

# Repair Manual



**K 1200 LT**

**BMW AG Motorcycle Division  
After Sales**

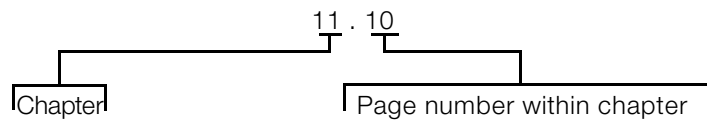
# Introduction

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 towards 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, Disassembly, Repair, Assembly, Installation.
- The entire contents are divided into individual chapters, corresponding to the Construction Groups.



An arrow symbol followed by the chapter and page numbers is a reference to another chapter, e.g. .....See Group 46

- 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 (ETC), 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. **[With heated handlebar grips]**.

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

BMW AG Motorcycle Division  
After Sales

Published by:            BMW AG Sparte Motorrad  
                                 After Sales  
                                 UX-VS-2

D - 80788 München

All rights reserved. Not to be reprinted, translated or duplicated either wholly or in part without prior written permission.

Errors and omissions excepted; subject to technical amendment.

Produced in Germany

# Contents

## Group / Chapter

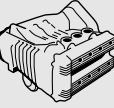
**00 Maintenance and general instructions**

**00.1**



**11 Motor**

**11.1**



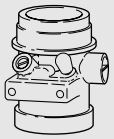
**12 Engine electrics**

**12.1**



**13 Fuel preparation and control**

**13.1**



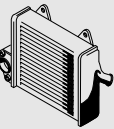
**16 Fuel tank and lines**

**16.1**



**17 Radiator**

**17.1**



**18 Exhaust system**

**18.1**



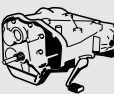
**21 Clutch**

**21.1**



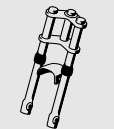
**23 Gearbox**

**23.1**



**31 Front fork**

**31.1**



**32 Steering**

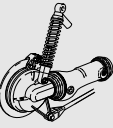
**32.1**



## Group / Chapter

**33 Rear wheel drive**

**33.1**



**34 Brakes**

**34.1**



**36 Wheels and tyres**

**36.1**



**46 Frame**

**46.1**



**51 Equipment**

**51.1**



**52 Seat**

**52.1**



**61 General electrical equipment**

**61.1**



**62 Instruments**

**62.1**



**63 Lights**

**63.1**



**65 Radio and optional extras**

**65.1**



# BMW AG Motorcycle Division

## Maintenance schedule

### K 1200 LT



Customer _____ Licence plate No. _____		BMW Inspection at 1,000 km (600 miles)	BMW Service every 10,000 km (6,000 miles)	BMW Inspection every 20,000 km (12,000 miles)	BMW Annual Service
Order No. _____ Mechanic's signature _____					
Read out the fault memory with the <b>BMW MoDiTeC</b> unit		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check throttle cable play, adjust if necessary		<input type="checkbox"/>		<input type="checkbox"/>	
Change engine oil while at operating temperature <b>If the motorcycle is ridden only for short distances or at outside temperatures below 0°C (32 °F), this work must be done every 3 months or at least every 3,000 km (1,800 miles) *)</b>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change oil in gearbox while at operating temperature <b>at least every 2 years *)</b>				<input type="checkbox"/>	<input type="checkbox"/> every 2 years
Change oil in rear wheel drive while at operating temperature <b>at least every 2 years *)</b>		<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/> every 2 years
Examine brake pads and discs for wear, replace if necessary *)			<input type="checkbox"/>	<input type="checkbox"/>	
Check the front/rear brake fluid level		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Check operation of brake system and freedom from leaks; repair/replace items if necessary *)				<input type="checkbox"/>	
<b>Replace the brake fluid at least once a year</b>					<input type="checkbox"/>
Check clutch operating fluid level		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Change clutch fluid <b>every 40,000 km (24,000 miles) or at least every 2 years *)</b>				<input type="checkbox"/> 40,000	<input type="checkbox"/> every 2 years
Replace fuel filter *) <b>generally every 40,000 km (24,000 miles), if the fuel is of poor quality, every 20,000 km (12,000 miles)</b>				<input type="checkbox"/> 40,000	
Check and top up, where necessary, coolant level and concentration		<input type="checkbox"/>		<input type="checkbox"/>	
<b>Replace the coolant at least every 2 years*)</b>					<input type="checkbox"/> every 2 years
Check battery acid level, if necessary add distilled water Clean/grease battery terminals if necessary				<input type="checkbox"/>	<input type="checkbox"/>
Replace intake air cleaner element <b>If severe dirt and dust are encountered, replace the intake air cleaner every 10,000 km (6,000 miles) or even more frequently *)</b>				<input type="checkbox"/>	
Check function of side stand contact switch		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grease side stand bearing, check that the centre stand moves freely, and grease it if necessary *)			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Check the steering damper			<input type="checkbox"/>	<input type="checkbox"/>	
Check tightness of rear wheel studs		<input type="checkbox"/>			
Check rear wheel bearing play by rocking wheel				<input type="checkbox"/>	
Check swinging arm bearings (free of play), adjust if necessary *)		<input type="checkbox"/>		<input type="checkbox"/>	
Clean the inductive sensor on the rear wheel <b>every 40,000 km (24,000 miles) or at least every 2 years *)</b>				<input type="checkbox"/> 40,000	<input type="checkbox"/> every 2 years
Check valve clearances, adjust if necessary				<input type="checkbox"/>	
Replace the lining of the chain tensioning rail and chain guide rail every 60,000 km (36,000 miles)*)				<input type="checkbox"/> 60,000	
Replace spark plugs				<input type="checkbox"/>	
Final inspection with road safety and functional check: – Condition of tires and wheels, tyre pressure – Clutch, gearshift mechanism, hand and foot brake, ABS, steering system – Lighting and signalling equipment, telltale lights, instruments, horn – Reversing aid, radio with remote contro, optional equipment fitted – Trial run if necessary		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\*) **Charged as an additional item**

<b>Key to maintenance intervals</b> .....	38
<b>General instructions</b> .....	39
Pushing the motorcycle onto a workshop platform .....	39
High idle speed .....	39
Removing the aerial .....	39
<b>Reading the fault code memory with the MoDiTeC</b> .....	40
(Inspections I, II, III and IV) .....	40
<b>Checking throttle cable play, adjusting if necessary</b> .....	40
(Inspections I and III) .....	40
Models without cruise control .....	40
Models with cruise control .....	40
Throttle-opener cable, throttle-closer cable .....	40
Cruise-control system cable .....	41
Turning the throttle twist grip relative to the throttle valve shaft .....	41
Cruise control system does not switch off .....	41
Cruise control system cannot be set, or continually shuts down .....	41
<b>Changing engine oil, replacing oil filter element</b> .....	42
(Inspections I, II, III and IV) .....	42
<b>Changing gearbox oil</b> .....	43
Change the gearbox oil every two years at the latest .....	43
(Inspection III) .....	43
<b>Changing the oil in the rear wheel drive</b> .....	44
Change the oil in the rear wheel drive every two years at the latest .....	44
(Inspections I and III) .....	44
<b>Brake pads/brake discs</b> .....	45
Checking brake pads and discs for wear and replacing if necessary .....	45
(Inspections II and III) .....	45
Checking brake pads for wear .....	45
Front brake pads .....	45
Rear brake pads .....	45
Replacing brake pads .....	46
Front brake .....	46
Rear brake .....	47
Checking the brake discs .....	48

<b>Checking the front/rear brake fluid level</b> .....	48
(Inspections I, II and III) .....	48
Checking the front brake fluid level .....	48
Checking the fluid level with brake fluid reservoir open .....	49
Checking the rear brake fluid level .....	50
(Inspections I, II and III) .....	50
Checking operation of brake system and freedom from leaks, repairing/replac- ing if necessary .....	50
(Inspection III) .....	50
<b>Changing brake fluid and bleeding brake system</b> .....	51
Change the brake fluid once a year at the latest .....	51
(Inspection IV) .....	51
Front brake .....	51
Forcing back the brake pistons .....	51
Opening the brake fluid reservoir .....	51
Bleeding the front brake pressure modulator .....	52
Bleeding the left brake calliper .....	52
Bleeding the front right brake calliper .....	53
Rear brake .....	54
Bleeding the rear brake pressure modulator .....	54
Forcing back the brake pistons .....	54
Bleeding the brake calliper .....	55
<b>Checking clutch fluid level</b> .....	55
(Inspections I, II and III) .....	55
<b>Changing the clutch fluid (every 40,000 km/24,000 miles)</b> .....	56
Change the clutch fluid every 2 years at the latest .....	56
(Inspection III) .....	56
<b>Replacing fuel filter (every 40,000 km/24,000 miles)</b> .....	58
(Inspection III) .....	58
Removing the fuel pump unit .....	58
Removing and installing fuel filter .....	59
Installing the fuel-pump unit .....	59
<b>Checking and topping up, if necessary, coolant level and concentration</b> ..	60
(Inspections I and III) .....	60
<b>Changing coolant</b> .....	61
(Inspection IV) .....	61
Draining coolant .....	61
Filling coolant system .....	62



<b>Battery</b> .....	63
(Inspections III and IV) .....	63
Check battery acid level and add distilled water if necessary; inspect battery terminals and clean and grease them if necessary .....	63
Checking battery acid level .....	63
Adding distilled water .....	63
Installing the battery .....	63
<b>Replacing intake air filter element</b> .....	64
(Inspection III) .....	64
<b>Checking function of side stand contact switch</b> .....	64
(Inspections I, II and III) .....	64
<b>Greasing the side stand</b> .....	65
(Inspections II, III and IV) .....	65
<b>Checking the centre stand, greasing if necessary</b> .....	65
(Inspections II, III and IV) .....	65
Checking the centre stand .....	65
Greasing the centre stand .....	65
<b>Checking the steering damper</b> .....	67
(Inspections II and III) .....	67
<b>Checking tightness of rear wheel studs</b> .....	67
(Inspection I) .....	67
<b>Checking rear wheel bearing play by tilting wheel</b> .....	67
(Inspection III) .....	67
<b>Checking swinging arm bearings, adjusting if necessary</b> .....	67
(Inspections I and III) .....	67
<b>Cleaning the inductive sensor on the rear wheel (every 40,000 km/ 24,000 miles)</b> .....	67
Clean the inductive sensor on the rear wheel every two years at the latest .....	67
(Inspection III) .....	67
<b>Checking valve clearances, adjusting if necessary</b> .....	68
(Inspection III) .....	68
Checking valve clearances .....	68
Adjusting valve clearances .....	68
<b>Replacing the chain tensioning rail lining and chain guide rail</b> .....	70
(every 60,000 km/36,000 miles) .....	70
<b>Replacing spark plugs</b> .....	71
(Inspection III) .....	71
<b>Final inspection with road safety and functional check</b> .....	71
(Inspections I, II, III and IV) .....	71





## Brake pads/brake discs

### Checking brake pads and discs for wear and replacing if necessary (Inspections II and III)

#### Checking brake pads for wear



#### Warning:

Never permit brake pads to wear past minimum permissible thickness.  
Always replace pads as a complete set.

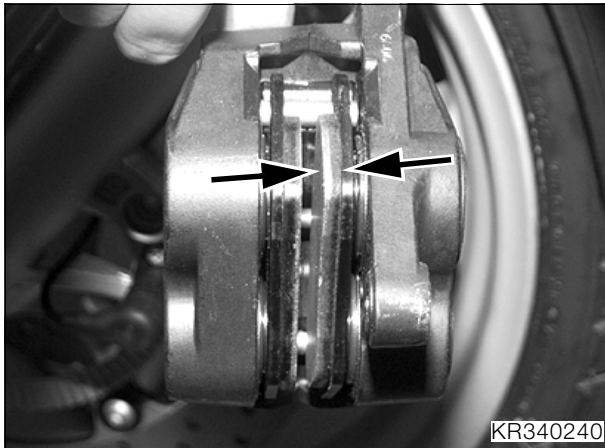
#### Front brake pads



#### Caution:

Do not scrape the wheel – mask it off if necessary.

- Remove the brake calliper.



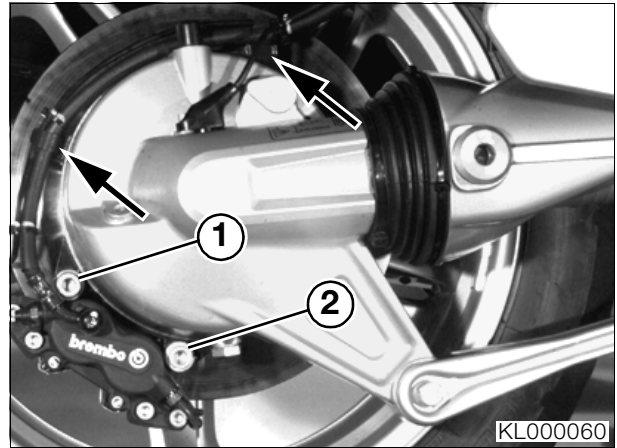
- Measure brake pad thickness (arrows).

**Minimum pad thickness** ..... 1.0 mm (0.04 in)

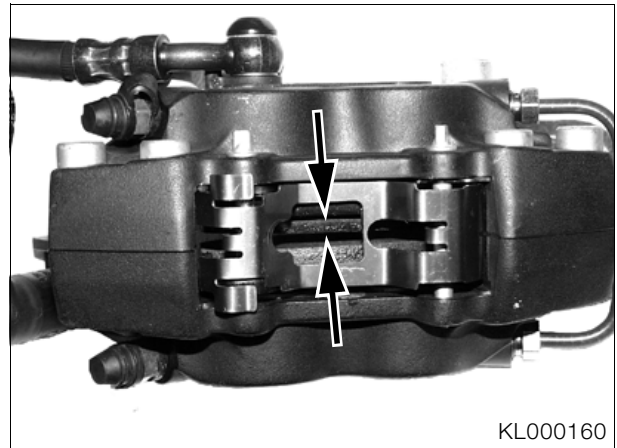
#### Tightening torques:

Brake calliper to fork tube ..... 40 Nm

## Rear brake pads



- Release the brake line from the clips (arrows) on the rear-wheel drive.
- Release fasteners (1, 2), remove brake calliper.



- Measure brake pad thickness (arrows).

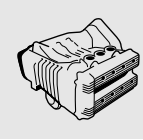
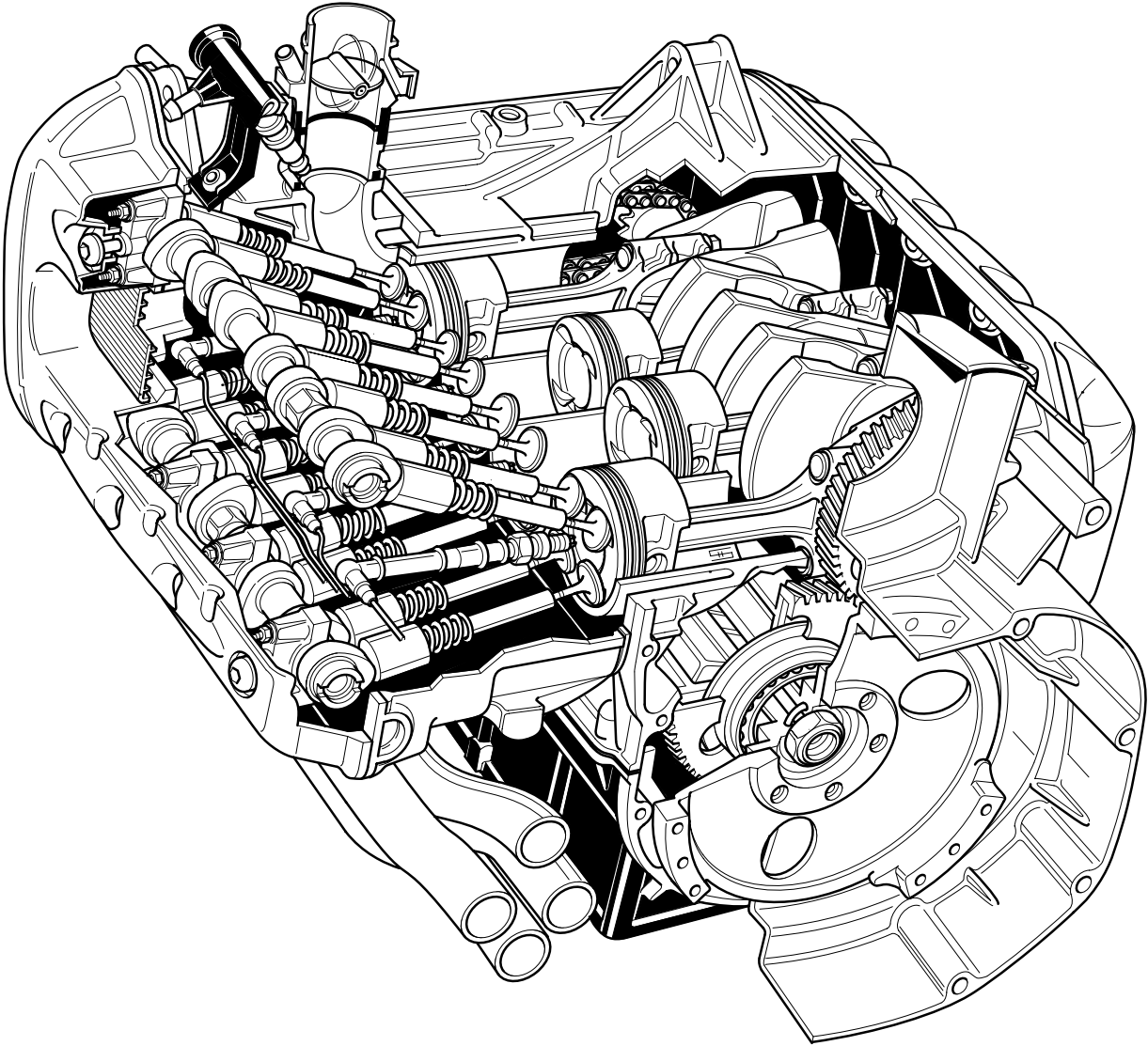
**Minimum pad thickness** ..... 1.0 mm (0.04 in)

#### Tightening torques:

Brake calliper to rear wheel drive ..... 40 Nm



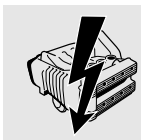
Cutaway drawing of engine, K 1200 LT



KL119000

# 12 Engine electrics

<b>Contents</b>	Page
<b>Technical Data</b> .....	3
<b>Removing and installing Hall-effect transmitters</b> .....	5
Preparatory work .....	5
Removing cover from Hall-effect transmitter .....	5
Removing magnetic gate .....	5
Installing the magnetic gate .....	6
Installing the cover of the Hall-effect transmitter .....	6
<b>Replacing spark plugs/ignition leads</b> .....	7
Removing and installing spark plugs .....	7
Removing and installing ignition leads .....	7
<b>Removing and installing coil</b> .....	8
Motorcycles without shield housing .....	8
Motorcycles with shield housing .....	9
<b>Timing the ignition</b> .....	9
Preparatory work .....	9
Setting timing with Motronic .....	10
Setting timing without Motronic .....	10
<b>Replacing three-phase generator</b> .....	11
Removing and installing three-phase generator .....	11
Disassembling the three-phase generator .....	11
Removing and installing drive housing .....	11
Removing and installing voltage regulator .....	12
<b>Replacing starter motor</b> .....	12
Removing and installing starter motor .....	12
Disassembling/assembling starter motor .....	13
Replacing carbon brushes .....	13

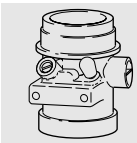


# 13 Fuel preparation and control

## Contents

Page

<b>Technical Data</b> .....	3
<b>Removing and installing Motronic control unit</b> .....	5
<b>Replacing intake air filter element</b> .....	5
See Group 00 .....	5
<b>Replacing air temperature sensor</b> .....	5
<b>Removing and installing intake air silencer</b> .....	6
<b>Removing and installing fuel injection rail</b> .....	7
Removing and installing injectors .....	7
<b>Removing and installing pressure regulator</b> .....	8
<b>Removing and installing throttle valve rail</b> .....	8
<b>Removing and installing throttle valve actuator</b> .....	10
<b>Replacing and adjusting throttle valve potentiometer</b> .....	10
<b>Removing and installing intake stubs</b> .....	11
<b>Replacing fuel hoses</b> .....	11
<b>Removing and installing throttle cables</b> .....	12
Preparatory work for all Bowden cables .....	12
Removing and installing throttle-opener and throttle-closer cables .....	12
Removing and installing Bowden cable of cruise-control system .....	14
<b>Checking fuel pressure</b> .....	15
<b>Removing and installing control unit of cruise-control system</b> .....	15
See Group 65 .....	15
<b>Checking throttle cable play, adjusting if necessary</b> .....	15
See Group 00 .....	15



# 16 Fuel tank and lines

## Contents

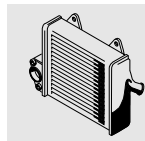
Page

<b>Technical Data</b> .....	3
<b>Removing and installing fuel tank</b> .....	5
<b>Renewing fuel filter</b> .....	6
Removing the fuel pump unit .....	6
Removing/installing fuel filter .....	7
Removing/installing fuel pump .....	7
Installing the fuel-pump unit .....	7
<b>Removing/installing immersion-tube sensor</b> .....	8
Calibrating the immersion-tube sensor .....	8
<b>Removing/installing roll-over valve</b> .....	8

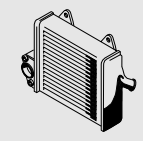
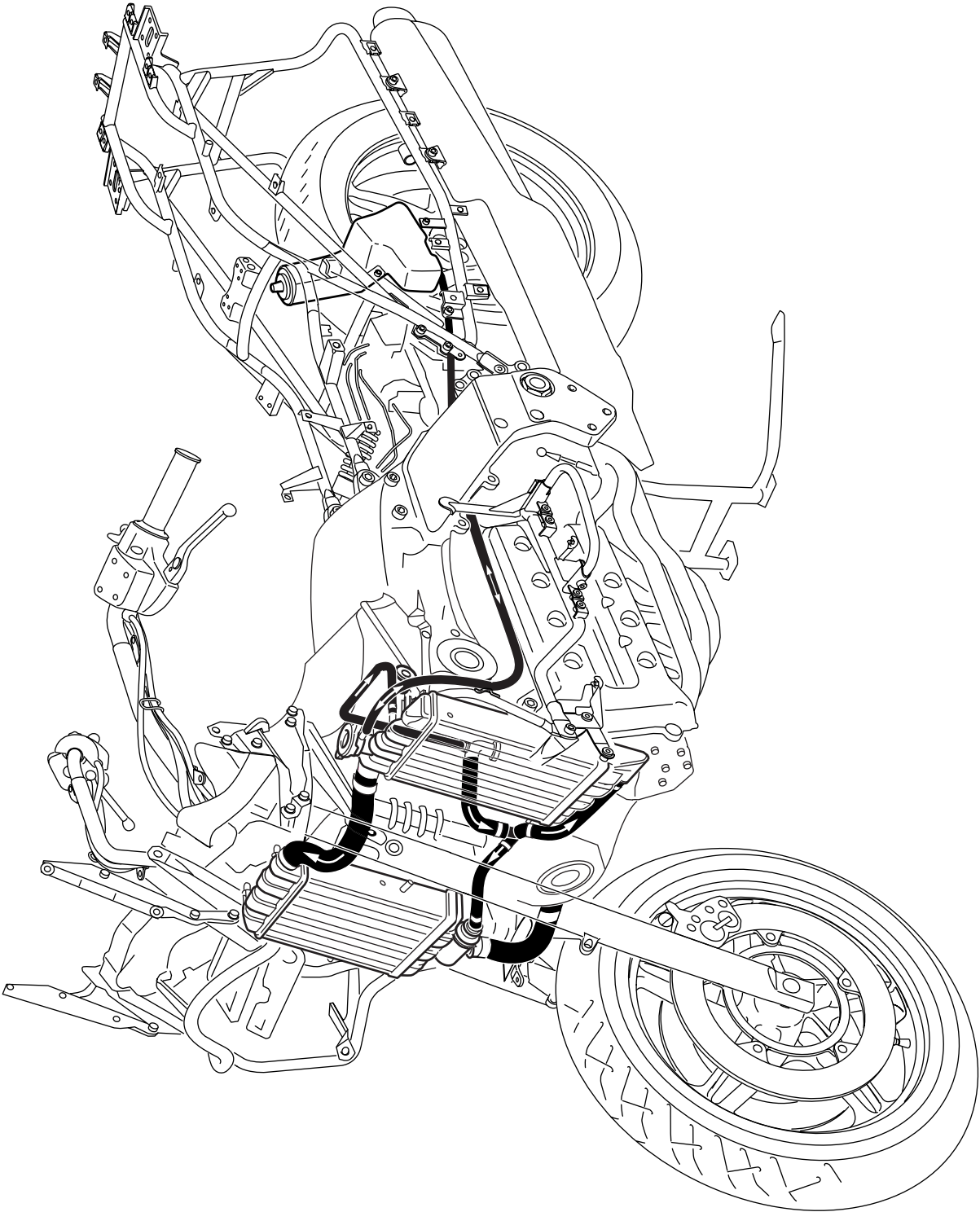


# 17 Radiator

Contents	Page
<b>Technical Data</b> .....	3
<b>Coolant circuit</b> .....	5
<b>Removing and installing coolant hoses</b> .....	7
Connecting hose between left and right radiators .....	7
Hoses between radiators and coolant stub pipes .....	7
Hose between coolant stub pipes .....	7
Coolant hose to water pump .....	7
Removing breather hose .....	7
Vapour outlet hose .....	7
<b>Changing coolant</b> .....	8
See Group 00 .....	8
<b>Checking cooling system for leaks</b> .....	8
<b>Removing and installing radiator with fan</b> .....	8
Removing and installing left radiator .....	8
Removing and installing right radiator .....	10
<b>Removing and installing coolant stub pipe on engine</b> .....	11
<b>Removing and installing thermostat</b> .....	11
<b>Troubleshooting</b> .....	12



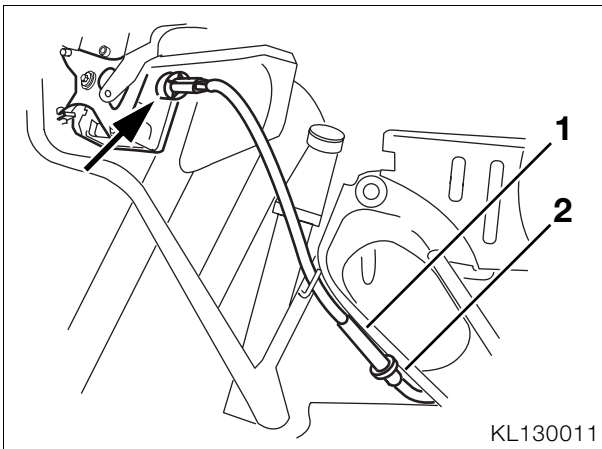
Coolant circuit



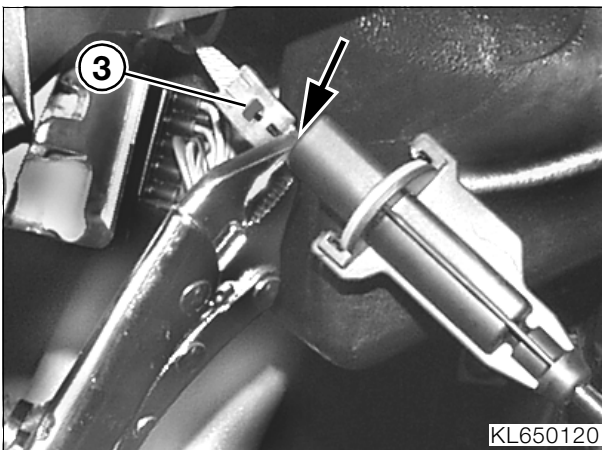
KL179000

## Removing and installing control unit of cruise-control system

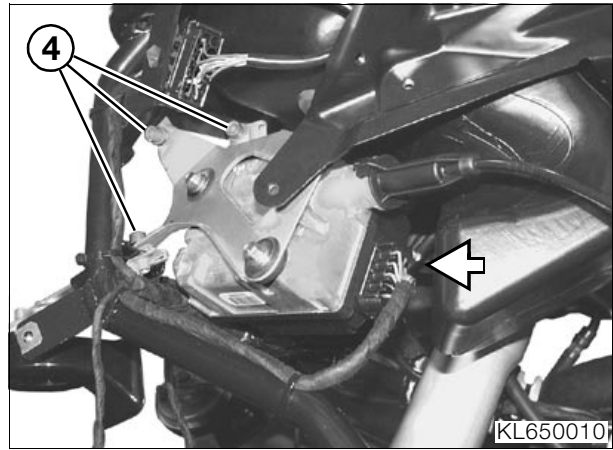
- Remove left side section of fairing.
- ➡ .....See Group 46
- Remove upper section of fairing.



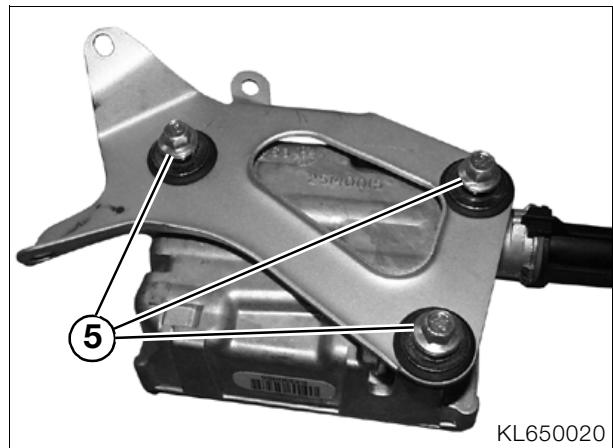
- Carefully pull Bowden cable at sleeve (1) and remove insert (2).
- Disconnect bayonet-type plug (arrow) of control unit.



- Pull Bowden cable away from control unit until approx. 1 cm (0.4 in) of cable is visible and secure Bowden cable in this position with clamp (arrow).
- Disengage nipple (3), move Bowden cable with clamp clear.



- Disconnect plug (arrow).
- Remove screws (4) securing retaining plate to fairing bracket.
- Remove retaining plate with control unit for cruise control system.



- Remove screws (5) and remove control unit.
- Installation is the reverse of the removal procedure.

**Tightening torques:**  
Retaining plate to fairing bracket..... 8 Nm