

前 言

Foreword

感谢您使用程力改装车，我公司生产的程力威牌系列改装，吸收了国内外同类车型之优点，具有结构合理，性能可靠、操作方便、外形美观等优点。

Thank you for using CLW brand special purpose vehicles. We absorbed advantages from other vehicle models inland and overseas to design CLW brand series special purpose vehicles. CLW Vehicles have reasonable structure, safe function, easy to operate, beautiful appearance, etc.

本公司生产的压缩式垃圾车，是集多种功能于一身的环卫车辆，适用于城镇、街道、工矿企业、住宅区的垃圾收集运输。

Our compression refuse collector integrated multi-functions, normally be used to town, street, enterprise and residential, etc.

在使用说明书中，对车辆的主要技术性能指标、结构、工作原理、使用、保养等作了说明。

This instruction book specified about compression refuse collector 's technology parameter , structure, work principle, operation and maintenance, etc.

汽车底盘的技术特性和使用、保养见其相应的载货汽车使用说明书。

Please find the chassis' technology function index, operation and maintenance in the accordingly chassis instruction.

只有熟悉车辆结构，严格地执行使用说明书的各项使用保养要求，才能保证车辆的正常作业和使用期限；因此，在使用前请认真阅读使用说明书。

In order to make sure the vehicle work correctly and its service life, please maintain the vehicle comply with the instruction strictly. And please read the instruction carefully before operating.

为了更好地满足用户的各种不同使用要求，压缩式垃圾车的结构在继续地改进和提高，因此有可能出现实际结构与使用说明书有所不同的情况，请予理解，不另行通知。

In order to meet different customers' desires, we are keeping improving the structure of the compression refuse collector, please notice that the actual structure is a little different with this instruction book, please considerate.

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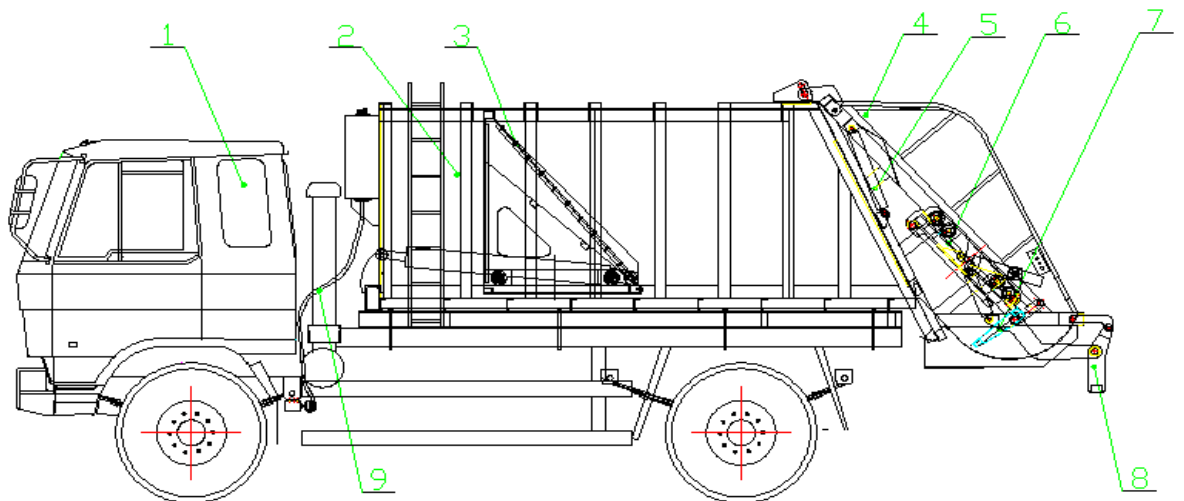
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1、 概述 Summary

程力威压缩式垃圾车，选用东风公司汽车底盘或其它知名底盘改装而成。主要结构有厢体，装料机构，压缩机构，卸料机构，油泵、油缸、控制阀等组成的液压机构等。产品具有多种型号规格，供用户选用。其外形简图见图一。

CLW brand compression refuse collector is one kind of modified vehicle using chassis of Dongfeng (DAF) or other famous chassis (Foton , JAW , SINOTRUCK). Its main structure is hydraulic mechanism which is consisting of box body, charger mechanism, compression mechanism, discharging mechanism, oil pump, oil cylinder, control valve. Our products have many different models and specifications for customer to choose. Its outline, please see drawing one.



图一 (Drawing one)

1、汽车底盘 chassis 2、垃圾车厢体 box body 3、卸料机构 discharging mechanism 4、料斗 hopper 5、举升机构 lift mechanism 6、压缩机构 compression mechanism 7、收刮机构 flex mechanism 8、

装料机构 charger mechanism 9、液压系统 hydraulic system

2、 主要技术性能参数 Main technology function index

| | | | | |
|----------------------------|---|---------------|----------------|----------------|
| 产品型号 | | Product model | | CSC5111ZYS3 |
| 底盘型号 | | chassis model | | EQ1110GLJ |
| 货厢容积 | | Box volume | m ³ | 8 |
| 尺寸参数 Dimension index | 长×宽×高 length×width×high | | mm | 7750×2495×3350 |
| | 轴距 Wheel base | | | 3950 |
| | 轮距 tread | 前 front | | 1900 |
| | | 后 rear | | 1800 |
| 质量参数 Quality index | 整备质量 Curb weight (kg) | | | 8500 |
| | 载质量 Rated contained mass (kg) | | | 2800 |
| | 总质量 (含三人) The total mass (Kg) (contain 3 persons) | | | 11495 |
| 性能参数 Function index | 最高车速 Maximum speed | | km/h | 90 |
| | 最大爬坡度 maximum grade ability | | % | 25 |
| | 驻坡度 parking slope | | % | 20 |
| | 制动距离 braking distance | | m | ≤10 |
| | 最小转弯直径 Minimum turning circle | | m | 16 |
| | 最小离地间隙 Ground clearance | | mm | 250 |
| | 接近角/离去角 approach/departure angle | | | 30/11 |
| | 侧倾稳定角 List stable angle | | | 35 |
| | 装载机构额定提升质量 rated lifting weight of loading mechanism | | kg | 150 |
| | 装载机构最大提升质量 maximum lifting weight of loading mechanism | | | 200 |
| | 装载机构工作周期 Work cycle of loading mechanism | | s | ≤40 |
| | 卸料机构工作周期 Work cycle of discharging mechanism | | | ≤60 |
| | 液压系统额定压力 Rated pressure of hydraulic system | | Mpa | 16 |

3、 工作原理 Work principle

本专用车装载垃圾，压缩垃圾和卸垃圾均采用液压驱动，经专用机构来完成。汽车发动机的动力，经取力器，传动轴传递给油泵，油泵旋转产生高压油。操作多路换向阀上的相关控制开关，液压油使相关油缸工作，油缸工作带动相关机构完成装载垃圾、压缩垃圾、或自卸垃圾的工作。

This special purpose vehicle uses hydraulic driven during whole process of loading rubbish, compression rubbish and discharging rubbish. PTO (power take off) and transmission shaft transfer engine' s power to oil pump who revolving can produce high pressure. Operating according switches make oil pump work which is the leader of all working system .

4、主要结构 Main structure

4.1 垃圾车厢体 box body of refuse collector

垃圾车厢体为全金属密封式结构。用以盛装垃圾，用钢板和槽钢焊合而成，垃圾车厢体下部有货厢底架，垃圾车厢体经垃圾车厢体底架用骑马螺栓与底盘紧密相联。垃圾车厢体前部有卸料机构与油缸，后部有装料斗，用以装垃圾和压缩垃圾到车厢体内。

Box body which sealed structure made by pure metal, including steel plate and channel steel , used to load rubbish. Under the box body, there is a under-frame which was fixed on the chassis by U-bolt. There is a discharge mechanism and an oil cylinder in front of the box body and there is a

loading mechanism behind of it.

4.2 卸料机构 Discharge mechanism

卸料机构由卸料油缸与卸料推板组成,卸料推板由钢板和支架焊合而成,由导槽定位,由油缸伸长推动卸料推板而卸垃圾。

Discharge mechanism is consisting of discharge oil cylinder and discharge board (steel plate and frame weld together). Oil cylinder extends through the groove to push the discharge-board discharging rubbish.

4.3 料斗 Hopper

料斗由钢板和槽钢焊合而成,盛装待压缩的垃圾;平时关闭厢体,卸料时料斗用油缸举升打开,以便卸料。料斗上装有举升机构、压缩机构、装料机构。

Hopper is a box that consists of steel plate and channel steel w used for loading the rubbish which ready for compressing. The box body is closed when empty, can lift by oil cylinder when discharge rubbish. There is lift mechanism, compression mechanism and loading mechanism on the hopper.

4.4 压缩机构 Compress mechanism

压缩机构由钢板与槽钢焊合的压板,导轮及油缸座等组成,在油缸推动下,将料斗内的垃圾压缩到厢体内。

Compress mechanism is consisting of pressed plate (steel plate and channel steel weld together), guide pulley and oil cylinder. Rubbish in hopper is compressed into box body by oil

cylinder.

4.5 收刮机构 Flex mechanism

收刮机构由钢板与槽钢焊接的括板，转臂及油缸座等组成，在油缸推动下，将料斗内的垃圾收刮提升，以便压缩机构将垃圾压缩到厢体内。

Flex mechanism is consist of flex board (steel board and channel steel weld together), turning arm and oil cylinder. With the help of oil cylinder, rubbish be scraped and lifted into box body.

4.6 装料机构 Charger

装料机构由支架，连杆机构，凸轮，挂钩等组成。在油缸作用下，将街头垃圾桶内的垃圾自动翻转倒入料斗内。

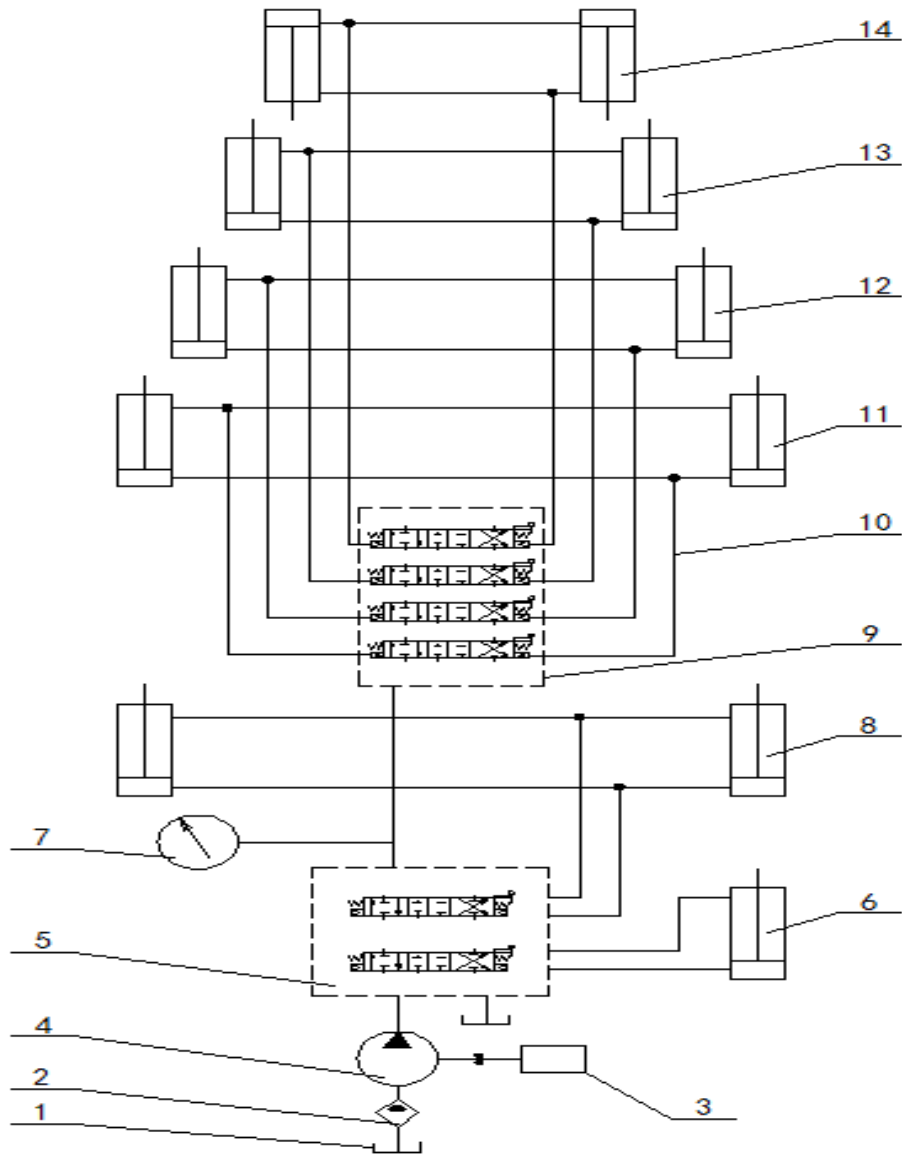
Charger is consisting of frame, link rod, cam and pothook. The oil cylinder make the street garbage container overturn to pour rubbish into hopper.

4.7 液压系统 Hydraulic system

液压系统主要由油箱、取力器、齿轮油泵、手动气控多路换向阀、电磁组合阀、卸料油缸、举升油缸、收刮油缸、压缩油缸、副压缩油缸、翻桶油缸、油压力表、油管等组成，见图二。

Hydraulic system is made up of fuel tank, PT0, gerotor, handle reversing valve, electromagnetic valve, discharging oil cylinder, lifting oil cylinder, flex oil cylinder, compression oil cylinder, assistant compression oil cylinder, oil pressure gauge and oil pipe, etc.

Look drawing 2



图二

Drawing 2

- 1、液压油箱 hydraulic oil tank 2、滤清器 filter 3、取力器 PTO
 4、齿轮油泵 geared oil pump 5、手动气控多路换向阀 multiple-way
 directional control valve 6、卸料油缸 discharging oil cylinder 7、压
 力表 pressure gauge 8、举升油缸 lifting oil cylinder 9、手动
 气控多路换向阀 multiple-way directional control valve 10、油管 oil pipe
 11、收刮油缸 flex oil cylinder 12、压缩油缸 compression oil

cylinder 13 副压缩油缸 assistant compression oil cylinder 14.
翻桶油缸

5、操作规程 Operation rule

5.1 注意事项 Notice

5.1.1 请严格按照汽车底盘使用说明书和本使用说明书的说明和要求进行操作。

Please operate the vehicle as the vehicle chassis instruction and this instruction strictly.

5.1.2 操作人员在装卸作业过程中，要注意人员站立位置，避免造成损伤。

Operator must stand at proper place in loading and discharge process in order to avoid injury.

5.1.3 在检修装卸机构时必须注意安全，严禁垃圾斗在举升状态而没有可靠支撑的情况下进行检修工作。

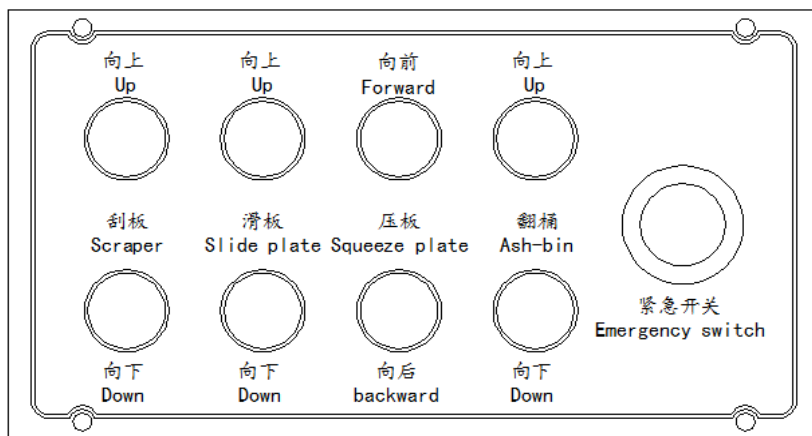
Keep safe before you mending the vehicle, don't mend the flex mechanism was in lifting state.

5.1.4 压缩垃圾车请勿装载建筑垃圾物，以免造成零部件损坏。

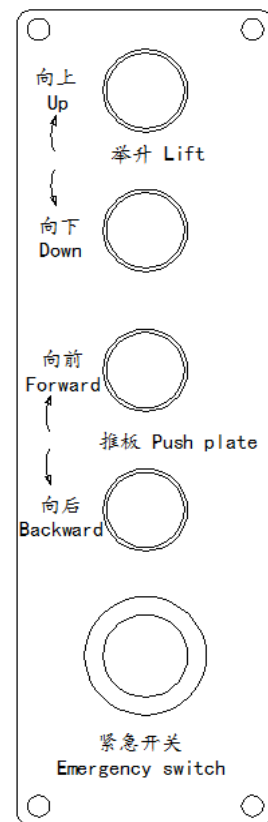
Don't loading tectonic rubbish in compression refuse collector in order to avoid to damage parts.

5.2 装卸作业操作步骤（操作手柄或开关见附图三）

Loading work operation step (see drawing 3)



后部电磁阀操作开关
Rear electromagnetic valve operation switch



前部电磁阀操作开关
Front electromagnetic valve operation switch

Drawing 3

5.2.1 装卸作业时汽车挂空档，汽车低速运转，踩下离合器踏板，然后合上取力器气动开关，再缓慢松开离合器踏板，这时汽车动力经取力器驱动油泵运转，装料前请保证推板在箱体内最前端的位置，滑板缸处于完全收缩状态，刮板缸处于完全伸出状态。

When the vehicle is working, put the shift on the neutral. The vehicle running in a lower speed, step down the treadle of the clutch, close PTO' s switch, release the treadle of the clutch, then the vehicle through PTO and transmission shaft drive oil pump to work. Please make sure all push plates in the most front side of the box body , sketeboarding cylinder in contracting state, scraper cylinder in totally extending

state.

5.2.2 装料作业 Loading work

5.2.2.1 按下翻桶机构向下按钮，待翻桶油缸完全伸出后，松开按钮。

Press the button “down” of Ash-bin, after Ash-bin cylinder all extend, release the button when finished it.

5.2.2.2 将垃圾桶置于翻桶机构的挂钩之上。

Put the dustbin on the pothook of the loading mechanism.

5.2.2.3 垃圾桶挂好后，按下翻桶机构向上按钮，垃圾桶上翻，垃圾自动卸入圆弧形料斗内，松开按钮；按下翻桶机构向下按钮，垃圾桶下翻，松开按钮。

按下刮板向上按钮，刮板缸收缩，收缩完成后松开按钮，然后按下滑板向下按钮，滑板向下滑动至料斗底部时松开按钮，开始准备收刮垃圾。

按下刮板向下按钮，刮板缸伸出，完成后松开按钮。按下滑板向上按钮，滑板缸收缩滑板向上运动，垃圾被收刮入厢体内，滑板至顶后松开按钮。

按下压板向前按钮，压板将厢体尾部的垃圾向前推入厢体内，压板缸完全伸出后松开按钮，然后按下压板向后按钮，压板油缸收缩完成松开按钮，完成一次装料操作。（装料过程中压板可间断使用）

Press the button “Up” of Ash-bin, cylinder contract , ash-bin upturning , rubbish will discharge into hopper automatically .release the button when finished it.

Press the button “Up” of Scraper, scraper cylinder

contract , then press button “down” of slide plate , release the button when the plate arrives the button of hopper, prepare to collect rubbish.

Press the button “down” of Scraper , scraper cylinder extend, release it when finished it .Press button of “Up” of Slide Plate , Slide plate cylinder move upply, rubbish will collect into box body ,release the button when the slide plate is on the top.

Press the button “Forward” of Squeeze plate ,Plate will push forward the rubbish to the front,release the button when squeeze cylinder is totally extend,press the button “backward” of squeeze plate, release the button when the cylinder is totally contract.

5.2.2.4 重复 5.2.2.2 操作，将空桶移开，准备挂垃圾桶。

Re-handle “5.2.2.2” , take away the empty dustbin, and prepare for put other dustbin.

5.2.3 装料作业结束，车辆行驶之前，踩下离合器踏板，分开取力器气动开关，使油泵停止工作。

After Finished loading work, before drive the vehicle, step down clutch step, close PTO switch, make the oil pump stop working.

操作步骤：翻桶机构下翻 → 挂桶 → 翻桶机构上翻 → 翻桶机构下翻 → 刮板张开 → 滑板下行 → 刮板收缩 → 滑板上行 →

压板前推 → 压缩缩回 → 挂桶（如此循环）

Operation Step: Make Ash-bin downturn → dustbin → Ash-bin overturn → Ash-bin downturn → open slide plate → slide plate contract → squeeze plate push forward → compress then contract → dustbin

5.3 卸料 Discharging

5.3.1 卸料前后料斗附近严禁站人。

No standing people around Hopper before discharge !

按下举升向上按钮，待后料斗举升到最高位置后，松开按钮。

Press the button “Up” of Lifting, release the button when the hopper is in highest position .

5.3.2 按下推板向前按钮，垃圾被推出箱体，待垃圾完全卸完后，松开按钮。按下推板向后按钮，推板缩回车厢前端，松开按钮。

Press the button “ Forward” of Push Plate, rubbish will be push out of box body, release the button after totally discharge. Press the button “backward” of Push Plate, release the button after the slide plate in the front side of box body.

5.3.3 按下举升向下按钮，料斗下落，料斗复位后松开按钮，卸料完毕。

Press the button “down” of Lifting , hopper move down slowly, release the button after hopper reset.

卸料步骤：料斗举升 → 推板推出 → 推板缩回 → 料斗回落 → 卸料完毕

Discharge Step : Hopper Lifting → Pushing plate forward
 → Pushing plate contract → hopper reset → finish
 discharge

6、维修与保养 Mending and maintain

6.1 底盘的保养与维修按汽车底盘使用说明书的要求进行。

Maintain and mend chassis as the instruction of chassis.

6.2 取力器的保养、换油与汽车变速箱的保养同时进行。

Maintain PTO, oil change and maintain shift must at the same time.

6.3 经常检查液压系统有无渗漏现象，系统是否运行正常。

Check the liquid compression system frequently find out if it is leaking.

6.4 经常对整车的各连接部位进行检查，保持连接部位紧固可靠。

Check the link part of the vehicle frequently, make sure them are safe.

6.5 检查各旋转部位，加注润滑脂，保持润滑良好。

Check every turn parts, inject grease, keeping lubricative.

7、故障分析与排除 Fault analysis and solving

| 故障现象 fault | 原因 reason | 排除措施 solving |
|--|--|--|
| 油缸活塞杆漏油 Piston pole of oil cylinder leak oil | 1、密封圈损坏； Airtight ring broken 2、活塞杆表面划伤。 Piston pole was scratched | 1、检查导向套、更换密封 圈； Check guide sleeve, change airtight ring 2、更换零件。 |

| | | |
|--------------------------------------|--|--|
| | | Change parts |
| 活塞杆爬行或蠕动 Piston pole creep | 液压缸或液压油内混入空气。 There is air in fluid cylinder or oil | 排除空气。 Get rid of air |
| 液压缸推举无力 fluid cylinder power less | 1、活塞密封件损坏； Airtight part of piston was broken 2、系统压力过低（溢流阀失调）； System pressure too low (overflow valve broken) 3、油泵损坏，系统压力过低； Oil pump was broken, system pressure too low 4、油箱液压油不足； Liquid compression oil not enough 5、滤油器堵塞。 Oil filter blocked | 1、检查、更换密封件； Check and change airtight parts 2、检查、调整溢流阀压力； Check and adjust overflow valve's pressure 3、检查、更换油泵； Check and change oil pump 4、检查、加足液压油； Check and inject enough liquid compression oil 5、检查、更换滤芯。 Check and change filter element |
| 外泄露 leak | 1、密封圈损坏； Airtight ring is broken 2、油管接头密封面不严密。 Oil pipe not sealed | 1、检修、更换密封圈； Check, mending and change sealing ring 2.1 检查，拧紧接头； Check and screw down joint 2.2 更换接头，接头处加密密封胶或带。 Change joint, use Sealant or strap on joint |

8、随车文件

Documents

8.1、压缩式垃圾车合格证

Certificate of Approval(Compression refuse collector)

8.2、压缩式垃圾车使用说明书

Instruction of compression refuse collector

8.3、载货汽车合格证 Certificate of Approval (chassis)

8.4、载货汽车使用说明书 Instruction of chassis

8.5、载货汽车随车工具 Attached tools

9、质量保证

Quality assurance

用户在遵守产品贮存运输、使用规则进行正常操作运输的条件下,从本公司发货之日起半年内确因制造质量不良而造成的损坏或不能正常工作时,本厂给予免费修理或更换损坏零件。

If user observe special product' s transportation rule and operation rule and the period is not over half a year and there actual is some damage arise from manufacture quality, we will offer free mending and change the broken parts.

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