



125 BMW Service with Annual Inspection (see Maintenance Schedule) (Annually, initially at 10,000 km, then every 20,000 km)

Equipment trim-level variant:
0524 - BMW Motorrad ABS

(+) Reading fault memory with **BMW Motorrad** diagnostic system
(-) Changing engine oil (engine and oil tank) and oil filter element

➔ Oil change, engine, with filter (Description in item: 11 00 209)

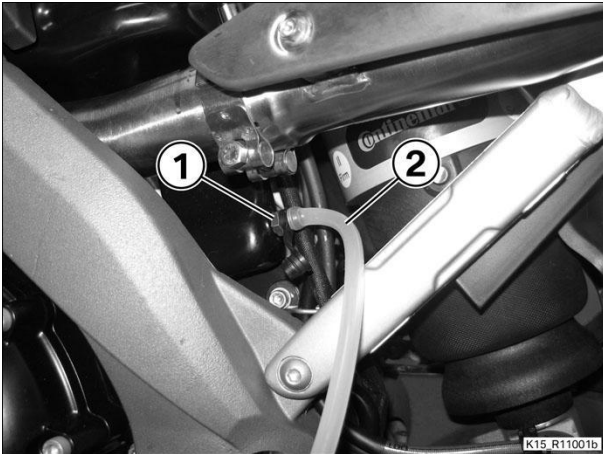


Note

Change oil, warmed to normal operating temperature.

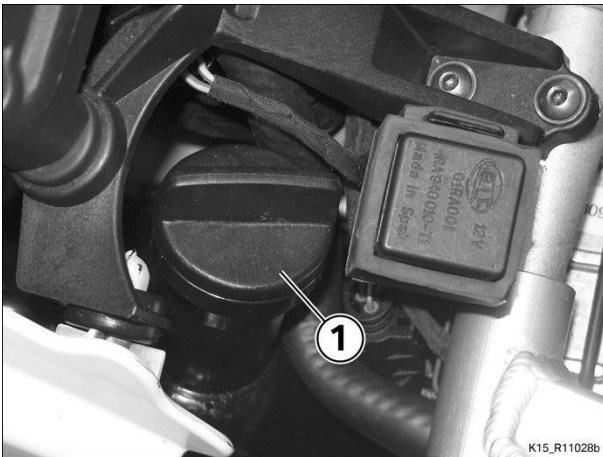
▶ Draining engine oil from oil tank

- Connect hose (2) to oil drain plug (1).
- Open oil drain plug (1).



K15_R11001b

- Remove oil dipstick (1).
- Allow all the engine oil to drain off.

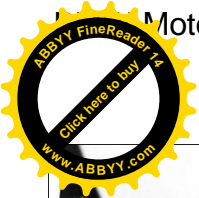


K15_R11028b



▶ Draining engine oil

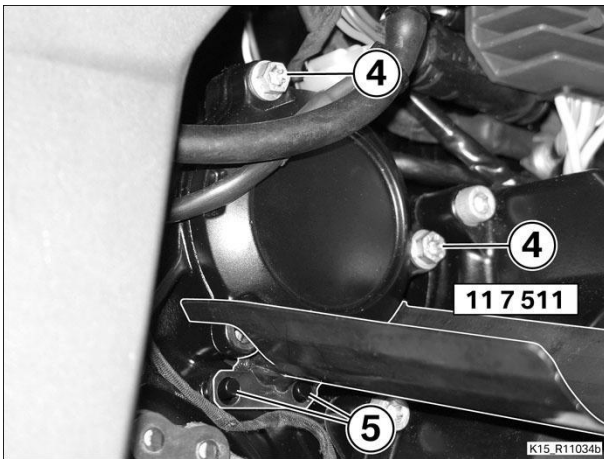
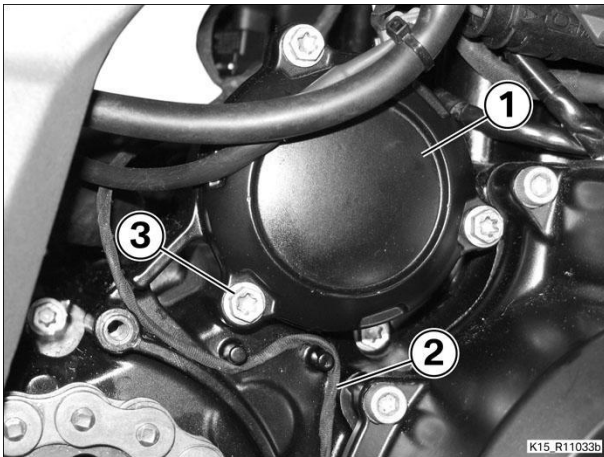
- Remove oil drain plug (1) from the engine and drain off all the oil.



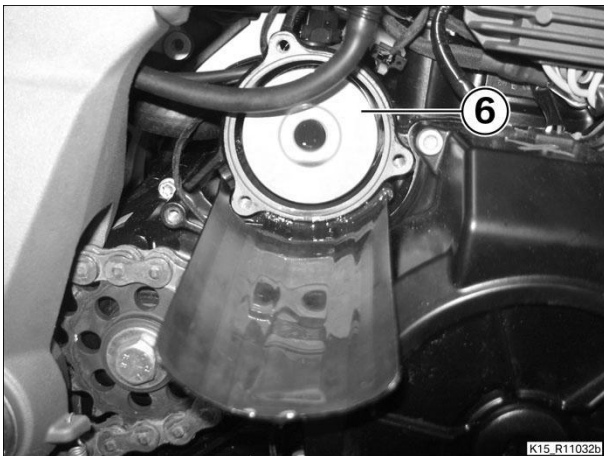
▶ Replace the oil filter

▷ Removing oil filter

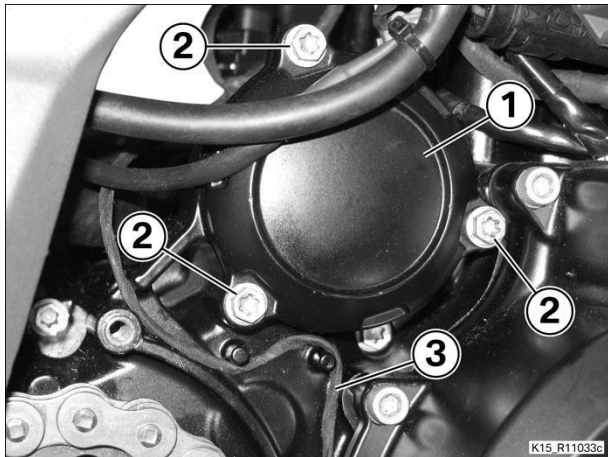
- Remove screw (3) from oil-filter cover (1).
- Release cable (2) of the neutral switch from its guide.




- Engage oil drain (No. 11 7 511) on the pins (5) on the engine block.
- Remove screws (4) and remove the oil-filter cover.



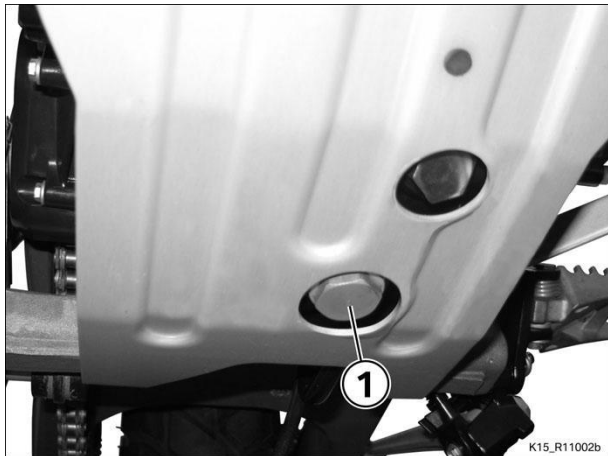
- Remove oil-filter element (6).
- Drain out all the engine oil and clean the oil-filter housing.




- ▷ Remove the old oil filter and install a new filter.
- ▷ **Installing oil filter**
 - Seat the oil-filter element on the oil-filter housing.
 - Check the O-ring of the oil-filter cover; replace if necessary.
 - Lightly oil the O-ring of the oil-filter element.
 - Remove oil drain.
 - Install oil-filter cover (1) with the oil-filter element.
 - Install screws (2).

 Tightening torques		
Oil-filter cover to engine block		
M6 x 20	10 Nm	

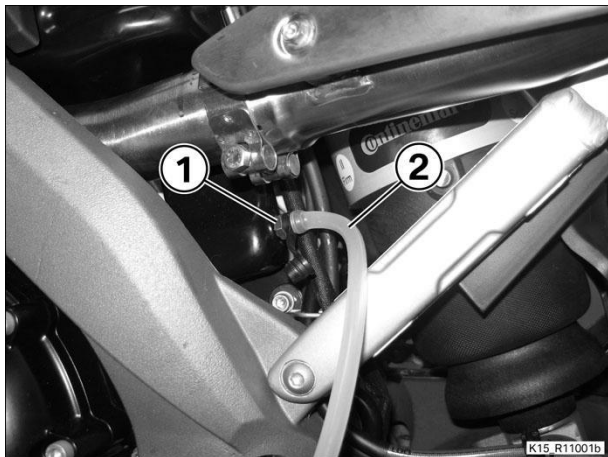
- Secure cable (3) of the neutral switch in its guide.




- ▷ **Pouring engine oil into engine**
 - Install oil drain plug (1) in the engine, using a new sealing ring.


 Tightening torques		
Engine oil drain plug		
M24 x 2	40 Nm	

- Disconnect hose (2) and tighten oil drain plug (1) in the oil tank.



 Tightening torques		
Drain plug to oil tank		
M8	25 Nm	

- Pour the correct quantity of engine oil into the oil tank.

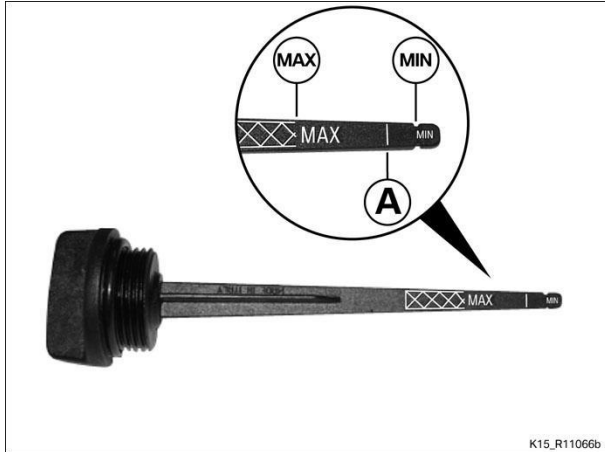
 Technical data			
Engine oil, capacity	Oil tank - preliminary filling	1.7 l	
	Oil tank - filling	0.6 l	
	Fluids and lubricants		
of products recommended by BMW Motorrad and generally admissible viscosity classes			



Warning

Exhaust gases from internal-combustion engines contain substances that are hazardous to health.

Comply with the warnings for operating internal-combustion engines in enclosed spaces.



K15_R11066b

- Start the engine and allow it to idle for thirty seconds.
- Top up the oil in the oil tank.
- Allow the engine to idle until the fan starts up, then allow it to idle one minute longer.
- To check the oil level, screw the oil dipstick into the bore and then remove it.
- Check the oil level; if necessary top up the level to mark (A) and install the dipstick.

=> Changing fluid in telescopic forks (for maintenance)
(Description in item: 31 42 902, Billed as a separate item) **every 30,000 km**

(-) Checking coolant level


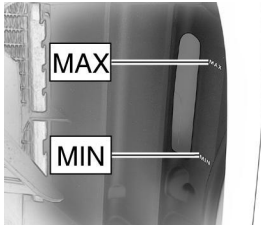


Note

Correct the coolant level only when the engine is cold.

Test

- Check the coolant level in the expansion tank, (MAX) and (MIN) marks.

 Technical data			
Coolant, specified level 		Between MIN and MAX marks on the expansion tank	

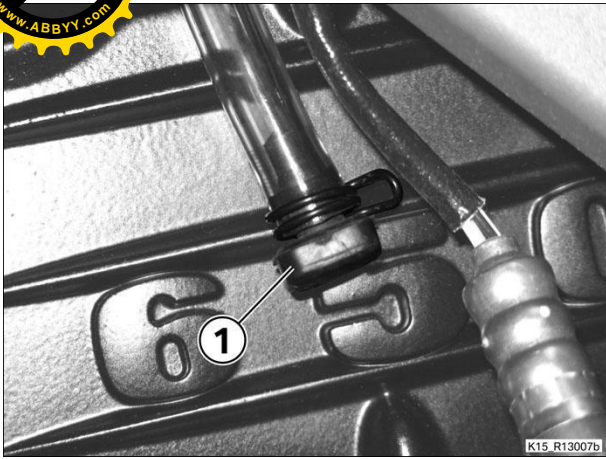
Result: Coolant level is not correct.

Measure:

- Top up the coolant to the correct level.

(-) Emptying drain hose from intake air silencer

- Remove plug (1).
- Allow all the oil to drain off.



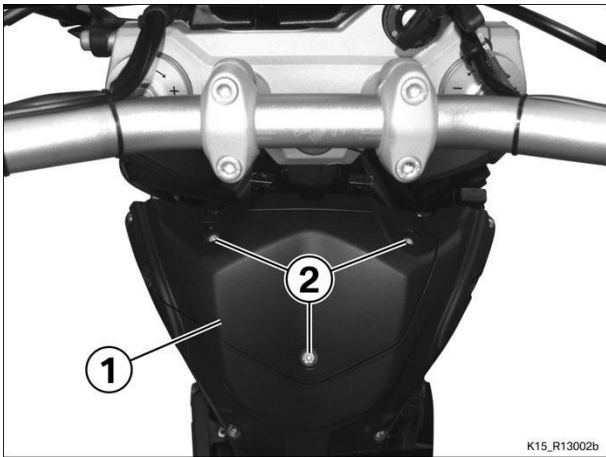
- Install plug (1).

(-) Checking air filter

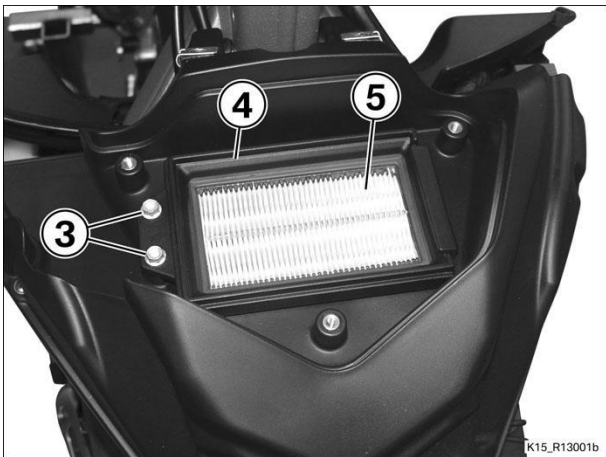
Test

► Removing air filter element

- Remove screws (2).
- Remove lid (1).



- Remove screws (3).
- Disengage frame (4) on the right, lifting the frame slightly in the process.
- Remove the frame.
- Remove air-filter element (5).



- ◀ Check the air filter for clogging and cracking.

Result: If the air filter is dirty:

Measure:

- Clean the air filter.

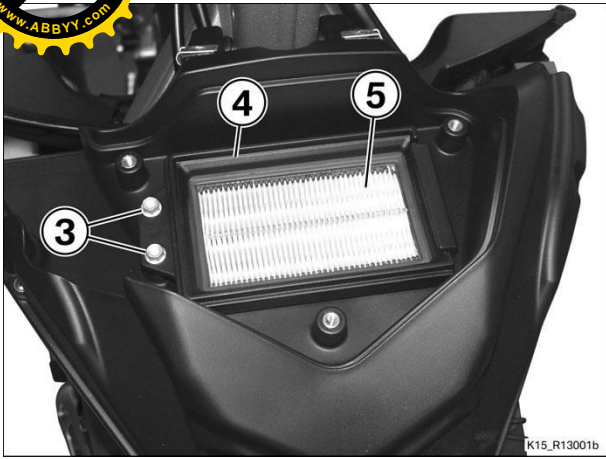
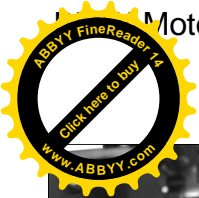
Result: If cracks are visible:

Measure:

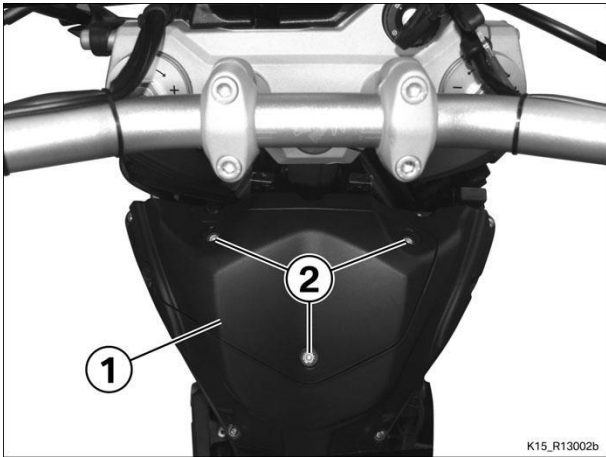
- Replace the air filter element.

► Installing air filter element

- Clean the intake air silencer.



- Install air-filter element (5).
- Install frame (4) on right, taking care not to trap the air-filter element.
- Align the frame and install screws (3).



- Place cover (1) in position and install screws (2).

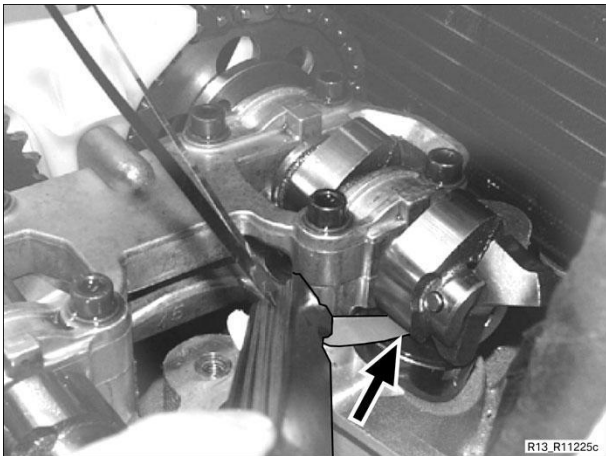



(-) Checking valve clearance

➔ *Checking valve clearance (Description in item: 11 34 001)*

Test

- Use a feeler gauge (arrow) to check valve clearance.



 Technical data			
Valve clearance, inlet valve	Engine cold max 35 ° C	0.03...0.11 mm	
Valve clearance, exhaust valve	Engine cold max 35 ° C	0.25...0.33 mm	

Result: Valve clearance out of tolerance

Measure:

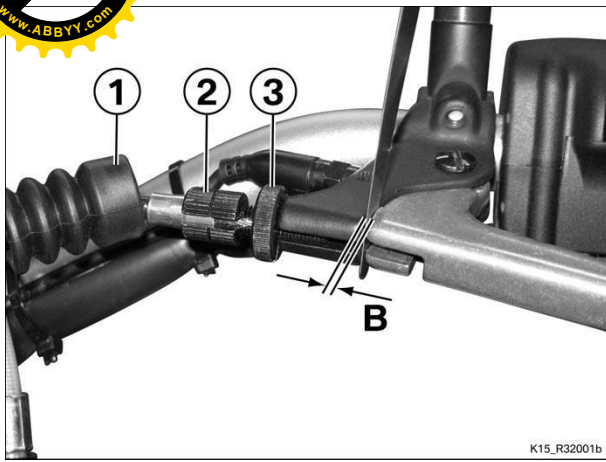
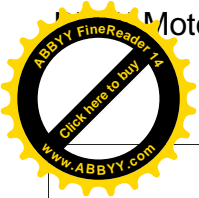
=> 11 34 504, Adjusting valve clearance (cylinder-head cover removed)
(Billed as a separate item)

(-) Checking/adjusting clutch play

Test

- Measure gap (B) between the clutch lever and the handlebar fitting.





Technical data

Clutch-lever play	Engine cold	2...3 mm	
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Result: Gap B is out of tolerance.

Measure:

- Pull back flexible gaiter (1) and slacken locknut (3).
- Adjust gap (B) by turning adjusting screw (2) on the clutch lever.
- Tighten locknut (3).

(-) Checking freedom of movement of throttle cable and checking for kinks and chafing

Test

- Check the throttle cable for kinks and chafing.
- » No signs of kinks or chafing.
- Fully open the throttle twistgrip at different handlebar positions and then release.
- » The throttle twistgrip returns to the closed position by itself.
- Turn the handlebars to the full-lock positions and check the play at the throttle twistgrip.
- » Slight play perceptible.

Result: Not all tests completed successfully.

Measure:

=> 32 73 509, Replacing throttle cable to handlebar (Billed as a separate item)

(-) Checking spoke tension, adjusting if necessary

Precondition

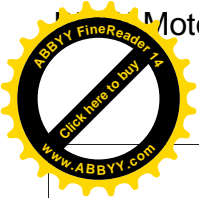
- Motorcycle is on the centre stand, both wheels are free to turn.



- Spin the front wheel and the rear wheel and check for runout, deformation and damage.

Test

- Tap the spokes with a screwdriver and listen for the correct ringing sound.



K15_R36057a

Result: Spokes are loose.

Measure:

- Use spoke key (No. 36 3 801) to tighten loose spokes.

Result: Spokes are broken.

Measure:

=> 36 31 510, Replacing spokes for front wheel (tyre removed) (Billed as a separate item)

=> 36 31 511, Replacing spokes for rear wheel (tyre removed) (Billed as a separate item)


(-) Checking front brake disc for wear

Test

- Carefully check the brake discs for cracks, damage, deformation and scoring.
- Measure the thickness of the front brake discs at several points with a caliper gauge.



K15_R34004a

 Technical data			
Brake disc thickness, front	When new	4.5 mm	
	Wear limit	min 4.0 mm	

Result: Brake disc damaged or worn to less than minimum permissible thickness.

Measure:


- Replace the front brake disc.

=> 34 11 839, Removing and installing front brake disc (Billed as a separate item)

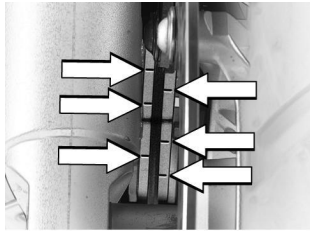
(-) Checking front brake pads for wear

Test

- Visually inspect the brake pads.
- The wear-indicating marks must be clearly visible on the pads.
- If necessary, measure the thickness of the brake pads.

 Technical data			



<p>Brake-pad wear limit, front</p> 	<p>Friction pad only, without backing plate. The wear indicators (grooves) must be clearly visible.</p>	<p>min 1.0 mm</p>	
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Result: Brake pads worn to below minimum permissible thickness.

Measure:

- Replace the front brake pads.
- => 34 11 832, Replacing front brake pads (Billed as a separate item)

(-) Checking brake-fluid level, front brakes


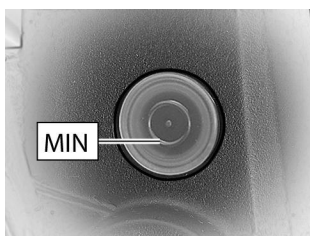
Precondition

- Make sure the motorcycle is upright.



Test

- Hold the handlebars in the straight-ahead position.

 <p>Technical data</p>			
<p>Brake fluid level, front</p> 	<p>Brake-fluid reservoir horizontal</p>	<p>Do not permit the brake fluid level to drop below the MIN mark.</p>	
<p>Fluids and lubricants</p>			
<p>DOT4 brake fluid</p>			

Result: Level not as specified

Measure:

- If the fluid level is below the MIN mark, check for leaks and other possible causes.



Note

Wear of the brake pads causes the brake fluid level in the reservoir to sink.

(-) Checking rear brake disc for wear

Test

- Carefully check the brake disc for cracks, damage, deformation and scoring.
- Measure the thickness of the rear brake disc at several points with a caliper gauge.

 <p>Technical data</p>			



Brake disc thickness, rear	When new	5.0 mm	
	Wear limit	min 4.5 mm	

Result: Brake disc damaged or worn to less than minimum permissible thickness.

Measure:


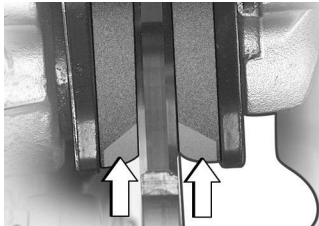
- Replace the rear brake disc.

=> 34 21 772, Removing and installing rear brake disc (Billed as a separate item)

(-) Checking rear brake pads for wear

Test

- Visually inspect the brake pads.
- The angled wear indicators must be clearly visible on the brake pads.
- If necessary, measure the thickness of the brake pads.

 <p>Technical data</p>			
Brake-pad wear limit, rear	Friction pad only, without backing plate. The wear indicators must be clearly visible.	min 1.0 mm	
			

Result: Brake pads worn to below minimum permissible thickness.

Measure:

- Replace the rear brake pads.

=> 34 21 769, Replacing rear brake pads (Billed as a separate item)

(-) Checking brake-fluid level, rear brakes


Precondition


- Make sure the motorcycle is upright.



Test

- Check the brake fluid level in the reservoir.

 <p>Technical data</p>			
Brake fluid level, rear	Brake-	Do not permit the	

	fluid reservoir horizontal	brake fluid level to drop below the MIN mark.
	Fluids and lubricants	
	DOT4 brake fluid	

Result: Level not as specified

Measure:

- If the fluid level is below the MIN mark, check for leaks and other possible causes.



Note

Wear of the brake pads causes the brake fluid level in the reservoir to sink.

(-) Visually inspecting brake pipes, brake hoses and connections

- Visually inspect for:
 - » Leaks
 - » Traces of fluid
 - » Damage
 - » Deformation
 - » Incorrect routing

=> Change brake fluid in entire system (Description in item: 34 00 504, Billed as a separate item) **initially after one year, then every two years**

(-) Checking and lubricating chain drive

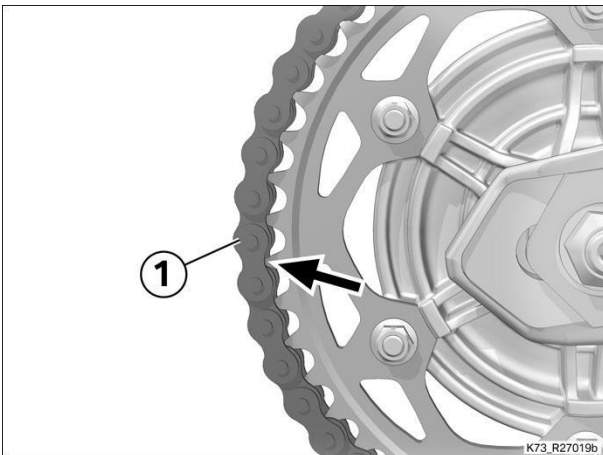
- Remove the worst of the foreign matter from the chain drive.
- ▶ **Checking chain, chain sprocket and chain pinion**



Attention

Accelerated wear.

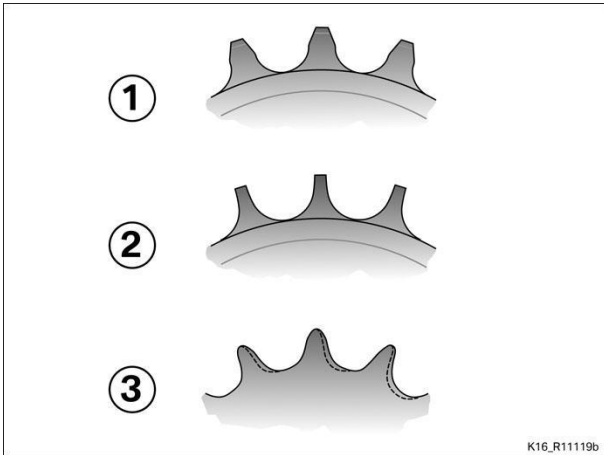
If a component of the chainset is found to be worn, the entire chainset has to be replaced.



- Pull chain (1) back at the rearmost point of the sprocket.
- » The tips of the sprocket teeth (arrow) must remain inside the chain links.

Test

Result: Chain can be pulled back far enough to expose the tips of the



sprocket teeth.

Measure:

=> 27 71 506, Replacing sprocket set (Billed as a separate item)

- Check chain sprocket and chain pinion for distortion.
- » OK (1)
- » replace (2)
- » replace (3)

Test

- Check chain sprocket and chain pinion for distortion.

Result: Fig. 1: No signs of deformation or only slight deformation of the teeth is perceptible.

Measure:

- Chain sprocket and chain pinion are OK.

Result: Figs. 2/ 3: Deformation or severe wear exhibited by the teeth.

Measure:

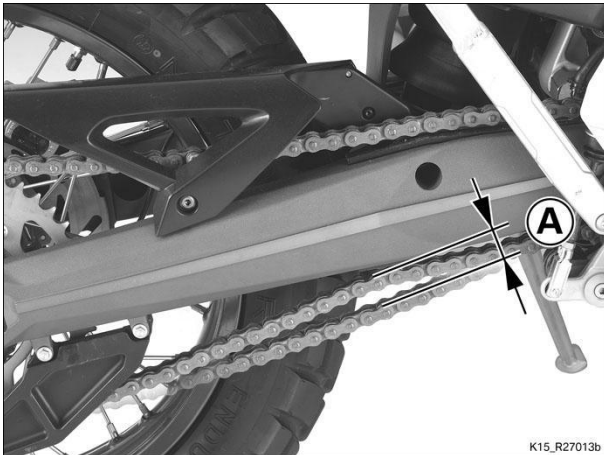
=> 27 71 506, Replacing sprocket set (Billed as a separate item)

◀
▶ **Checking chain tension**

⚠ **Attention**


It is not possible to tension the chain correctly if there is a load on the motorcycle.

Check and adjust chain tension only when there is no load or weight on the motorcycle.



Test

- Chains stretch unevenly, so turn the rear wheel to find the point at which chain deflection midway along the run between chain sprocket and pinion is least.
- At this point, push the chain up as far as it will go and measure chain deflection.

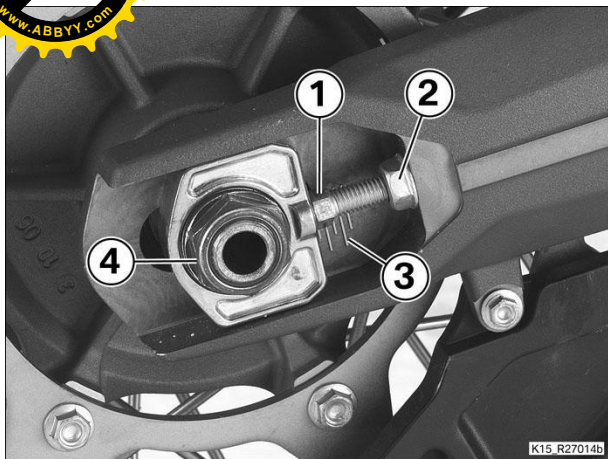
 Technical data			
Chain deflection	Motorcycle supported on its side stand	25...30 mm	
	Rear suspension extended	30...35 mm	

Result: Chain deflection not to specification.

Measure:

▷ **Adjusting chain tension**

- Chains stretch unevenly, so turn the rear wheel to find the point at



which chain deflection midway along the run between chain sprocket and pinion is least.


- Slacken quick-release axle nut (4).
- Slacken locknuts (2) on left and right.

! Attention


Any difference in the settings of the two adjusting screws will throw the rear wheel out of alignment and it will not track correctly.

Make sure that the marks on left and right show that there is no difference between the settings of the two screws.


- Use tensioning screws (1) to adjust chain sag, making sure that the rear wheel is aligned to track correctly (same scale readings (3) on both sides of the rear wheel swinging arm).

 Technical data			
Chain deflection	Motorcycle supported on its side stand	25...30 mm	
	Rear suspension extended	30...35 mm	

- Tighten locknuts (2) on left and right.

 Tightening torques		
Locknut of the final-drive chain tensioning screw		
M8	25 Nm	


- Tighten quick-release axle nut (4).

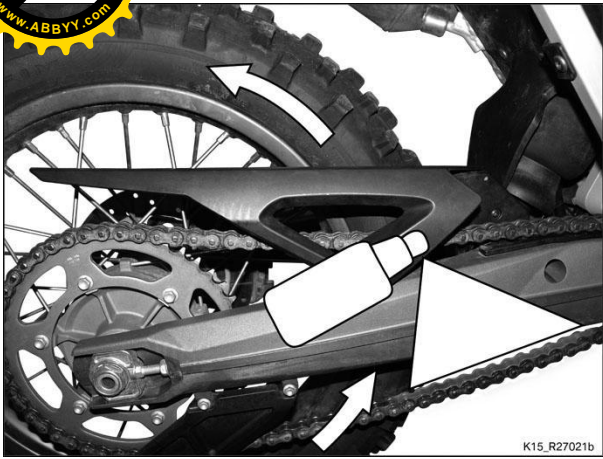
 Tightening torques		
Nut on quick-release axle, rear		
M20 x 1.25	80 Nm	



► Lubricating chain drive

- Lubricate the drive chain.

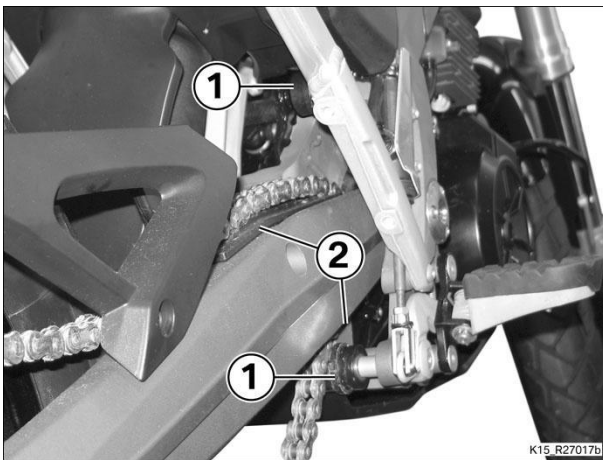
 Fluids and lubricants		
Chain spray	Lubricant	72 60 2 316 676, 72 60 2 316 667



(-) Checking chain take-up rollers and slide rails

Test

- Check chain take-up rollers (1) and slide rails (2) for deep scoring and chipping.



Result: Chain take-up rollers or slide rails are damaged.

Measure:

- Replace damaged chain take-up rollers or slide rails.
=> 27 71 501, Replacing top chain slide rail (Billed as a separate item)
=> 27 71 502, Replacing bottom chain slide rail (Billed as a separate item)
=> 27 71 503, Replacing top chain takeup roller (Billed as a separate item)
=> 27 71 504, Replacing bottom chain takeup roller (Billed as a separate item)

(-) Check the steering-head bearing

- Turn the handlebars back and forth through the full arc of their travel and pull the forks forward and back at the fixed fork tubes.



Test

Result: Steering-head bearing evinces play.

Measure:

=> 31 42 514, Adjusting steering-head bearing (with checking steering-head bearing) (Billed as a separate item)

Test

Result: Handlebars feel stiff or there is a perceptible centring or notching effect at the straight-ahead position.

Measure:

=> 31 42 879, Replacing both steering-head bearings (Billed as a separate item)

(-) Checking ease of movement of side stand

Test

- Extend and retract the side stand to check the freedom of its movement.

Result: Side stand is stiff.

Measure:


=> 46 53 505, Removing and installing, cleaning and lubricating side stand (Billed as a separate item)

(-) Checking tyre pressures and tread depth

▶ **Checking tyre pressures**

Test

- Check tyre pressures against the data below.

 Technical data			
Tyre pressure, front	one-up, tyre cold	1.8 bar	
	two-up and/or with luggage, tyre cold	1.9 bar	
Tyre pressure, rear	one-up, tyre cold	2 bar	
	two-up and/or with luggage, tyre cold	2.2 bar	

Result: If tyre pressure is too low:

Measure:

- Correct tyre pressure.



▶ **Checking tyre tread depth**

Test




Warning

Impaired handling and risk of dropping the motorcycle.

Worn tyres can impair handling to a considerable extent.

- Check the tyre tread depth.

 Technical data			
Tyre tread depth, front and rear	Wear limit, for Germany only	min 1.6 mm	
	Wear limit, outside Germany	Country-specific legal requirements	

Result: Tyre tread depth not to specification.

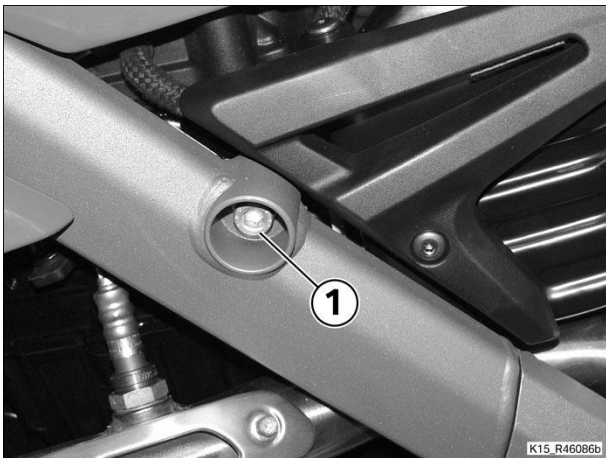
Measure:


- => 36 30 628, Removing and installing front wheel (Billed as a separate item)
- => 36 32 501, Renewing front tyre (wheel removed) (Billed as a separate item)
- => 36 30 629, Removing and installing rear wheel (Billed as a separate item)
- => 36 32 511, Removing rear tyre (wheel removed) (Billed as a separate item)



(-) Checking specified torque of threaded fasteners with torque wrench: cylinder head to frame


- Check that screws (1) on left and right are tightened to the specified torque.

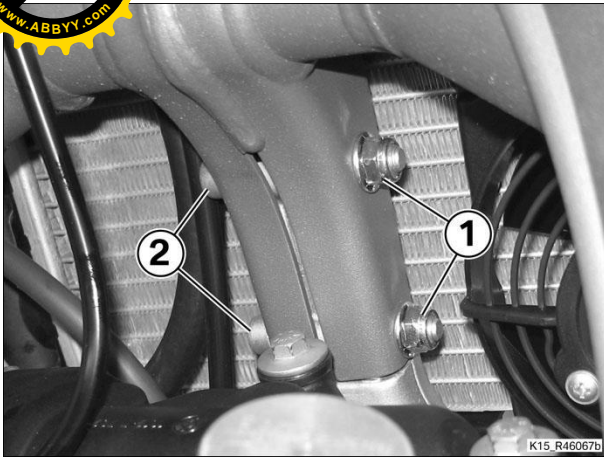


 Tightening torques		
Cylinder head to frame, left		
M10 x 40 - 10.9, Lubricate screw Optimoly TA	74 Nm	
Cylinder head to frame, right		
M10 x 55-10.9, Lubricate screw Optimoly TA	74 Nm	

(-) Checking specified torque of threaded fasteners with torque wrench: bottom truss to frame


- Check that nuts (1) and screws (2) are tightened to the specified torque.

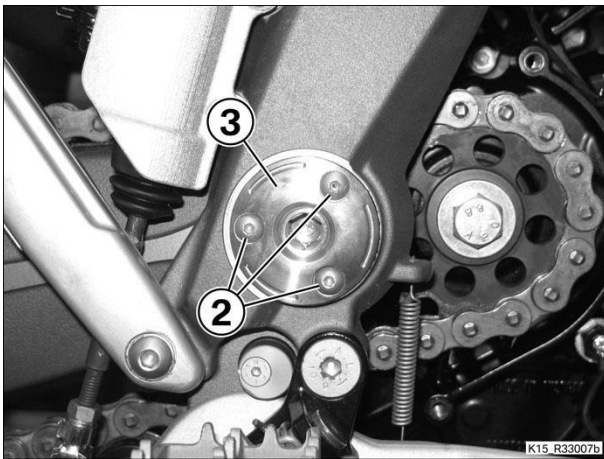
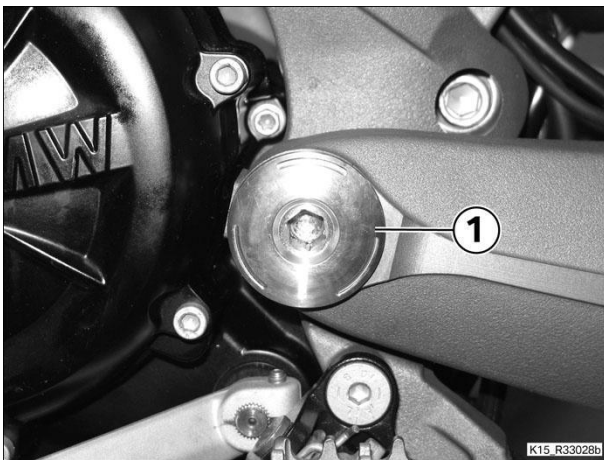
 Tightening torques		
Frame bottom truss to frame		
M8	25 Nm	




(-) Checking specified torque of threaded fasteners with torque wrench: swinging-arm bearing stud, left/right

- Check that swinging arm bearing stud on left (1) is tightened to the specified torque.

 Tightening torques		
Swinging-arm stud, left		
M20 x 1.5	80 Nm	



- Check that screws (2) of swinging arm bearing stud on right (3) are tightened to the specified torque.

 Tightening torques		
Swinging-arm pivot bearing stud to frame stub, right		
M5 Loctite 243	5 Nm	

(-) Checking lights and signalling equipment

- Check the following functions:
 - » Side light, front, and rear light,
 - » Instrument lighting,
 - » Low-beam and high-beam headlights, headlight flasher,
 - » Brake light (operate front and rear brakes),
 - » Turn signals left/right,
 - » Horn,
 - » Telltale and warning lights.

(-) Function test, engine start suppression


Precondition

- Kill switch not pressed.
- Side stand retracted.



Test

- Select neutral.
- Switch on the ignition.
- » Neutral telltale light "N" lights up.
- Select a gear.
- » Neutral indicator light "N" goes out.
- Press the starter button.
- » Starter does **not** operate.
- Extend the side stand.
- Pull the clutch lever.
- Press the starter button.
- » Starter turns, but engine **does not** fire.
- Retract the side stand.
- Press the starter button without releasing the clutch lever.
- » Starter turns and engine fires.

 Technical data			
Test criterion, engine start interruption		Results of all test steps satisfied	

Result: Test criterion not satisfied.

Measure:

- Function-test engine start suppression and function-test emergency and safety shutdown of the engine with the **BMW Motorrad** diagnostic system.

=> 61 31 913, Replacing switch for side stand (Billed as a separate item)

(-) Final inspection and check of roadworthiness

- A pre-ride check is performed after you switch on the ignition. The operability of all warning lights and warning symbols are checked. If one of the indicator or warning lights fails, connect the motorcycle to the **BMW Motorrad** diagnostic system and follow the instructions issued by the system.



Note

The Pre-Ride Check aborts as soon as the engine is started.

- The instrument cluster shows 2 phases in succession:
- Phase 1:
 - All the segments of the multifunction display are switched on briefly, along with the following telltale and warning lights: turn indicator telltale lights, left and right, telltale light for neutral, telltale light for high-beam headlight, warning light for fuel low, warning light for oil pressure, warning light for coolant temperature and warning light for ABS.
- Phase 2:
 - The tyre parameters stored in the memory of the instrument cluster appear on the display.
- Perform the **BMW Motorrad** Integral **ABS** pull-away test at min. 5

km/h.



Note

The ABS warning light must be OFF after successful self-diagnosis and the pull-away test.

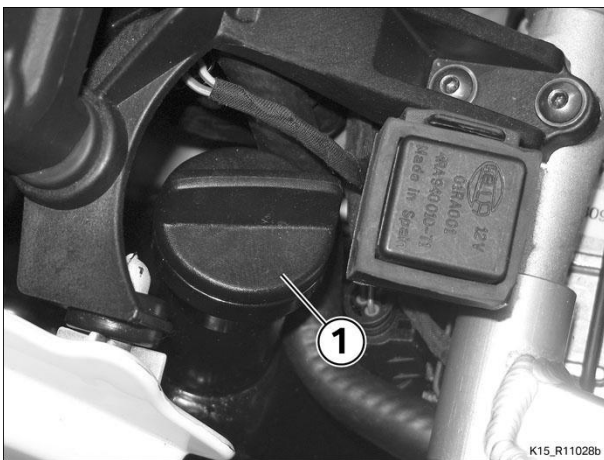
- Check operation of all instruments.
- Check engine operation at all engine speeds.
- Check operation of the running gear.
- Check operation of the brake system.
- Check operation of kill switch.

► **Checking engine oil level**

- Allow the engine to idle until the fan starts up, then allow it to idle one minute longer.
- Switch off the engine.
- Wipe the area around the oil filler neck clean.
- Remove oil dipstick (1) and wipe it with a clean, dry cloth.

Test

- Install the oil dipstick.
- Remove the oil dipstick and check the oil level.



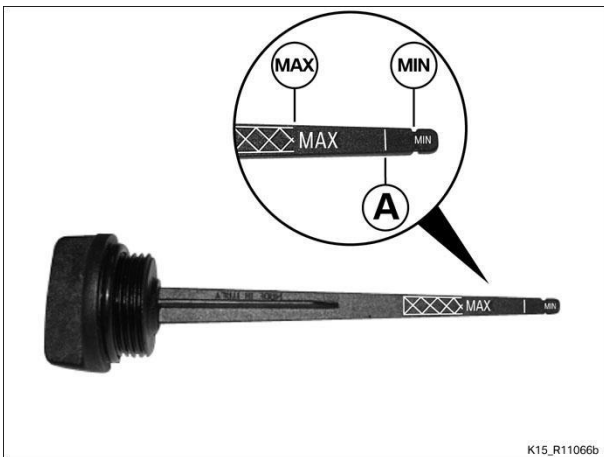
<p>Technical data</p>			
Engine oil, specified level		Between MIN and MAX marks	

Result: If the oil level is below the MIN mark:

Measure:

▷ **Topping up engine oil**

- Top up the engine oil until the level reaches mark (A).



<p>Technical data</p>			
Engine oil, quantity for topping up	Difference between MIN and MAX	0.25 l	
Fluids and lubricants			
of products recommended by BMW Motorrad and generally admissible viscosity classes			

- To check the oil level, screw the oil dipstick into the bore and then remove it.
- Install the oil dipstick.



Result: If the oil level is above the MAX mark:

Measure:

- Correct the oil level.



(-) Reading fault memory with BMW Motorrad diagnostic system

➔ *Read out fault-code memory with BMW diagnostic system*
(Description in item: 12 00 015)

- Read all fault memories.



Note

When working with the **BMW Motorrad** diagnostic system, always follow the instructions it issues.

- Perform all requisite repair work.

(-) Checking battery charge state

- Set the **BMW Motorrad** battery charger to the correct charging characteristic.

Workshop equipment

[BMW Motorrad battery charger \(version for Europe without GB\)](#)

[BMW Motorrad battery charger \(GB/AUS/NZL version\)](#)

[BMW Motorrad battery charger \(Japan version\)](#)

[BMW Motorrad battery charger \(USA/CAN version\)](#)

- Disconnect electric consumers from the on-board socket, if connected.

Test

- Connect **BMW Motorrad** battery charger to the on-board socket **first** with the charging cable.

» The battery charge state is displayed.

Result: Battery is not fully charged.

Measure:

- Charge the battery with the **BMW Motorrad** battery charger, taking care to comply with the instructions for use.

(+) Confirming BMW Service in on-board documentation