

SERVICE MANUAL FORK CARTRIDGE ABB09

bitubo
RACE SUSPENSION



QUALITY SYSTEM CERTIFICATED
UNI EN ISO 9001:2008
50 100 9149

SERVICE MANUAL
FORK CARTRIDGE ABB09

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Mod. Service-
ABB09
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OVERHAULING MANUAL / SPARE PARTS LIST



The fork cartridge is an important component of the motorbike, and in this Service Manual is explained the correct method to revise it. Please study and make certain that you fully understand all the instruction before handling this component; if you have



Remember that the cartridge is pressurized and its may be very dangerous: some component may be expelled at very high speed and cause serious damage to your health and/or other people nearby.

Read carefully this manual in order to follow the right

BITUBO USED AND RECOMMENDS LUBRICANTS





All maintenance instruction in this manual must be execute inside of an Authorized Service/Repair Centre

BITUBO can not be held responsible for any damage whatsoever to shock absorber or vehicle, or injury to person, if the intruction for fitting and maintenance of this manual are not followed exactly

Necessary BITUBO spares:

- Overhauling kit ABA 09 cod. GR 0074
- Grease for seals code 997615
- Suspension fluid code Bitubo cod. 997631 (*)

Only for BW 037 ABB09 cartridge:

- washer code 84690603
- RB8 seeger code 99362400

(*) FUCHS-Silkolene PRO RSF 5 WT

Working tools:

BITUBO

- Tool for cap body Ø 25mm code 00214
- Cartridge lock tool Ø 25mm code 00396
- Pressure gauge for gas Ø 25mm code 00231
- Inserting tool for RB8 ring code 00405
- Fork shaped tool code 00317

GENERIC

- wrench 13 mm and 17mm
- socket wrench 32 mm
- Teflon tape
- Loctite n. 243

DISMANTLY SEQUENCE

- 1) Remove the fork leg from the bike, following the procedures described in the Workshop Manual Manufacturer's motorbike
- 2) Fasten the fork leg in the vice, and with the socket wrench 32 mm to unscrew the top cap of the outer tube. Lower by hand the spring, and insert under the locking nut the fork shaped tool code 00317



- 3) Holding the locking rod nut with the wrench 13 mm, with the wrench 17 mm to unscrew the top cap of the fork legs



- 4) Remove the top cap



5) Remove the spring (after remove the plastic spacer, if present)



6) Unscrew and remove the locking nut of the rod



Only for BW037 ABB09 Cartridge:

- A) remove the spring guide tube (original BMW)
- B) remove the washer
- C) remove the C ring from his housing

7) Remove the the lower spring holder plate



8) To hold in the vice the body cartridge, insert it in the Bitubo tool code 00396 as shown in photo



9) Now lock the cartridge in vice, and with the 17 mm wrench slowly unscrew the lower closing cap, for depressurize the cartridge



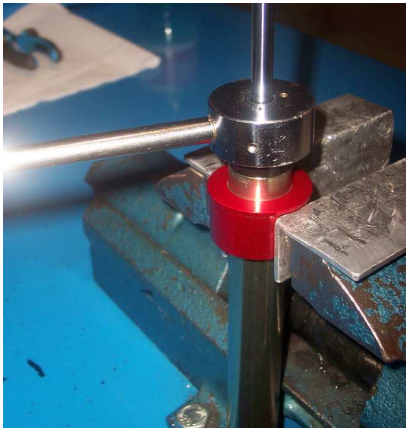
10) Unscrew completely, and remove the cap



- 11) Measure and take note the distance of the oil/gas separator floating piston from the edge of the cartridge



- 12) Upset the cartridge, place the locking bush cartridge at the opposite extremity, fasten it in vice, and with the Bitubo tool code 00214 loosen the cap nut



- 13) Unscrew completely the cap nut, and pull it upward along rod pumping



WARNING: remove the washer (of the rebound spring) under the cap nut



- 14) Extract the cartridge rod, complete of its hydraulic piston, and remove



- 15) Remove from the hydraulic piston the sliding band



16) Drain in suitable container the cartridge oil



17) To extract the separator floating piston, insert the rod (the thread side) and to push it along the cartridge tube



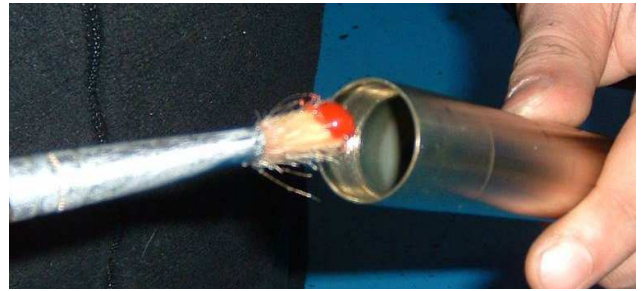
18) So this will make it possible to go out the floating piston to the opposite extremity of the tube cartridge.

WARNING: take note of the toward of insertion into the tube of the separator floating piston separator (in this case, shown in photo, the plain surface of the piston is turned toward the outside of the pipe cartridge, the concave toward the inside)



MOUNTING SEQUENCE

1) Apply Bitubo grease code 997615 in the thread of the cartridge tube



2) Replace the separator piston O-ring seal. Now insert the separator piston in the cartridge tube, in the correct direction noticed when removed.



3) Bring on the caliber the measure taken on at the time of removal, therefore push the separator floating piston inside the cartridge up to the wanted distance from the tube edge



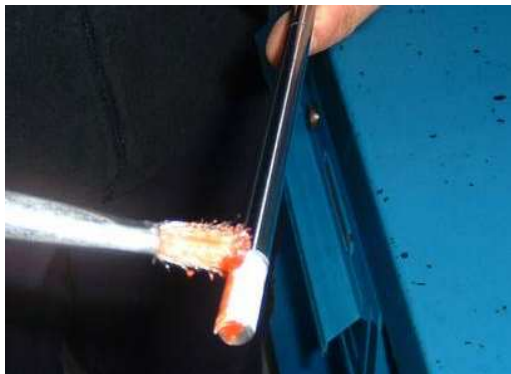
4) Reverse the cartridge, and to pour in the opposed extremity the hydraulic fluid Bitubo code 997631, up to the thread zone



5) Apply on the thread of the rod the teflon band



6) Apply on the teflon band the Bitubo grease code 997615



7) Insert in the rod the washer (of the rebound spring), and then insert in the rod the new nut cap complete of new O-ring and rod oil seals (included in Kit Revision Ref. GR0074)



8) Apply on the hydraulic piston the new sliding band

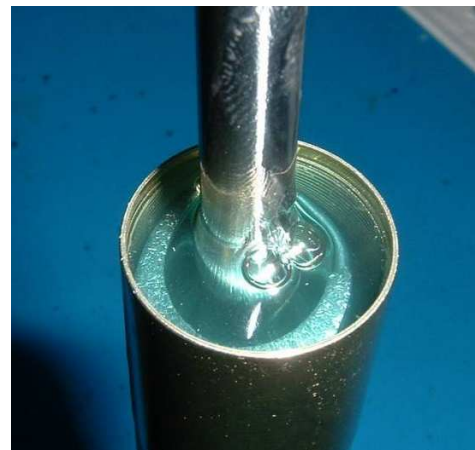


9) Now insert the rod (with its hydraulic piston group) into the cartridge tube

WARNING: Insert the rod very slowly, for not move the position of the oil/gas separator floating piston



10) Push the rod until the rebound spring arrives at the end of the threaded zone



11) To position the washer on the rebound spring



12) Slide down the cap nut along the rod, then screw it by hands



13) Screw it using the Bitubo tool code 00214



14) verify that the floating piston has not moved during the operations; noticing an inferior measure of 1-2mm respect before these operations, is to consider normal, because due to the tightening of the cap nut on the opposite side.



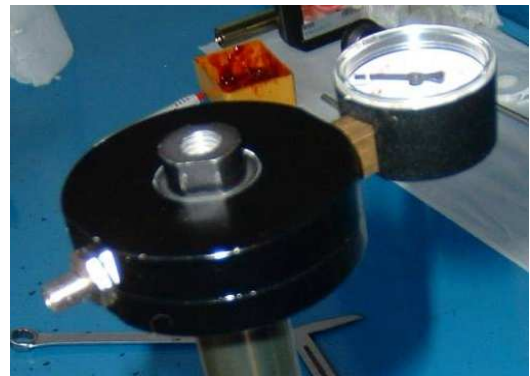
15) Replace the O-ring of the lower cap, and screw it in the tube cartridge



16) Screw the lower cap until the distance of 1-2 mm from the O-ring (see photo), to allow the insertion of gas with the Bitubo special tool.



17) Apply on the cartridge tube (as shown in photo) the Bitubo insertion gas tool cod. 00231 (Ø 25 mms)



18) Insert the Nitrogen gas at pressure of 8.0 bar

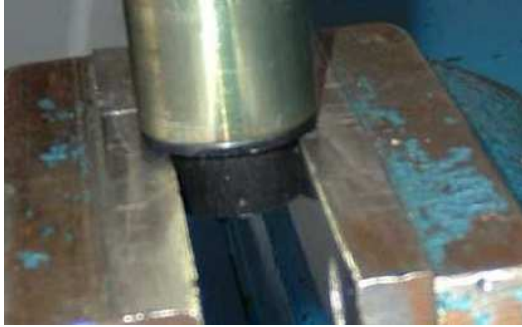
WARNING: for the BW 037 ABB09 cartridge, the pressure recommend is 4 bar



19) Now tighten the cap using the 17mm wrench



20) Now lock in the vice the lower cap of the cartridge (as shown in photo)



21) With the Bitubo tool code 00214 now tighten the cap nut, so that also the lower tube cap (jammed in vice) will be tightened.



22) insert the lower spring plate, in the right position (shape upward)



Only for BW 037 ABB09 Cartridge:

A) apply to the threaded end of the rod the inserter tool code 00405 and insert the RB8 ring



B) Place the RB8 ring in its groove in the rod



C) Insert in the rod the washer (original spring guide stopper) with the working face down, until the RB8 ring. Verify that the ring is fully inserted in the hole of the washer.



D) Insert the spring guide tube (original BMW)

23) Screw the rod nut lock until the end of the thread



24) Insert the spring, and then the upper plastic spacer (if present)

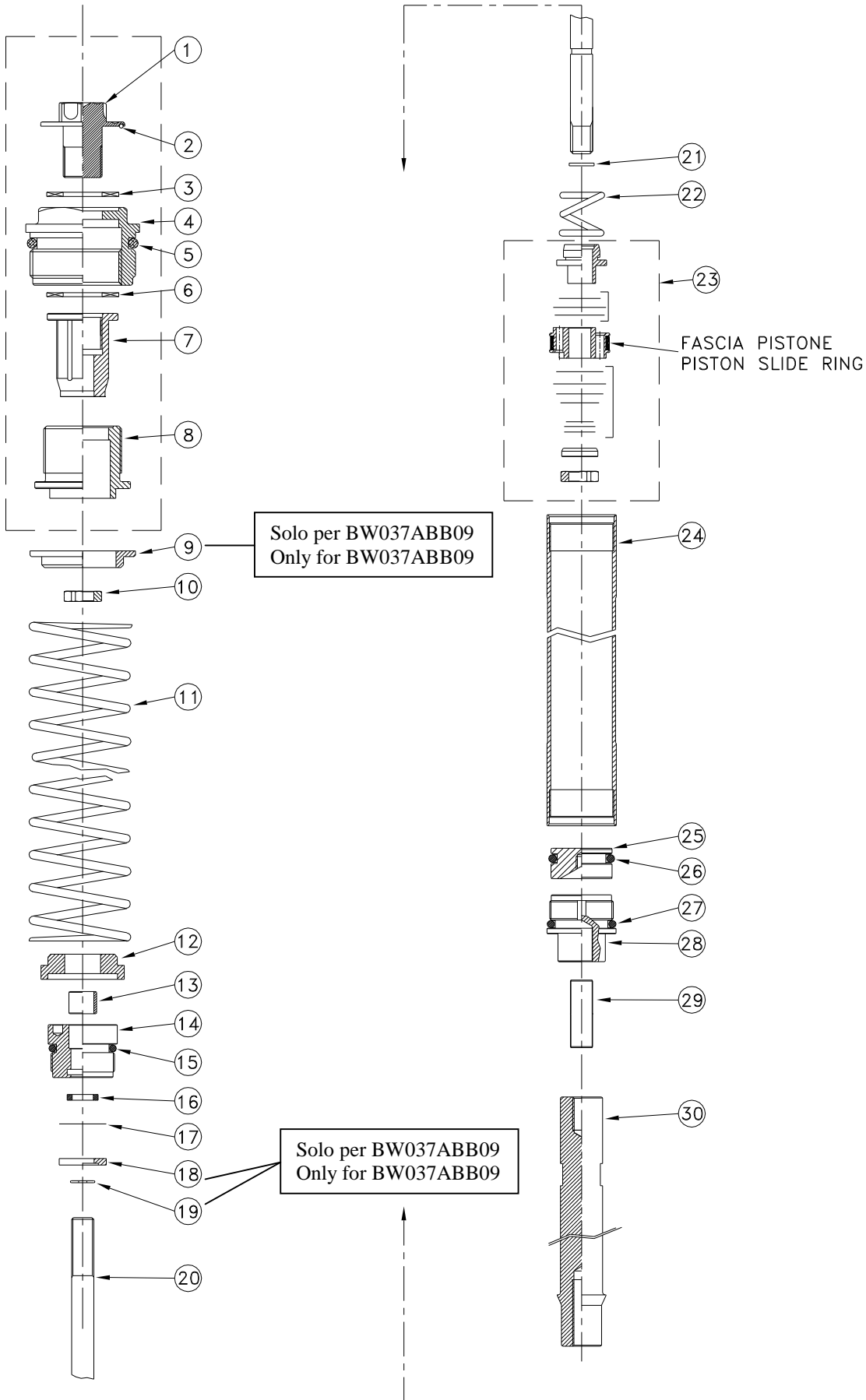


25) Compress the spring, and insert under the nut the Bitubo tool cod. 00317, then screw the top fork cap



26) With the 13mm wrench (on the rod nut) and the 17mm wrench (on the top cap), tighten the nut to lock the top cap





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DESCRIZIONE:
PART NAME:

COMPLESSIVO CARTUCCIA ABB
ABB CARTRIDGE ASSEMBLY DRAWING

Via A. Volta, 24 - 35037 TEOLO (PD) Tel. 049/9903475 - Fax 049/9903447

AI SENSI DELLA LEGGE È VIETATA LA RIPRODUZIONE, ANCHE PARZIALE, SENZA L'AUTORIZZAZIONE SCRITTA DA PARTE DI BITUBO
ACCORDING TO THE LAW THE DRAWING SHALL NOT BE REPRODUCED, EVEN PARTIALLY, WITHOUT THE WRITTEN CONSENT FROM BITUBO

ABB SPARE PARTS

POSIZIONE POSITION	CODICE CODE	DESCRIZIONE DESCRIPTION	N°	KIT REVISIONE OVERHAULING KIT	
GR85_* ¹ GRUPPO TAPPO CAP GROUP	1	84590111	VOLANTINO REG. COMPR. / COMP. ADJ. KNOB	2	-
	2	994084	O-ring Øi26x1.5	2	-
	3	093203	RALLA STRISCIAMENTO / SLIDE RING	2	-
	4	* ¹	TAPPO SUPERIORE / UPPER CAP	2	-
	5	* ¹	O-ring	2	-
	6	093203	RALLA STRISCIAMENTO / SLIDE RING	2	-
	7	84680104	PERNO REGOLAZIONE / ADJUSTER PIN	2	-
	8	84410104	MANICOTTO PRECARICO MOLLA / HYDRAULIC PRELOAD SLEEVE	2	-
9	84420500 * ²	FERMO MOLLA SUPERIORE / UPPER SPRING RETAINER	2	-	
10	994305	DADO / NUT M8x1	2	-	
11	* ¹	MOLLA / SPRING	2	-	
12	* ¹	FERMO MOLLA INFERIORE / LOWER SPRING RETAINER	2	-	
GR4641	13	446402	BOCCOLA SINTERIZZATA Ø8x10 / SINTERED BUSHING Ø8x10	2	X
	14	84460304	GHIERA / CAP RING M23x1	2	X
	15	994016	O-ring 3075 Øi18.72x2.62	2	X
	16	934701	4-RING JF4 7.65x1.78	2	X
17	095403	DISCO / DISK Ø19xØ10x0.20	2	-	
18	84690603 * ²	RANELLA / WASHER Ø8.5-Ø17 H2.4	2	-	
19	99362400 * ²	ANELLO SEEGER RB 8 UNI 7433	2	-	
20	* ¹	STELO / ROD	2	-	
21	99362400	ANELLO SEEGER RB 8 UNI 7433	2	-	
22	445202	MOLLA INTERNA / TOP OUT SPRING	2	-	
23	GR50_* ¹	GRUPPO PISTONE / PISTON GROUP	2	-	
24	* ¹	TUBO CARTUCCIA / CARTRIDGE TUBE	2	-	
25	435002	PISTONE LIBERO / FLOATING PISTON	2	-	
26	444002	O-ring 3068 Øi17.13x2.62	2	-	
27	994016	O-ring 3075 Øi18.72x2.62	2	X	
28	* ¹	TAPPO INFERIORE / LOWER CAP	2	-	
29	996292 * ³	GRANO M8x25 / GRUB SCREW M8x25	2	-	
30	* ¹ * ³	DISTANZIALE INFERIORE / LOWER SPACER	2	-	

*¹: Il codice del componente varia a seconda del modello; tale codice può essere richiesto facendo riferimento al modello specifico della cartuccia.

*¹: The code of the component change according to the model; these codes can be asked according to the specific model of the cartridge.

*²: Specifico per BW037ABB09.

*²: Specific for BW037ABB09.

*³: Non presente in tutti i modelli.

*³: Not present in all model.

Attenzione: l'elenco e lo schema ricambi fanno riferimento alla maggior parte dei modelli di cartuccia ABB descritti in questo manuale. Tuttavia esistono delle variazioni per applicazioni particolari i cui codici di ricambi devono essere richiesti di volta in volta.

Attention: the spare parts list and scheme refer to most of the cartridge models included in this manual. On the other hand, there are some modifications: therefore, on placing your order, please specify the exact code of your suspension.

NOTA / NOTE:

Il Kit di revisione della cartuccia ABB, cod. GR0074 è costituito dai codici delle posizioni indicate con X nella tabella e dalla fascia di tenuta del pistone cod.993824 presente all'interno del gruppo pistone (posizione 23).

-The cartridge ABA overhauling kit cod. GR0074 includes the codes of the positions indicated X on the above spare parts list and the piston slide ring cod.993824 included inside the piston group (position 23).