4. Put the water-sealed moving ring rubber into the inner hole of the water pump blade; put the water-sealed moving ring into the inner ring of the water-sealed moving ring rubber (the crossed side faces inward, and the smooth side faces outward), and apply an appropriate amount of silicone oil on the smooth surface of the moving ring;
Screw the water pump impeller assembly into the water pump shaft (apply thread glue), lock it with a 12# sleeve, and correct the torque with a torque wrench , torque: 20±1.5 N.m.

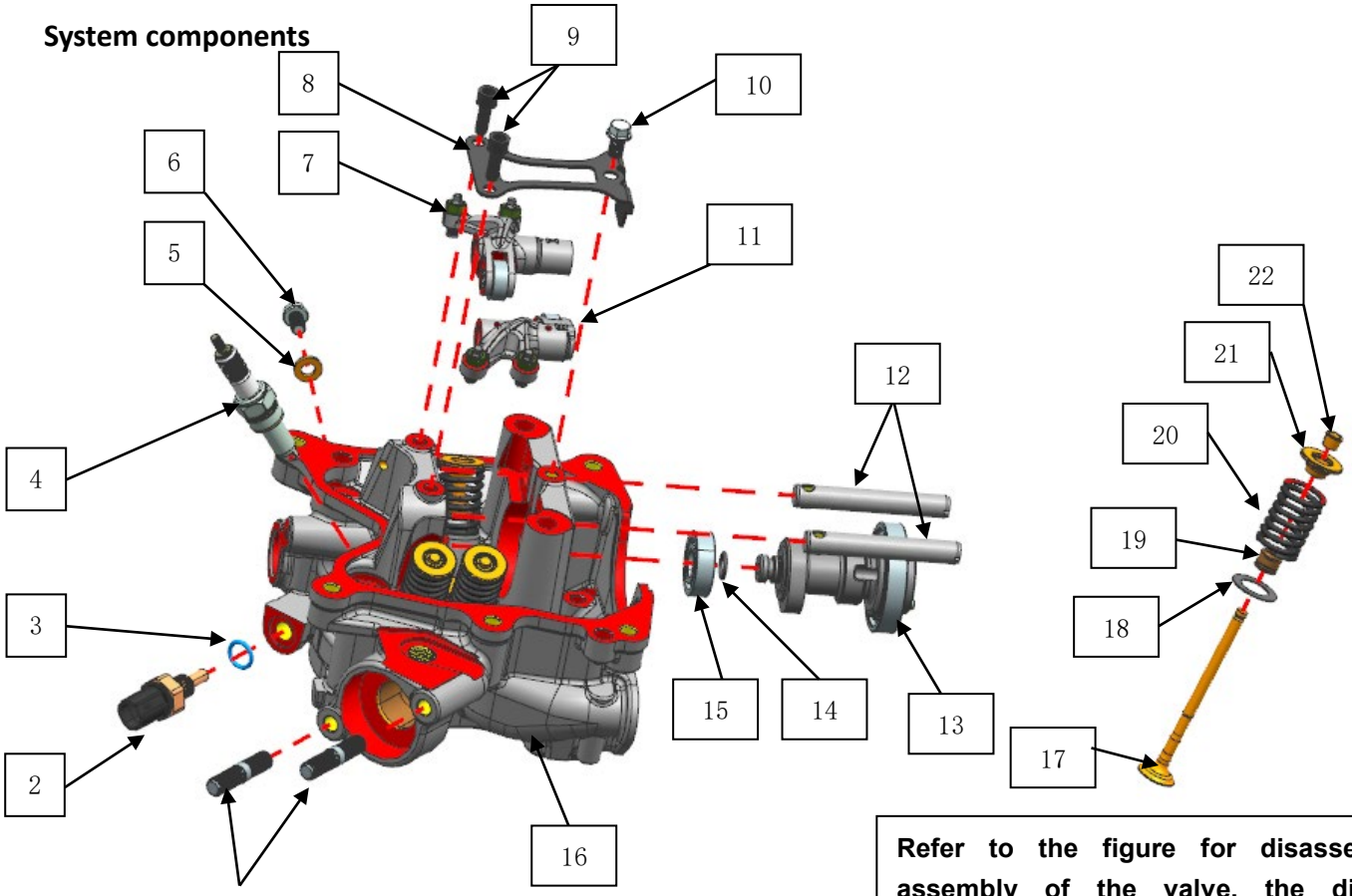
5. Apply a small amount of engine oil to the water pump shaft and put it into the water pump casing, install it in place and install the retaining ring for the shaft. (note: apply a proper amount of water-soluble silicone oil on the static ring and moving ring of the water seal)

6. Take two ϕ8×14 hollow positioning pins and put them into the corresponding holes, put the water pump cover sealing ring on the water pump cover groove (if the O-ring is trimmed or worn, replace it with a new one), and finally take 4 m6× 22 full-threaded bolts on the hexagonal flange surface (grade 8.8/zinc) , one of which is inserted into a 6.3×12×1.6 copper gasket, and tightened clockwise with a torque wrench (or air batch) and an extended outer hexagonal sleeve -8# bolt. Torque standard: 12±1.5N·m.

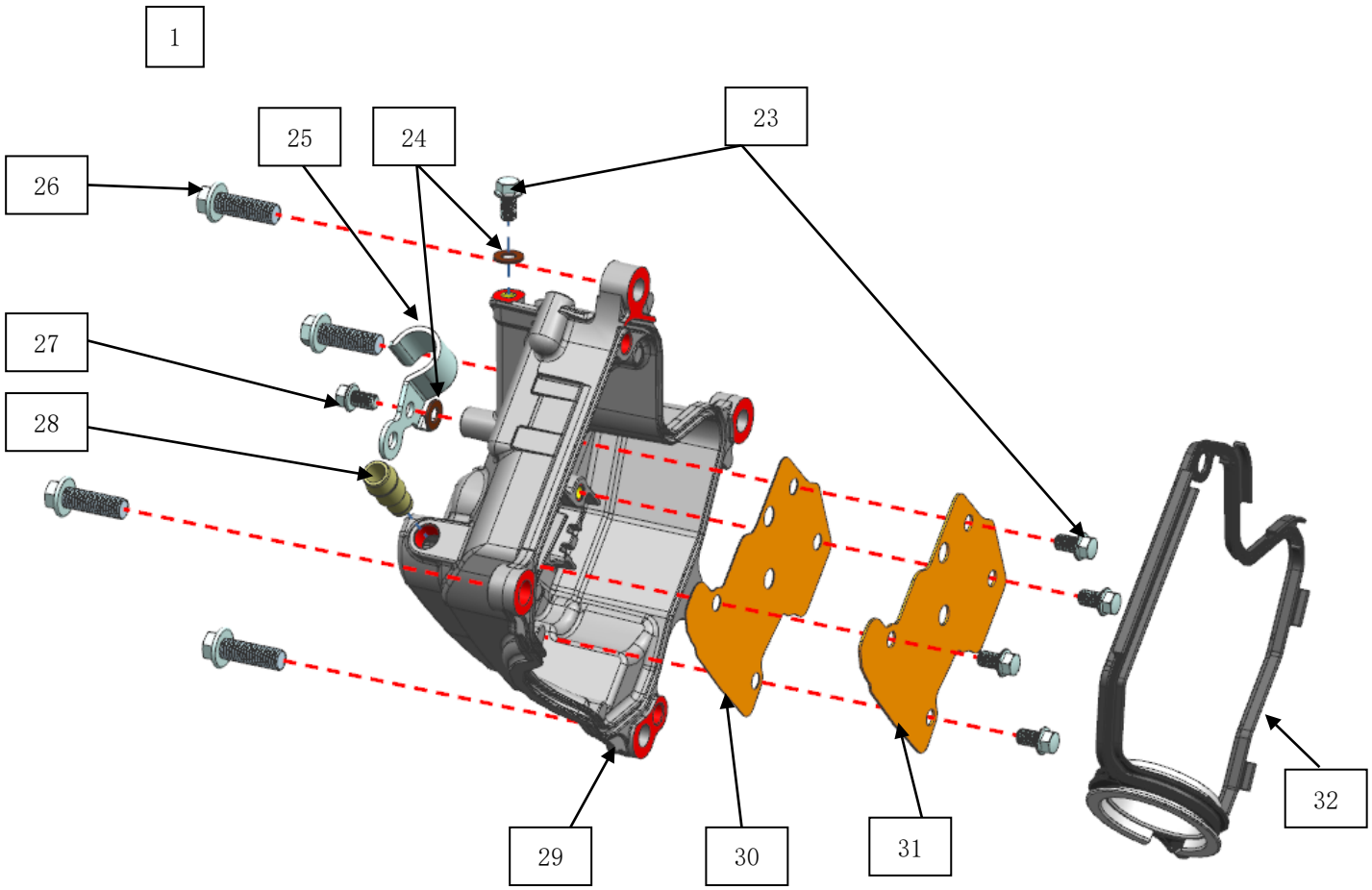
7. Take a m6×10 top pin bolt (zinc), insert a 6.3×12×1.6 copper gasket, screw the bolt into the threaded hole at the corresponding position, torque wrench (or wind batch) and extend the outer hexagonal sleeve cylinder-8# tighten the bolts clockwise. Torque standard: 10±1 N·m. **(note: the copper gasket is a one-time consumable, and a new gasket is required for installation)**
8. Install the ϕ36×1.9 acrylate O-ring and the 18.2×2.4 EPDM O-ring into the corresponding positions.

Cylinder head cover, cylinder head

System components



Refer to the figure for disassembly and assembly of the valve, the disassembly structure of the intake valve and exhaust valve is the same.



Parts information

No.	Name	Quantity	Name
1	Aym8—m8×38 double-headed 10.9 grade stud (zinc)	2	Tool: stud socket m8fixed torque: 20±2 N.m Thread fastening glue
2	Water and oil shared sensor	1	Tools: 17# socket and fixed torque wrench fixed torque: 14±1N.m
3	9×2 EPDM rubber O-ring	1	
4	Cr8ei spark plug (protruding type)	1	Tool: 16# spark plug socket fixed torque: 14 ± 1 N.m
5	6.3×12×1.6 copper gasket	1	
6	M6×10 top pin bolt (zinc)	1	Tool: t-sleeve-8# fixed torque: 10±1 N.m
7	ZT1P58MJ intake rocker arm subassembly—b	1	
8	ZT1P58MJ camshaft bearing pressure plate	1	
9	M5×15-5# hexagon socket head screw	2	Apply thread glue, tool: 5# inner hexagon fixed torque: 7±1 N.m
10	M6×10 top pin bolt (zinc)	1	Apply thread glue, tool: t-sleeve-8# fixed torque: 10±1 N.m
11	ZT1P58MJ exhaust rocker arm subassembly—b	1	
12	ZT1P58MJ intake and exhaust rocker shaft	2	
13	ZT1P58MJ camshaft sub-component-b	1	
14	8.8×1.9 fluorine rubber O-ring	1	
15	Gb276-6001/p5c3 deep groove ball bearings (nitrided)	1	

16	ZT1P58MJ cylinder head	1	
17	ZT1P58MJvalve	Into 2 row 2	
18	13.2×20.8×0.5 valve spring seat	4	
19	Φ 5.0 valve rod diameter oil seal	4	
20	ZT1P58MJ exhaust valve spring	4	
Twenty one	ZT1P58MJ valve spring bearing plate	4	
Twenty two	ZT1P58MJ valve lock clip	8	
Twenty three	M6×10 top pin bolt (zinc)	5	Tool: t-sleeve-8# fixed torque: 10±1N.m
Twenty four	6.3×12×1.6 copper gasket	2	
25	Zt1p72mn cylinder head cover tubing clamp	1	
26	Gb16674m8×25 bolt	4	Tool: t-sleeve-10# fixed torque: 20±2.5 N.m
27	M6×10 top pin bolt (zinc)	1	Tool: t-sleeve-8# fixed torque: 10±1N.m
28	ZT1P58MJ cylinder head cover air balance tube	1	
29	ZT1P58MJ cylinder head cover	1	
30	ZT1P58MJ cylinder head cover labyrinth cover gasket	1	
31	ZT1P58MJ cylinder head cover labyrinth cover plate	1	
32	ZT1P58MJ cylinder head cover rubber pad subassembly	1	

Cylinder head cover

Assembly

Gb16674 M8×25 bolts diagonally at t-rod -10#, and remove the cylinder head cover, cylinder head cover rubber pad, and ϕ 8×14 hollow positioning pin in sequence.

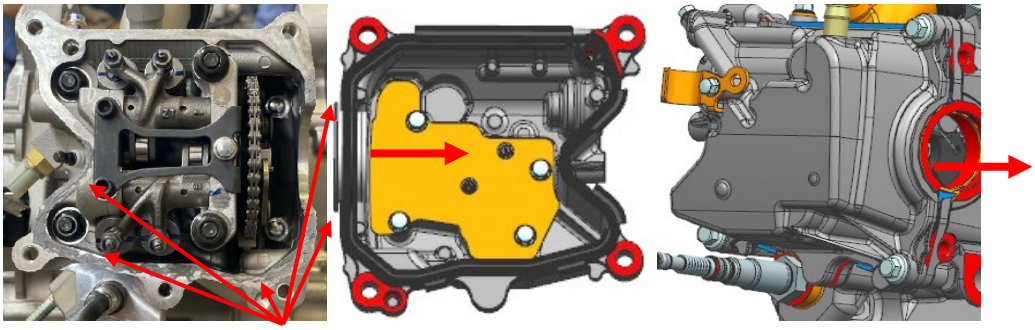
Note: when removing the cylinder head cover, the water pump needs to be removed first.

Inspection

1. Check that the cylinder head cover rubber pad on the cylinder head cover is not scratched or damaged. If it is scratched or damaged, it needs to be replaced.

Install

1. As shown in the figure, after removing the plane sealant, oil stains and dust on the joint surface of the cylinder head and the cylinder head cover, apply an appropriate amount of plane sealant on the position shown in the figure. Check the cylinder head cover sealing ring on the cylinder head cover. After confirming that the installation is in place, install the cylinder head cover assembly to the corresponding position of the cylinder head. The rubber pad of the cylinder head cover should not be misplaced. Use four m8×25 bolts to secure the cylinder head cover is pre-tightened and tightened with a fixed torque, 20 ± 2.5N.m.



apply sealant

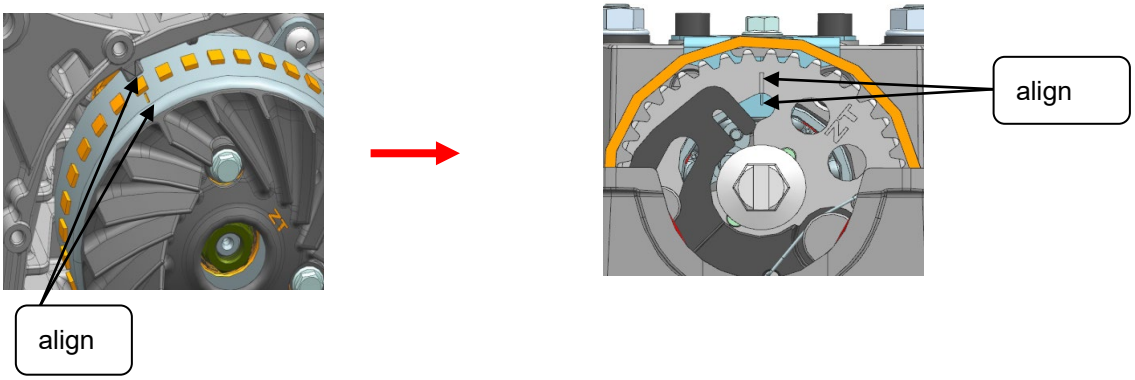
Cylinder head

Assembly

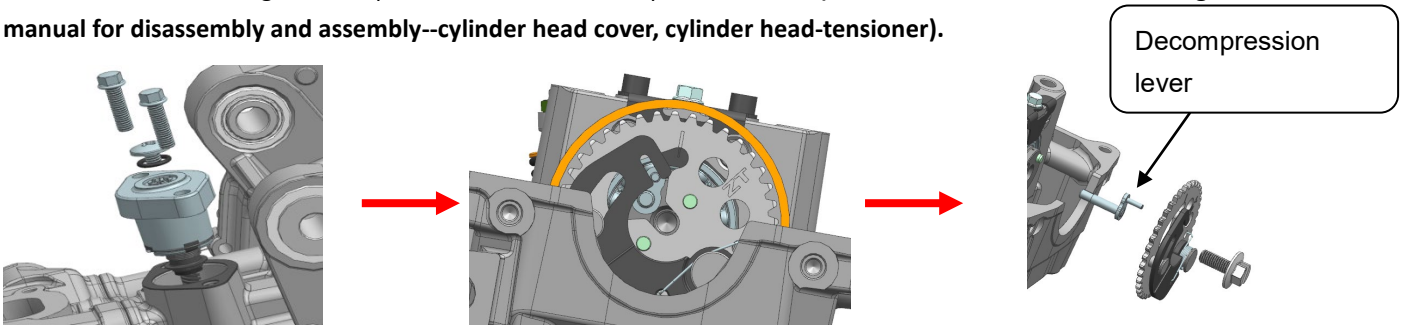
1. Use a t-shaped sleeve -8# to remove the thermostat bolts, remove the thermostat, and remove the radiator **and** fan **case cover (refer to the ZT1P52MI engine maintenance manual for disassembly and assembly - thermostat, radiator, fan case cover).**

2. Put the 17#-t-shaped sleeve on the lock bolt of the magneto rotor, and then turn the crankshaft clockwise so that the marking line at point t on the flywheel aligns with the arrow position in the figure. At the same time, the top dead center marking line on the timing driven sprocket should also be aligned with the marking line on the camshaft bearing pressure plate.

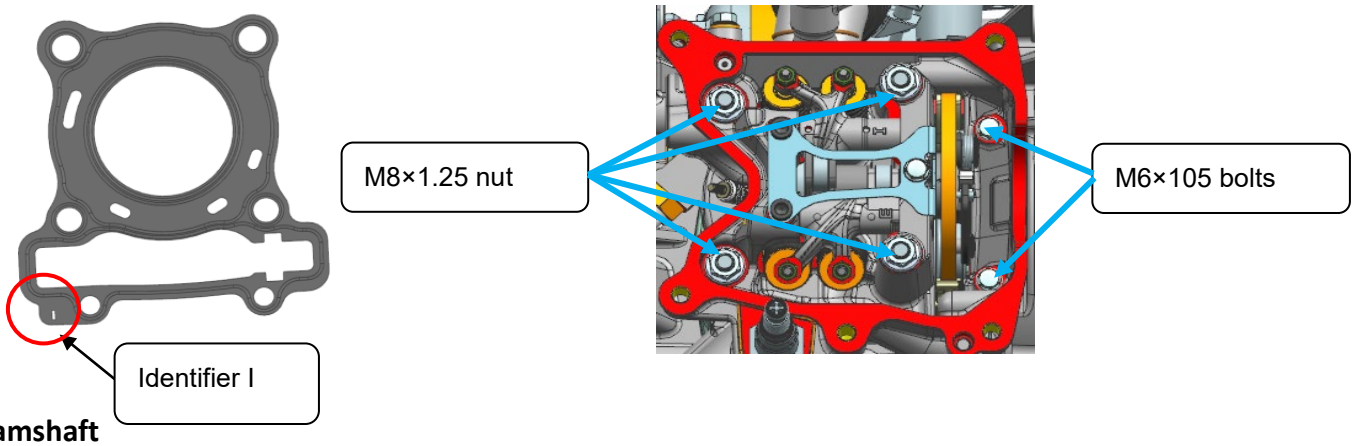
Note: when turning the flywheel, once the marking line at point t turns over the marking line, it cannot be rotated in the opposite direction. It is necessary to turn the crankshaft clockwise two times again to re-align the point! ! !



3. As shown in the picture, remove the tensioner with t bar-8#, remove the camshaft bolt with the jackhammer + sleeve head 14#, remove the timing driven sprocket, and the decompression lever **(tensioner refer to ZT1P52MI engine maintenance manual for disassembly and assembly--cylinder head cover, cylinder head-tensioner).**



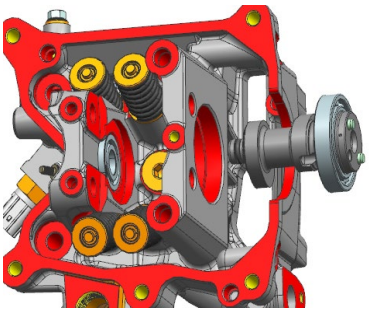
4. As shown in the picture, first use t-bar-8# to remove 2 pieces of m6×105 hexagonal flange bolts on the side of the cylinder head, and then use t-bar-12# to remove 4 pieces of m8×1.25 lock nuts on the opposite corners of the cylinder head, take off the cylinder head, cylinder head gasket and positioning pin **(note: the removed cylinder head gasket cannot be used again)** .



Camshaft

Assembly

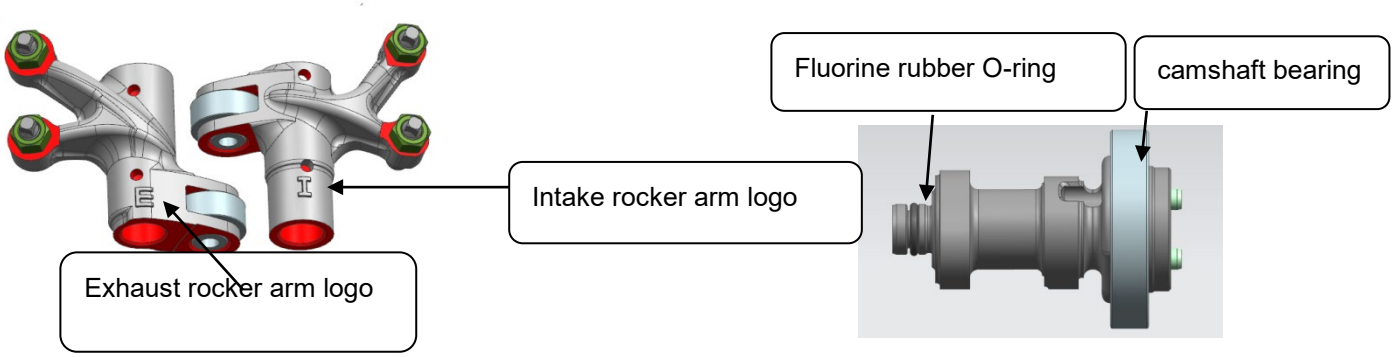
1. Remove the cylinder head pressure plate bolts, and take out the cylinder head pressure plate, rocker shaft, intake and exhaust rocker arms, and camshaft.



2. Use the valve spring removal and installation tool to remove the valve lock clip (do not over compress the valve spring). After taking out the valve lock clip, remove the valve spring retainer, valve spring, valve stem diameter oil seal (the **removed valve stem diameter oil seal cannot be used again)**, valve spring seat, and valve in sequence.

Inspection

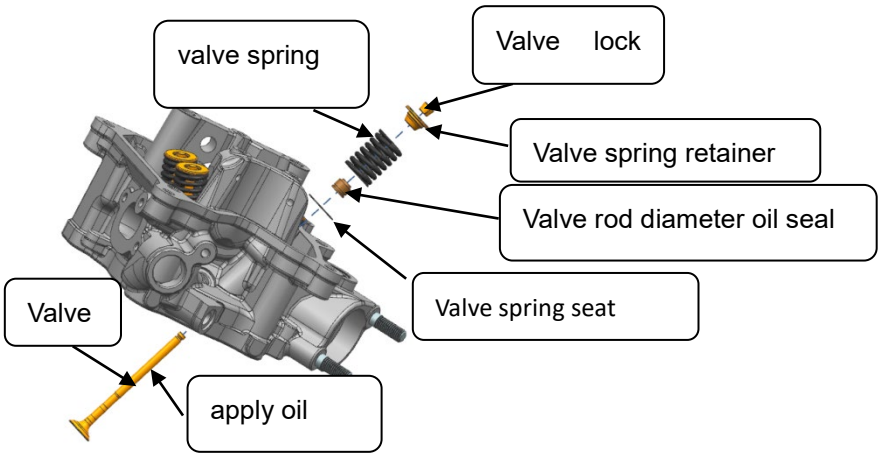
1. Check that there is no bump or scratch on the joint surface of the cylinder head;
2. Check that there is no abnormal wear on the intake and exhaust rocker shafts;
3. Check that the intake rocker arm (mark I) and the exhaust rocker arm (mark E) have no abnormal wear, and the rollers of the intake and exhaust rocker arms rotate smoothly without abnormal noise;
4. Check that the intake and exhaust springs have no cracks or abnormal wear;
5. Check whether the camshaft is abnormally worn, and the fluorine rubber O-ring is not damaged or trimmed. Turn the camshaft bearing by hand, and it should rotate smoothly without abnormal noise.

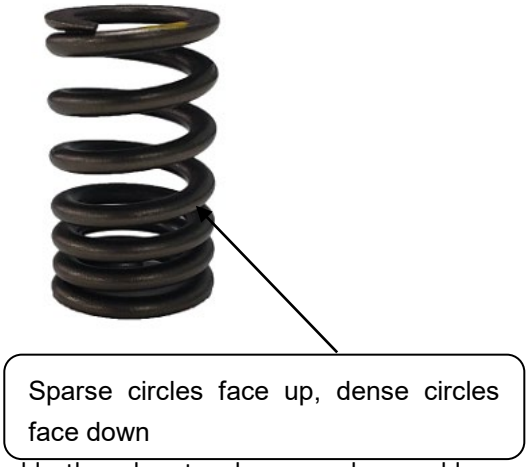


6. Check whether the diameter of the valve stem is abnormally worn, bent or ablated, and whether the valve can move smoothly in the valve guide; check whether the surface of the valve seat is abnormally worn or ablated; ablation;
7. Check the cylinder head bearing. The inner ring of the bearing should rotate smoothly without any stagnation. If the inner ring of the bearing is stuck, please replace the cylinder head bearing.

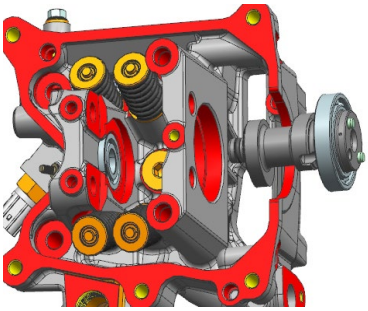
Install

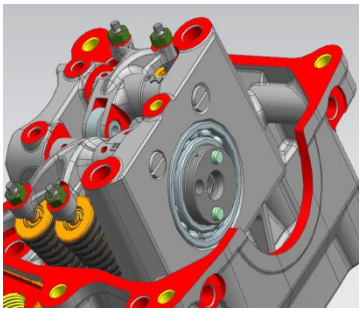
1. As shown in the figure, install the valve (apply oil), valve spring seat, valve stem diameter oil seal (press in place after installation), valve spring, valve spring retainer, and valve lock clip (install with valve installation tool) in sequence (**note: remove dust and foreign matter from the valve seat surface and cylinder head seat surface. When installing the valve spring, the sparse ring faces upward and the dense ring faces downward**).



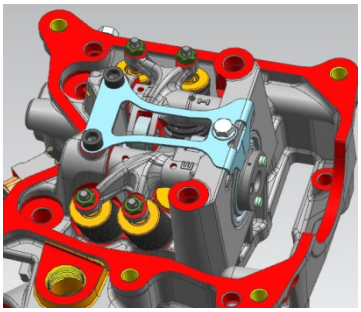


2. Install the camshaft (O-ring needs to be installed), the intake rocker arm sub-assembly, the exhaust rocker arm sub-assembly, and the intake and exhaust rocker arm shaft in order (rotate the rocker arm shaft so that the slot is in a horizontal position). **(note: O-rings cannot be missed on the camshaft)**





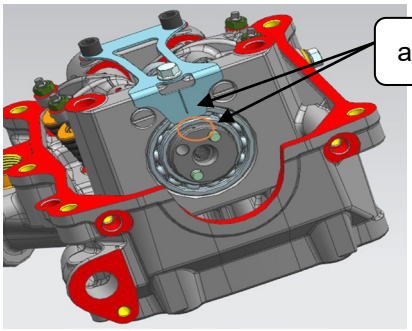
3. As shown in the figure, install the camshaft bearing pressure plate, apply an appropriate amount of thread fastening glue on the surface of 1 m6x10 and 2 m5x15 bolts, after screwing in, pre-tighten and set the torque, the torque is: m6 bolt torque 10±1n. M , m5 bolt torque 7±1N.m .

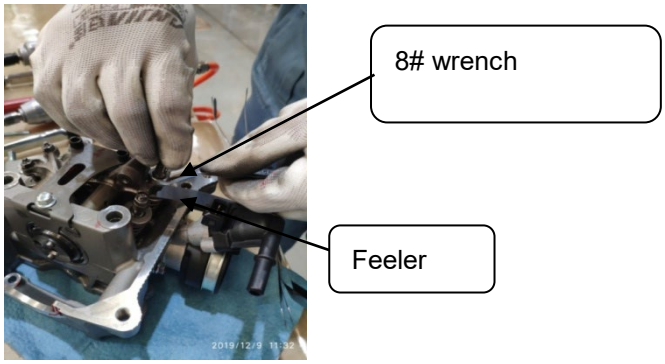


Valve clearance

1. As shown in the figure, adjust the valve clearance: align the camshaft groove point with the scale line of the camshaft bearing pressure plate, insert the feeler gauge between the valve adjustment bolt and the end face of the valve stem, pull the feeler gauge by hand, and take out the plug after the clearance is qualified. Take a no. 8 torx wrench and put it on the lock nut on the valve clearance adjustment screw, fix the adjustment screw with a special t-type wrench, and then tighten the nut with a torx

wrench to ensure that the intake and exhaust valve clearances are within the specified range of standard values. (valve clearance adjustment nut torque: 9±1N.m intake valve clearance: **0.10mm - 0.14mm** exhaust valve clearance: **0.18mm - 0.22mm)**

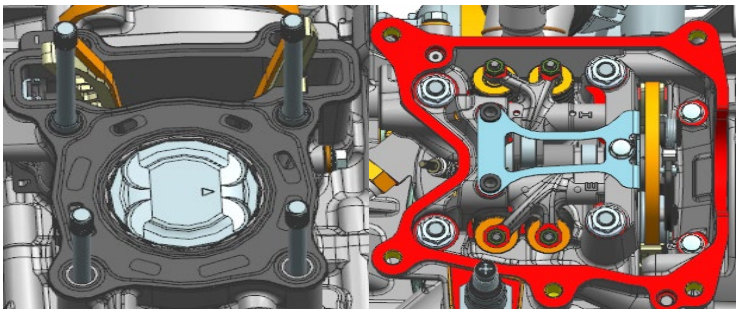




Cylinder head installation

1. Remove the oil stains, water stains and dust on the joint surface of the cylinder and the cylinder head. After checking that there are no foreign objects on the surface of the cylinder and piston, install 2 ϕ10 positioning pins and cylinder head gaskets (note: cylinder head gaskets cannot be repeated. **Use. After the cylinder head has been disassembled, the gasket of the cylinder body box needs to be replaced, and the joint surface needs to be coated with flat sealant. For the installation of the cylinder piston, refer to the ZT1P52MI engine maintenance manual - cylinder, piston).**

2. As shown in the figure, after confirming that there is no missing or wrong installation, install the cylinder head into the corresponding position of the engine. After evenly diagonally pre-tightening the cylinder head nut and the two locking bolts on the side, use the fixed torque wrench to tighten respectively (nut ϕ8.3×ϕ17×2 iron gasket should not be missed, m8×1.25 hexagonal flange nut fixed torque 25 ± 3 N.m, m6×105 hexagonal flange bolts with a fixed torque of 12 ± 1.5 N.m).

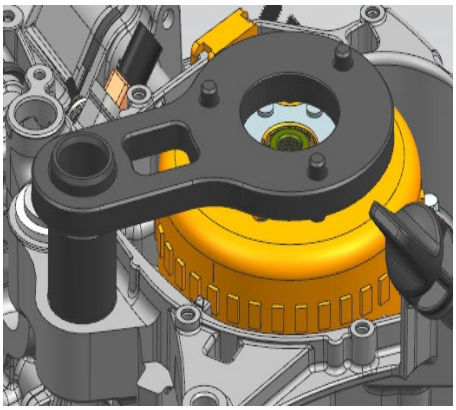


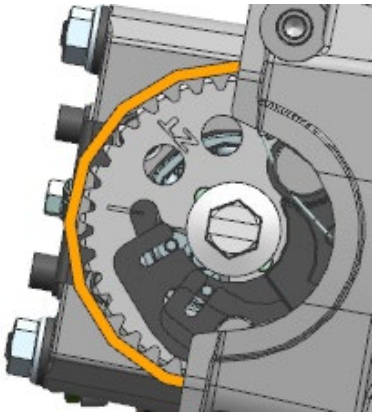
3. As shown in the figure, check the marked line of the t point of the flywheel, and the marked line of the t point is aligned with the position of the arrow. At the same time, the top dead center marking line on the timing driven sprocket should also be aligned with the scale line of the camshaft bearing pressure plate, install the decompression lever and the timing sprocket, and use the flywheel limit tooling to fit the crankshaft on the upper limit of the magneto rotor. Tighten and torque the camshaft bolts with a wind gun + sleeve head 14#, torque: 30±2N.m, and install it into the tensioner.

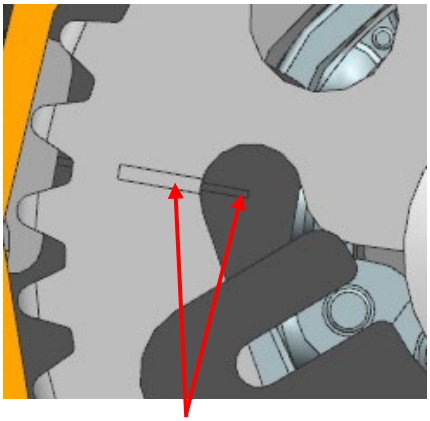
Remarks:

1. After confirming that the timing chain has not fallen off from the timing drive gear, tighten the timing sprocket at a constant torque, and after installing the tensioner, turn the crankshaft to recheck the timing for the second time.

2. After the camshaft bolts are tightened to a fixed torque, move the decompression mechanism of the driven sprocket. The decompression mechanism should rebound quickly, and if it is not stuck, it is qualified.







Guide bar

Assembly

1. Before removing the guide bar, the following parts need to be removed.

·Water pump. (refer **to ZT1P52MI engine maintenance manual for disassembly and assembly - water pump)**

·Tensioner. **(refer to ZT1P52MI engine maintenance manual for disassembly and assembly--cylinder head cover, cylinder head-tensioner)**

·Cylinder head cover parts. **(refer to ZT1P52MI engine maintenance manual for disassembly and assembly--cylinder head cover, cylinder head-cylinder head cover)**

·Cylinder head assembly. **(refer to ZT1P52MI engine maintenance manual for disassembly and assembly--cylinder head cover, cylinder head-cylinder head)**

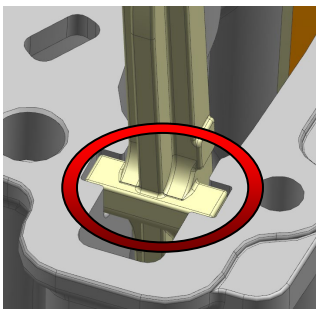
2. Remove the guide bar.

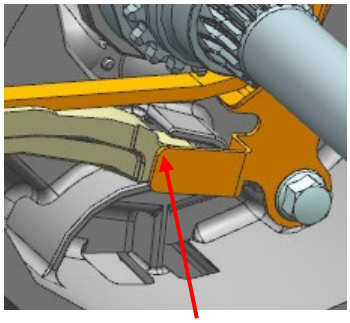
Inspection

1. Check the guide bar for excessive wear or damage.

Install

1. As shown in the figure, install the guide bar. (note: after the guide bar is installed in place, the convex point of the guide bar is lower than the joint surface of the cylinder block and cylinder head.)

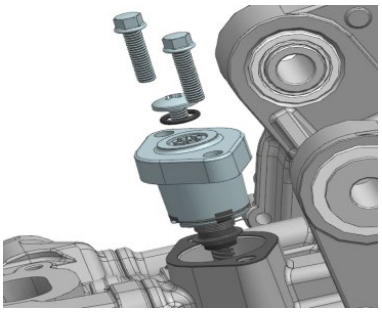




Tensioner

Assembly

1. As shown in the picture, use a cross batch to remove the cross bolts and O-rings on the top of the tensioner, then use the T-bar -8# to evenly loosen the tensioner fixing bolts diagonally, and remove the tensioner and the tensioner pad piece.



Inspection

1. When the top rod of the tensioner is normally extended, press the fixed rod of the tensioner by hand, if the top rod cannot rebound, it is qualified;
2. Check that the O-ring is not scratched or damaged. If it is scratched or damaged, it needs to be replaced.

Tensioner installation

1. Tighten the tensioner ejector rod with a one-word batch **(rotate the one-word batch clockwise while holding the tensioner ejector rod with your hands),** and tighten it when it reaches the highest point, and the ejector rod can be locked automatically. Put the tensioner gasket into the tensioner and place it in the corresponding position of the cylinder, and tighten it with m6×22 bolts at a fixed torque with a torque of 1 2 ± 1.5N.m. **(tensioner spacers cannot be reused)**
2. Rotate the ejector bolt counterclockwise with a flat batch, and after confirming that the ejector rod of the tensioner pops up, put in the O-ring and the cross bolt to tighten.