

Crankshaft

Tolerances and Wear Limits

All clearances are expressed in millimeters (mm) unless otherwise specified.

Models / Years
2.0/2.2
911 (1965-71)

Stroke Flywheel Bolt Pattern Main Bearings 1-7 (D1)

65mm
6-hole
57.00 - 57.05
56.971 - 56.980
from +0.030 to +0.088
56.980

Crankshaft Bearing No. 8 (D3)

31.041 - 31.084
30.980 - 30.983
from -0.045 to +0.104
30.970

Rod Bearings (D2)

51.020 - 51.059
56.971 - 56.980
from +0.030 to +0.088
56.980

Crankshaft Runout Crankshaft Unbalance (cmg) Main Bearing Axial Play

10 max
0.03 max
+0.110 to +0.195
0.30

Timing Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Distributor Drive Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Flywheel (D4)

65.000 - 65.030
64.981 - 65.000
from 0.0 to +0.049

Pulley (D6)

30.000 - 30.033
29.980 - 29.983
from +0.007 to +0.073
0.05 max
2.0 max

Pulley Radial Runout Pulley Lateral Runout

0.05 max
2.0 max

Bearing Sizes

Crankcase Diameter, Bearings 1-8

Standard 62.000 - 62.019
Oversize 62.250 - 62.289

All Main Bearings (D1)

Standard 56.971 - 56.980
-0.25mm 56.721 - 56.740
-0.50mm 56.471 - 56.490
-0.75mm 56.221 - 56.240
-1.00mm

Rod Bearings (D2)

Standard 56.971 - 56.980
-0.25mm 56.721 - 56.740
-0.50mm 56.471 - 56.490
-0.75mm 56.221 - 56.240
-1.00mm

Number Eight Bearing (D3)

Standard 30.980 - 30.983
-0.25mm 30.730 - 30.743
-0.50mm 30.480 - 30.493
-0.75mm 30.243 - 30.250
-1.00mm

Flywheel Seal Collar (D4)

Standard 64.981 - 65.000
-0.50mm 64.310 - 64.500

Crankshaft Pulley Seat (D6)

Standard 29.980 - 29.983
-0.50mm 29.370 - 29.500
Standard 28.000 - 28.050

Thrust Bearing (A)

Standard 28.000 - 28.050

Notes

- These were the factory crankshafts used on the 911 engine from 1965-68.
- Wear limits for bore are visual inspection only.
- Ground bearing surfaces for radial of seats to 25mm and 85mm when scoring is deep.
- Replace crank as necessary, 3 measures.



**2.4/2.7/3.0 Turbo
911 (1972-77)
911 Turbo (1976-77)
Euro Carrera (1976-77)**

70.4mm
6-hole

57.00 - 57.05
56.971 - 56.980
from +0.030 to +0.072
56.980

Crankshaft Bearing No. 8 (D3)

31.041 - 31.084
30.980 - 30.983
from +0.048 to -0.104
30.970

Rod Bearings (D2)

52.020 - 52.059
51.971 - 51.980
from +0.030 to +0.088
51.980

Crankshaft Runout Crankshaft Unbalance (cmg) Main Bearing Axial Play

10 max
0.04 max
+0.110 to +0.195
0.30

Timing Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Distributor Drive Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Flywheel (D4)

65.000 - 65.030
64.981 - 65.000
from 0.0 to +0.049

Pulley (D6)

30.000 - 30.033
29.980 - 29.983
from +0.007 to +0.073
0.05 max
2.0 max

Pulley Radial Runout Pulley Lateral Runout

0.05 max
2.0 max

**3.0SC
911 (1978-83)**

70.4mm
9-hole

60.020 - 60.059
59.971 - 59.980
from +0.010 to +0.072
59.980

Crankshaft Bearing No. 8 (D3)

31.041 - 31.084
30.980 - 30.983
from +0.048 to -0.104
30.970

Rod Bearings (D2)

53.020 - 53.059
52.971 - 52.980
from +0.030 to +0.088
52.980

Crankshaft Runout Crankshaft Unbalance (cmg) Main Bearing Axial Play

10 max
0.04 max
+0.110 to +0.195
0.30

Timing Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Distributor Drive Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Flywheel (D4)

65.000 - 65.030
64.981 - 65.000
from 0.0 to +0.049

Pulley (D6)

30.000 - 30.033
29.980 - 29.983
from +0.007 to +0.073
0.05 max
2.0 max

Pulley Radial Runout Pulley Lateral Runout

0.05 max
2.0 max

**3.2/3.3 Turbo
911 (1984-89)
911 Turbo (1978-89)**

74.4mm
9-hole

60.020 - 60.059
59.971 - 59.980
from +0.010 to +0.072
59.980

Crankshaft Bearing No. 8 (D3)

31.041 - 31.084
30.980 - 30.983
from +0.048 to -0.104
30.970

Rod Bearings (D2)

55.020 - 55.059
54.971 - 54.980
from +0.030 to +0.088
54.980

Crankshaft Runout Crankshaft Unbalance (cmg) Main Bearing Axial Play

10 max
0.04 max
+0.110 to +0.195
0.30

Timing Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Distributor Drive Gear (D5)

41.975 - 42.000
42.002 - 42.013
from -0.002 to -0.038

Flywheel (D4)

65.000 - 65.030
64.981 - 65.000
from 0.0 to +0.049

Pulley (D6)

30.000 - 30.033
29.980 - 29.983
from +0.007 to +0.073
0.05 max
2.0 max

Pulley Radial Runout Pulley Lateral Runout

0.05 max
2.0 max

Connecting Rods

Models / Years

2.0/2.2
911 (1965-71)

2.4/2.7/3.0 Turbo
911 (1972-77)
911 Turbo (1976-77)
Euro Carrera (1976-77)

3.0SC
911 (1978-83)

3.2/3.3 Turbo
911 (1984-89)
911 Turbo (1978-89)

Rod Dimensions

A - Center-to-Center Distance
B - Piston Pin Bushing Width
C - Rod Width at Big End

Rod Width at Crankshaft with bearing
Clearances (rod / sleeve)

130.00
25.80 - 26.00
21.70 - 21.80
22.00 - 22.10
from +0.200 to +0.400

D - Inside Rod Diameter at Big End E - Inside Rod Diameter at Small End F - Piston Pin Bushing Outer Diameter (uninstalled) G - Rod Bushing / Piston Pin Diameter

61.000 - 61.019
25.000 - 25.021
25.035 - 25.055
from -0.014 to -0.055
22.020 - 22.033
from +0.020 to +0.039
0.055

Weight Groups

Weight Range 551 - 560
560 - 569
569 - 578
578 - 587
587 - 596
596 - 605
605 - 614
614 - 623
623 - 632
632 - 641
641 - 650
650 - 659

Weight Group

901.003.011.21
901.003.011.22
901.003.011.23
901.003.011.24
901.003.011.25
901.003.011.26
901.003.011.27
901.003.011.28
901.003.011.29
901.003.011.30
901.003.011.31
901.003.011.32

Weight Group

911.003.013.21
911.003.013.22
911.003.013.23
911.003.013.24
911.003.013.25
911.003.013.26
911.003.013.27
911.003.013.28

Weight Group

700 - 709
709 - 718
718 - 727
727 - 736
736 - 745
745 - 754
754 - 763
763 - 772

Weight Group

645 - 654
654 - 663
663 - 672
672 - 681
681 - 690
690 - 699
699 - 708
708 - 717
718 - 727

Weight Group

633 - 642
642 - 651
651 - 660
660 - 669
669 - 678
678 - 687
687 - 696
696 - 705
705 - 714

Weight Group

624 - 633
633 - 642
642 - 651
651 - 660
660 - 669
669 - 678
678 - 687
687 - 696
696 - 705
705 - 714

Weight Group

590.003.015.31
590.003.015.32
590.003.015.33
590.003.015.34
590.003.015.35
590.003.015.36
590.003.015.37
590.003.015.38
590.003.015.39

Weight Group

530.003.020.73
530.003.020.74
530.003.020.75
530.003.020.76
530.003.020.77
530.003.020.78
530.003.020.79
530.003.020.80
530.003.020.81

Weight Group

121.80
25.80 - 26.00
23.70 - 23.80
24.00 - 24.10
from +0.200 to +0.400

Weight Group

121.75 - 121.80
24.80 - 25.00
21.70 - 21.80
22.00 - 22.05
from +0.200 to +0.350

Weight Group

126.55 - 127.00
24.50 - 25.00
21.70 - 21.90 (1978-85)
21.85 - 21.90 (1986-89)
22.00 - 22.05
from +0.200 to +0.350 (1978-85)
from +0.100 to +0.200 (1986-89)
58.000 - 58.019

Weight Group

22.020 - 22.033
from +0.020 to +0.037
0.055

Weight Group

23.020 - 23.033
from +0.020 to +0.037
0.055

Weight Group

21
22
23
24
25
26
27
28
29
30
31
32

Weight Group

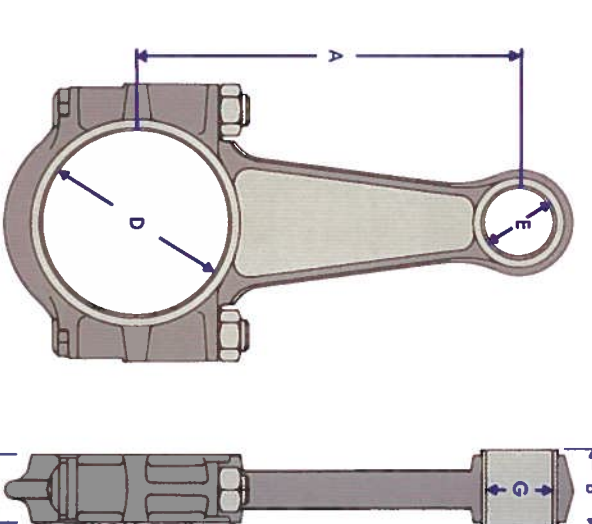
31
32
33
34
35
36
37
38
39

Weight Group

51
52
53
54
55
56
57
58
59

Weight Group

73
74
75
76
77
78
79
80
81



Notes

- Always use new rod nuts and rod bolts.
- Use RaceWare or ARP bolts for all 3.2L and 3.3L engines.
- Install rod bolts with oil lockite.
- See crankshaft table for rod bearing sizes and tolerances.
- Big end rod width changed on Carreras and Turbos in 1986.
- Connecting rods installed in an engine must not vary in weight by more than 9 grams without bearings installed.