.428	98.369
1365	133.861	1184.768	98.731
1370	134.351	1189.107	99.092
1375	134.841	1193.447	99.454
1380	135.332	1197.787	99.816
1385	135.822	1202.127	100.177
1390	136.312	1206.467	100.539
1395	136.803	1210.806	100.901
1400	137.293	1215.146	101.262
1405	137.783	1219.486	101.624
1410	138.274	1223.826	101.985
1415	138.764	1228.166	102.347
1420	139.254	1232.506	102.709
1425	139.745	1236.845	103.070
1430	140.235	1241.185	103.432
1435	140.725	1245.525	103.794
1440	141.216	1249.865	104.155
1445	141.706	1254.205	104.517
1450	142.196	1258.544	104.879
1455	142.687	1262.884	105.240
1460	143.177	1267.224	105.602
1465	143.667	1271.564	105.964
1470	144.158	1275.904	106.325
1475	144.648	1280.243	106.687
1480	145.138	1284.583	107.049
1485	145.629	1288.923	107.410
1490	146.119	1293.263	107.772
1495	146.609	1297.603	108.134
1500	147.100	1301.942	108.495
1505	147.590	1306.282	108.857
1510	148.080	1310.622	109.219
1515	148.571	1314.962	109.580
1520	149.061	1319.302	109.942
1525	149.551	1323.641	110.303

1530	150.042	1327.981	110.665
1535	150.532	1332.321	111.027
1540	151.022	1336.661	111.388
1545	151.513	1341.001	111.750
1550	152.003	1345.341	112.112
1555	152.493	1349.680	112.473
1560	152.984	1354.020	112.835
1565	153.474	1358.360	113.197
1570	153.964	1362.700	113.558
1575	154.455	1367.040	113.920
1580	154.945	1371.379	114.282
1585	155.435	1375.719	114.643
1590	155.926	1380.059	115.005
1595	156.416	1384.399	115.367
1600	156.906	1388.739	115.728
1605	157.397	1393.078	116.090
1610	157.887	1397.418	116.452
1615	158.377	1401.758	116.813
1620	158.868	1406.098	117.175
1625	159.358	1410.438	117.536
1630	159.848	1414.777	117.898
1635	160.339	1419.117	118.260
1640	160.829	1423.457	118.621
1645	161.319	1427.797	118.983
1650	161.810	1432.137	119.345
1655	162.300	1436.476	119.706
1660	162.790	1440.816	120.068
1665	163.281	1445.156	120.430
1670	163.771	1449.496	120.791
1675	164.261	1453.836	121.153
1680	164.752	1458.176	121.515
1685	165.242	1462.515	121.876
1690	165.732	1466.855	122.238
1695	166.223	1471.195	122.600
1700	166.713	1475.535	122.961
1705	167.203	1479.875	123.323
1710	167.694	1484.214	123.685
1715	168.184	1488.554	124.046
1720	168.674	1492.894	124.408
1725	169.165	1497.234	124.769
1730	169.655	1501.574	125.131
1735	170.145	1505.913	125.493
1740	170.636	1510.253	125.854
1745	171.126	1514.593	126.216
1750	171.616	1518.933	126.578
1755	172.107	1523.273	126.939
1760	172.597	1527.612	127.301
1765	173.087	1531.952	127.663
1770	173.578	1536.292	128.024
1775	174.068	1540.632	128.386
1780	174.558	1544.972	128.748
1785	175.049	1549.312	129.109
1790	175.539	1553.651	129.471
1795	176.029	1557.991	129.833
1800	176.520	1562.331	130.194
1805	177.010	1566.671	130.556
1810	177.500	1571.011	130.918
1815	177.991	1575.350	131.279
1820	178.481	1579.690	131.641
1825	178.971	1584.030	132.002

1830	179.462	1588.370	132.364
1835	179.952	1592.710	132.726
1840	180.442	1597.049	133.087
1845	180.933	1601.389	133.449
1850	181.423	1605.729	133.811
1855	181.913	1610.069	134.172
1860	182.404	1614.409	134.534
1865	182.894	1618.748	134.896
1870	183.384	1623.088	135.257
1875	183.875	1627.428	135.619
1880	184.365	1631.768	135.981
1885	184.855	1636.108	136.342
1890	185.346	1640.447	136.704
1895	185.836	1644.787	137.066
1900	186.326	1649.127	137.427
1905	186.817	1653.467	137.789
1910	187.307	1657.807	138.151
1915	187.797	1662.147	138.512
1920	188.288	1666.486	138.874
1925	188.778	1670.826	139.236
1930	189.268	1675.166	139.597
1935	189.759	1679.506	139.959
1940	190.249	1683.846	140.320
1945	190.739	1688.185	140.682
1950	191.230	1692.525	141.044
1955	191.720	1696.865	141.405
1960	192.210	1701.205	141.767
1965	192.701	1705.545	142.129
1970	193.191	1709.884	142.490
1975	193.681	1714.224	142.852
1980	194.172	1718.564	143.214
1985	194.662	1722.904	143.575
1990	195.152	1727.244	143.937
1995	195.643	1731.583	144.299
2000	196.133	1735.923	144.660
2005	196.623	1740.263	145.022
2010	197.114	1744.603	145.384
2015	197.604	1748.943	145.745
2020	198.094	1753.282	146.107
2025	198.585	1757.622	146.469
2030	199.075	1761.962	146.830
2035	199.565	1766.302	147.192
2040	200.056	1770.642	147.553
2045	200.546	1774.982	147.915
2050	201.036	1779.321	148.277
2055	201.527	1783.661	148.638
2060	202.017	1788.001	149.000
2065	202.507	1792.341	149.362
2070	202.998	1796.681	149.723
2075	203.488	1801.020	150.085
2080	203.978	1805.360	150.447
2085	204.469	1809.700	150.808
2090	204.959	1814.040	151.170
2095	205.449	1818.380	151.532
2100	205.940	1822.719	151.893
2105	206.430	1827.059	152.255
2110	206.920	1831.399	152.617
2115	207.411	1835.739	152.978
2120	207.901	1840.079	153.340
2125	208.391	1844.418	153.702

2130	208.882	1848.758	154.063
2135	209.372	1853.098	154.425
2140	209.862	1857.438	154.786
2145	210.353	1861.778	155.148
2150	210.843	1866.118	155.510
2155	211.333	1870.457	155.871
2160	211.824	1874.797	156.233
2165	212.314	1879.137	156.595
2170	212.804	1883.477	156.956
2175	213.295	1887.817	157.318
2180	213.785	1892.156	157.680
2185	214.275	1896.496	158.041
2190	214.766	1900.836	158.403
2195	215.256	1905.176	158.765
2200	215.746	1909.516	159.126
2205	216.237	1913.855	159.488
2210	216.727	1918.195	159.850
2215	217.217	1922.535	160.211
2220	217.708	1926.875	160.573
2225	218.198	1931.215	160.935
2230	218.688	1935.554	161.296
2235	219.179	1939.894	161.658
2240	219.669	1944.234	162.020
2245	220.159	1948.574	162.381
2250	220.650	1952.914	162.743
2255	221.140	1957.253	163.104
2260	221.630	1961.593	163.466
2265	222.121	1965.933	163.828
2270	222.611	1970.273	164.189
2275	223.101	1974.613	164.551
2280	223.592	1978.953	164.913
2285	224.082	1983.292	165.274
2290	224.572	1987.632	165.636
2295	225.063	1991.972	165.998
2300	225.553	1996.312	166.359
2305	226.043	2000.652	166.721
2310	226.534	2004.991	167.083
2315	227.024	2009.331	167.444
2320	227.514	2013.671	167.806
2325	228.005	2018.011	168.168
2330	228.495	2022.351	168.529
2335	228.985	2026.690	168.891
2340	229.476	2031.030	169.253
2345	229.966	2035.370	169.614
2350	230.456	2039.710	169.976
2355	230.947	2044.050	170.337
2360	231.437	2048.389	170.699
2365	231.927	2052.729	171.061
2370	232.418	2057.069	171.422
2375	232.908	2061.409	171.784
2380	233.398	2065.749	172.146
2385	233.889	2070.088	172.507
2390	234.379	2074.428	172.869
2395	234.869	2078.768	173.231
2400	235.360	2083.108	173.592
2405	235.850	2087.448	173.954
2410	236.340	2091.788	174.316
2415	236.831	2096.127	174.677
2420	237.321	2100.467	175.039
2425	237.811	2104.807	175.401

2430	238.302	2109.147	175.762
2435	238.792	2113.487	176.124
2440	239.282	2117.826	176.486
2445	239.773	2122.166	176.847
2450	240.263	2126.506	177.209
2455	240.753	2130.846	177.570
2460	241.244	2135.186	177.932
2465	241.734	2139.525	178.294
2470	242.224	2143.865	178.655
2475	242.715	2148.205	179.017
2480	243.205	2152.545	179.379
2485	243.695	2156.885	179.740
2490	244.186	2161.224	180.102
2495	244.676	2165.564	180.464
2500	245.166	2169.904	180.825
2505	245.657	2174.244	181.187
2510	246.147	2178.584	181.549
2515	246.637	2182.923	181.910
2520	247.128	2187.263	182.272
2525	247.618	2191.603	182.634
2530	248.108	2195.943	182.995
2535	248.599	2200.283	183.357
2540	249.089	2204.623	183.719
2545	249.579	2208.962	184.080
2550	250.070	2213.302	184.442
2555	250.560	2217.642	184.803
2560	251.050	2221.982	185.165
2565	251.541	2226.322	185.527
2570	252.031	2230.661	185.888
2575	252.521	2235.001	186.250
2580	253.012	2239.341	186.612
2585	253.502	2243.681	186.973
2590	253.992	2248.021	187.335
2595	254.483	2252.360	187.697
2600	254.973	2256.700	188.058
2700	264.780	2343.496	195.291
2800	274.586	2430.293	202.524
2900	284.393	2517.089	209.757
3000	294.200	2603.885	216.990
3100	304.006	2690.681	224.223
3200	313.813	2777.477	231.456
3300	323.619	2864.273	238.689
3400	333.426	2951.070	245.922
3500	343.233	3037.866	253.155
3600	353.039	3124.662	260.388
3700	362.846	3211.458	267.622
3800	372.653	3298.254	274.855
3900	382.459	3385.050	282.088
4000	392.266	3471.847	289.321
4100	402.073	3558.643	296.554
4200	411.879	3645.439	303.787
4300	421.686	3732.235	311.020
4400	431.493	3819.031	318.253
4500	441.299	3905.827	325.486
4600	451.106	3992.623	332.719
4700	460.913	4079.420	339.952
4800	470.719	4166.216	347.185
4900	480.526	4253.012	354.418
5000	490.333	4339.808	361.651



## トヨタ標準規格ボルト 締め付けトルク

### 塑性域締めボルトの 締め付け方法について

- 1 注意事項  
エンジンの一部には塑性域締め付け方法を用いている部位がある。  
従来の締め付け方法とは異なるので本文に従って締め付ける。
- 2 使用部位  
シリンダーヘッドボルト  
クランクシャフトベアリングキャップボルト  
コネクティングロッドベアリングキャップボルト
- 3 規定トルクで締め付けたあとの締め付け方法  
さらに90°増し締めする場合は180° (90°を2回) 増し締めする  
場合がある。

## Degree Torquing

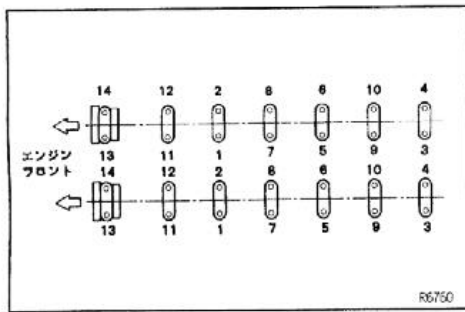
From page 0-10

Whenever you see this photo in the manual it means you must tighten to the specified Torque AND THEN tighten a further 90 degrees or 90 degrees twice or 90 degrees 3 times. Do this degree tightening IN STEPS, do not do a 180 degree in 1 go, do it in 2 x 90 degree steps with a wait in between.

It seems the only sections affected are

- Cylinder Head Bolts**
  - Crankshaft bearing cap bolts**
  - Connecting rod bearing cap bolts**
-

## Sequential Torquing



(5) 図の順序で、3回に分けて締め付ける。

T=100kg·cm (1回目)

T=150kg·cm (2回目)

T=200kg·cm (3回目)

When you see this, it means tighten the bolts in the sequence shown IN A SERIES OF TIGHTENING STEPS. In this instance Step 1 all bolts to 100kg.cm the start again at Step 2 all bolts to 150 kg.cm etc etc.

## Some Symbols

※……塑性域締め付け法

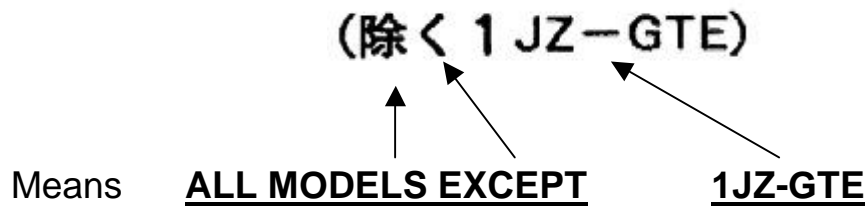
●……再使用不可部品

□……締め付けトルク (kg・cm)

The Asterick thing means **DEGREE TIGHTENING REQUIRED**

The Black dot means **MUST ALWAYS BE REPLACED**

The box means **TORQUEING REQUIRED** to the amount shown in the box.



## Special Notes:

### Page 1-28

As best as we can understand it, this is how to ID what number crank/bearing/conrod set you have.

Number as stamped

Con Rod Cap (I)  
Crankshaft Bearing (II)  
Bearing (III)

	符 号								
コネクティングロッドキャップ符号(I)	1			2			3		
クランクシャフト符号(II)	0	1	2	0	1	2	0	1	2
選択ベアリング符号(III)	1	2	3	2	3	4	3	4	5

### Standard measurements of the components.

(I) Conrod O/D      (II) Crankpin Dia.      (III) Bearing thickness

・各部符号と寸法

単位 (mm)

選択符号	(I)	(II)	(III)
	コネクティング ロッド大端部大径	クランクシャフ トピン径	ベアリング 中央肉厚
0		51.994~52.000	
1	55.025~55.031	51.988~51.994	1.489~1.492
2	55.031~55.037	51.982~51.988	1.492~1.495
3	55.037~55.043		1.495~1.498
4			1.498~1.501
5			1.501~1.504
U/S 0.25	55.025~55.043	51.745~51.755	1.610~1.615

## Surface Tolerances

エンジン型式	限度 (mm)		
	シリンダーヘッド 下面	マニホールド取り付け面	
		IN	EX
除く 1JZ-GTE	0.1	0.1	
1JZ-GTE	0.2	0.2	0.3

Engine	Head	Manifold's
--------	------	------------

## Valve Whole Length.

エンジン型式	バルブ	基準値 (mm)	限度 (mm)
除く 1JZ-GTE	IN	98.29~98.79	98.19
	EX	98.84~99.34	98.74
1JZ-GTE	IN	97.15~97.95	97.05
	EX	97.75~98.55	97.65

Engine	Standard Range	Min. Acceptable
--------	----------------	-----------------

## Valve Stem Outside Dia.

エンジン型式	バルブ	基準値 (mm)
除く 1JZ-GTE	IN	5.970~5.985
	EX	5.965~5.980
1JZ-GTE	IN	5.960~5.975
	EX	5.955~5.970

Engine	Valve	Acceptable Range
--------	-------	------------------

## Valve Spring Length (free)

Engine	Type	Brand	Length	Colour Code	
エンジン型式	バルブ	メーカー	基準値	識別ペイント	
1 JZ-GE	IN・EX	東郷	41.74	ピンク	Pink
		三興	41.50	白	White
1 JZ-GTE	IN・EX		44.43		NIL
2 JZ-GE 2 JZ-GTE	IN・EX	東郷	41.74	青	Blue
		三興	41.70	黄	Yellow

## Valve Oil Guide Inside Diameter

IN, EX 6.010~6.030mm (除く 1 JZ-GTE)

IN, EX 6.000~6.018mm (1 JZ-GTE)

## Valve Guide to Valve Stem Gap

Minimum  
Acceptable

エンジン型式	バルブ	基準値 (mm)	限度 (mm)
除く 1 JZ-GTE	IN	0.025~0.060	0.08
	EX	0.030~0.065	0.10
1 JZ-GTE	IN	0.025~0.058	0.08
	EX	0.030~0.063	0.10

## Piston Wear

マイクロメーターを使用して、ピストン上端から 34mm (除く 1 JZ-GTE), 28mm (1 JZ-GTE) 下の位置でピン穴と直角方向の直径を測定する。

基準値 85.935~85.945mm (除く 1 JZ-GTE)

85.935~85.900mm (1 JZ-GTE)

Measure the piston 34mm or 28mm, depending on engine, from lip and 90 degrees around from the gudgeon pin.

## Piston Clearance

		Max Acceptable
エンジン型式	基準値 (mm)	限度 (mm)
1 JZ-GE・2 JZ-GE	0.055~0.078	0.1
1 JZ-GTE	0.110~0.133	0.16
2 JZ-GTE	0.073~0.096	0.12

## Ring to Groove Gap

Ring Number	No. 1	No. 2
	0.04~0.08mm	0.03~0.07mm (除く 1 JZ-GTE)
		0.02~0.06mm (1 JZ-GTE)

Piston ring gap, from maximum reach of #1 ring to 105mm down.

Maximum

エンジン型式	リング	基準値 (mm)	限度 (mm)
1 JZ-GE	No. 1	0.30~0.40	1.00
	No. 2	0.35~0.45	1.05
	オイル	0.13~0.38	0.98
1 JZ-GTE	No. 1	0.28~0.40	1.00
	No. 2	0.35~0.45	1.05
	オイル	0.13~0.38	0.98
2 JZ-GE 2 JZ-GTE	No. 1	0.30~0.40	1.07
	No. 2	0.35~0.45	1.12
	オイル	0.13~0.38	1.05

Oil Ring

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What bearing to buy.

Look at the drawing on the page to see where your marks are,  
ADD your (I) and (II) numbers and that tells you the set you  
need (III)

(参考) ・STD ベアリング選択方法

Block Mark (I) + Crank Shaft  
Mark (II)

Buy this bearing Set (III)

	符 号				
シリンダーブロック符号(I) + クランクシャフト符号(II)	0~2	3~5	6~8	9~11	12~14
選択ベアリング符号(III)	1	2	3	4	5

## Factory Specs for your lower end.

・各部符号と寸法

単位 (mm)

選択符号	(I)	(II)	(III)
	Block	Crank	Bearing Thickness Middle
0	66.020~66.022	61.998~62.000	
1	66.022~66.024	61.996~61.998	1.994~1.997
2	66.024~66.026	61.994~61.996	1.997~2.000
3	66.026~66.028	61.992~61.994	2.000~2.003
4	66.028~66.030	61.990~61.992	2.003~2.006
5	66.030~66.032	61.988~61.990	2.006~2.009
6	66.032~66.034	61.986~61.988	
7	66.034~66.036	61.984~61.986	
U/S 0.25	66.020~66.036	61.745~61.755	2.114~2.120

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**Piston Ring Identification (how to spot the top ring vs. the lower ring.)**

Brand	Engine	Ring #	Mark	
	メーカー	エンジン	リング種類	マーク
Riken	リケン	1 JZ-GE	No. 1	1R
		No. 2	2R	
Japan Piston Co	日本ピストンリング	2 JZ-GTE	No. 1	1N
			No. 2	2N
TEI OH	帝国ピストンリング	2 JZ-GE	No. 1	1T
			No. 2	2T
	1 JZ-GTE	No. 1	T	
		No. 2	T	

**WARNING:** The TEI OH brand are both marked T. The ring **WITH** the chrome face is the TOP one (#1).