

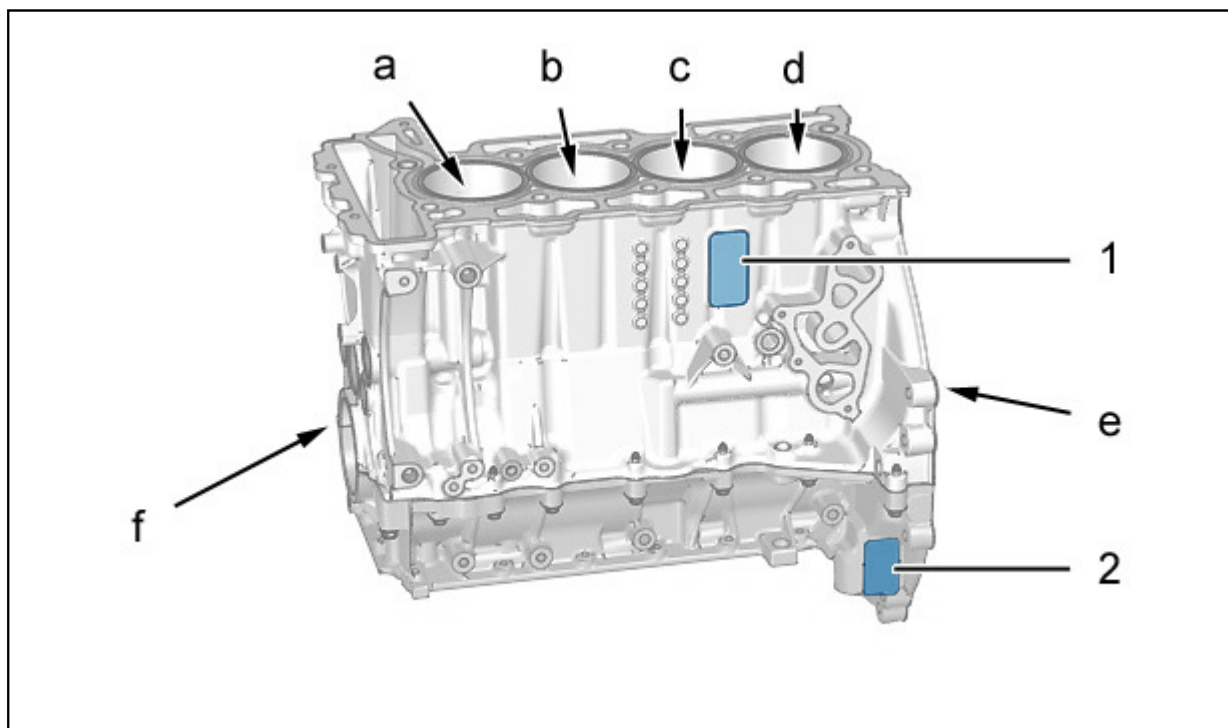
**IDENTIFICATION - DATA : UNDER ENGINE - EP ENGINE ( INDIRECT INJECTION)****1. Cylinder block assembly**

Figure : B1CB036D

<b>Identification : Cylinders</b>				
<b>Components</b>	<b>"a"</b>	<b>"b"</b>	<b>"c"</b>	<b>"d"</b>
<b>PSA</b>	N°4	N°3	N°2	N°1

"e" Flywheel side.

"f" Timing gear side.

<b>Flatness of the cylinder block (close to the cylinder head)</b>	<b>0,025 mm</b>
<b>Diameter of the cylinders</b>	77 (0 ; + 0,016) mm
<b>Liner protrusion</b>	0 ± 0,3 mm

The cylinder block is non-repairable.

**1.1. Cylinder block**

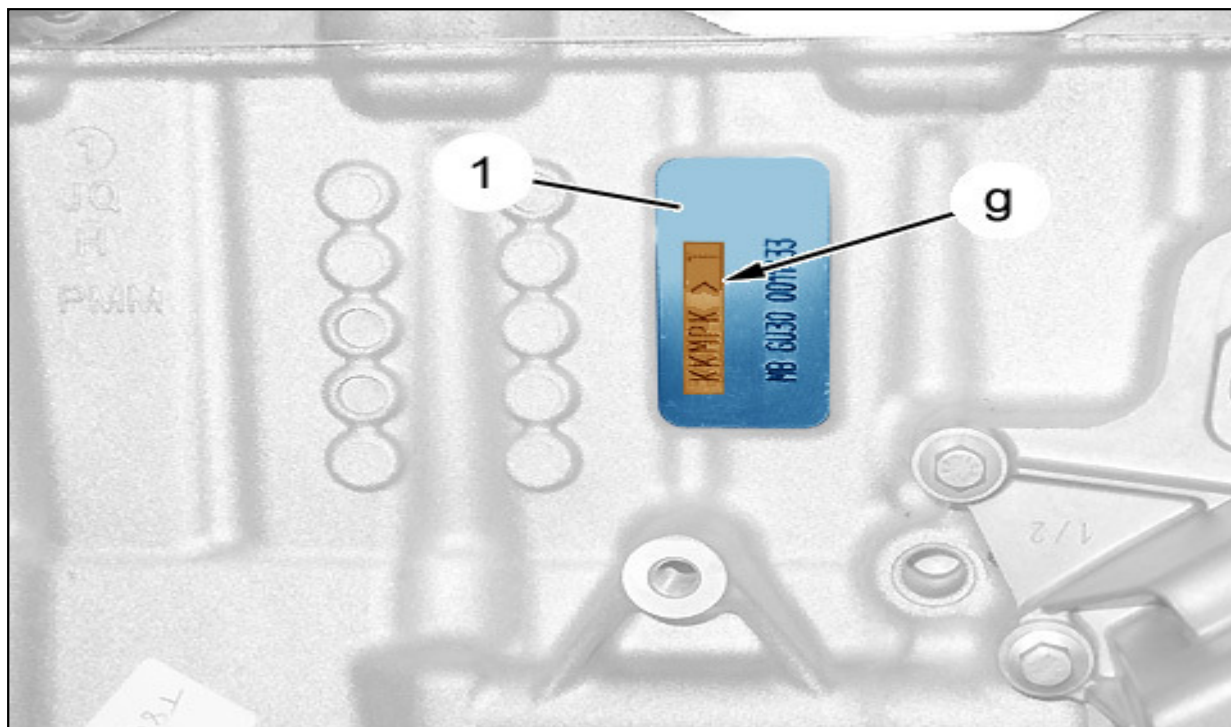


Figure : B1CB037D

The diameter values for the crankshaft main bearings are referenced on the machined surface (1) of the cylinder block (at "g") (Direction of reading from the flywheel towards the timing).

Components	Bearing n°
<b>K</b>	5
<b>P</b>	4
<b>M</b>	3
<b>K</b>	2
<b>K</b>	1

**N.B. :** Bearing n°1 flywheel end (Cylinder no 1).

## 1.2. Crankshaft main bearing cap casing

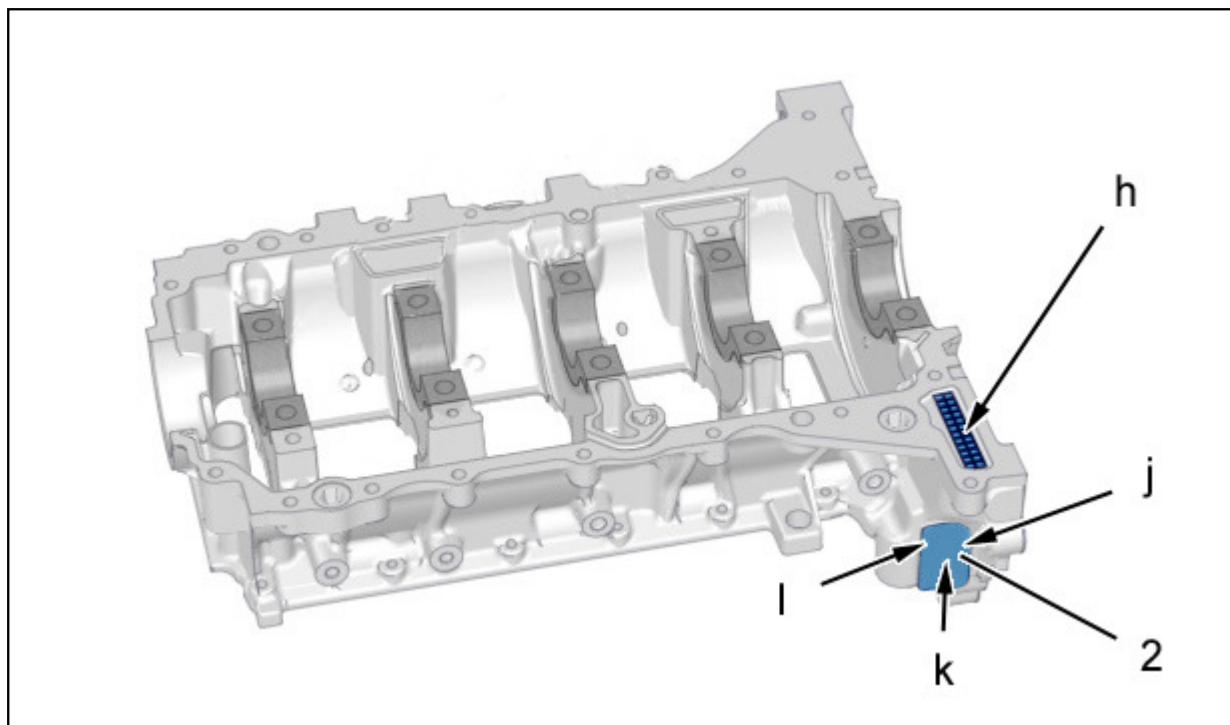


Figure : B1CB038D

The engine serial numbers are referenced on the machined surface (2) of the crankshaft bearing cap casing (at "j", "k", "l").

"h" Area of marking (Machined surface).

"j" Manufacturer identification + Legislation type .

"k" Identification marking .

"l" Serial number.

### 1.3. Diameters of the crankshaft main bearings

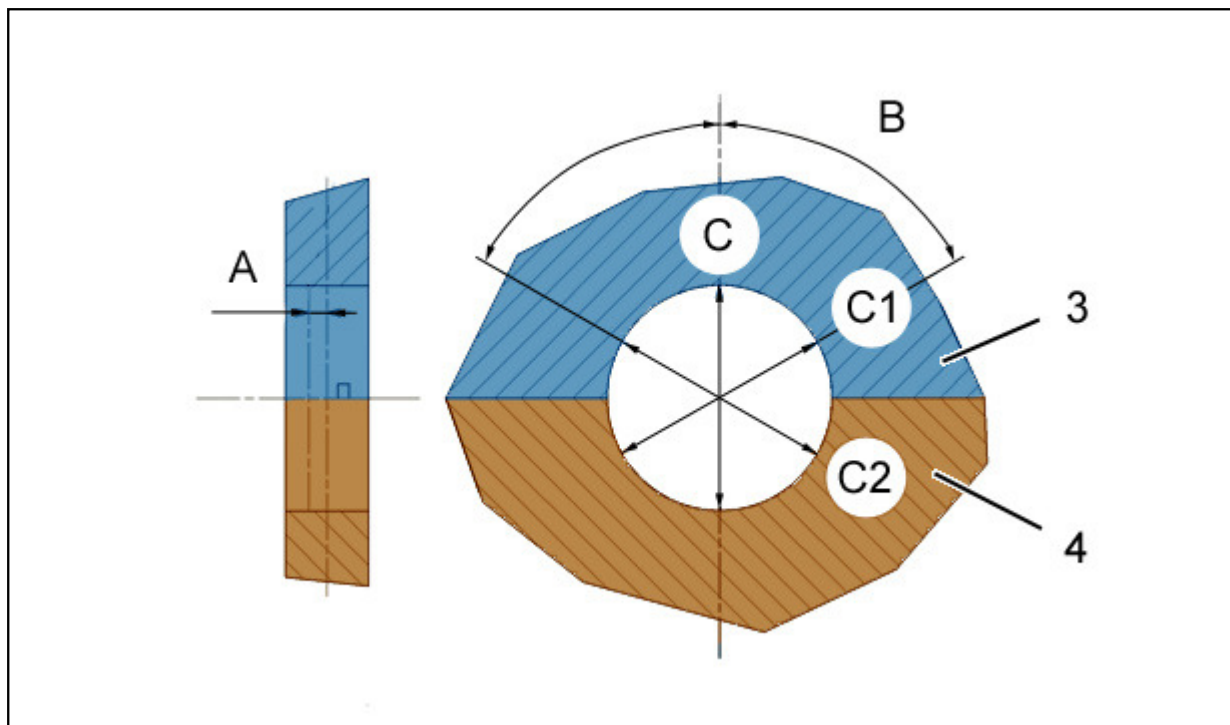


Figure : B1CB039D

- (3) Cylinder block .  
 (4) Bearing cap housing.

Components	Measurement	Values
"A"	Measurement zone for the diameter of the cylinder block	0 to 4 mm
"B"	Angle between each measurement	60°
"C", "C1", "C2"	Nominal diameter of the crankshaft	48,655 (0 ; + 0,019) mm
-	Calculation of the diameter of the crankshaft bearing	$(\varnothing C + \varnothing C1 + \varnothing C2) / 3$

## 2. Crankshaft

<b>Crankshaft lateral play</b>	<b>0,07 mm minimum</b>	<b>0,32 mm maximum</b>
<b>Axial play</b>	0,0016 mm maximum	

The cast-iron crankshaft is non-repairable.

### 2.1. References on crankshaft

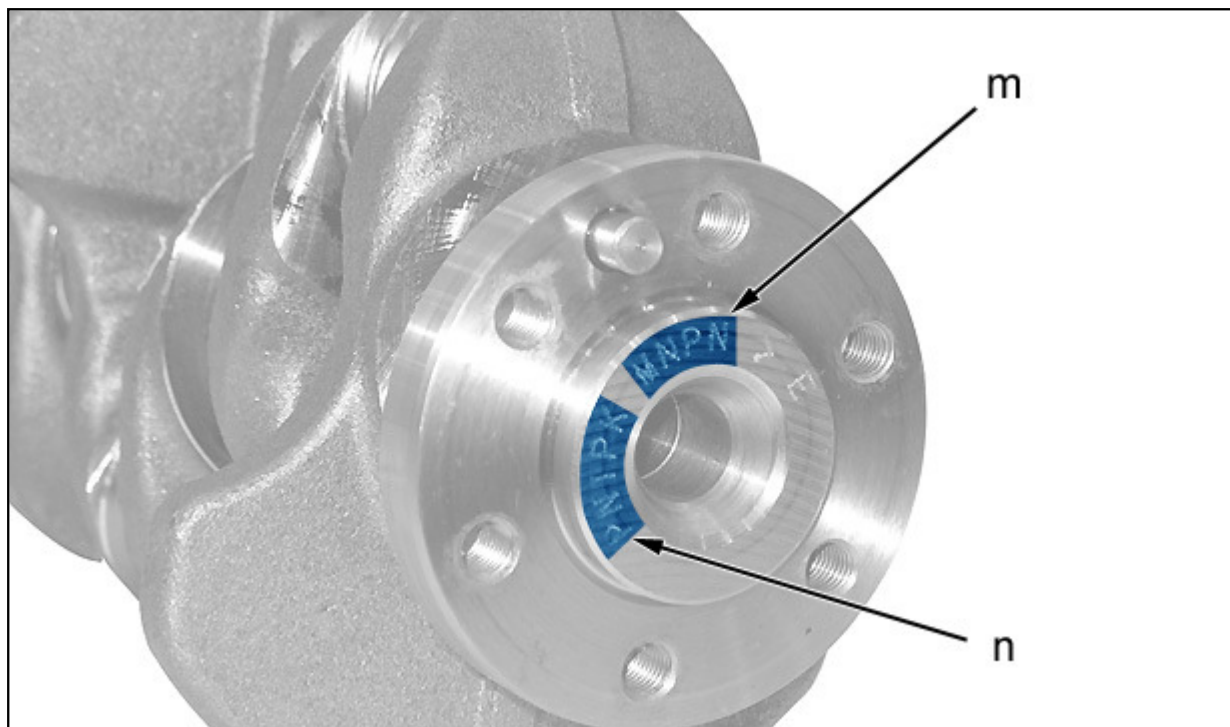


Figure : B1CB03AD

The diameter values for the main journals and crank pins are referenced on the crankshaft (at "m", "n") (Flywheel side).

"m" Record of the value of the main journals (Machined surface) - Alphabetical characters.

"n" Record of the value of the crank pins (Machined surface) - Alphabetical characters.

**N.B. :** Direction of reading from the flywheel towards the timing.

Components "n"	Main journal bearing n°
<b>K</b>	5
<b>P</b>	4
<b>I</b>	3
<b>N</b>	2
<b>P</b>	1

**N.B. :** Bearing n°1 flywheel end (Cylinder no 1).

Components "m"	Crank pin bearing n°
<b>N</b>	4
<b>P</b>	3
<b>N</b>	2
<b>M</b>	1

**N.B. :** Bearing n°1 flywheel end (Cylinder no 1).

## 2.2. Crankshaft measurements

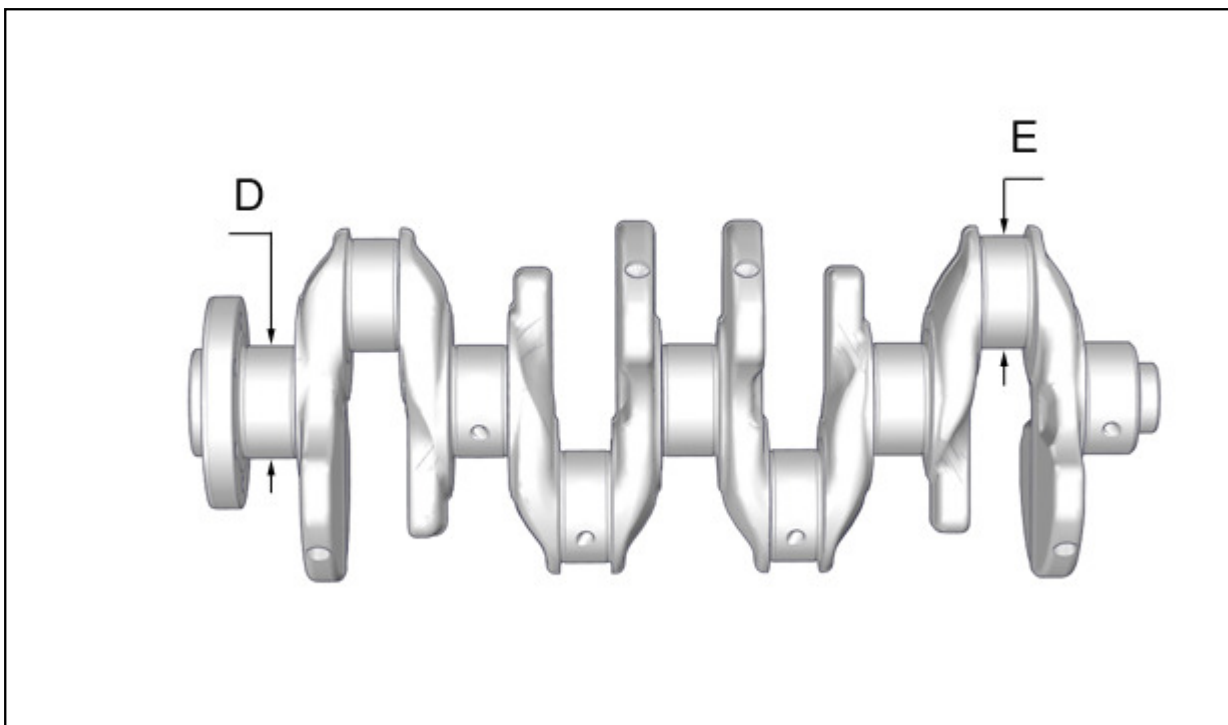


Figure : B1CB03BD

engine	EP3	EP6
"D" Nominal diameter of the main journal	Ø 45 (0 ; - 0,016) mm	Ø 45 (0 ; - 0,016) mm
"E" Nominal diameter of the crank pin	Ø 40 (- 0,009 ; - 0,025) mm	Ø 45 (- 0,009 ; - 0,025) mm

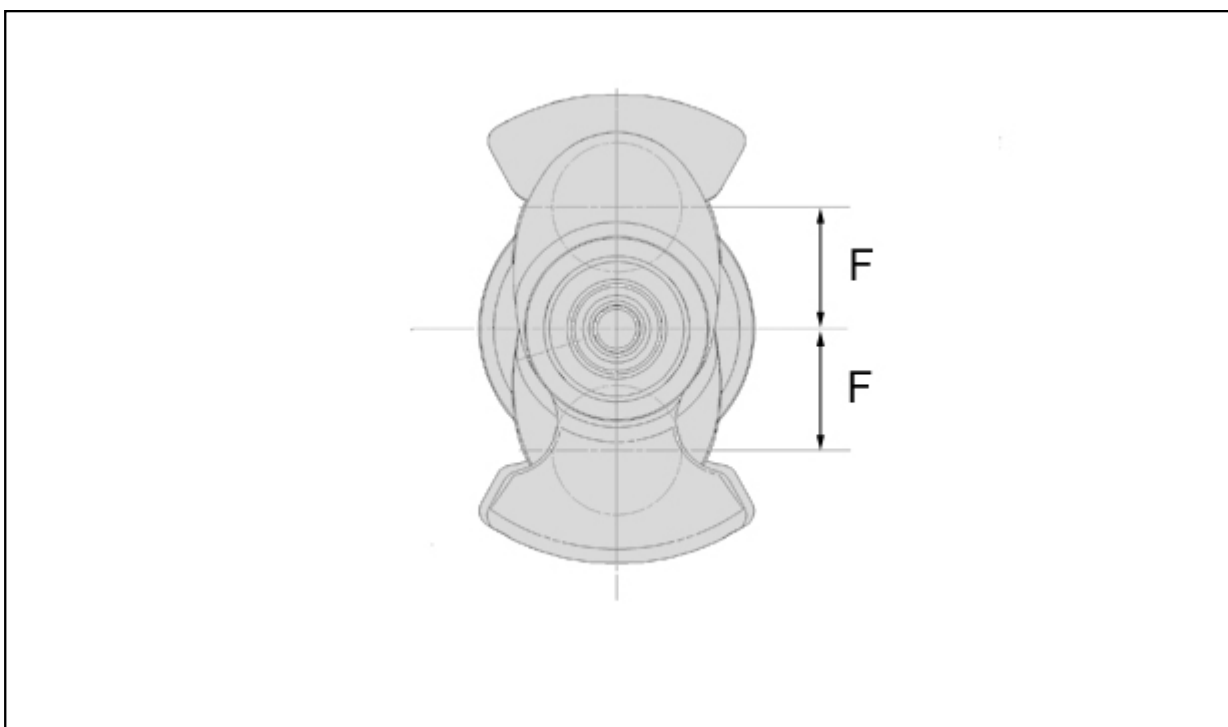


Figure : B1BB0WVD

engine	EP3	EP6
"F" Crank pin / main journal overlap	37,5 ± 0,05 mm	42,9 ± 0,05 mm

### 2.3. Measurement of the diameter of the main journals

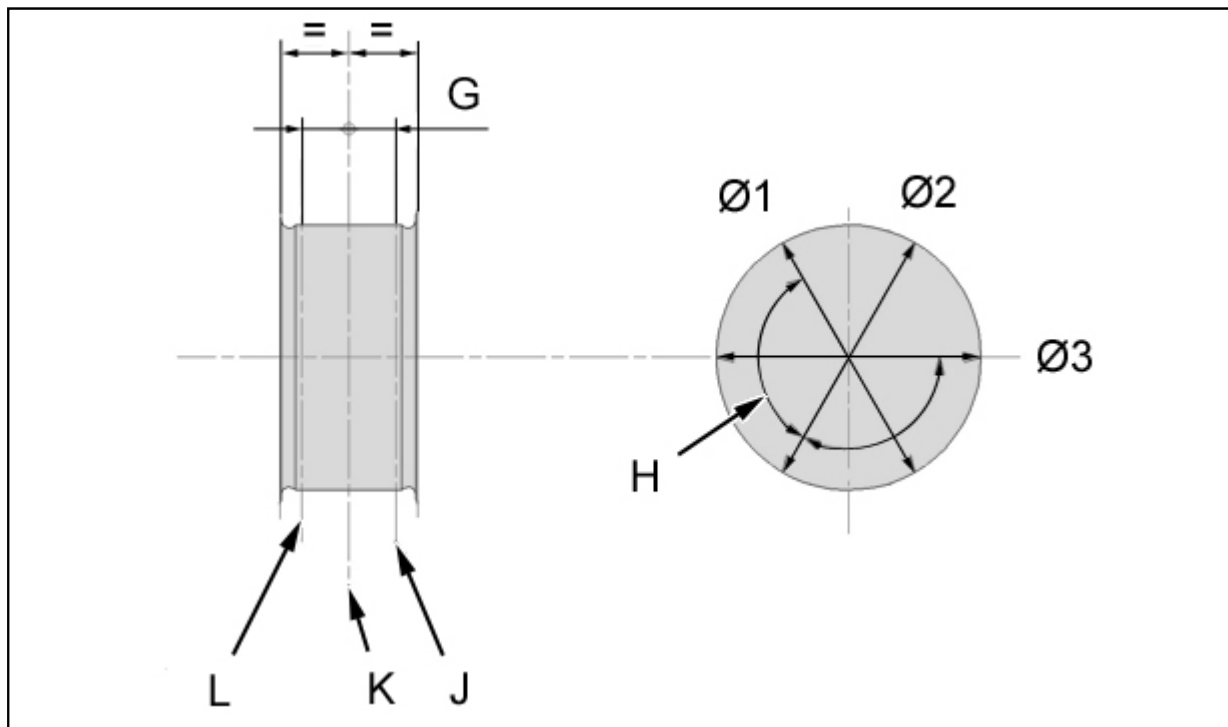


Figure : B1BB0WYD

Components	Measurement	Values
"G"	Measuring zone	6 mm
"H"	Angle between each diameter	120°
"J", "K", "L"	Measurement diameters	-

Calculation of the diameter of the main journal "D" :

- $\varnothing J = \varnothing J1 + \varnothing J2 + \varnothing J3 / 3$
- $\varnothing K = \varnothing K1 + \varnothing K2 + \varnothing K3 / 3$
- $\varnothing L = \varnothing L1 + \varnothing L2 + \varnothing L3 / 3$

Diameter of the main journal "D" :  $(\varnothing D = \varnothing J + \varnothing K + \varnothing L) / 3$ .

### 3. Crankshaft bearing shells

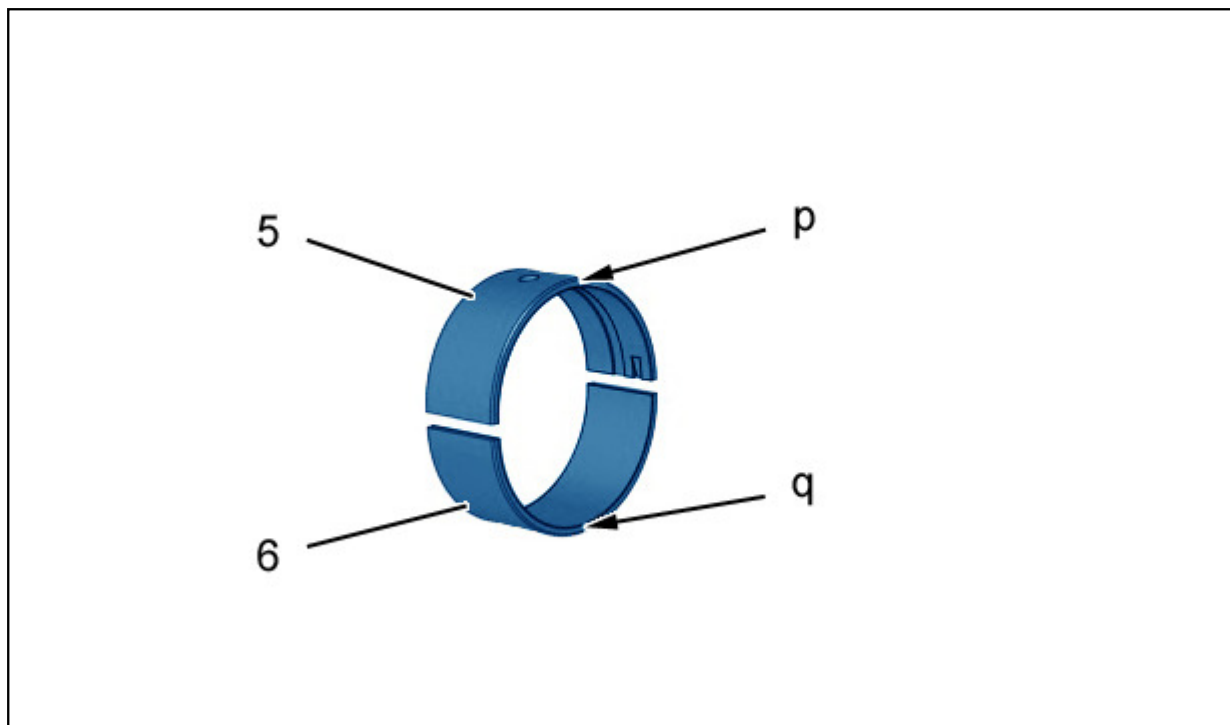


Figure : B1CB03CD

**CAUTION :** The crankshaft bearing upper and lower half-shells are different.

"p" Colour-coded marking zone on the upper, grooved, half-shells (5).

"q" Colour-coded marking zone on the lower, smooth, half-shells (6).

**N.B. :** There are 5 classes of grooved upper crankshaft bearing half-shells and 5 classes of smooth lower half-shells (crankshaft bearing cap casing side).

Classes of crankshaft bearing shells - EP3 - EP6 engine	
Colour identification	Nominal dimension
Blue	1,821 - 1,825 mm
Black	1,825 - 1,829 mm
Green	1,829 - 1,833 mm
Yellow	1,833 - 1,837 mm
Orange	1,837 - 1,841 mm

Classes of crankshaft bearing shells - EP3C - EP6C engine	
Colour identification	Nominal dimension
Black	1,822 - 1,826 mm
Green	1,826 - 1,830 mm
Yellow	1,830 - 1,834 mm
Orange	1,834 - 1,838 mm
Brown	1,838 - 1,842 mm

**CAUTION :** Half-shells on the same bearing may have colour references that differ.

**N.B. :** Only the half-shells for engines EP3C and EP6C are available from replacement parts, replacing the old ones on



engines EP3 and EP6 (Without a blue class).

#### 4. Crankshaft lateral shims

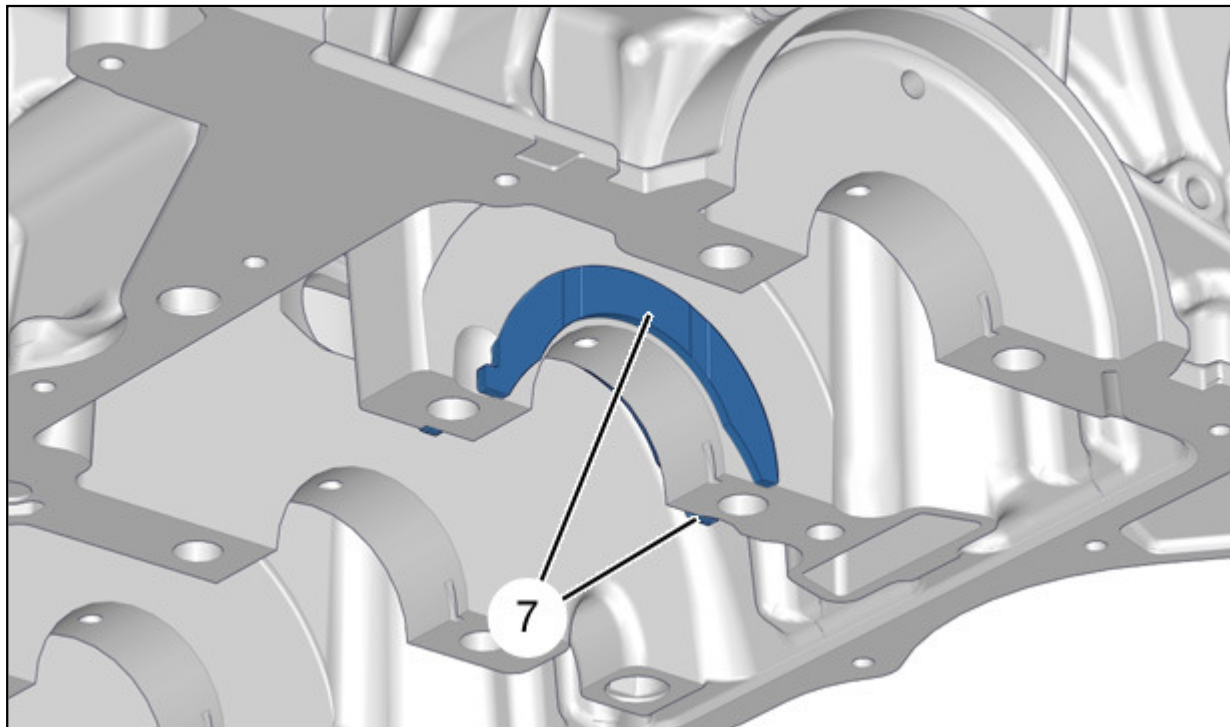


Figure : B1CB03DD

The lateral play of the crankshaft is assured by 2 identical shims (7) on the cylinder block.  
The shims are mounted on bearing n°2.

	EP3 - EP6	EP3C - EP6C
<b>Thickness of a lateral play shim</b>	2,40 (0 ; + 0,05) mm	2,35 (0 ; + 0,05) mm

**N.B. :** Only the lateral play shims for engines EP3C and EP6C are available from replacement parts, replacing the old ones on engines EP3 and EP6.

#### 5. Conrods

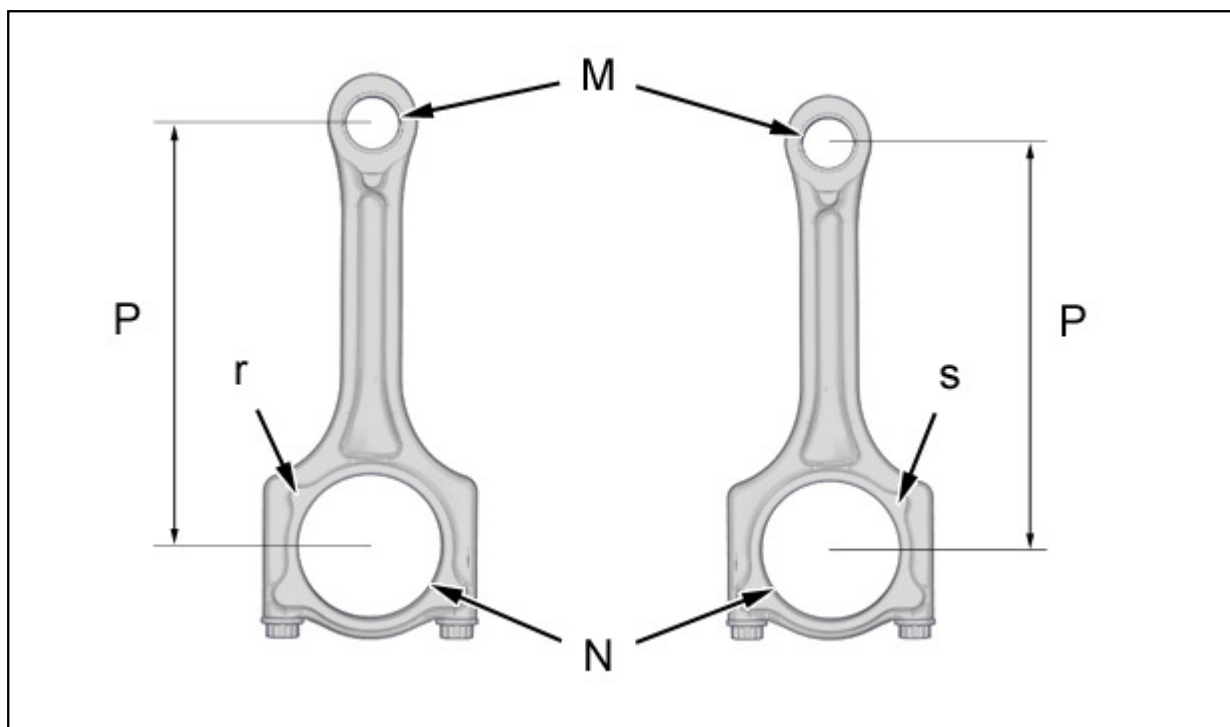


Figure : B1BB0X5D

Sectile conrods in forged steel.

engine	EP3	EP6
Ø "M"	18 (+ 0,02 ; + 0,007) mm	18 (+ 0,02 ; + 0,007) mm
Ø "N"	43 (+ 0,016 ; 0) mm	48 (+ 0,016 ; 0) mm
"P"	144,69 ± 0,025 mm	139,29 ± 0,025 mm
Maximum permissible weight difference between conrods of the same engine	3 grammes	3 grammes
Direction of fitting identification (3rd boss towards the timing)	"r"	"s"

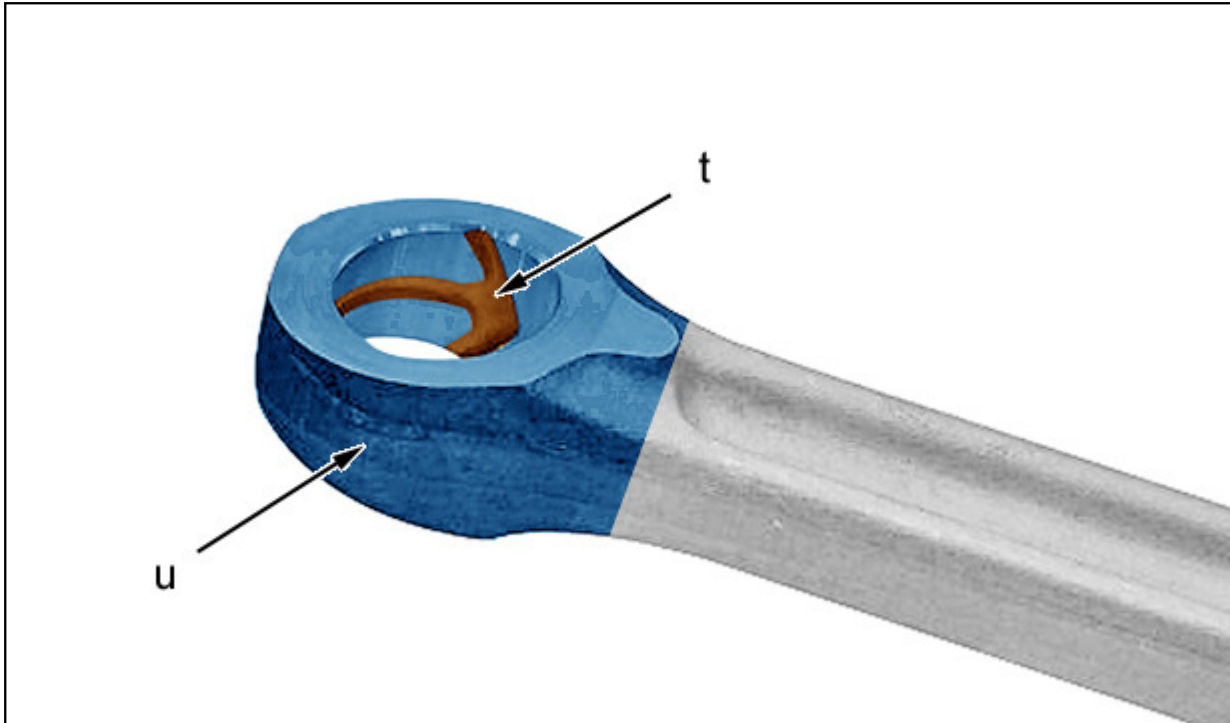


Figure : B1BB0X8D

The conrod little end has a bronze ring that is non-repairable.  
The whole is machined to the shape of a viper's head ("u") (After assembly).  
The bronze ring is grooved (at "t").

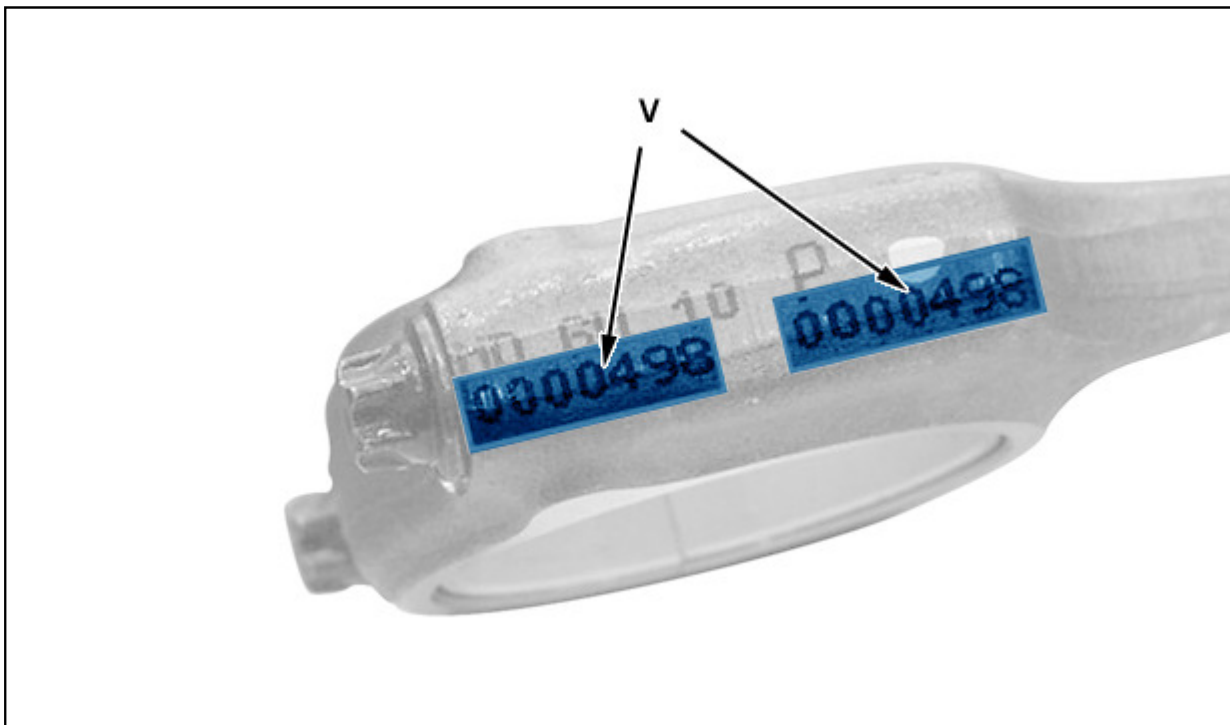


Figure : B1BB0XBD

A marking identifies the assembly of casing and body of the conrod for refitting (at "v").

## 6. Big end half-shells

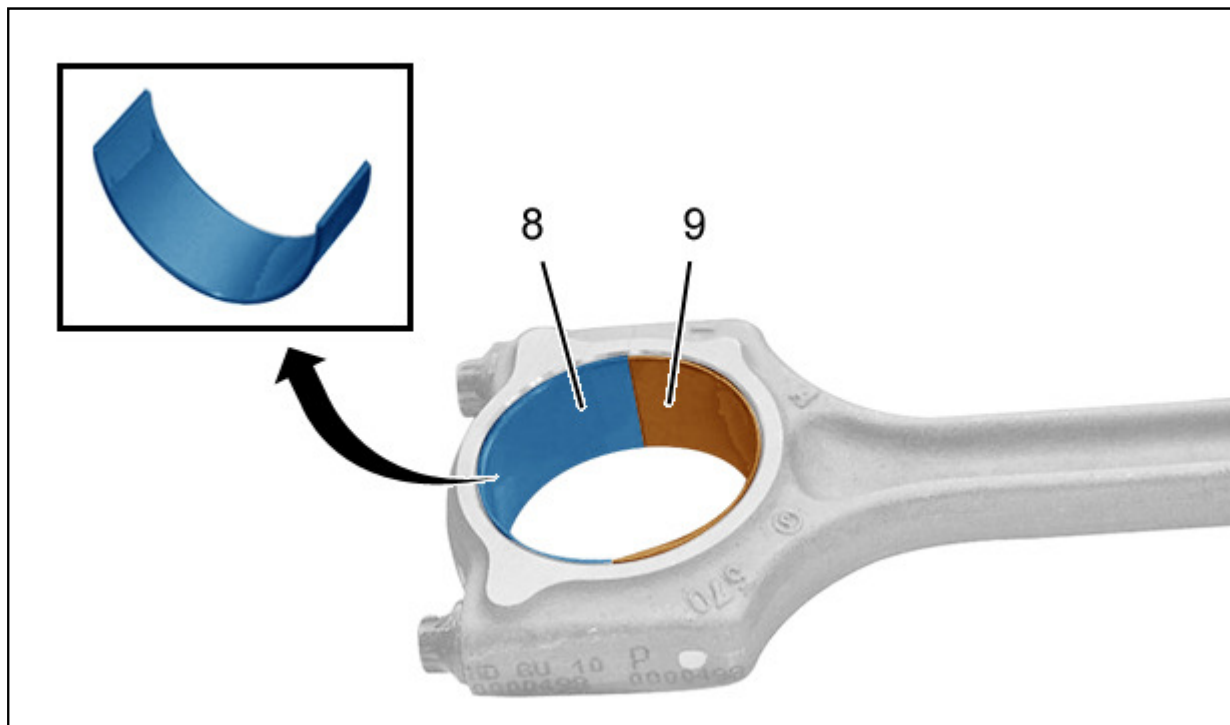


Figure : B1CM0EGD

The lower (8) and upper (9) big end half-shells are identical, smooth, without positioning lugs and have only one thickness class.

	EP3 - EP6 engine	EP3C - EP6C engine
Thickness	1,492 - 1,498 mm	1,487 - 1,493 mm

**N.B. :** Only the conrod half-shells for engines EP3C and EP6C are available from replacement parts, replacing the old half-shells on engines EP3 and EP6.

## 7. Piston

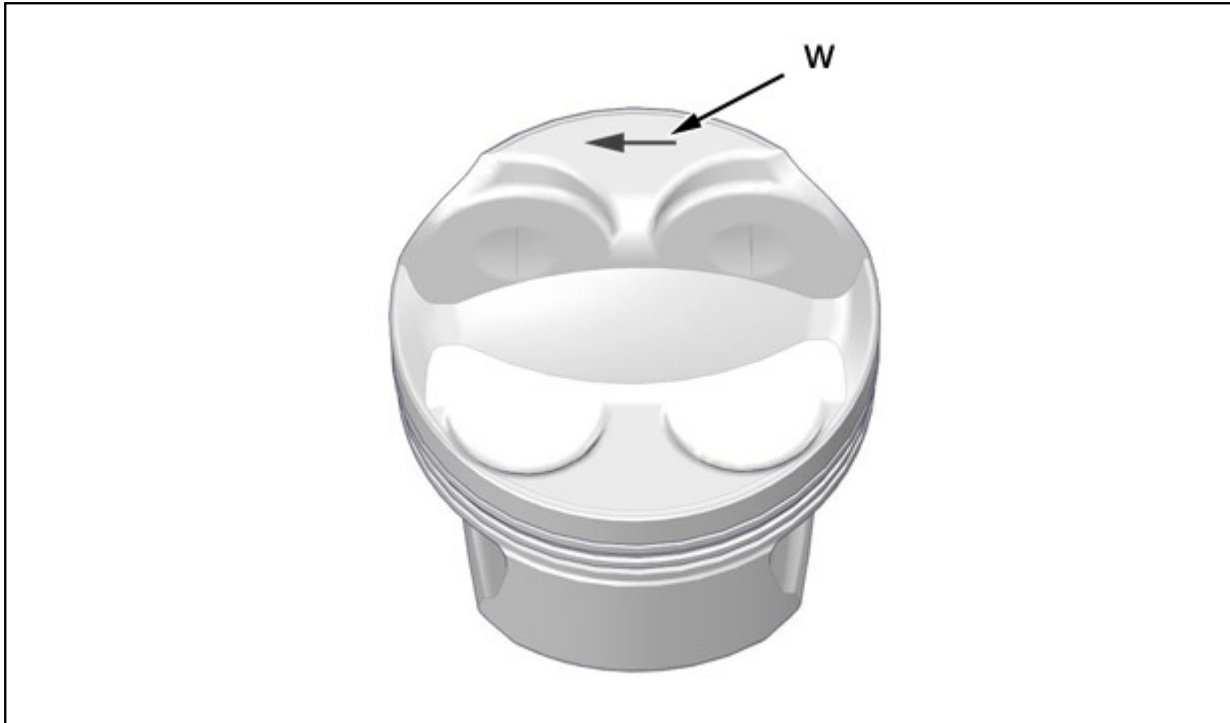


Figure : B1BB0XGD

Marking in "w" (Arrow pointing to timing end).

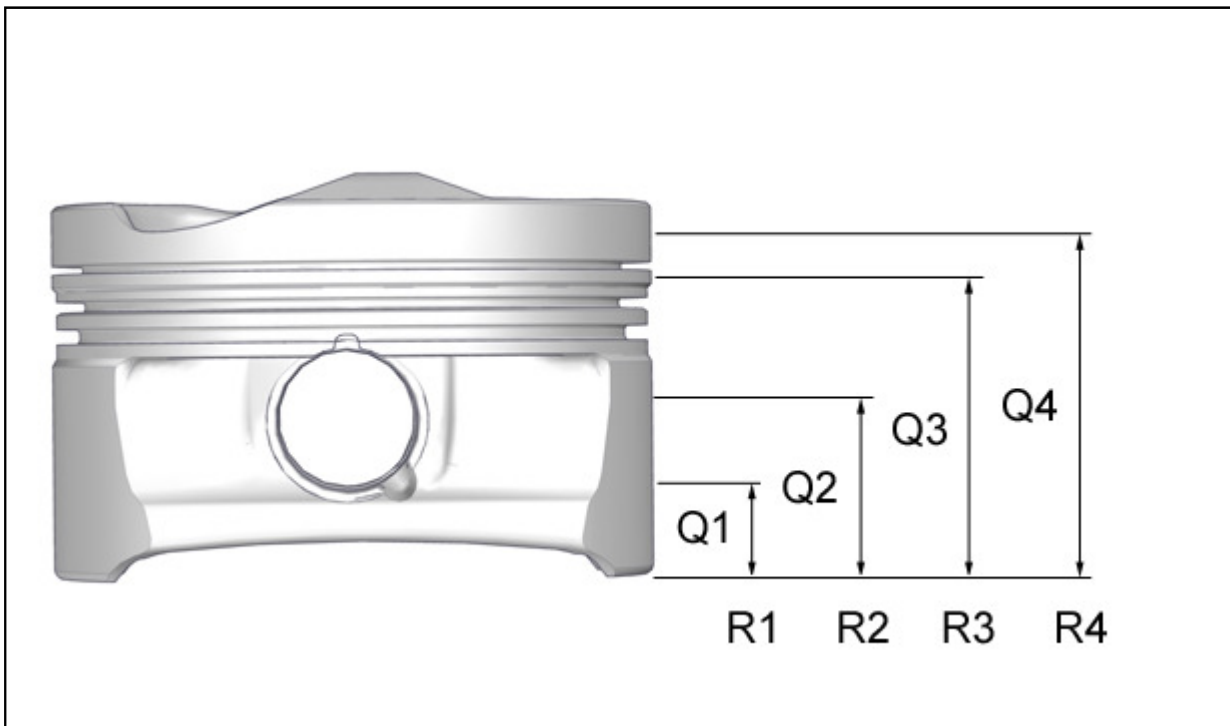


Figure : B1BB0XJD

EP3 - EP6 - EP6C engine			

Components	Height	Piston diameter	Slotting
"R1" (Nominal diameter)	"Q1" = 10 mm	76,958 ± 0,009 mm	- 0,490 ± 0,03 mm
"R2"	"Q2" = 25 mm	76,880 ± 0,007 mm	- 0,480 ± 0,03 mm
"R3"	"Q3" = 38,1 mm	76,463 ± 0,015 mm	- 0,180 ± 0,02 mm
"R4"	"Q4" = 43,9 mm	76,278 ± 0,015 mm	- 0,030 ± 0,015 mm

EP3C engine			
Components	Height	Piston diameter	Slotting
"R1" (Nominal diameter)	"Q1" = 10 mm	76,948 ± 0,009 mm	- 0,490 ± 0,03 mm
"R2"	"Q2" = 25 mm	76,870 ± 0,007 mm	- 0,480 ± 0,03 mm
"R3"	"Q3" = 38,1 mm	76,473 ± 0,015 mm	- 0,180 ± 0,02 mm
"R4"	"Q4" = 43,9 mm	76,288 ± 0,015 mm	- 0,030 ± 0,015 mm

**N.B. :** Only the pistons for engine EP3C are available from replacement parts, replacing the old pistons on engine EP3.

## 8. Piston rings

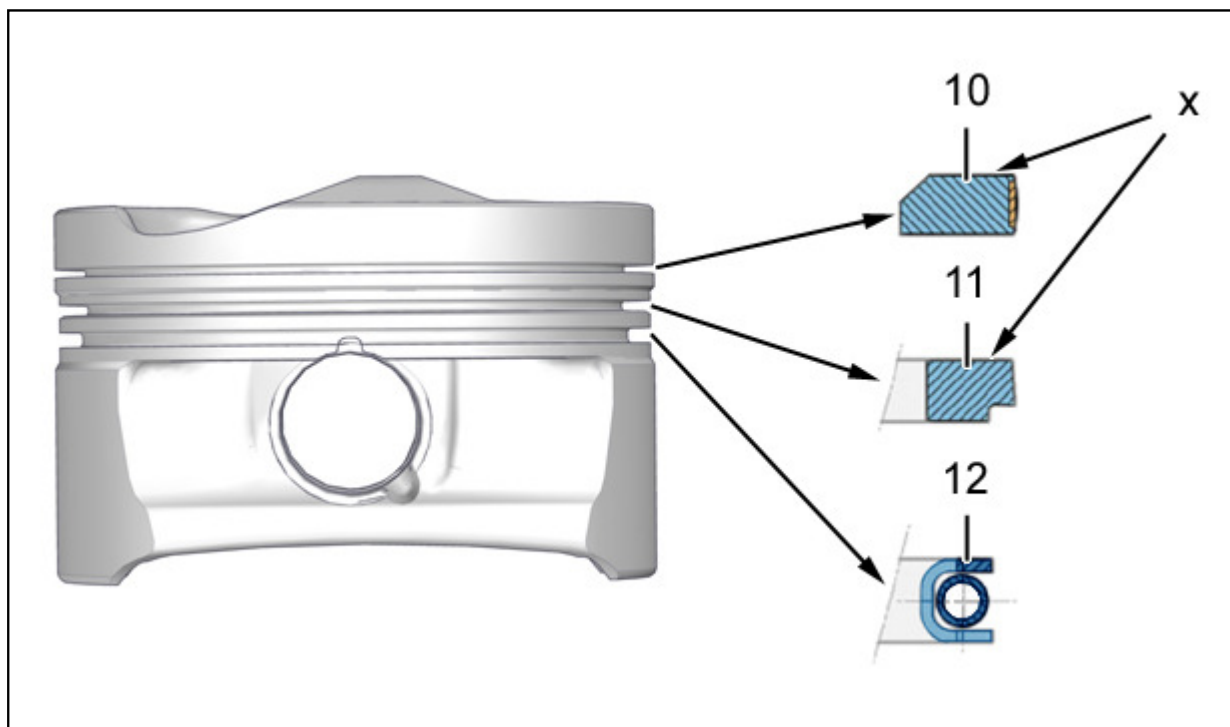


Figure : B1BB0XMDD

(10) Rectangular fire stop ring.

(11) Hooked sealing ring.

(12) Scraper ring "u-flex".

"x" Piston ring markings.

TOP marking oriented upwards.

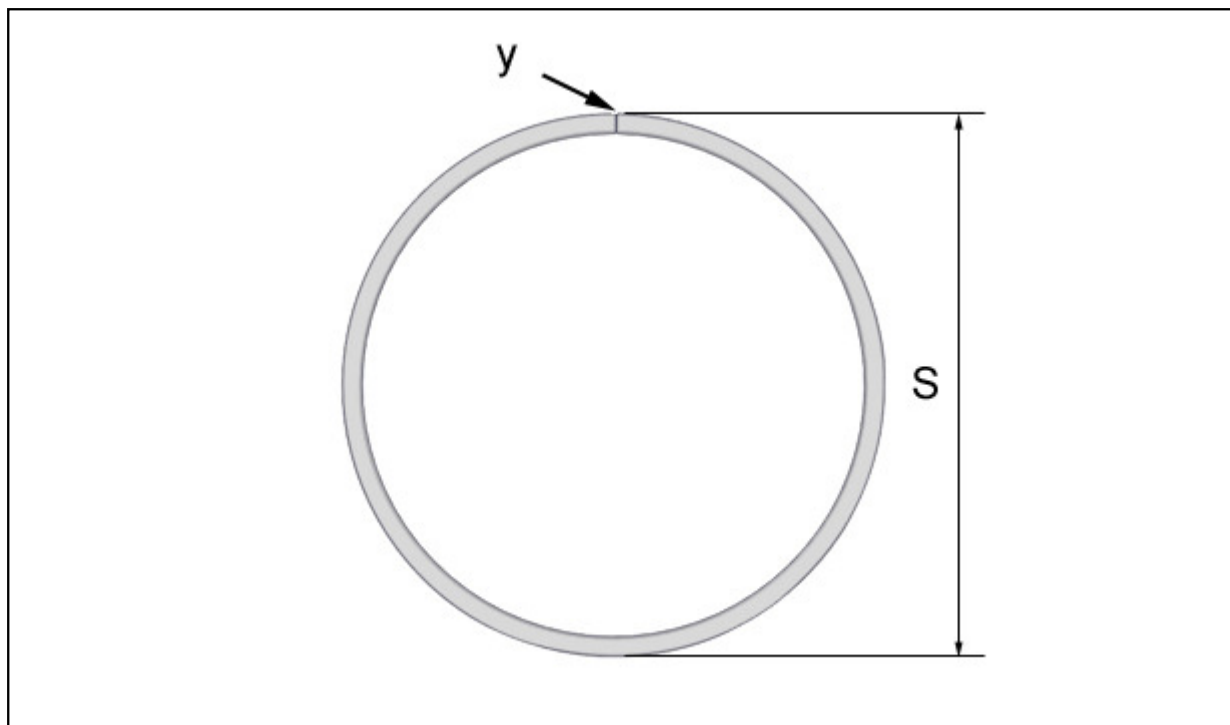


Figure : B1BB0XPD

Piston rings	Fire stop ring	Sealing ring	Scraper ring
Thickness	1,2 (- 0,005 ; - 0,03) mm	1,5 (-0,005 ; -0,03) mm	2 (-0,01 ; -0,05) mm
"y" Clearance at the gap	0,2 (+ 0,20 ; 0) mm	0,3 (+ 0,25 ; 0) mm	Without (Blue colour marking)
"S" Diameter /Colour	77 mm / Mauve	77 mm / Yellow	77 mm / Without

## 9. The piston shaft

The piston shafts are free-fitted in the little ends and the pistons, then laterally immobilised by means of two stop rings.

External diameter	18 (0 ; - 0,005) mm
length	43 (0 ; - 0,3) mm