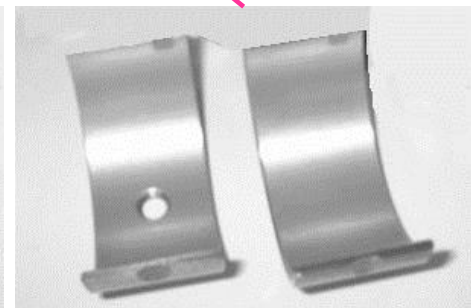
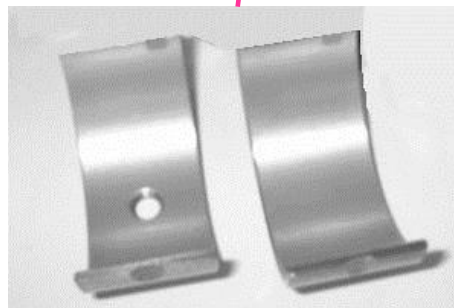
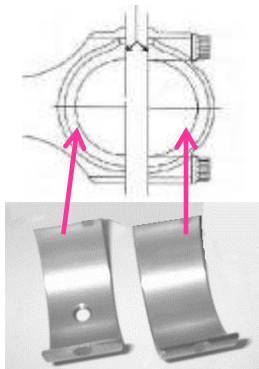


Cylinder 2 and 4:



clearance  
0,02-0,04mm  
(0,08 limit)

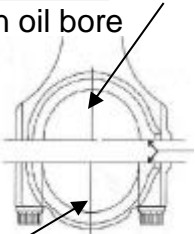
## Conrod 1+3

Mark „1“  
Connecting rod i.d. 43mm  
+ 0,008

Mark „2“  
Connecting rod i.d. 43mm  
+ 0,008...+0,016

Mark „3“  
Connecting rod i.d. 43mm  
+ 0,016...+0,024

**must not** have  
an oil bore



may have  
an oil bore



Mark „A“  
Crank pin o.d. 40mm  
- 0,008

E/Yellow/1+3/13225-371-003  
(thinnest shell)

D/Green/1+3/13224-371-003

C/Brown/1+3/13223-371-003

Mark „B“  
Crank pin o.d. 40mm  
- 0,008...-0,016

D/Green/1+3/13224-371-003

**C/Brown/1+3/  
13223-371-003  
1,497+-0,002**

B/Black/1+3/13222-371-003

Mark „C“  
Crank pin o.d. 40mm  
- 0,016...-0,024

C/Brown/1+3/13223-371-003

B/Black/1+3/13222-371-003

A/Blue/1+3/13221-371-003  
(thickest shell)

All these bearings 13221-371-003 up to 13225-371-003 **have no oil bore!**

Width 15mm

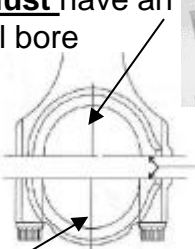
## Conrod 2+4

Mark „1“  
Connecting rod i.d. 43mm  
+ 0,008

Mark „2“  
Connecting rod i.d. 43mm  
+ 0,008...+0,016

Mark „3“  
Connecting rod i.d. 43mm  
+ 0,016...+0,024

**must** have an  
oil bore



may have  
an oil bore



Mark „A“  
Crank pin o.d. 40mm  
- 0,008

E/Yellow/2+4/13219-371-003  
(thinnest shell)

D/Green/2+4/13218-371-003

C/Brown/2+4/13217-371-003

Mark „B“  
Crank pin o.d. 40mm  
- 0,008...-0,016

D/Green/2+4/13218-371-003

**C/Brown/2+4/  
13217-371-003**

B/Black/2+4/13216-371-003

Mark „C“  
Crank pin o.d. 40mm  
- 0,016...-0,024

C/Brown/2+4/13217-371-003

B/Black/2+4/13216-371-003

A/Blue/2+4/13215-371-003  
(thickest shell)

All these bearings 13215-371-003 up to 13219-371-003 **have oil bores!**

## Conrod bearing shell thickness tolerance calculation in mm:

Crank pin outer diameter: 39,976 - 40.000

Conrod inner diameter: 43.000 - 43.024

clearance: 0.02 – 0.04/0.08 service limit

Case1 (thinnest possible shell)

thickest crank pin 40.000

smallest conrod bore 43.000

maximum clearance 0.08

$43.000 - 40.000 - 0.08 = 2.92$

$2.92 / 2 = 1.46\text{mm}$

minimum clearance 0.02

$43.000 - 40.000 - 0.02 = 2.98$

$2.98 / 2 = 1.49\text{mm}$

Case 2 (thickest possible shell)

thinnest crank pin 39,976

largest conrod bore 43.024

maximum clearance 0.08

$43.024 - 39,976 - 0.08 = 2,968$

$2,968 / 2 = 1,484\text{mm}$

minimum clearance 0.02

$43.024 - 39,976 - 0.02 = 3,028$

$3,028 / 2 = 1,514\text{mm}$

That means:

A shell between 1.484 and 1.49 mm will be good for every engine.

Shells between 1.48 and 1.50 production tolerance should be good for almost every crank/rod combination.

