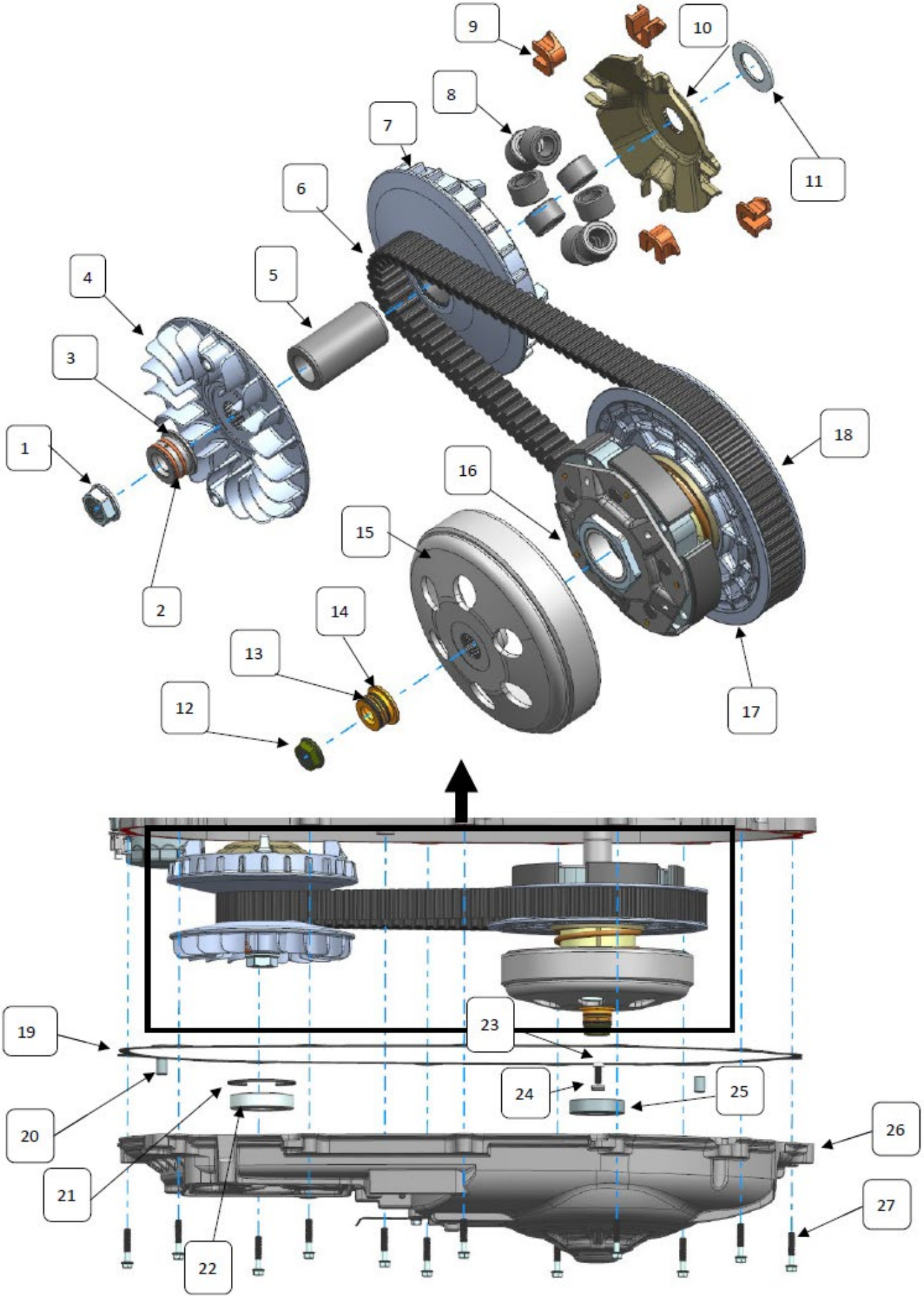
Left crankcase cover, continuously variable clutch sub-assembly

1. System components



Parts information

Serial number	Part Name	Quantity	Serial number	Part Name	Quantity
1	M18×1 hexagon flange nut (grade 10/environmental protection color zinc)	1	15	ZT1P77MP clutch jacket	1
2	ϕ 18.5×ϕ30×19.1 Drive wheel bushing	1	16	ZT1P77MP driven wheel shoe assembly	1
3	ϕ 26×ϕ2 fluorine rubber O-ring	2	17	ZT1P77MP driven wheel sliding plate	1
4	ZT1P77MP main fixed disk	1	18	ZT1P77MP driven wheel fixed plate	1
5	ZT1P77MP driving wheel sleeve	1	19	M6×30 hexagonal flange bolts (environmental protection color zinc)	12
6	ZT1P77MP V-shaped transmission belt	1	20	ZT1P72MN left crankcase cover gasket	1
7	ZT1P77MP main sliding wheel subassembly	1	21	GB893.1 circlip ϕ55 for holes	1
8	ZT1P77MP centrifugal roller	8	22	600 6-2R S /P5C3 deep groove ball bearing	1
9	ZT1P77MP slope plate	1	23	Non-standard bolt M6×16 (environmental protection color)	1
10	ZT1P77MP buffer slider	4	24	ZT1P58MJ left crankcase cover bearing pressure plate	1
11	ϕ 23.2×ϕ40×3.25 washer	1	25	6005 - 2RD/P5C3 deep groove ball bearings	1
12	M14×1 hexagon flange nut (grade 10/environmental protection color zinc)	1	26	ϕ 10×14 hollow positioning pin	2
13	ϕ 21.2×ϕ1.8 fluorine rubber O-ring	2	27	ZT1P77MP left crankcase cover A	1
14	ϕ 14.5×ϕ25×16 driven wheel bushing	1			

Torque value

Serial number	Name	Quantity	Torque (N·m)	Remark
1	M14× 1 hexagonal flange nut (grade 10/environmental protection color zinc)	1	75 ± 7N·m	-
2	M18×1 hexagon flange nut (grade 10/environmental protection color zinc)	1	103 ± 10 N·m	-
3	M6×30 hex flange bolts	12	12 ± 1.5 N·m	-
4	Non-standard bolt M6×16 (environmental protection color)	1	12 ± 1.5 N·m	Apply thread glue

2. Maintenance information

General information

1. This chapter introduces the repair and maintenance of driving wheel and driven wheel.
2. The maintenance of the driving wheel and the driven wheel can be motorcycleried out on the vehicle without disassembling the engine separately.
3. During maintenance, the driving wheel, driven wheel, and V-shaped transmission belt must not touch engine oil or grease to prevent the V-shaped transmission belt from slipping.

Tool

1. Torque wrench;
2. 8# and 19# and 24# sleeves (it is recommended to use extended sleeves);
3. Special fixed fixture for driving and driven wheels;
4. Elastic clip;
5. T-shaped sleeve-8#;
6. 4# inner hexagon socket

3. Common failure phenomenon/troubleshooting

3.1. The engine can be started, but the rear wheel does not turn when the throttle is added.

·The V-shaped transmission belt is severely worn or broken.
· Clutch shoes are worn or damaged.
·The large spring of the driven wheel is damaged.
·The splines matching the clutch housing and the drive shaft are damaged.
·The gear in the gear chamber is damaged.

3.2. The engine stalls or lacks power.

·The V-shaped transmission belt is slipping.
·The large spring of the driven wheel is damaged.

3.3. Insufficient high-speed power.

·The V-belt is worn or slipping.
·The clutch jacket and the clutch shoes are slipping.
·The large spring of the driven wheel fails.
· Centrifugal roller wear.

3.4. When the engine is idling normally, the rear wheels rotate rapidly.

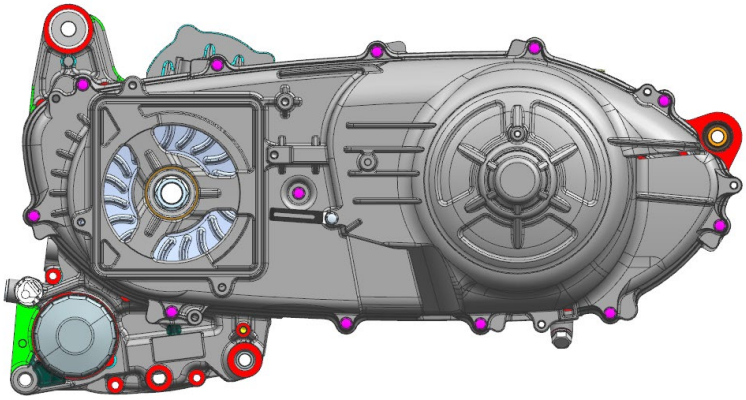
· Centrifugal roller stuck in return position.
·The small spring of the driven wheel shoe block is damaged.
·The driven wheel bearing is damaged and the bearing is stuck.

4. Left crankcase cover

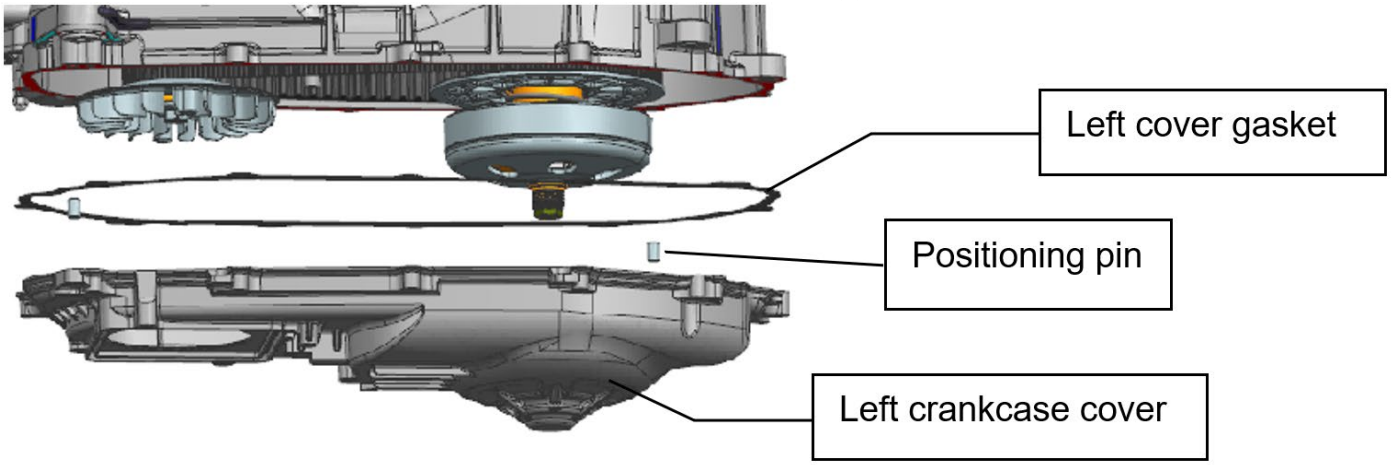
Before the left crankcase cover is removed, the following parts need to be removed.
a. The left cover of the engine, the mask of the engine air intake, the core of the filter of the engine inlet, the anti-vibration sponge of the left cover of the engine.

Disassemble

Make all bolts of the left crankcase cover leak.
1. Use a T-shaped sleeve - 8# to remove 12 M6 × 30 hexagon flange bolts on the left crankcase cover (the 2 box bolts at the bottom of the air filter need to be removed first And then move the air filter upward to remove the left cover to be exposed).

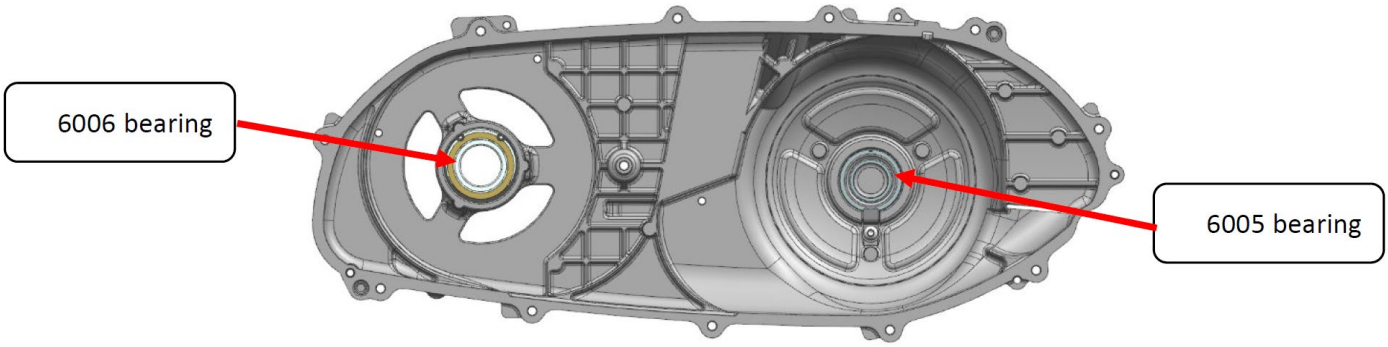


2. Remove the left crankcase cover, left crankcase cover gasket and positioning pin.



Examine

1. Check the 6005 and 6006 bearings of the left crankcase cover. If the inner ring of the bearing is stuck, please replace it in time.



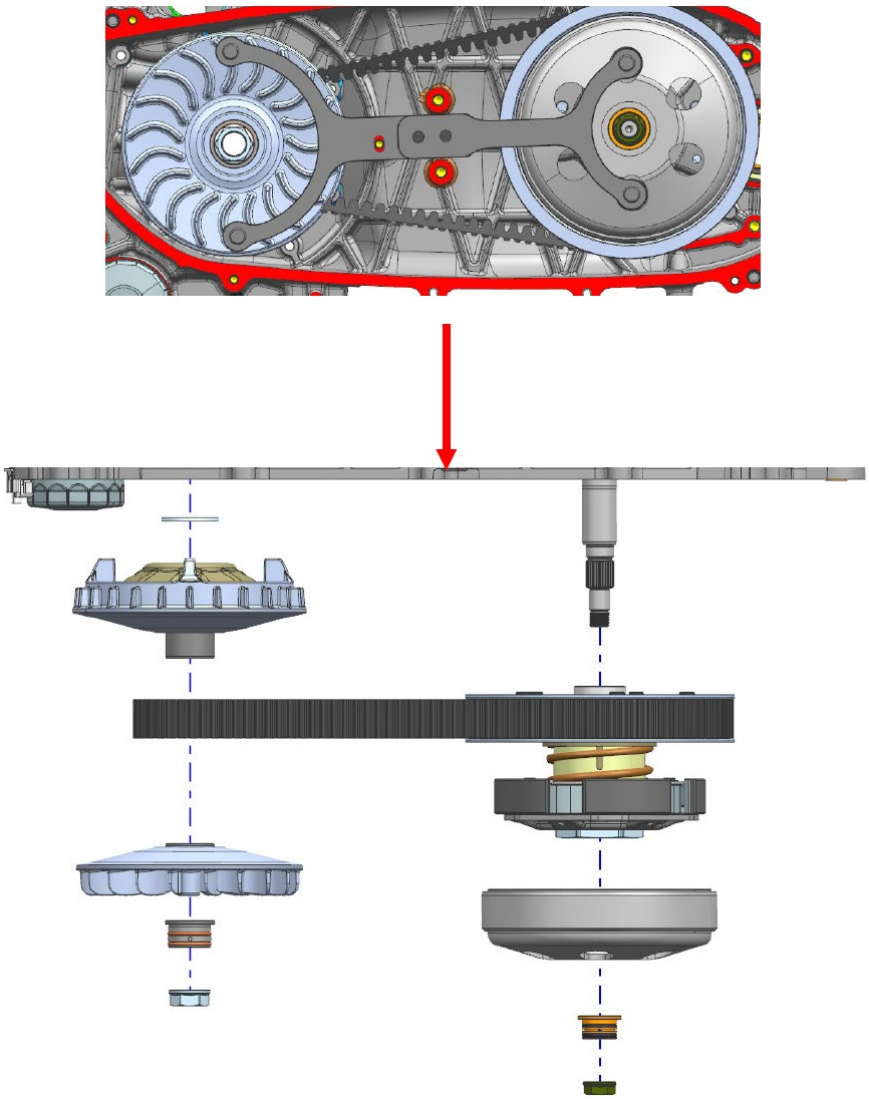
Install

1. Install the positioning pin and left crankcase cover gasket in place in sequence. Then align the positioning pins to install the left crankcase cover in place, pre-tighten the bolts of the left crankcase cover evenly diagonally, and then tighten them to a fixed torque with a torque of 12 ± 1.5 N.m . **(Note: The left crankcase cover gasket may be damaged or broken when disassembled, and a new gasket needs to be replaced for assembly)**

2. Reverse the order of disassembly, install the side fixing points of the air filter into the inner mud plate, then connect the air filter exhaust pipe to the air balancing pipe of the gear chamber, move the clamp to the appropriate position, and clamp the waste gas pipe. It is tightly tightened with 8# sleeve with a torque of 12±1.5 N.m. (Note: The exhaust pipe of the air filter cannot be discounted)

5. CVT clutch sub-assembly

Disassemble



1. Align the cylindrical bayonet pins of the special driving and driven wheel positioning fixtures with the two positioning holes inserted into the outer blade of the main fixed disc, and the two symmetrical cooling holes on the outer cover of the driven wheel clutch. The driving wheel and the driven wheel cannot rotate freely.
2. Use a torque wrench (or air batch) and a 24# sleeve to disassemble the M18×1 hexagon flange nut counterclockwise .
3. Use a torque wrench (or air batch) and a 19# sleeve to disassemble the M14×1 hexagonal flange nut counterclockwise .
4. Take off the M18×1 hexagon flange nut and ϕ 18.5×ϕ30×19.1 driving wheel bushing , and then remove the M14×1 hexagon flange nut and ϕ 14.5×ϕ25×16 driven wheel bushing .
5. Remove the positioning fixture of the driving and driven wheels, and remove the ZT1P77MP main fixed plate from the crankshaft.
6. Remove the clutch cover of the driven wheel from the drive shaft.
7. Pinch the middle part of the V-shaped transmission belt, and remove the belt and driven wheel sub-components together.
8. Pinch the main sliding wheel subassembly and the slope plate inside, and remove it together with the driving wheel bushing.
9. Finally, take out the ϕ23.2×ϕ40×3.25 washer , and the disassembly of the continuously variable clutch sub-assembly is completed.

Examine

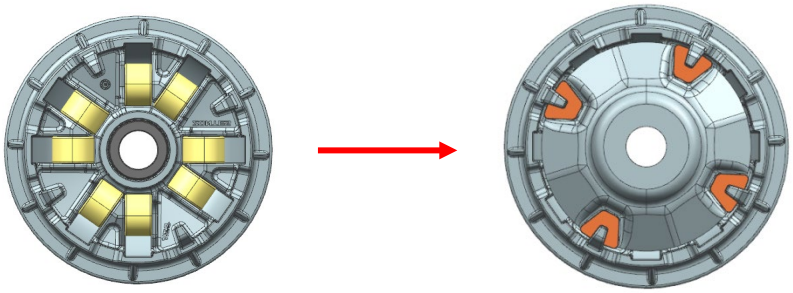
1. Check whether the centrifugal roller is worn and out of round, and if it is out of round and deformed, it needs to be replaced.
2. Check whether the V -shaped transmission belt is damaged such as cracks, broken wires, and teeth. If it occurs, it needs to be replaced.
3. Check whether the inner circular surface of the driven wheel clutch casing and the driven wheel clutch shoe are worn or damaged, and they need to be replaced if they appear. (**Note: It is not recommended to grind the clutch shoes, which will increase the wear of the inner ring of the clutch casing and the clutch shoes, and may also cause riding vibration.)**

Assembly

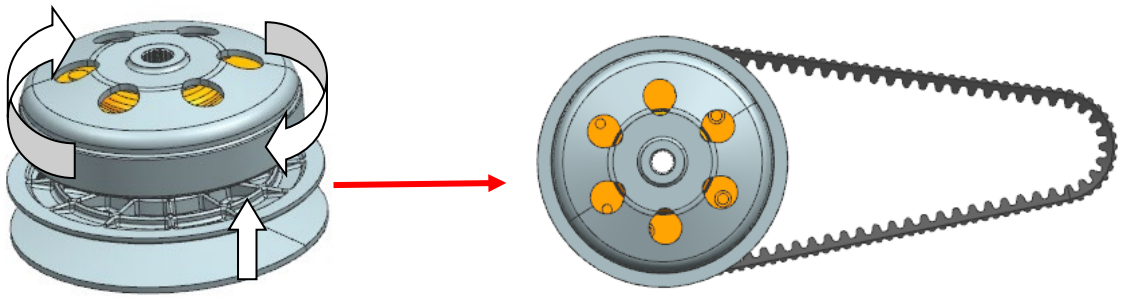
Remarks :

① All components of the dismantled continuously variable clutch sub-assembly need to be fully inspected before assembly.
② Use an air gun to completely clean the dust accumulated in the belt chamber of the left crankcase before assembly.
③ Before assembly, it must be ensured that there is no oil on the driving wheel, V-belt, and driven wheel to avoid slippage after assembly.

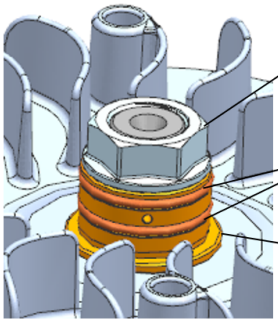
1. First install the ϕ23.2×ϕ40×3.25 washer on the crankshaft and assemble it in place.
2. Check whether the 8 centrifugal rollers are completely placed in the centrifugal roller groove of the sub-component of the main sliding wheel and the Puli beads roll smoothly without jamming, then it is qualified (picture 1 below), otherwise replace the Puli beads, and then install them The slope plates of the four buffer slide blocks are assembled on the main sliding wheel subcomponent corresponding to the main sliding wheel subcomponent guide column.



3. Turn over the main sliding wheel subassembly with the centrifugal roller and the slope plate installed, and then put the driving wheel shaft into the inner hole of the main sliding wheel subassembly. Then pinch the sliding disc and the ramp plate with one hand (to prevent the centrifugal roller from falling after being disassembled), and hold the exposed driving wheel bushing with the other hand to align the inner hole of the driving wheel bushing with the crankshaft. Then the ramp plate, the centrifugal roller, the sub-components of the main sliding wheel, and the driving wheel bushing are integrally pushed and assembled on the crankshaft and withstand the ϕ 23.2 × ϕ 40 × 3.25 washer.
4. Lay the driven wheel on the workbench or clean ground as a whole, then make the indicator arrow on the V-shaped transmission belt point to the counterclockwise rotation direction, place the V-shaped transmission belt on the outer ring of the driven wheel, and make a certain distance The driven wheel is 4~5cm away. Press the clutch cover of the driven wheel with the palms of both hands, and rotate clockwise while clasping the moving plate of the driven wheel with the fingers of both hands and pulling it up. After raising the movable plate of the driven wheel to a height of about 10mm, quickly stretch out the finger close to the side of the V-shaped transmission belt to dial the V-shaped drive belt into the belt groove between the movable plate of the driven wheel and the fixed plate. Finally, clamp the middle of the belt with an elastic clip to prevent the belt from loosening by itself.
Remarks: This step requires strong hand strength and certain operating experience to complete. Insufficient hand strength or no operating experience may cause injury to fingers caught by the driven pulley.



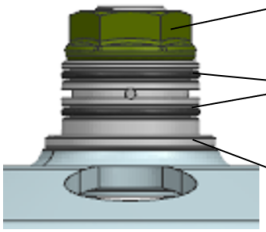
5. Pick up the combined driven wheel and the V-shaped transmission belt as a whole, make the clutch outer cover of the driven wheel face the outside, align the inner hole of the center of the driven wheel with the drive shaft, and then push the driven wheel inward and install it in place (the drive shaft is used for One section of the optical shaft of the ϕ 14.5 × ϕ 25 × 16 driven wheel bush is exposed), and the other part of the V-shaped transmission belt is placed on the exposed spline outer ring of the crankshaft.
6. Put the side of the main fixed disk with the wind blades facing outward, align the spline hole in the middle with the spline on the crankshaft, and then assemble it on the crankshaft, and assemble it in place.
7. Put the ZT1P77MP driving wheel bushing equipped with two ϕ26×ϕ2 fluorine rubber O-rings and grease on the crankshaft, and take an M18×1 hexagonal flange nut and screw it into the crankshaft manually.



M18×1 hex flange nut **(103±10N.m)**

φ26×φ2 fluorine rubber O -ring

ZT1P77M P driving wheel bushing



M14×1 hexagon flange nut

φ21.2×φ1.8 Fluorine rubber O-ring

Driven wheel bushing (grease the inner hole)

8. Point the stepped end of the ϕ14.5×ϕ25×16 driven wheel bushing to the driven wheel, and install it on the exposed section of the optical shaft of the drive shaft. Then screw on the M14×1 hexagonal flange nut on the drive shaft thread .

Remarks :

① If there is no grease in the groove of the inner ring of the driven wheel bush, add high temperature resistant grease.

② Do not leave out the two O-rings. When screwing the nut, if there is grease on the thread, wipe it clean.

9. Same as the first step in the disassembly, use a special clamp to clamp the main fixed plate and the clutch cover of the driven wheel so that they cannot rotate freely.

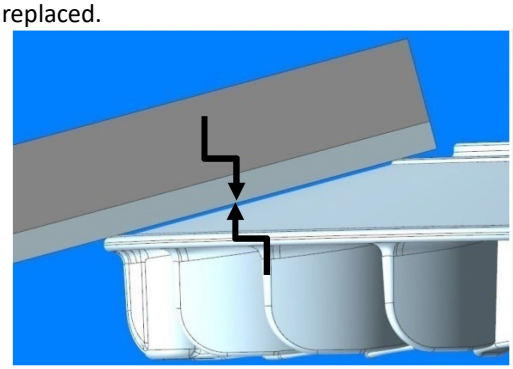
10. Use a torque wrench (or air batch) and a 24# sleeve to tighten the M1 8 × 1 hexagon flange bolt clockwise , and the tightening torque must reach the range of 103±10N.M. Then use a torque wrench (or air batch) and a 19# sleeve to tighten the M1 4 × 1 hexagon flange nut clockwise , and the tightening torque must reach the range of 75±7N.M. **(Note: When tightening the M18×1 hexagonal flange nut at a fixed torque, the belt cannot withstand the surface of the main fixed disk, which will result in insufficient constant torque.)**

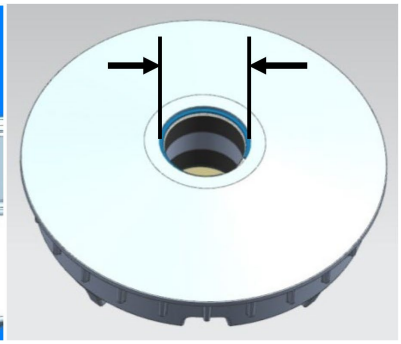
6. Inspection of parts and service limit values

Note: Every 20,000 kilometers driven, the continuously variable clutch subassembly needs to be inspected, maintained or repaired!!

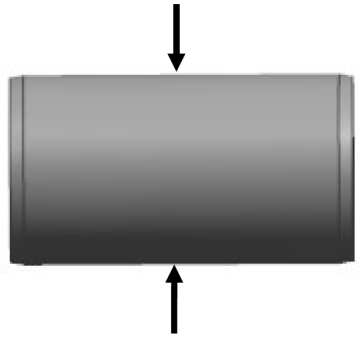
Inspection items and service limits of driving wheels

① Parallel alignment of the driving wheel with a knife ruler [Supplementary Translation](main fixed disc and sliding disc) conical working surface, and then check the amount of wear with a feeler gauge. The gap ≥ 0.5 mm needs to be replaced. Measure the aperture of the inner lining of the driving wheel sliding disc with a vernier caliper or an inner micrometer, and the aperture ≥ 35.15mm needs to be replaced.

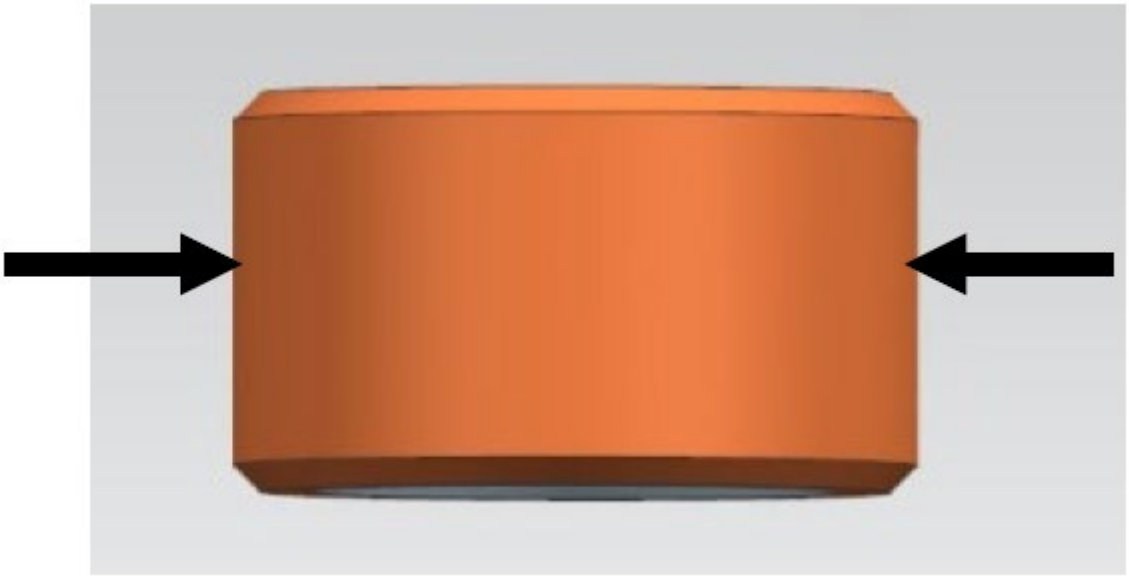




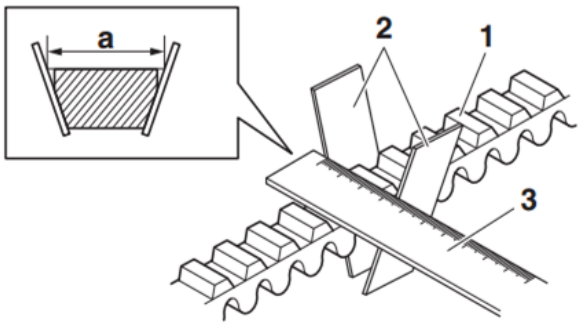
② Use vernier calipers or outer diameter micrometers to measure the outer diameter of the distance cylinder. The outer diameter ≤ φ34.9mm needs to be replaced.



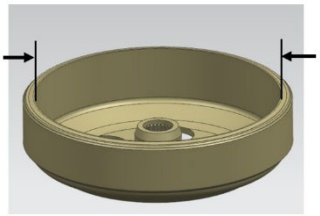
③ Check whether the centrifugal roller is worn out of roundness, and if it is out of roundness, it needs to be replaced. Use vernier calipers or outer diameter micrometers to measure the diameter of the outer cylindrical surface of the centrifugal roller, and the diameter needs to be replaced when the diameter is ≤ ϕ25.5mm.



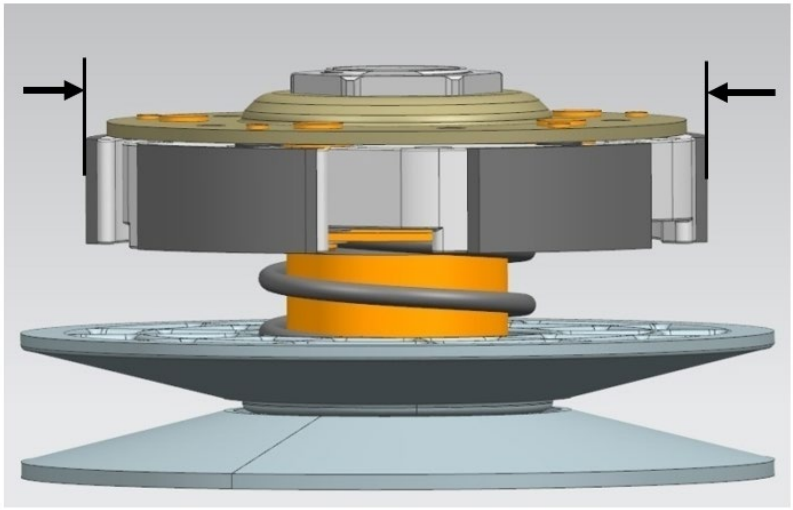
④ Check whether the V-shaped drive belt has cracks, broken wires, missing teeth, etc., and if it appears, it needs to be replaced. The widest part of the V-shaped drive belt (size a) is measured by the measurement method shown in the figure below, and it needs to be replaced when the width ≤ 26.8 mm.



⑤ Check whether the inner circular surface of the clutch jacket of the driven wheel clutch is worn or damaged. Measure the inner circle aperture with a vernier caliper, and replace it when the aperture ≥ ϕ150.5mm. (Note: The inner ring of the clutch jacket has a wear-resistant coating, which is not recommended to be polished, which will aggravate the wear and tear of the inner ring of the clutch jacket and the clutch hoof block, and may also cause.



⑥ Check the driven wheel clutch hoof for wear or damage. Use vernier calipers to measure the circle diameter of the hoof block, and the diameter needs to be replaced when the diameter is ≤ ϕ146mm. (Note: It is not recommended to polish the clutch hoof block, which will aggravate the wear and tear of the inner ring of the clutch jacket and the clutch hoof block, and may also cause riding shaking.)



⑦ Check whether the 61904 ball bearings and 25×18 needle roller bearings pressed in the fixed shaft of the driven wheel are worn or damaged. There are wear, loose and loose frames that need to be replaced with driven wheel sub-parts. (Note: Needle roller bearings in this position, except for special circumstances, do not need to add grease, and there is a risk of throwing it on the V-shaped transmission belt.)