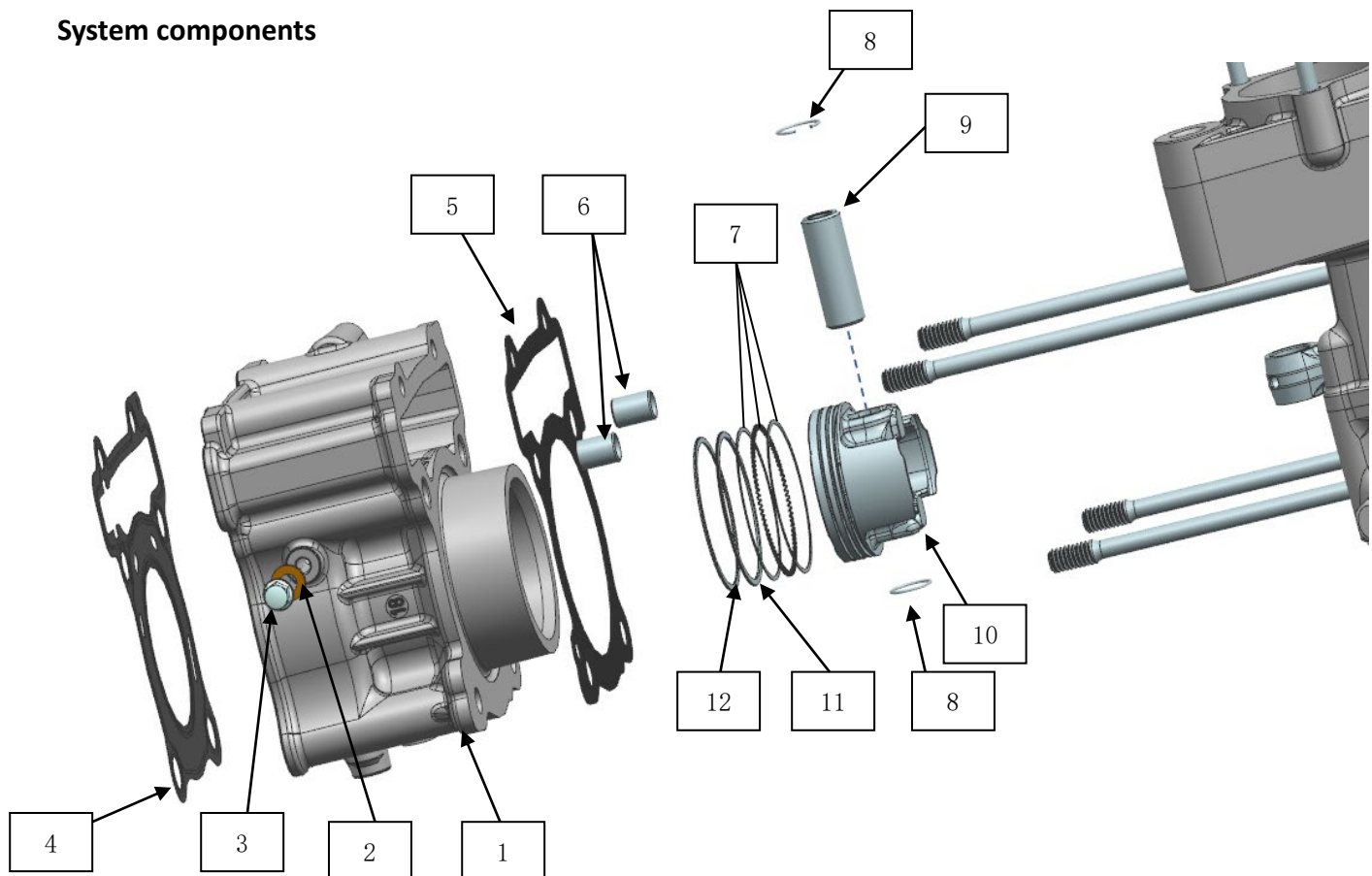


## Cylinder, piston

### System components



### Parts information

No.	Material name	Quantity	Remark
1	Cylinder	1	
2	6.3×12×1.6 copper gasket	1	
3	M6×10 top pin bolt	1	Tool: t-sleeve-8# fixed torque: 10±1 N.m
4	Cylinder head gasket	1	Cannot be reused
5	Cylinder block gasket	1	Cannot be reused
6	Φ 10×14 hollow positioning pin	2	
7	Oil ring combination	1	
8	16×1 piston pin retaining ring	2	Needle nose pliers
9	14×37×8.5 piston pin	1	
10	Piston	1	
11	Second ring	1	
12	Top ring	1	

## Cylinder, piston

### Assembly

1. Gently pull out the cylinder, and hold the piston and connecting rod with your hands;
2. Remove the piston pin retaining ring with needle-nose pliers, push the piston pin out of the small head hole of the connecting rod, and remove the piston (note: prevent the piston pin retaining ring from falling into the box);

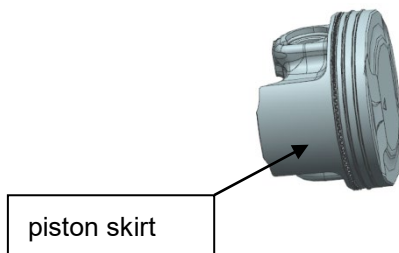
3. Remove the cylinder block box gasket.

### Remarks:

- ① the piston is turned to the top dead center before disassembly.
- ② do not drop the timing chain into the crankcase.
- ③ when the cylinder is pulled out of the piston, fix the piston and connecting rod by hand or other auxiliary tools to avoid collision with the box and cause damage.

### Inspection

1. Check the cylinder inner wall and piston skirt: if there are obvious scratches or wear on the inner wall of the cylinder and the piston skirt, the defective parts must be replaced;
2. Check whether the three piston rings are abnormally worn ( if there is abnormal wear , the corresponding parts need to be replaced ).



### Disassemble the piston ring

1. Remove the combination of the first air ring, the second air ring and the oil ring.

**Tip: To remove the piston ring, open the end notch by hand and lift the other side of the ring over the top of the piston.**

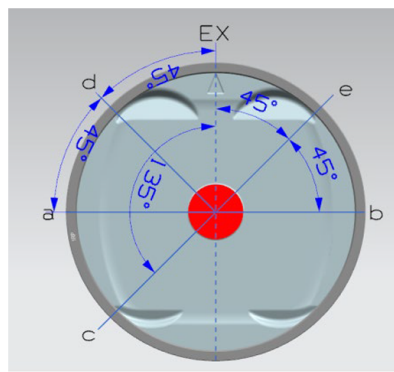
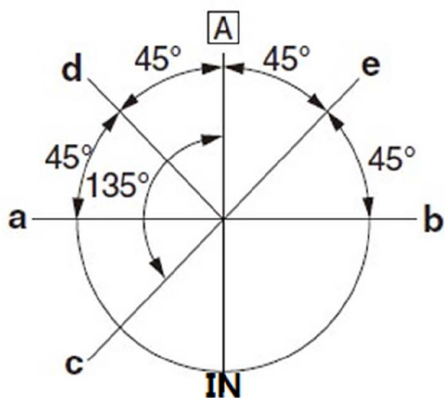
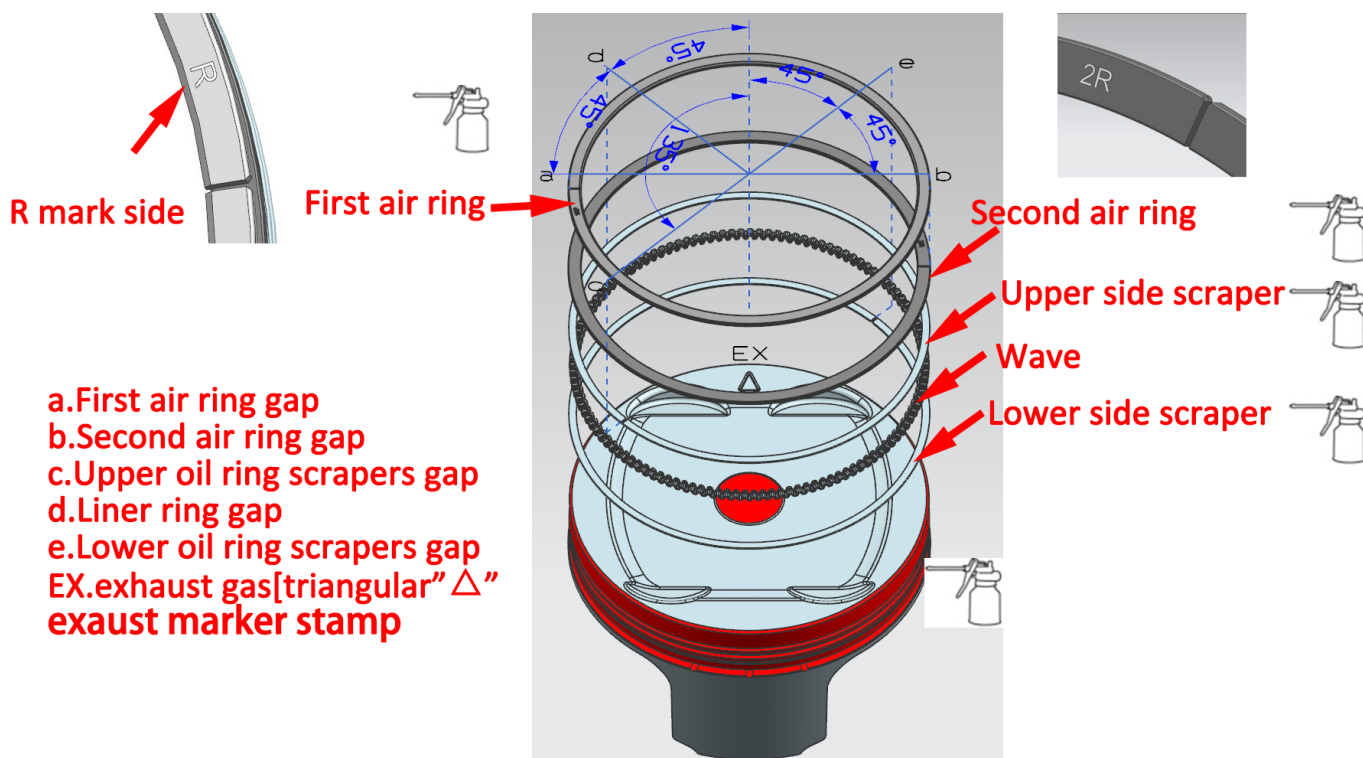
### Install the piston ring

1. Remove the carbon deposits on the piston ring groove and the piston ring, and apply an appropriate amount of engine oil to the piston ring groove;
2. Put the oil ring assembly into the piston oil ring groove.

### Remarks:

- ① do not use the first air ring and the second air ring interchangeably.
- ② when installing the gas ring, the side with the marked face faces up (piston top).
- ③ installing the oil ring assembly, first install the wave-shaped lining ring (the arc of the end surface of the wave-shaped lining ring faces downward), then install the lower side scraper ring, and finally install the side scraper ring.
- ④ the notch " a " of the first ring is on the left side of the "△" ex mark, along the axial direction of the piston pin; the notch " b " of the second ring is on the right side of the "△" ex mark, and the angle with " a " is 180 °; the lower side the notch " e " of oil ring scraper is at 45 ° between "△" ex and " b " ; the angle between " c " and " e " of upper oil ring scraper is 180 °; the

notch " d " of oil ring backing is at "△" on the left side of ex , perpendicular to the line connecting " c " and " e ". (as shown in the picture below)



### Install the cylinder and piston

1. Place two hollow positioning pins and install a new cylinder block gasket (as shown in the figure, before installing the new cylinder block gasket, ensure that the assembly plane of the cylinder block is smooth and flat and at the assembly plane of the cylinder body apply flat surface sealant).

2. Install the cylinder block, press the piston ring by hand to fit it into the cylinder block; the openings of the piston ring are staggered for assembly (the arrow on the top of the piston points to the exhaust side as shown in the figure) .

**Remarks:** ① before installing the cylinder block, apply an appropriate amount of engine oil evenly on the inner wall of the cylinder block.

② apply proper amount of engine oil to the piston skirt and piston ring.

③ do not drop the timing chain into the crankcase.

3. Put the piston pin into the piston and install it on the connecting rod, install the piston pin retaining ring into the ring groove with needle-nose pliers (one piston pin retaining ring at each end of the piston pin), and then gently push the cylinder to the assembly position.

**Remarks:** ① apply an appropriate amount of engine oil to the piston pin hole and the small end hole of the connecting rod.