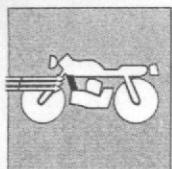


Section

N



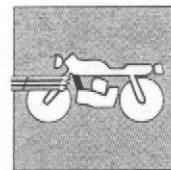


ENGINE COOLING SYSTEM



Check of the coolant level	N.5
Cooling system	N.6
Engine cooling system overhaul	N.8



**Check of the coolant level.**

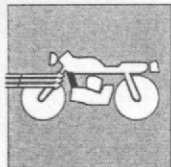
The coolant absorbs the heat of the thermic assembly (piston, cylinder, head) and delivers it to the external air by means of the radiator. For a good operation of the cooling system, it is very important to check periodically (every 900 mi.) the level of the liquid.



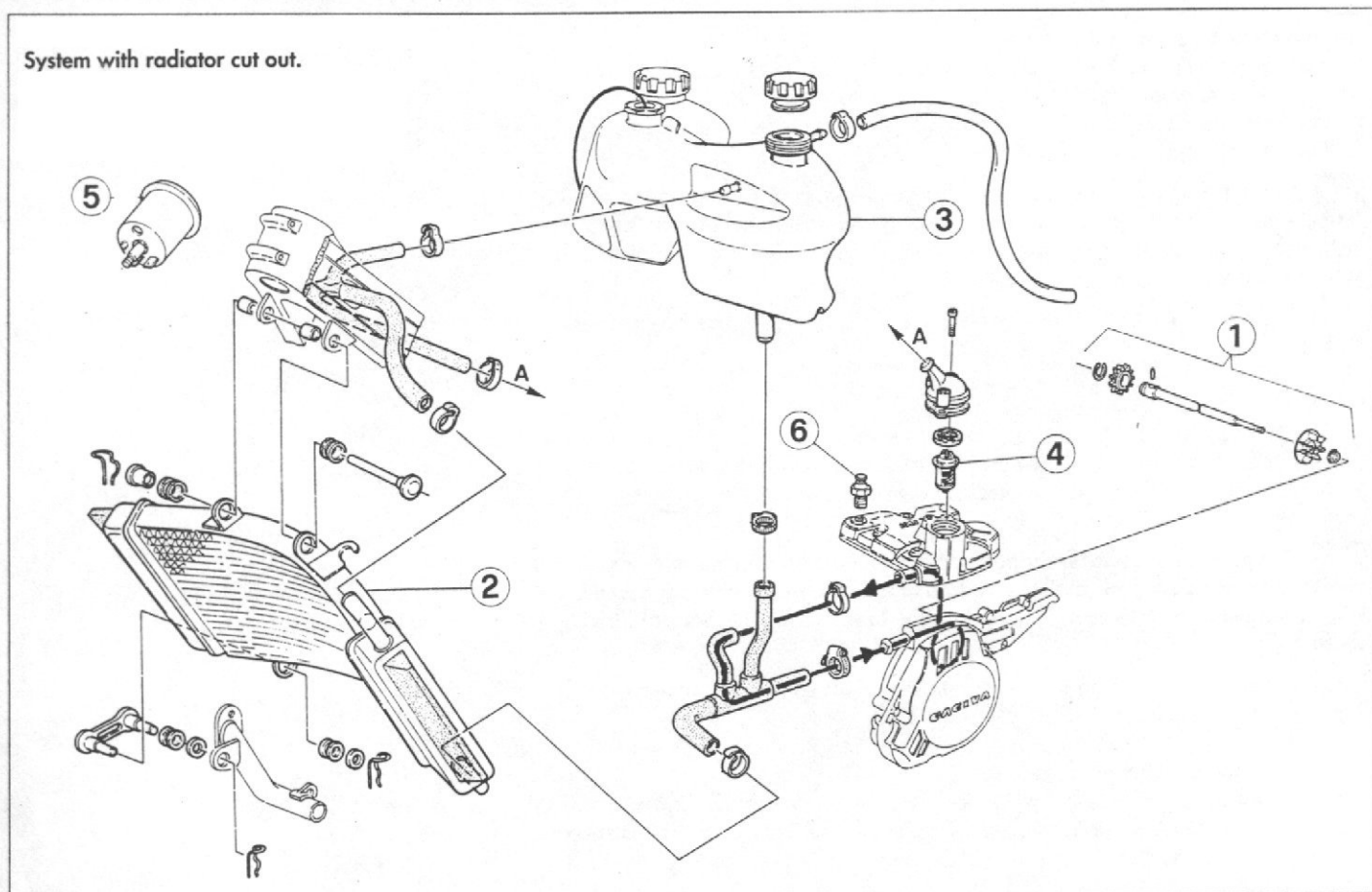
The absence of a heat exchange element (water) between thermic mass and radiant mass could cause an overheating in the piston-cylinder assembly with consequent seizures and, worse, damage to the crank mechanism (driving shaft).

However if engine overheating is noticed, indicated by the special thermometer, check that radiator is completely filled up.





System with radiator cut out.



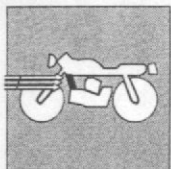
Cooling system.

The cooling system is of forced-circulation type with a centrifugal pump (1) located on the L.H. side of the engine and a big-size vertical flow radiator (2).

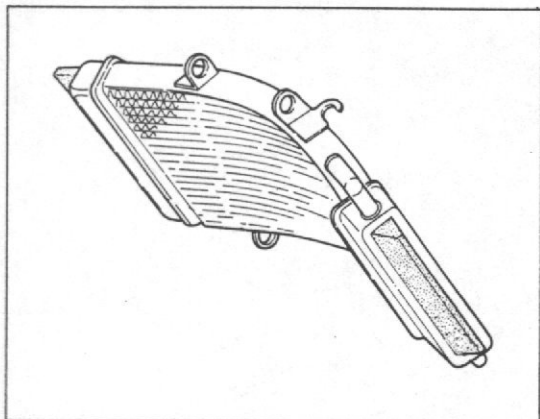
An expansion tank (3) compensates the thermal expansions of the coolant and the internal cavities of the head and cylinder, keeping the system completely full in all conditions.

The temperature of the coolant is adjusted by a suitable thermostat (4) and is indicated by a thermometer (5) actuated by a thermistor (6) located on the cylinder head.

The thermostat opens when the the coolant temperature attains approx. 149°F, therefore till that time the cooling system cuts out the radiator. After attaining approx. 149°F, the thermostat opens and the coolant passes into the radiator.



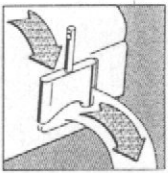
ENGINE COOLING SYSTEM



Engine cooling system overhaul.

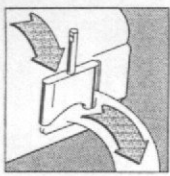
Verifying too high temperatures of the coolant, check the radiant mass. Whether on fins obstructions to the air stream as leaves, bugs, mud etc. are noticed, remove these obstructions, taking care not to damage the radiator. If distortions are noticed, it is advisable to straighten them, restoring the air passage. The radiant mass has not to be clogged or damaged for more than the 20% of its surface. If the damaged surface is over this limit, it shall be advisable to replace the radiator. Periodically check the connecting sleeve. This will avoid water leakages and consequent engine seizures. If pipes show cracks, swellings or hardenings due to sleeve desiccation, their replacement shall be required.

C.T.S. EXHAUST VALVE



Section





C.T.S. EXHAUST VALVE

C.T.S. exhaust valve.

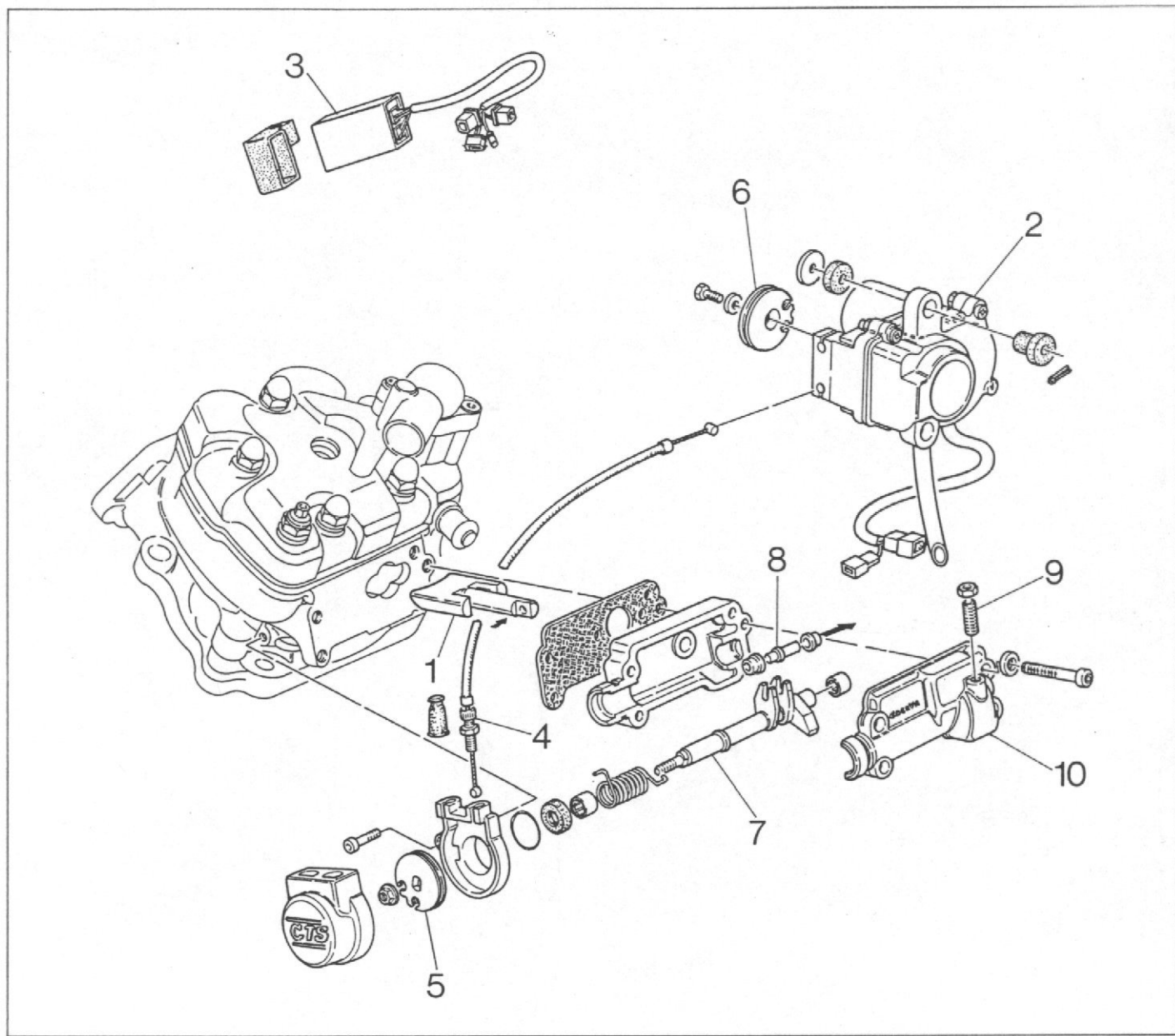
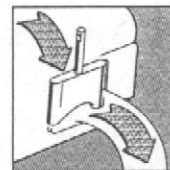
The cylinder is provided with a C.T.S. valve (1) (Cagiva Torque System) which allows, by varying the exhaust diagram according to parameters stored by an electronic device and sent to the valve through an actuator, a good operation at each r.p.m.

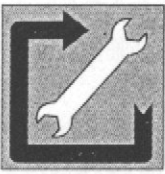
This valve, whose opening occurs at 7250 r.p.m., is controlled by an actuator (2) operated by an electronic device (3); both components are mounted on the frame L.H. side.

The connection between actuator and valve is performed through flexible cables provided with registers for clearance adjustment. These cables move two pulleys constrained to the valve control shaft (5) and to the actuator (6) respectively.

The shaft (7) controls the valve by means of a pin (8). The limit stop position can be adjusted by acting on the grain (9) placed on the cylinder cover (10).



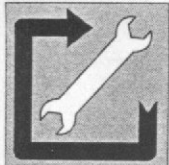




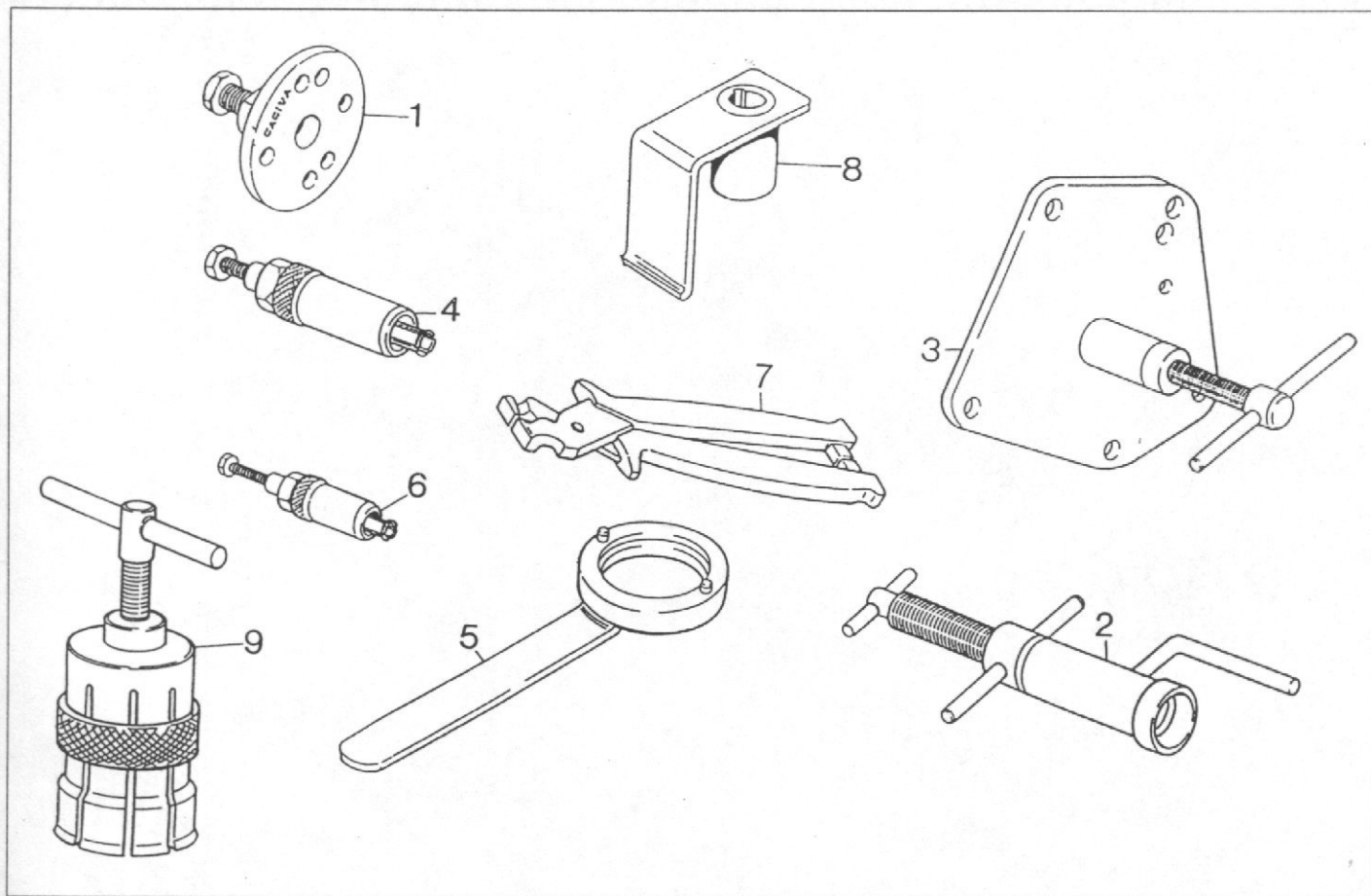
Section

W



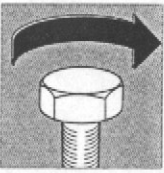


SPECIFIC TOOLS



POS. N.	N. CODICE CODE NO.	DESCRIPTION
1	800051614	Rotor puller
2	800033047	Installing tool crankshaft right
3	800033048	Crankcase splitting tool
4	800043823	Needle bearing puller main shaft and seal ring water pump
5	800046614	Rotor holding tool
6	800033054	Needle bearing puller oil pump shaft
7	800049767	Plier installing clamp
8	800048803	Ignition control tool
9	80Y002271	Crankshaft bearing extractor

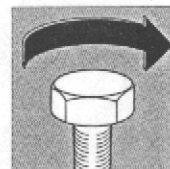
TORQUE WRENCH SETTINGS



Section

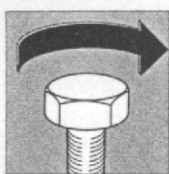
X





ENGINE

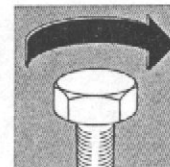
USE	THREADING	N.m.	Kgm	LB/FT
Cylinder nut	M8x1.25	19.6+21.6	2+2.2	14.4+15.8
Cylinder head nut	M8x1.25	19.6+21.6	2+2.2	14.4+15.8
Inlet valve screw	M6x1	6.8+7.8	0.7+0.8	5+5.8
Check nut for countershaft sprocket	M14x1.25	49+58.8	5+6	35.9+43
Primary drive pinion nut	M14x1.25	49+58.8	5+6	35.9+43
Pinion screw	M8x1.25	18.6+20.6	1.9+2.1	13.7+15.1
Pulley nut	M5x0.8	6.8+7.8	0.7+0.8	5.1+5.8
Crankcase screw	M6x1	7.8+8.8	0.8+0.9	5.8+6.5
Bearing plate screw	M6x1	7.8+8.8	0.8+0.9	5.8+6.5
Clamp screw for R.H. cover	M6x1	6.8+7.8	0.7+0.8	5+5.8
Oil pump screw	M5x0.8	2.45+3.43	0.25+0.35	1.8+2.5
Coil screw	M6x1	8.8+10.7	0.9+1.1	6.5+8
Stator plate clamp screw	M5x0.8	2.6+3.1	0.27+0.32	1.9+2.3
Rotor nut	M12x1.25	75.5+81.4	7.7+8.3	55.7+60
Spark plug (CHAMPION N2C)	M14x1.25	20+30	2+3	15+22
Starter clamp screw	M6x1	6.8+7.8	0.7+0.8	5+5.8
Starter spacer clamp screw	M6x1	6.8+7.8	0.7+0.8	5+5.8
Clamp screw for clutch spring disc	M5x0.8	5.4+5.9	0.55+0.6	3.9+4.3
Clamp nut for clutch hub	M14x1	27.4+31.4	2.8+3.2	20+23
NOTE - If not otherwise specified, standard tightening torques for the following thread:	M5x0.8	4.9+6.86	0.5+0.7	3.6+5.04
	M6x1	8.82+9.81	0.9+1	6.48+7.2
	M8x1.25	21.56+23.52	2.2+2.4	15.86+17.30



FRAME

USE	THREADING	N.m.	Kgm	LB/FT
Motor front fastening screw	M8x1,25	24,5+27,44	2,5+2,8	14,4+20,16
Screw fastening the cross member to the frame	M8x1,25	24,5+27,44	2,5+2,8	14,4+20,16
Seat frame fastening screw	M8x1,25	24,5+27,44	2,5+2,8	14,4+20,16
Rear foot-rest support fastening screw	M8x1,25	24,5+27,44	2,5+2,8	14,4+20,16
Helmet lock plate fastening screw	M6x1	11,76+12,74	1,2+1,3	8,64+9,36
Helmet lock fastening screw	M6x1	4,9+6,86	0,5+0,7	3,6+5,04
Screw fastening the small frames to the main frame	M6x1	11,76+12,74	1,2+1,3	8,64+9,36
Clutch U-bolt fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Screw fastening the oil pipe to the pump	M10x1,25	17,64+19,6	1,8+2	12,96+14,4
Gearbox pedal fastening pin	M8x1,25	21,56+23,52	2,2+2,4	15,84+17,28
Gearbox lever fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Brake pump fastening screw	M6x1	9,8+11,76	1+1,2	7,2+8,64
Brake tank clamp screw	M6x1	2,94+4,9	0,3+0,5	2,16+3,6
Tank cover fastening screw	M3x0,5	2,94+3,92	0,3+0,4	2,16+2,88
Front oil tank screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Oil tank plate fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Pin screw	M20x1	58,8+63,7	6+6,5	43,2+46,8
Fork pin check nut	M14x1,5	63,7+68,6	6,5+7	46,8+50,4
Screw fastening the rocker arm to the fork	M10x1,25	35,28+39,2	3,6+4	25,9+28,8
Screw fastening the connecting rod to the frame	M10x1,25	35,28+39,2	3,6+4	25,9+28,8
Screw fastenign the connecting rod to the rocker arm	M10x1,25	35,28+39,2	3,6+4	25,9+28,8
Shock-absorber screw	M10x1,25	35,28+39,2	3,6+4	25,9+28,8
Shock-absorber screw	M10x1,25	35,28+39,2	3,6+4	25,9+28,8
Chain pad fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Front fender screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Rear mudguard front fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Rear mudguard rear fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Plate holder fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Carter fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Screw fastening the valance panel to the fairing	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Screw fastening the valance panel to the frame	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Under fairing fastening screw	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Screw fastening the valance panel to the under-fairing	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Tail front fastening screw	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Driving mirror fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Flange-plate fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Earth cables fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Fuses block screw	M5x0,8	0,98+1,47	0,10+0,15	0,72+1,08
Cover fastening nut		3,92+5,88	0,4+0,6	2,88+4,32
Head-light fastening nut (motorcycles with fairing)	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Rear head-light fastening screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Remote control switch cables fastening nut	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Blinker fastening screw	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Blinker fastening screw	M6x1	3,92+5,88	0,4+0,6	2,88+4,32
Hook fastening screw	M5x0,8	5,88+7,84	0,6+0,8	4,32+5,76
Plate screw	M6x1	5,88+7,84	0,6+0,8	4,32+5,76
Brake disc screw	8x1,25	17,64+19,6	1,8+2	12,96+14,4
Front wheel axle	20x1,5	49+53,9	5+5,5	36+39,6
Caliper fastening pin	10x1,25	29,4+34,3	3+3,5	21,6+25,2
Caliper fastening screw on driving side	10x1,25	44,1+49	4,5+5	32,4+36

TORQUE WRENCH SETTINGS

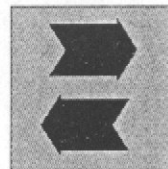


USE	THREADING	N.m.	Kgm	LB/FT
Brake disc screw	6x1	9,8÷11,76	1÷1,2	7,2÷8,64
Sprocket screw	M8x1,25	26,46÷29,4	2,7÷3	19,44÷21,6
Rear wheel pin flanged nut	M20x1,5	70,56÷78,4	7,2÷8	51,84÷57,6
Screw fastening the caliper to the plate	M8x1,25	22,54÷24,5	2,3÷2,5	16,56÷18
Silencer fastening screw	M6x1	5,88÷7,84	0,6÷0,8	4,32÷5,76
Screw fastening the support to the frame	M6x1	5,88÷7,84	0,6÷0,8	4,32÷5,76
Exhaust clamp screw	M6x1	5,88÷7,84	0,6÷0,8	4,32÷5,76
Screw fastening the silencer to the frame	M6x1	5,88÷7,84	0,6÷0,8	4,32÷5,76
Instruments fastening nut	M5x0,8	3,92÷5,88	0,4÷0,6	2,88÷4,32
Instruments dashboard fastening screw	M5x0,8	1,96÷3,92	0,2÷0,4	1,44÷2,88
Seat front fastening screw	M6x1	1,96÷3,92	0,2÷0,4	1,44÷2,88
Flanged self-locking nut	M6x1	1,96÷3,92	0,2÷0,4	1,44÷2,88

 Lock all nuts and screws at the correct locking torque, using a dynamometric wrench.

A screw or nut, when incorrectly locked, can be damaged or loosen completely, with subsequent damage to the bike and injuries to the rider. A screw or nut locked over the prescribed wrench torque setting can be damaged, have the thread broken or cut down, therefore loosening completely. Above table states the list of torque wrench settings for main screws and nuts, in connection with the thread diameter, pitch and specific use.

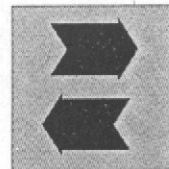
All these figures have to be applied to threads cleaned with solvent.



Section

Z





BRAKES	Specification A.7 Components check L.6 Components overhauling L.12 Braking system drain L.18
CLUTCH	Specification A.7 Components disassembly F.11 Components overhauling G.19 Components re-assembly H.14
COOLING SYSTEM	Specification A.5 Removal E.11 - F.9 Overhauling N.8 Components re-assembly H.13
C.T.S. EXHAUST VALVE	Specification A.7 Components disassembly F.19 Components overhauling G.34 Components re-assembly H.17 - H.18
ELECTRICAL SYSTEM	Specification A.8 Wiring diagram M.5 Components M.9
ENGINE	Specification A.7 Removal E.12 Disassembly F.4 Overhauling G.4 Re-assembly H.4
FUEL SYSTEM	Specification A.7 Fuel tank removal E.8 - E.9 Carburetor removal E.14 Blade valve overhauling G.33 Carburetor overhauling G.24
GEARBOX	Specification A.7 Components disassembly F.15 Components overhauling G.22 Components re-assembly H.7
IGNITION	Specification A.7 Components disassembly F.7 Wiring diagram M.8 Spark advance check M.18
LUBRICATION	Specification A.7 Components disassembly E.13 Components overhauling G.18 Components re-assembly H.23
SUSPENSIONS AND WHEELS	Specification A.7 - I.5 - I.6 - I.15 - I.16 Rear fork overhauling I.24 Front fork overhauling I.12

