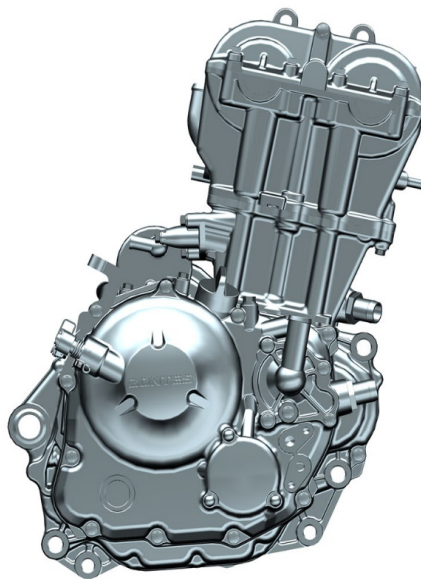




# ZT184MN Engine EuroV

## Maintenance Manual



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This manual is suitable for ZT180MN series engines. All the materials, illustrations, photos, etc. collected in this manual are compiled according to the latest products. However, due to the continuous improvement of the product and other changes, there may be some inconsistencies between your engine and this

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## 1- The steps of draining oil

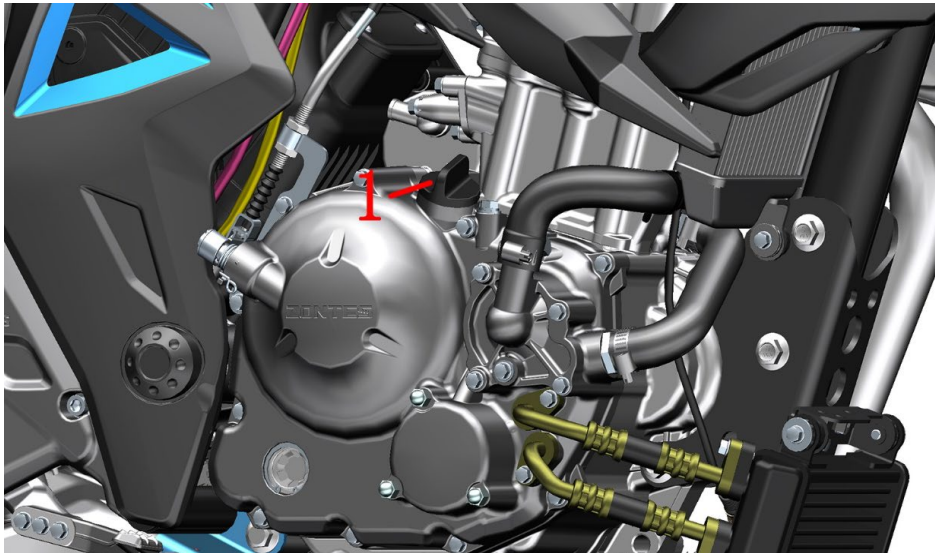


Fig.1 PREPARATION STEPS		Draining oil	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1051161-012000	M24×2 oil filler plug	1	
2	1244100-033000	Combined sealing gasket 12×φ20×2	2	
3	1251100-066093	M12×1.5×15 ablassschraube (color Zinc)	2	24±4N.m

### PROCEDURE:

#### ● Discharge the oil

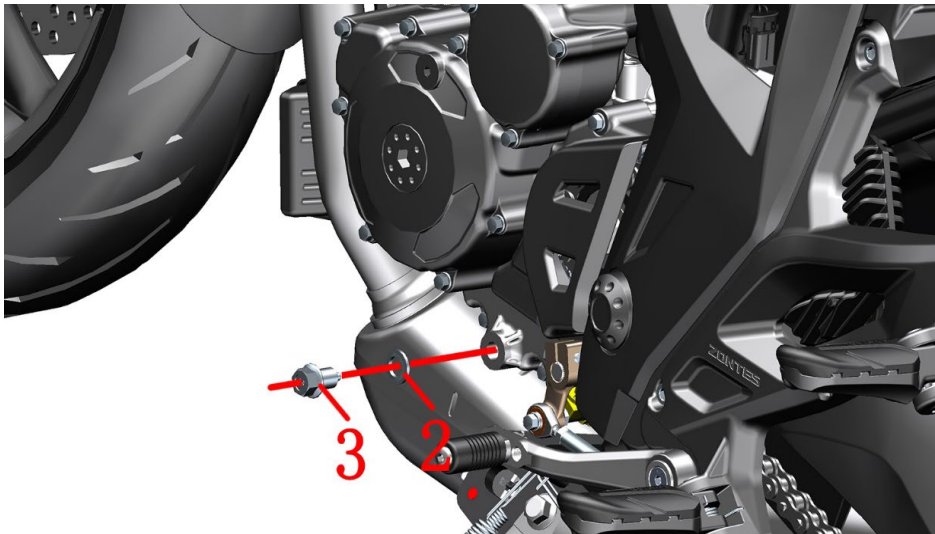
Park the vehicle on a level surface with the side stand.

Unscrew the oil plug (1) by turning it counterclockwise.

It is recommended to remove the lower shroud before draining the oil. If it is not removed, it is recommended to use a tool to guide the flow, so as to prevent the oil from contaminating the cover.

Place the oil pan under the engine oil drain bolt as shown in the middle left picture.

Use a 14# sleeve to remove the oil drain bolt (3) of the engine, remove the gasket (2), and empty the old oil.



### CAUTION:

● Combined gasket (2) It is recommended to replace it after disassembly to avoid oil leakage and oil leakage due to damage caused during disassembly.

● The lower shroud needs to be removed first.

● Waste engine oil should be uniformly recycled and then handed over to qualified institutions for disposal; it is forbidden to dump polluting the environment or water sources at will.

● It is recommended to replace the oil drain bolt and combined gasket every time the oil is changed.

## 2-CYLINDER HEAD ASSEMBLY

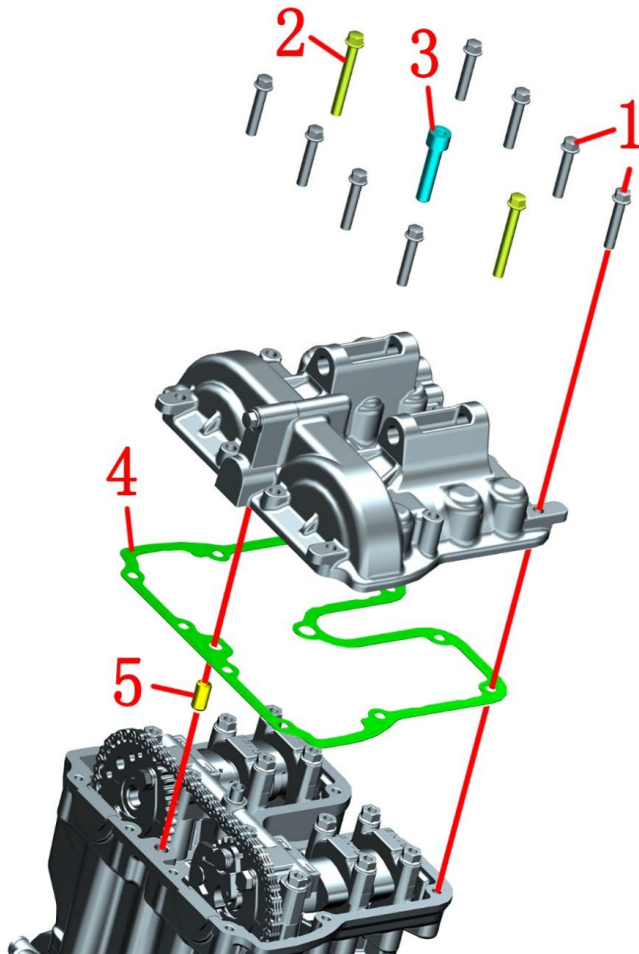



Fig.1 CYLINDER HEAD ASSEMBLY		Remove the cylinder head cover assembly 1	CHK	
NO.	PART NO.	PART NAME	QTY	
1	1251112-002093	M6×30 Hexagon flange bolts (color zinc)	8	12±1.5N.m
2	1251112-003093	M6×45 Hex flange surface 9.8 bolt (color	2	12±1.5N.m
3	1250205-023000	GB70.1 inner hexagonal M8X35 (environmental color)	1	12±1.5N.m
4	1051658-002000	ZT184MN Cylinder head cover gasket	1	
5	1251401-001000	φ8×14 hollow locating pin	1	

### PROCEDURE:

#### ●Cylinder head cover assembly

Use an 8# sleeve to remove 2 bolts (1) and 8 bolts (2), and remove 1 bolt (3) for 6# inner hexagon, then the cylinder head cover assembly can be removed.

Take out the gasket (4),

Take out the hollow positioning pin (5).

### Notice:

- The cylinder head cover bolts must be evenly loosened or tightened diagonally when removing and installing.
- Gasket (4) is for one-time use, and must be replaced after disassembly, otherwise the seal will not be in place and problems such as engine oil leakage will occur.
- Before installing new gaskets, it is necessary to clean the sealant on the assembly plane on the cylinder head and the cylinder head cover to prevent problems such as oil leakage from the engine caused by uneven assembly planes, and foreign matter should be avoided when cleaning impurities such as residual sealant. into the engine.
- When installing a new gasket, it is necessary to apply an appropriate amount of sealant on the assembly plane of the cylinder head and the upper surface of the gasket.

## 2-CYLINDER HEAD ASSEMBLY

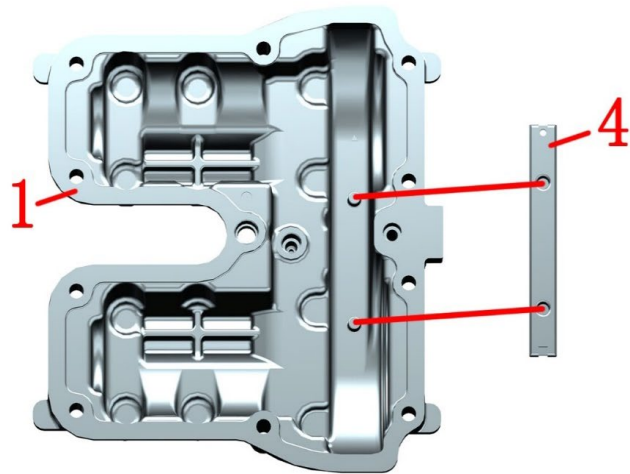
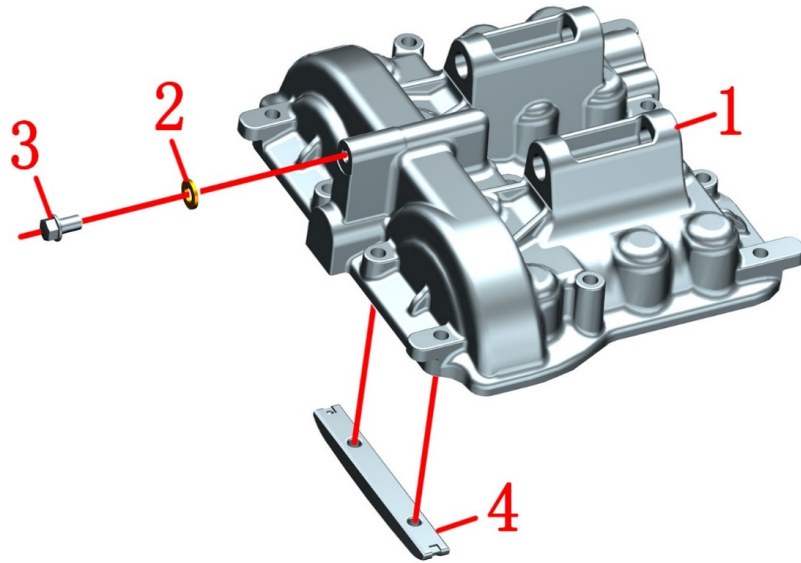


Fig.2 CYLINDER HEAD ASSEMBLY		Remove the cylinder head cover assembly 2	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	4050758-001000	ZT184MP Cylinder head cover	1	
2	1251513-001019	6.3×12×1.6 copper gasket	1	
3	1251100-067093	M6×10 top pin bolt (color zinc)	1	12±1.5N.m
4	1050154-034000	ZT180MN timing chain plate	1	

### PROCEDURE:

- Disassemble the cylinder head cover assembly  
Use the 8# sleeve to remove the bolt (3), and remove the copper pad (2);  
Take out the timing chain guard (4) from under the cylinder head cover (1).

### Notice:

- The bolts (3) are used to check whether the oil is on the cylinder. Generally, it is not necessary to disassemble.



## 2-CYLINDER HEAD ASSEMBLY

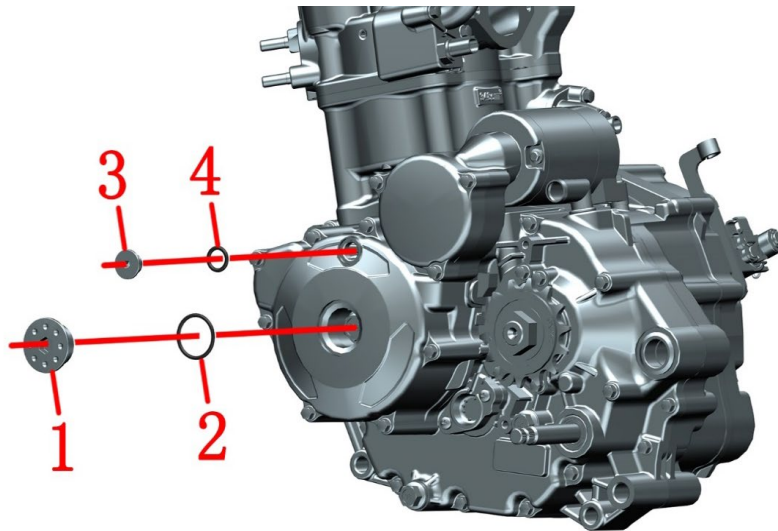



Fig.3 CYLINDER HEAD ASSEMBLY		Align the timing chain	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	4050956-003051	M30×1.5 aluminum screw plug (dark gray)	1	12±1.5N.m
2	1051454-023000	27.4×2.65 Hydrogenated nitrile rubber O-	1	
3	1040953-002093	M14×1.5 plug screw (environmental color	1	12±1.5N.m
4	1051454-024000	13×2.8 Hydrogenated nitrile rubber O-ring	1	

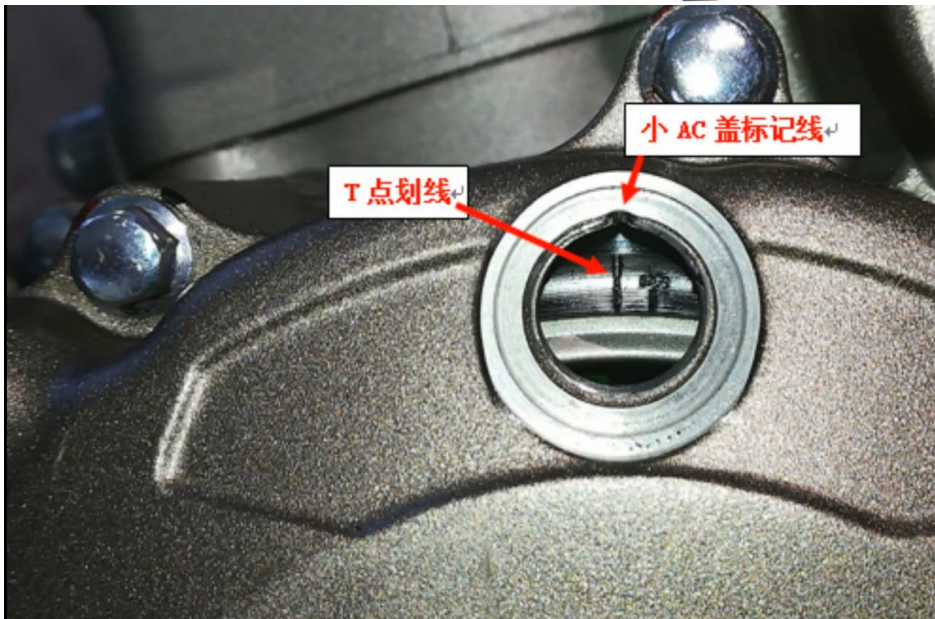
### PROCEDURE:

#### ● Remove the camshaft

Use 10# hexagon socket to remove the screw plug (1), and remove the O-ring (2).

Use 5# internal hexagon to remove the aluminum screw plug (3), and remove the O-ring (4).

Use a 17# sleeve to extend from the aluminum screw plug (3), use the sleeve to turn the flywheel bolt counterclockwise, so that the flywheel "T" dot-dash line coincides with the center line of the small AC hole mark slot on the left cover.



### Notice:

● When the "T" dashed line coincides with the marked line, the ends of the intake and exhaust camshafts all face outward.

● The timing is before the tensioner is retracted and after the tensioner is placed.

## 2-CYLINDER HEAD ASSEMBLY

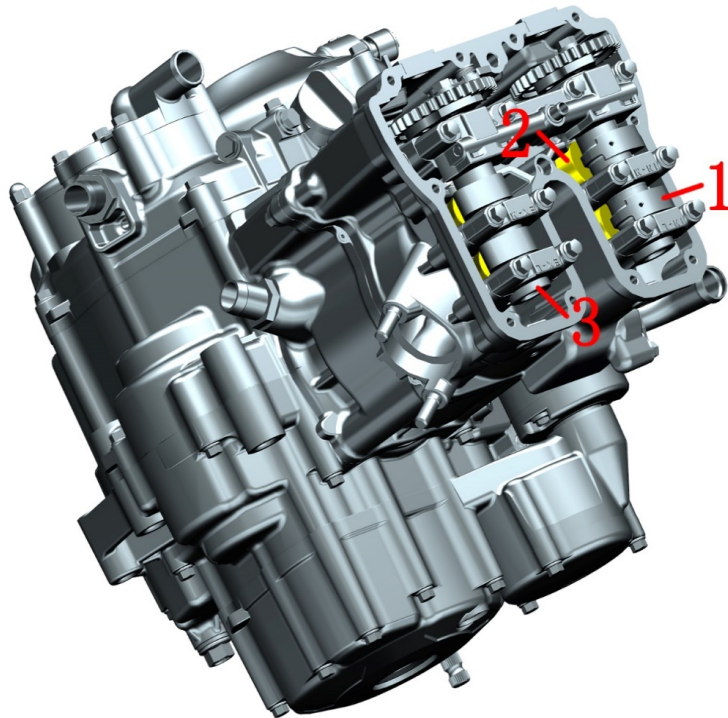
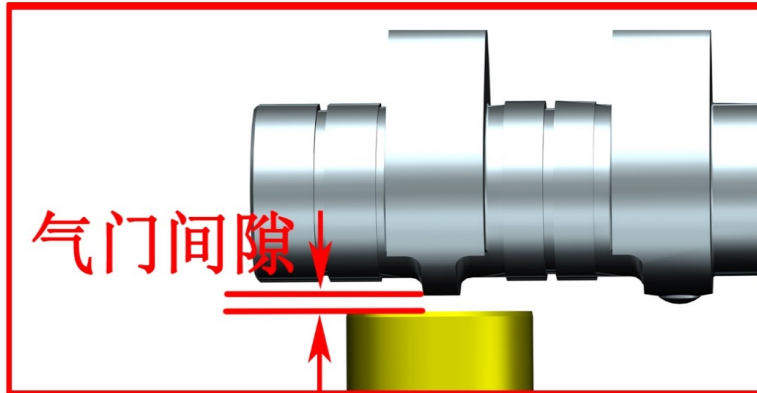


Fig.4 CYLINDER HEAD ASSEMBLY		Adjust valve clearance		CHK	CAUTION
				ADJ	
NO.	PART NO.	PART NAME		QTY	
1	4051758-008000	ZT184MP intake camshaft sub-assembly		1	
2	1050158-009000	3×27×19 slide tappet		4	
3	4051758-009000	ZT184MP exhaust camshaft sub-assembly		1	

### PROCEDURE:

#### ● Adjust the valve clearance

Rotate the intake and exhaust camshafts so that the base circle of the intake and exhaust camshafts is directly on the tappet, and the camshaft can rotate flexibly.

Use a feeler gauge to measure the valve clearance.

Standard interval of intake valve clearance: 0.13-0.19mm

Standard interval of exhaust valve clearance: 0.24-0.30mm

If it does not meet the standard, remove the intake and exhaust camshafts, take out the tappet, and replace the valve clearance adjustment pad under the tappet.

After the replacement is completed, measure the valve clearance with a feeler gauge again, the adjustment is successful if it is qualified, otherwise continue to replace the valve clearance adjustment pad.

### Notice:

● When measuring the clearance of the right exhaust valve, you need to rotate the pressure reducing mechanism by hand until it is fully opened before measuring.

● The adjusting pad needs to be placed in place, and the cylinder head cannot be tilted or dumped after adjusting the valve clearance; Camshaft lock can be used to prevent the adjustment pad from dislocation.

## 2-CYLINDER HEAD ASSEMBLY

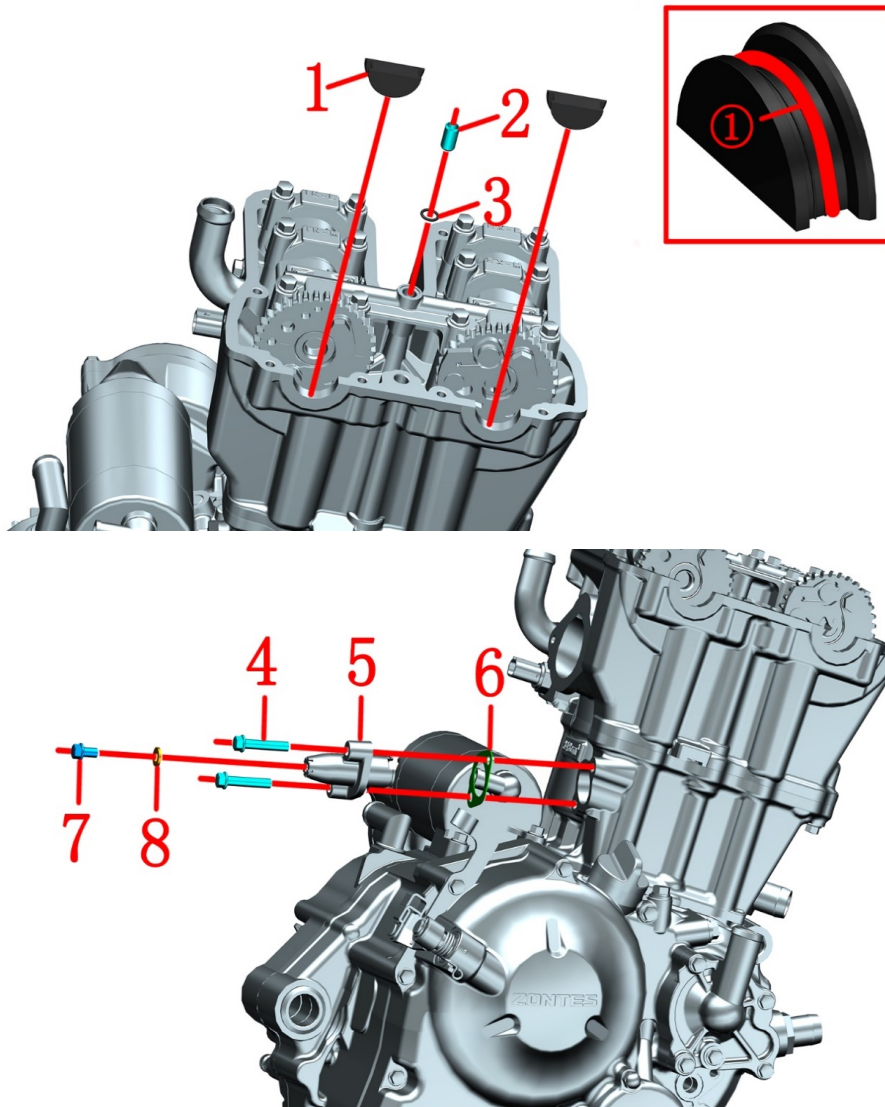


Fig.5 CYLINDER HEAD ASSEMBLY		Remove camshaft 1	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1050153-005000	ZT173YMM cylinder head sealing cap parts	2	
2	1251401-001000	φ8×14 hollow locating pin	1	12±1.5N.m
3	1051454-027000	7.5×1.5 Hydrogenated nitrile rubber O-ring	1	
4	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	2	
5	1051253-003000	30×38 tensioner parts	1	12±1.5N.m
6	1051253-004000	30×38 Washer, tensioner	1	
7	1251100-067093	M6×10 top pin bolt (color Zinc)	1	
8	1251513-001019	6.3×12×1.6 copper gasket	1	

### PROCEDURE:

#### ● Seal cap

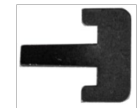
The sealing cap (1) is generally not damaged and does not require maintenance. If oil seeps there, it needs to be replaced.

Pull out by hand and lift out the 2 sealing caps (1) at the cylinder head. Before installing the sealing cap (1), it is necessary to clean up the residual sealant on the assembly plane of the cylinder head. Apply an appropriate amount of sealant to the place ① on the new sealing cap (1) and then install it to the appropriate place on the cylinder head.

#### ● Remove the tensioner assembly

Use an 8# sleeve to remove 2 bolts (4), and take out the tensioner (5) and washer (6).

When installing the tensioner, you need to use an 8# sleeve to remove the bolt (7), take out the copper washer (8), insert the tool into the hole where the bolt (7) is installed, and rotate it clockwise to retract the tensioner top rod, and then install the tensioner (5) back to the engine superior.



### CAUTION:

● Before installing the new sealing cap, the sealant on the assembly plane of the cylinder head needs to be cleaned to prevent the engine from oil seepage caused by uneven assembly plane. When cleaning impurities such as residual sealant, avoid foreign matter from entering the engine.

● Gasket (5) is for one-time use, and must be replaced after disassembly, otherwise the seal will not be in place and problems such as engine oil leakage will occur.



## 2-CYLINDER HEAD ASSEMBLY

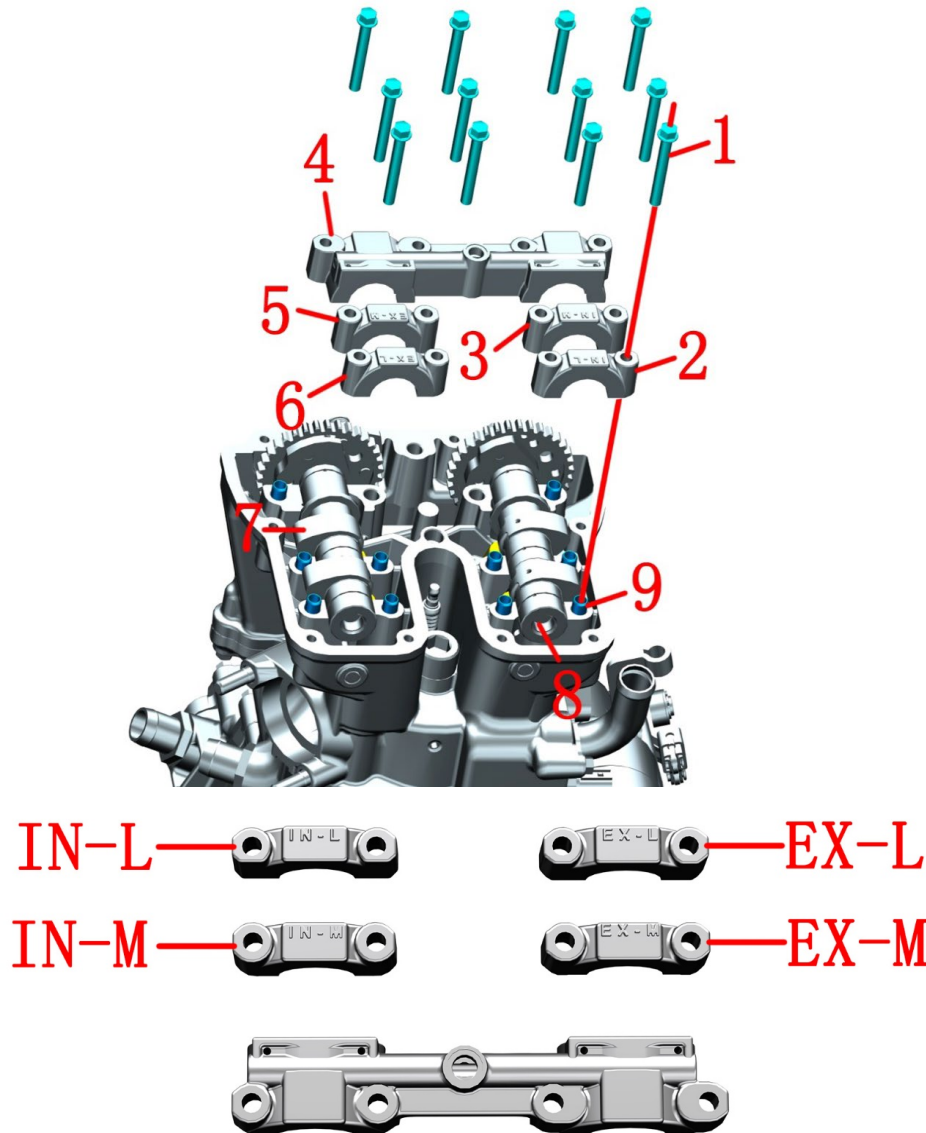


Fig.6 CYLINDER HEAD ASSEMBLY		Remove camshaft 2	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1		M6×45 Hexagon Flange Face 9.8 Bolts (Environmentally Friendly Color Zinc)	12	12±1.5N.m
2		ZT180MN intake camshaft left seat cover	1	【1】
3		ZT180MN intake camshaft middle seat cover	1	
4		Intake and exhaust camshaft right seat cover blank	1	
5		ZT180MN exhaust camshaft middle seat cover blank	1	
6		ZT180MN exhaust camshaft left seat cover	1	
7	4051758-009000	ZT184MP exhaust camshaft sub-assembly	4	
8	4051758-008000	ZT184MP intake camshaft sub-assembly	4	
9		φ8×14 hollow locating pin	10	【1】

### PROCEDURE:

#### ● Camshaft assembly

Use 8# cylinder to remove 12 bolts (1), torque standard: 12±1.5N.m, remove camshaft pressing blocks (2), (3), (4), (5), (6), do not take out the positioning pin (9).

Pull the timing chain by hand, take off the intake camshaft assembly (8), and then take off the exhaust camshaft assembly (7). The timing chain does not need to be taken out at this time, just put it back inside the engine. Be careful when you put it inside, you can't turn to the crankshaft anymore.

#### Notice:

● When installing, it is necessary to apply an appropriate amount of oil on the positioning pin.

● 【1】 Parts not marked with codes are included in the parts assembly and are not sold separately. Only assembly relationships are represented here.

● "EX" means out of air, "IN" means air in, "L" means left seat, and "M" means middle seat. Be careful not to install it wrongly. Can't turn left or right

● The positioning pin (9) needs to be put back to the corresponding position of the cylinder head and cannot be misplaced.

● When installing, apply a proper amount of oil to the corresponding position of the camshaft, install the exhaust camshaft first, and then install the intake camshaft.

● The bolts of the camshaft seat cover must be tightened diagonally, otherwise it will damage the cylinder head, seat cover and camshaft.



## 2-CYLINDER HEAD ASSEMBLY

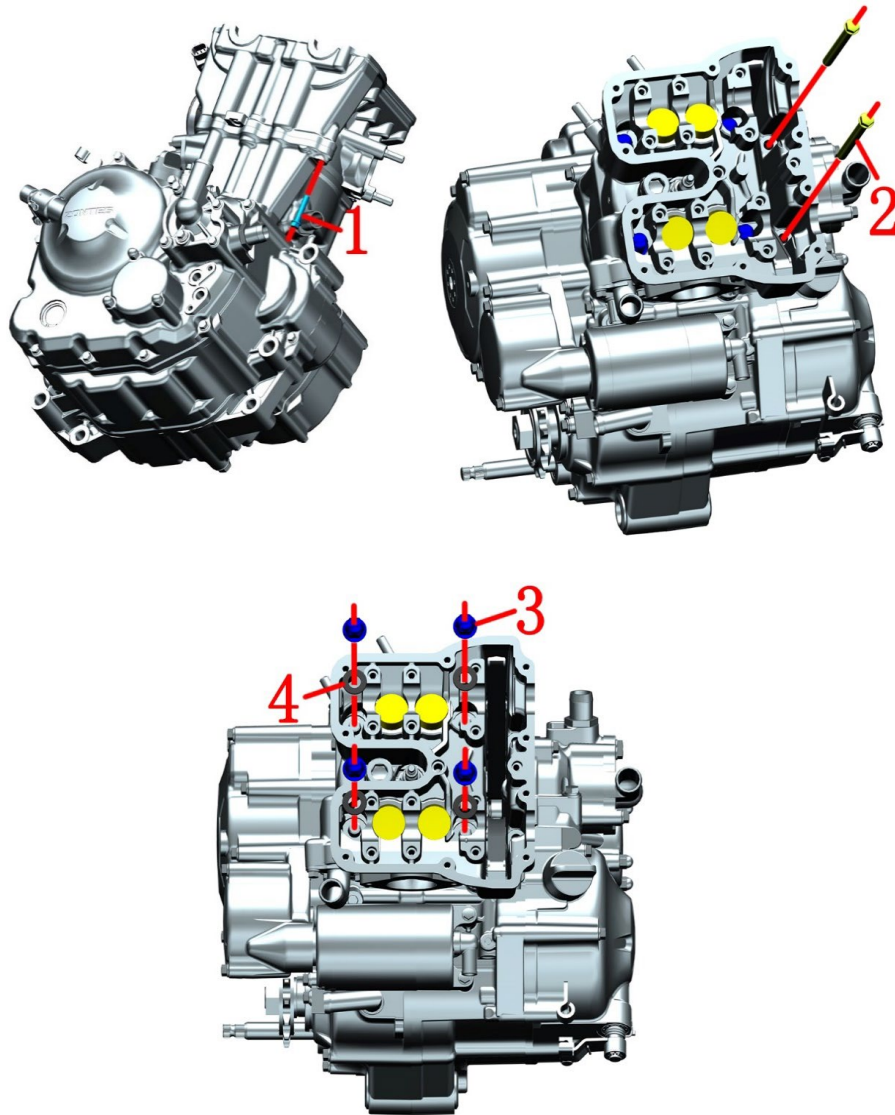


Fig.7 CYLINDER HEAD ASSEMBLY		Remove the cylinder head 1	CHK	CAUTION
			ADJ	
NO.	PART NO.	PART NAME	QTY	
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	1	12±1.5N.m
2	1251112-024000	M8×1×117 Hexagon Flange Bolts (Grade 10.9/Oxidized Black)	2	23±2N.m
3	1251300-052094	M10×1.25 cap nut (12 grade / oxidized)	4	60±5N.m
4	1251500-041000	10.3×20×2 gasket	4	

### PROCEDURE:

#### ● Remove the cylinder head

Use 8# torx wrench to remove 1 bolt (1) connecting the cylinder and the cylinder head.

Use an 8# sleeve to remove the 2 bolts in the cylinder head (2).

Use a 14# sleeve to remove the 4 nuts (3) in the cylinder head, and remove the gasket (4).

### Notice:

#### ● The bolt (2) is for one-time use, and must be replaced every time it is disassembled.

Failure to replace it may cause problems with the airtightness of the cylinder and the cylinder head.

#### ● Prevent foreign objects from falling into the engine during disassembly and installation.

● Nuts (3) must be evenly loosened diagonally, and each nut must be loosened 1/3 at a time, and then removed after all the nuts are completely loosened.

#### ● The nut (3) needs to apply lubricating oil on the thread of the nut before installation.

When installing, it needs to be tightened diagonally evenly in 4 times, the first time is 15N.m, the second time is 30N.m, the third time is 45N.m, and the fourth time is 60N.m.

## 2-CYLINDER HEAD ASSEMBLY

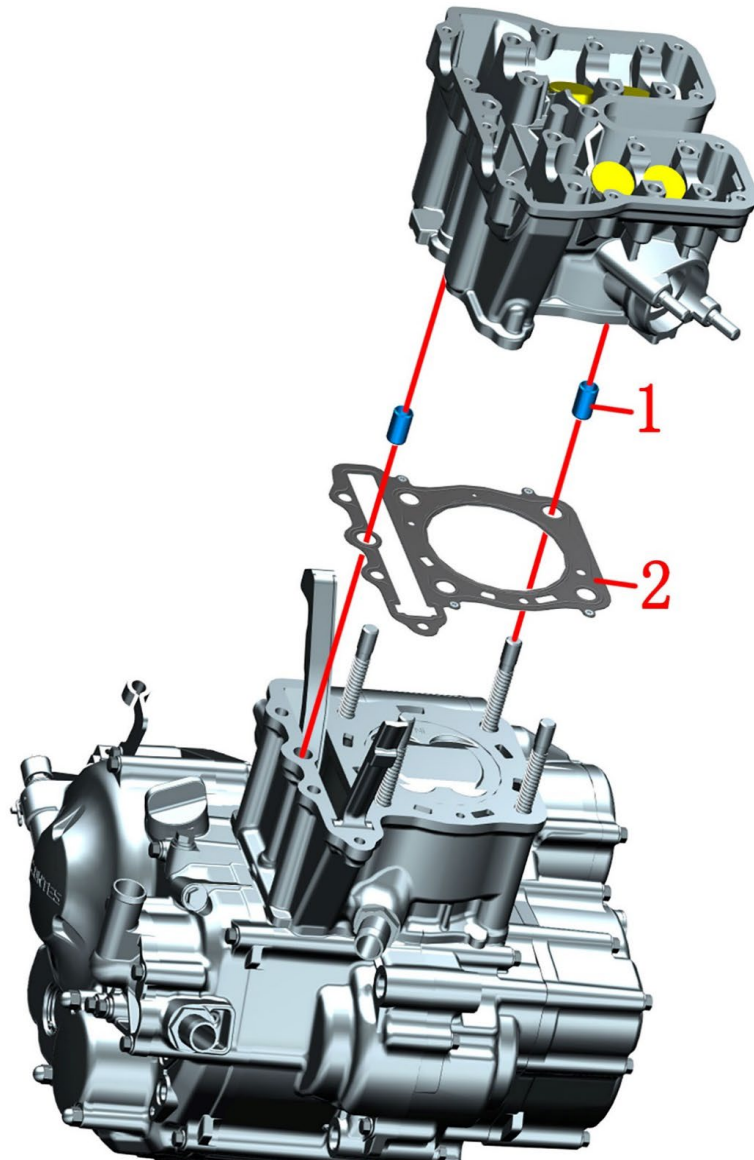



Fig.8 CYLINDER HEAD ASSEMBLY		Remove the cylinder head 2	CHK	
			ADJ.	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1051301-052000	Locating pin 12×20	2	
2	1051658-001000	ZT184MP cylinder head gasket components	1	

### PROCEDURE:

#### ● Remove the cylinder head

Take out the cylinder head assembly vertically upwards, and remove the positioning pin (1) and gasket (2).

### Notice:

- The gasket (2) is for one-time use and must be replaced after disassembly.
- When removing and installing the cylinder head assembly, Pay attention to tension bars and guide bars.
- When removing and installing the cylinder head assembly, avoid foreign matter from entering the engine.

## 2-CYLINDER HEAD ASSEMBLY

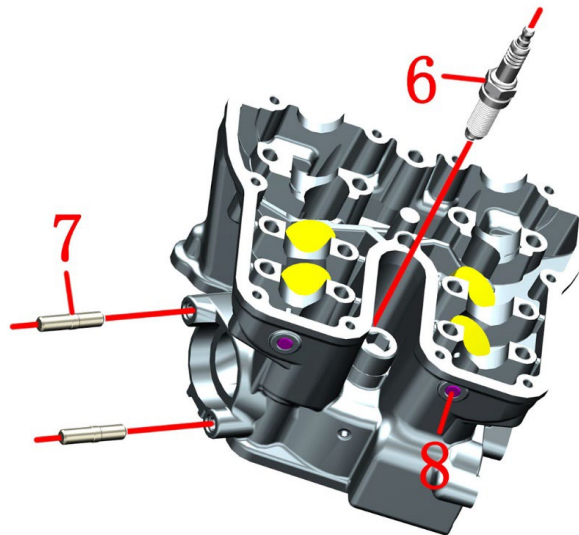
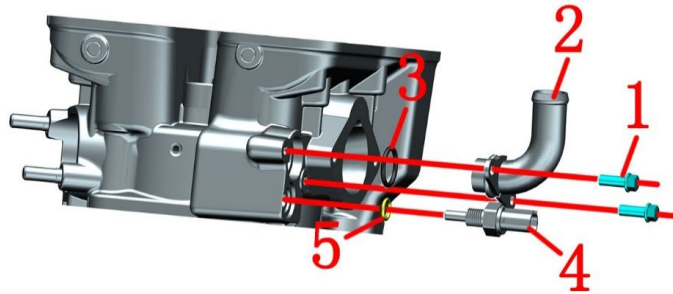


Fig.10CYLINDER HEAD ASSEMBLY		Remove the cylinder head 3	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251112-001093	M6×16 Hexagon flange bolts (color Zinc)	2	
2	1051954-001000	ZT180MN Outlet pipe subassembly	1	
3	1051454-007000	19×2.65 EPDM O-ring	1	
4	1050954-003000	communal sensor of water and oil	1	
5	1051454-009000	9×2 EPDM O-ring	1	
6		LDK9RTIP-8 sparking plug(calorific value 8 clearance 0.8 iridium platinum)	1	
7	1251111-011000	AYM8-M8×38 double head 10.9 studs bolts(environmental color Zinc)	2	
8		Φ8×7.5 oil plug	2	

### PROCEDURE:

#### ●Cylinder head assembly

Use an 8# sleeve to remove the 2 bolts (1), and remove the outlet pipe (2) and O-ring (3).

Use a 17# sleeve to remove the sensor (4), and remove the O-ring (5).

Use the spark plug special sleeve to remove the spark plug (6).

The double-ended stud (7) does not need to be disassembled under normal circumstances. If there are special circumstances such as stud slippage, you can weld the nut on the stud and then use the corresponding sleeve to remove the double-ended stud (7).

The oil plug (8) cannot be disassembled, and the oil plug (8) is press-fitted by interference. Reassembly after disassembly will cause oil leakage and oil leakage in the cylinder head.

### Notice:

●Apply appropriate amount of thread glue to the thread of the bolt (1) during installation.

●O-rings (3) and (5) are for one-time use. If they are removed, they must be replaced. Failure to replace it may cause problems such as water leakage.

●When installing the stud (7), apply a proper amount of thread tightening glue to the short end of the thread before installing.

## 2-CYLINDER HEAD ASSEMBLY

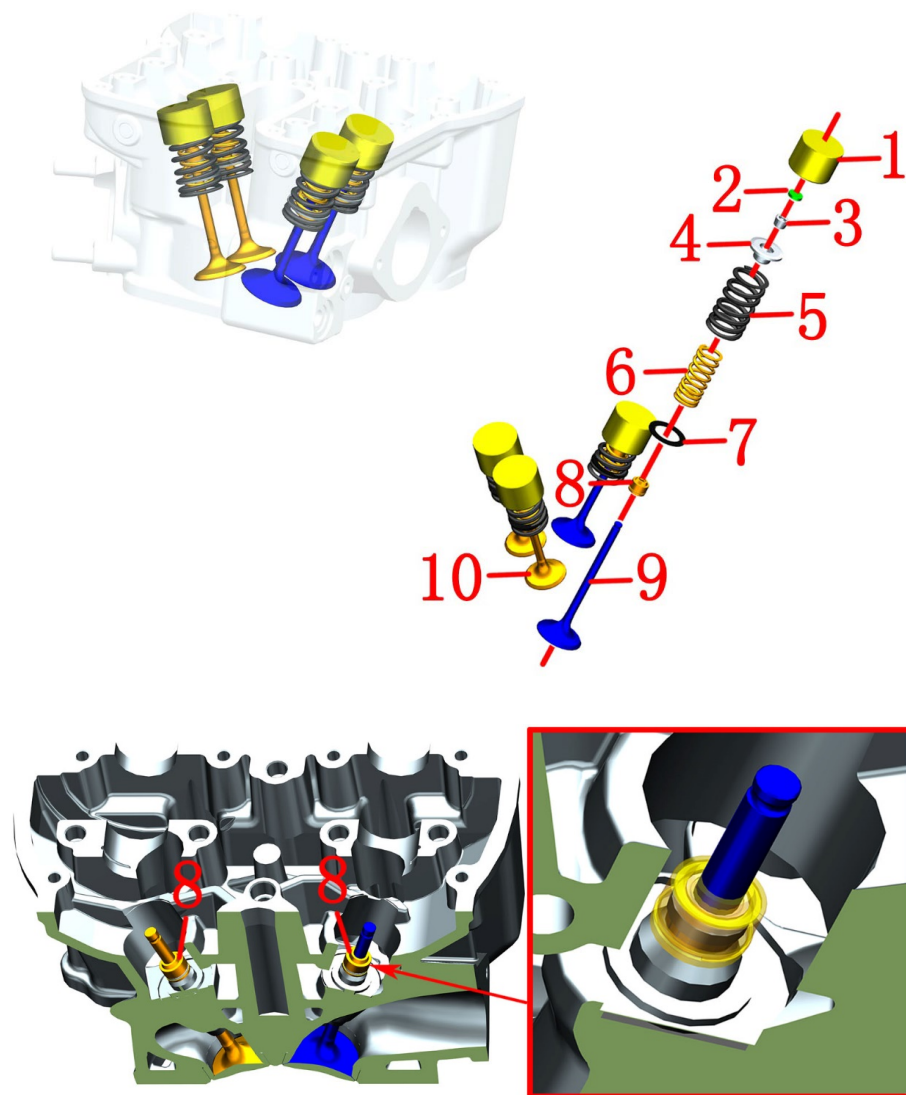


Fig.11 CYLINDER HEAD ASSEMBLY		valve assembly	CHK	
NO.	PART NO.		ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1050161-021000	3×27×19 sliding tappet	4	
2	1050154-020000	φ 8.85 valve clearance adjusting pad	4	
3	1050158-008000	ZT184MP Valve lock clamp	8	
4	1050154-016000	ZT180MN Valve spring ring	4	
5	1050154-039000	ZT180MN valve outer spring A	4	
6	1050158-001000	ZT184MP valve inner spring	4	
7	1050153-015000	16.5×23.5×1 valve spring seat	4	
8	1051553-001000	Φ5.0 valve stem diameter oil seal	4	
9	1050158-006000	ZT184MP Intake valve	2	
10	1050158-007000	ZT184MP Exhaust valve	2	

### PROCEDURE:

#### ● Check valve tightness

Before disassembling the valve spring, check the valve sealing performance; if there is slight leakage at the valve, it is normal and no disassembly is required; if the leakage is serious, the valve or cylinder head assembly needs to be disassembled and replaced. If the engine burns oil, it is necessary to disassemble and replace the valve oil seal, otherwise it is not necessary to disassemble.

Check air tightness: Close the intake valve and exhaust valve, and pour the gasoline directly from the intake port and exhaust port. If the gasoline seeps out slightly, it means the seal is normal. If the gasoline flows out directly, it means the seal is not in place and needs to be replaced. Install the valve oil seal.

#### ● Remove valve assembly

Take out the sliding tappet (1) and remove the adjusting pad (2);

Use a valve remover or other suitable tool to press down the upper spring ring (4) and then remove the two valve lock clips (3), and take out the outer spring (5), inner spring (6), spring seat (7), valve oil seal (8), intake valve (9) in sequence;

Use the same method to remove the other valves.

### Notice:

● Apply an appropriate amount of oil to all the parts to be installed during installation.

● Oil seal (8) is for one-time use and must be replaced after disassembly; oil seal (8) needs



## 2-CYLINDER HEAD ASSEMBLY

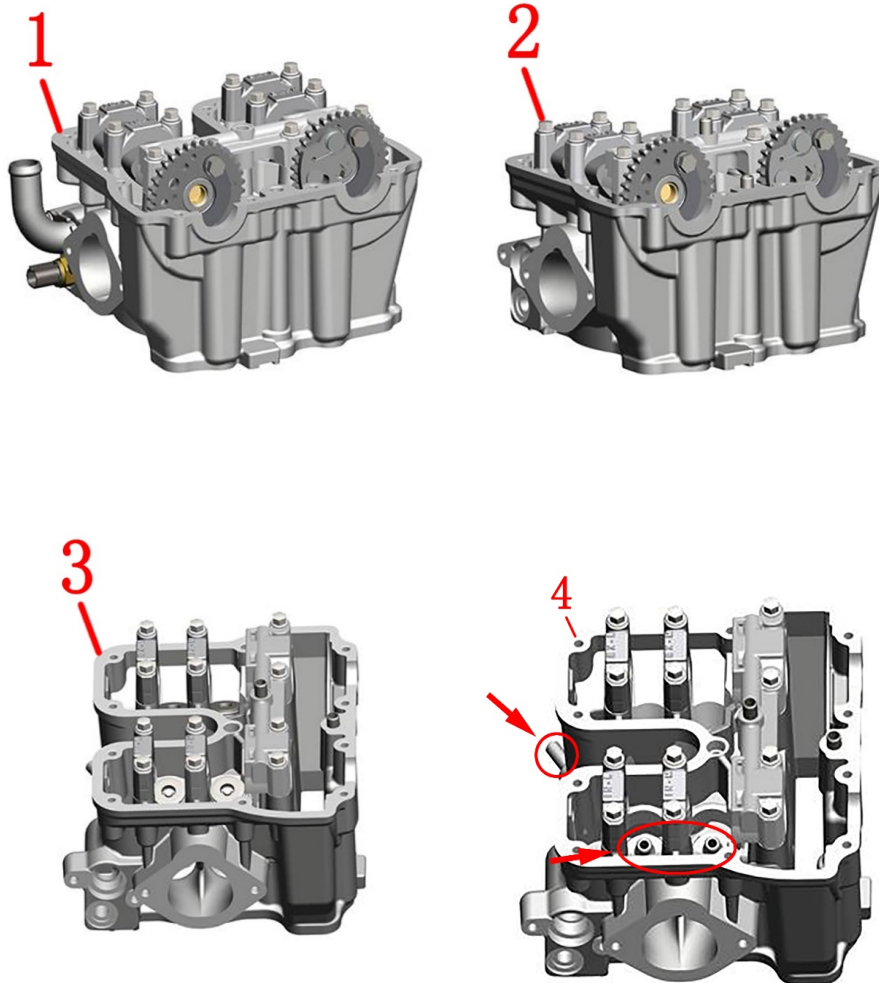


Fig.12 CYLINDER HEAD ASSEMBLY		After-sales parts description	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	4050658-004000	ZT184MP cylinder head sub-assembly	1	After-sale
2	4050658-008000	ZT184MP cylinder head valve camshaft sub-assembly	1	
3	4050658-009000	ZT184MP cylinder head valve sub-assembly	1	
4	4050658-005000	ZT184MP cylinder head assembly	1	

### PROCEDURE:

#### ●Cylinder head sub-assembly

Cylinder head assembly (1) includes cylinder head assembly, valve assembly, camshaft assembly, stud sub-assembly, etc.

#### ●Cylinder head valve camshaft sub-assembly

Cylinder head valve camshaft sub-assembly (2) includes valve assembly, intake camshaft sub-assembly and exhaust cam sub-assembly.

#### ●Cylinder head valve sub-assembly

The cylinder head valve sub-assembly (3) includes the cylinder head exhaust pipe stud sub-assembly, intake valve, exhaust valve and other components.

#### ●Cylinder head exhaust pipe double-ended stud sub-assembly

The cylinder head exhaust pipe double-ended stud sub-assembly (4) includes the cylinder head camshaft seat cover sub-assembly, M8-M8×38 double-ended 10.9-grade stud (environmentally friendly color zinc) and other parts.

### Notice:

● Please check the status of parts before placing an order and place an order according to your own needs.

● ZT184MP The gasket of the cylinder head cover is a one-time seal and needs to be replaced every time it is disassembled. It is recommended to purchase it together.

### 3-CYLINDER BLOCK ASSEMBLY

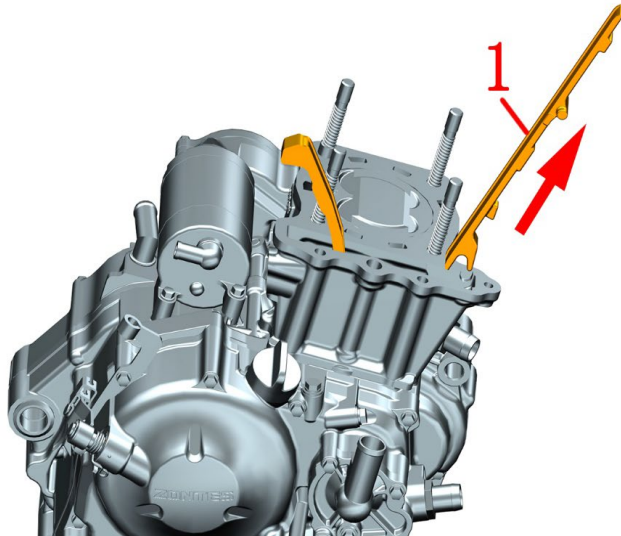
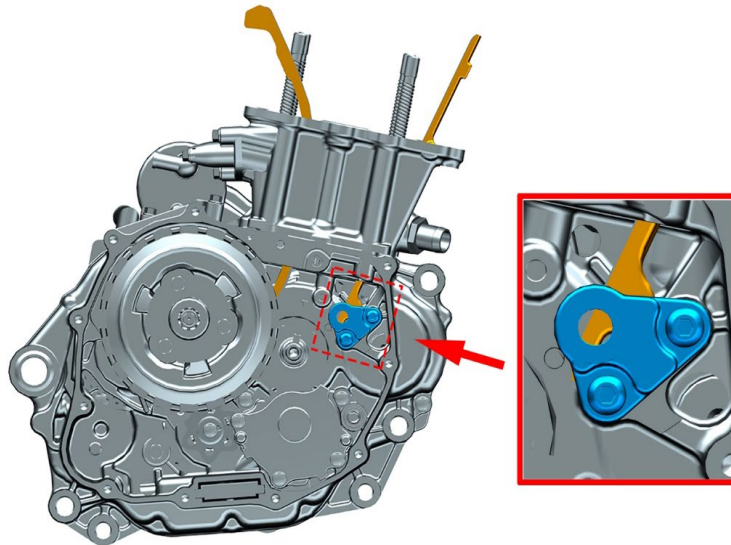


Fig.1 CYLINDER BLOCK ASSEMBLY		Remove the guide bar	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1050158-005000	ZT184MP guide strip	1	

#### PROCEDURE:

##### ● Guide Strip

Pull out the guide bar (1) in the direction of the arrow.



#### Notice:

- When installing the guide bar, the guide bar needs to be clamped to the position shown in the lower left.
- Prevent foreign objects from falling into the engine during disassembly and installation.

### 3-CYLINDER BLOCK ASSEMBLY

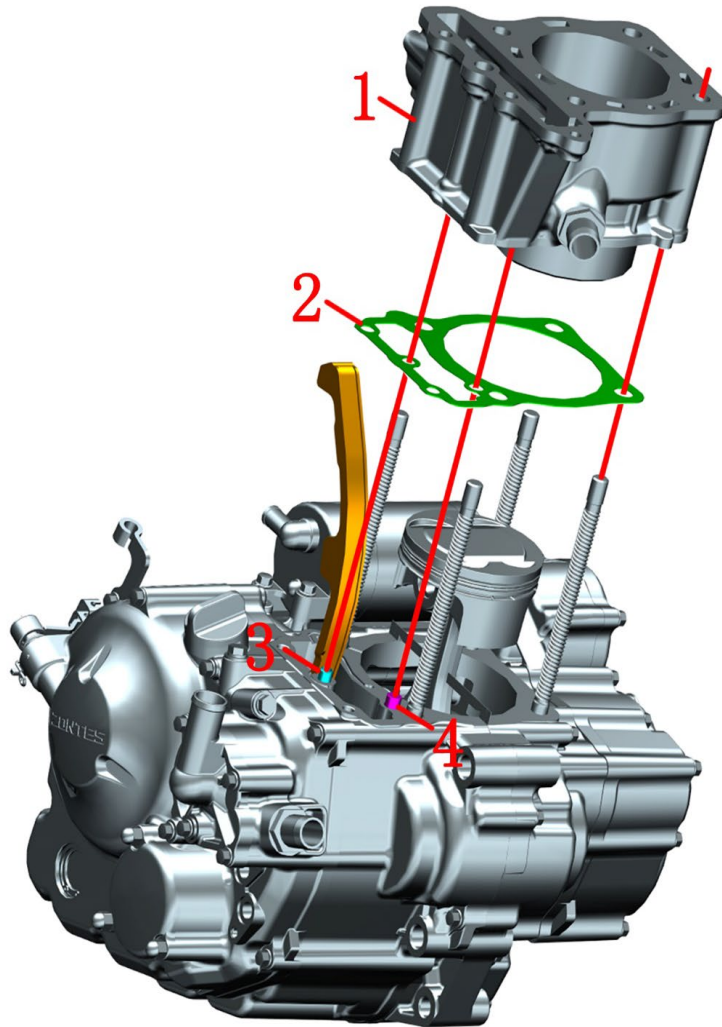


Fig.2 CYLINDER BLOCK ASSEMBLY		Cylinder block assembly	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	4050558-004000	ZT184MP Cylinder body assembly	1	
2	1051658-007000	ZT184MP Cylinder body gasket (foam rubber)	1	
3	1251401-001000	φ8×14 hollow locating pin	1	
4	1051161-003000	GB119.2 φ9×14 cylindrical pin	1	

#### PROCEDURE:

Take the cylinder assembly out vertically, remove the gasket (2), positioning pins (3), cylindrical pin (4), and clean the remaining sealant on the joint surface.

#### Notice:

- The gasket (2) are for one-time use and must be replaced after disassembly, otherwise there will be oil leakage and water leakage.
- Check the inner wall of the cylinder. If there are obvious scratches or damages on the inner wall of the cylinder, it must be replaced.
- Before installing the cylinder, make sure that the box and cylinder assembly planes are smooth and flat and apply a proper amount of sealant on the box assembly plane. After installing the new gasket, apply a proper amount of sealant on the upper surface of the new gasket.
- Prevent foreign objects from falling into the engine during disassembly and installation.
- Before installing the cylinder, apply a proper amount of engine oil to the inner wall of the cylinder as lubrication.

### 3-CYLINDER BLOCK ASSEMBLY

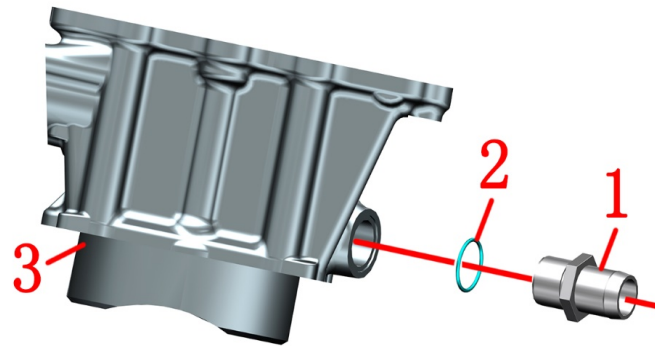


Fig.3 CYLINDER BLOCK ASSEMBLY		Cylinder block assembly		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
1	1051954-007000	ZT180MN Inlet and outlet pipe connector		1	
2	1051454-008000	19×1.5 ethylene propylene terpolymer O shape circle		1	
3	4050558-001000	ZT184MP Cylinder body		1	

#### PROCEDURE:

- Disassemble the cylinder

Use a 24# sleeve to remove the water pipe joint and take out the O-ring.

- Match cylinder and piston

Due to tolerances in the manufacture of cylinders and pistons, our company divides the corresponding tolerances into 3 groups, namely "A", "B" and "C". Which group, the cylinder of group "A" can only buy the piston of group "A", if the purchased cylinder or piston group is wrong, it may cause problems such as engine pulling cylinder. "



#### Notice:

- O-ring is a one-time item, and each disassembly will cause different degrees of damage to it, and it must be replaced every time it is disassembled, otherwise there will be water leakage and other phenomena.



### 3-CYLINDER BLOCK ASSEMBLY

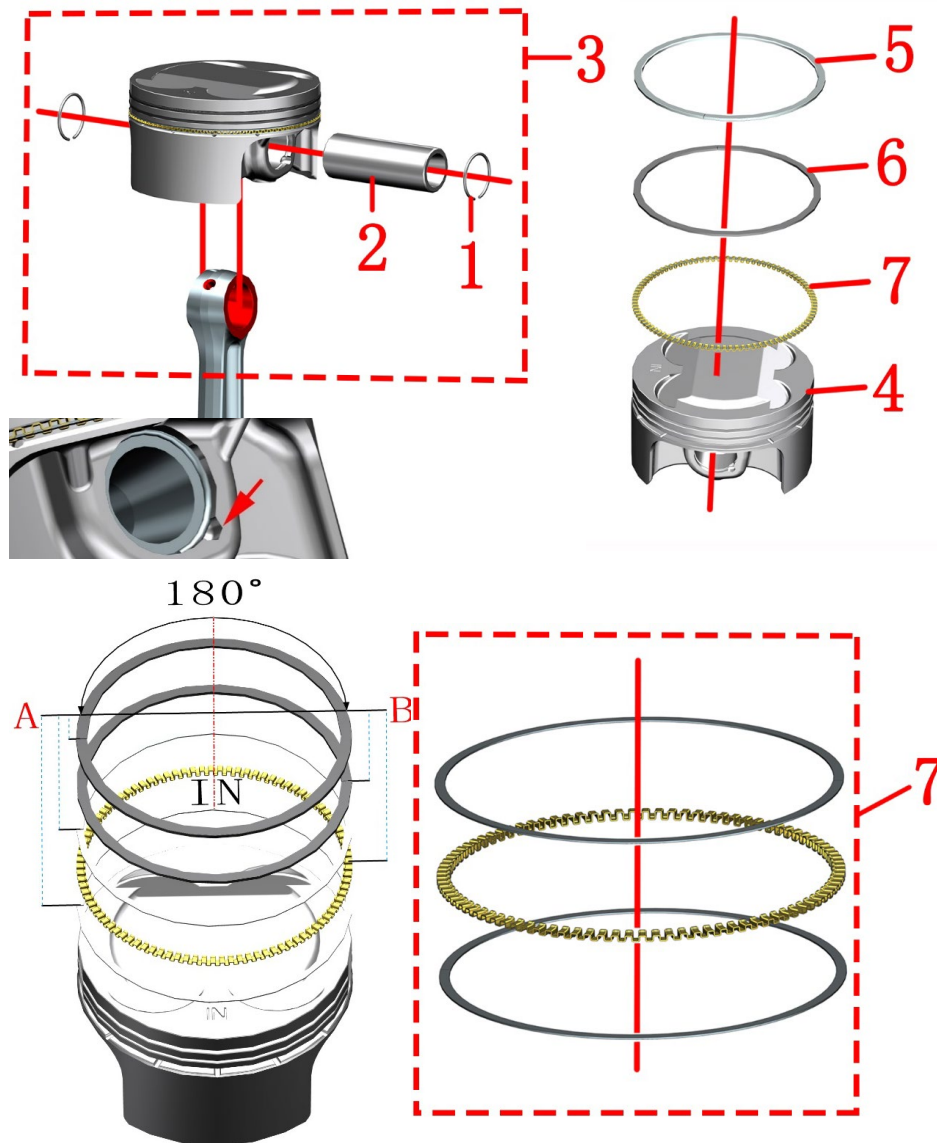


Fig.4 CYLINDER BLOCK ASSEMBLY		Piston assembly1	CHK	CAUTION
			ADJ	
NO.	PART NO.	PART NAME	QTY	
1	1050454-007000	21×1.2 piston pin retainer	2	After-sale
2	1050458-002000	ZT184MP(19×47.3×10) Piston pin	1	
3	1050458-008000	ZT184MP Piston assembly	1	Assembly
4	1050458-001000	ZT184MP(84.5) piston	1	After-sale
5	1050458-003000	ZT184MP(84.5×1) First air ring	1	
6	1050458-004000	ZT184MP(84.5×1) Second air ring	1	
7	1050458-005000	ZT184MP(84.5×1.5) Oil ring combination	1	

#### PROCEDURE:

##### ●Piston assembly

Turn the opening of the piston retaining ring (1) to the vicinity of the gap of the retaining ring groove, and remove it with pick needle.

Push the piston pin (2) out of the crankshaft connecting rod, and remove the piston (3).

Open the gap at the end of the first air ring (5) by hand, and lift the other side to the top of the piston, and remove the first air ring (5).

Use the same method to remove all gas and oil rings.

##### Notice:

●Remove the carbon deposits on the piston ring groove and piston ring, and apply appropriate amount of engine oil to the piston ring groove.

●It is necessary to prevent the piston pin retaining ring (1) or other foreign objects from falling into the box during installation and removal.

●Check whether the piston skirt is scratched or damaged, if any, it must be replaced.

●When installing the oil ring assembly, you need to install the copper liner ring first, and then install the two wiper rings. The copper liner ring interface cannot overlap.

●When installing the air ring, the marked surface should be installed toward the top of the piston, air ring 1: "P1R", air ring 2: "P2R"

●When installing, the openings of each air ring and scraper ring should be staggered by 180 degrees.

●Check the piston pin retaining ring (1), if it is deformed and has no elasticity, it must be replaced.

●Piston assembly and piston are divided into three groups: A, B, and C. The assembled piston and cylinder must be in the same group

### 3-CYLINDER BLOCK ASSEMBLY



Fig.5 CYLINDER BLOCK ASSEMBLY		After-sales parts description	CHK	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	4050558-003000	ZT184MP cylinder piston sub-assembly	1	After-sale
2	4050558-004000	ZT184MP Cylinder body assembly	1	
3	1050458-008000	ZT184MP Piston assembly	1	

#### PROCEDURE:

##### ●Cylinder piston sub-assembly

The cylinder piston sub-assembly includes a piston assembly and a cylinder block assembly.

##### ●Cylinder block assembly

The cylinder block assembly includes a cylinder block, water inlet and outlet pipe joints and O-rings.

●Piston assembly assembly Piston assembly assembly includes piston, piston pin and other components.

#### Notice:

- Please check the status of parts before placing an order and place an order according to your own needs.
- When installing the piston, make sure that the side with the "IN" mark on the piston head is not on the side in the direction of the tensioner mounting surface.
- Pistons and cylinders are divided into three groups, A, B, and C. The assembled pistons and cylinders must be in the same group.
- ZT184MP cylinder head cover gasket is a one-time seal, it needs to be replaced every time it is disassembled, it is recommended to buy it together. Pistons and piston rings are not included. Cylinders and pistons are divided into three groups: A, B, and C. In order to ensure proper cylinder matching clearance, the cylinder and piston must use the same group. If only the cylinder is to be replaced, please purchase the group corresponding to the original engine cylinder and place an order. Please indicate the cylinder group, or consult our sales staff. Inconsistent cylinder and piston groups can cause serious engine damage.

#### 4-RIGHT CRANKCASE COVER ASSEMBLY

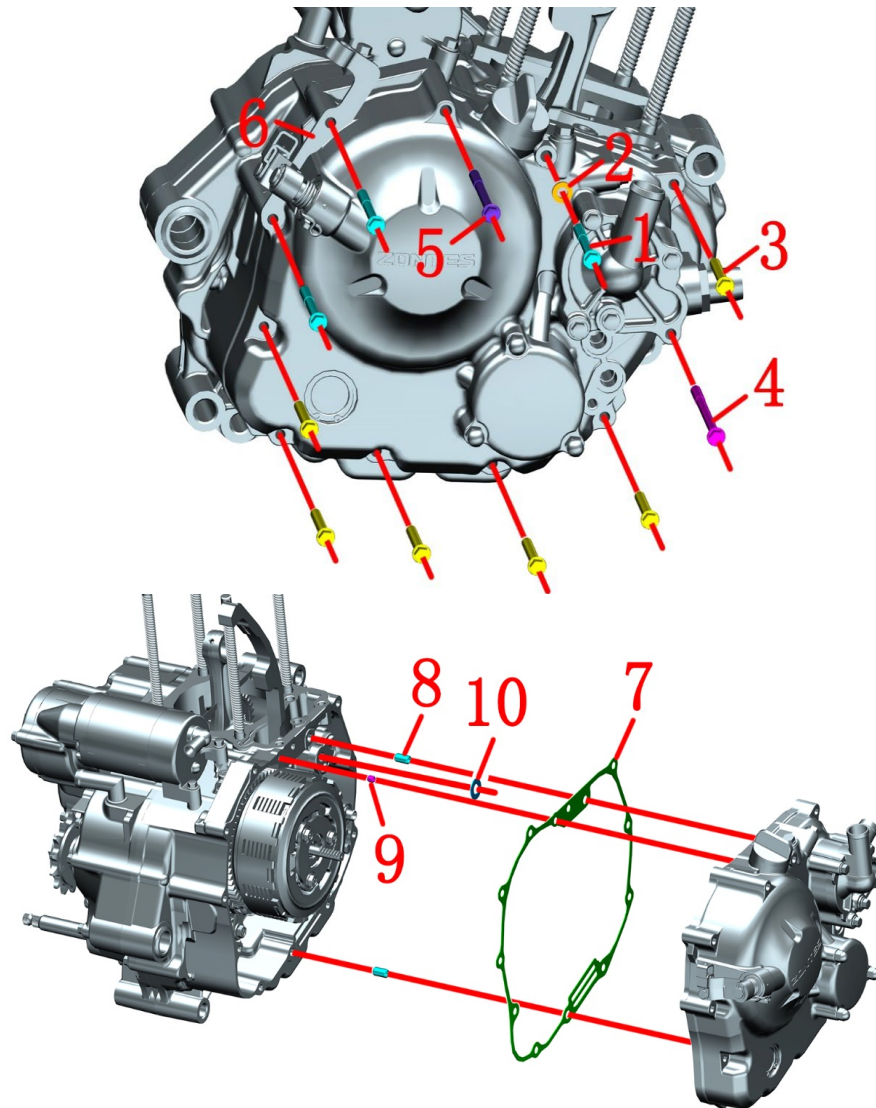


Fig.1 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 1	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251112-004093	M6×60 Hexagon flange bolts (color Zinc)	3	
2	1251513-001019	6.3×12×1.6 copper gasket	1	
3	1251112-003093	M6×45 Hex flange surface 9.8 bolt (color Zinc)	6	
4	1251112-006093	M6×90 Hexagon flange bolts (color Zinc)	1	
5	1251112-005093	M6×75 Hexagon flange bolts (color Zinc)	1	
6	1051354-008000	ZT180MN clutch cable bracket	1	
7	1051658-008000	ZT184MP Gasket for right crankcase cover (foaming rubber)	1	
8	1251401-001000	φ8×14 hollow locating pin	2	
9	1050854-007000	φ6×6 hollow positioning pin	1	
10	1051354-012000	9.2×18×1 Thrust Washer	1	

#### PROCEDURE:

- Remove the right crankcase cover

Fix the engine, use an 8# sleeve to remove 3 bolts (1) with a copper washer (2), 6 bolts (3), 1 bolt (4) and 1 bolt (5); take out the Clutch cable bracket(6).

Separate the right crankcase cover sub-assembly from the engine case, and remove the gasket (7), 2 locating pins (8), and 1 locating pin (9), Water pump shaft washer 9.2×18×1(10).

#### Notice:

- The gasket (7) is for one-time use and must be replaced after disassembly.
- Before installing the box body, make sure that the box body assembly plane is smooth and flat and apply an appropriate amount of sealant on the box body assembly plane. After installing the new gasket(7), it is necessary to apply sealant again on the upper surface of the Install new gasket (7) .
- When installing the right cover, all bolts should be evenly tightened at the corners to ensure tightness.



# 4-RIGHT CRANKCASE COVER ASSEMBLY

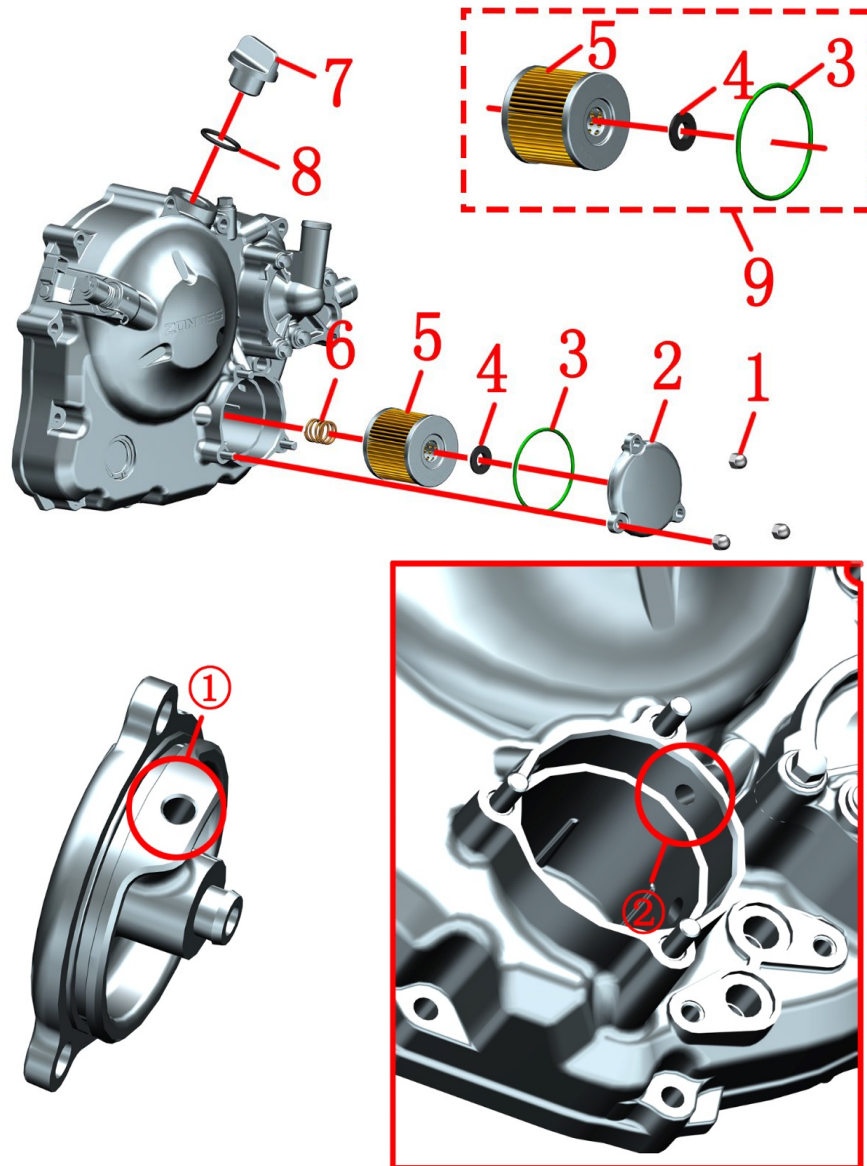


Fig.2 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 2	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251300-096000	Non-standard cover type 9 degree nut M6×13 (environmental color Zinc)	3	12±1.5N.m
2	4050454-014051	ZT180MN fine filter cover A (dark gray)	1	【2】
3	1051454-020000	55×2.5 Hydrogenated nitrile rubber O-ring	1	
4	1051454-005000	ZT180MN Oil filter sealing ring	1	
5		Outer diameter Φ50×47 cylindrical fine filter	1	
6	1050853-009000	Φ16.4×17×1.6 filter spring	1	
7	1051161-012000	M24×2 oil filler plug	1	
8	1051461-007000	25×3.1 Hydrogenated nitrile rubber O-ring	1	
9	4134300-001000	ZT184MP fine filter sealing assembly(carton packaging)	1	

## PROCEDURE:

### ●Fine filter assembly

Use a 10# sleeve to remove the 3 nuts (1), remove the fine filter cover (2), O-ring (3), sealing ring (4), fine filter (5), spring (6).

### ●Oil plug

Hold the oil plug (7) by hand and turn it counterclockwise to take out the O-ring(8).

### Notice:

- When replacing the fine filter (5), the O-ring 3 and the sealing ring (4) must be replaced, otherwise there will be oil seepage and other phenomena.
- 【2】 O-ring (3), sealing ring (4), fine filter (5) are all included in the fine filter sealing component (10), do not need to be purchased separately.
- It is strictly forbidden to lift the fine filter cover with hard objects, otherwise it will cause oil leakage.
- Check whether the O-ring is damaged. If it is damaged, replace it immediately, otherwise it will cause oil leakage.
- Do not install the Fine filter upside down. The end face of the filter element with the "OUT-SIDE" mark faces the fine filter cover.
- The hole on the fine filter cover ① should be aligned with the hole on the right cover ② when installing.
- You can watch the detailed operation in "ZT350 Replacing Fine Filter Video".

#### 4-RIGHT CRANKCASE COVER ASSEMBL

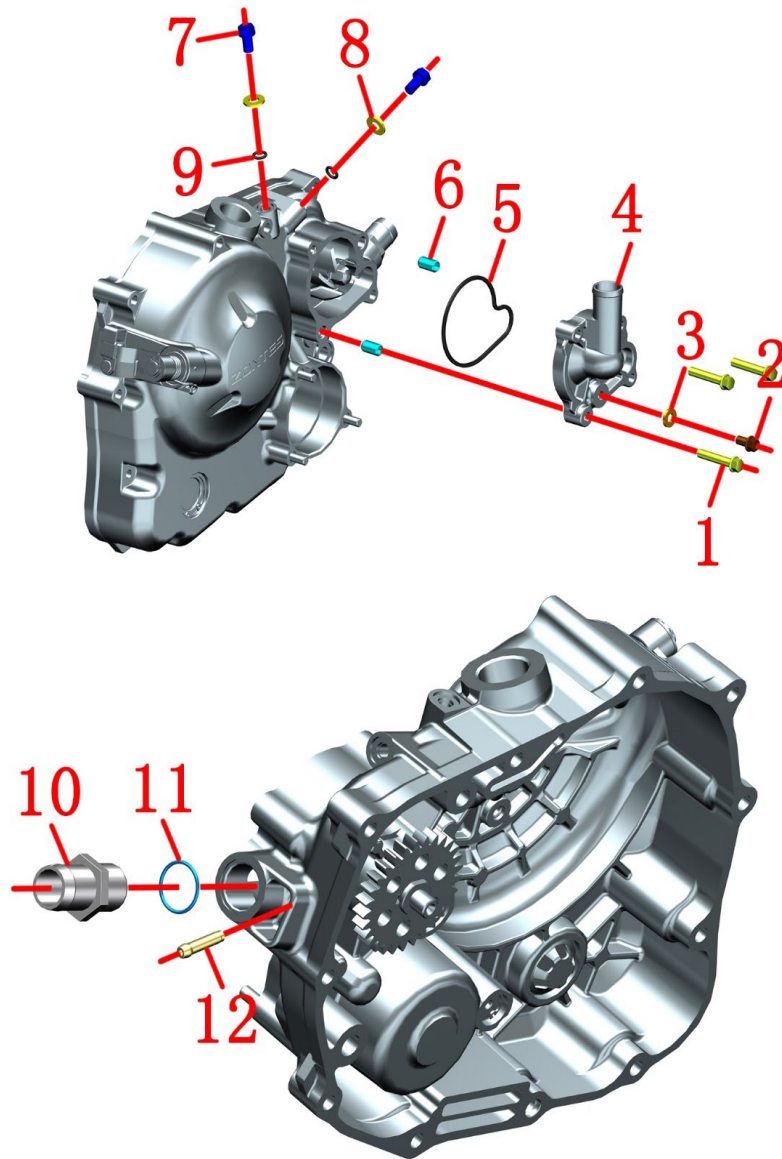


Fig.3 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 3	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	3	
2	1251100-067093	M6×10 top pin bolt (color Zinc)	1	
3	1251513-001019	6.3×12×1.6 copper gasket	1	
4	4050454-015051	ZT180MN water pump cover A (dark gray)	1	
5	1051454-006000	ZT180MN Water pump sealing ring	1	
6	1251401-001000	φ8×14 hollow locating pin	2	
7	1251100-317000	M7×12.5 pivot bolt	2	
8	1051358-001000	7.3×15×1.6 copper gasket	2	
9	1051458-001000	6.5×2 Hydrogenated nitrile rubber O-ring	2	
10	1051954-007000	ZT180MN Inlet and outlet pipe connector	1	
11	1051454-008000	19×1.5 ethylene propylene terpolymer O shape circle	1	
12	1051761-005000	φ3×φ5×23 copper overflow pipe joint	1	

#### PROCEDURE:

- Remove the water pump cover assembly  
Use an 8# sleeve to remove 3 bolts (1) and 1 ejector bolt (2), remove the copper gasket (3), the water pump cover (4), and remove the sealing ring (5) and 2 positioning pins (6).
- Remove the inlet and outlet pipe joint assembly  
Use a 24# Torx wrench to remove the water pipe joint (10), and take out the O-ring(11); then use needle-nose pliers to pull out the overflow pipe joint (12).

#### Notice:

- The sealing ring and O-ring are for one-time use, and must be replaced when dismantling, otherwise there will be leakage and other phenomena.

#### 4-RIGHT CRANKCASE COVER ASSEMBLY

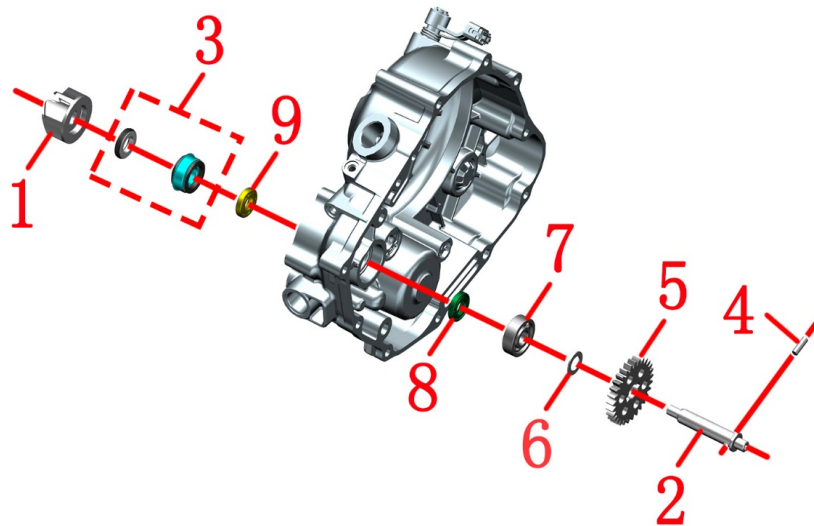


Fig.4 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 4	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1051958-001000	ZT184MP water pump	1	
2	1051958-002000	ZT184MP Water pump shaft	1	
3	1051954-006000	ZT180MN Water seal subassembly	1	
4	1250404-006000	GB119.2φ5×18 cylindrical pin	1	
5	1050358-006000	ZT184MP Water pump gear	1	
6	1251512-007000	Thrust washer,12.2×20×1	1	
7	1250601-077000	6201-C deep groove ball bearing(FAG)	1	
8	1051554-001000	FB12×24×5 HNBR oil seal	1	
9	1051570-007000	FB12×24×5 hydrogenated nitrile rubber seal	1	

#### PROCEDURE:

##### ● Water pump components:

Use a 12# sleeve to counterclockwise remove the water pump (1).

Pull out the water pump shaft (2) from the reverse side, and remove the cylindrical pin (4), gear (5) and washer (6) on the water pump shaft (2).

● Right crankcase cover loose parts Both the bearing and the right crankcase cover are in an interference fit, and there is a requirement for press-fitting accuracy. It is not recommended to disassemble it unless there are special circumstances.

● Component (3) and has requirements for press-fitting accuracy, it is not recommended to disassemble it unless it is a special case.

#### Notice:

● If the bearing is damaged, it is recommended to go to a professional organization for replacement.

● Once the oil seal is disassembled, it must be replaced. To replace the oil seal, check whether the oil seal is damaged before and after pressing to prevent oil leakage.

# 4-RIGHT CRANKCASE COVER ASSEMBL

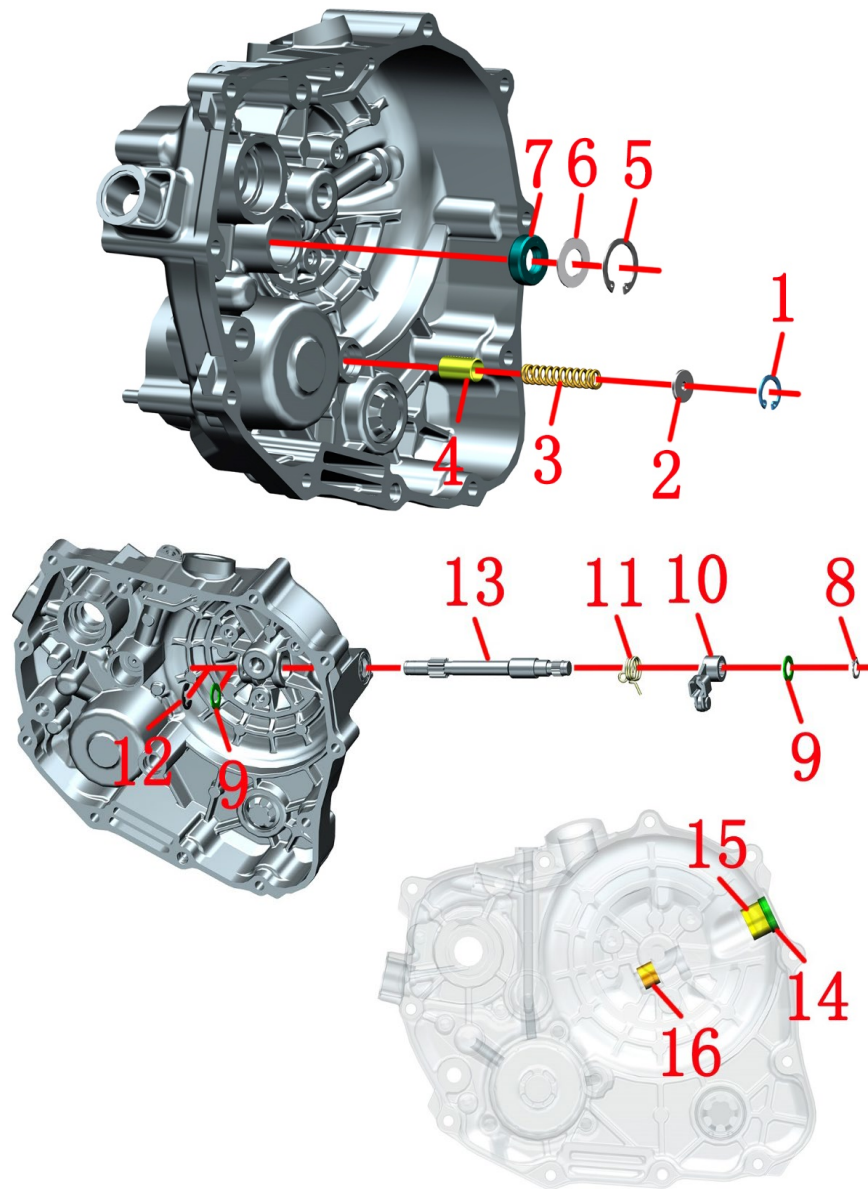


Fig.5 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 5		CHK	CAUTION
				ADJ	
NO.	PART NO.	PART NAME		QTY	
1	1051358-006000	GB893.1 hole retaining ring $\phi 15$		1	
2	1051358-007000	ZT184MP pressure relief valve spring seat		1	
3	1050858-006000	ZT184MP pressure relief valve spring		1	
4	1050858-007000	ZT184MP pressure relief valve plunger		1	
5	1051354-013000	type hole circlip $\phi 24 \times 1$		1	
6	1051554-004000	$\phi 12.8 \times \phi 23 \times 1$ Thrust washer		1	
7	1051554-004000	12 $\times$ 23 $\times$ 7 hydrogenated nitrile rubber oil sea		1	
8	1051154-003000	GB894.1 shaft retaining ring 10 (Dacromet)		1	
9	1051154-004000	10.2 $\times$ 18 $\times$ 1 gasket (Dacromet)		2	
10	1051354-009000	ZT180MN clutch lever rocker arm assembly		1	
11	1050754-018000	ZT180MN sliding clutch rod torsion spring		1	
12	1250511-003000	GB896 opening retaining ring $\phi 9$		1	
13	1050254-008000	ZT180MN clutch rod shaft		1	
14	1051553-002000	FB14 $\times$ 22 $\times$ 5 Hydrogenated nitrile oil seal.		1	
15	1250602-033000	HK1412 needle roller bearing		1	
16	1250602-022000	GB290-HK1010 needle roller bearing		1	

## PROCEDURE:

### ● Removing the right crankcase cover assembly

Use circlip pliers to take out a retaining ring (1), and take out the spring seat (2), spring (3) and plunger (4).

Use circlip pliers to take out retaining ring (5), washer (6) and oil seal (7).

Use circlip pliers to take out the retaining ring (8), thrust washer (9), pull out the tie rod assembly (10) and torsion spring (11), use the circlip pliers to pick out the retaining ring (12), remove the washer (9) and take out the tie rod shaft (13).

Use circlip pliers to take out oil seal (14), bearing (15), bearing (16)

### Notice:

● Do not disassemble or assemble the bearing except under special circumstances. If the bearing must be replaced, please go to a maintenance organization capable of replacing it.

● The retaining ring will be deformed during disassembly. It is recommended to replace it after disassembly.



#### 4-RIGHT CRANKCASE COVER ASSEMBL

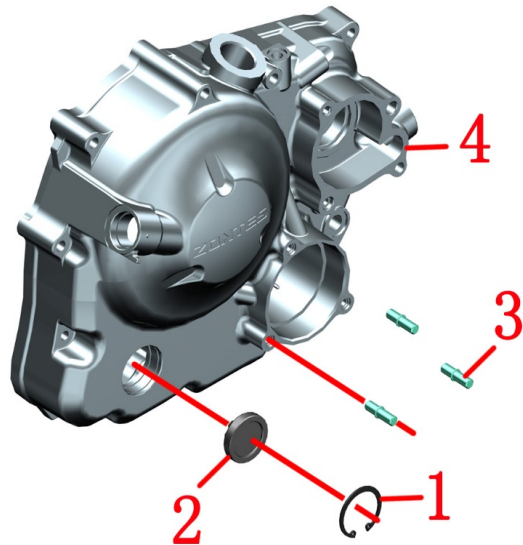


Fig.6 RIGHT CRANKCASE COVER		Remove Right Crankcase Cover Assembly 6	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1051361-002000	GB/T893.1 hole retaining ring $\phi 30 \times 1.2$ (Dacromet)	1	
2	1050861-002000	$\phi 30$ hydrogenated nitrile rubber engine oil window	1	
3	1251111-013000	Non-standard M6 $\times$ 25.5 double-head 9.8 studs bolts (environmental color Zinc)	3	
4	4050458-003000	ZT184MP right crankcase cover assembly (dark gray)	1	

#### PROCEDURE:

##### ● Removing the right crankcase cover assembly

Use circlip pliers to take out retaining ring (1) and oil window (2).

Use professional tools to remove the studs (3).

#### Notice:

● Stud (3) generally do not need to be dismantled, dismantling is to weld an M6 nut at the exposed thread, and then remove it with an 8# sleeve.

● When installing the stud, screw in an M6 cap nut on the longer thread, apply sealant on one end of the shorter thread, and install the stud on the right cover with an 8# sleeve.



#### 4-RIGHT CRANKCASE COVER ASSEMBLY

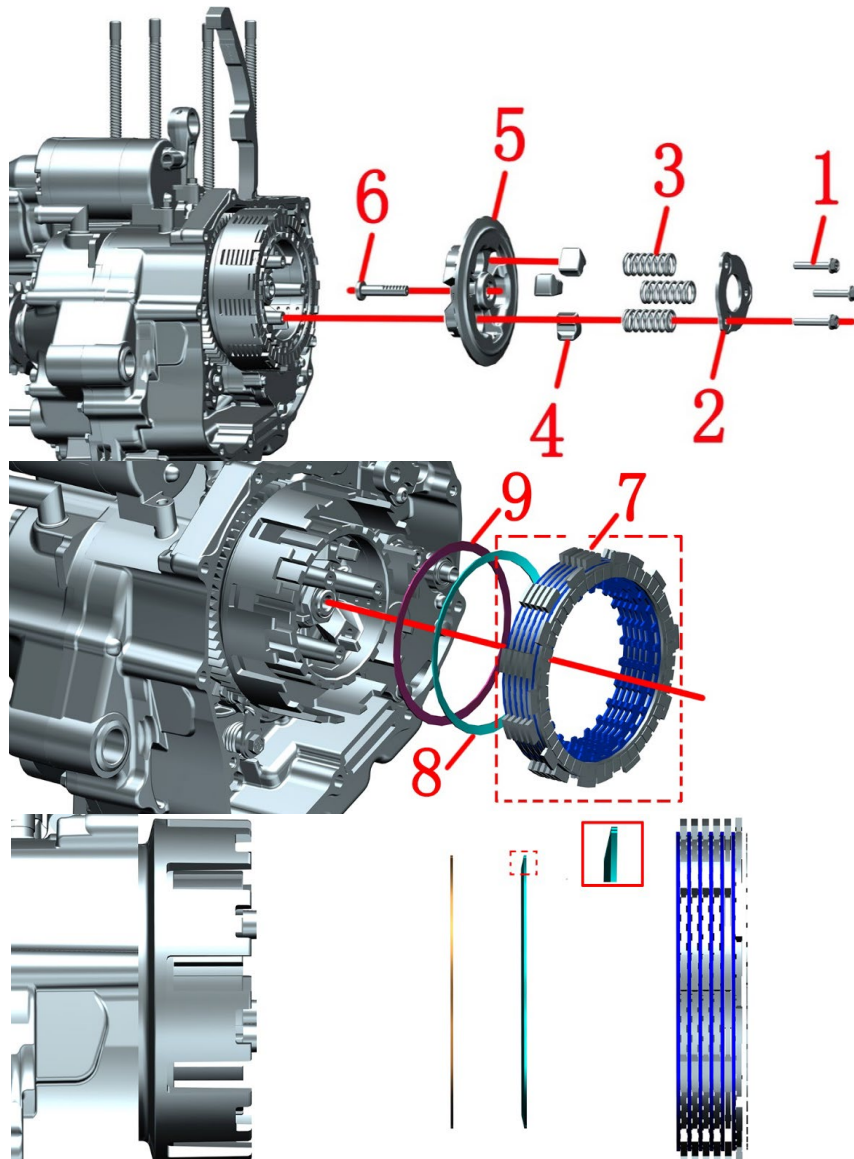


Fig.7 RIGHT CRANKCASE COVER		Remove the clutch1	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251100-070093	M6×30 flange full thread bolt(graped 9.8/environmental color)	3	
2	1050754-007000	ZT180MN clutch spring pressure plate	1	
3	1050758-002000	ZT184MP clutch spring	3	
4	1051454-017000	ZT180MN sliding clutch cushion rubber	3	
5	1050754-024000	ZT180MN sliding clutch pressure plate sub-assembly	1	
6	1050754-006000	ZT180MN clutch release lever	1	
7	1050754-023000	ZT180MN sliding clutch friction plate sub-asse	1	
8	1251514-006000	96.5×107×2.2×1 gasket	1	Flat gasket
9	1251512-031000	96.3×107×7 thrust washer	1	Butterflywasher

#### PROCEDURE:

##### ●Clutch assembly

Use an 8# sleeve to remove 3 bolts (1), and take out the pressure plate (2) and 3 springs (3). Pull out the buffer rubber (4), the pressure plate (5), and take off the separation rod (6).

Take out the friction plate sub-assembly (7), lock washer(8), thrust washer (9). The edge of the lock washer(8) is chamfered.

#### Notice:

- When installing, the side of the lock washer with lettering should face outward.
- When disassembling the bolts, loosen them one by one. Try to keep the bolts from having too much height difference, otherwise the parts may bounce off under the action of the spring. The installation should also be tightened one by one.
- Check the wear of each part of the clutch, and replace the defective parts with serious wear.

#### 4-RIGHT CRANKCASE COVER ASSEMBLY

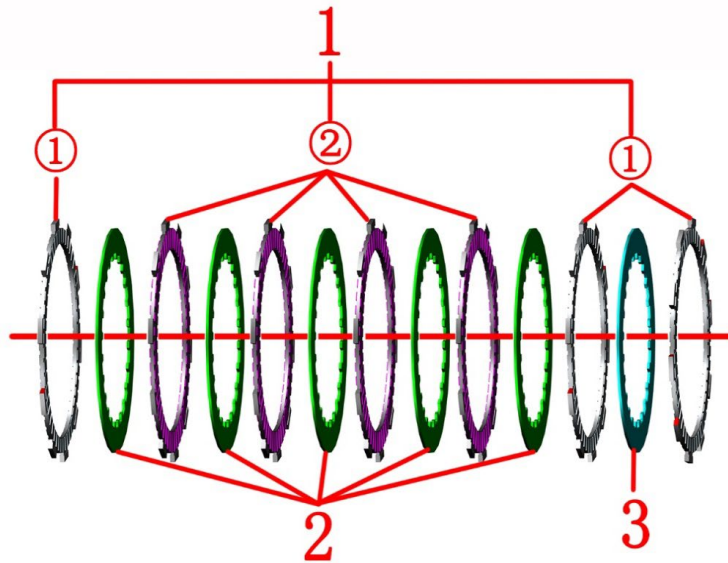
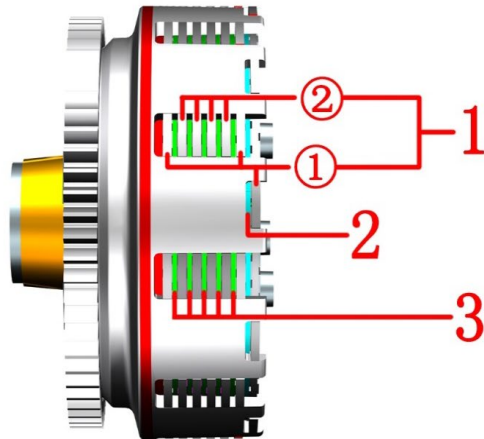


Fig.8 RIGHT CRANKCASE COVER		Clutch assembly-1	CHK	
NO.	PART NO.		ADJ	
		PART NAME	QTY	CAUTION
1	1050754-023000	ZT180MN sliding clutch friction plate sub-assembly	1	7pieces
2	1050754-022000	125×1.5-26Z clutch driven plate	1	
3	1050753-012000	125X1.5 clutch follower plate	5	

#### PROCEDURE:

##### ● Friction plate assembly

Take out 1 piece of friction plate with large inner hole → 1 piece of follower plate with large inner hole → 1 piece of friction plate with large inner hole → follower plate with small inner hole → friction plate with small inner hole → follower of small inner hole Disc → friction disc with small inner hole → follower disc with small inner hole → friction disc with large inner hole. There are 7 friction plates and 6 driven plates, including 3 friction plates with large inner holes and 1 driven plate with large inner holes.

#### Notice:

- The direction of the outermost friction plate is inconsistent with the direction of other friction plates and is stuck in the groove of the driving disc.
- Please check the friction lining during installation. If the friction lining becomes more black, you need to replace a new set of friction lining.
- When installing, please check whether the follower is assembled evenly. If it is not, you need to replace it with a new one.

#### 4-RIGHT CRANKCASE COVER ASSEMBL

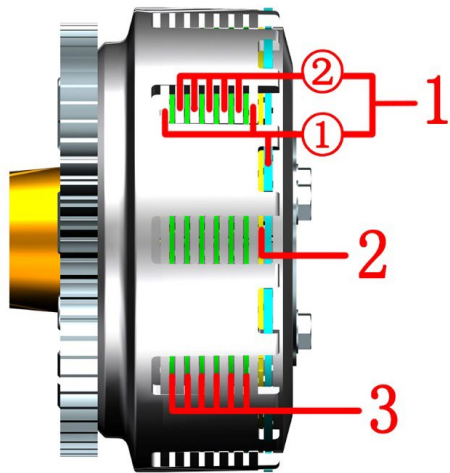
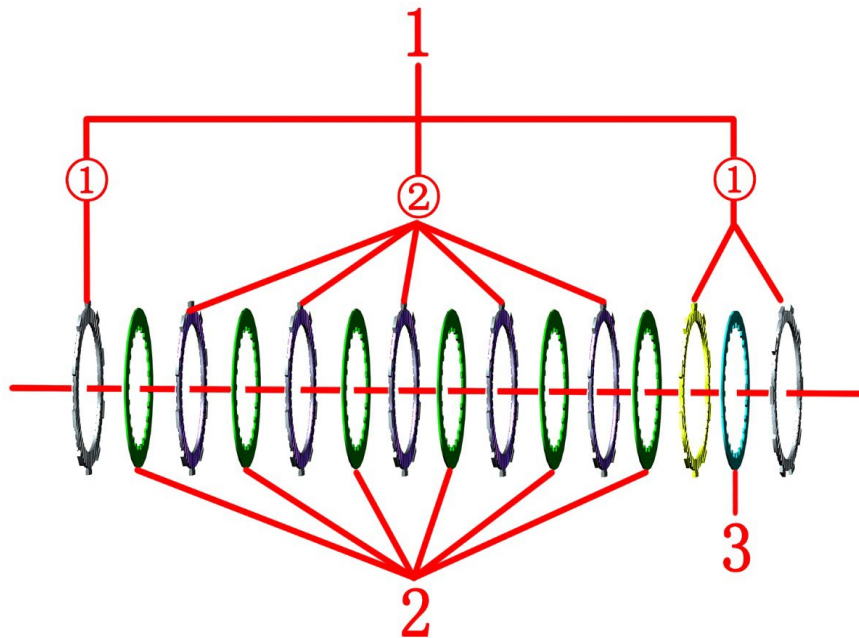


Fig.9 RIGHT CRANKCASE COVER		Clutch assembly-2		CHK	CAUTION
				ADJ	
NO.	PART NO.	PART NAME		QTY	
1	1050758-007000	ZT184MP sliding clutch friction plate sub-assembly		1	8pieces
2	1050754-022000	125×1.5-26Z clutch driven plate		1	
3	1050753-012000	125X1.5 clutch follower plate		6	

#### PROCEDURE:

##### ● Friction plate assembly

Take out 1 piece of friction plate with large inner hole → 1 piece of follower plate with large inner hole → 1 piece of friction plate with large inner hole → follower plate with small inner hole → friction plate with small inner hole → follower of small inner hole Disc → friction disc with small inner hole → follower disc with small inner hole → friction disc with large inner hole. There are 8 friction plates and 7 driven plates, including 3 friction plates with large inner holes and 1 driven plate with large inner holes.



#### Notice:

- The direction of the outermost friction plate is inconsistent with the direction of other friction plates and is stuck in the groove of the driving disc.
- Please check the friction lining during installation. If the friction lining becomes more black, you need to replace a new set of friction lining.
- When installing, please check whether the follower is assembled evenly. If it is not, you need to replace it with a new one.

#### 4-RIGHT CRANKCASE COVER ASSEMBL

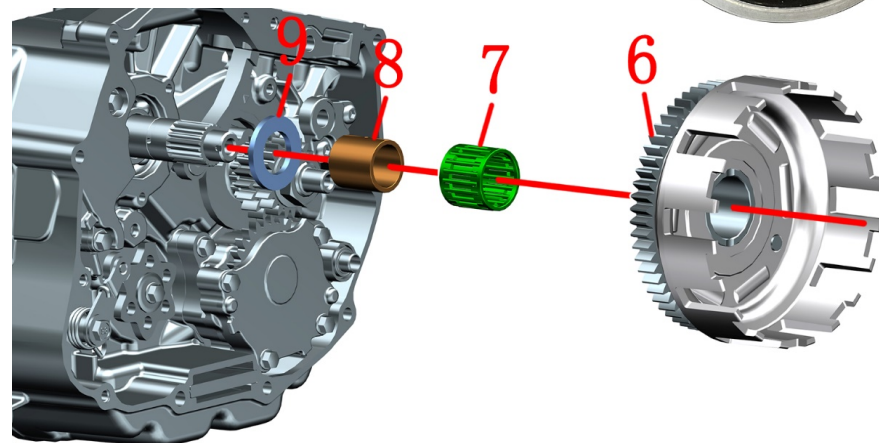
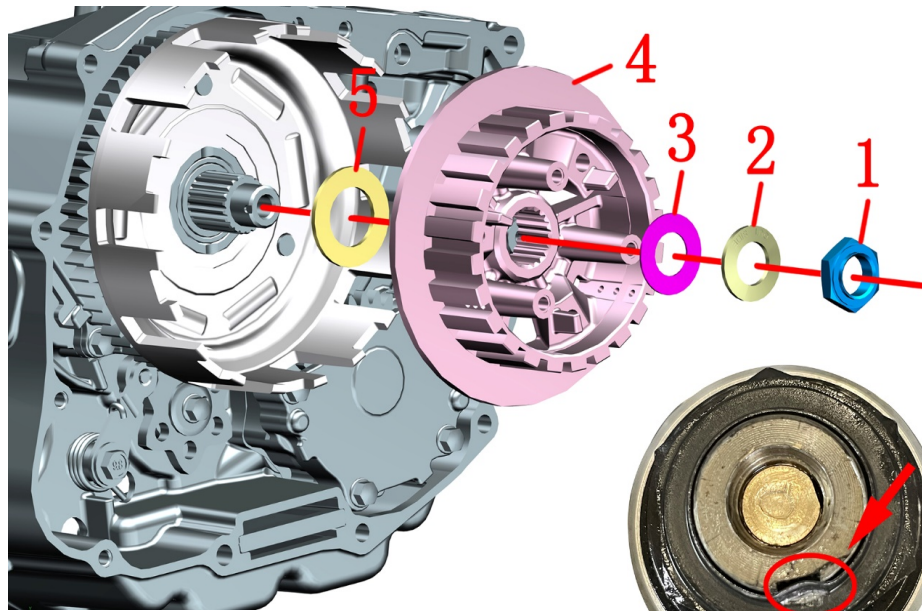


Fig.10 RIGHT CRANKCASE COVER		Clutch assembly-3	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251311-001094	M16×1 Hexagon Thin Nut (Oxidized Black)	1	108±15N.m
2	1251514-002000	16.2×28×2.4×2 Lock Washers	1	
3	1251512-011000	Thrust washer,16.2×30×1	1	
4	4051058-004000	ZT184MP slip clutch driven disc	1	
5	1251512-022000	Thrust washer, 22.2×37×2	1	
6	1050758-001000	ZT184MP clutch outer comp subassembly	1	
7	1250602-014000	K27X32X29.3 Needle Roller Bearings	1	
8	1050753-022000	ZT173YMM Clutch bushing (home-made)	1	
9	1050753-010000	ZT173YMM clutch bushing thrust pad	1	

#### PROCEDURE:

##### ●Clutch master and driven disc assembly

Use a 24# sleeve to remove bolt (1), remove lock washer (2), thrust (3), take out driven plate (4), thrust washer (5).

Take out the driving disc (6), needle roller bearing (7), bush (8), thrust pad (9).

#### Notice:

- Install the lock washer with the "OUT" mark facing outward.
- It is necessary to knock the edge of the nut at the notch of the spindle with a rubber hammer and a flat-head screw during installation to further prevent loosening.



## 5-LEFT CRANKCASE COVER ASSEMBLY

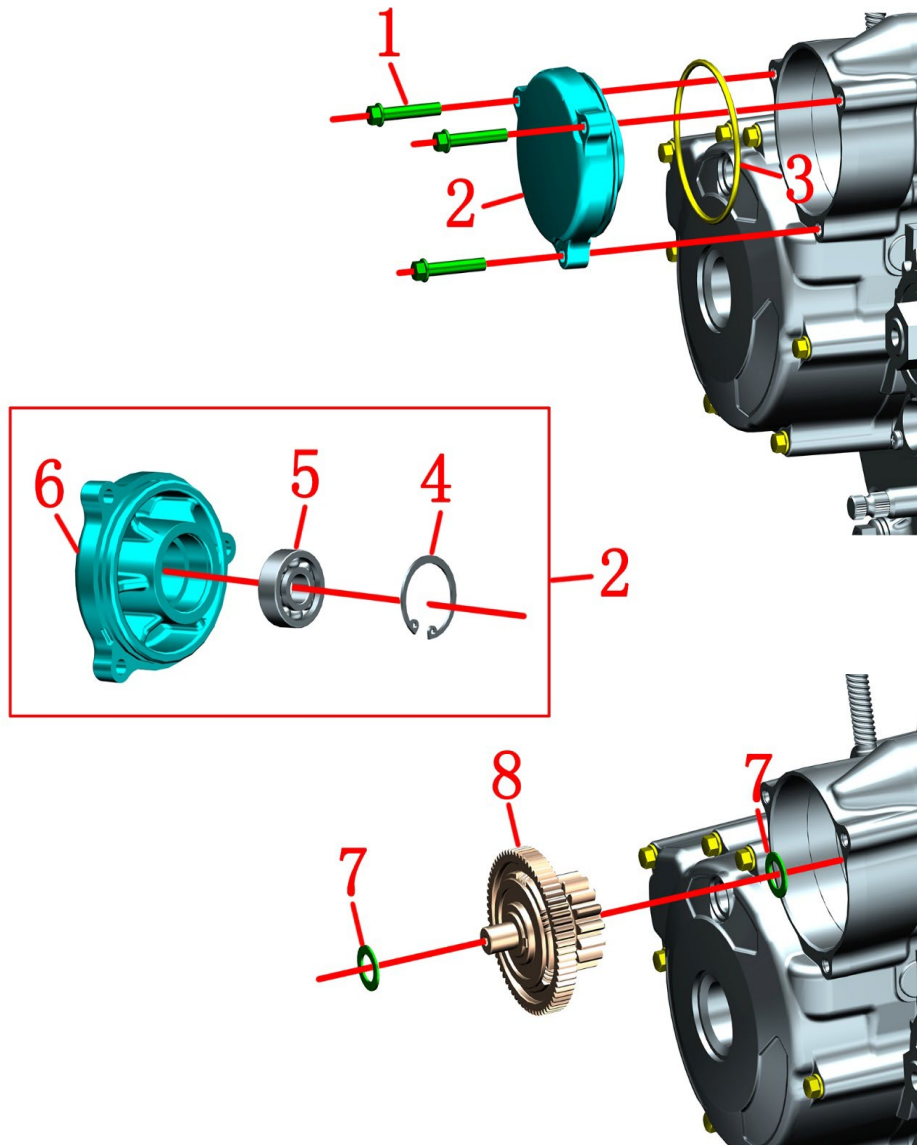


Fig.1 LEFT CRANKCASE COVER ASSEMBLY		Remove left crankcase cover 1	CHK	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	3	12±1.5N.m
2	4051058-001051	ZT184MP Reduction gear cover components (dark grey)	1	
3	1051454-022000	69×3 Hydrogenated nitrile rubber O-ring	1	
4	1051358-008000	GB893.1 Retaining Ring for Hole φ32×1.2	1	
5	1250601-035000	GB276-6201RS/P6 deep groove ball bearing	1	
6	4051058-002000	ZT184MP reduction gear cover (dark grey)	1	
7	1251512-007000	Thrust washer,12.2×20×1	2	
8	4051658-015000	ZT184MP reduction gear components	1	

### PROCEDURE:

#### ● Reduction gear assembly

Use an 8# sleeve to remove 3 bolts (1), and remove the reduction gear cover assembly (2) and O-ring (3).

Bearing (5) is installed in the reduction gear cover (6) by interference pressure, and cannot be removed unless there are special circumstances.

Take out the washer (7) and the reduction gear (8).

### Notice:

- It is recommended to replace the O-ring after disassembly to prevent oil leakage.
- Reduction gear cover assembly (2) includes bearing (5) and reduction gear cover (6), please confirm the condition you need before placing an order.
- Check the reduction gear, if it is damaged or worn, replace the reduction gear.
- When the reduction gear is installed, there is a washer on the front and the back, which can not be omitted.

## 5-LEFT CRANKCASE COVER ASSEMBLY

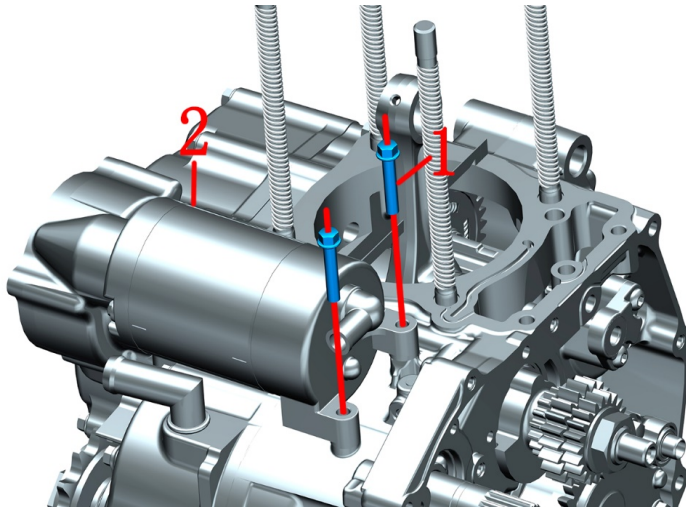

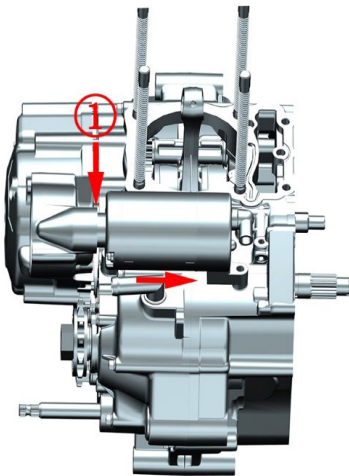


Fig.2 LEFT CRANKCASE COVER ASSEMBLY		Remove left crankcase cover 2	CHK ADJ	
NO.	PART NO.	PART NAME	QTY	
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	2	12±1.5N.m
2	1051058-004000	ZT184MP Start motor assembly	1	

### PROCEDURE:

- Remove the starter motor  
Use an 8# socket to remove 2 bolts (1).  
Grasp the starter motor (2) and pull it in the direction of the arrow, and remove the starter motor (2).



### Notice:

- When installing and removing, pay attention to whether the O-ring at ① has fallen off.
- Bolts (1) must be coated with appropriate amount of sealant, otherwise it may leak.

## 5-LEFT CRANKCASE COVER ASSEMBLY

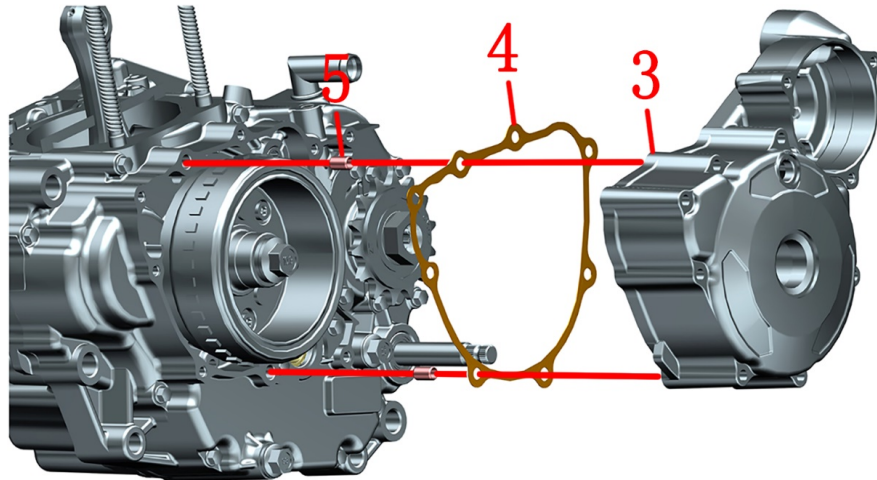
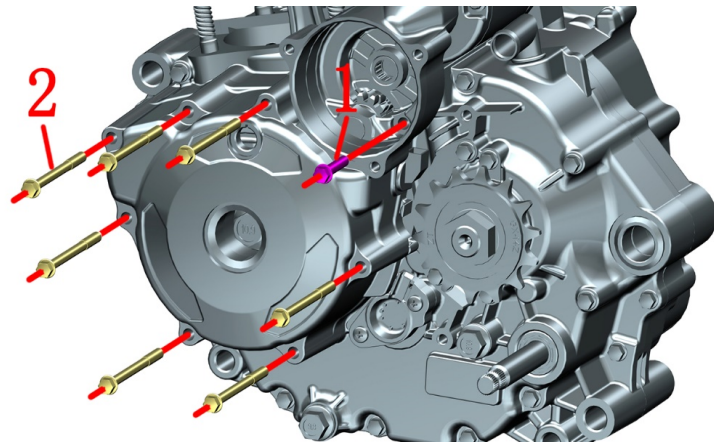


Fig.3 LEFT CRANKCASE COVER ASSEMBLY		Remove left crankcase cover 3	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	1	12±1.5N.m
2	1251112-005093	M6×75 Hexagon flange bolts (color Zinc)	7	12±1.5N.m
3	4050358-002051	ZT184MP left crankcase cover sub-assembly (dark gray)	1	
4	1051653-004000	ZT173YMM left crankcase cover cushion piece	1	
5	1251401-001000	φ8×14 hollow locating pin	2	

### PROCEDURE:

- Remove the left cover assembly

Use an 8# sleeve to remove 7 bolts (2) and 1 bolt (1).

Remove the left crankcase cover sub-assembly (3), gasket (4), locating pin (5).

### Notice:

- Gasket (4) must be replaced once removed. Otherwise, oil leakage may occur.
- Before installing the left cover, make sure that the assembly plane of the box body and the left cover is smooth and flat, and apply a proper amount of sealant on the assembly plane of the box body. After installing the new gasket(4), apply the sealant again on the upper surface of the gasket (4).
- Do not miss the positioning pin (5) during installation.
- When installing the left cover, all bolts should be evenly tightened at the corners to ensure tightness.

5-LEFT CRANKCASE COVER ASSEMBLY

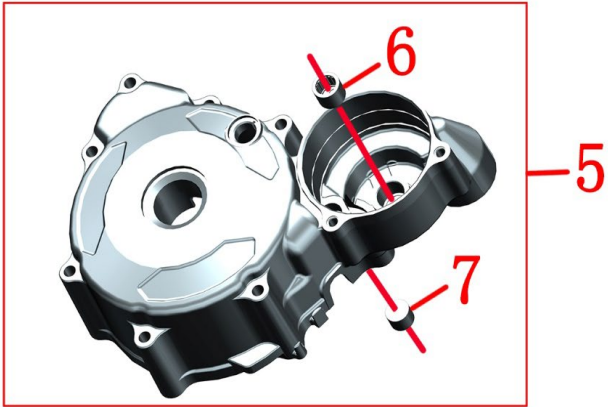
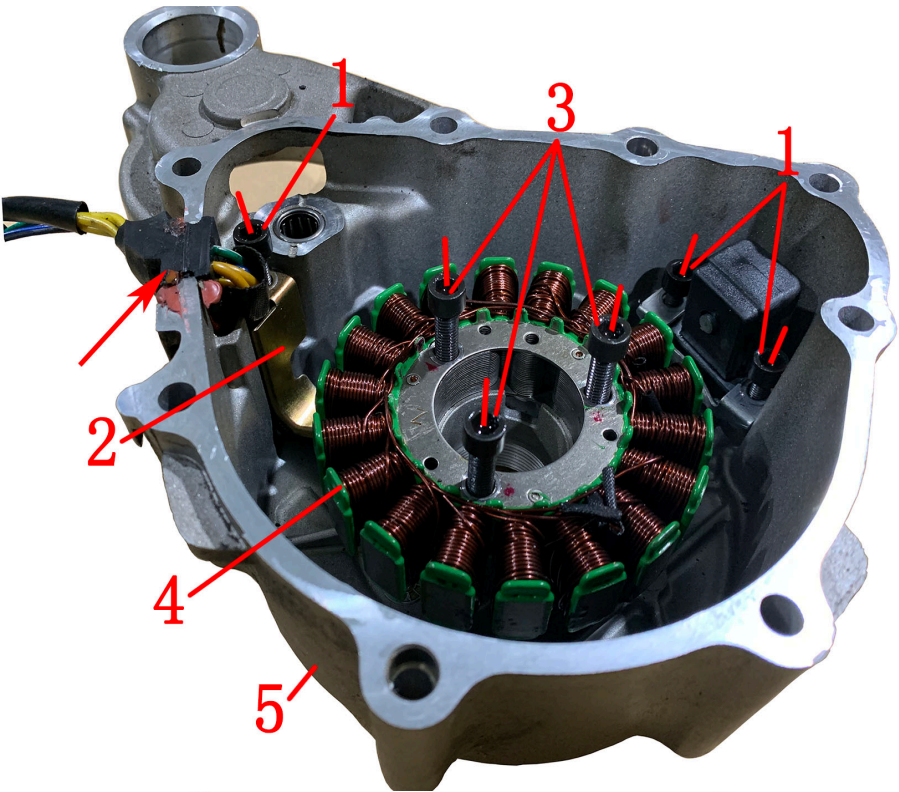



Fig.4 LEFT CRANKCASE COVER ASSEMBLY		Remove left crankcase cover 4	CHK ADJ	 CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251201-001094	M5×15 – 5# hexagon socket head cap screws (oxidized black)	3	5±1N.m
2	1051353-005000	ZT173YMM Stator pressure plate	1	
3	1251201-002094	M6×35 socket head cap screws (oxidized)	3	12±1.5N.m
4	1051058-001000	ZT184MP magneto stator sub-component	1	
5	4050358-003051	ZT184MP Left Crankcase Cover Assembly (dark grey)	1	
6		GB290-HK1212 Needle Roller Bearings	1	【2】
7		GB290-BK1010 Needle Roller Bearings	1	

PROCEDURE:

- Magnetic motor stator assembly  
Use 5# inner hexagon to remove 3 bolts (1), take out the crimping plate (2).  
Use 5# inner hexagon to remove 3 bolts (3), and take out the entire magneto stator sub-component (4).

Notice:

- [2] Bearings (6) and (7) are included in the left cover assembly (5), and do not need to be purchased separately. The assembly relationship is only shown here.
- Appropriate amount of thread tightening glue should be applied to the threads when bolts (1) and (3) are installed.
- Clean up the plane sealant indicated by the arrow before installation to ensure that the installation plane is flat and smooth. Apply an appropriate amount of flat sealant to the curved surface at the waterproof rubber sleeve.



## 6-Preparation before the box is split

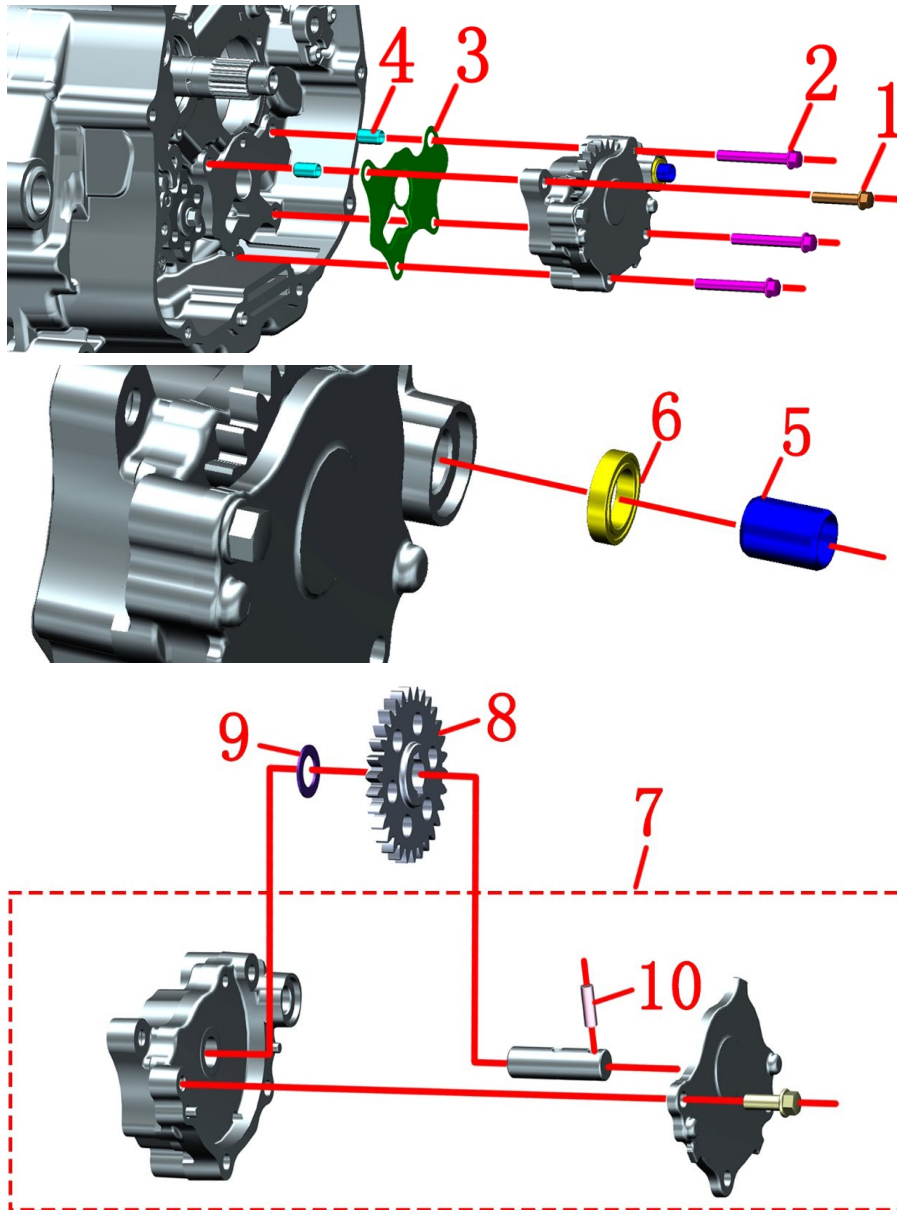


Fig.1 DISASSEMBLY PREPARATION OF BOX		Preparation before the box is split 1	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	1	12±1.5N.m
2	1251112-003093	M6×45 Hex flange surface 9.8 bolt (color Zinc)	3	
3	1051658-006000	ZT184MP Oil pump seat cushion	1	
4	1251401-001000	φ8×14 hollow locating pin	2	
5	1251401-003000	dowel pin, φ10×14	1	
6	1051458-002000	φ9.8×φ15.2×2.7 Vinyl/Acrylic Rubber Rectangular Ring	1	
7	1050858-003000	ZT184MP Oil pump subassembly	1	
8	1250404-006000	φ5×16 cylindrical pin	1	
9	1050358-008000	ZT184MP oil pump driven gear	1	
10	1251512-007000	Thrust washer,12.2×20×1	1	

### PROCEDURE:

#### ● Disassemble the oil pump assembly

Use an 8# sleeve to remove 1 bolt (1) and 3 bolts (2), and take out the entire oil pump. Remove the seat cushion (3) and the two positioning pins (4) under the oil pump assembly to prevent loss.

Note: Oil pump sub-assembly (7) does not include gear (8) and thrust washer (9), please confirm the status you need before placing an order.。

### Notice:

- Check the oil pump: dial the driven gear of the oil pump to check whether it can rotate normally. If it cannot rotate normally, the oil pump needs to be replaced.
- Check whether the oil pump seat cushion is deformed or cracked, if any, it needs to be replaced. Check for cracked or hardened O-rings and replace if necessary.
- When assembling the oil pump, each part needs to be sprayed with an appropriate amount of oil.
- The two φ4 locating pins on the oil pump sub-assemblies cannot be missed, and cannot be dropped into the engine or the fuel pump.

## 6-Preparation before the box is split

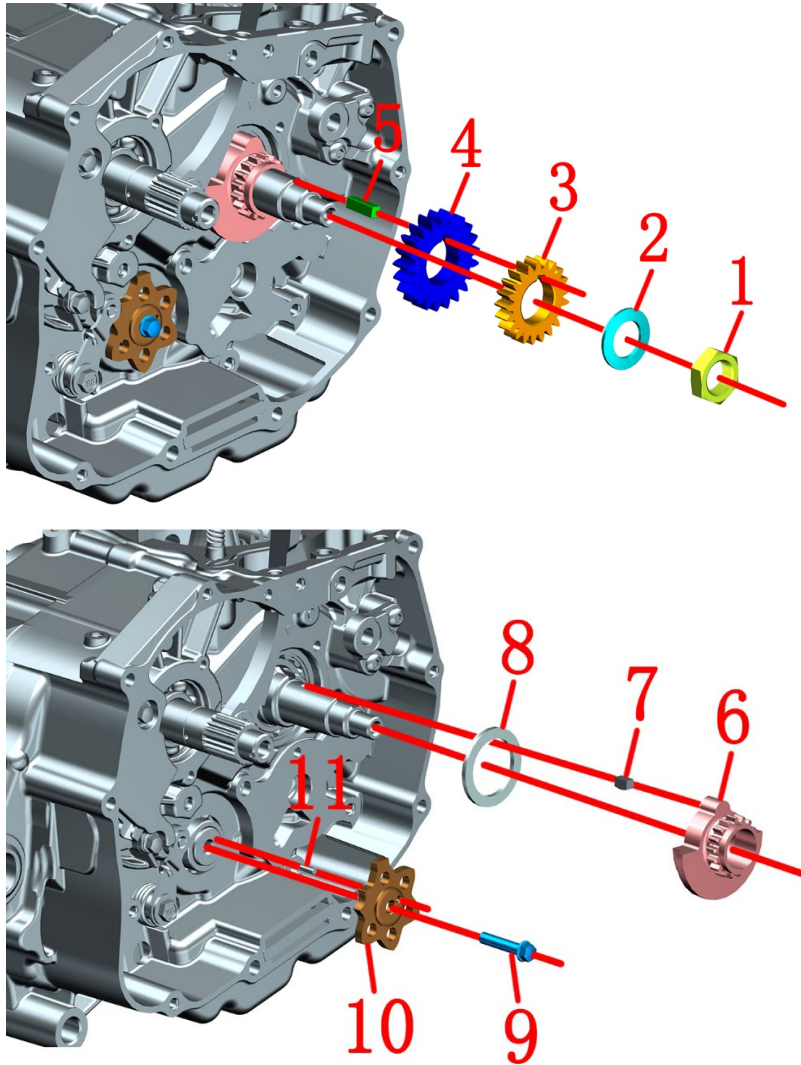


Fig.2 DISASSEMBLY PREPARATION OF BOX		Preparation before the box is split 2	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251311-002094	M18×1.0 Hexagon thin nut	1	108±15N.m
2	1251514-003000	Lock washer, 18.2×30×2.5×2	1	
3	1050358-005000	ZT184MP primary drive gear	1	
4	1251801-003000	5×5.5×19.2 general flat key	1	
5	1050358-007000	ZT184MP water pump drive gear	1	
6	1050154-041000	counterweight timing drive sprocket A	1	
7	1251802-004000	5×5.5×26×9 woodruff key	1	
8	1050454-017000	crankshaft right bearing limit retaining ring	1	
9	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	1	
10	1050658-001000	ZT184MP variable speed star cam	1	
11	1250404-003000	GB119.2φ3×10 cylindrical pin	1	

### PROCEDURE:

#### ● Remove the primary drive gear

The timing chain can be taken out directly after the oil pump assembly is disassembled.

Use a special tool to clamp the primary drive tooth (3) to prevent the crankshaft from rotating when the nut (1) is removed.

Use a 24# sleeve to remove the nut (1), take out the lock washer (2), the primary drive tooth (3), the flat key (4), the water pump gear (5), the sprocket (6), knock out the semicircular key (7), and take out the retaining ring (8).

When installing the primary drive gear (3), do not miss the flat key (4).

#### ● Remove shift star wheel assembly

Use an 8# sleeve to remove 1 bolt (9), and take out the cam (10) and cylindrical pin (11).

### Notice:

● When installing the primary drive gear (3) and the shifting star wheel (10), spray an appropriate amount of oil.

● The timing chain can be assembled only after the primary drive gear (3) is installed, and the timing chain can be taken out after the oil pump is disassembled.

● After the installation of the shifting star wheel (10) is completed, you can check whether the shifting is normal.

● The φ3 cylindrical pin must not be missing or dropped into the engine.

● M18 nut threads should be coated with thread tightening glue.

6-Preparation before the box is split

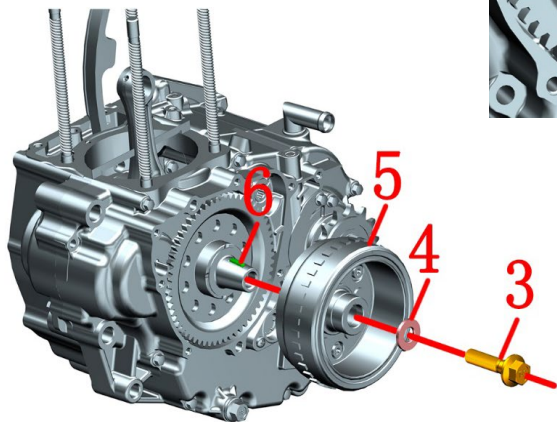
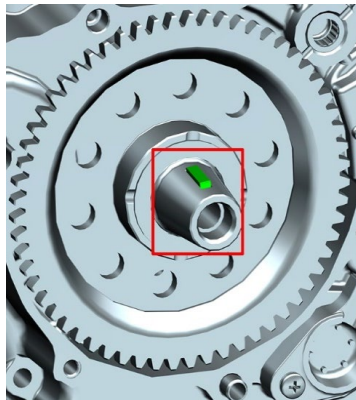
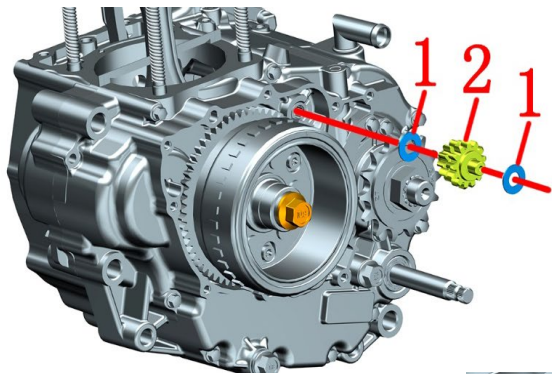



Fig.3 DISASSEMBLY PREPARATION OF BOX		Preparation before the box is split 3	CHK ADJ	 CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251512-004000	10.2×21×1 thrust washer	2	
2	1050358-001000	ZT184MP electric starting carrier gear	1	
3	1251100-065094	M12X1.25X50 hexagonal flange bolts (10.9 level/ black)	1	103±15N.m
4	1251500-034000	12.3×26×3 gasket	1	
5	1051058-002000	ZT184MP magneto rotor Clutch parts (36-2)	1	
6	1251802-003000	4×4.6×25×14 woodruff key	1	

PROCEDURE:

● Remove the electric starter bridge teeth

Remove 2 washers (1) and 1 bridge tooth (2) from the left box.

When installing, it should be noted that there is a washer (1) at the front and back of the bridge tooth (2), and do not miss it.

● Remove the magneto rotor

Grasp the magneto rotor (5) with one hand, use the stun gun +17# sleeve to remove the bolt 3 with the other hand, and remove the gasket (4).

Use a 17# sleeve to screw in a M20×1.5 bolt from the middle of the magneto, and push out the magneto rotor(5) and half-circle key(6).

Before installation, the crankshaft cone surface and the magneto rotor cone surface must be cleaned without any impurities and oil stains,

When installing, note that the groove on the magneto rotor (5) should be aligned with the semicircular key (6) on the crankshaft.

Notice:

● When removing the bolts, it is necessary to secure the engine to prevent danger.



## 6-Preparation before the box is split

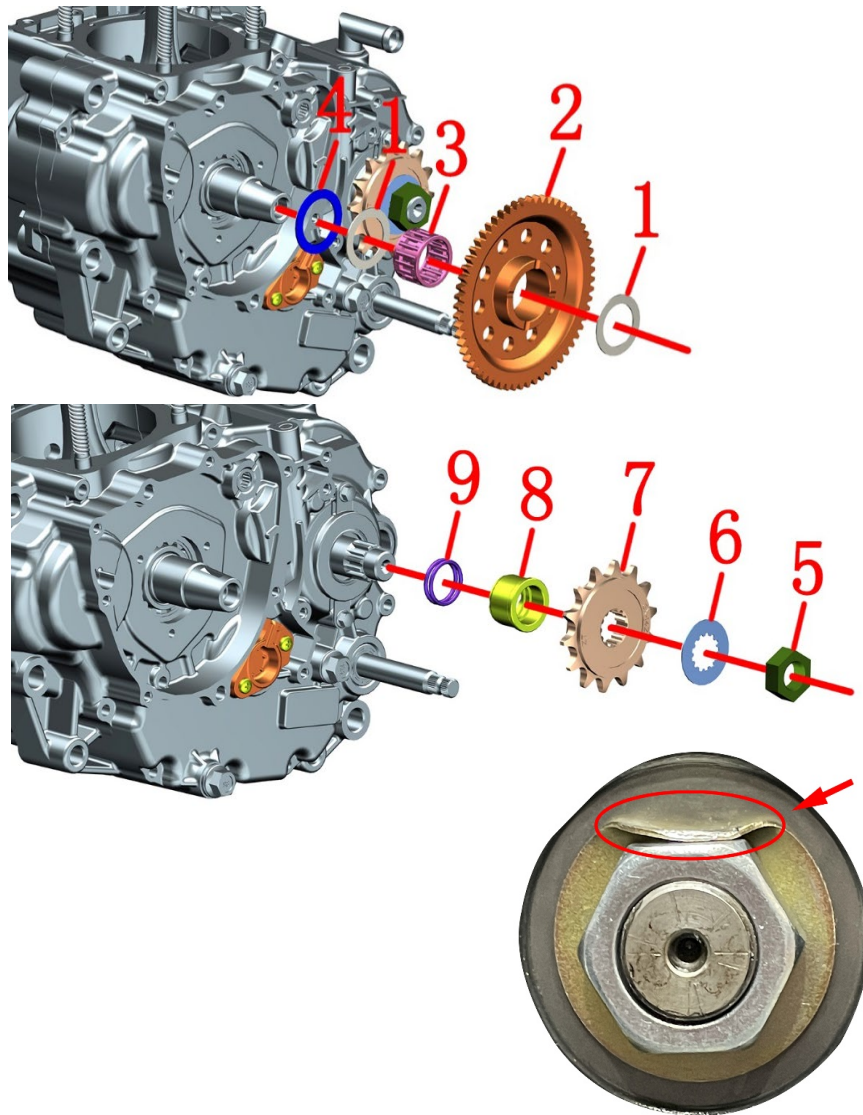


Fig.4 DISASSEMBLY PREPARATION OF BOX		Preparation before the box is split 4	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1051358-005000	φ28.2×φ40×1 thrust washer	2	
2	1051058-008000	ZT184MP electric start gear	1	
3	1051058-009000	KTφ28×φ34×22 Needle roller bearing	1	
4	1051354-006000	30.2×41.2×1.5 thrust washer	1	
5	1251300-066093	M18×1.0 lock nut level 10 (environmental color Zinc)	1	
6	1051354-002000	ZT180MN output sprocket nut lock piece	1	
7	1050354-023000	rubber-covered output sprocket subassembly	1	
8	1050254-001000	ZT180MN Output chain wheel shaft sleeve	1	
9	1051454-019000	22.5×2.5 hydrogenated nitrile rubber O-ring	2	

### PROCEDURE:

#### ● Removal of electric starter gear assembly

Remove the thrust washer (1), the large start tooth (2), the bearing (3), the thrust washer (1), and the thrust washer (4) from the crankshaft in sequence.

When installing, pay attention to the start of the large tooth (2), the thrust washers (1) must be installed on both sides, and cannot be omitted.

#### ● Remove output sprocket assembly

Use a flat-blade hammer and a rubber hammer to knock the locking piece (6) flat.

Use the electric gun +27# socket to remove the nut (5), and take out the locking piece (6), the output sprocket (7), the shaft sleeve (8), and the O-ring (9) in turn.

### Notice:

● After installing the nut (5), knock one end of the locking piece (6) to be flush with one end face of the nut (5). Prevent the bolt from falling off.

● When installing the bushing (8), please check whether the two O-rings (9) inside the bushing are detached.



6-Preparation before the box is split

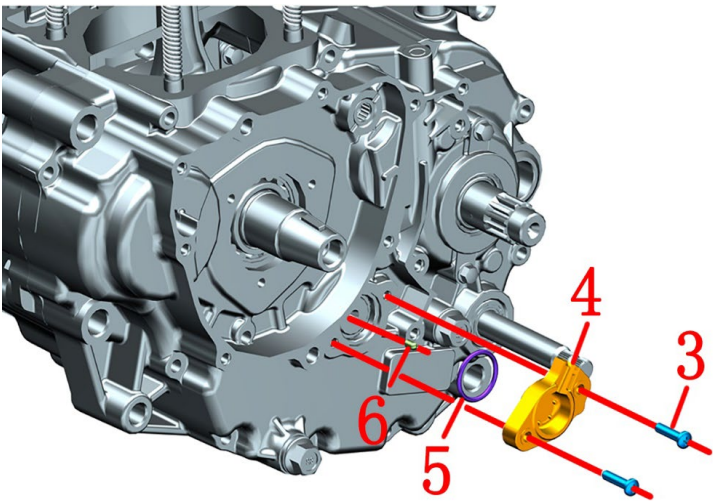
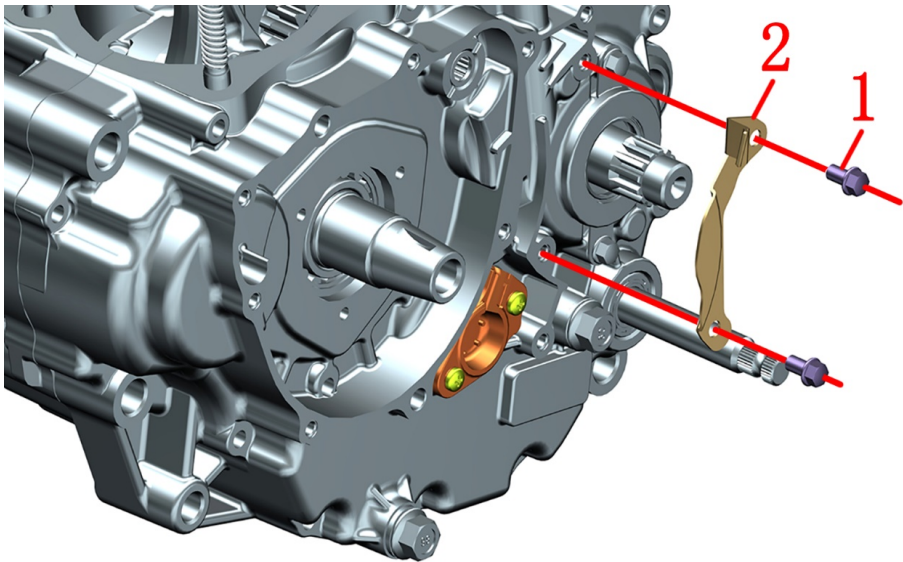


Fig.5 DISASSEMBLY PREPARATION OF BOX		Preparation before the box is split 5		CHK	
				ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION	
1	1251100-067093	M6×10 top pin bolt (color Zinc)	2	12±1.5N.m	
2	1051358-011000	ZT184MP gear sensor crimping plate	1		
3	1250201-034093	GB818M5×20 (environmental color)	2	5±1N.m	
4	1050654-005000	ZT180MN Gear switch	1		
5	1051454-019000	22.5×2.5 hydrogenated nitrile rubber O-ring	1		
6	1050654-007000	ZT180MN gear Display contact parts	1		

PROCEDURE:

- Remove the gear display assembly  
Use an 8# sleeve to remove 2 bolts (1), and take out the pressure plate (2).  
Use a cross batch to remove 2 bolts (3), remove the gear display switch (4) (the picture here is different from the actual product, the actual product shall prevail), the O-ring (5), and the contact (6).

Notice:

- Bolts (1) When installing, apply an appropriate amount of thread tightening glue.
- After installing the contacts (6), an appropriate amount of oil should be sprayed on them.
- O-ring is for one-time use and must be replaced after disassembly to prevent oil leakage.

7-CRANKCASE SPLIT

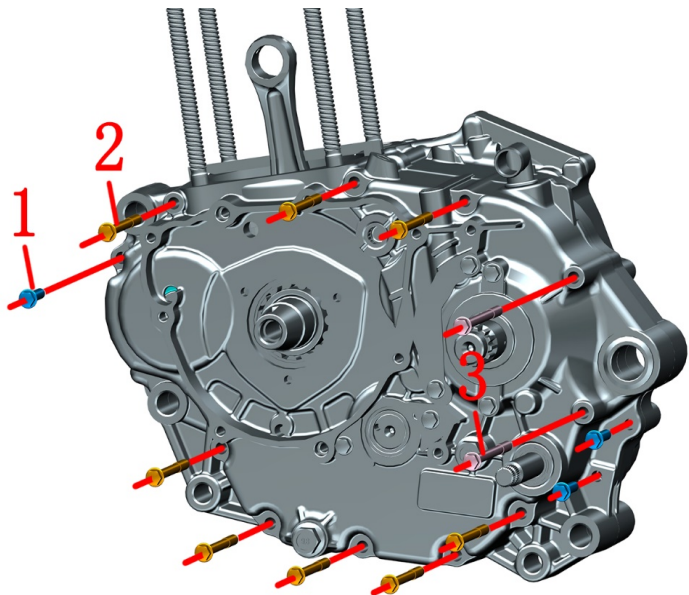
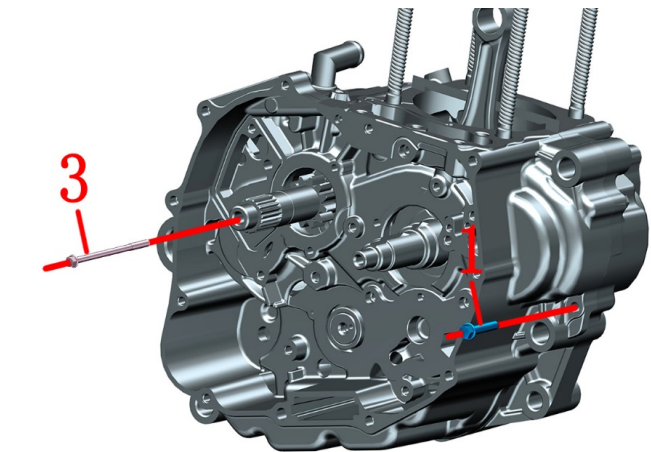



Fig.1 CRANKCASE		Crankcase Split 1	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	1251112-002093	M6×30 Hexagon flange bolts (color Zinc)	4	12±1.5N.m
2	1251112-005093	M6×75 Hexagon flange bolts (color Zinc)	8	
3	1251112-006093	M6×90 Hexagon flange bolts (color Zinc)	3	

PROCEDURE:

● Cabinet split

Use an 8# sleeve to remove 1 bolt (1) on the right crankcase body.

Use an 8# sleeve to remove 1 bolt (1), 3 bolts (3), 7 bolts (2)

Notice:

- The bolts must be tightened or loosened diagonally when removing and installing.
- Appropriate amount of flat sealant should be applied to the thread during assembly of the bolt (3)

## 7-CRANKCASE SPLIT

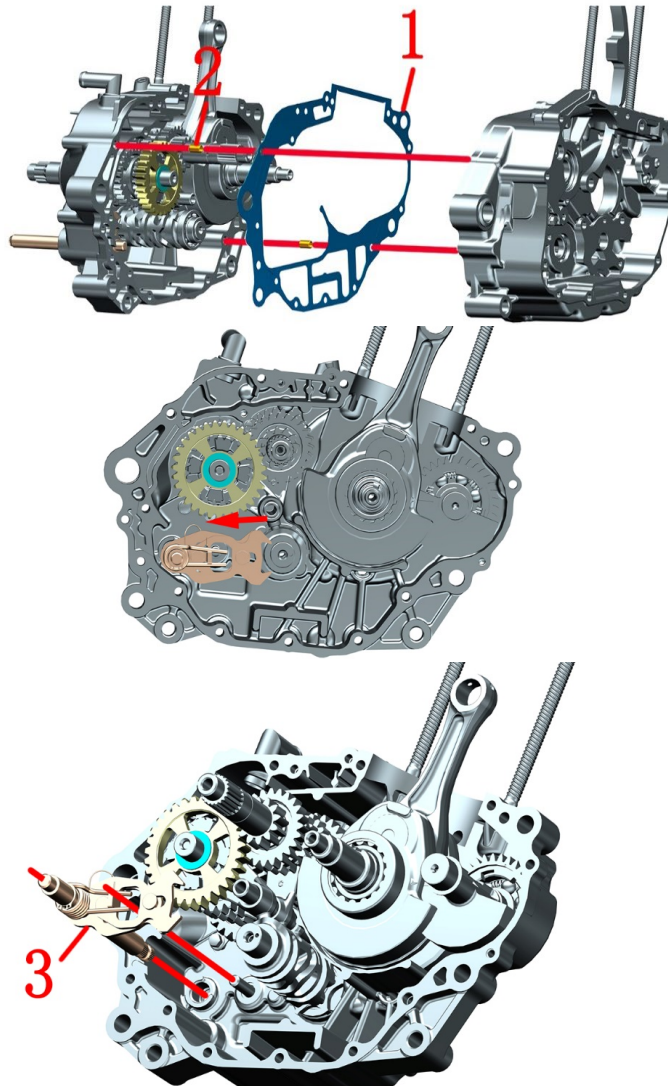


Fig.2 CRANKCASE		Crankcase Split 2		CHK	CAUTION
				ADJ	
NO.	PART NO.	PART NAME		QTY	
1	1051658-004000	ZT184MP crankcase gasket		1	
2	1251401-001000	φ8×14 hollow locating pin		2	
3	1050658-006000	ZT184MP gear swift comp		1	

### PROCEDURE:

#### ● Cabinet split

Place the left crankcase horizontally (the closing surface is facing upward), and take out the right crankcase assembly, gasket (1), and positioning pin (2).

Press the shift shaft (3) in the direction of the arrow by hand, and then take out the shift shaft (3).

### Notice:

● Most parts of the box body are installed on the left crankcase. When disassembling, the left crankcase must be down, otherwise the parts will fall off.

● The gasket (1) is for one-time use. Once removed, it must be replaced, otherwise it will cause oil leakage.

● Before assembling the shift shaft, apply a proper amount of engine oil on the surface of the part.

● Before installing the box body, make sure that the box body assembly plane is smooth and flat and apply a proper amount of sealant on the box body assembly plane. After installing the new gasket (1), you need to apply the sealant again on both sides of the gasket (1) according to the red line.

## 7-CRANKCASE SPLIT

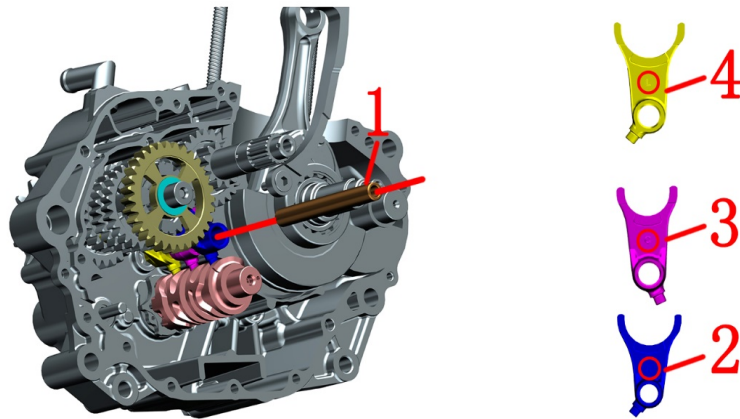


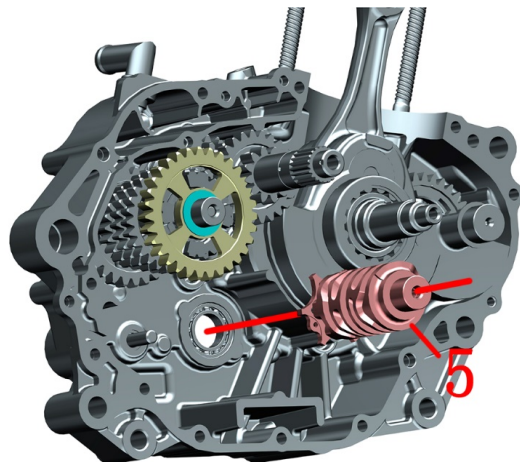
Fig.4 CRANKCASE		Crankcase Split 4		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
1	4051758-012000	ZT184MP transmission auxiliary shaft sub-assembly		1	
2	4051758-010000	ZT184MP Transmission main shaft parts		1	
3	4051758-006000	ZT184MP Balance shaft assembly		1	
4	4051758-007000	ZT184MP Crankshaft connecting rod assembly		1	

### PROCEDURE:

#### ● Cabinet split

Take out the main shaft (1) and the counter shaft (2) at the same time, paying attention to any parts on the main shaft and the counter shaft not to be disassembled.

Stagger the angle between the crankshaft assembly and the balance shaft (3), hold the upper crank with one hand, and tap the lower crank with a rubber hammer with the other hand to take out the crankshaft assembly and balance shaft (3).



### Notice:

- When taking out the main shaft (2) and the secondary shaft (1), pay attention to the fact that there is a gasket near the left casing of the secondary shaft (1), do not miss it.
- When installing and disassembling, the crankshaft connecting rod should not hit the box.
- Check the balance shaft (3), if there are scratches or wear, replace the balance shaft (3).
- Crankshaft (4) and balance shaft (3) should be installed as shown on the left, the two marked teeth of crankshaft (4) clamp the marked teeth of balance shaft (3).
- Apply an appropriate amount of oil on the surface of the parts before installation.
- Pay attention to whether there is a 22.2× 28.5×1 thrust washer. If there is one, don't miss the installation.



## 7-CRANKCASE SPLIT

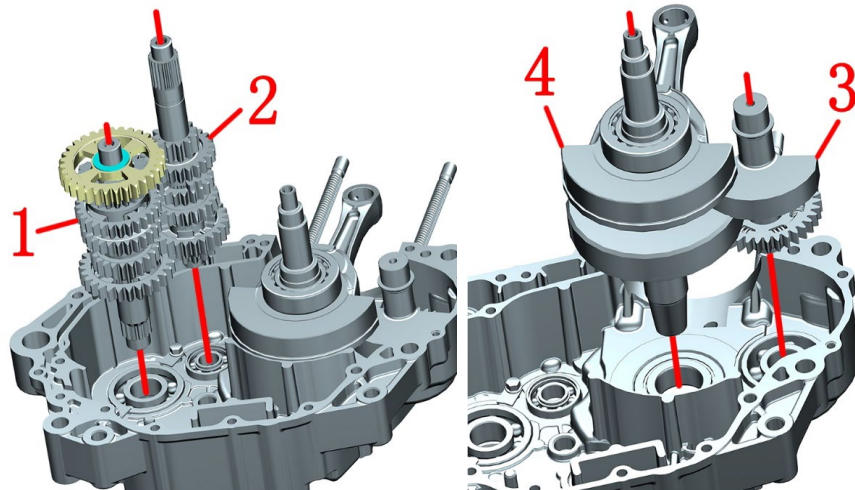


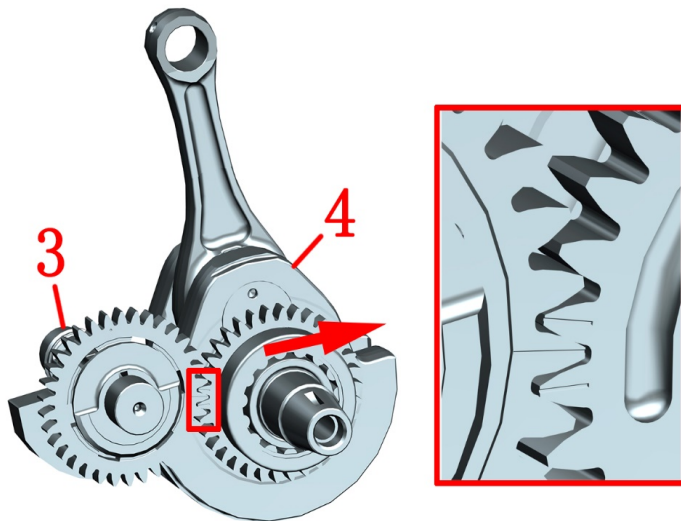
Fig.4 CRANKCASE		Crankcase Split 4		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
1	4051758-012000	ZT184MP transmission auxiliary shaft sub-assembly		1	
2	4051758-010000	ZT184MP Transmission main shaft parts		1	
3	4051758-006000	ZT184MP Balance shaft assembly		1	
4	4051758-007000	ZT184MP Crankshaft connecting rod assembly		1	

### PROCEDURE:

#### ● Cabinet split

Take out the main shaft (1) and the counter shaft (2) at the same time, paying attention to any parts on the main shaft and the counter shaft not to be disassembled.

Stagger the angle between the crankshaft assembly and the balance shaft (3), hold the upper crank with one hand, and tap the lower crank with a rubber hammer with the other hand to take out the crankshaft assembly and balance shaft (3).



### Notice:

- When taking out the main shaft (2) and the secondary shaft (1), pay attention to the fact that there is a gasket near the left casing of the secondary shaft (1), do not miss it.
- When installing and disassembling, the crankshaft connecting rod should not hit the box.
- Check the balance shaft (3), if there are scratches or wear, replace the balance shaft (3).
- Crankshaft (4) and balance shaft (3) should be installed as shown on the left, the two marked teeth of crankshaft (4) clamp the marked teeth of balance shaft (3).
- Apply an appropriate amount of oil on the surface of the parts before installation.
- Pay attention to whether there is a 22.2× 28.5×1 thrust washer. If there is one, don't miss the installation.

## 8-RIGHT CRANKCASE ASSEMBLY

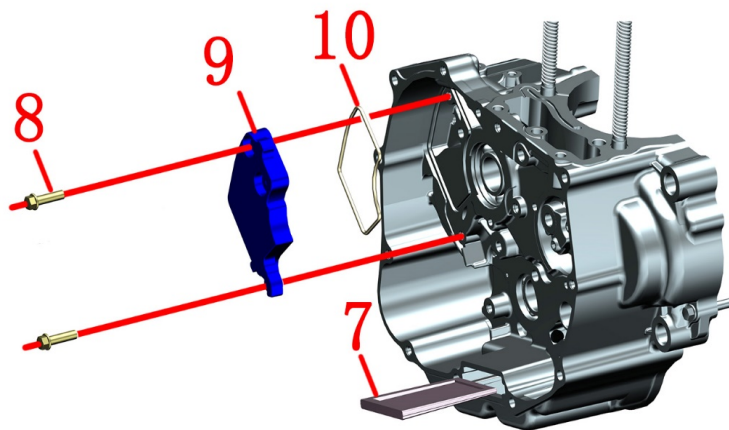
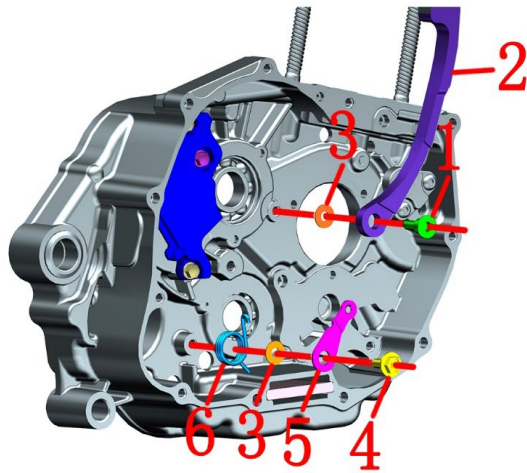


Fig.1 RIGHT CRANKCASE		Right crankcase disassembly 1		CHK	CAUTION
				ADJ	
NO.	PART NO.	PART NAME	QTY		
1	1251100-168093	M6×15-10×7.8 pivot bolt(Zinc)	1		12±1.5N.m
2	1050158-004000	ZT184MP tensioning strip	1		
3	1251512-001000	6.2×15×1 thrust washer	2		
4	1251100-068093	M6×14-9×2.6 pivot bolt (environmental protection colored zinc)	1		12±1.5N.m
5	1050653-002000	shift limit stop wheel subassembly	1		
6	1050654-008000	ZT180MN limit stop wheel torsion spring	1		
7	1050858-001000	75.7×53.2 trapezoidal strainer	1		
8	1251100-061093	M6×22 Hex flange bolt thread level 8.8	2		
9	1050858-008000	ZT184MP right box exhaust chamber air inlet cover sealing ring	1		
10	1051458-004000	ZT184MP right box exhaust gas chamber air inlet cover sealing ring	1		

### PROCEDURE:

#### ● Disassemble the right crankcase parts

Use 10# inner hexagon to remove bolt (1), take out the tension bar (2) and thrust washer (3).

Use a 12# sleeve to remove bolt (4), take out stop wheel (5), thrust washer (3) and torsion spring (6).

Use an 8# sleeve to remove 2 bolts (8), and take out the exhaust gas chamber air inlet cover (9)、and the air inlet cover sealing ring (10) respectively.

### Notice:

● When installing the bolts (1), (4), (8) , apply an appropriate amount of thread tightening glue to the threads.

## 8-RIGHT CRANKCASE ASSEMBLY

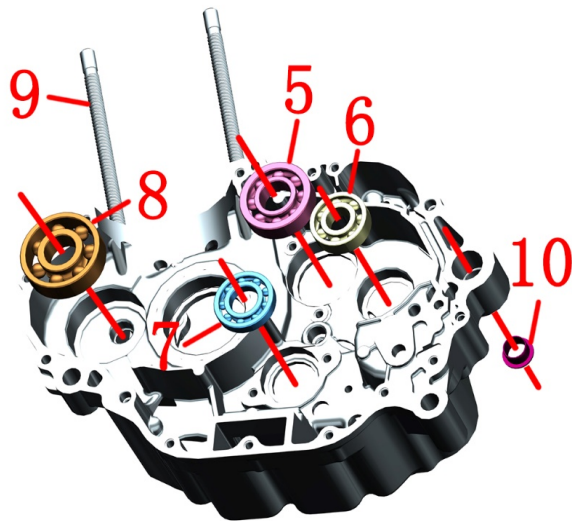
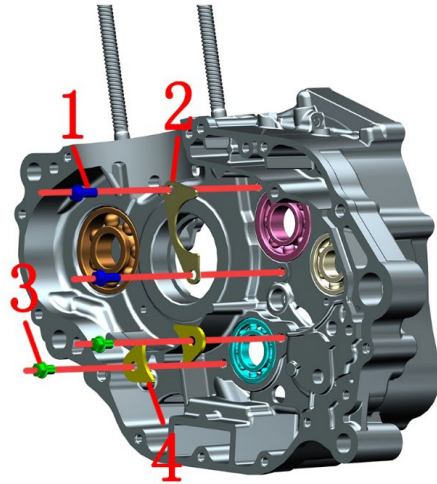


Fig.2 RIGHT CRANKCASE		Right crankcase disassembly 2	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251112-001093	M6×16 Hexagon flange bolts (color Zinc)	2	12±1.5N.m
2	1051353-006000	ZT173YMM spindle bearing baffle	1	
3	1251100-067093	M6×10 top pin bolt (color Zinc)	2	
4	1051371-003000	GB276-16004 bearing baffle	2	After-sale
5	1250601-052000	GB276-62/22/P5 deep groove ball bearing	1	
6	1250601-057000	GB276-6203/P5 deep groove ball bearing	1	
7	1050658-005000	GB276-16004P63 deep groove ball bearing	1	
8	1050558-003000	GB276-63/22/P53 deep groove ball bearing	1	install gaskets
	1050558-004000	φ56×φ22×15deep groove ball bearing (CS)	1	
9	1251111-005094	YM10×1.25-M10×1.25×168 Double end stud	2	After-sale
10	1051353-014000	ZT184MP Rear lifting hole bushing	1	

### PROCEDURE:

#### ● Disassemble the right crankcase parts

Use an 8# sleeve to remove 2 bolts (1) and 2 bolts (3), and remove the main shaft bearing baffle (2) and the drive shaft bearing pressure plate (4) respectively.

Bearings (5), (6), (7), (8) are all fitted on the box by interference pressure, and do not need to be replaced under normal conditions.

Stud stud (9) does not need to be disassembled under normal circumstances. If there are special circumstances such as stud slippage, the stud can be welded with a nut and then the stud stud (9) can be removed by using the corresponding sleeve.

#### Notice:


● Bolts (1) and (3) should be smeared with an appropriate amount of thread tightening glue on the threads during installation.

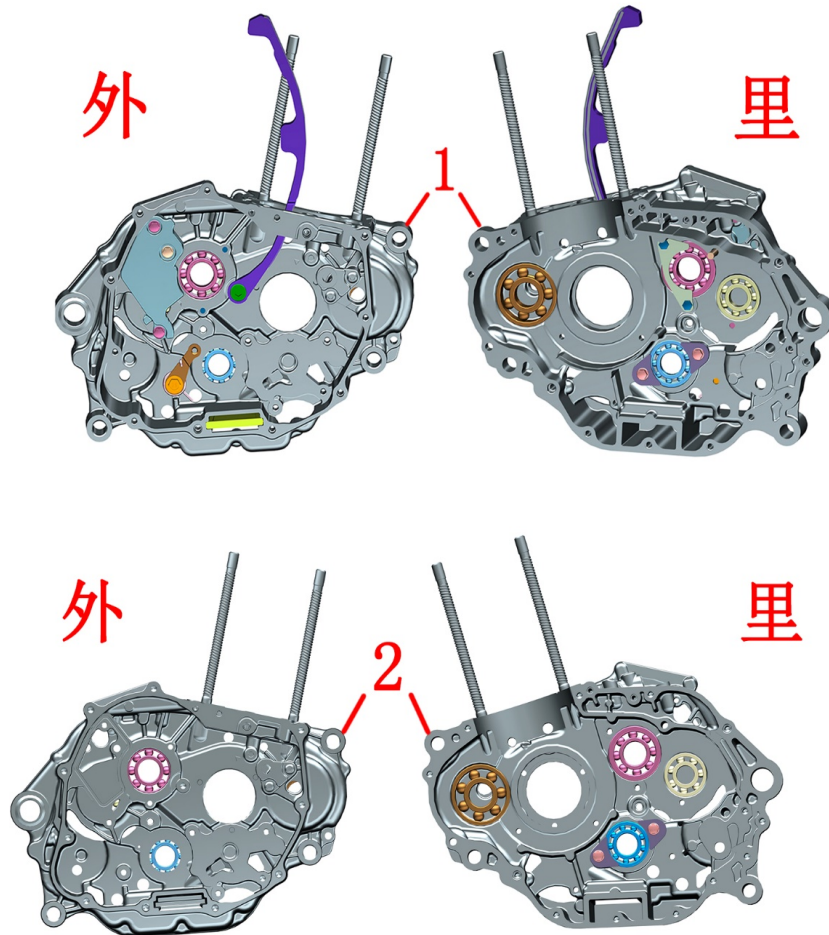
● Do not disassemble or assemble the bearing except under special circumstances. If the bearing must be replaced, please go to a maintenance organization capable of replacing it.

● When installing the stud (9), apply a proper amount of thread tightening glue to the short end of the thread before installing.

● If there is a thrust washer at the bearing (8) during disassembly, the thrust washer must be replaced during installation; If there is no thrust washer, no additional thrust washer is required.

## 8-RIGHT CRANKCASE ASSEMBLY

Fig.3 RIGHT CRANKCASE		After-sales parts description	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	4050258-002000	ZT184MP Right crankcase subassembly	1	
2	4050258-003000	ZT184MP Right crankcase assembly	1	



### PROCEDURE:

#### ● Right crankcase sub-assembly

The right crankcase sub-assembly includes the right crankcase assembly, the pivot bolt, the shift limit sub-assembly, the main shaft bearing baffle, the trapezoidal strainer, the right case exhaust gas chamber inlet cover, the tension strip, the sealing ring, the torque Spring, washer, limit stop wheel sub-assemblies.

#### ● Right crankcase assembly

The right crankcase assembly includes bearings, hoisting hole bushings, M6×10 jack bolts, bearing pressure plates, M10×1.25×168 studs, oil plugs, and the right crankcase.

### Notice:

● Before placing an order, please confirm the status you need before placing an order to prevent wrong purchase.

● After-sale engine parts (1) and (2) are all a subassembly, and the assembly state is only shown here.



9-LEFT CRANKCASE ASSEMBLY

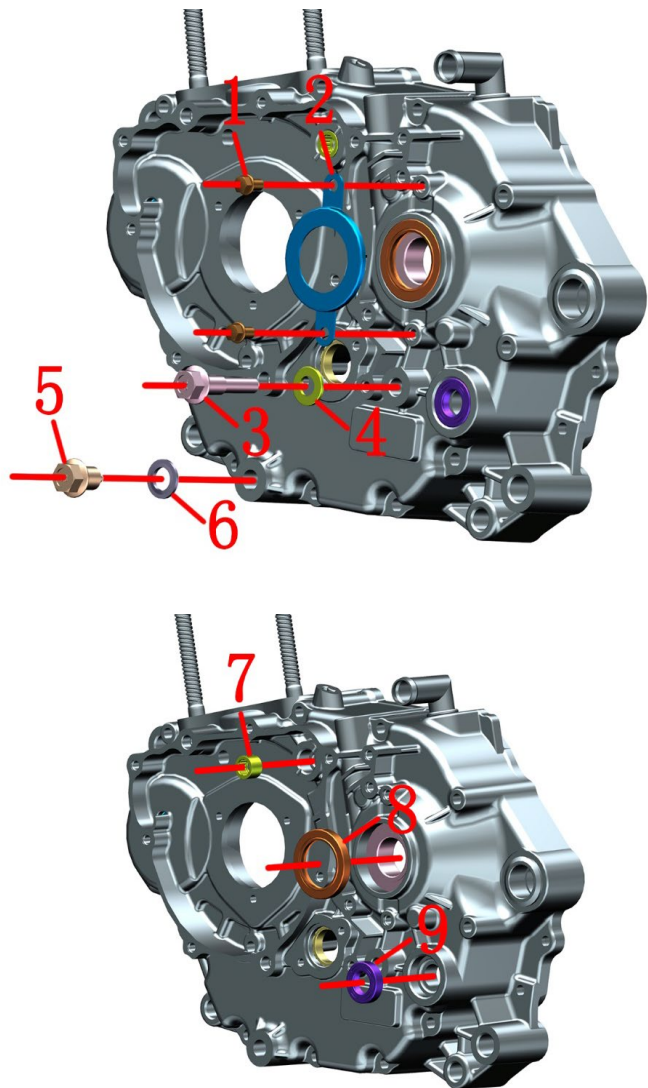


Fig.1 LEFT CRANKCASE ASSEMBLY		Left crankcase disassembly 1		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
1	1251100-067093	M6×10 top pin bolt (color Zinc)		2	12±1.5N.m
2	1051354-001000	ZT180MN countershaft oil seal cover		1	
3	1251400-002000	M10× 1.25 return spring column		1	25±4N.m
4	1251513-004019	10.3×20×2 copper gasket		1	
5	1251100-066093	M12×1.5×15 ablassschraube (color Zinc)		1	25±4N.m
6	1244100-033000	Combined sealing gasket 12×φ20×2		1	
7	1250602-022000	GB290-HK1010 needle roller bearing		1	After-sale
8	1051554-002000	FB30×42×7 hydrogenated nitrile oil seal		1	
9	1051561-002000	FB14×25×7 Hydrogenated Nitrile Butadiene Rubber Oil Seal		1	

PROCEDURE:

● Disassemble the left crankcase parts

Use an 8# sleeve to remove the 2 bolts (1), and remove the oil seal cover (2).

Use 14# to remove the spring column (3), and remove the copper pad (4).

Use a 14# sleeve to remove the oil drain bolt (5) and take out the gasket (6).

Bearings (7), oil seals (8) and (9) do not need to be replaced under normal circumstances, but must be replaced if the oil seal leaks oil.

Notice:

● When installing bolts (1) and (3), apply proper amount of thread fastening glue to the threads.

● The gasket (6) is recommended to be replaced after disassembly to prevent oil leakage.

● When the oil seal is press-fitted, the marking surface of the oil seal should face outwards. Do not install it backwards to cause oil leakage. It is recommended to go to a maintenance organization capable of doing the replacement. Check whether the oil seal is damaged before and after pressing.

● Do not disassemble or assemble the bearing (7) unless it is under special circumstances. If the bearing (7) must be replaced, please go to a maintenance organization capable of

## 9-LEFT CRANKCASE ASSEMBLY

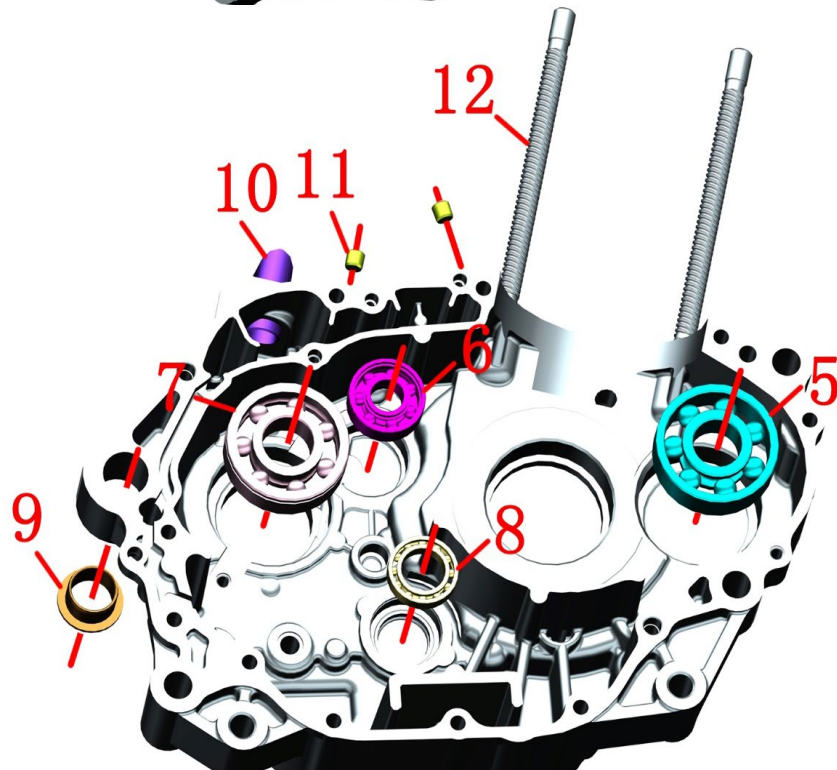
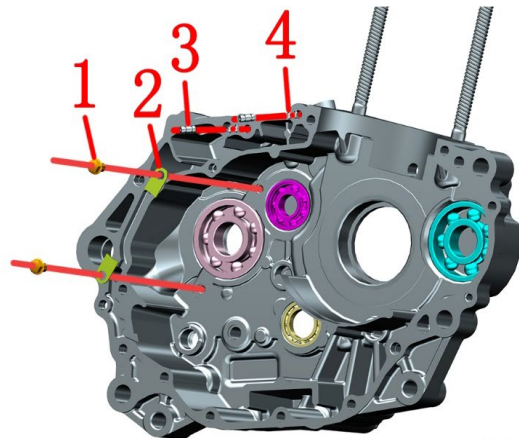


Fig.2 LEFT CRANKCASE ASSEMBLY		Left crankcase disassembly 2	CHK ADJ	CAUTION
NO.	PART NO.	PART NAME	QTY	
1	1251100-067093	M6×10 top pin bolt (color Zinc)	2	12±1.5N.m
2	1051354-003000	63/22 deep groove ball bearing fixed pin	2	
3	1050858-005000	1.2×6×12 oil-passing pin	2	After-sale
4	1051461-008000	4.5×1 Hydrogenated Nitrile O-ring	4	
5	1050558-003000	GB276-63/22/P53 deep groove ball bearing	1	installgaskets
	1050558-004000	56×22×15 deep groove ball bearing (CS)	1	
6	1250601-036000	GB276-6202RS/P6 deep groove ball bearing	1	After-sale
7	1250601-056000	63/23RS/P5 deep groove ball bearing	1	
8	1050658-004000	GB276-6804P 63 deep groove ball bearing	1	
9	1051353-014000	ZT184MP Rear lifting hole bushing	1	
10	1051161-008000	Outer diameter φ16 right-angle steel pipe	1	
11	1050853-020000	Φ8×7.5 oil plug	2	
12	1251111-005094	YM10×1.25-M10×1.25×168 Double end stud	2	

### PROCEDURE:

#### ● Disassemble the left crankcase parts

Use an 8# sleeve to remove 2 bolts (1), and take out 2 limit pieces (2)、Take out the oil pin (3) and O-ring (4).

Bearings (3), (4), (5), (6) are installed on the box body by interference pressure, and do not need to be replaced under normal conditions.

Bushings (7), water-air joints (8), oil plugs (9), and studs (10) generally do not need to be disassembled. If you need to replace them, please go to a qualified repair shop for replacement.

#### Notice:

● Bolts (1) When installing, apply an appropriate amount of thread tightening glue to the threads.

● Do not disassemble or assemble the bearing except under special circumstances. If the bearing must be replaced, please go to a maintenance organization capable of replacing it.

● If there is a thrust washer at the bearing (5) during disassembly, the thrust washer must be replaced during installation; If there is no thrust washer, no additional thrust washer is required.

9-LEFT CRANKCASE ASSEMBLY

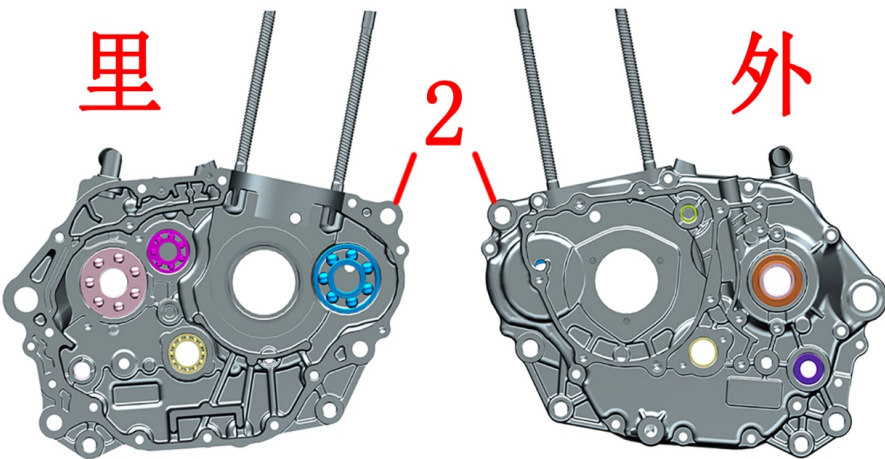
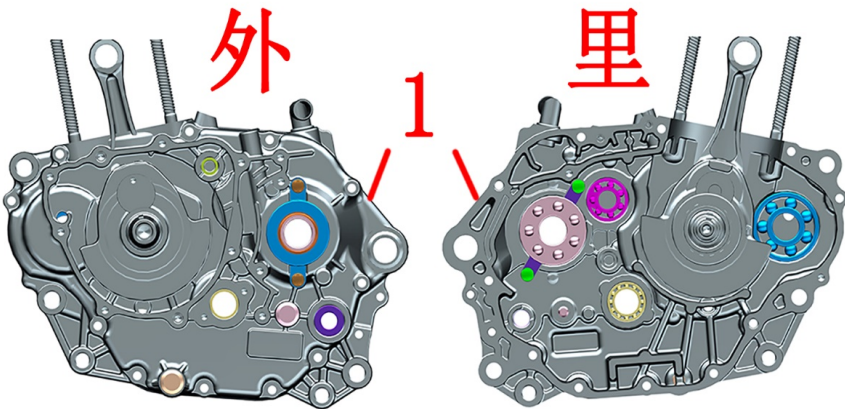


Fig.3 LEFT CRANKCASE ASSEMBLY		After-sales parts description	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	4050158-002000	ZT184MP left crankcase subassembly	1	
2	4050158-003000	ZT184MP left crankcase assembly	1	

PROCEDURE:

● Left crankcase sub-assembly

The left crankcase sub-assembly includes oil drain bolt, return spring column + copper pad, countershaft oil seal cover, ejector bolt + bearing limit piece, and left crankcase assembly components.

● Left crankcase assembly

The left crankcase assembly includes water and gas joints, bearings, oil seals, oil plugs, bushings, studs, and left crankcases.

Notice:

● Before placing an order, please confirm the status you need before placing an order to prevent wrong purchase.

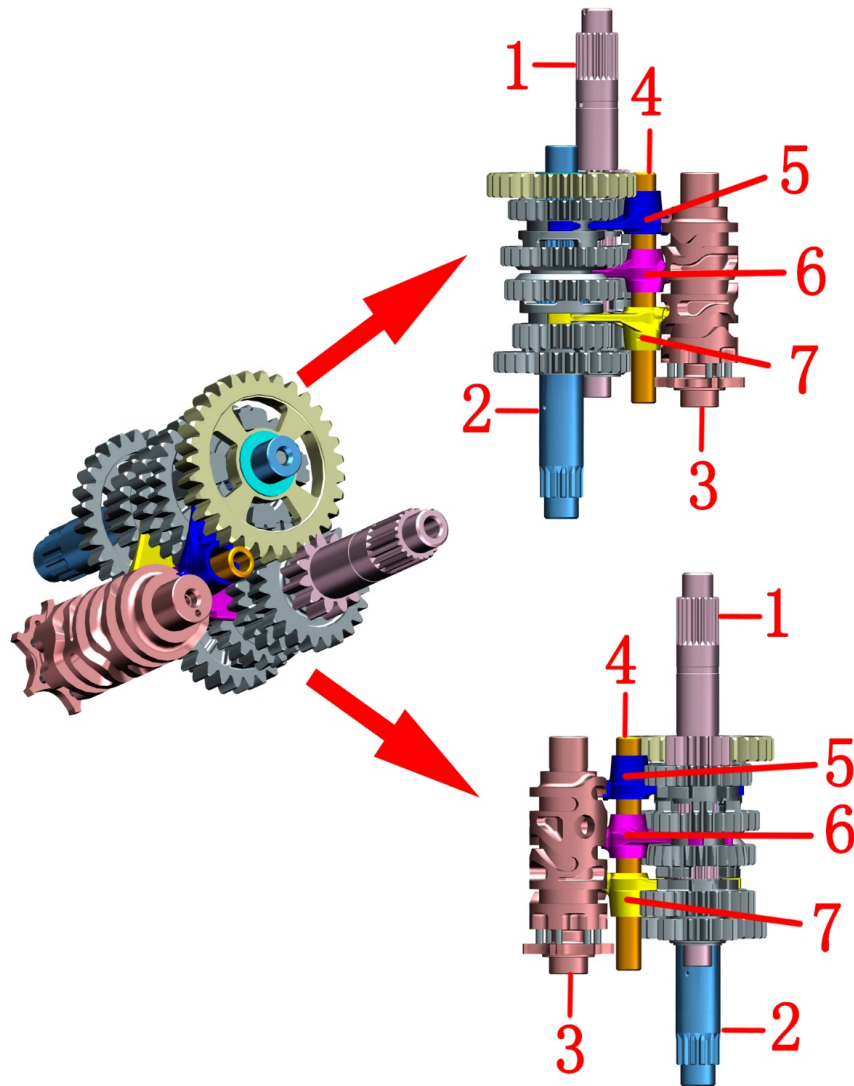



Fig.1 GEARSHIFT AND TRANSMISSION		Positional relationship of speed change and transmission mechanism components	CHK	
			ADJ	
NO.	PART NO.	PART NAME	QTY	CAUTION
1	4051758-010000	ZT184MP Transmission main shaft parts	1	
2	4051758-012000	Transmission auxiliary shaft sub-assembly	1	Ordinary
	4051758-014000	Transmission auxiliary shaft sub-assembly ( L )		Lengthened
3	1050658-002000	ZT184MP Shift speed changer subassembly	1	
4	1050653-007000	ZT173YMM Shift fork shaft	1	
5	1050654-003000	variable speed countershaftright fork	1	
6	1050654-004000	ZT180MN shifting spindle in the fork	1	
7	1050654-002000	shifting auxiliary shaft left shift fork	1	

## PROCEDURE:

## ● Assembly position relation of speed change and transmission mechanism

The positions of the main shaft (1), secondary shaft (2), speed change drum (3), shift fork (5), (6), (7), and shift fork shaft (4) are shown on the left.

When disassembling, first take out the fork shaft (4), take down the fork (5), (6), (7), take out the speed change drum (3), and finally take off the main shaft (1) and countershaft (2) at the same time.

## Notice:

● When installing the shift fork, the side with letters on the shift fork faces the right crankcase.

● Place one end of the spindle shift fork into the slot of the third and fourth gears of the spindle, and one end into the groove of the transmission drum profile.

● The right shift fork (5) near the right crankcase is placed in the fifth gear slot of the counter shaft, and the left shift fork (7) near the left crankcase is placed in the sixth gear slot of the counter shaft.



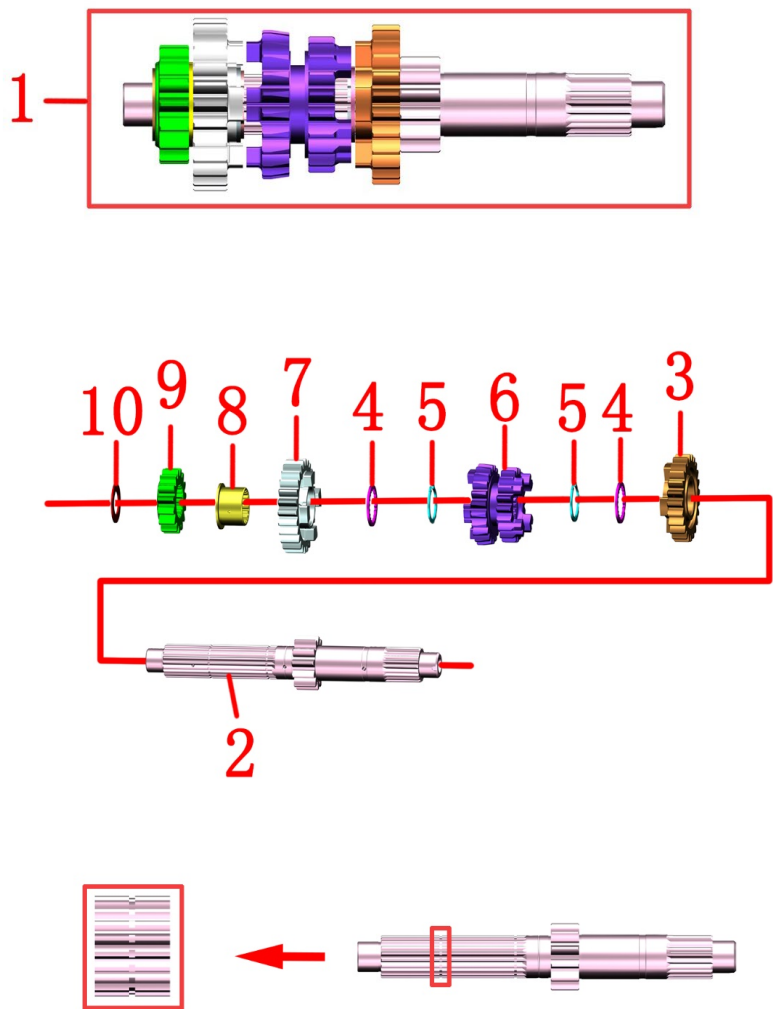



Fig.2 GEARSHIFT AND TRANSMISSION		Spindle assembly relationship		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
1	4051758-010000	ZT184MP Transmission main shaft parts		1	【2】
2		ZT184YMM drive spindle B		1	
3		ZT184MN Main shaft five gear		1	
4		20Z×1M×37.5×1.5×26 evolvent Spline gasket		2	
5		Retaining ring for non-standard shaft φ21×1.2		2	
6		ZT184MN Main shaft three or four gear		1	
7		ZT180MN spindle six gears		1	
8		ZT184MP main shaft sixth gear sleeve		1	
9		ZT184MN spindle second gear		1	
10		15.2×25×1.0 thrust washer		1	

PROCEDURE:

●Spindle assembly relationship

The assembly relationship of the gears on the main shaft is shown on the left.  
The retaining ring should fit into the groove on the spindle.

Notice:

- The spindle is not allowed to be disassembled under special circumstances, and only the assembly relationship is shown here.
- 【2】 Included in the main shaft sub-components (1), do not need to be purchased separately, here only represents the assembly relationship.

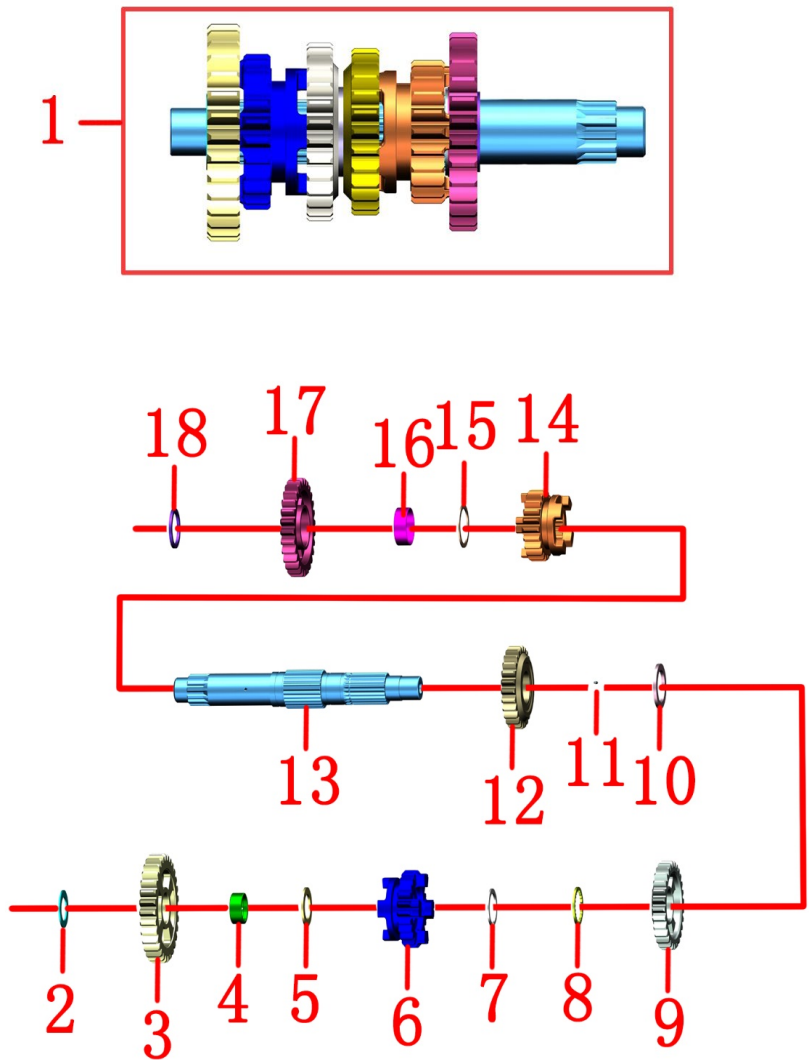



Fig.3 GEARSHIFT AND TRANSMISSION		Countershaft assembly relationship		CHK	
				ADJ	
NO.	PART NO.	PART NAME		QTY	CAUTION
2	4051758-012000	Transmission auxiliary shaft sub-assembly		1	Ordinary
	4051758-014000	Transmission auxiliary shaft sub-assembly (L)			Lengthened
2		17.2×27×1 thrust washers		1	【2】
3		ZT180MN countershaftone gear		1	
4		ZT173YMM countershaft gear shaft sleeve		1	
5		18.2×28×1.5 thrust washer		1	
6		ZT180MN Countershaft five gear		1	
7		Retaining ring for non-standard shaft φ23×1.2		1	
8		22Z×1M×37.5×1.5×27.5 involute spline		1	
9		ZT180MN Countershaft three gear		1	
10		countershaftbaffles of third — forth gears		1	
11		GB119.2φ2×5 cylindrical pin		1	
12		ZT180MN Countershaft four gear		1	
13		transmission auxiliary shaft subassembly		1	
14		ZT180MN Countershaft six gear		1	
15		25.2×31×1.0 thrust gasket		1	
16		ZT180MN countershaftsecond gear shaft		1	
17		ZT184MP secondary shaft second gear		1	
18		ZT184MP secondary shaft second gear		1	

PROCEDURE:

● Counter shaft assembly

The assembly relationship of the gears on the countershaft is shown in the left figure.

Notice:

● It is forbidden to dismantle the countershaft except in special circumstances, here only the assembly relationship is indicated.

● [2] It is included in the auxiliary shaft subassembly (1) and does not need to be separately purchased. Here, the assembly relationship is only indicated.

