Designation	Condition	Value	Valid
Engine, oil capacity	with filter change	max 4 l	1
g,p,	Consumables/lubric		
	Engine oil, 20W-50		
Engine, oil level		Maximum = top ring mark on	
Lingine, on level		sight glass	
	Consumables/lubricants		
	Engine oil, 20W-50		
		Minimum = bottom ring mark on sight glass	
11 34 - Valves with springs			
Inlet valve, valve clearance	Engine cold max 35 °C	0.15 mm	
Exhaust valve, valve clearance	Engine cold max 35 °C	0.3 mm	
12 12 - Ignition wiring, spark բ	olugs		
Secondary spark plug, manufacturer and designation		BOSCH YR5LDE	
Spark plug, manufacturer and designation		Bosch YR5LDE	
13 - Fuel preparation			
Pressure differential between intakes	with throttle valves closed, engine idling	max 25 mbar	
Pressure differential between intakes	with throttle valves slightly open 14001800 min ⁻¹	max 15 mbar	
21 - Clutch			
Fluid level in clutch fluid reservoir	motorcycle upright and handlebars in straight-ahead position	not below the MIN mark on the reservoir	
Clutch fluid level in reservoir	with new clutch liner, motorcycle upright and handlebars centred	Bottom edge of groove for reservoir cap catch	
	Consumables/lubricants		

	Vitamol V10		
23 - Gearbox mechanical			
Oil capacity, gearbox	to bottom edge of thread of filler plug	0.91	
	Consumables/lubricants		
	Brand name hypoid-gear lubricant SAE 90 API GL 5		
31 - Front forks	•		
Level of fork oil in fork leg (air chamber)		70 ⁺¹⁰ mm	
Fork oil, capacity per fork leg		0.67	
	Consumables/lubri	cants	
	Hydraulic fluid		
32 73 - Bowden cables	•		
Bowden cable of throttle twistgrip, play setting		max 0.5 mm	
Throttle cables, throttle cable divider / throttle-valve stubs, setting		0.51 mm	
33 12 - Crown wheel with pini	on and bearing		
Final drive, tooth backlash		0.060.18 mm	
34 - Brakes	•		
Minimum level in brake-fluid reservoir, front	motorcycle upright and handlebars in straight-ahead position	not below MIN mark on the brake fluid reservoir, with worn brake pads	
Minimum level in brake-fluid reservoir, rear	motorcycle upright	not below MIN mark on the brake fluid reservoir, with worn brake pads	
34 11 - Front brakes			
Brake pads, front wheel, thickness Value definition: Wear limit	Friction pad only, without backing plate	min 1 mm	

Brake disc, front wheel,		min 4 mm	
thickness Value definition:			
Wear limit			
34 21 - Rear brakes			
Brake pads, rear wheel, thickness		1 mm	
Value definition:			
Wear limit			
Brake disc, rear wheel, thickness		min 4.5 mm	
Value definition:			
Wear limit			
34 31 - Brake master cylinder			
Rear brake master cylinder, play of piston pushrod	Measured between brake-light switch tongue and stop of adjusting screw	2 ⁺¹ mm	
36 30 - Motorcycle wheels			
Front wheel, imbalance		max 5 g	
Value definition: permissible residual imbalance			
Rear wheel, imbalance		max 5 g	
Value definition:		max 5 g	
permissible residual imbalance			
36 32 - Tyres			
Front wheel, tyre pressure	tyre cold	2.2 bar	
Rear wheel, tyre pressure	tyre cold	2.5 bar	
Front and rear wheels, tyre tread depth	German only (in all other countries, comply with specifics of the applicable roadsafety legislation)	min 1.6 mm	
11 11 - Engine block			
Engine guard to engine			
Engine guard to engine, rear left and right, M8		19 Nm	
Engine guard to engine, front le	ft, M8 x 16	19 Nm	
Engine guard to engine, front right, M6		8 Nm	
Oil drain plug			
Oil drain plug, M16 x 1.5		32 Nm	
11 12 - Cylinder head with cover			

Cylinder head cover to cylinder head, tighten in	10 Nm		
diagonally opposite sequence	10 14111		
Tightening cylinder head			
Nuts of tie bolts, M10, in diagonally opposite sequence, slacken and then retighten each nut	Closing torque, 20 Nm		
	Final torque, 180°		
Screw, M10 x 85, Slacken and retighten screw	40 Nm		
11 14 - Housing cover			
Belt cover to engine			
Belt cover to engine, M5 x 16	5 Nm		
11 33 - Rocker/follower with bearing			
Locknut, valve adjusting screw			
Locknut, valve adjusting screw, M6x0.5	8 Nm		
11 42 - Oil filter and lines			
Oil filter			
Oil filter, Sealing ring wetted with engine oil	11 Nm		
12 12 - Ignition wiring, spark plugs			
Secondary spark plug to cylinder head			
Secondary spark plug to cylinder head, M12x1.25, Thread free of oil and grease	Initial torque and retorquing, 23 Nm		
Primary spark plug to cylinder head			
Primary spark plug to cylinder head, M12x1.25, Thread free of oil and grease	Initial torque and retorquing, 23 Nm		
12 13 - Ignition coil			
Cover, secondary spark plug coil to cylinder head	j		
Cover, secondary spark plug coil to cylinder head, M6 x 12	8 Nm		
16 11 - Fuel tank with fasteners			
Fuel tank to frame			
Fuel tank to frame, M6 x 35 Mechanical thread lock	8 Nm		
18 12 - Silencer			
Rear silencer to rear frame section			

Rear silencer to rear frame section, M8 x 45	19 Nm		
Oil drain plug, gearbox	30 Nm		
Oil filler plug, gearbox	30 Nm		
23 41 - External gearshift components			
Gearshift lever to rear frame			
Gearshift lever to rear frame, M8 x 70	19 Nm		
31 42 - Telescopic fork, ball-joint fork			
Pinch bolt, axle holder			
Pinch bolt, axle holder, M6 x 30, 1 - 2 - 1 - 2	8 Nm		
Handlebar clamping block to fork bridge			
Handlebar clamping block to fork bridge, M10 x 100, Grease threads. Optimoly TA	38 Nm		
Handlebar to handlebar clamping block			
Handlebar to handlebar clamping block, M8 x 30, Grease threads. Optimoly TA	19 Nm		
Fork bridge, bottom, to fork fixed tube			
Fork bridge, bottom, to fork fixed tube, M8 x 25, 1 - 2 - 1 - 2	10 Nm		
Fork bridge, top, to fork fixed tube			
Fork bridge, top, to fork fixed tube, M8 x 25, 1 - 2 - 1 - 2	24 Nm		
Telescopic fork to frame			
Adjusting screw, steering tube, M18 x 1	Initial torque, 19 Nm		
	Swing the handlebars to left full lock to right full lock and back to left full lock.		
	Back off adjusting screw		
	Retighten, 5 Nm		
Pinch bolt, steering tube, M8 x 25	24 Nm		
Adjusting screw, steering tube, M18 x 1	Counter-hold, 19 Nm		
Locknut to cover	30 Nm		
Cover to fixed fork tube	28 Nm		
33 11 - Final-drive housing with cover			

Oil filler plug in rear wheel drive			
Oil filler plug in rear wheel drive, M12x1, with O-ring 11.2x1.8	20 Nm		
Cover to final drive housing			
Cover to final drive housing, M8, in diagonally opposite sequence	30 Nm		
33 17 - Final-drive attachment			
Link to final drive housing			
Link to final drive housing, M10 x 55 10.9 Mechanical thread lock	43 Nm		
Reaction link to frame			
Reaction link to frame, M10 x 50 - 10.9	38 Nm		
Swinging arm to main frame, right			
Swinging arm to main frame, right, M6	9 Nm		
Swinging arm to main frame, left, bearing stud			
Swinging arm to main frame, left, bearing stud, M24 x 1.25	7 Nm		
Swinging arm to main frame, left, locknut			
Swinging arm to main frame, left, locknut, M24 x 1.25	145 Nm		
Rear wheel drive to swinging arm			
Rear wheel drive to swinging arm, M12 x 1.5 x 80 - 10.9, Replace screw Micro-encapsulated	100 Nm		
33 53 - Springs with mounts			
Spring strut to rear frame			
Spring strut to rear frame, M12	66 Nm		
Spring strut to rear swinging arm			
Spring strut to rear swinging arm, M12	66 Nm		
34 11 - Front brakes			
Brake caliper, front, bleed screw	5 Nm		
Brake caliper to slider tube			
Brake caliper to slider tube, M8 x 35 10.9 ZNS3	30 Nm		
Brake disc to front wheel			

Brake disc to front wheel, M8 10.9 ZNS3, Replace	Initial torque, 12 Nm		
screw Micro-encapsulated	Final torque, 24 Nm		
34 21 - Rear brakes			
Brake disc to wheel carrier			
Brake disc to wheel carrier, M8 x 15.5, Replace screw	Initial torque, 12 Nm		
Micro-encapsulated	Final torque, 30 Nm		
Brake caliper, rear, to cover of final drive housing			
Brake caliper, rear, to cover of final drive housing, M8 x 25	24 Nm		
Brake caliper, rear, bleed screw	5 Nm		
34 31 - Brake master cylinder			
Rear brake, master cylinder, locknut on pushrod			
Rear brake, master cylinder, locknut on pushrod, M6 Sealing lacquer	8 Nm		
34 32 - Brake lines			
Brake pipes and hoses to components			
Brake pipes and hoses to components, M10 x 1	24 Nm		
Brake pipes and hoses to components, M12 x 1	24 Nm		
34 52 - Electronic components			
Speed sensor to final drive housing cover			
Speed sensor to final drive housing cover, M6, Replace screw	8 Nm		
Micro-encapsulated			
35 21 - Footbrake lever with connecting linkage			
Footbrake lever to rear frame section			
Footbrake lever to rear frame section, M8 x 40, Replace self-locking screw	19 Nm		
36 31 - Wheels with bearings			
Front wheel, axle screw in axle holder			
Grease threads., M22 x 1.5 - Elox H Optimoly TA	50 Nm		
Rear wheel to wheel carrier			
Rear wheel to wheel carrier, M10 x 53 x 1.25	60 Nm		

Initial torque, spokes			
Initial torque, spokes, M4	1 Nm		
Nipple on spoke			
Nipple on spoke, M4	4 Nm		
Counter-hold spokes			
Counter-hold spokes, M4	1 Nm		
46 51 - Motorcycle frame			
Frame front section to engine front / rear			
Replace nut, M12 Micro-encapsulated	66 Nm		
Frame front section to rear frame section			
Frame front section to rear frame section, M8 x 20	19 Nm		
Rear frame to engine, top			
Rear frame to engine, top, M10 x 40	38 Nm		
Rear frame to engine, bottom			
Rear frame to engine, bottom, M12 x 50	55 Nm		
46 53 - Side stand			
Pivot mount, side stand to rear frame section			
Pivot mount, side stand to rear frame section, M8 x 16	19 Nm		
Front footrest to rear frame section, stop screw			
Front footrest to rear frame section, stop screw, M8	19 Nm		
Side stand to pivot mount			
Side stand to pivot mount, M10 x 1 Loctite 603	41 Nm		
46 54 - Luggage carrier			
Rear carrier to rear frame section			
Rear carrier to rear frame section, M6 x 25	8 Nm		
46 61 - Front mudguard			
Mudguard carrier to fork bridge, bottom			
Mudguard carrier to fork bridge, bottom, M6 x 16 A2-70 special steel, bright, Grease threads. Optimoly TA	10 Nm		

Mudguard carrier to fork bridge, top			
Mudguard carrier to fork bridge, top, M6 x 16 A2-70 special steel, bright, Grease threads. Optimoly TA	10 Nm		
46 63 - Motorcycle trim panels			
Side panel to tank cover			
Side panel to tank cover, M5 x 16 Mechanical thread lock	2 Nm		
Side panel, right, and intake guard to holder			
Side panel, right, and intake guard to holder, M5 x 20 Mechanical thread lock	4 Nm		
Side panel to frame, rear			
Side panel to frame, rear, M5 x 16 Mechanical thread lock	2 Nm		
61 31 - Switches and relays			
Brake-light switch, rear			
Brake-light switch, rear, M5 x 6	5 Nm		