

Engine knock down, installation

Knock down the parts according the following (1)(2)(3)steps
Installation please make the orders conversed.

(6) accelerator and clutch wires

(10) clip hoop

Fixture bolt

(3) 2nd air supplement pipe(left & right)

(2)spark plug cable (left & right)

(4) thermostat in

Fixture bolt

(5) ex hose of radiator

(1)exhaust mufflers

carburat

(11) connection plug of right cover

(8)left side cover

(9)untie the chain

(7) shifter

Installation Engine front side: washer2, screw cap2
Rear side: washer2, screw cap2

Fixing torque: 20~30N · m

Cylinder head, cylinder, piston, valve system

Maintain manual

checklist

Check item	request		List	
	DD244	DD247	DD244	DD247
Cylinder inner diameter	44~44.01mm		44.10mm	
Piston outer diameter				
Piston pin outer diameter	12.95-13.00			
Piston pin hole outer diameter				
Gap of piston ring side				
Gap of piston ring				
Thickness of piston ring 1				
Thickness of piston ring 2				
Free distance of inner valve spring				
Free distance of outer valve spring				
Outer diameter of valve in				
Outer diameter of valve ex				

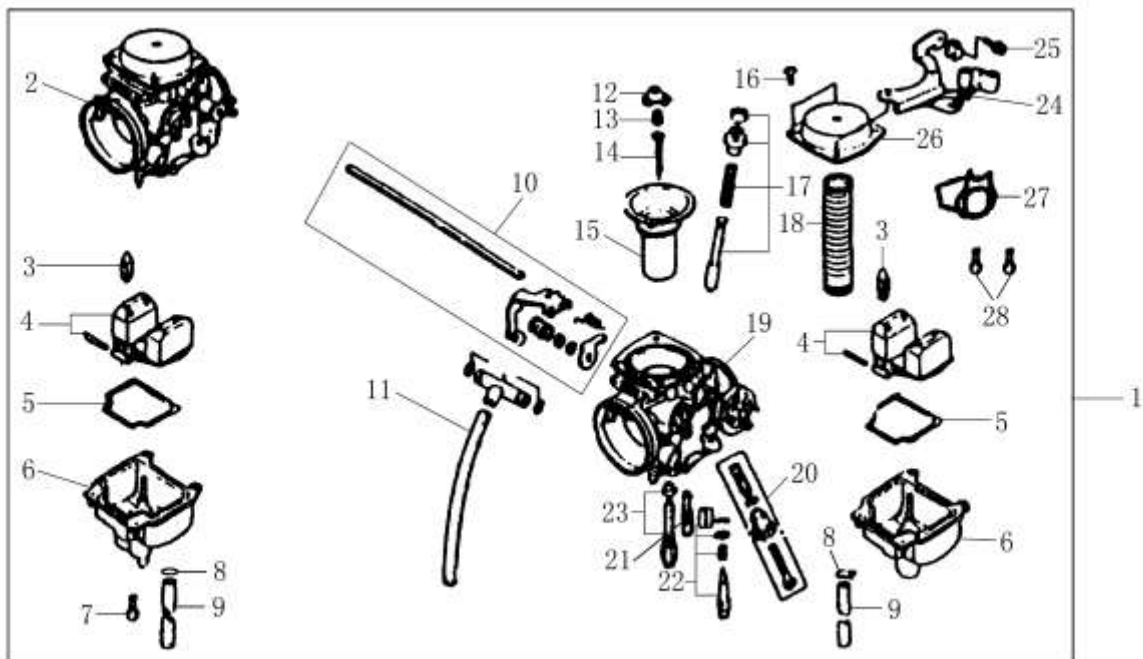
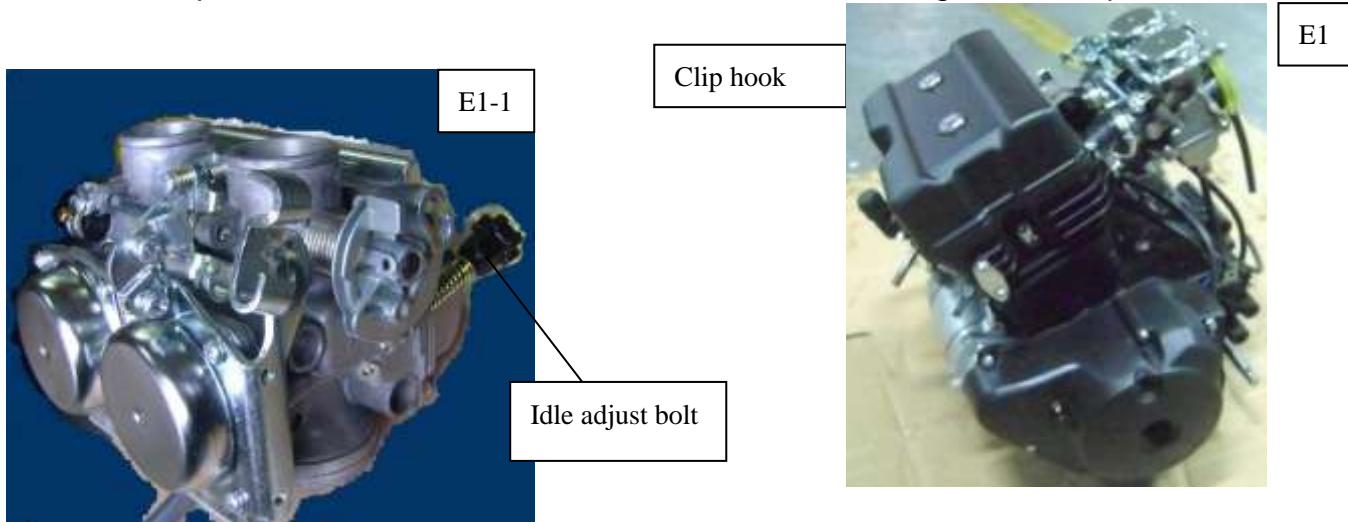
Torque

torque on both bolt heads on cylinder head : 18~22N·m

Engine knock down, installation

1. carburetor

Loosen the clip bolt on carburetor, the carburetor can be taken off. When installation on carburetor, please make the intake towards the manifold, then tighten the clip bolt.

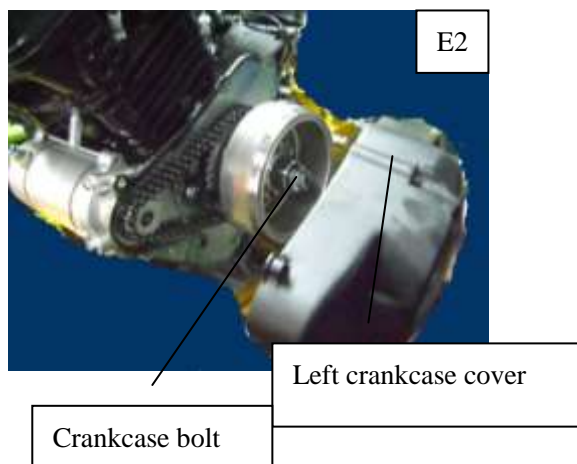


1.Carburetor, assy. 2. Left carburetor comp. 3. Float pin. 4. Float set. 5. Gasket, float chamber. 6. Chamber set, float. 7. Screw M4×14. 8. Clip, tube. 9. Over petrol tube. 10. Starter control rod comp. 11. Connecting petrol pipe comp. 12. Limited plate. 13. Spring. 14. Pin, petrol. 15. Vacuum piston valve. 16. Screw M4×8. 17. Starter thicken valve set. 18. Reset spring. 19. Right carburetor comp. 20. Screw set. 21. Jet, slow. 22. Jet, main. 23.screw set. 24. Fragment. 25. Screw M4×10. 26. Vacuum piston valve cover. 27. Decorative cover, carburetor. 28. Bolt M4×6

Engine knock down, installation

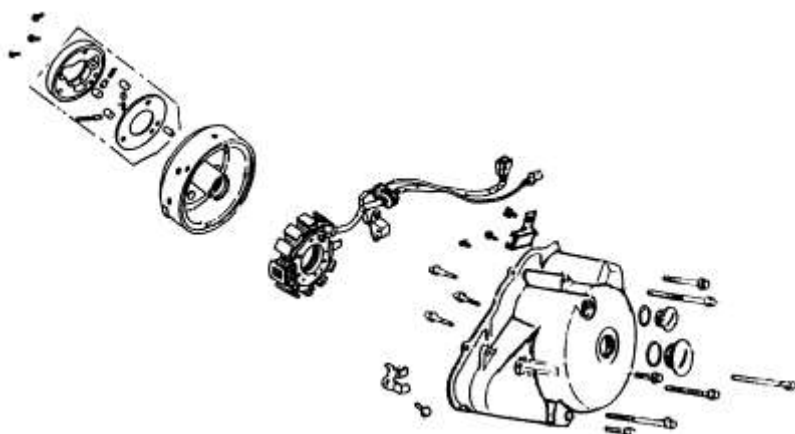
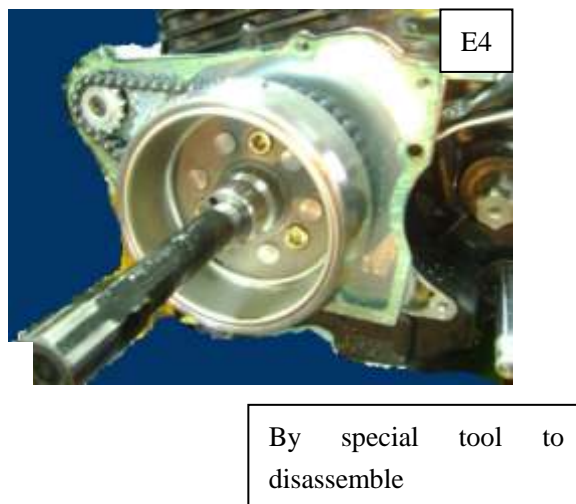
2. Magneto knock down and installation

remove the left crankcase cover, take off the crank bolt, remove the flywheel(do not knock the flywheel while removing, when install the flywheel, follow the slot and the crankcase end). Please refer to drawing E2.



Note:

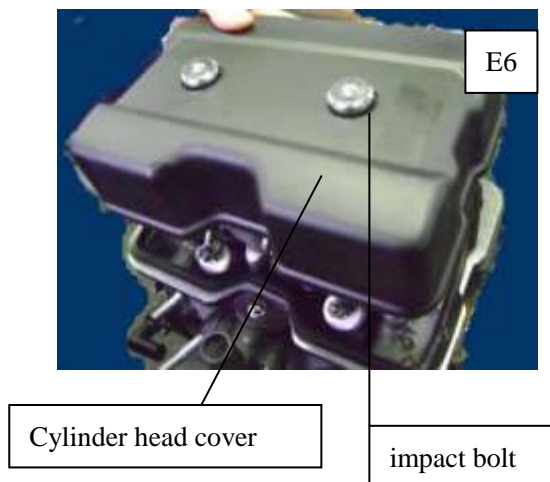
- Check if any dust inside
- do not knock by sinker
- Install torque for crankcase bolt is 60~65N·m



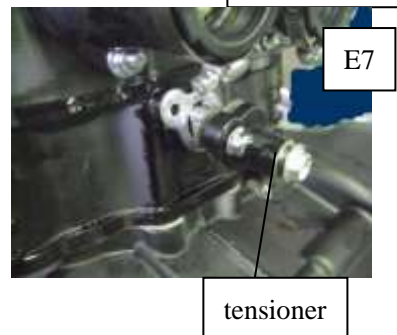
Engine knock down, installation

3、Rocker base

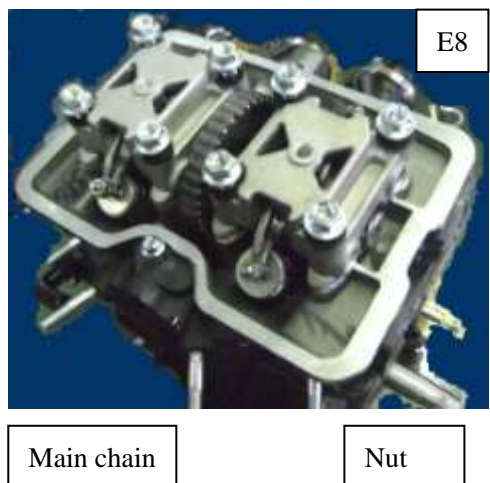
Take off the two impact bolt on cylinder head cover, remove The cylinder head cover.



Remove the tensioner bolt, take down the tension

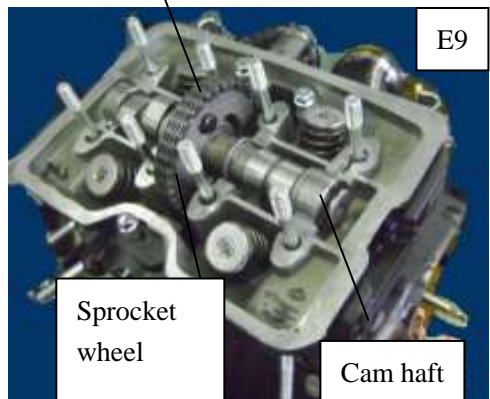


Remove the 8 nuts, take off the rocker base
Torque of the 7 nut is 18~22N·m
Gap between valve : (cold) in valve 0.05~0.07mm;
exhaust valve 0.06~0.08mm



4、Camshaft installation and disassemble

remove the main chain and sprocket wheel,
take out the camshaft



Engine knock down, installation

Note:

When install the sprocket wheel and camshaft; piston is located at the end of compression stroke , please refer to drawing E10 at right side, the reticle at positive time of sprocket wheel is flat aligned with the cam platform of cylinder head.

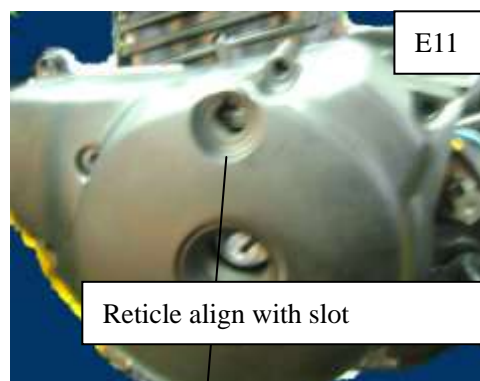
please refer to drawing E11, the reticle of flywheel should be alignment with the threaded slot of the left cylinder cover.

the pin of the shaft sleeve of camshaft should be set into the pin slot,



Shaft sleeve

Flat align



Reticle align with slot

5、Cylinder head remove and installation

Remove the cylinder head by taking out the camshaft,
Disassemble the bolt on cylinder body and cylinder head
When installation, do not forget to put the washer ,
Oriented pin and O ring



bolts



Cylinder head

Oriented plank

Cylinder body

Upper washer of cylinder body

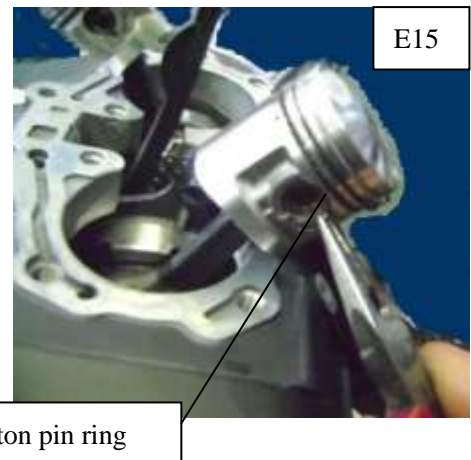
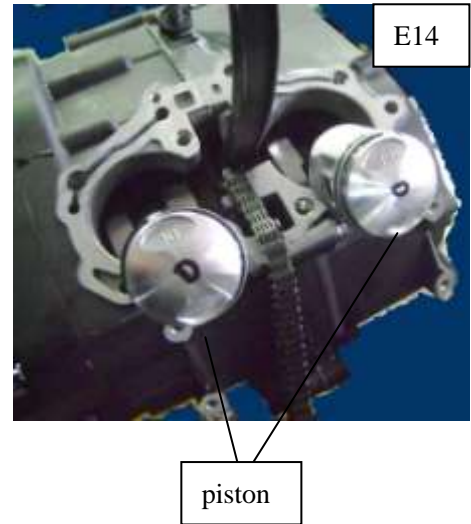
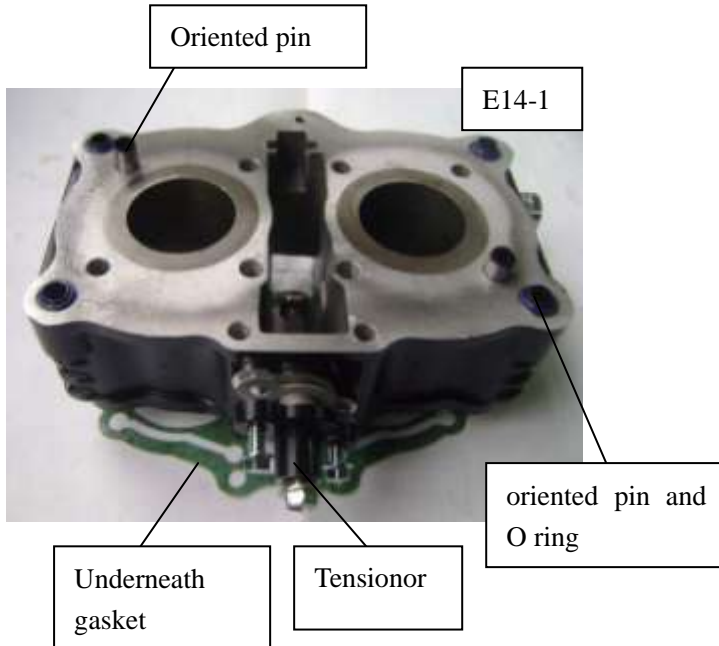


E13

Engine knock down and installation

6、cylinder body

Cylinder head can be removed by removing the cylinder head, take the oriented plank out.



Remove the piston pin ring (E15) by pincer, push out the piston pin, Remove the piston out.

When installation, please block the intake by clean cloth To avoid the ring falling down into the cylinder body.

The "IN" mark means intake

7、

Clutch

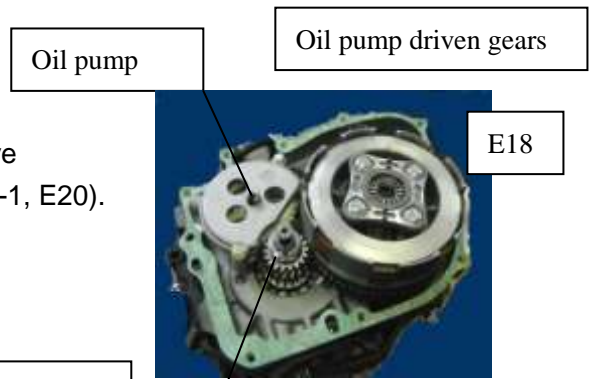
First please exclude the oil in the crankcase, remove the right crankcase cover

When installation the right crankcase cover, pay attention To the same direction of the water pump spindle and the Oil pump spindle and do not fall down the ex-oil pipe (E16, E17, E18.)



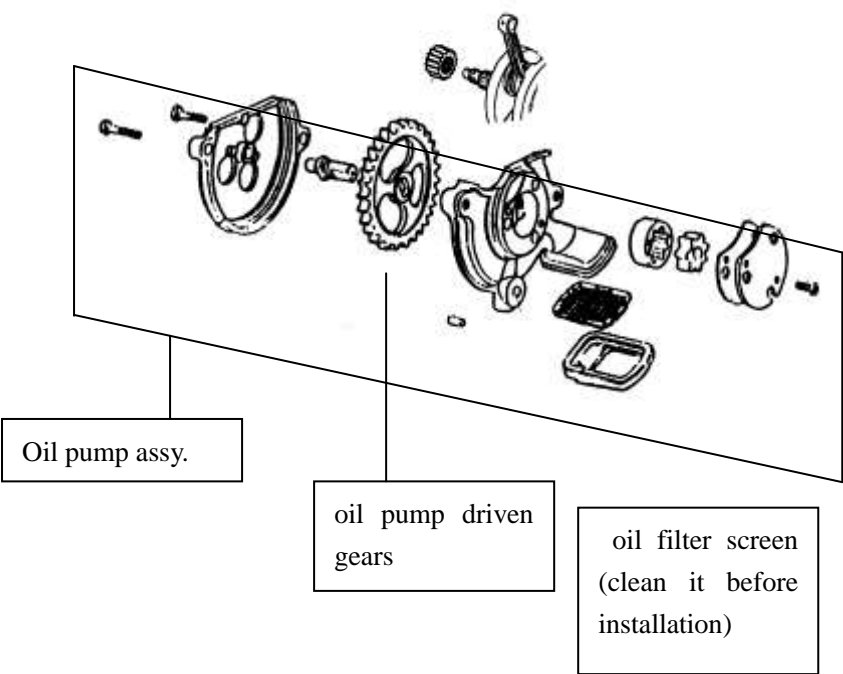
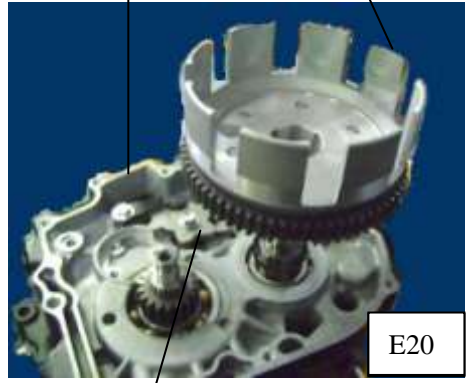
Engine installation and disassemble

Remove the hexagon nut, primary transmission gears, remove the clutch pusher tray, remove the clutch by special tool (E19-1, E20). Before installation, check the scar and color of clutch friction. Replace it when necessary. Please make sure that the smaller round nut end outwards by using the torque 50-56N.m



8. oil pump

Remove the oil pump(E18), pay attention to the O ring, please clean the Filter screen before installing the oil pump, and also the O ring



9、 shift gears installation and disassemble

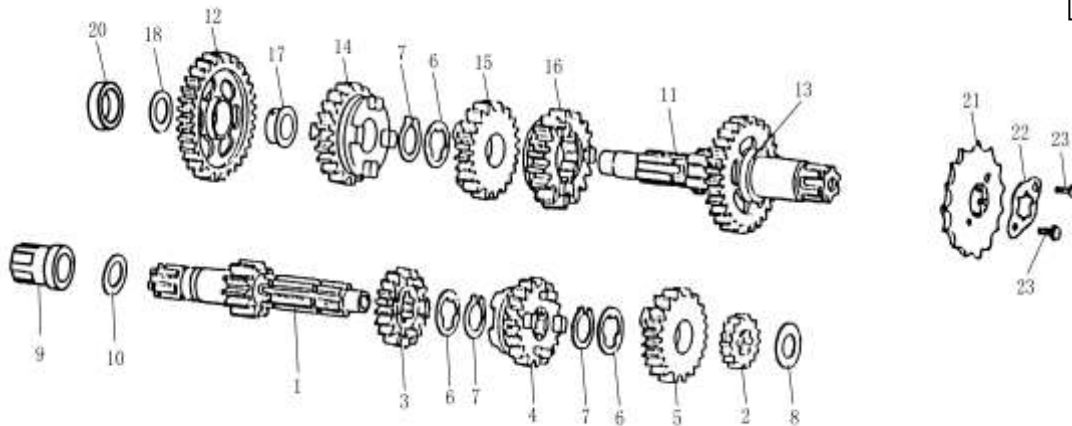
Remove the gear supporting roller, gear cam in turn, take out Gear shank, loose the mounting bolt, remove the right crankcase

(drawing E21 , E22)

Note: turning spring of gear supporting roller should be in right place ; the gear cam pin should be aimed at when installing the gear cam.



Right crankcase



- 1. Mainshaft comp 2. Gear, mainshaft second 3. Gear, mainshaft third 4. Gear, mainshaft fourth 5. Gear, mainshaft fifth 6. Washer ,spline 7. Set ring 8. Washer 9. Shaft bush spline 10. Washer thrust 11. Countershaft comp 12. Gear, countershaft first 13. Gear, countershaft second 14. Gear, countershaft third 15. Gear, countershaft fourth 16. Gear, countershaft fifth 17. Bush 18. Washer 19. Collar (A) 20. Collar (B) 21. Sprocket, counter shaft 22. Plate, fixing 23. Bolt M6x10/ZnD

Mainshaft comp

Gear fork、 gear fork shaft

10、 crankshaft installation and remove

remove mainshaft set, side shaft set, gear fork, gear fork shaft and cam shift kettle, loose the crankshaft mounting bolt, then the crankshaft could be taken off. Please clean the mainshaft and sideshaft before installation. Pay attention not forget to put the washer



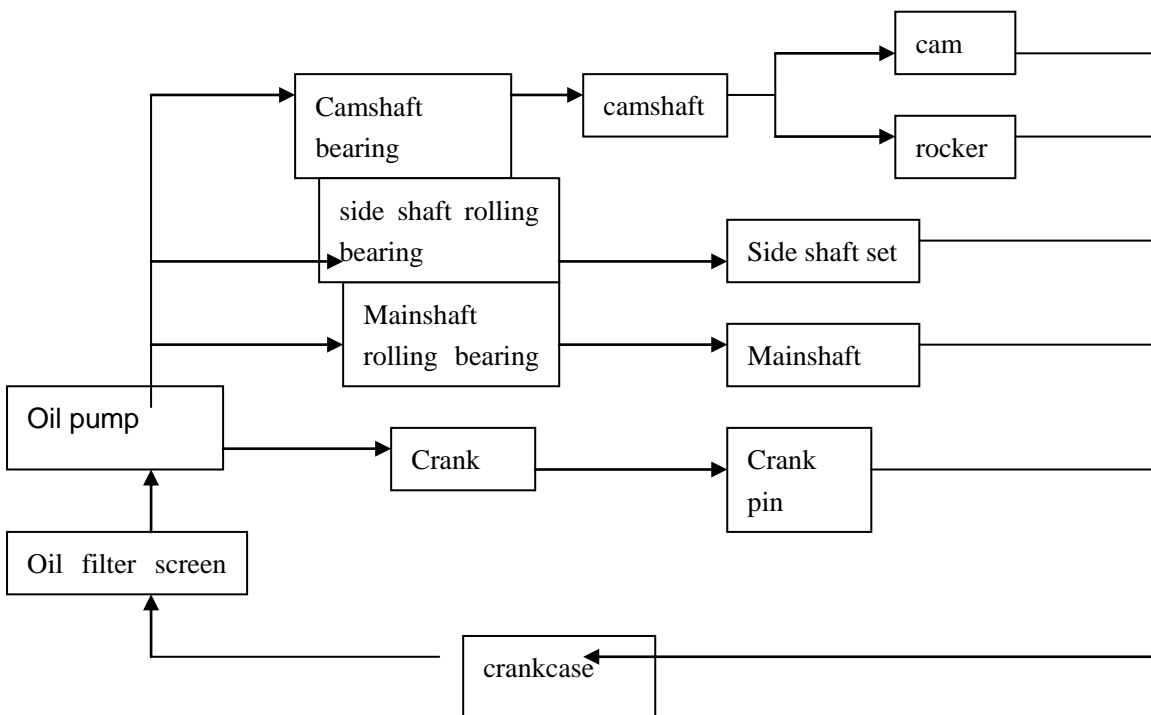
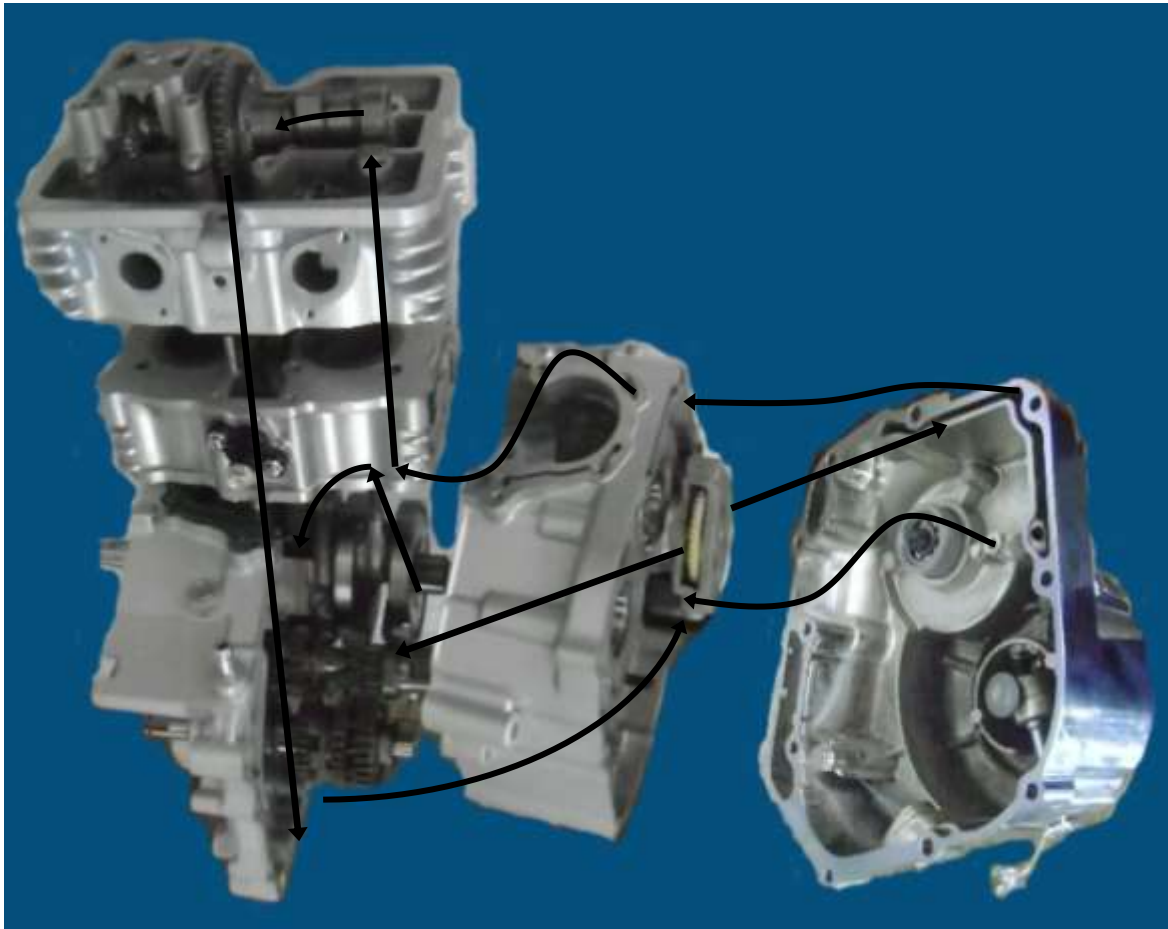
Side shaft set

cam shift kettle

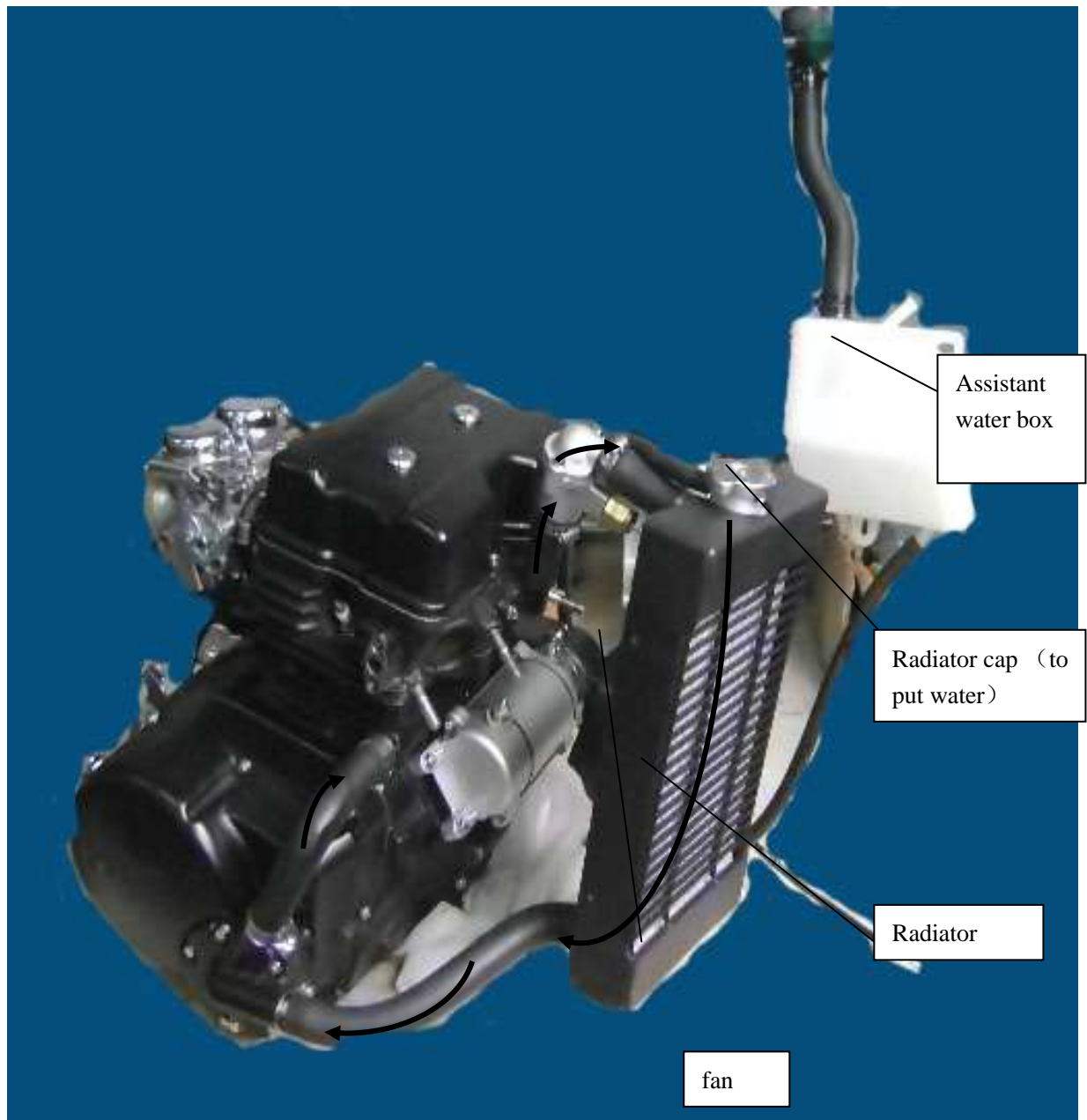


Crank shaft

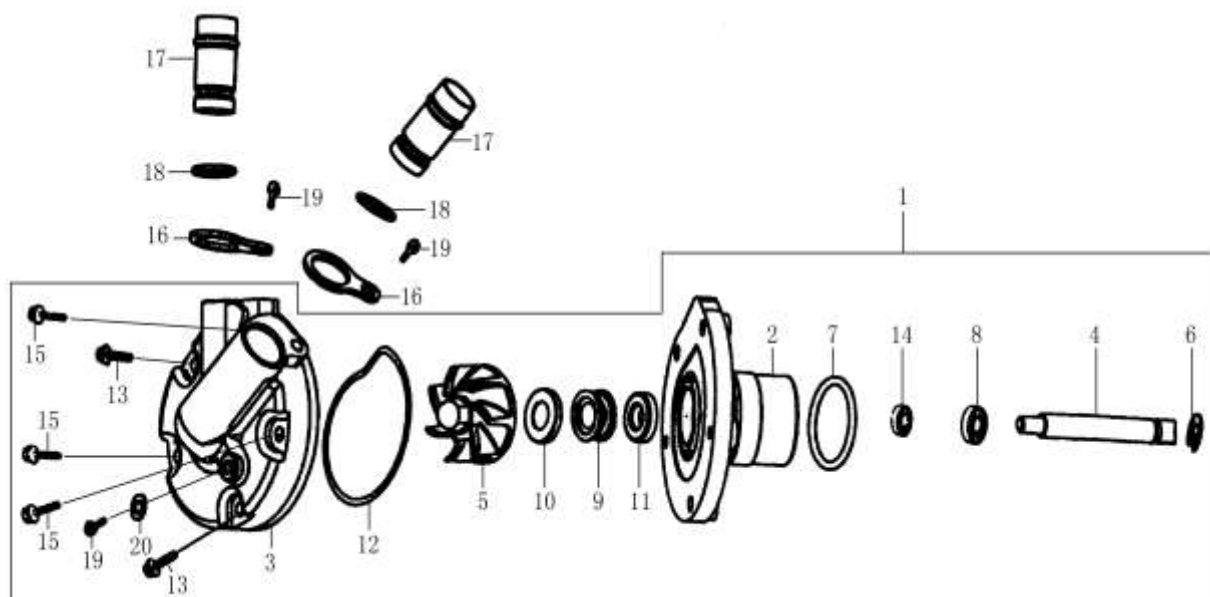
11、 Engine lubrication system chart



12、 engine cooling system chart



water pump breakdown chart:



- 1 Water pump comp 2. Water pump hull 3. Water pump cover 4. Water pump shaft 5. Fan
6. Retaining ring 8 7. O-ring ϕ 36x2 8. Bearing 6200 9. Water seal A 10. Water seal B 11.
Oil seal 21x10x5 12. O-ring of pump cover 13. Bolt M6x30 14. Bearing 6000 15. Bolt
M6x40 16. Hose connector setting plate 17. Hose connector 18. O-ring ϕ 17x1.8 19. Bolt
M6x12 20. Washer 6