



WARSILA 9L20 CONNECTING ROD REPORT

**CONNECTING ROD #1**



**82187 ESN**

**A340 08 05**

**5Z3**

**1V11B0591A**



**3V110584a JM 44384**



**5Z3 B0301**



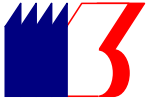
**11101**



**17943 30199HSX05**

**17943 W00005382**





## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

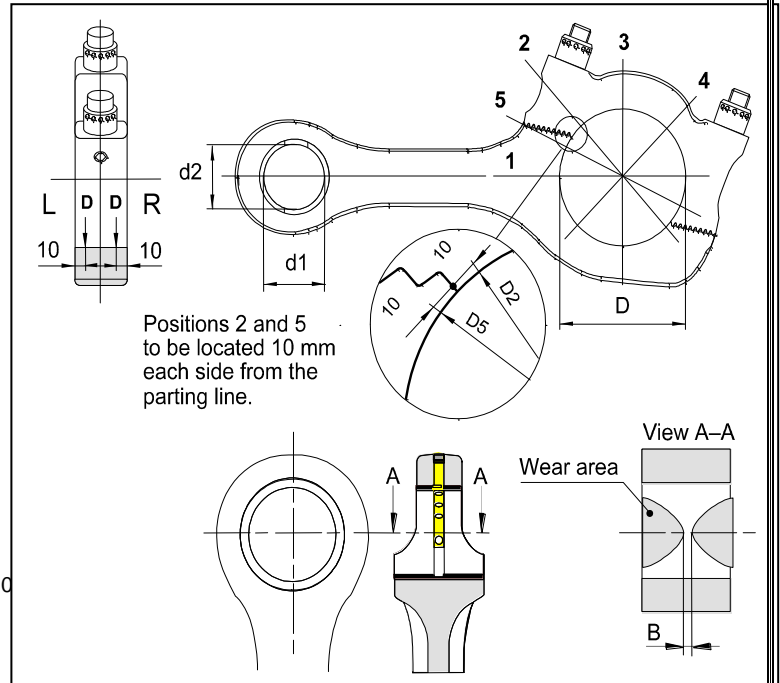
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

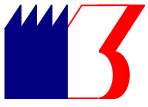
Component running hours before measurement:



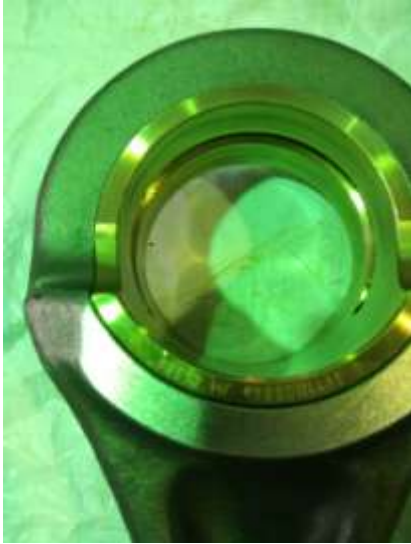
Ref : 190	Cylinder Number									
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



**CONNECTING ROD #2**



3V110584a JM 44384



11101



5Z3 B0301



82187 ESN

A338 08 05

5Z3

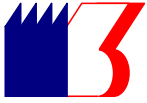


1V11B0591A



17951 30199HSX05

17951 W00005383



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

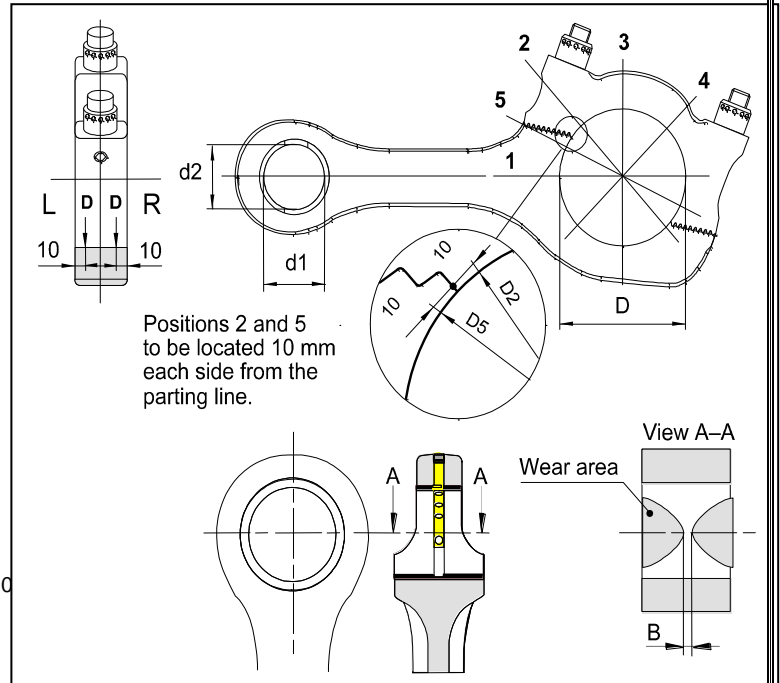
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



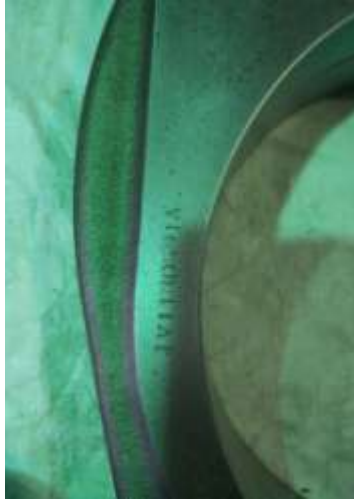
**CONNECTING ROD #3**



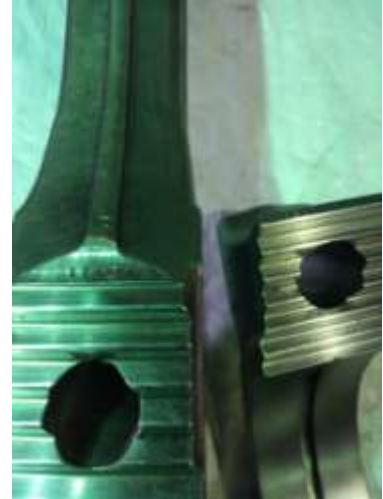
**82187 ESN**

**A339 08 05**

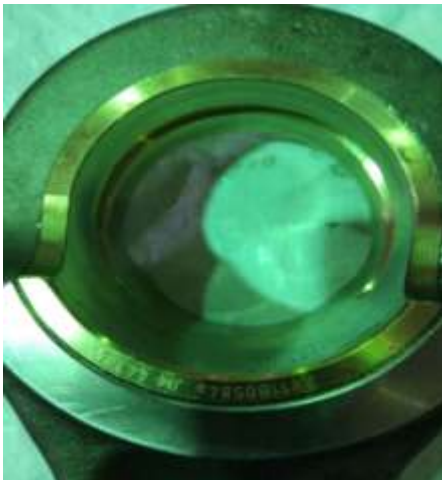
**5Z3**



**1V11B0591A**



**11101**



**3V110584a JM 44384**

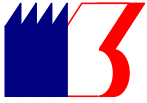


**5Z3 B0301**



**17923 W00005384**

**17923 30199HSK05**



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

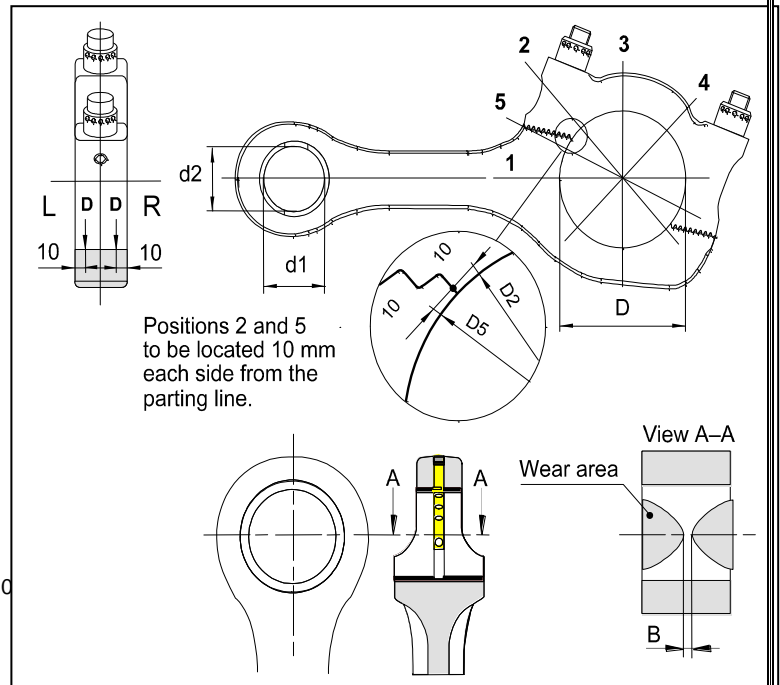
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

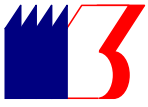
Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



**CONNECTING ROD #4**



82187 ESN

A339 08 05

5Z3

1V11B0591A



17926 W0005385

17926 30199HSK05



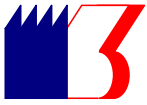
11101



5Z3 B0301



3V11B0584 JM 42425



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

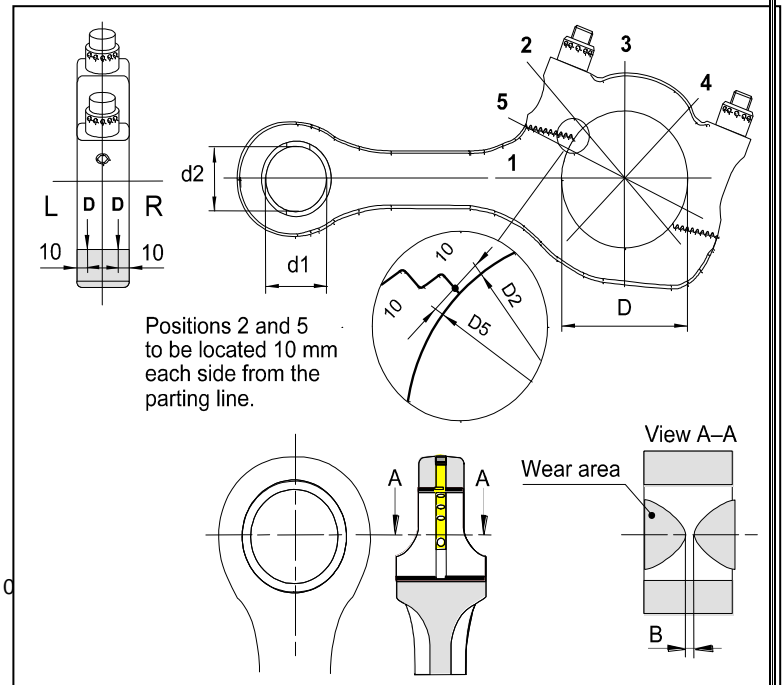
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.





**CONNECTING ROD #5**



82187 ESN  
A340 08 05  
5Z3



1V11B0591A



5Z3 B0301



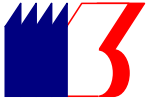
17944 W0005386  
17944 30199HSK05



3V11B0584a JM 44384



11101



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

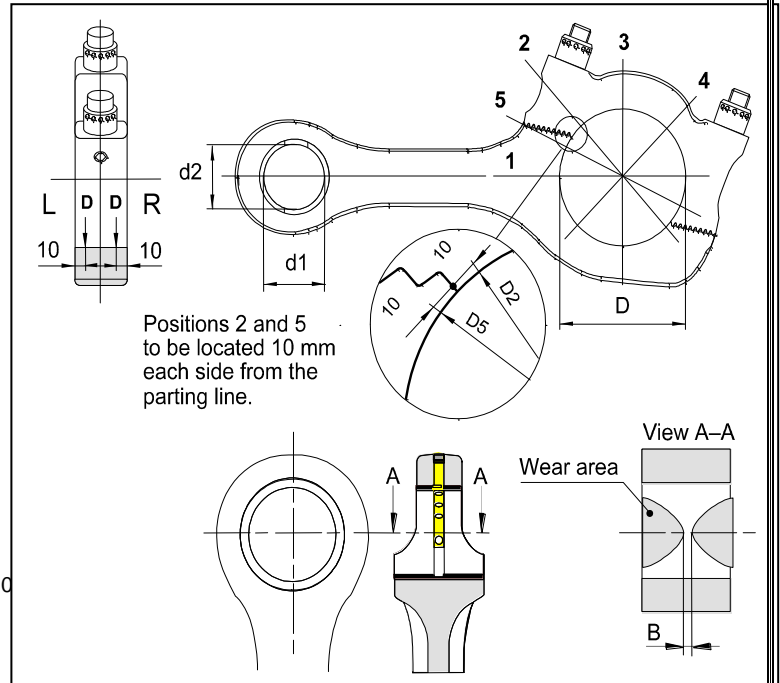
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

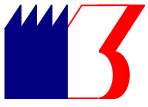
Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



**CONNECTING ROD #6**



82187 ESN

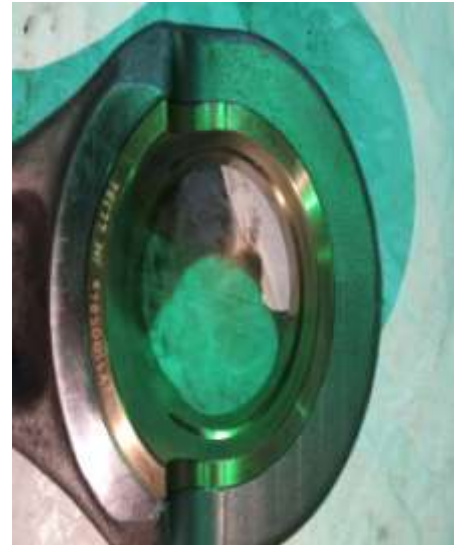
A338 08 05

5Z3



17965 30199HSK05

17965 W00005387



3V11B0584a JM 44384



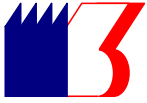
1V11B0591A



11101



5Z3 B0301



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

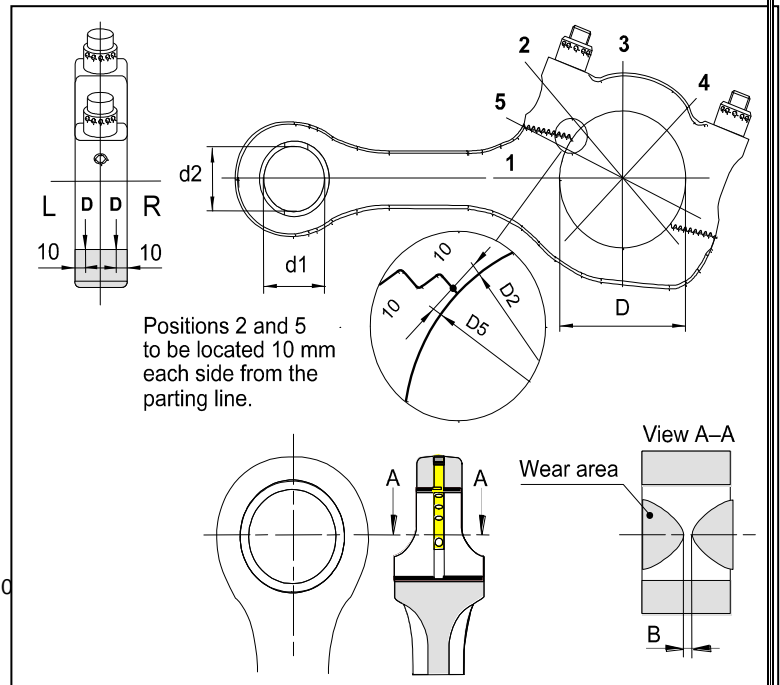
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



**CONNECTING ROD #7**



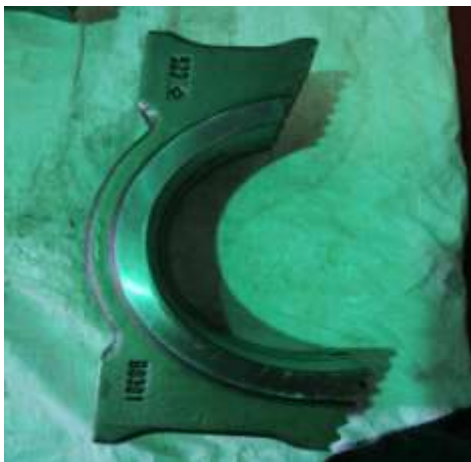
**82187 ESN**

**A 340 08 05**

**5Z3**



**1V11B0591A**



**5Z3 B0301**

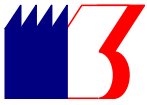


**3V11B0584a JM 42425**



**17950 30199HSK05**

**17950 W00005388**



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

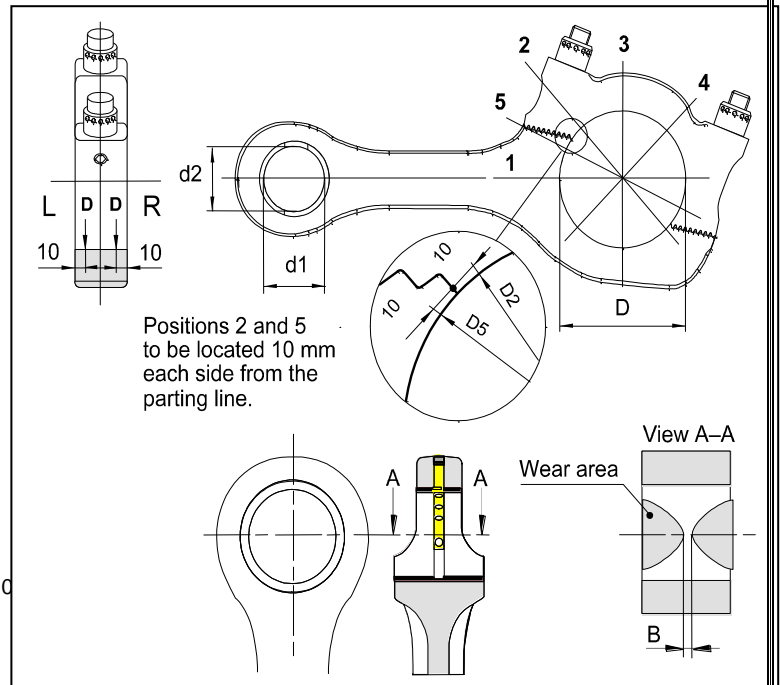
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

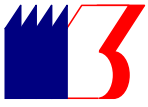
Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958
(Stamped on Conrod)										

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.



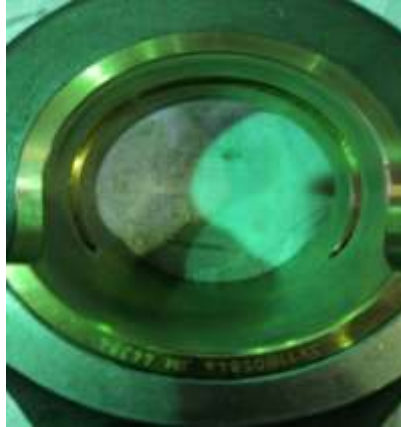
**CONNECTING ROD #8**



**ESN 05-5218**

**A337 08 05**

**5Z3**



**3V11B0584a JM 44384**



**17966 30199HSK05**

**17966 W00005389**



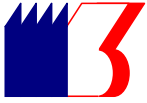
**11101**



**5Z3 B0301**



**1V1130591A**



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

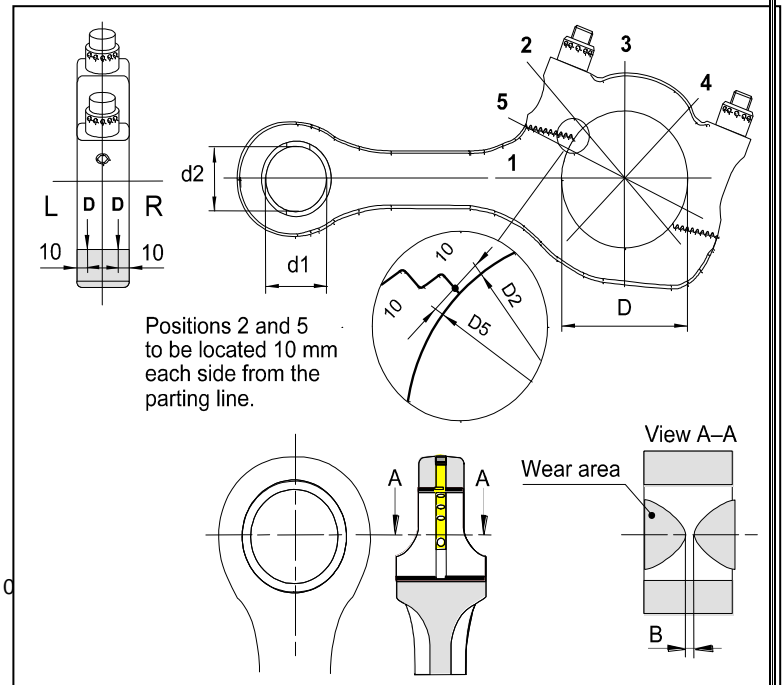
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

(Stamped on Conrod)

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.





**CONNECTING ROD #9**



**17958 30199HSK05**

**17958 W0000539**



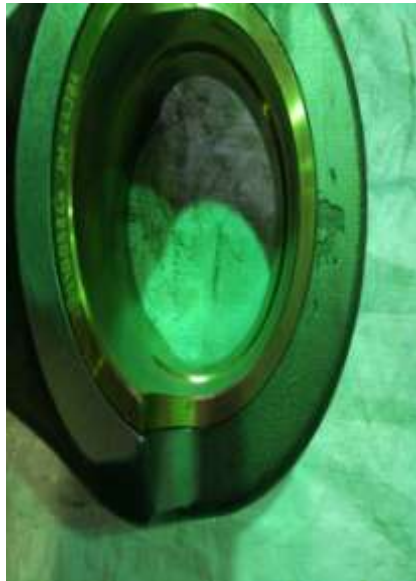
**82187 ESN**

**A 338 08 05**

**5Z3**



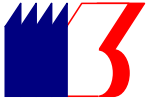
**5Z3 B0301**



**3V11B0584a JM 44384**



**1V11B0591A**



## MEASUREMENT RECORD CONNECTING ROD

Installation (ship): WORKSHOP

Engine type WART SILA 9L20

Eng No:

Temperature (°C): 34

Eng R/hrs:

### Big end bearing bore

Connecting rod screws must be tightened before measuring.

Hydraulic press. when tightening: H-profile M 30 to 550 bar.

Drawing No. or part No.:

Component running hours before measurement:

Shank profile:  O  H

Maximum allowed difference between  $D_{max}$  and  $D_{min}$ : 0.12mm

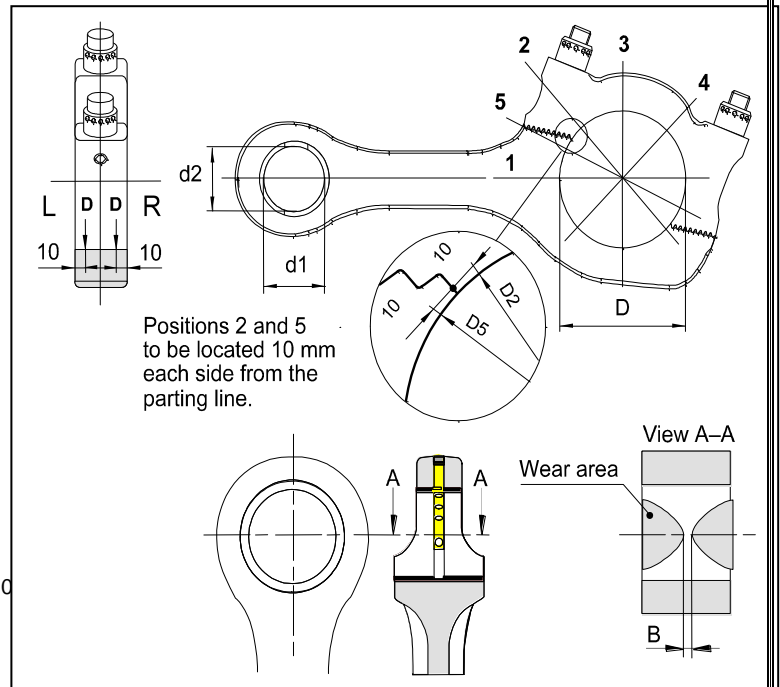
Reference diameter (mm): 190.00

### Gudgeon pin bearing bush mounted

Wear limit: When visible bronze lining wear areas meet, i.e.  $B = 0$

Wear pattern shown in view A-A.

Component running hours before measurement:



Ref : 190		Cylinder								
		1	2	3	4	5	6	7	8	9
D1	L	0.02	0.01	0.03	0.02	0.03	0.02	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.03	0.02	0.01	0.01	0.02
D2	L	0.01	0.01	0.03	0.02	0.03	0.03	0.01	0.02	0.02
	R	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.02
D3	L	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
D4	L	0.02	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01
	R	0.02	0.01	0.03	0.02	0.04	0.02	0.01	0.02	0.01
D5	L	0.01	0.01	0.03	0.03	0.04	0.03	0.01	0.02	0.02
	R	0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.02	0.02
Max. deviation		0.01	0.01	0.02	0.02	0.02	0.02	0.01	0.01	0.01
Remarks/Mfg. No.		17943	17951	17923	17926	17944	17965	17950	17966	17958

ALL THE CONNECTING RODS WERE CHECKED FOR ANY CRACKS BY MPI METHOD FOUND OK.