Repair Manual



F 650 CS

BMW Motorrad After Sales

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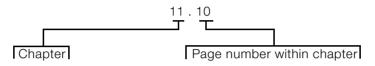
Introduction

This Repair Manual will help you to perform all the main maintenance and repair work correctly and efficiently. If it is consulted regularly by workshop personnel it will form a useful addition to the theoretical and practical knowledge acquired at the BMW Training Centre. It is a contribution toward achieving even higher Service quality.

A new issue of this repair manual will be published if amendments or additions (supplements) are needed.

All information in both text and illustrations refers to motorcycles in standard condition or with genuine BMW accessories installed, and not to motorcycles which have been modified in any way to depart from the manufacturer's specification.

- The Repair Manual is structured in the logical sequence of the work to be performed: Removal, Disassembling, Repair, Assembly, Installation.
- The entire contents are divided into individual chapters, corresponding to the Construction Groups.



If a reference is needed to a different page or chapter, an arrow symbol is shown followed by the chapter and page numbers, e. g. (\rightarrow 12.5).

- Work to be performed during an Inspection is described in Group "00". The various inspection routines are numbered I, II, III and IV. This numbering is repeated in the work descriptions which follow, so that work can take place without interruption.
- Use of the BMW special tools needed for certain tasks is described in the work instructions.

If the need arises, repair instructions are also issued in the form of Service Information. This information is of course incorporated into the next issue of the Repair Manual. We also recommend, as an additional source of information, the Electronic Parts Catalogue (ETK), which contains clear and easy-to-follow illustrations.

If the work described here is restricted to a particular equipment specification, for instance if a specific optional extra (OE) is fitted, this is stated in square brackets at the start of the item concerned, e.g. **[Heated handlebar grips]**.

Please refer to the following pages as well for a description of other symbols used and how to work with them.

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D-80788 München

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Use

Each chapter starts with the list of contents.

The list of contents is followed by the technical data table.

Key to symbols

In this Repair Manual for the F 650 CS model, the following symbols are used; their meanings are explained in the table.

Special instructions aimed at improving the work procedures



Special information on operating and inspecting the motorcycle as well as maintenance and adjustment procedures.

Attention:

Instructions and precautions specifically intended to prevent damage to the motorcycle. Failure to comply with them could invalidate the warranty.

Warning:

This symbol stands for precautions and measures which are essential in order to protect the rider or other persons from possibly severe or fatal injury.

Contents

The titles of the tasks described in this chapter..... complete with page numbers

Activities

- Activities
- The bullet symbol indicates work steps that are described in greater detail under another headline
- Preceding activities
- A line indicates work steps that are described in greater detail under another headline or in another chapter

The term "remove" means that:

the fastener (e.g. screw) must be backed off completely and removed or

a component (e.g. injection rail) has to be removed to the extent that components behind it (e.g. throttle valve rail) are rendered accessible

The term "loosen" or "slacken" means that: the fastener (e.g. screw) must be backed off, but not removed

Tightening torque:

Values are stated if they differ from DIN EN 24 014 or DIN 912 ISO industrial standards.

BMW Motorrad Maintenance schedule F 650 CS

			n niles	ce miles	->	
Customer	Licence No.	Mileage	BMW Inspection at 1,000 km/600 miles	BMW Maintenance Service every 10,000 km/6,000 miles	BMW Inspection every 20,000 km/ 12,000 miles	BMW Annual Service
Job Order No.	Date	Mechanic's signature	BMW I	BMW N Service 10,000	BMW I every 2 12,000	BMW Annual
Read the fault code memory	with the BMW MoDiTeC					
Change the engine oil [engine only] while at regular operating temperature and replace the oil filter element						
Change the engine oil [engine and oil tank] while at regular operating temperature and replace the oil filter element if motorcycle is used only for short journeys or at outside temperatures below 0°C (32°F): every 3 months or at the latest after 3,000 km (1,800 miles)						
Clean oil strainer in frame once only at 10,000 km/6,000 m	iles					
Check the coolant and restor	re to correct level if nece	ssary				
Grease rubber grommets for	cover insert					
Replace the coolant *) every 2 years						
Check valve clearances, adjust if necessary *)						
Replace the spark plug						
Drain the outlet hose from the	e air filter box					
Replace intake air filter If motorcycle is operated in very dirty or dusty conditions, clean or replace the intake air filter every 10,000 km (6,000 miles); check every 3,000 km (1,800 miles)						
Replace fuel filter every 40,000 km (24,000 miles)						
Check clutch play, adjust if n	ecessary					
Examine brake pads and discs for wear, replace if necessary *)						
Check front/rear circuit brake fluid						
Check for operation of brake system and freedom from leaks; repair/replace if necessary *)						
Renew brake fluid at least o	nce a year					
[ABS] Replace the primary front/rear brake master cylinder cup *) every 40,000 km (24,000 miles)						
Replace toothed belt						
Check toothed belt and spro	cket, replace if necessar	y *)				
Check belt tension, adjust if	necessary *)					
Check battery acid level, add distilled water if necessary						
Clean and grease the battery	terminals, if necessary					
Check steering head bearing	is and adjust *) or replace	if necessary *)				
Grease the side stand						
	steners, the rear-frame th	ts of the engine mounts, manifold fas- readed fasteners, and the eccentric				
Final inspection with road sat - Clutch, gearshift - Steering - Front and rear brakes - Side stand contact switch - Condition of tyres and wh - Lights and signalling equi - Optional equipment	n neels, tyre pressures					
 Test ride, if necessary *) Write up on separate invoice; I Not part of standard service procedure 						



BMW Motorrad Pre-delivery check F 650 CS



Customer Licence No. Job Order No. Mechanic's signature	BMW Pre-delivery check
Check the shipping pallet for damage	
Unpack the motorcycle	
Inspect motorcycle for damage	
Check complete specification delivery: - tools - handbooks and documents - keys - optional extras	
Motorcycle complete	
Battery: - remove - add battery acid - charge - grease the terminal posts - re-install (mark date)	
Check tyre pressure	
Fuel the motorcycle	
 Safety/operating check as final inspection: Oil inspection Clutch, gearshift Steering Hand brakes and foot brakes Check lights and signalling equipment, warning and indicator lights, instruments, ABS Test ride, if necessary 	
Confirm delivery inspection in "Maintenance Booklet"	
Final cleaning	

Vehicle delivered on:

BMW Motorrad Service data F 650 CS



Oil capacities International set Netset Engine (incl. filter) 0.5 (0.880.53) Littes (imp. pints/US quarks) sector information serves information serves information serves information Coolant 30% Source (information serves information serves information serves information source informatin soure information source informatin source information	Item	Desired value	Units / Specifications
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Engine (incl. filter) and oil tank 2.5 (4.4/2.84) Second table Coolant 50% Second table Cooling system 1.3 (2.29/1.37) Lthres (incp. pints/US quarts) Reservoir 0.1 (0.18/0.1) Lthres (incp. pints/US quarts) Bracke Fluid 0.02-0.33 (0.010-0.013) mm (in) Valve clearance measured cod (max. 51°C0 ff) mm (in) Spark plugs 0.6.007 (0.0020.03) mm (in) Ender data 0.20-0.33 (0.010-0.013) mm (in) Spark plugs 0.6.007 (0.020.03) mm (in) Ender data 0.20.034 (0.004 - 0.008) mm (in) Cable al grip 1.0 - 2.0 (0.004 - 0.008) mm (in) Tyre pressure 2.2/2.5 (31.91/36.26) bar (pa) Gable al grip 1.0 - 2.0 (0.004 - 0.008) mm (in) Tyre pressure 2.2/2.5 (31.91/36.26) bar (pa) Gable al grip 1.0 Nm Tyre pressure 2.2/2.6 (31.91/36.26) bar (pa) Gable al grip 10 Nm Tyre pressure 2.2/2.6 (31.91/36.26) bar (pa)	Engine (incl. filter)	0.5 (0.88/0.53)	Specification: see latest
Goolant50%Anti-fraces protection to -25 °C protection	Engine (incl. filter) and oil tank	2.5 (4.4/2.64)	Specification: see latest
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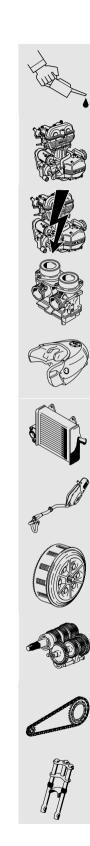
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