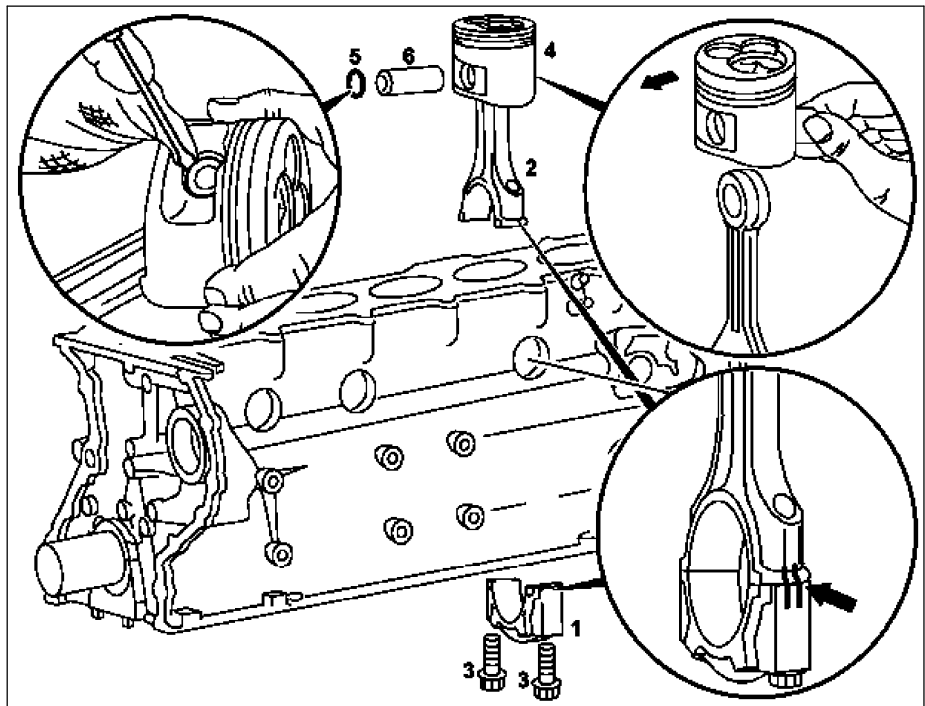
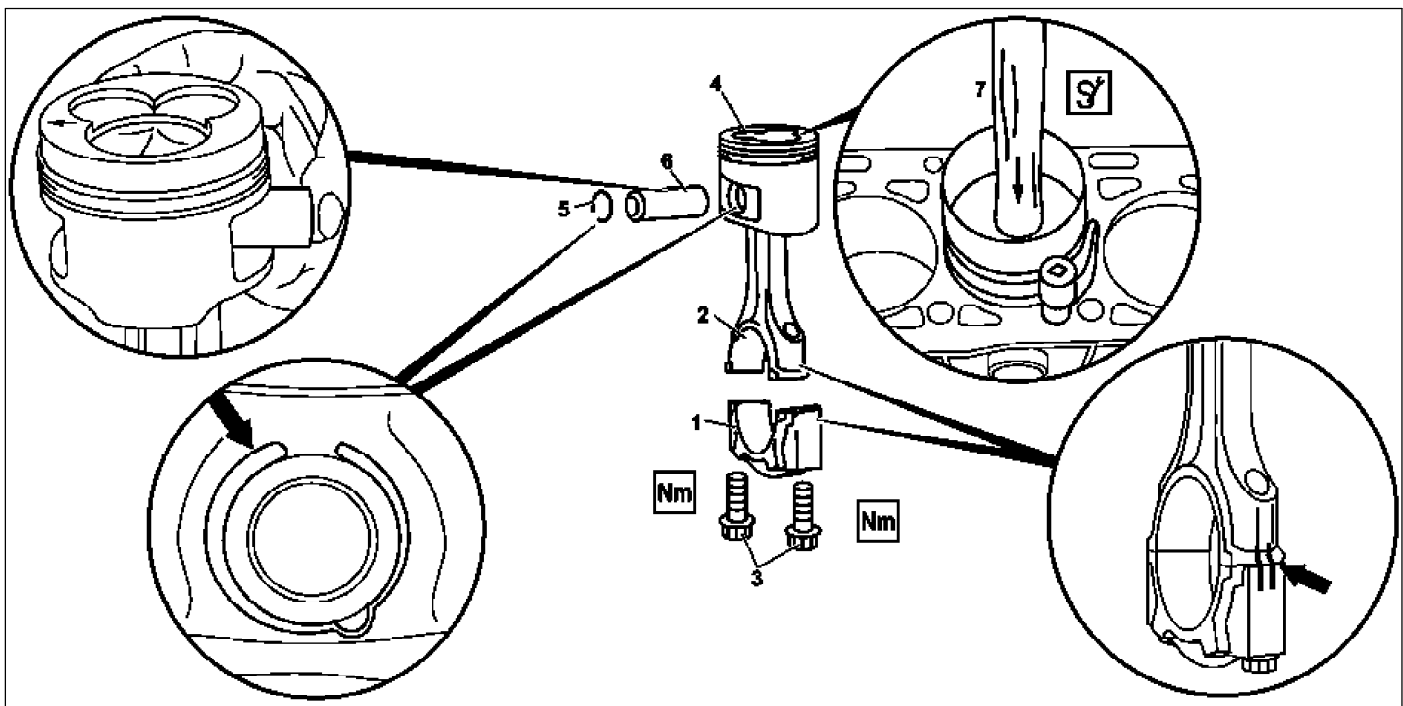


ENGINE 601, 602, 603 (except , 602.98)



D03.10-0001-06



D03.10-0002-09

	Removing		
1	Remove engine	Models 124, 126, 140, 201, 202 Model 124 4MATIC	AR01.10-P-2400HX AR01.10-P-2400HY
2	Remove cylinder head		AR01.30-P-5800HX
3	Remove oil pan	Engine 603.913/963 in model 124 with 4MATIC Engine 603.971 in model 140 Engine 601, 602 in model 124, 201 Engine 603 (except 603.913/963) in model 124 Engine 603 in model 126 Engine 601 in model 202	AR01.45-P-7500HX AR01.45-P-7500HY AR01.45-P-7500HZ AR01.45-P-7500HA
4	Remove oil pump		ra18006010210x
5	Unbolt conrod bearing cap (1)	<b>i</b> Conrod (2) and conrod bearing cap (1) are marked together (arrow).	

6	Lift conrod (2) up and out together with piston (4)	If the pistons are worn, the direction of travel of arrows may no longer be visible because of carbon deposits. For this reason, remove carbon deposits to render direction of travel arrow visible.	
7	Use a screwdriver to press out piston pin retainer (5)	Do not damage piston. Use a clean cloth as a base	
8	Press out piston pin (6) and take off piston (4)		
	<b>Installing</b>		
9	Inspect conrod bush inner diameter	if excessive wear present ↓ Press-fitting new conrod bush	AR03.10-P-6111-03AW *BE03.10-P-1006-01C *BE03.10-P-1007-01C *BE03.10-P-1008-01C *BE03.10-P-1009-01C *BE03.10-P-1010-01C
10	Oil piston pin (6) and conrod bush		
11	Assemble piston (4) and conrod (2)	Install piston with arrow in direction of travel. The marking and the retaining lugs in the conrod are located on the left (at the inlet side).	
12	Push in piston pin (6) by hand.		
13	Insert piston pin retainer (5) into the groove (arrow) on the piston.		
14	Oil cleaned cylinder bores, conrod bearing journals, conrod bearing shells and pistons (4)		
15	Fit on tensioning strap (7) for piston rings and tension		*000589041400
16	Install piston (4) with arrow pointing in direction of travel	Re-install piston at the same point. Pay attention to assignment of pistons	
17	Inspect conrod bolts	if necessary replace	AR03.10-P-6111-01AW *BE03.10-P-1001-03C *BE03.10-P-1002-03C
18	Install conrod bearing cap (1)	Install conrod bearing cap (1) and conrod (2) with the markings (arrows) pointing to each other.	
19	Tightening conrod bolts	 	AR03.10-P-6111-02AW *BA03.10-P-1001-01C *BA03.10-P-1002-01C
20	Rotate crankshaft and inspect for clearance		
21	Install oil pump		ra18006010210x
22	Install oil pan	Engine 603.913/963 in model 124 Engine 603.971 in model 140 Engine 601, 602 in model 124, 201 Engine 603 (except 603.913/963) in model 124 Engine 603 in model 126 Engine 601 in model 202	AR01.45-P-7500HX AR01.45-P-7500HY AR01.45-P-7500HZ  AR01.45-P-7500HA
23	Measure piston projection	Install cylinder head gasket of standard thickness or cylinder head gasket of repair thickness (1.85 mm thick) depending on piston projection   	AR03.10-P-7041-01AW  *BE03.10-P-1001-02B *BE03.10-P-1002-02B *001589532100 *343589004000
24	Install cylinder head		AR01.30-P-5800HX
25	Install engine	Models 124, 126, 140, 201, 202 Model 124 4MATIC	AR01.10-P-2400HX AR01.10-P-2400HY

#### Inspection data of connecting rod

Number	Designation	Engine 601.921 up to 09/84	Engine 601.921 as of 10/84

BE03.10-P-1006-01C	Conrod bush inner $\varnothing$ (d)	mm	27.018-27.024	26.012-26.018
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1007-01C	Conrod bush outer $\varnothing$	mm	29.560-29.600	28.575-28.600
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1008-01C	Conrod bush basic bore $\varnothing$ (d1)	mm	29.500-29.521	28.500-28.521
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1009-01C	Piston pin play in conrod bush	mm	0.007-0.018	0.007-0.018
BE03.10-P-1010-01C	Peak-to-valley height (Rz) of conrod bush on inside	$\mu\text{m}$	5	5

#### Inspection data of connecting rod

Number	Designation		Engine 601 up to 09/84 except 601.921 (USA)	Engine 601 as of 10/84 except 601.921 (USA), engine 602.91, 603.91
BE03.10-P-1006-01C	Conrod bush inner $\varnothing$ (d)	mm	27.018-27.024	26.012-26.018
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1007-01C	Conrod bush outer $\text{III}$	mm	29.560-29.600	28.575-28.600
BE03.10-P-1008-01C	Conrod bush basic bore $\varnothing$ (d1)	mm	29.500-29.521	28.500-28.521
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1009-01C	Piston pin play in conrod bush	mm	0.007-0.018	0.007-0.018
BE03.10-P-1010-01C	Peak-to-valley height (Rz) of conrod bush on inside	$\mu\text{m}$	5	5

#### Inspection data of connecting rod

Number	Designation		Engine 602.96, 603.96	Engine 603.97
BE03.10-P-1006-01C	Conrod bush inner $\varnothing$ (d)	mm	28.012-28.024	28.018-28.024
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1007-01C	Conrod bush outer $\varnothing$	mm	30.575-30.600	30.575-30.600
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1008-01C	Conrod bush basic bore $\varnothing$ (d1)	mm	30.500-30.521	60.500-30.525
	See figure		AR03.10-P-6111AW	AR03.10-P-6111AW
BE03.10-P-1009-01C	Piston pin play in conrod bush	mm	0.007-0.018	0.007-0.018
BE03.10-P-1010-01C	Peak-to-valley height (Rz) of conrod bush on inside	$\mu\text{m}$	5	5

#### Inspection data of conrod bolts

Number	Designation	Engine 601, 602 except 602.98, 603 except 603.970 up to 11/90 603.970 up to 8/90	Engine 601, 602 except 602.98, 603 except 603.970 as of 12/90 - 10/92 603.970 as of 9/90 - 10/92	Engine 601, 602 except 602.98, 603 as of 11/92

BE03.10-P-1001-03C	Conrod bolt (straight stretch shank)	Thread Ø		M	-	9X1	9X1
		Length (L)	when new	mm	-	51.7	51.7
			max.	mm	-	52.9	52.9
		Stretch shank Ш	New	mm	-	8.5	-
			minimum	mm	-	8.2	-
See figure	-		-	AR03.10-P-6111-01AW	AR03.10-P-6111-01AW		
BE03.10-P-1002-03C	Conrod bolt (stretch bolt)	Thread Ø		M	9X1	-	-
		Length (L)	when new	mm	51.7	-	-
			max.	mm	-	-	-
		Stretch shank Ш	New	mm	7.3	-	-
			minimum	mm	7.1	-	-
			See figure	-	-	AR03.10-P-6111-01AW	-

### Test dimensions for pistons

Number	Designation		Engine 601, 602 except 602.98, 603
BE03.10-P-1001-02B	Piston projection (a) with new crankcase	mm	0.74...0.96
		See figure	-
BE03.10-P-1002-02B	Piston projection (a) with machined crankcase	mm	0.96...1.16
		See figure	-

### Connecting rod

Number	Designation		Engine 601, 602 except 602.98, 603 except 603.970 up to 11/90 603.970 up to 8/90	Engine 601, 602 except 602.98, 603 except 603.970 as of 12/90 - 10/92 603.970 as of 9/90 - 10/92	Engine 601, 602 except 602.98, 603 as of 11/92		
BA03.10-P-1001-01C	Conrod bolt (stretch shank)	1st stage	new	Nm	-	45	40
			used	Nm	-	40	-
		2nd stage	∠ °	-	90	90	
		See figure	-	-	AR03.10-P-6111-01AW	AR03.10-P-6111-01AW	
BA03.10-P-1002-01C	Conrod bolt (stretch bolt)	1st stage	Nm	30	-	-	
		2nd stage	∠ °	90	-	-	
		See figure	-	-	AR03.10-P-6111-01AW	-	

