

ENGINE TECHNICAL DATA

id015000800100

Item	Specification
OCV coil resistance	6.9—7.5 ohms [20°C {68°F}]
Maximum distortion, head gasket side of the cylinder head	0.05 mm {0.002 in}
Maximum distortion, manifold side	IN: 0.10 mm {0.0039 in} EX: 0.05 mm {0.002 in}
Maximum cutting length, manifold side	IN: Cutting not authorized EX: 0.20 mm {0.0079 in}
Standard valve seat contact width	1.37—1.84 mm {0.0540—0.0724 in}
Valve seat angle	45°
Standard valve seat sinkage amount (Dimension L) [SKYACTIV-G 2.0]	IN: 49.03—50.27 mm {1.931—1.979 in} EX: 49.03—50.27 mm {1.931—1.979 in}
Standard valve seat sinkage amount (Dimension L) [SKYACTIV-G 2.5]	IN: 48.93—50.17 mm {1.927—1.975 in} EX: 48.87—50.11 mm {1.925—1.972 in}
Standard valve head margin thickness	IN: 1.75—1.95 mm {0.0689—0.0767 in} EX: 1.95—2.15 mm {0.0768—0.0846 in}
Standard valve length [SKYACTIV-G 2.0]	IN: 106.55—107.15 mm {4.1949—4.2185 in} EX: 116.55—117.15 mm {4.5886—4.6122 in}
Standard valve length [SKYACTIV-G 2.5]	IN: 107.00—107.60 mm {4.2127—4.2362 in} EX: 117.09—117.69 mm {4.6099—4.6334 in}
Minimum valve length [SKYACTIV-G 2.0]	IN: 106.33 mm {4.1862 in} EX: 116.33 mm {4.5799 in}
Minimum valve length [SKYACTIV-G 2.5]	IN: 106.78 mm {4.2039 in} EX: 116.87 mm {4.6012 in}
Standard valve stem diameter	IN: 5.470—5.485 mm {0.2154—0.2159 in} EX: 5.465—5.480 mm {0.2152—0.2157 in}
Minimum valve stem diameter	IN: 5.424 mm {0.2135 in} EX: 5.419 mm {0.2133 in}
Standard valve guide inner diameter	IN: 5.510—5.530 mm {0.2170—0.2177 in} EX: 5.510—5.530 mm {0.2170—0.2177 in}
Standard clearance between valve stem and guide	IN: 0.025—0.060 mm {0.0010—0.0023 in} EX: 0.030—0.065 mm {0.0012—0.0025 in}
Maximum clearance between valve stem and guide	0.10 mm {0.0039 in}
Standard valve guide projection height	IN: 16.4—17.0 mm {0.646—0.669 in} EX: 16.4—17.0 mm {0.646—0.669 in}
Valve spring installation height [SKYACTIV-G 2.0]	IN: When pressurized with spring force of 190—210 N {19.4—21.4 kgf, 42.8—47.2 lbf}, spring height is 38.0 mm {1.50 in} EX: When pressurized with spring force of 228—252 N {23.3—25.6 kgf, 51.3—56.6 lbf}, spring height is 38.0 mm {1.50 in}
Valve spring installation height [SKYACTIV-G 2.5]	When pressurized with spring force of 228—252 N {23.3—25.6 kgf, 51.3—56.6 lbf}, spring height is 38.0 mm {1.50 in}
Maximum valve spring off-square [SKYACTIV-G 2.0]	IN: 2.0 ° (1.6 mm {0.063 in}) EX: 2.0 ° (1.7 mm {0.067 in})
Maximum valve spring off-square [SKYACTIV-G 2.5]	IN: 2.0 ° (1.7 mm {0.067 in}) EX: 2.0 ° (1.7 mm {0.067 in})
Maximum camshaft runout	0.030 mm {0.0012 in}
Standard cam height [SKYACTIV-G 2.0]	IN: 41.57 mm {1.637 in} EX: 40.37 mm {1.589 in}
Standard cam height [SKYACTIV-G 2.5]	IN: 42.34 mm {1.667 in} EX: 40.37 mm {1.589 in}
Minimum cam height [SKYACTIV-G 2.0]	IN: 41.50 mm {1.634 in} EX: 40.30 mm {1.587 in}
Minimum cam height [SKYACTIV-G 2.5]	IN: 42.27 mm {1.664 in} EX: 40.30 mm {1.587 in}
Standard camshaft journal diameter	24.96—24.98 mm {0.9827—0.9834 in}
Minimum camshaft journal diameter	24.93 mm {0.9815 in}
Standard camshaft journal oil clearance	0.035—0.080 mm {0.0014—0.0031 in}
Maximum camshaft journal oil clearance	0.090 mm {0.0035 in}
Standard camshaft end play	0.07—0.22 mm {0.003—0.008 in}
Maximum camshaft end play	0.23 mm {0.0091 in}
Maximum distortion, head gasket side of the cylinder block	0.10 mm {0.0039 in}

Item	Specification
Standard cylinder bore diameter	SKYACTIV-G 2.0: 83.500—83.530 mm {3.2875—3.2885 in} SKYACTIV-G 2.5: 89.000—89.030 mm {3.5040—3.5051 in}
Oil jet valve opening pressure	180—220 kPa {1.84—2.24 kgf/cm ² , 26.2—31.9 psi}
Standard piston outer diameter	SKYACTIV-G 2.0: 83.465—83.495 mm {3.2861—3.2872 in} SKYACTIV-G 2.5: 88.965—88.995 mm {3.5026—3.5037 in}
Standard clearance between piston and cylinder	0.025—0.045 mm {0.0010—0.0017 in}
Maximum clearance between piston and cylinder	SKYACTIV-G 2.0: 0.063 mm {0.0025 in} SKYACTIV-G 2.5: 0.066 mm {0.0026 in}
Standard clearance between piston ring and ring groove	Top: 0.04—0.08 mm {0.002—0.003 in} Second: 0.03—0.07 mm {0.0012—0.0027 in} Oil: 0.04—0.12 mm {0.002—0.004 in}
Maximum clearance between piston ring and ring groove	Top: 0.12 mm {0.0047 in} Second: 0.10 mm {0.0039 in} Oil: 0.17 mm {0.0067 in}
Standard piston ring end gap	Top: 0.13—0.18 mm {0.0052—0.0070 in} Second: 0.18—0.28 mm {0.008—0.011 in} Oil (Rail): 0.10—0.35 mm {0.004—0.013 in}
Maximum piston ring end gap	Top: 0.35 mm {0.014 in} Second: 0.45 mm {0.018 in} Oil (Rail): 0.52 mm {0.020 in}
Standard piston pin outer diameter	20.995—21.000 mm {0.82658—0.82677 in}
Standard piston pin hole diameter	21.004—21.008 mm {0.82693—0.82708 in}
Standard clearance between piston pin hole diameter and piston pin outer diameter	0.004—0.013 mm {0.0002—0.0005 in}
Standard connecting rod small end inner diameter	21.002—21.013 mm {0.82686—0.82728 in}
Standard clearance between connecting rod small end inner diameter and piston pin outer diameter	0.002—0.018 mm {0.00008—0.00070 in}
Maximum connecting rod bending	0.050 mm {0.0020 in}
Maximum connecting rod distortion	0.050 mm {0.0020 in}
Connecting rod center-to-center distance	SKYACTIV-G 2.0: 155.2 mm {6.110 in} SKYACTIV-G 2.5: 154.8 mm {6.094 in}
Standard side clearance at the large end of connecting rod	0.14—0.36 mm {0.006—0.014 in}
Maximum side clearance at the large end of connecting rod	0.465 mm {0.0183 in}
Standard bearing oil clearance at the large end of the connecting rod	0.026—0.052 mm {0.0011—0.0020 in}
Maximum bearing oil clearance at the large end of the connecting rod	0.10 mm {0.0039 in}
Connecting rod bearing size [SKYACTIV-G 2.0]	STD: 1.503—1.520 mm {0.05918—0.05984 in} OS 0.25: 1.628—1.631 mm {0.06410—0.06421 in} OS 0.50: 1.753—1.756 mm {0.06902—0.06913 in}
Connecting rod bearing size [SKYACTIV-G 2.5]	STD: 1.502—1.519 mm {0.05914—0.05980 in} OS 0.25: 1.628—1.631 mm {0.06410—0.06421 in} OS 0.50: 1.753—1.756 mm {0.06902—0.06913 in}
Standard crankshaft end play	0.08—0.29 mm {0.004—0.011 in}
Maximum crankshaft end play	0.30 mm {0.012 in}
Thrust bearing size	STD: 2.500—2.550 mm {0.0985—0.1003 in} OS 0.25: 2.625—2.675 mm {0.1034—0.1053 in}
Maximum main journal runout	0.10 mm {0.0039 in}
Standard main journal diameter	SKYACTIV-G 2.0: 46.980—47.000 mm {1.8497—1.8503 in} SKYACTIV-G 2.5: 49.980—50.000 mm {1.9678—1.9685 in}
Maximum main journal off-round	0.005 mm {0.0002 in}
Standard crank pin diameter	SKYACTIV-G 2.0: 46.980—47.000 mm {1.8497—1.8503 in} SKYACTIV-G 2.5: 49.980—50.000 mm {1.9678—1.9685 in}
Maximum crank pin off-round	0.005 mm {0.0002 in}
Standard main journal oil clearance	0.016—0.039 mm {0.0007—0.0015 in}
Maximum main journal oil clearance	0.084 mm {0.0033 in}
Main bearing size	STD: 2.489—2.510 mm {0.0980—0.0988 in} OS 0.25: 2.614—2.617 mm {0.10292—0.10303 in} OS 0.50: 2.739—2.742 mm {0.10784—0.10795 in}
Flywheel maximum runout	0.10 mm {0.0039 in}
Standard cylinder head bolt length	145.2—145.8 mm {5.717—5.740 in}
Maximum cylinder head bolt length	146.5 mm {5.768 in}

Item	Specification
Standard connecting rod bolt length	43.7—44.3 mm {1.73—1.74 in}
Maximum connecting rod bolt length	45.0 mm {1.77 in}
Rear oil seal press-in amount	0—0.5 mm {0—0.019 in}
Front oil seal press-in amount	0—0.5 mm {0—0.019 in}