

APPENDIX 4: Grand Prix premier class motorcycle engine data, 1949 - 2008**4 - stroke**

| Year | Make | Model | Config | Comp Ratio | Cyl. No. | Valves Cyl. | Cams | Bore B - mm | Stroke S - mm |
|-------------|-------------|--------------|---------------|-------------------|-----------------|--------------------|-------------|--------------------|----------------------|
| 1949 | AJS | E90 | Inline | 7.0 | 2 | 2 | DOHC | 68.00 | 68.25 |
| 1950 | Gilera | 500 | Inline | | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1951 | Norton | Works TT | Single | 8.6 | 1 | 2 | DOHC | 84.00 | 90.00 |
| 1952 | Gilera | 500-4 | Inline | | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1953 | Gilera | 4 | Inline | 10.0 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1954 | Gilera | 4 | Inline | | 4 | 2 | DOHC/100 | 52.00 | 58.80 |
| 1955 | Gilera | 4 | Inline | 10.0 | 4 | 2 | DOHC/100 | 52.00 | 58.80 |
| 1956 | MV-Agusta | 500 | Inline | 11.0 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1957 | Gilera | 4 | Inline | | 4 | 2 | DOHC/100 | 52.00 | 58.80 |
| 1958 | MV-Agusta | 500-4 | Inline | | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1959 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1960 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1961 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1962 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1963 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1964 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1965 | MV-Agusta | 500-4 | Inline | 11.5 | 4 | 2 | DOHC/90 | 52.00 | 58.00 |
| 1966 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 62.00 | 54.00 |
| 1967 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1968 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1969 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1970 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1971 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1972 | MV-Agusta | 500-Triple | Inline | | 3 | 4 | DOHC | 60.50 | 57.00 |
| 1973 | MV-Agusta | 500-4 | Inline | | 4 | 4 | DOHC | 58.00 | 47.00 |
| 1974 | MV-Agusta | 500-4 | Inline | | 4 | 4 | DOHC | 57.00 | 48.90 |
| 2002 | Honda | RC211V | V5 | | 5 | 4 | DOHC | 74.00 | 46.00 |
| 2003 | Honda | RC211V | V5 | | 5 | 4 | DOHC | 74.00 | 46.00 |
| 2004 | Yamaha | YZR M1 | Inline | | 4 | 4 | DOHC | 84.00 | 44.60 |
| 2005 | Yamaha | YZR M1 | Inline | | 4 | 4 | DOHC | 84.00 | 44.60 |
| 2006 | Honda | RC211V | V5 | | 5 | 4 | DOHC | 76.00 | 41.70 |
| 2007 | Ducati | D16 GP07 | V4 | | 4 | 4 | DOHC | 81.00 | 38.80 |
| 2008 | Yamaha | YZR M1 | Inline | | 4 | 4 | DOHC | 82.00 | 37.80 |

| Capacity V - cc | B/S | Max HP | RPM | BMEP-Bar | HP/Litre | Piston Speed m/s |
|----------------------------|------------|---------------|------------|-----------------|-----------------|-------------------------|
| 495.7 | 0.996 | 44 | 7600 | 10.5 | 88.8 | 17.3 |
| 492.7 | 0.897 | 52 | 9000 | 10.5 | 105.5 | 17.4 |
| 498.8 | 0.933 | 45 | 7000 | 11.5 | 90.2 | 21.0 |
| 492.7 | 0.897 | 57 | 10000 | 10.4 | 115.7 | 19.3 |
| 492.7 | 0.897 | 57 | 10000 | 10.4 | 115.7 | 19.3 |
| 499.5 | 0.884 | 65 | 10400 | 11.2 | 130.1 | 20.4 |
| 499.5 | 0.884 | 65 | 10400 | 11.2 | 130.1 | 20.4 |
| 492.7 | 0.897 | 67 | 10500 | 11.6 | 136.0 | 20.3 |
| 499.5 | 0.884 | 70 | 10400 | 12.1 | 140.1 | 20.4 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 492.7 | 0.897 | 70 | 10500 | 12.1 | 142.1 | 20.3 |
| 489.1 | 1.148 | 78 | 11600 | 12.3 | 159.5 | 20.9 |
| 491.6 | 1.061 | 78 | 11600 | 12.2 | 158.7 | 22.0 |
| 491.6 | 1.061 | 80 | 12500 | 11.7 | 162.7 | 23.8 |
| 491.6 | 1.061 | 80 | 12500 | 11.7 | 162.7 | 23.8 |
| 491.6 | 1.061 | 80 | 12500 | 11.7 | 162.7 | 23.8 |
| 491.6 | 1.061 | 80 | 12500 | 11.7 | 162.7 | 23.8 |
| 491.6 | 1.061 | 80 | 12500 | 11.7 | 162.7 | 23.8 |
| 496.7 | 1.234 | 98 | 14000 | 12.6 | 197.3 | 21.9 |
| 499.1 | 1.166 | 102 | 14800 | 12.4 | 204.4 | 24.1 |
| 989.2 | 1.609 | 220 | 15500 | 12.8 | 222.4 | 23.8 |
| 989.2 | 1.609 | 230 | 15800 | 13.2 | 232.5 | 24.2 |
| 988.7 | 1.883 | 235 | 15500 | 13.7 | 237.7 | 23.0 |
| 988.7 | 1.883 | 240 | 16250 | 13.4 | 242.8 | 24.2 |
| 945.9 | 1.823 | 250 | 16500 | 14.3 | 264.3 | 22.9 |
| 799.7 | 2.088 | 230 | 19000 | 13.5 | 287.6 | 24.6 |
| 798.5 | 2.169 | 230 | 18000 | 14.3 | 288.0 | 22.7 |

APPENDIX 4: Grand Prix premier class motorcycle engine data, 1949 - 2008.**2 - Stroke**

| Year | Make | Model | Config | Comp Ratio | Cyl. No. | Bore B - mm | Stroke S - mm |
|-------------|-------------|------------------|---------------|-------------------|-----------------|--------------------|----------------------|
| 1975 | Yamaha | YZR500 0W23 | Inline | | 4 | 54.00 | 54.00 |
| 1976 | Suzuki | XR-14 RG500 | Sq Four | 8.2 | 4 | 54.00 | 54.00 |
| 1977 | Suzuki | XR-14 RG500 | Sq Four | 8.3 | 4 | 54.00 | 54.00 |
| 1978 | Yamaha | YZR500 0W35K | Inline | | 4 | 56.00 | 50.60 |
| 1979 | Yamaha | YZR500 0W45 | Inline | | 4 | 56.00 | 50.60 |
| 1980 | Yamaha | YZR500 0W48 | Inline | | 4 | 56.00 | 50.60 |
| 1981 | Suzuki | RG500 Gamma XR35 | Sq Four | 8.5 | 4 | 54.00 | 54.00 |
| 1982 | Suzuki | RG500 Gamma III | Sq Four | | 4 | 56.00 | 50.60 |
| 1983 | Honda | NS500 | V3 | | 3 | 62.60 | 54.00 |
| 1984 | Yamaha | YZR500 0W76 | "V4" | | 4 | 56.00 | 50.60 |
| 1985 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1986 | Yamaha | YZR500 0W81 | "V4" | | 4 | 56.00 | 50.60 |
| 1987 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1988 | Yamaha | YZR500 0W98 | "V4" | | 4 | 56.00 | 50.60 |
| 1989 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1990 | Yamaha | YZR500 0WC1 | "V4" | | 4 | 56.00 | 50.60 |
| 1991 | Yamaha | YZR500 0WD3 | "V4" | | 4 | 56.00 | 50.60 |
| 1992 | Yamaha | YZR500 0WE0 | "V4" | | 4 | 56.00 | 50.60 |
| 1993 | Suzuki | RGV500 | "V4" | | 4 | 56.00 | 50.70 |
| 1994 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1995 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1996 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1997 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1998 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 1999 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |
| 2000 | Suzuki | RGV500 | "V4" | | 4 | 54.00 | 54.00 |
| 2001 | Honda | NSR500 | V4 | | 4 | 54.00 | 54.50 |

| Capacity V - cc | B/S | Max HP | RPM | BMEP-Bar | HP/Litre | Piston Speed m/s |
|--------------------|--------|--------|-------|----------|----------|------------------|
| 494.7 | 1.0000 | 95 | 11000 | 7.8 | 192.0 | 19.8 |
| 494.7 | 1.000 | 114 | 11000 | 9.4 | 230.4 | 19.8 |
| 494.7 | 1.000 | 119 | 11000 | 9.8 | 240.6 | 19.8 |
| 498.5 | 1.107 | 120 | 11000 | 9.8 | 240.7 | 18.6 |
| 498.5 | 1.107 | 125 | 11000 | 10.2 | 250.7 | 18.6 |
| 498.5 | 1.107 | 125 | 11000 | 10.2 | 250.7 | 18.6 |
| 494.7 | 1.000 | 130 | 11000 | 10.7 | 262.8 | 19.8 |
| 498.5 | 1.107 | 130 | 11000 | 10.6 | 260.8 | 18.6 |
| 498.6 | 1.159 | 125 | 11000 | 10.2 | 250.7 | 19.8 |
| 498.5 | 1.107 | 135 | 11000 | 11.0 | 270.8 | 18.6 |
| 499.3 | 0.991 | 144 | 11500 | 11.2 | 288.4 | 20.9 |
| 498.5 | 1.107 | 150 | 12000 | 11.2 | 300.9 | 20.2 |
| 499.3 | 0.991 | 150 | 12500 | 10.8 | 300.4 | 22.7 |
| 498.5 | 1.107 | 155 | 11750 | 11.8 | 310.9 | 19.8 |
| 499.3 | 0.991 | 165 | 12000 | 12.3 | 330.5 | 21.8 |
| 498.5 | 1.107 | 155 | 12000 | 11.6 | 310.9 | 20.2 |
| 498.5 | 1.107 | 165 | 11750 | 12.6 | 331.0 | 19.8 |
| 498.5 | 1.107 | 165 | 11750 | 12.6 | 331.0 | 19.8 |
| 499.5 | 1.105 | 168 | 12800 | 11.8 | 336.3 | 21.6 |
| 499.3 | 0.991 | 180 | 12000 | 13.4 | 360.5 | 21.8 |
| 499.3 | 0.991 | 180 | 12000 | 13.4 | 360.5 | 21.8 |
| 499.3 | 0.991 | 180 | 12000 | 13.4 | 360.5 | 21.8 |
| 499.3 | 0.991 | 182 | 12000 | 13.6 | 364.5 | 21.8 |
| 499.3 | 0.991 | 173 | 12000 | 12.9 | 346.5 | 21.8 |
| 499.3 | 0.991 | 173 | 12000 | 12.9 | 346.5 | 21.8 |
| 494.7 | 1.000 | 175 | 12500 | 12.7 | 353.8 | 22.5 |
| 499.3 | 0.991 | 173 | 12000 | 12.9 | 346.5 | 21.8 |