

T-700涡轴发动机(军用)
T-700 TURBOSHAFT ENGINE

T-700涡轴 发动机
T-700 TURBOSHAFT ENGINE



(原理组装模型)
(PRINCIPLE ASSEMBLY MODEL)

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WhatsApp: 0086-13924277386



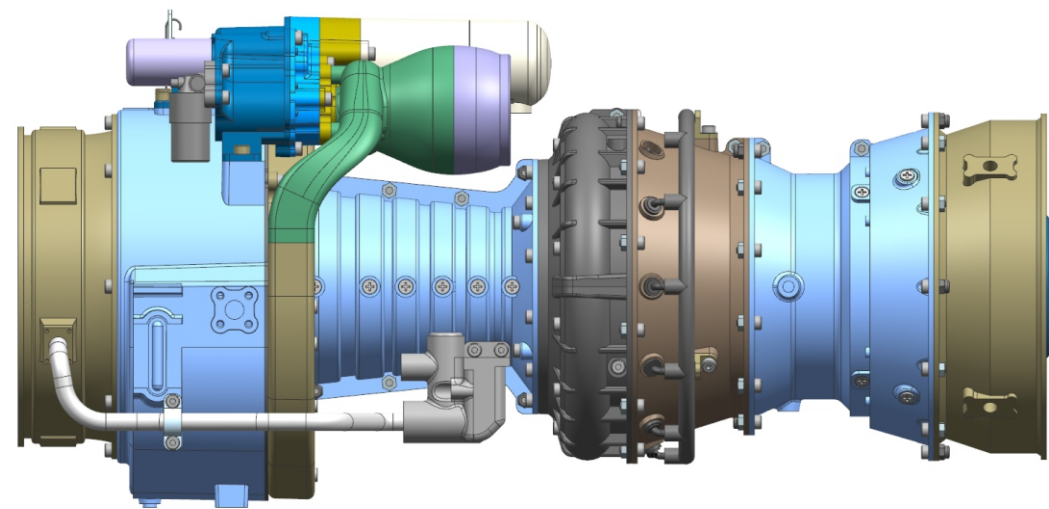
土星APP
TECHING



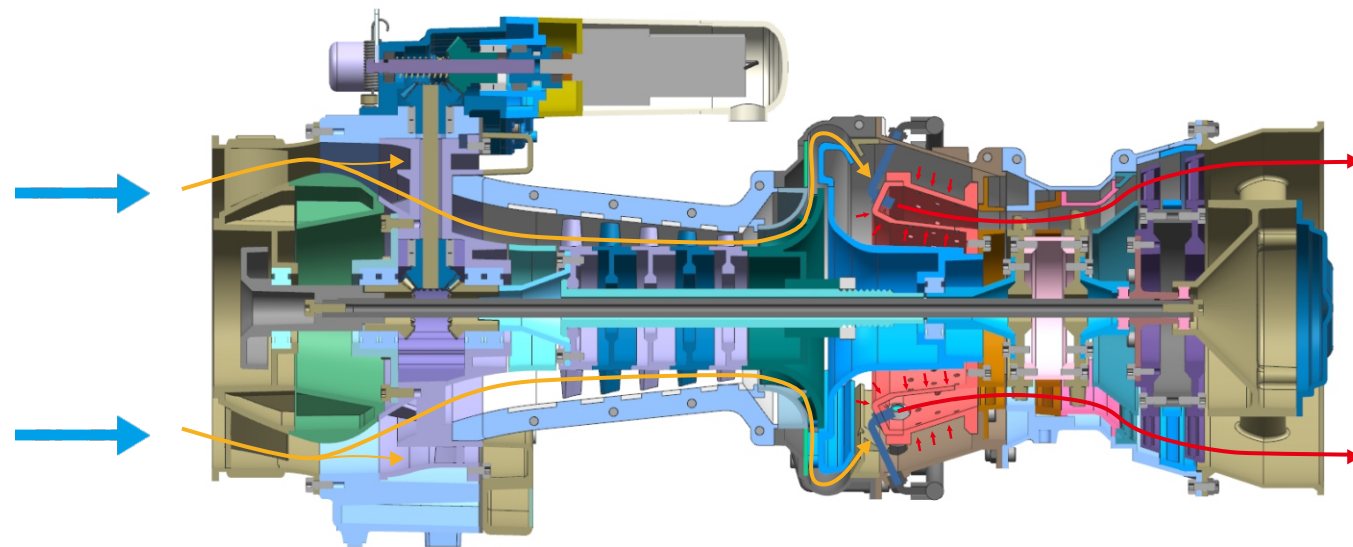
土星官网
OFFICIAL WEBSITE

版本号: DM136-2

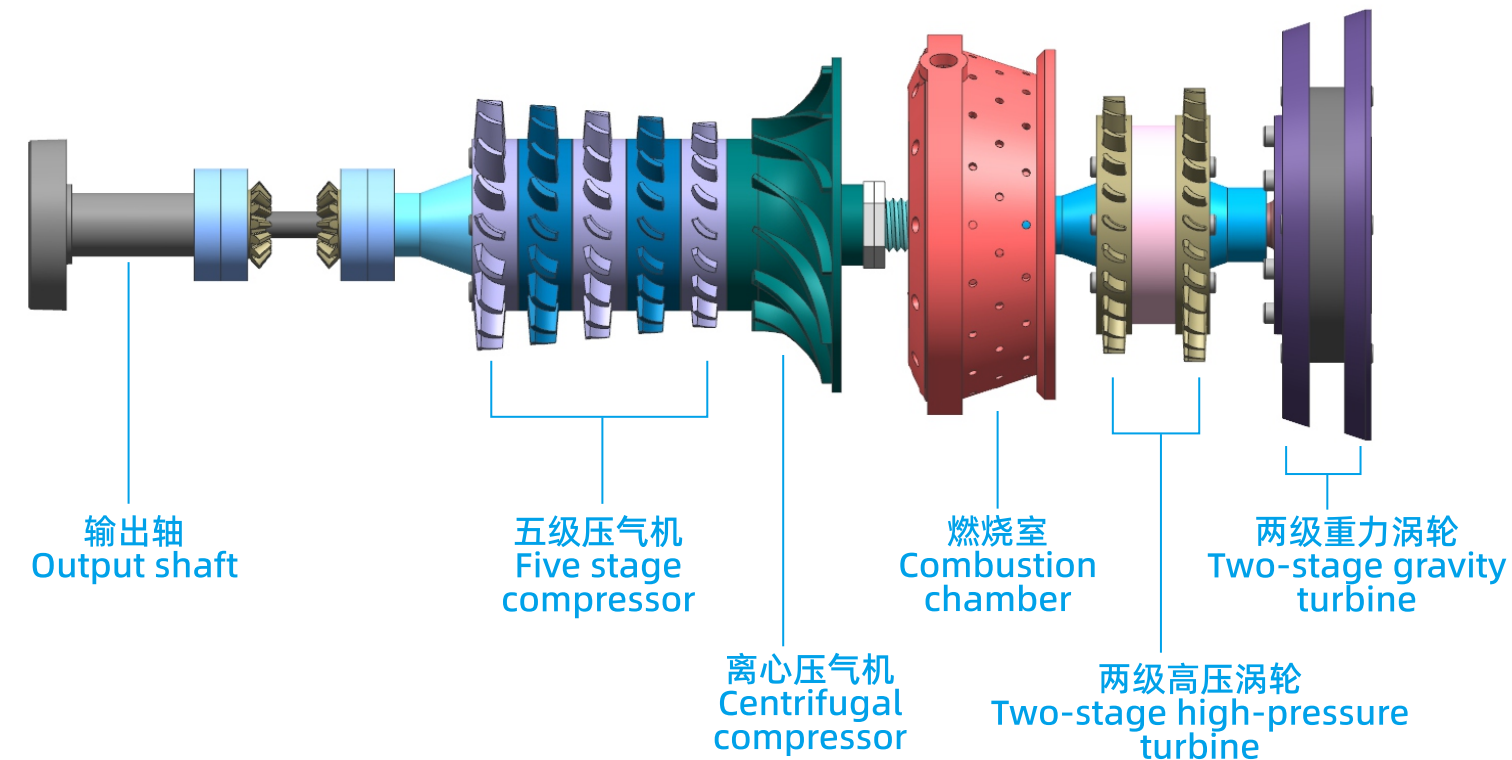
TECHING
土星文化



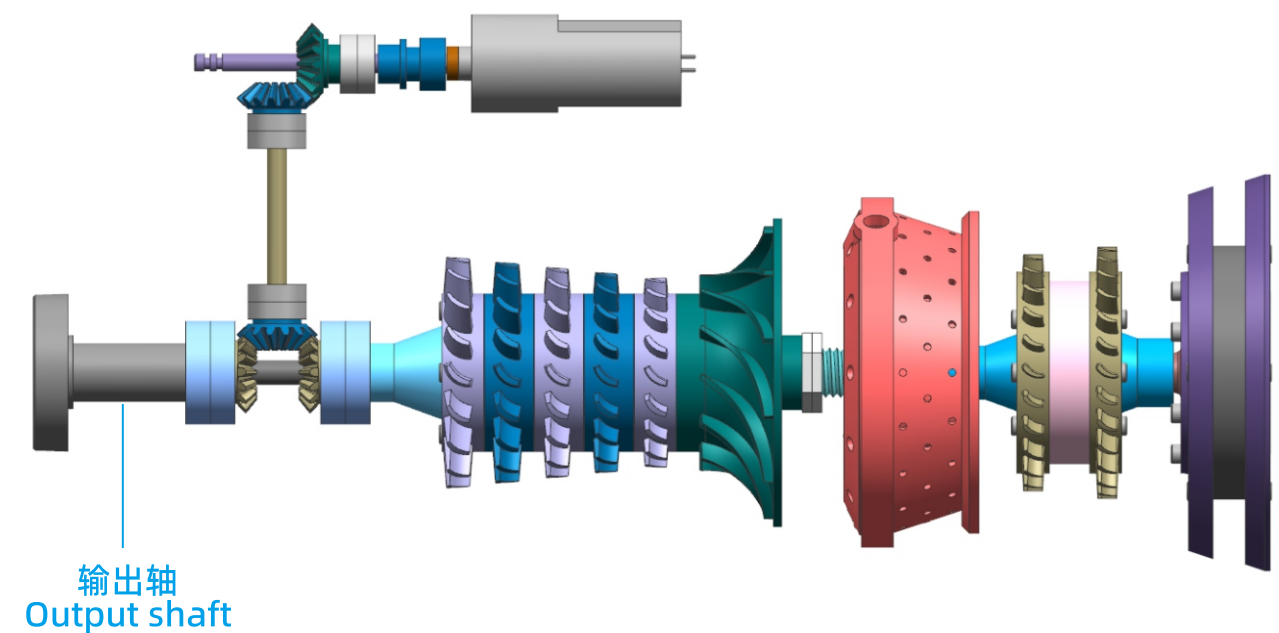
原理结构图
Principle structure diagram



核心机转子总成 Core machine rotor assembly



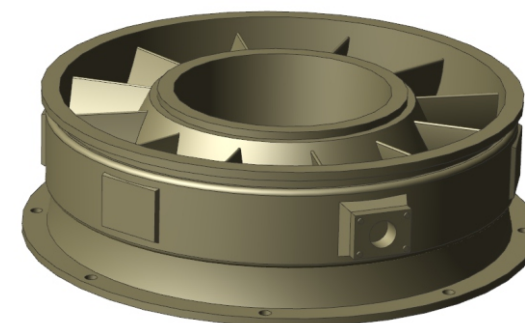
齿轮箱传动机构 Gear box drive mechanism



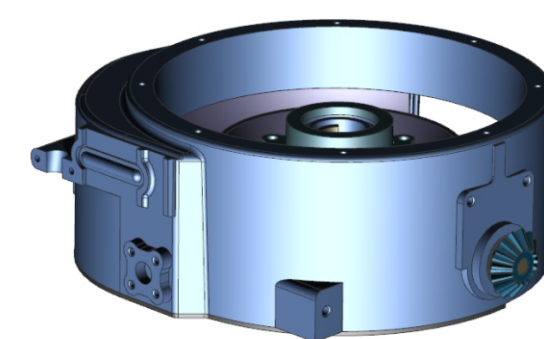
“黑鹰”直升机 “Black Hawk” helicopter



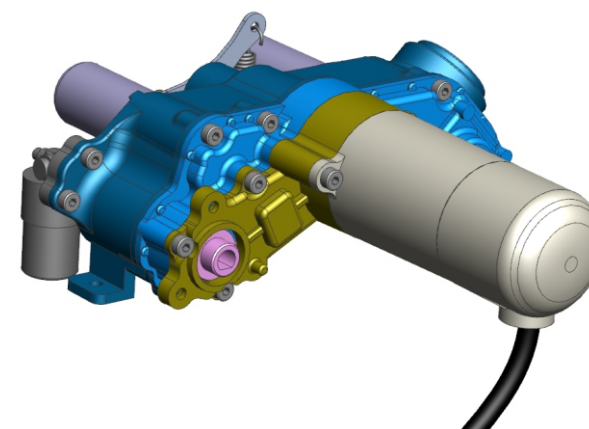
进气机匣总成 Intake cartridge assembly



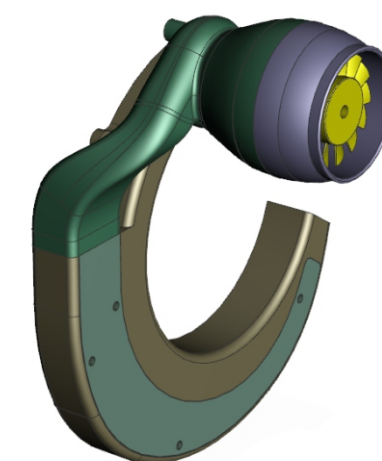
分流机匣总成 Shunt cartridge assembly



齿轮箱总成 Gear box assembly



抽粒机总成 Granulator assembly



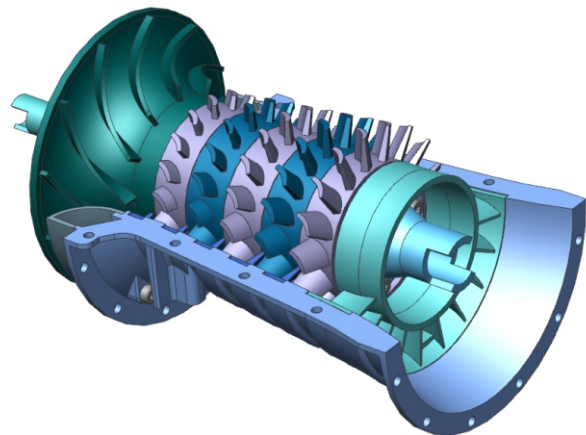
基本信息：

- 两级高压涡轮
- 两级动力涡轮机
- 一体式进气粒子分离器
- 压 缩 比： 1 : 1 7
- 输出功率：1622 shp
- 风扇直径：25-26 in
- 总 长 度：47-48 in

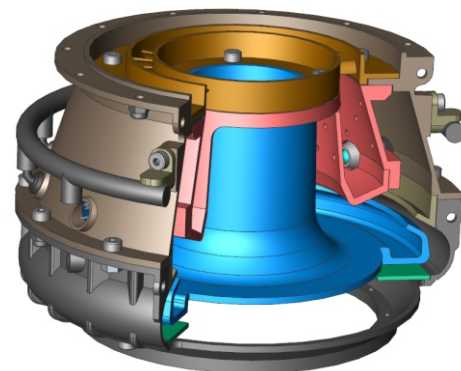
Essential information:

- Two-stage high-pressure turbine
- Two-stage power turbine
- Integrated inlet particle separator
- Compression ratio: 1:17
- Output power: 1622 shp
- Fan diameter: 25-26 in
- Total length:47-48 in

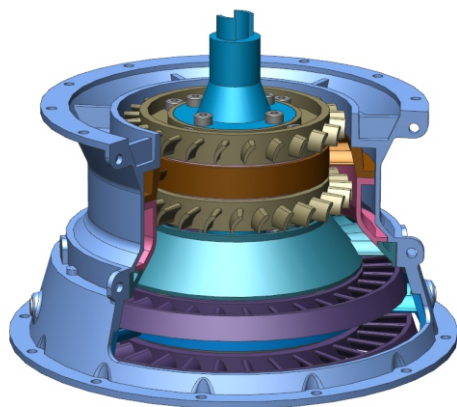
压气机总成
Compressor
assembly



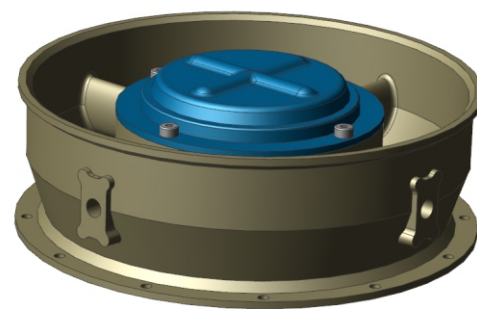
燃烧室总成
Combustion chamber
assembly



涡轮机匣总成
Turbine casing
assembly



后支撑机匣总成
Rear support casing
assembly

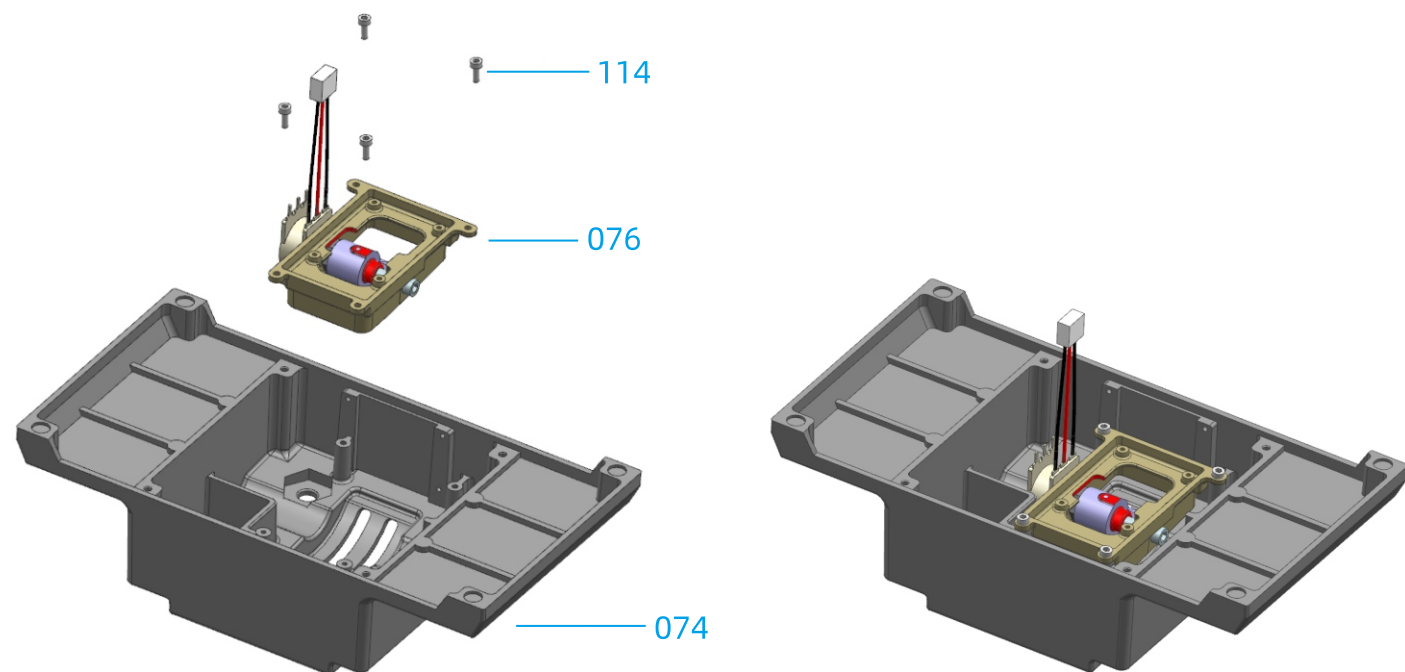


目录 CATALOG

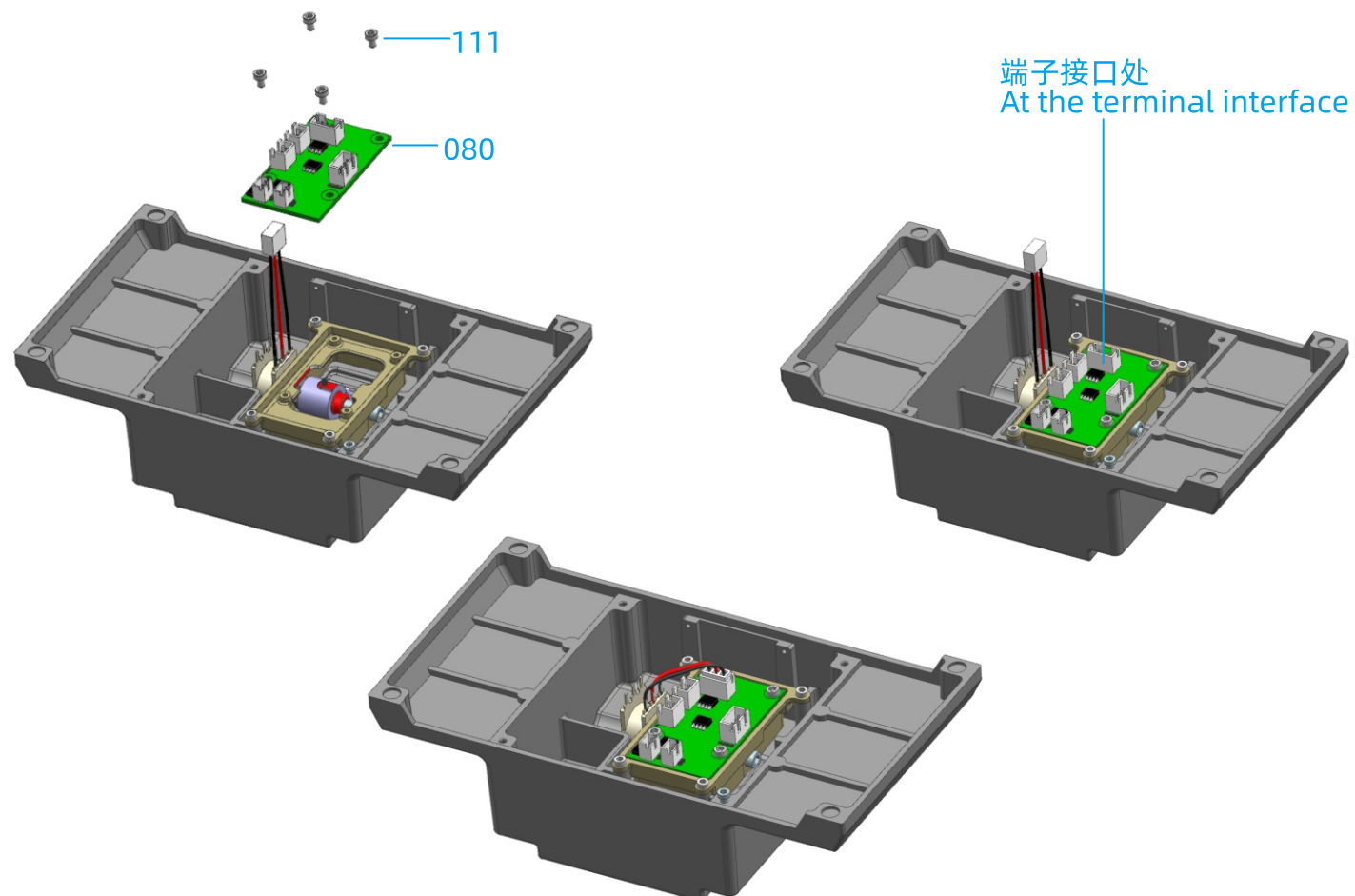
一、组装底座总成Assemble the base assembly	007-014
二、组装分流机匣总成Assemble the splitter receiver assembly	015-022
三、组装压气机总成Assemble the compressor assembly	022-029
四、组装齿轮箱总成Assemble the gearbox assembly	030-045
五、燃烧室机匣总成Combustion chamber casing assembly	045-051
六、组装涡轮组件Assemble turbine components	052-059
七、组装进气机匣Assemble the intake gearbox	059-061
八、组装各总成Assemble each assembly	062-074
九、零件列表Part list	080-087

一、组装底座总成 Assemble the base assembly

1.1、组装电位器总成 Assemble the potentiometer assembly

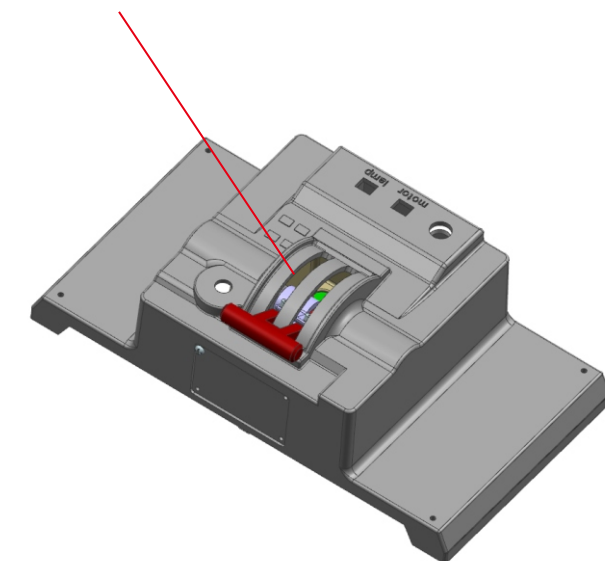
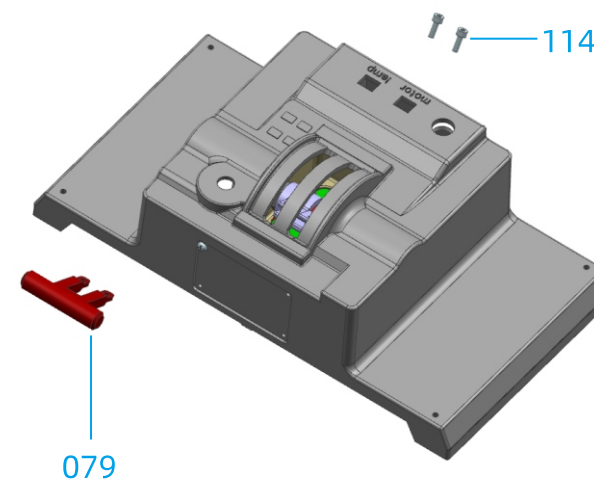


1.2、组装主板 Assemble the mainboard

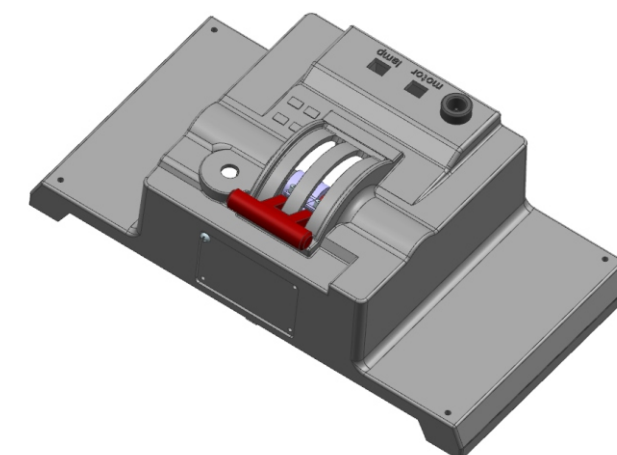
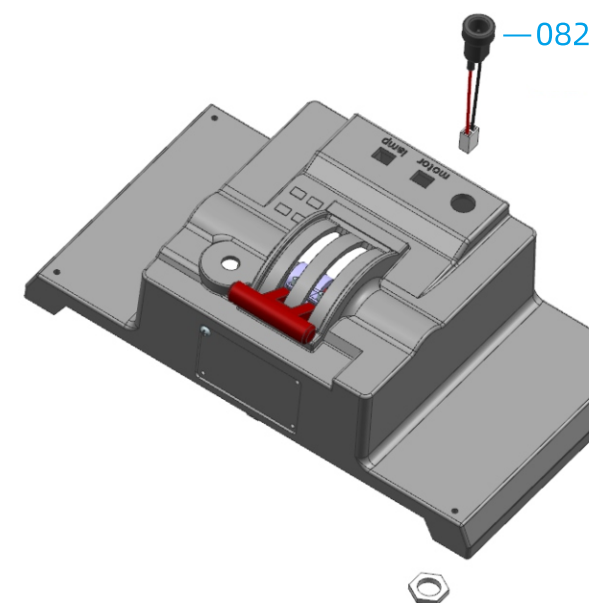


1.3、组装推杆 Assemble the push rod

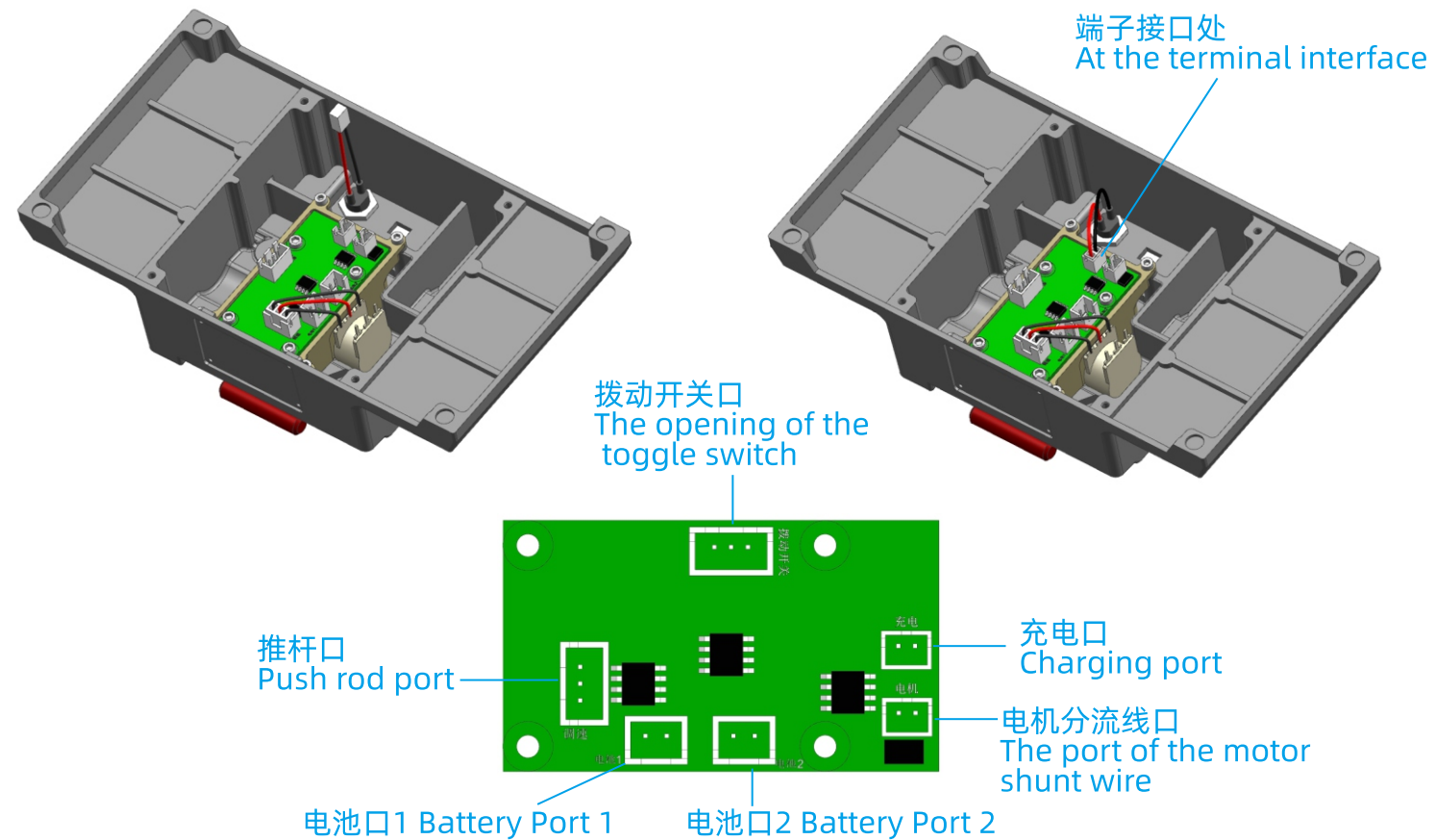
提示:若079推杆磨擦到孔边,则把076电位器总成左右调整到最佳状态即可!
Tip: If the push rod 079 rubs against the edge of the hole, adjust the potentiometer assembly 076 left and right until it reaches the best state!



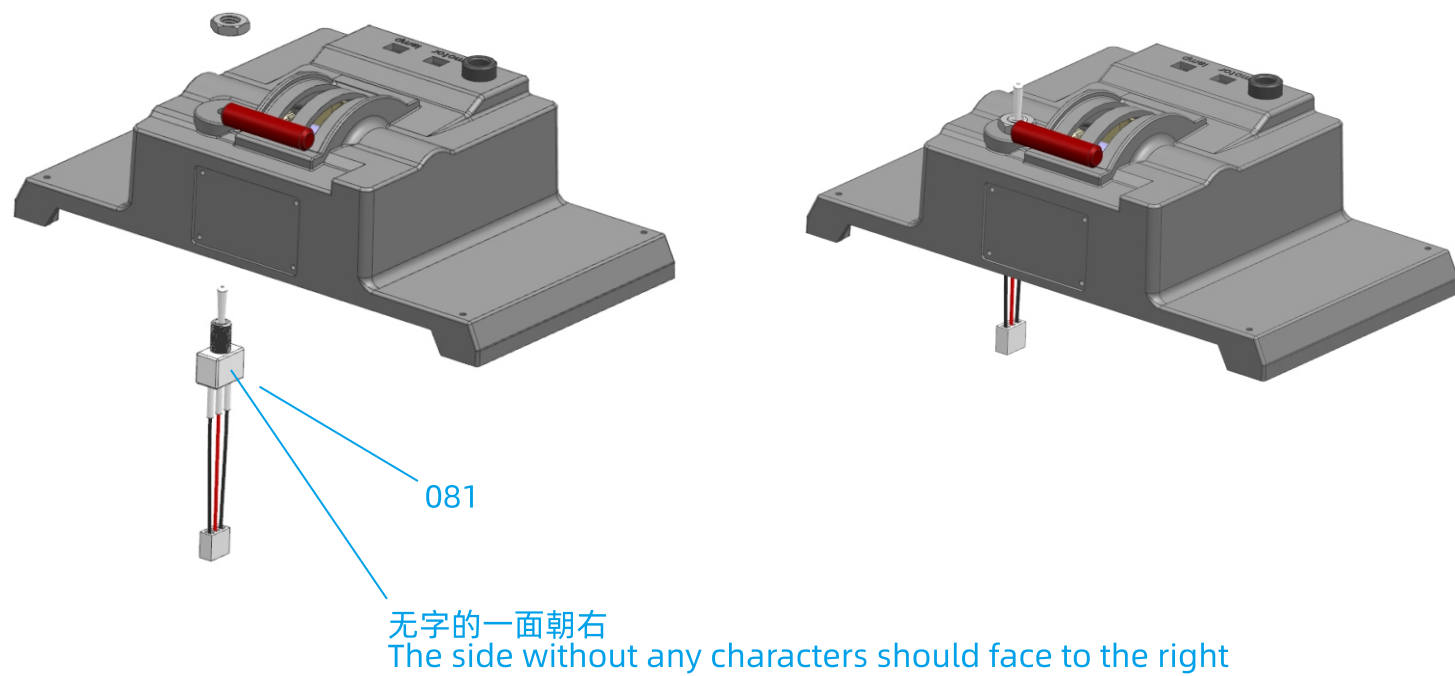
1.4、组装充电口 Assemble the charging port



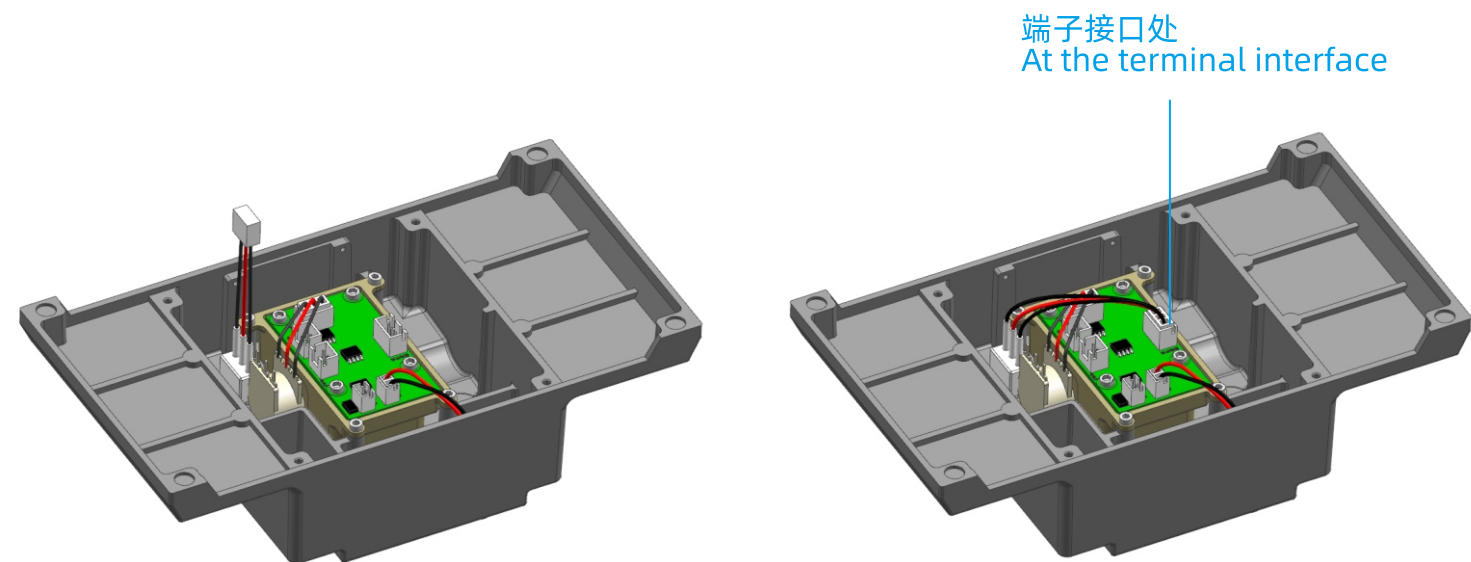
1.5、主板连接充电口接口The interface connecting the motherboard and the charging port



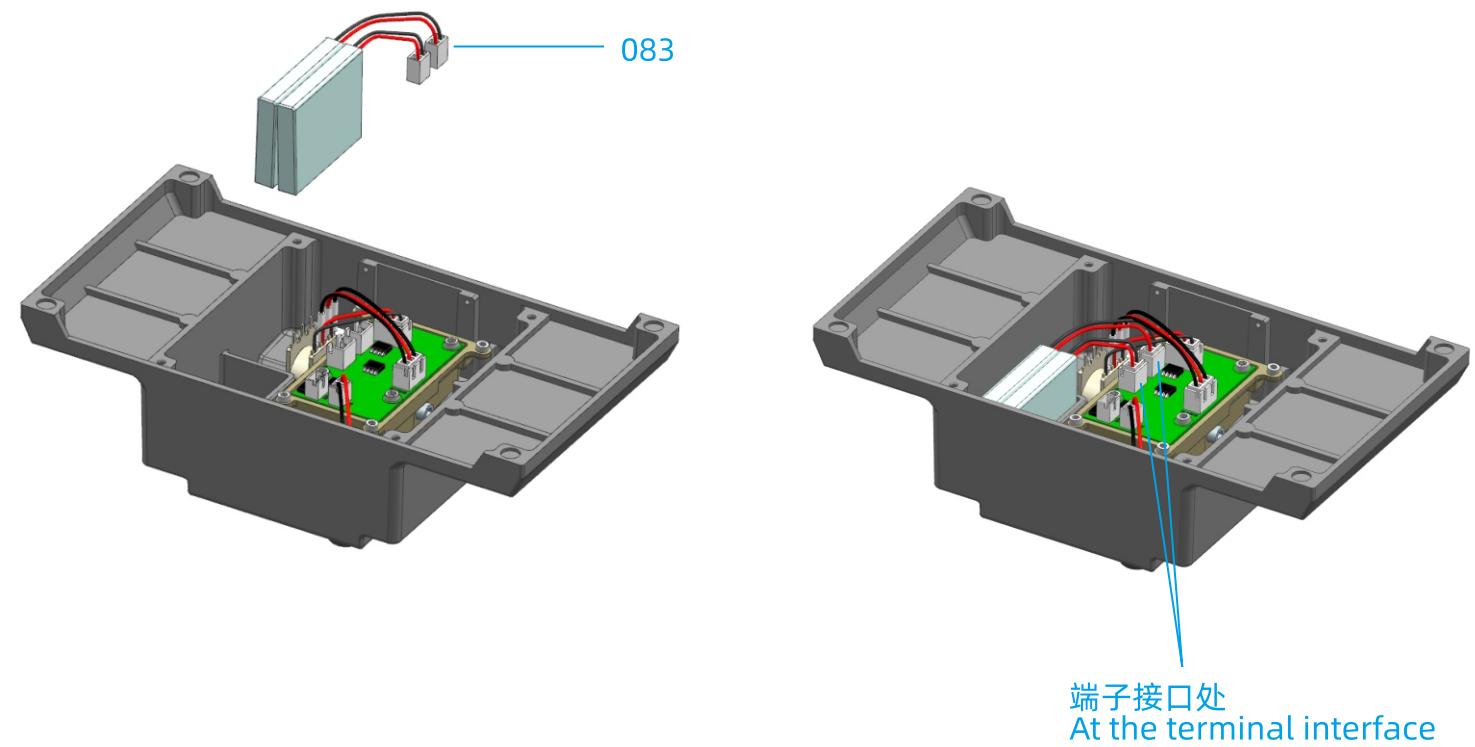
1.6、组装拨动开关Assemble the toggle switch



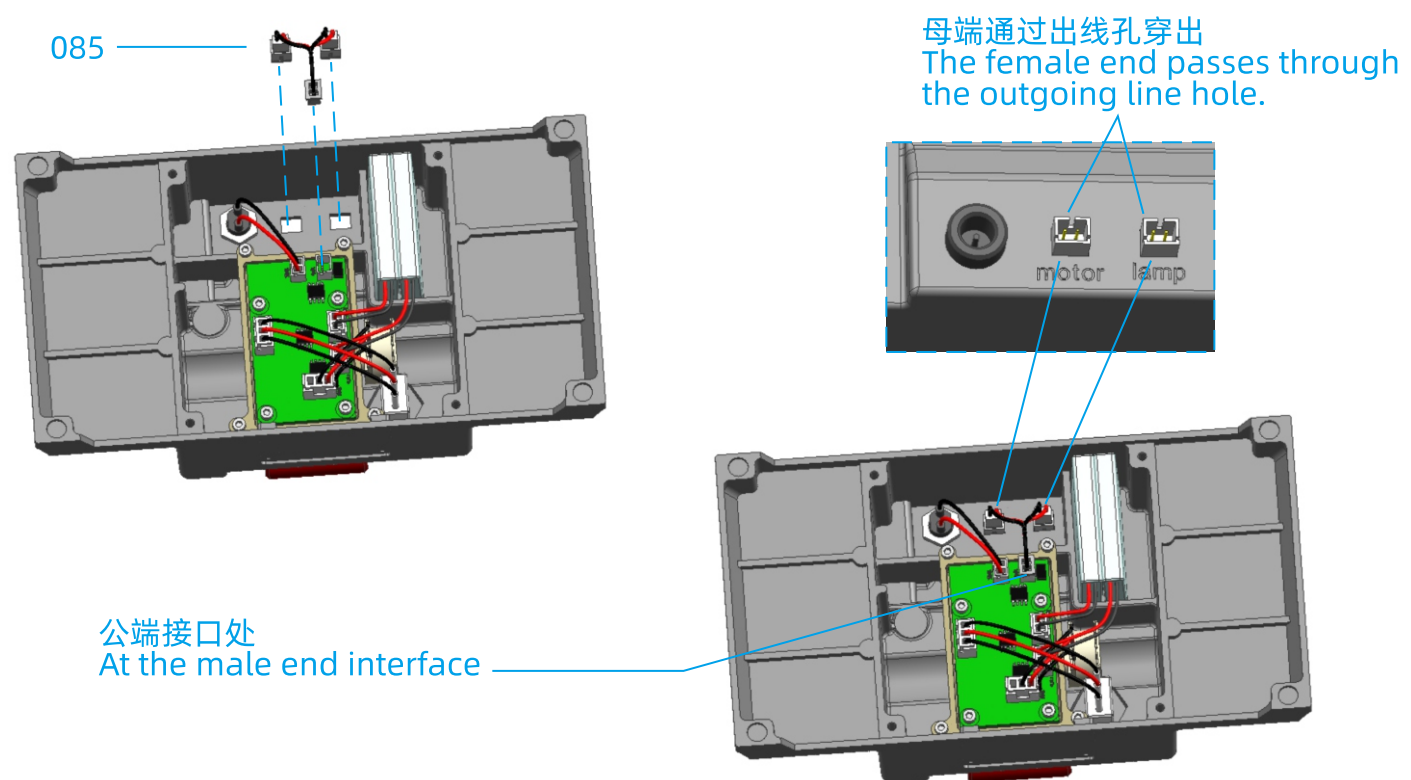
1.7、主板连接拨动开关接口The interface connecting the mainboard and the toggle switch



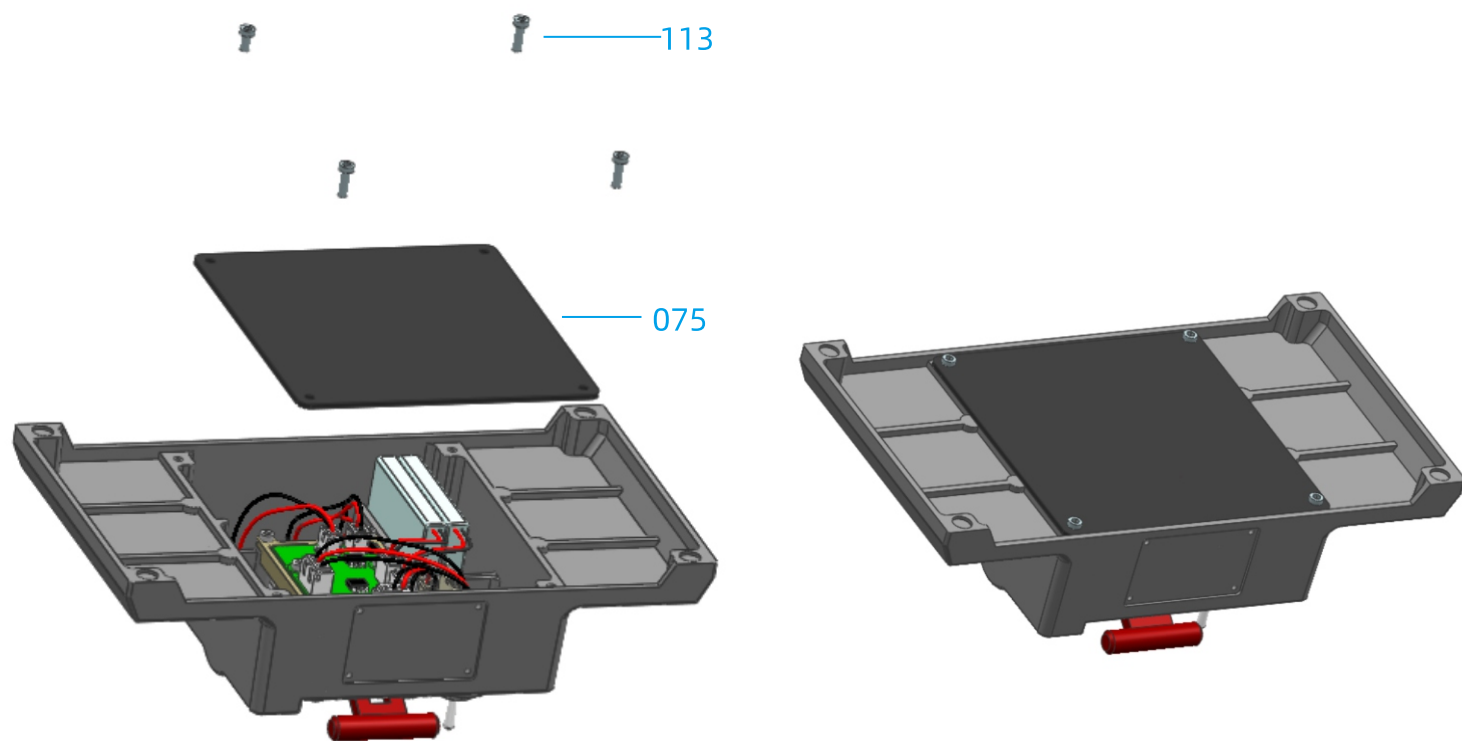
1.8、组装电池Assemble the battery



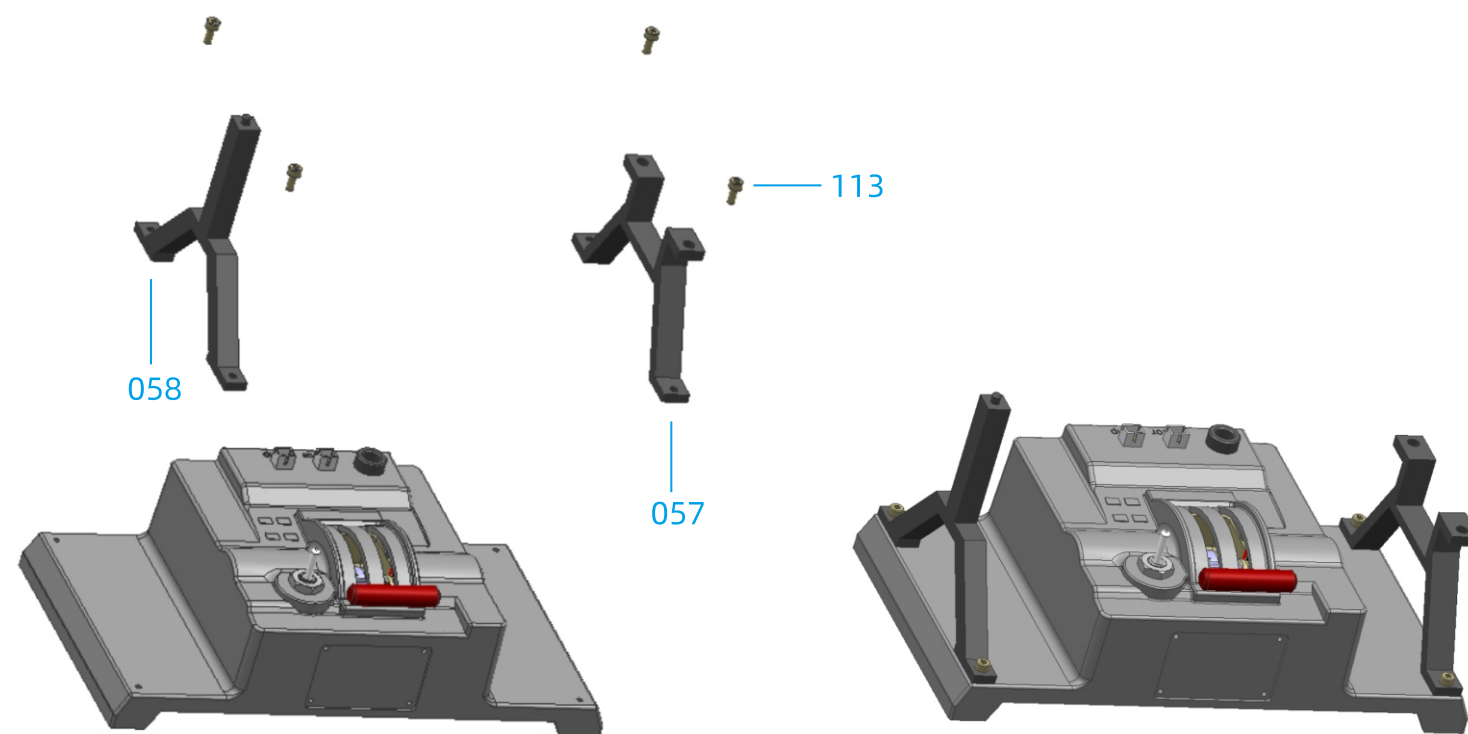
1.9、组装电机分流线Assemble the motor shunt wire



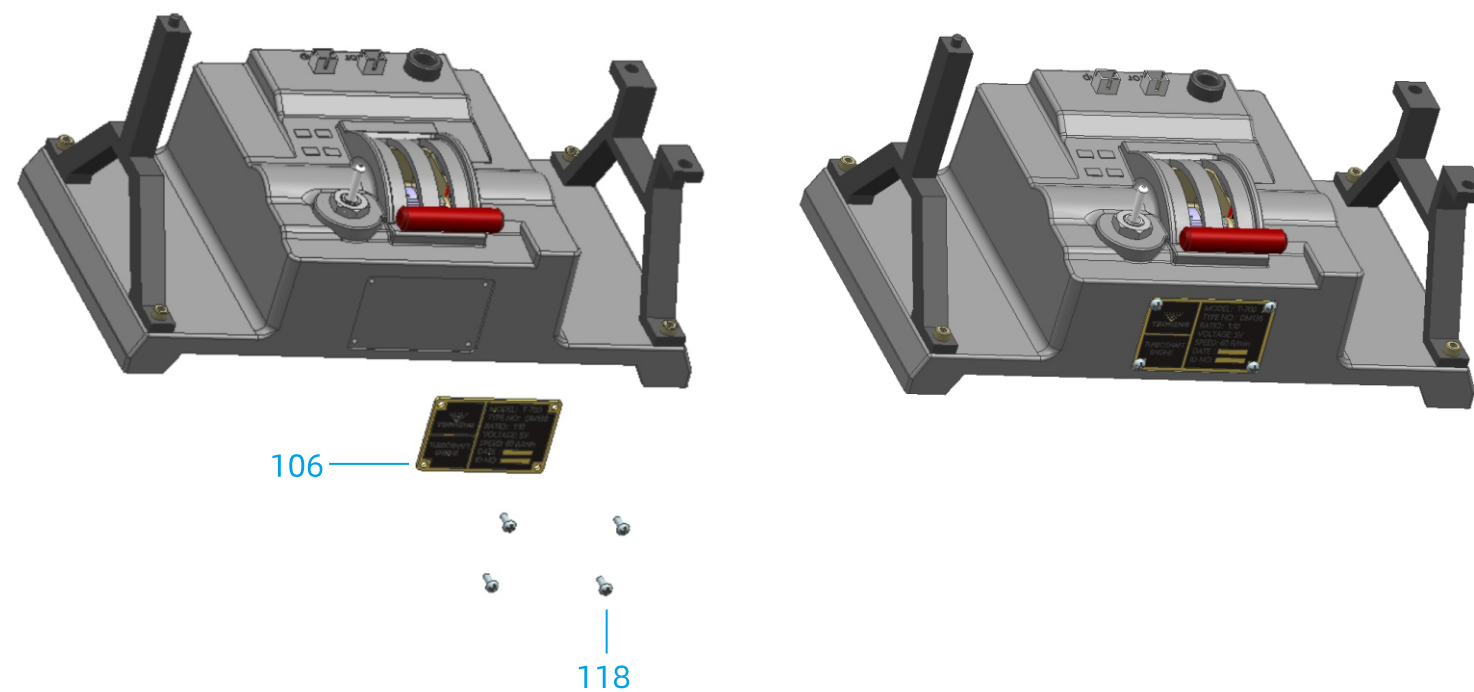
1.10、组装底座底板Assemble the base bottom plate



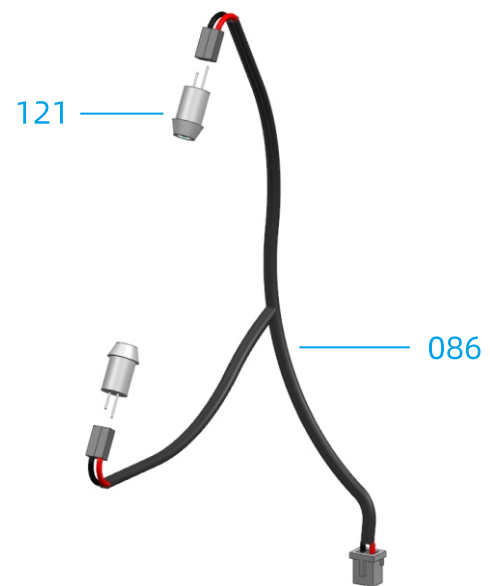
1.11、组装支架Assemble the bracket



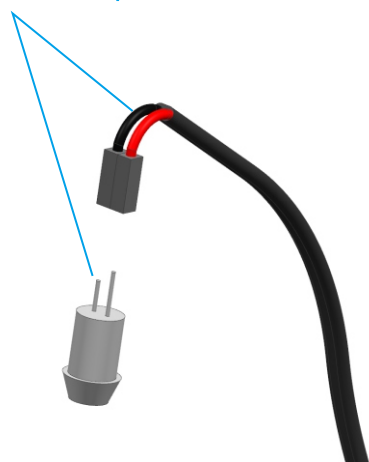
1.12、组装铭牌Assemble the nameplate



1.13、组装灯线Assemble the light wire

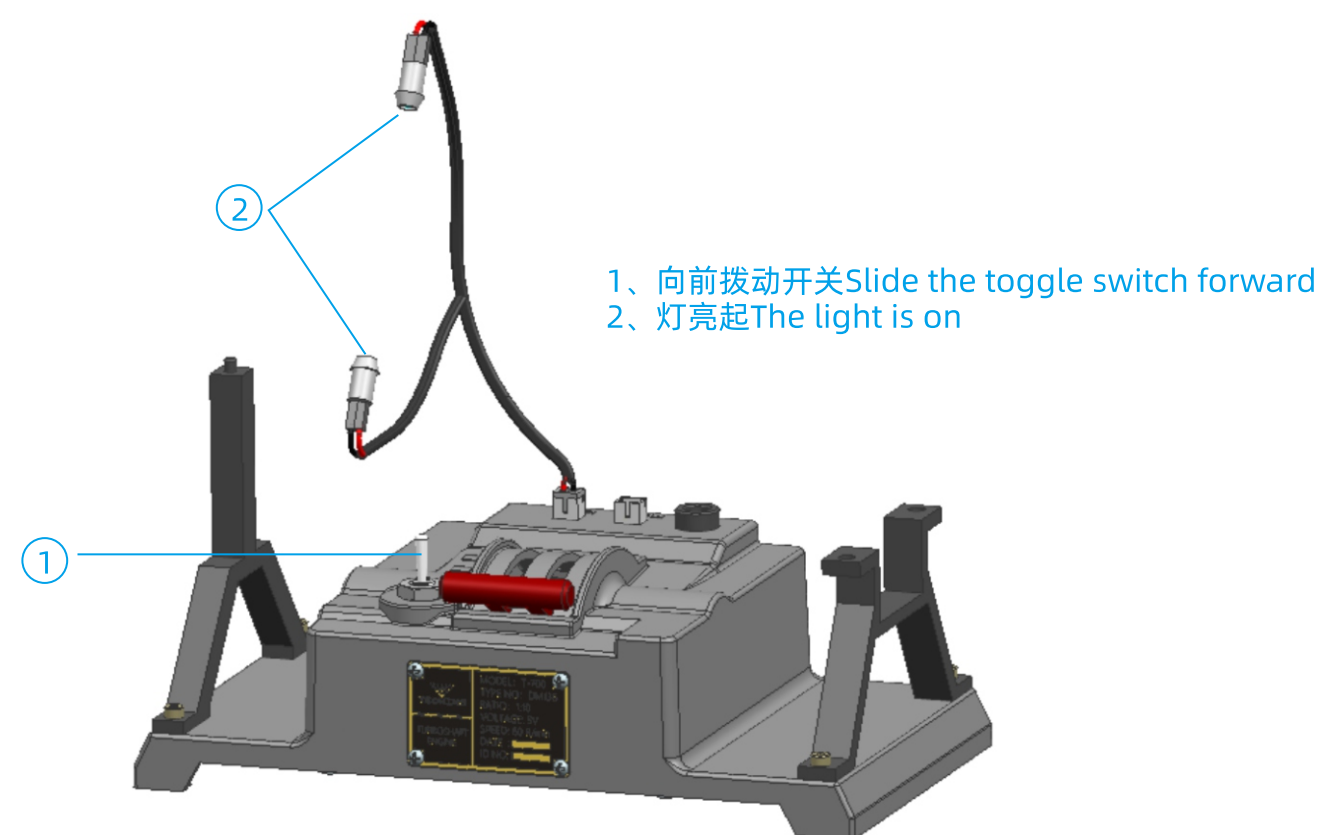
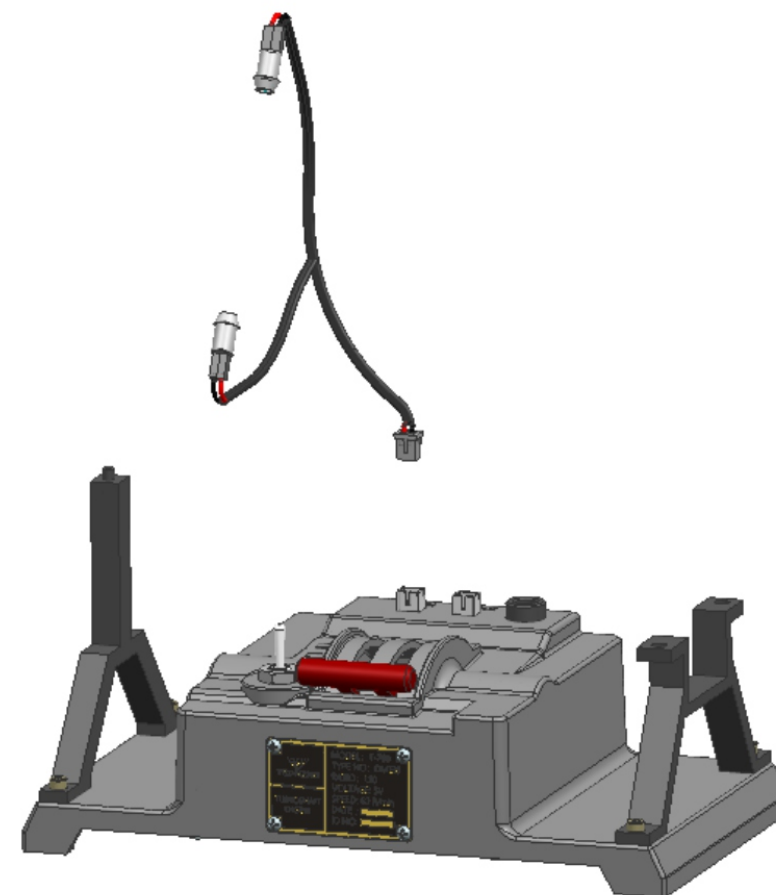


短脚为负极，对插黑线端口
The short leg is negative, and it is connected to the black wire port



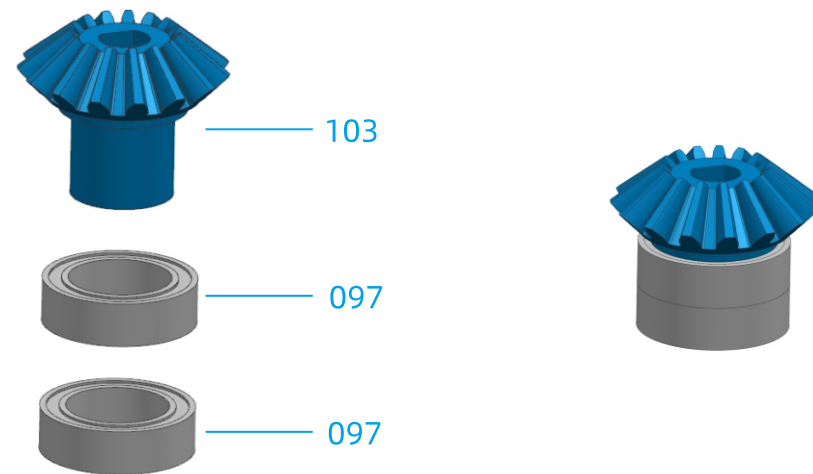
提示：若插错，则会烧坏灯珠
Tip: If plugged in incorrectly, it may burn out the LED beads

1.14、测试Test

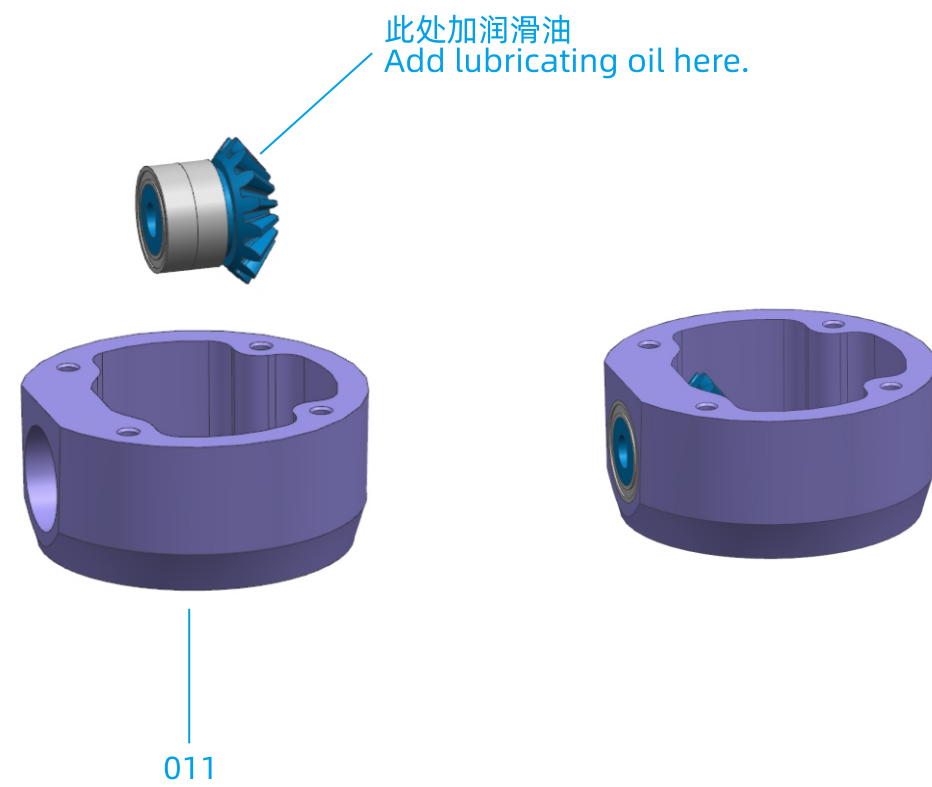


二、组装分流机匣总成 Assemble the splitter receiver assembly

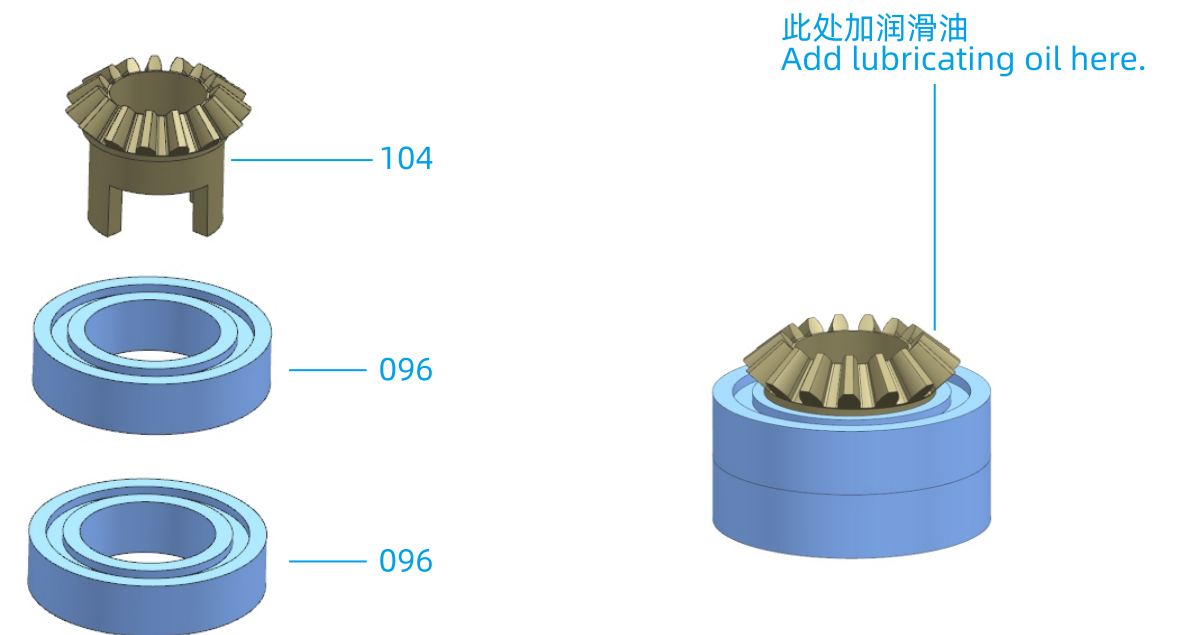
2.1、组装小锥齿轮 Assemble the small bevel gear



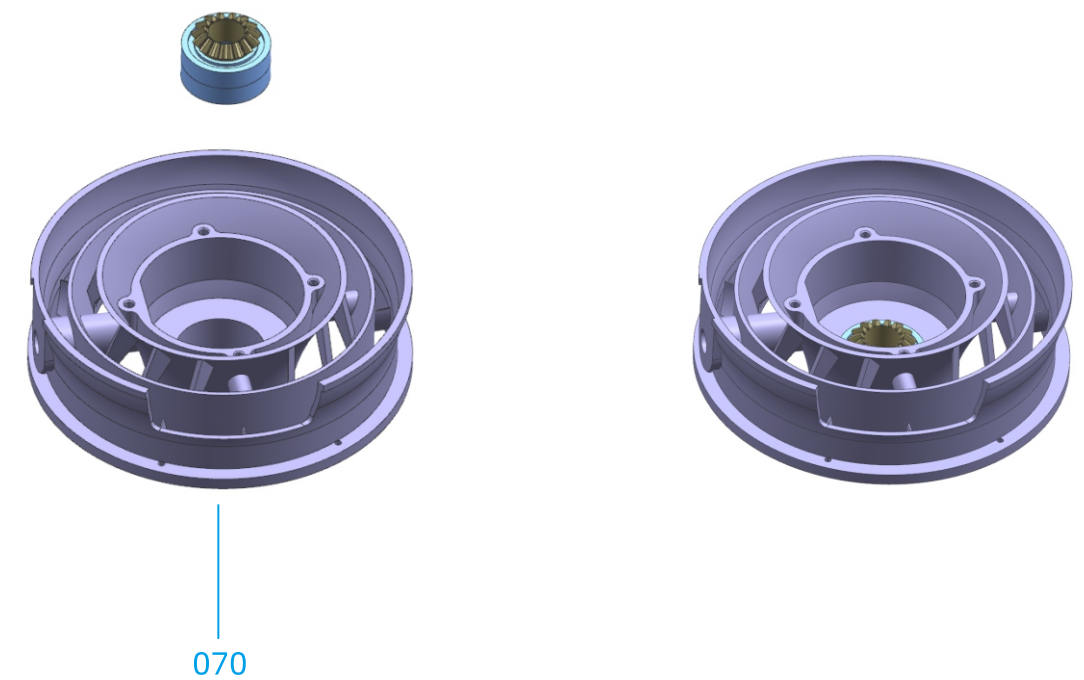
2.2、组装锥齿轮座 Assemble bevel gear seat



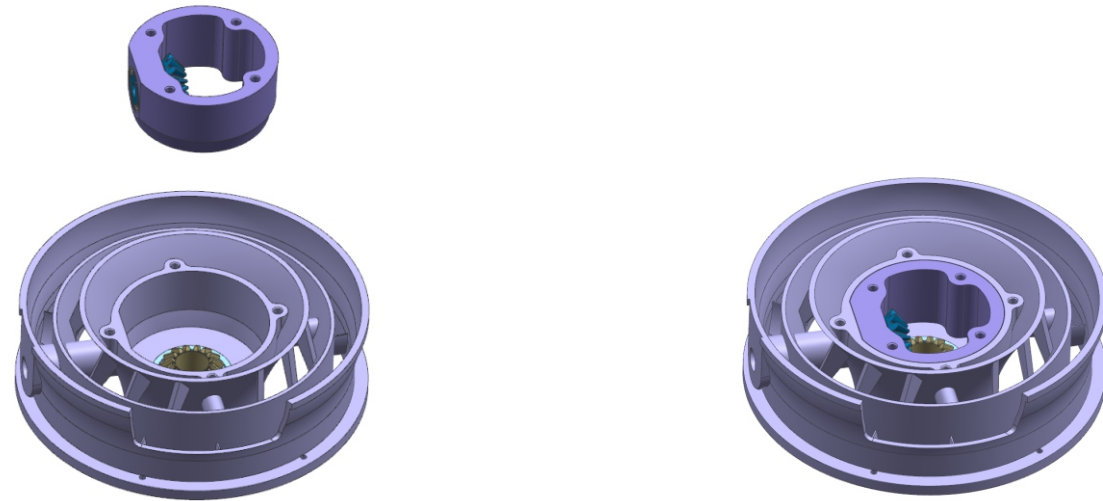
2.3、组装中心锥齿轮轴承 Assemble the center bevel gear bearing



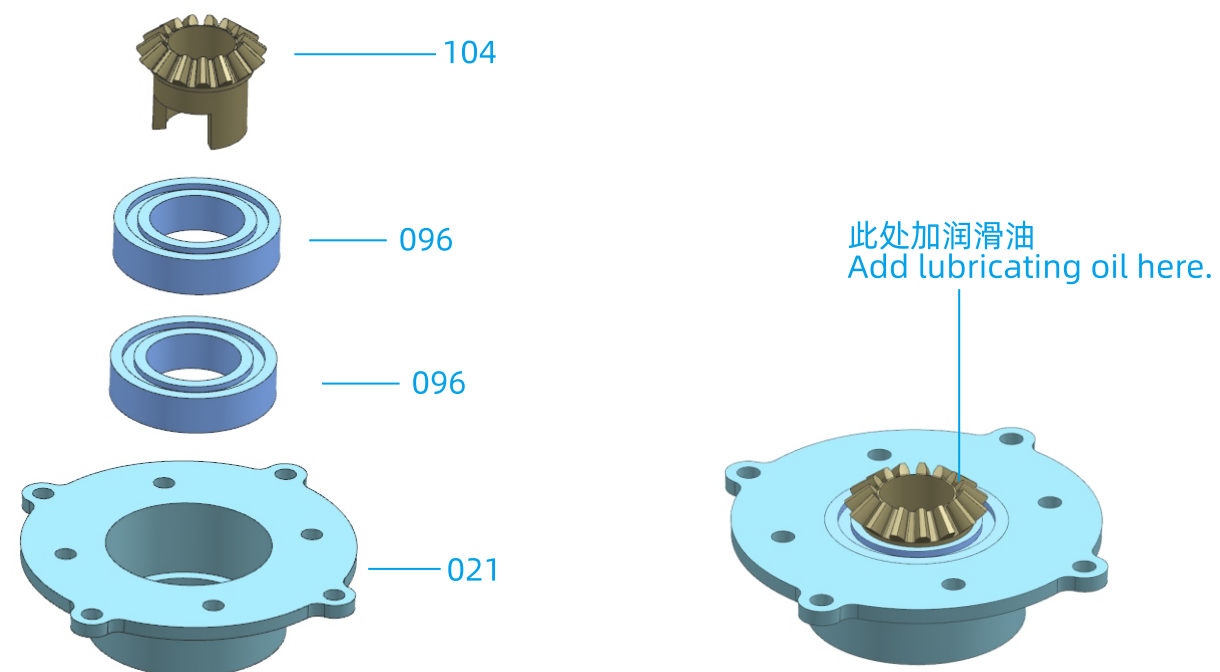
2.4、组装中心锥齿轮组件 Assemble the central bevel gear component



2.5、组装锥齿座组件 Assemble the bevel gear seat component



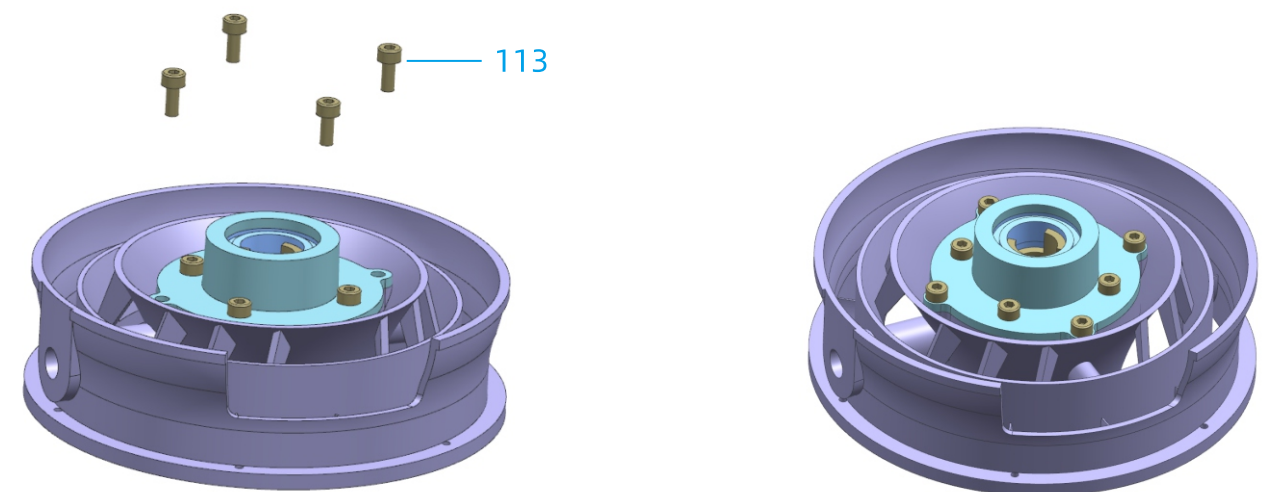
2.6、组装中心锥齿轮及轴承 Assemble the central bevel gear and bearing



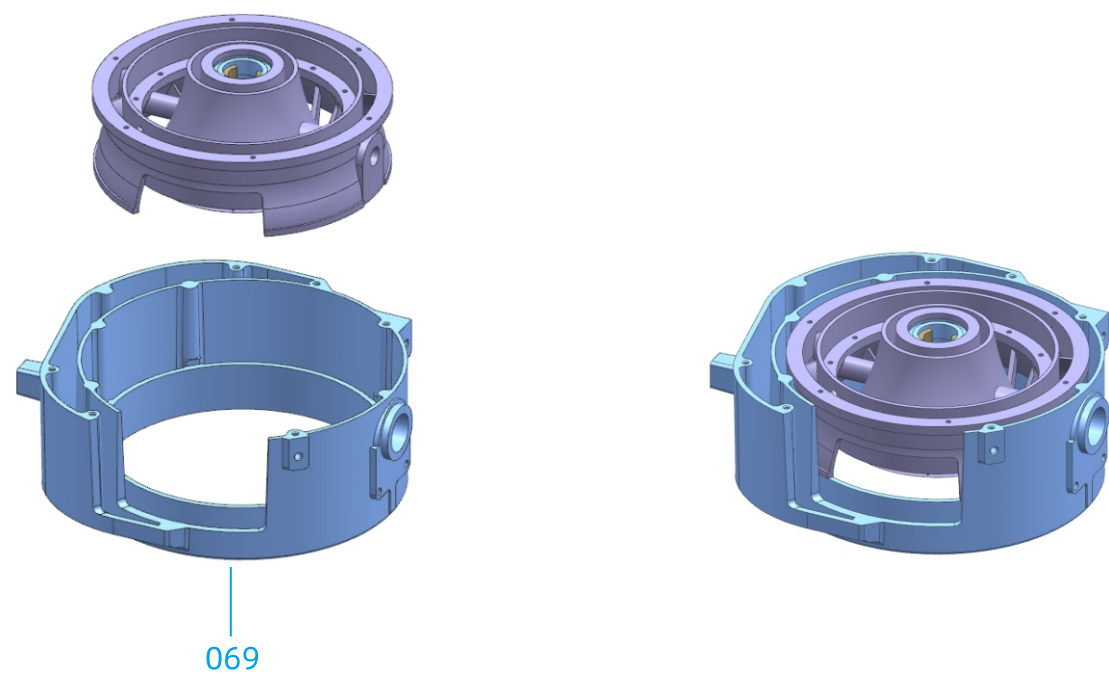
2.7、组装中心锥齿轮组件 Assemble the central bevel gear component



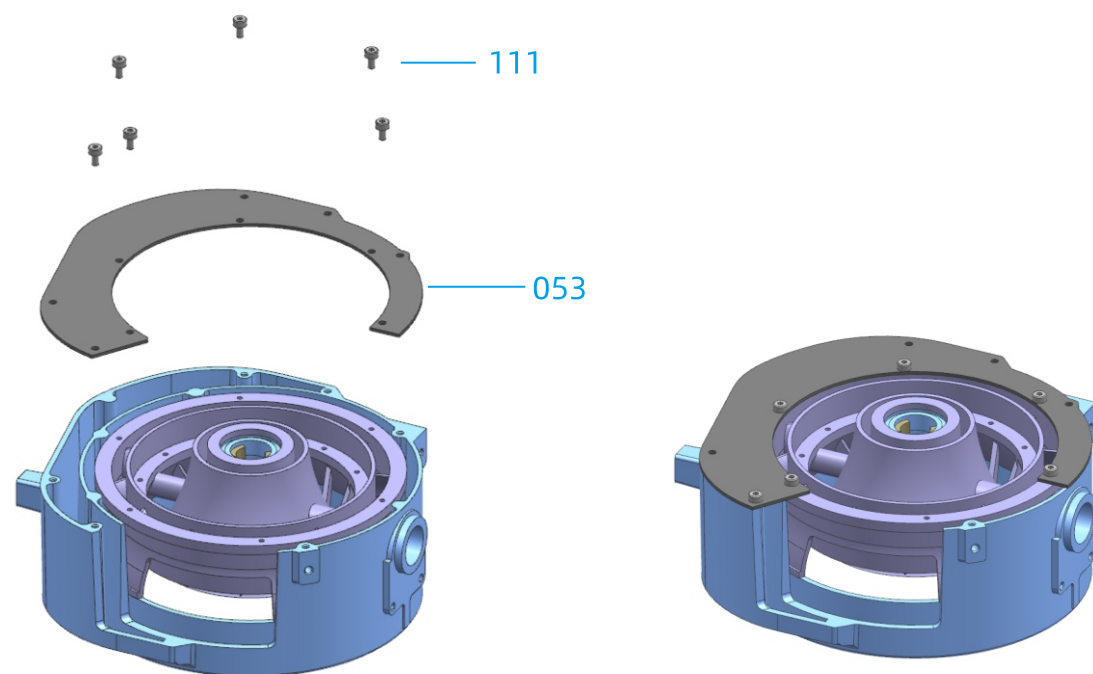
2.8、组装中心锥齿座螺丝 Assemble the center bevel seat screw



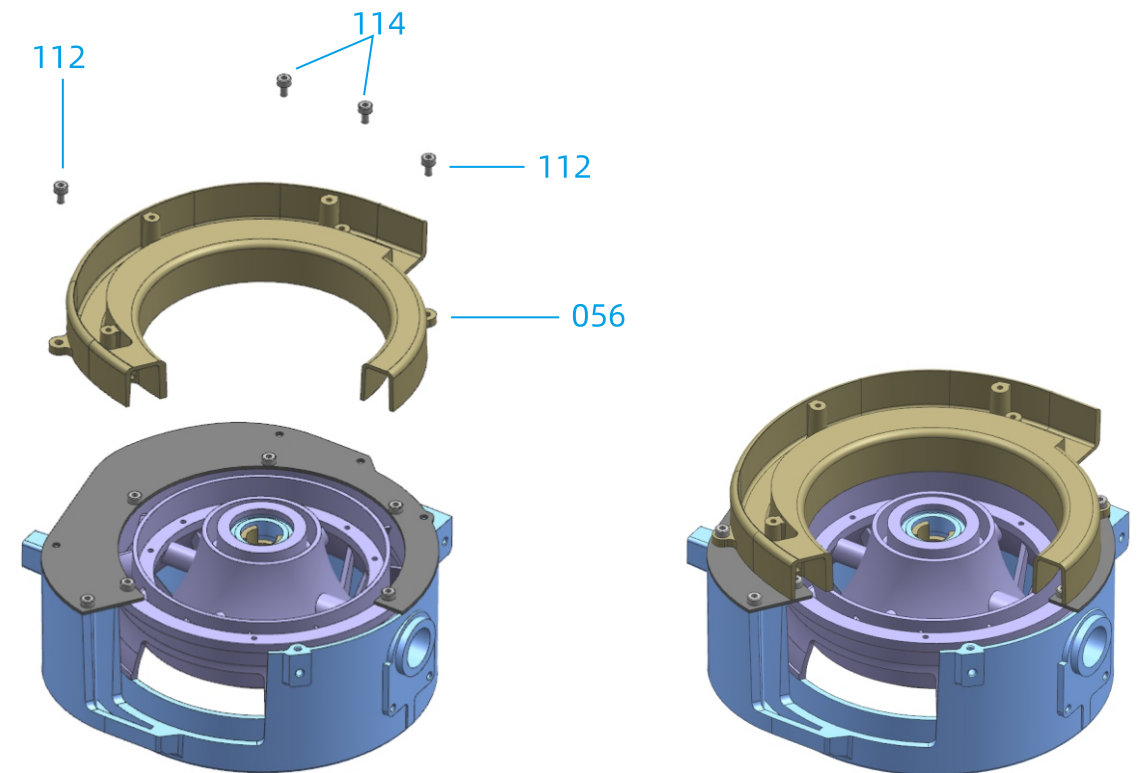
2.9、组装机油箱 Assemble the oil tank



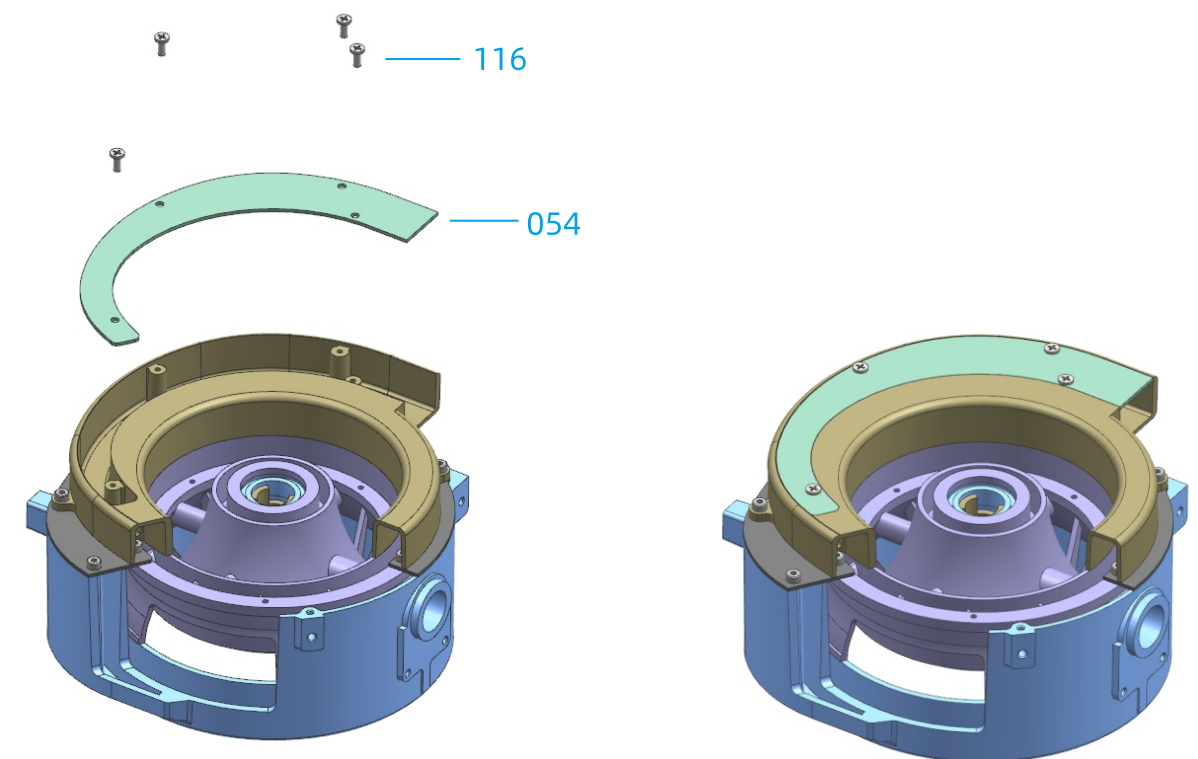
2.10、组装机油箱盖板 Assemble the oil tank cover plate



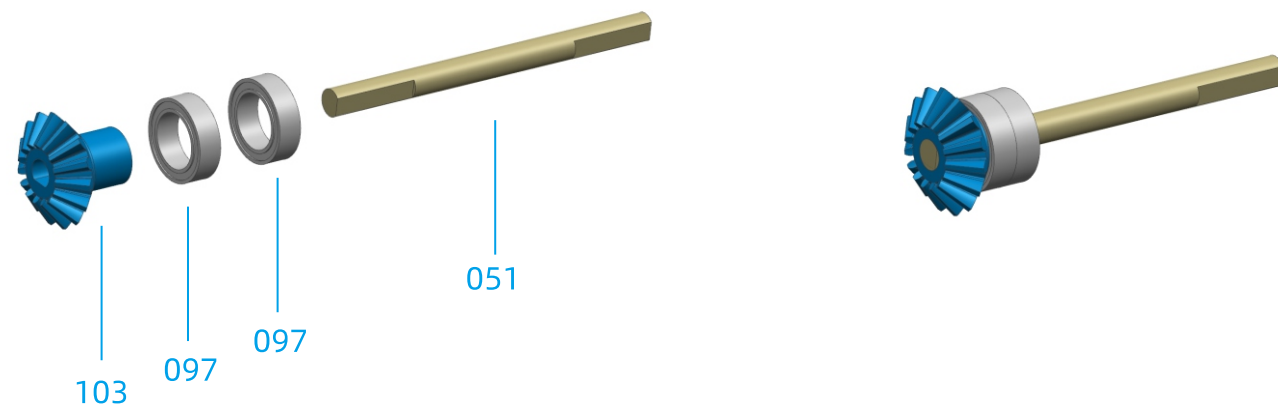
2.11、组装抽粒管 Assemble the particle extraction tube



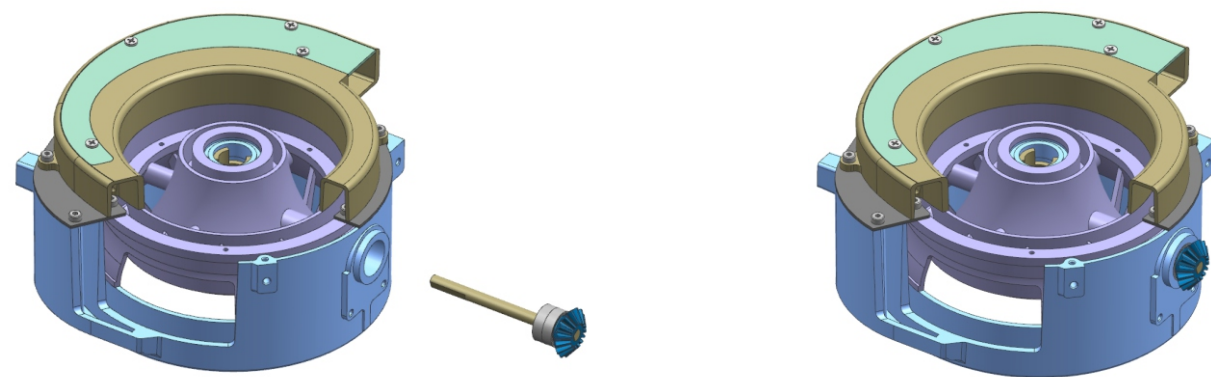
2.12、组装抽粒管盖板 Assemble the cover plate of the particle extraction tube



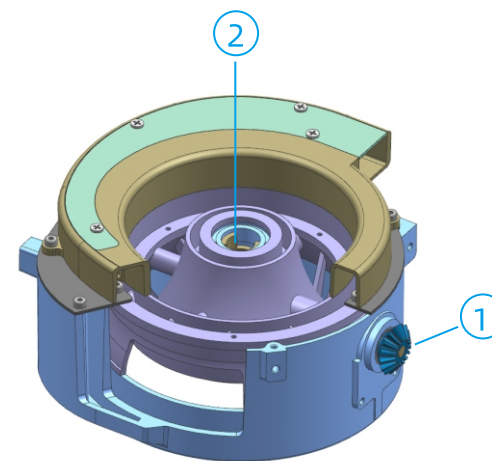
2.13、组装传动轴和锥齿轮Assemble the transmission shaft and bevel gear



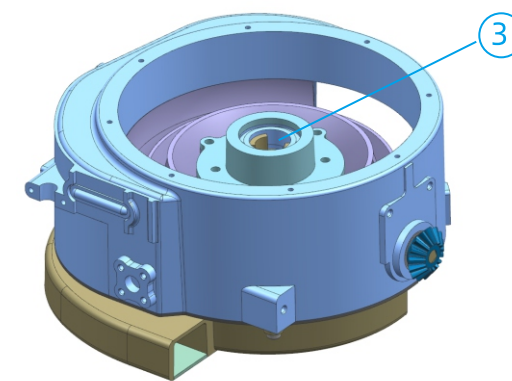
2.14、组装传动轴组件Assemble the transmission shaft components



2.15、测试Test



1、用手转动锥齿轮
Rotate the bevel gear by hand

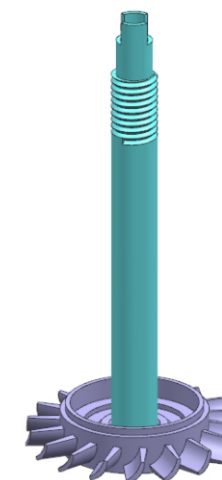
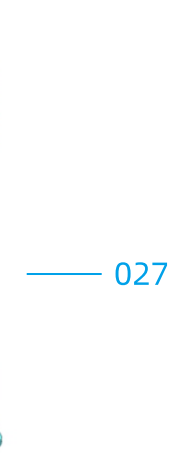
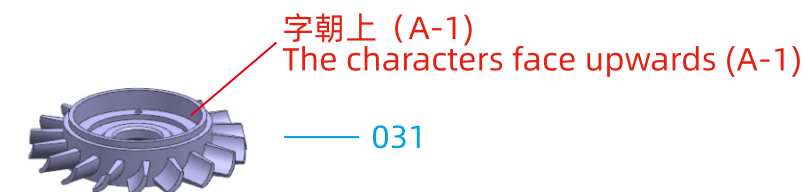


2、观察中心锥齿轮是否转动
Observe whether the central bevel gear rotates

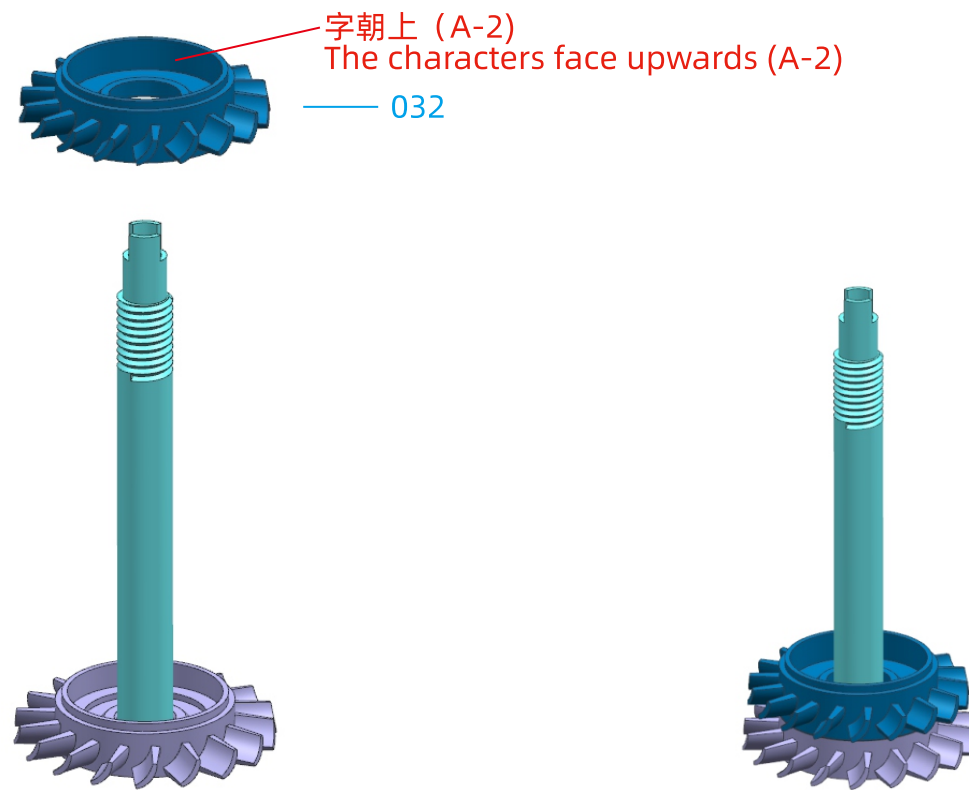
3、观察中心锥齿轮是否转动
Observe whether the central bevel gear rotates

三、组装压气机总成Assemble the compressor assembly

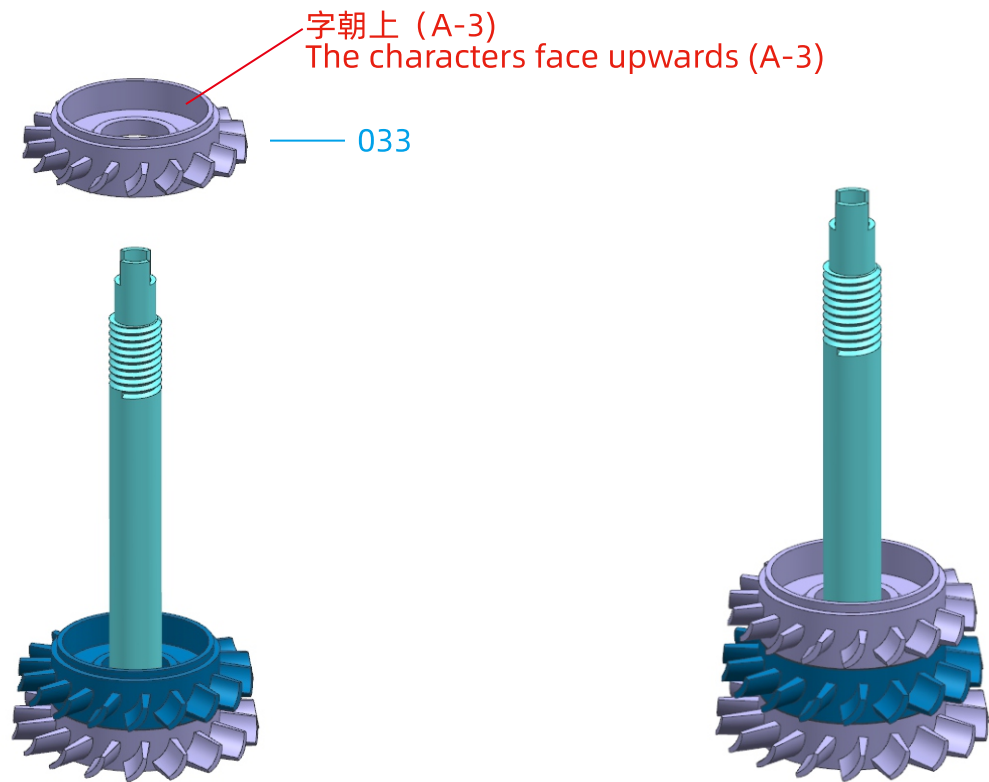
3.1、组装一级压气机转子Assemble the first stage compressor rotor



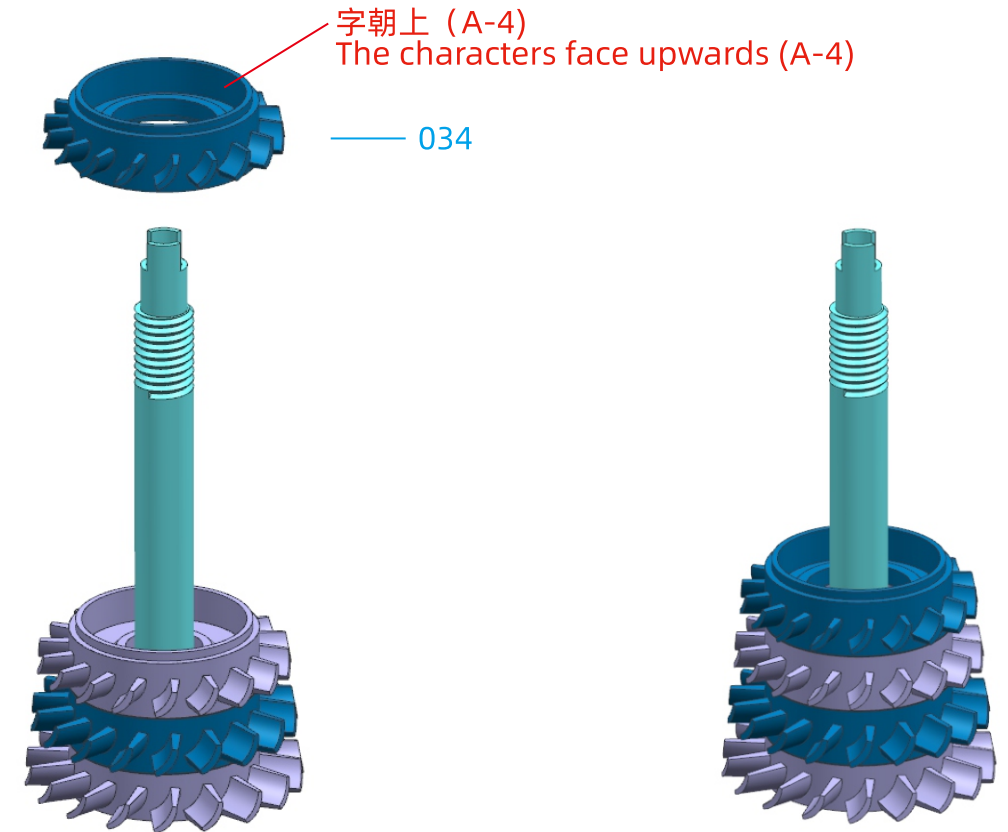
3.2、组装二级压气机转子 Assemble the rotor of the secondary compressor



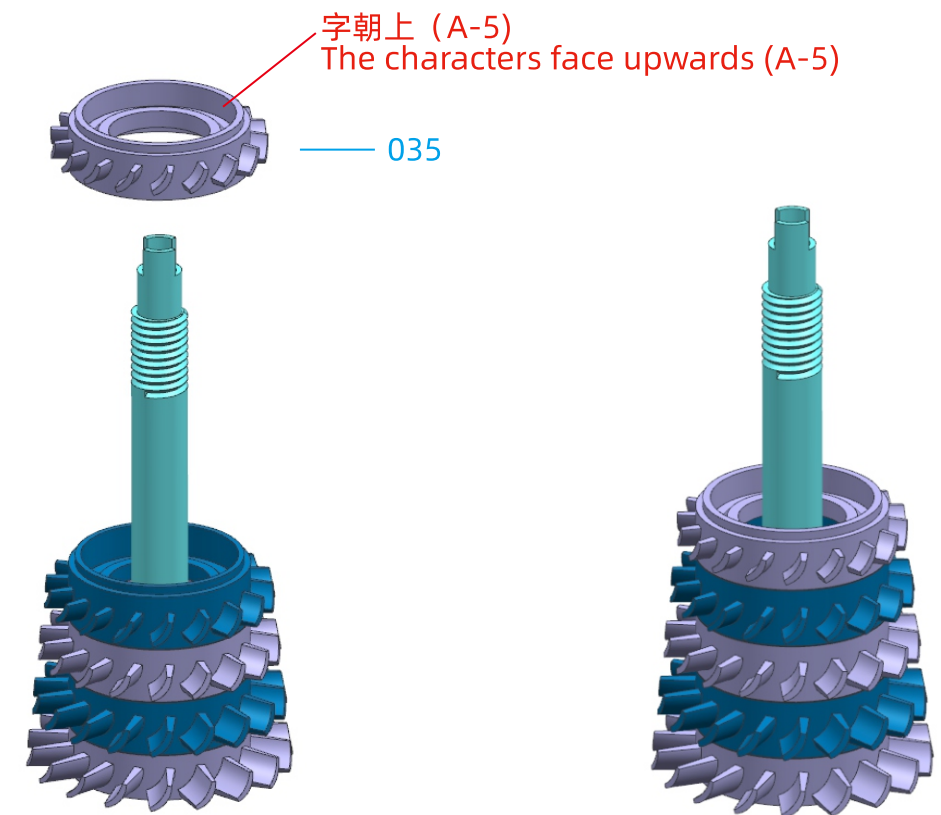
3.3、组装三级压气机转子 Assemble the rotor of the three-stage compressor



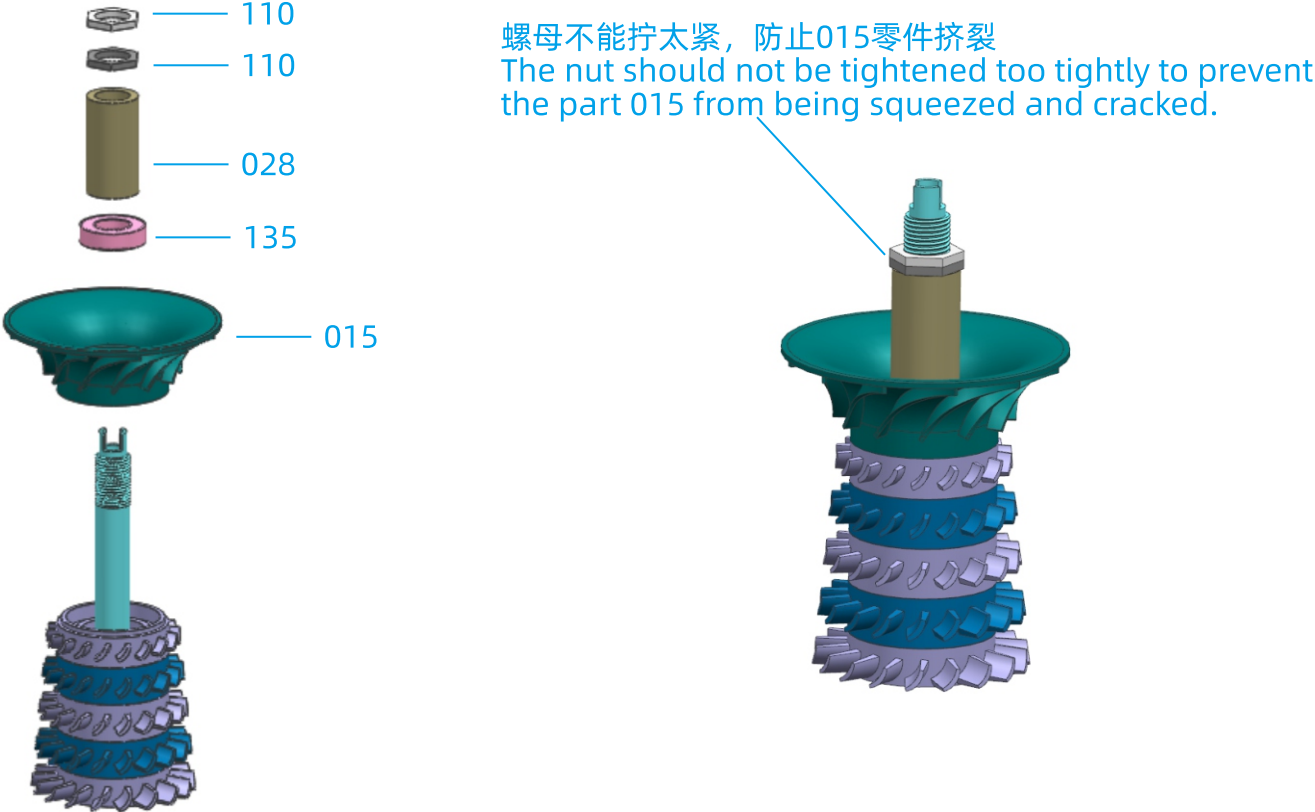
3.4、组装四级压气机转子 Assemble the rotor of the fourth stage compressor



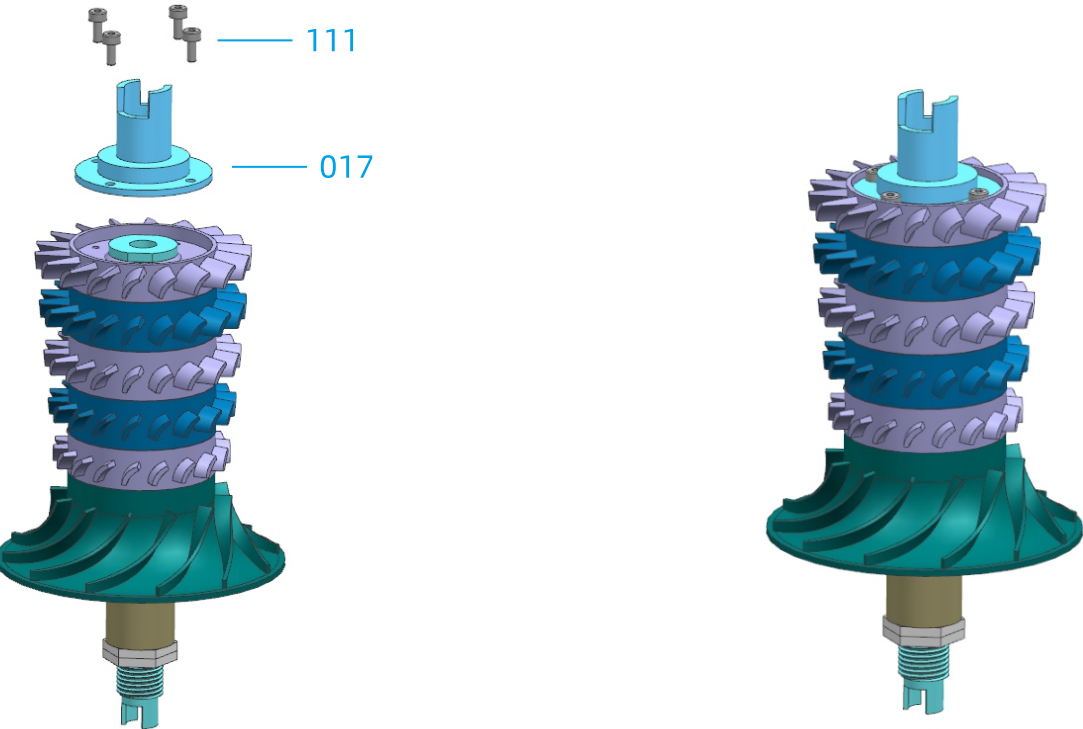
3.5、组装五级压气机转子 Assemble the rotor of a five stage compressor



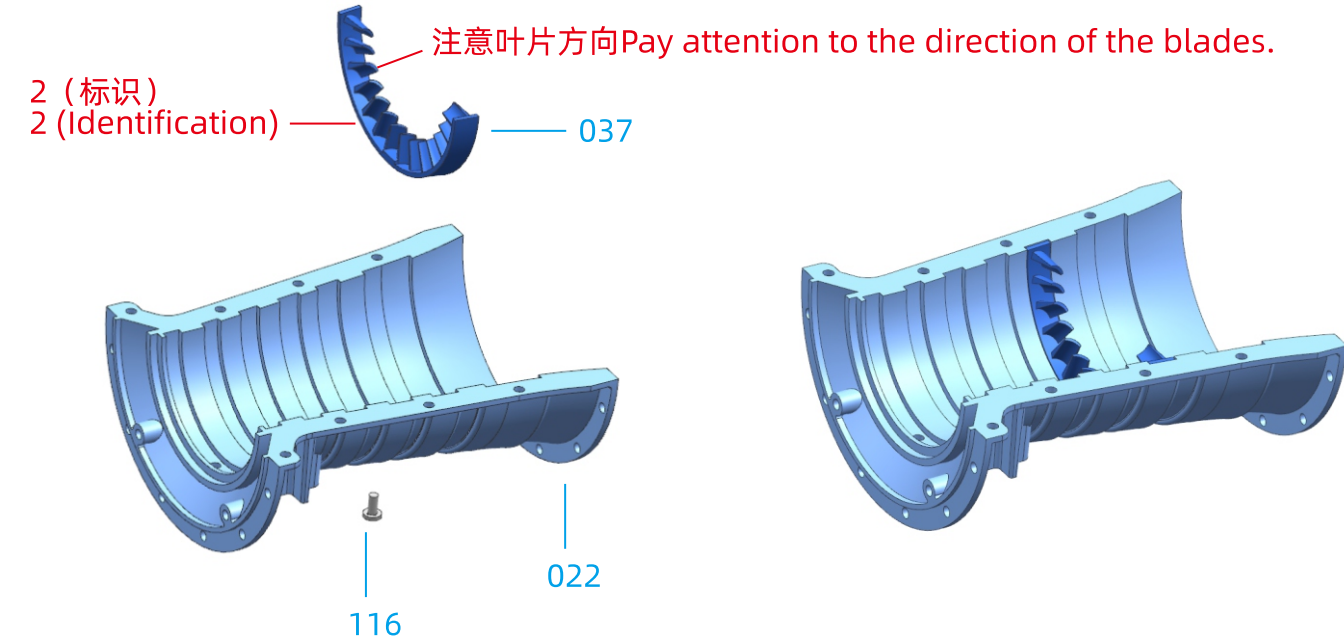
3.6、组装离心压气机Assemble centrifugal compressor



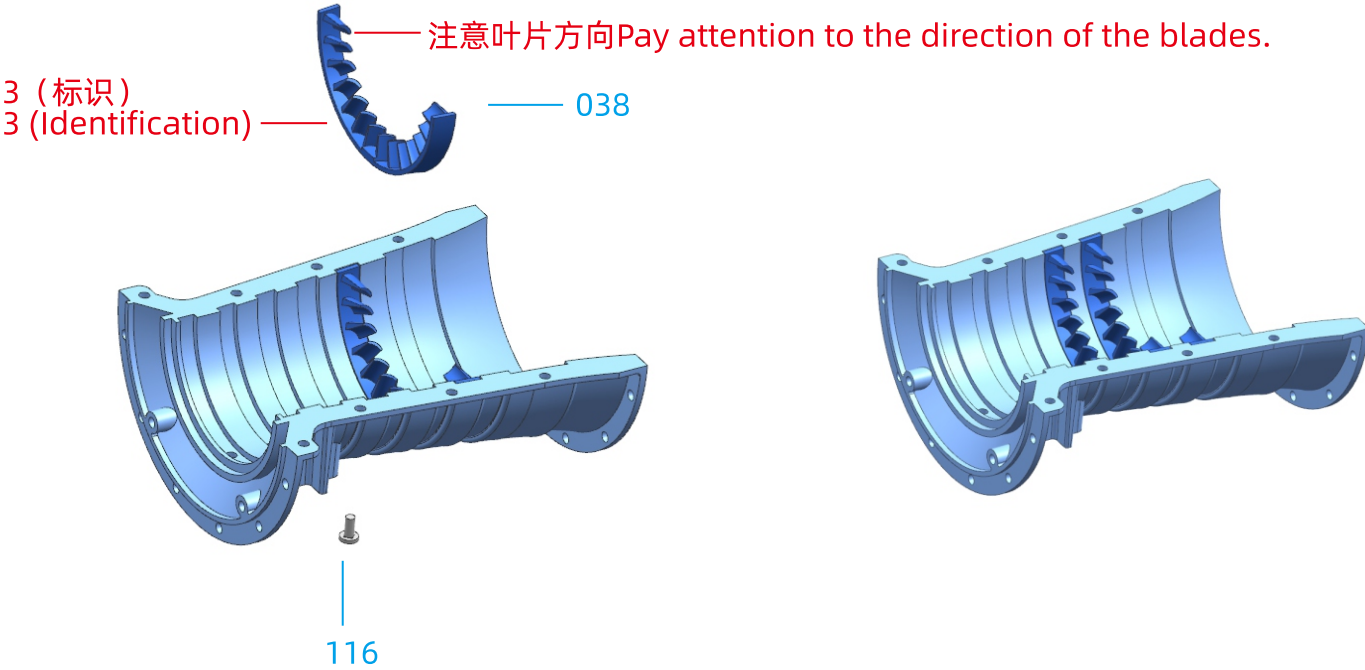
3.7、组装压气机前盘Assemble the front plate of the compressor



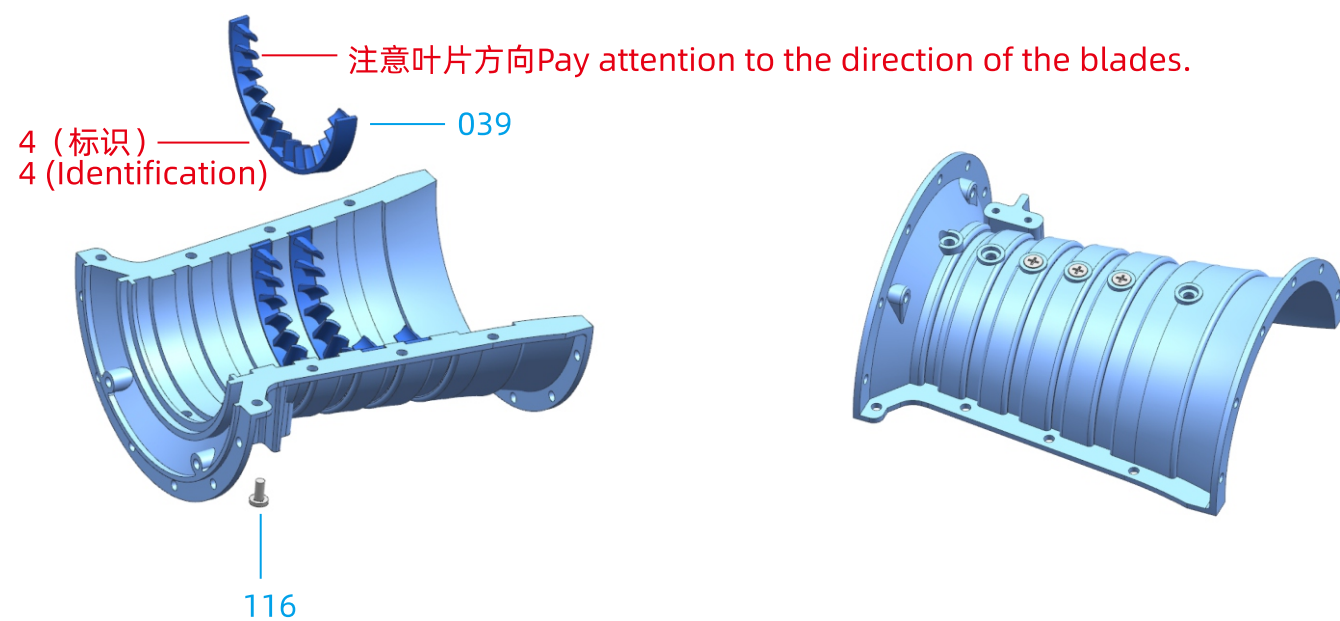
3.8、组装二级压气机静子Assemble the secondary stage compressor stator



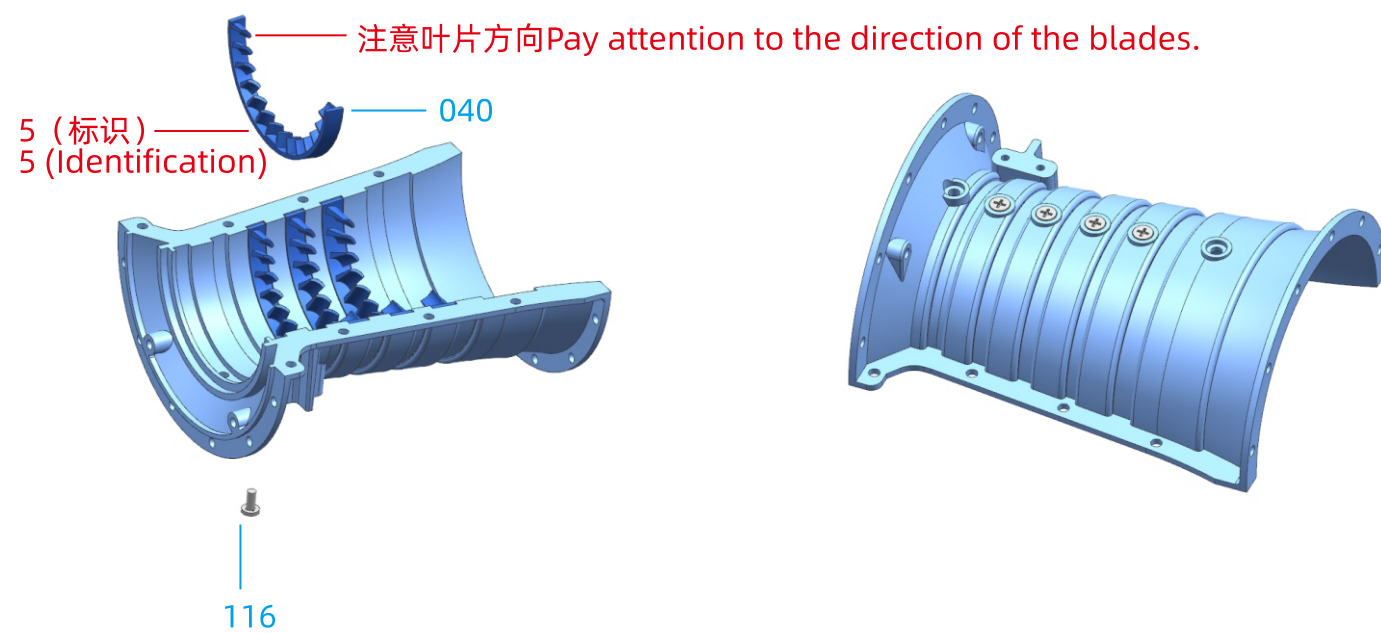
3.9、组装三级压气机静子Assembly of three-stage compressor stator



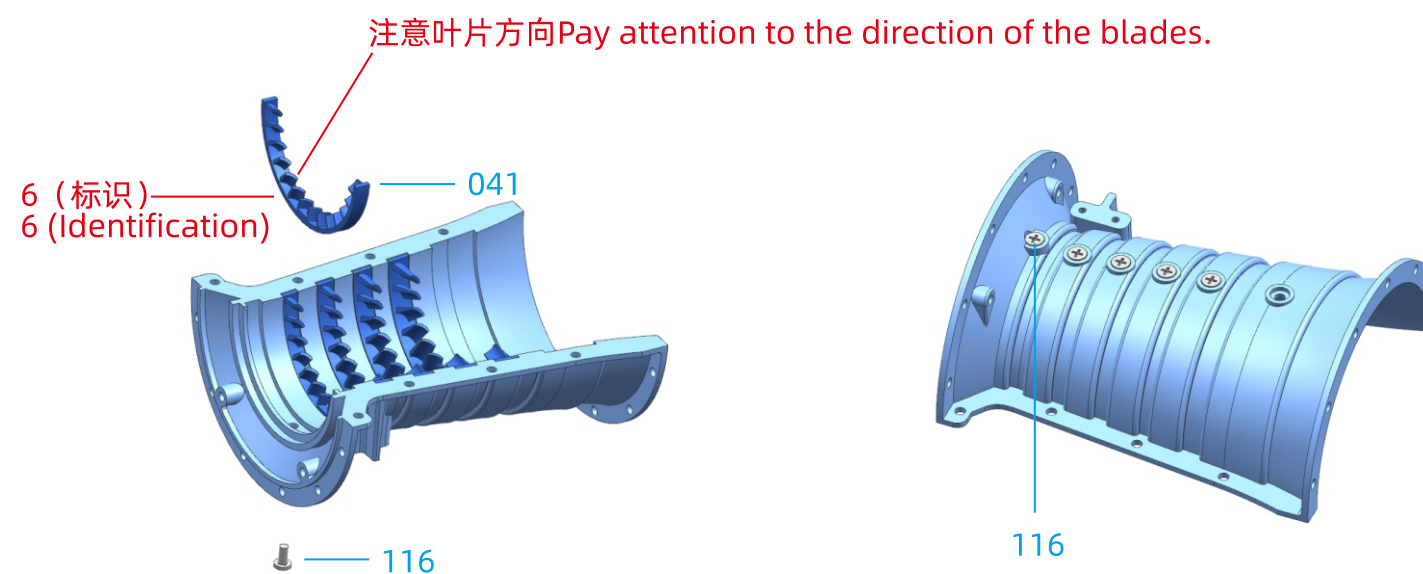
3.10、组装四级压气机静子 Assemble the four stage compressor stator



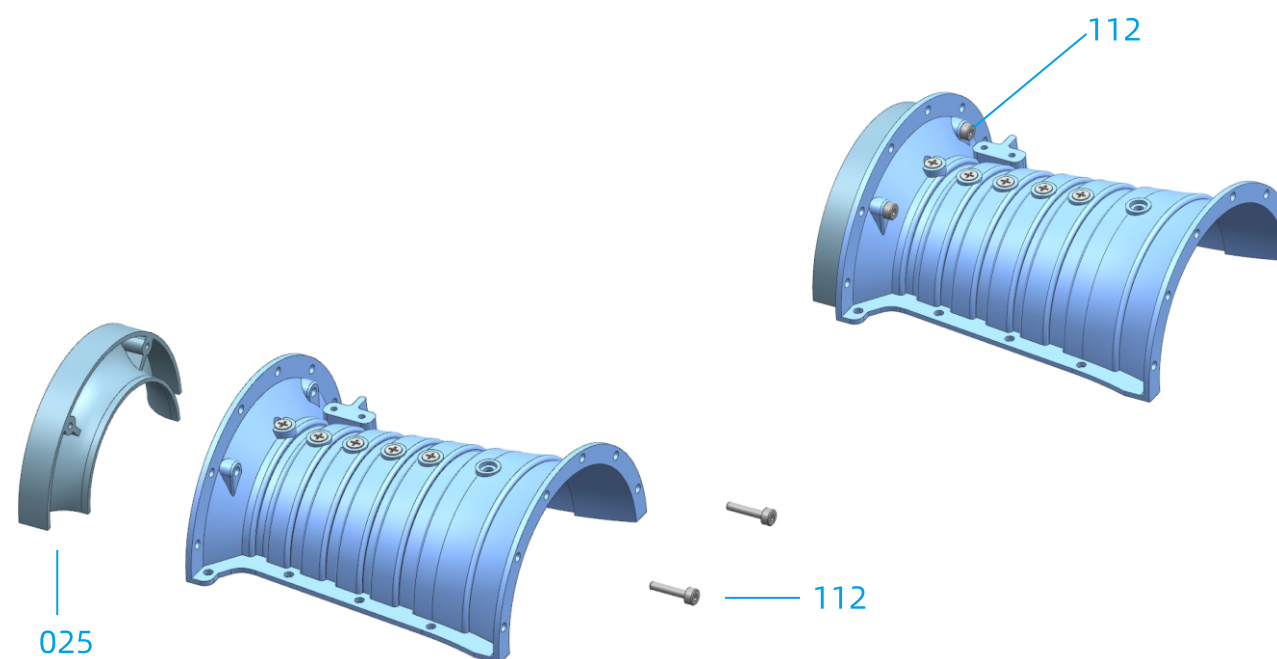
3.11、组装五级压气机静子 Assemble the five stage compressor stator



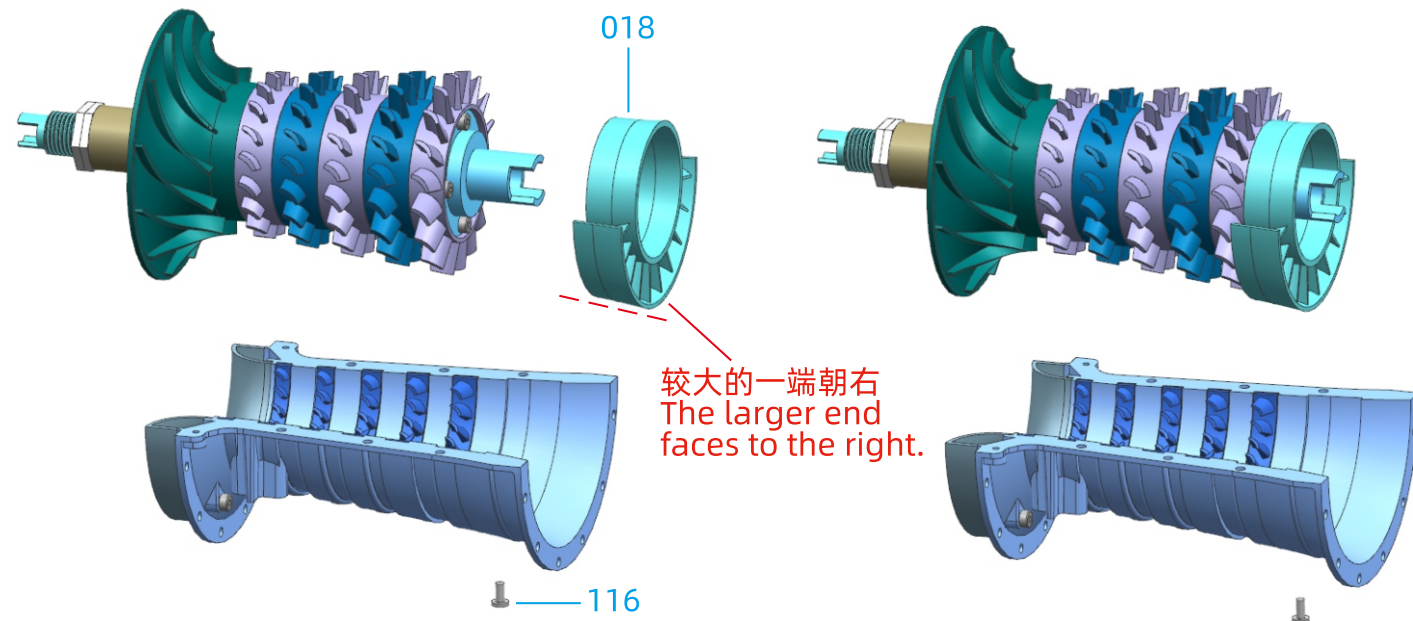
3.12、组装离心压气机静子 Assemble centrifugal compressor stator



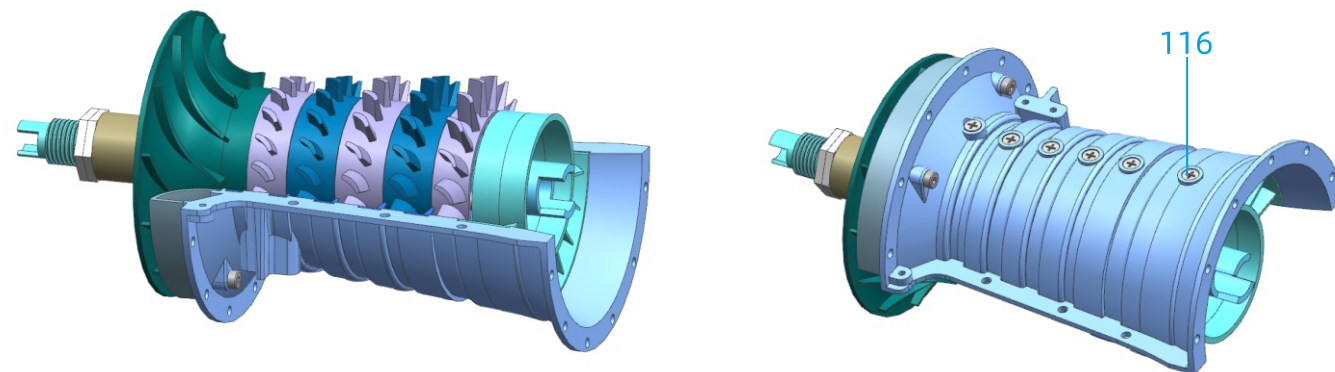
3.13、组装离心压气机机匣 Assemble the centrifugal compressor casing



3.14、组装一级压气机静子 Assemble the first stage compressor stator

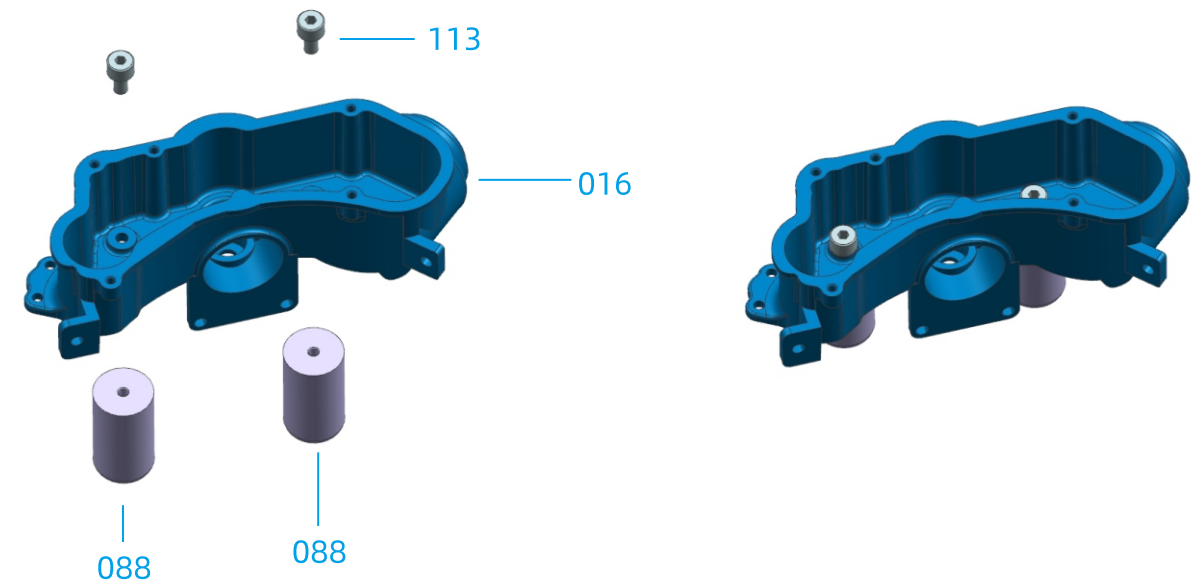


3.15、组装压气机机匣 Assemble the compressor casing

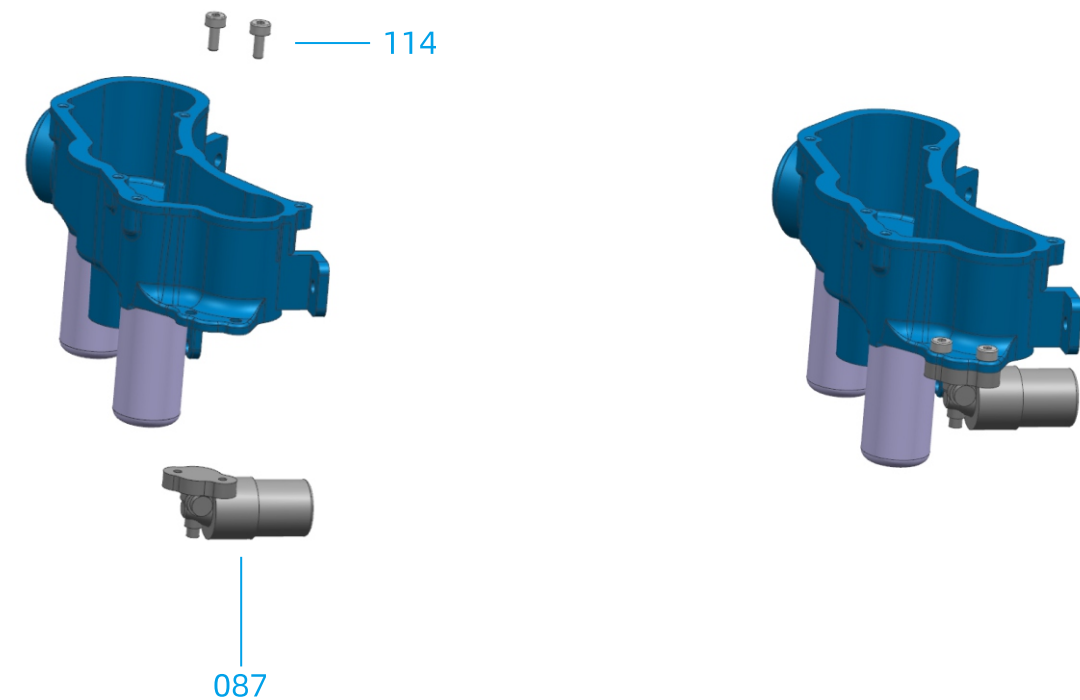


四、组装齿轮箱总成 Assemble the gearbox assembly

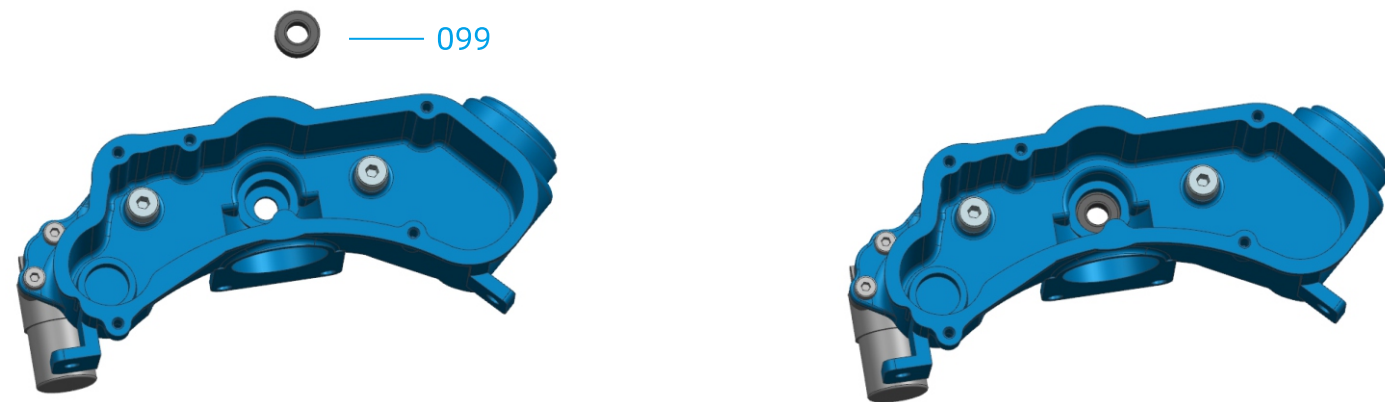
4.1、组装燃油过滤器 Assemble fuel filter



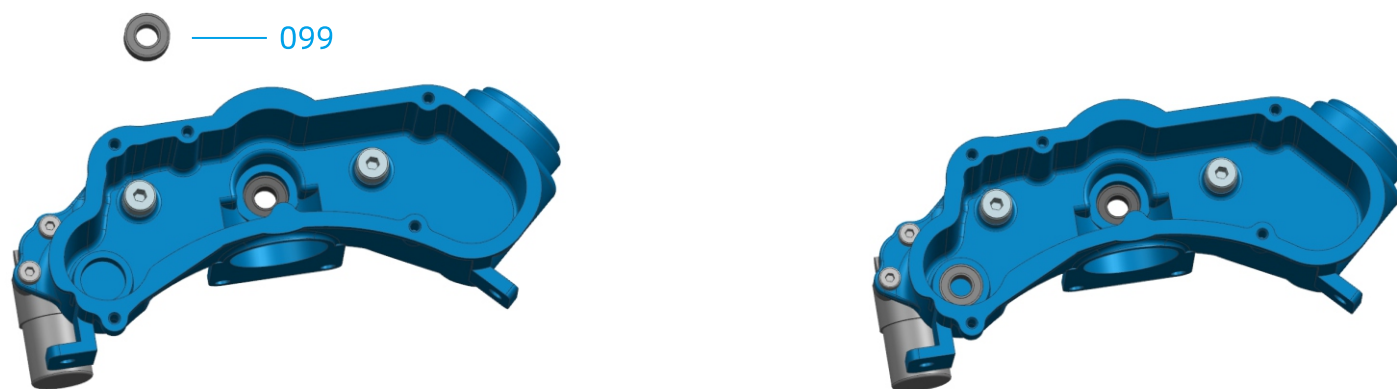
4.2、组装机油过滤器 Assemble the oil filter



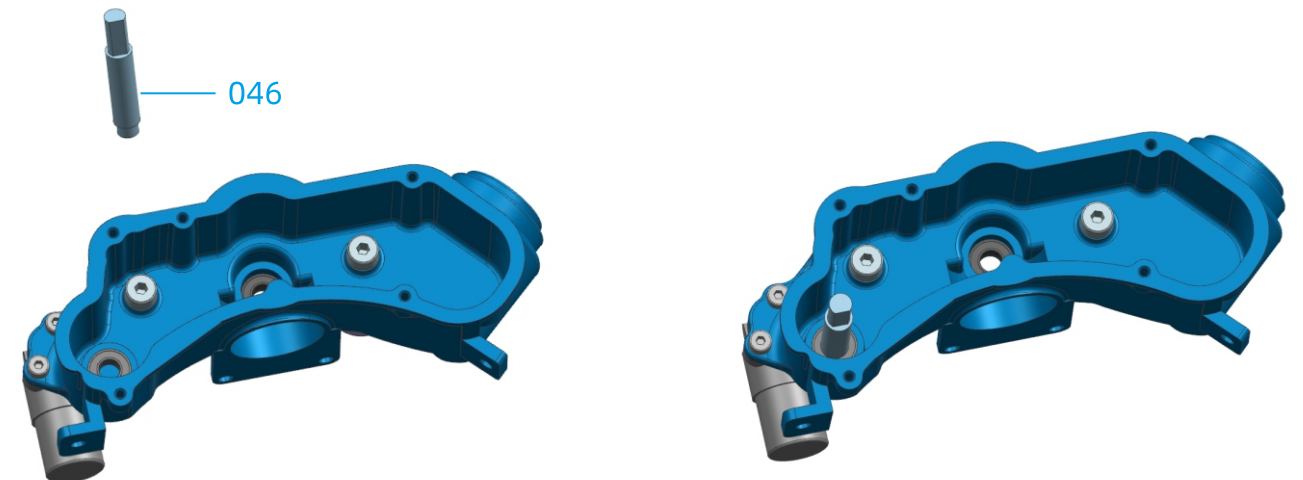
4.3、组装锥齿轴轴承Assemble the tapered shaft bearing



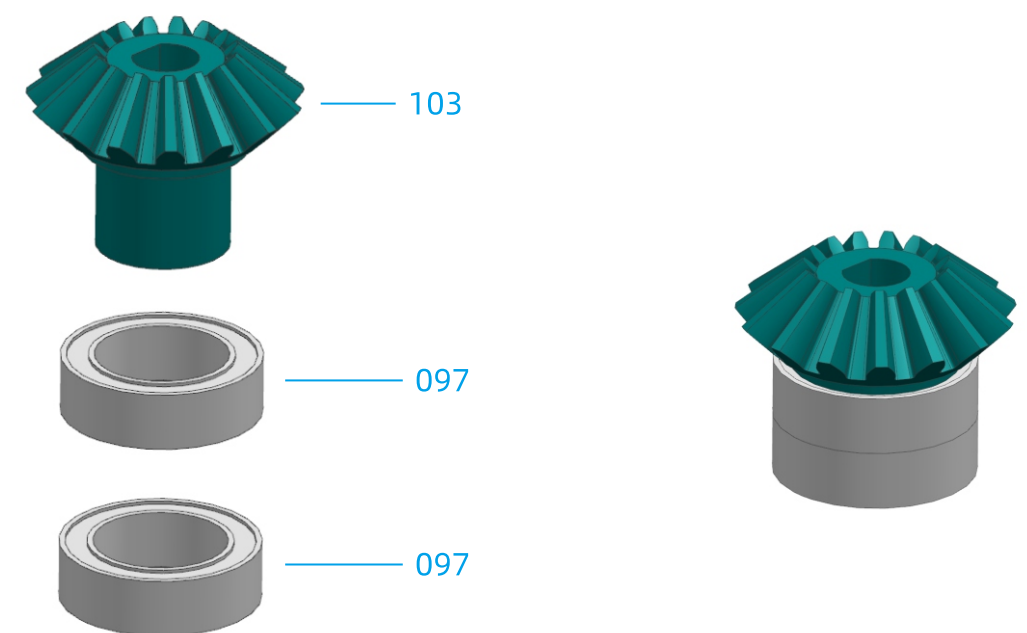
4.4、组装抽粒轴轴承Assemble the granular shaft bearing



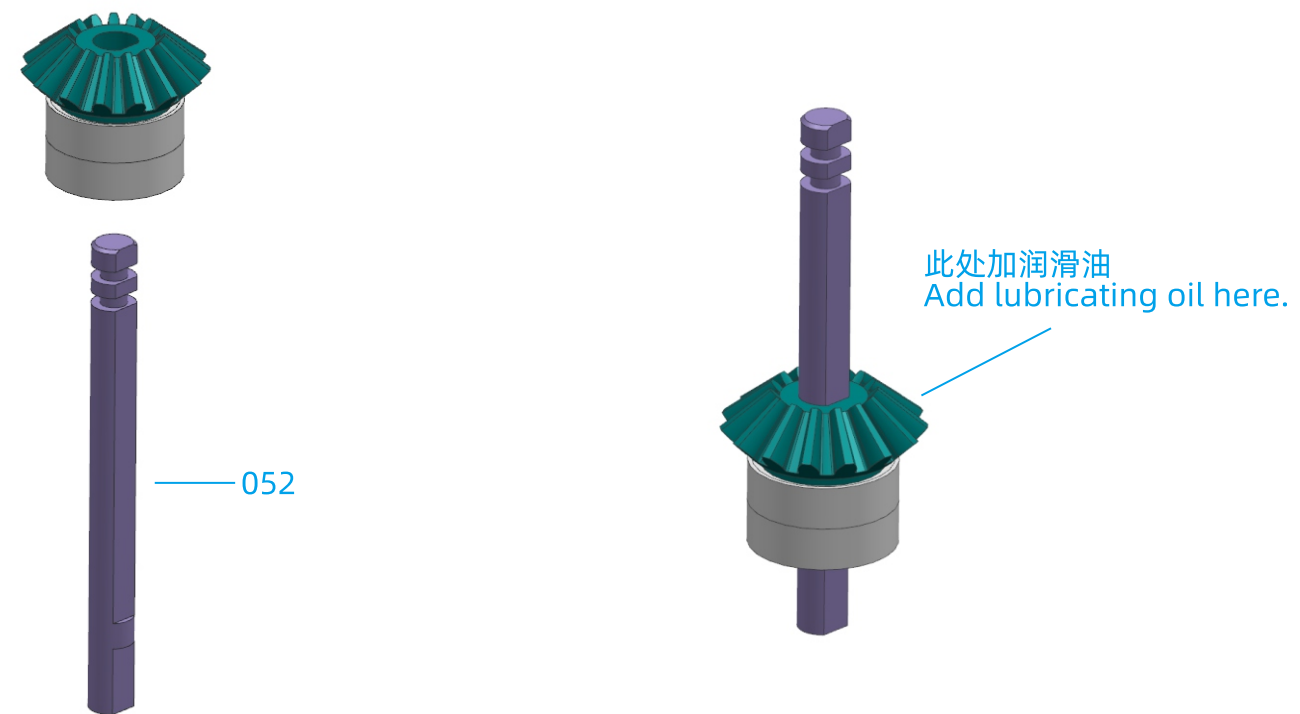
4.5、组装抽料机前轴Assemble the front axle of the particle extractor



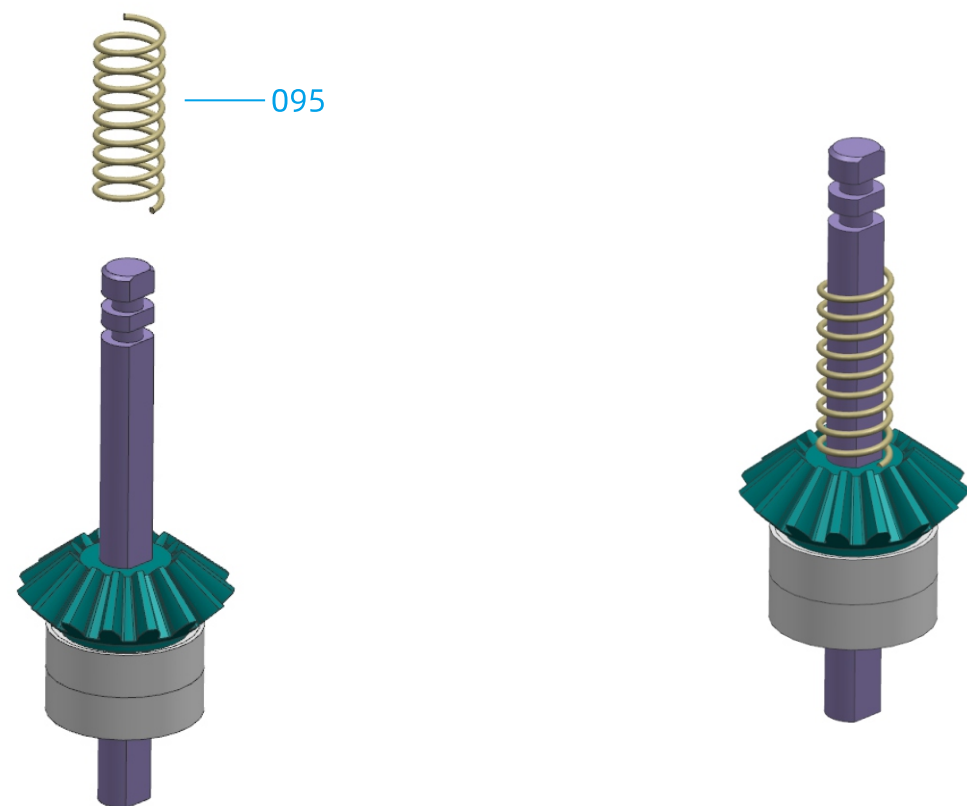
4.6、组装小锥齿轮轴承Assemble the small bevel gear bearing



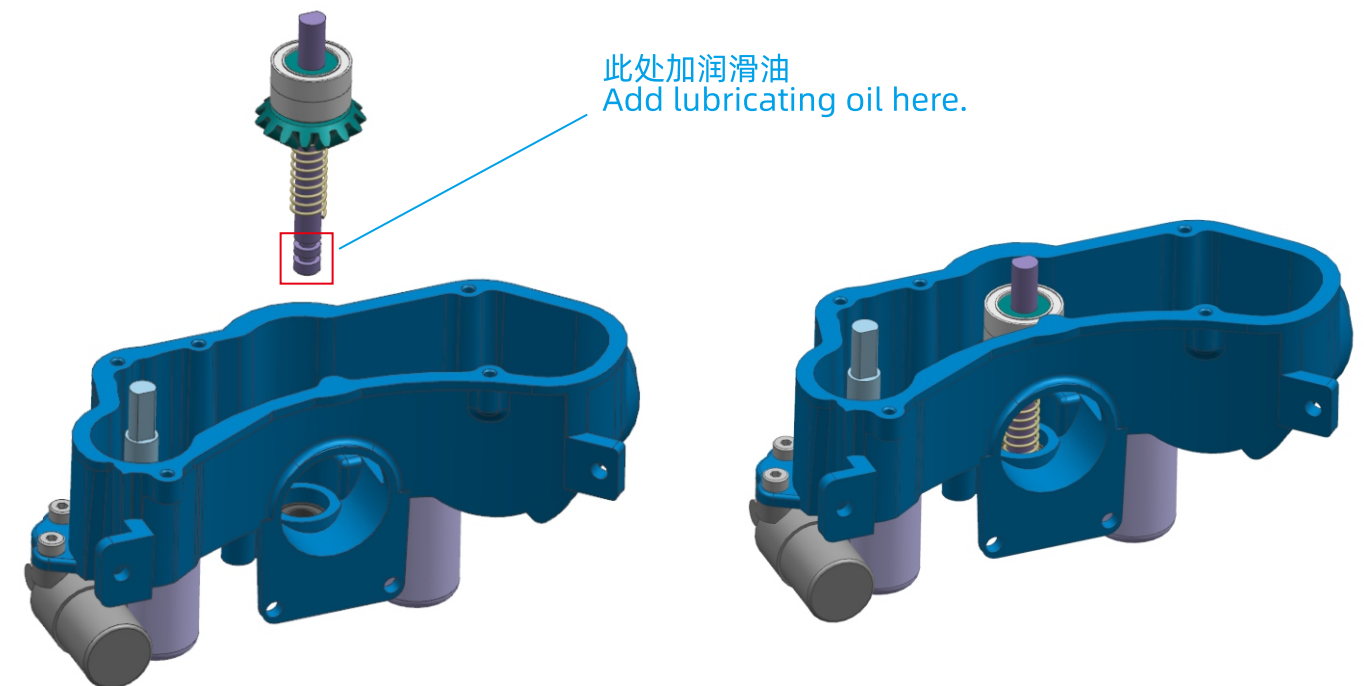
4.7、组装离合器轴Assemble clutch shaft



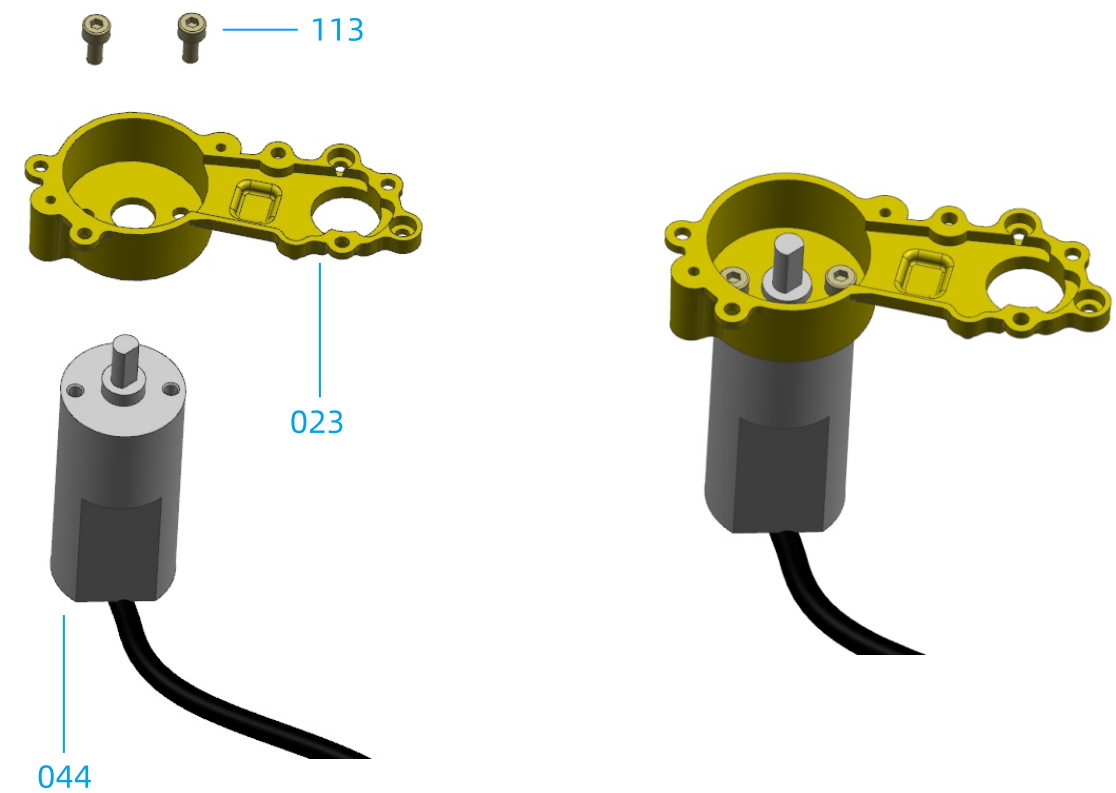
4.8、组装离合器弹簧Assemble clutch spring



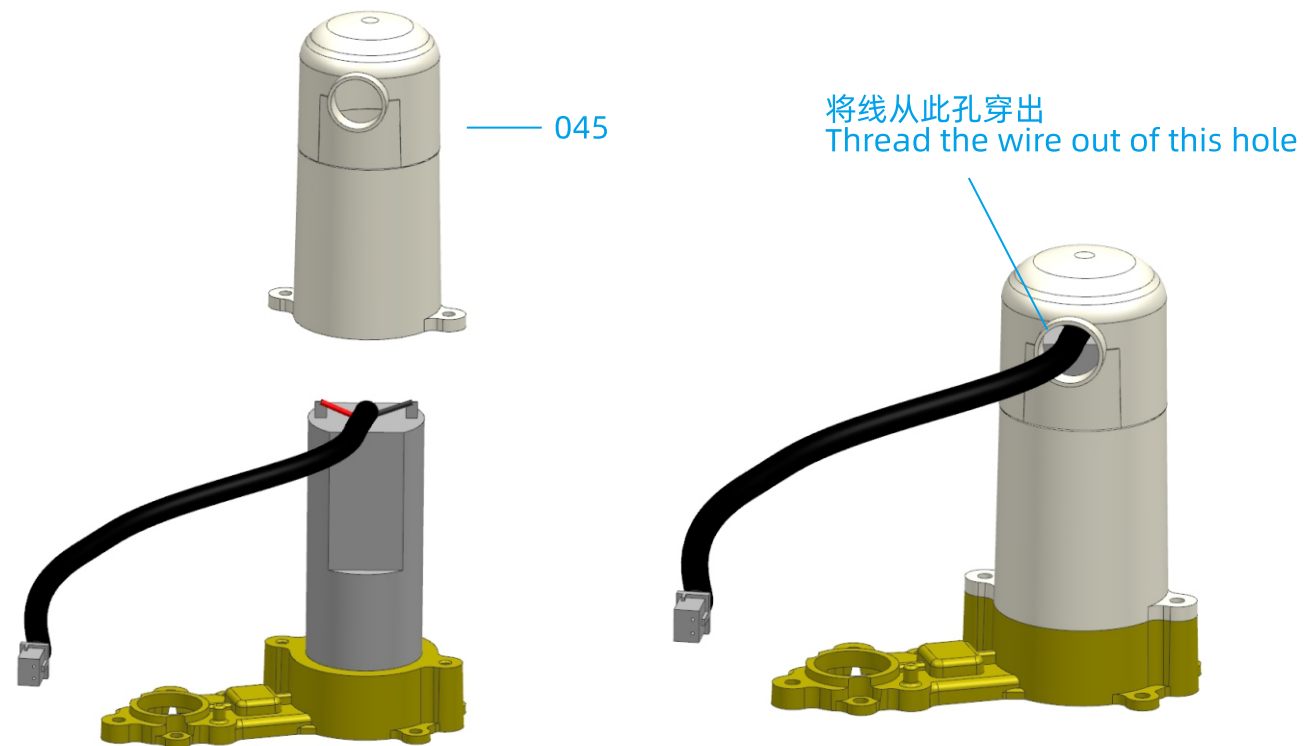
4.9、组装离合轴组件Assemble clutch shaft components



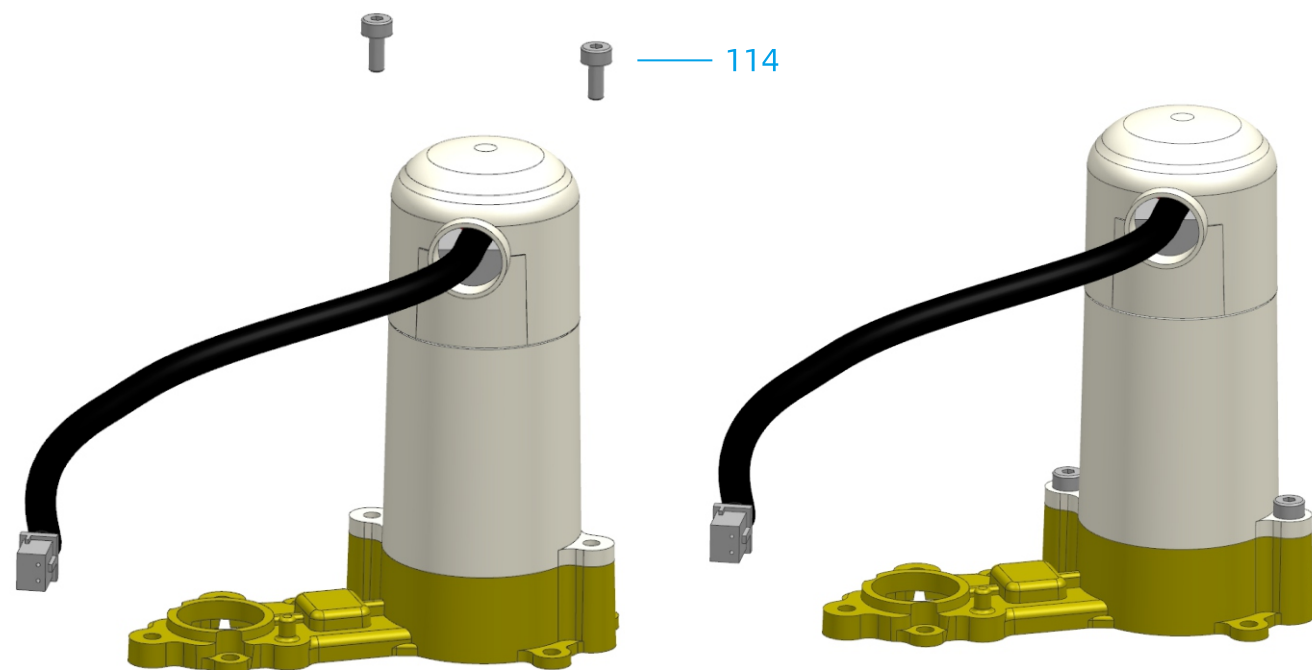
4.10、组装电机Assemble the motor



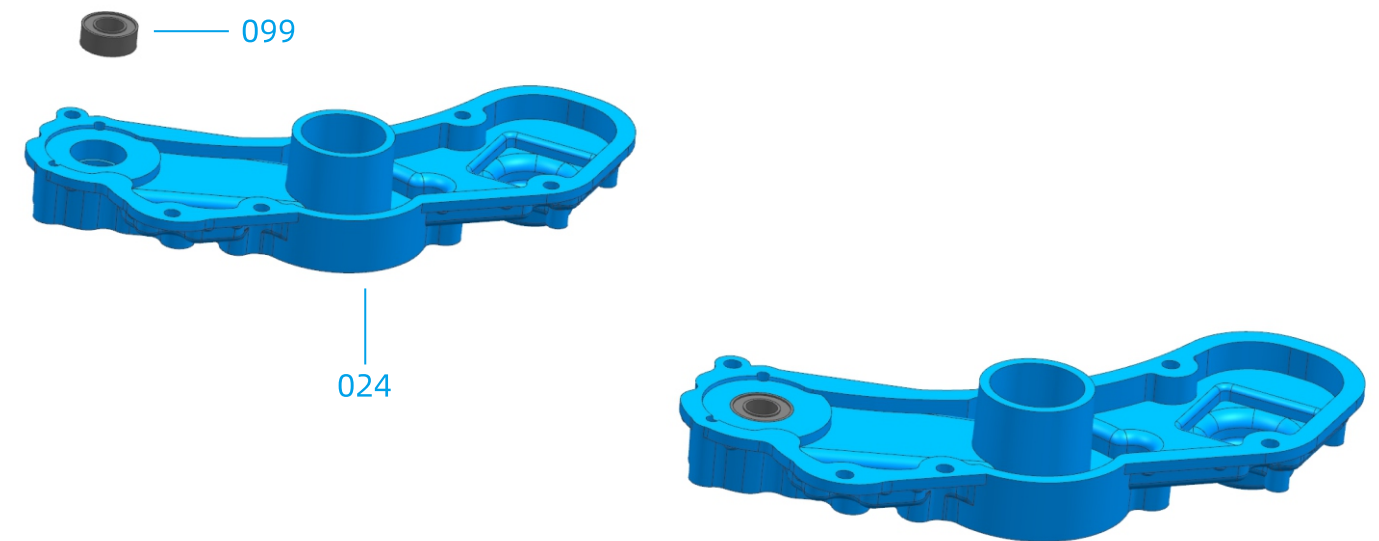
4.11、组装电机套 Assemble the motor sleeve



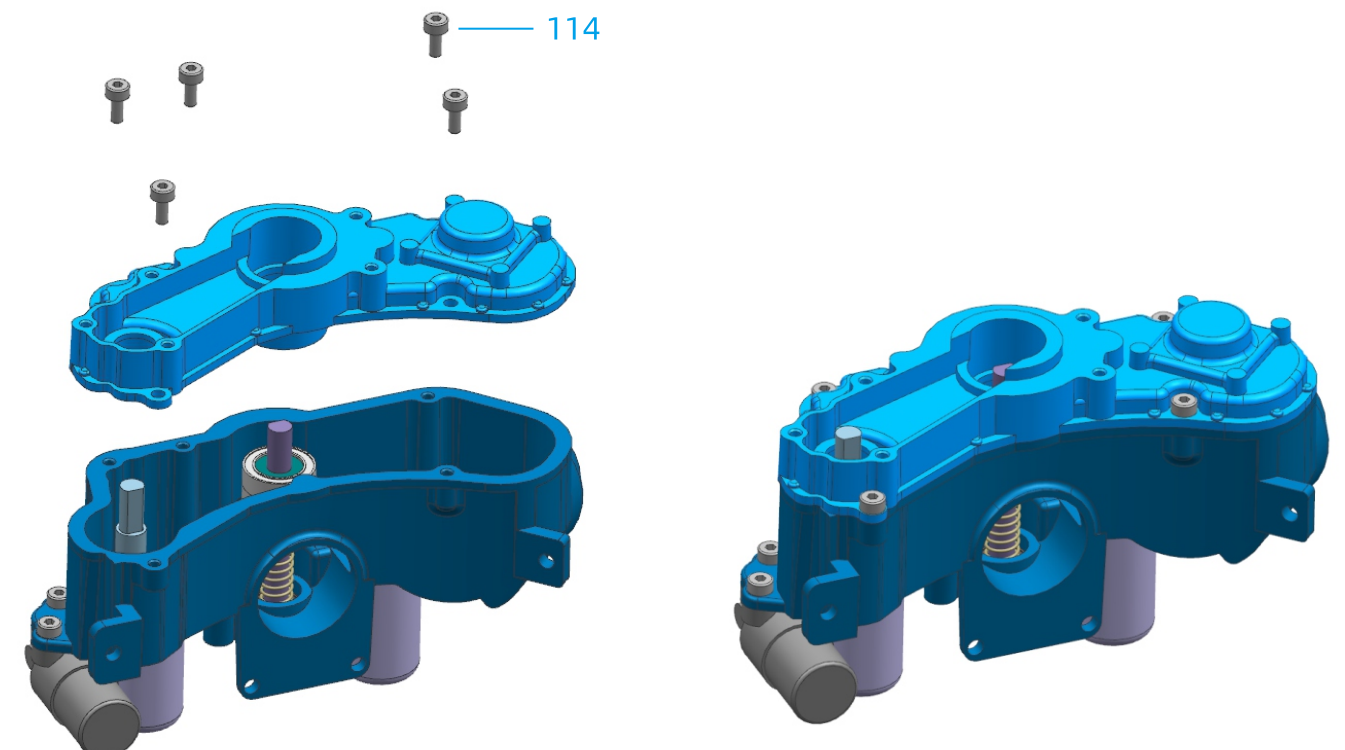
4.12、组装电机套螺丝 Assemble the motor sleeve screws



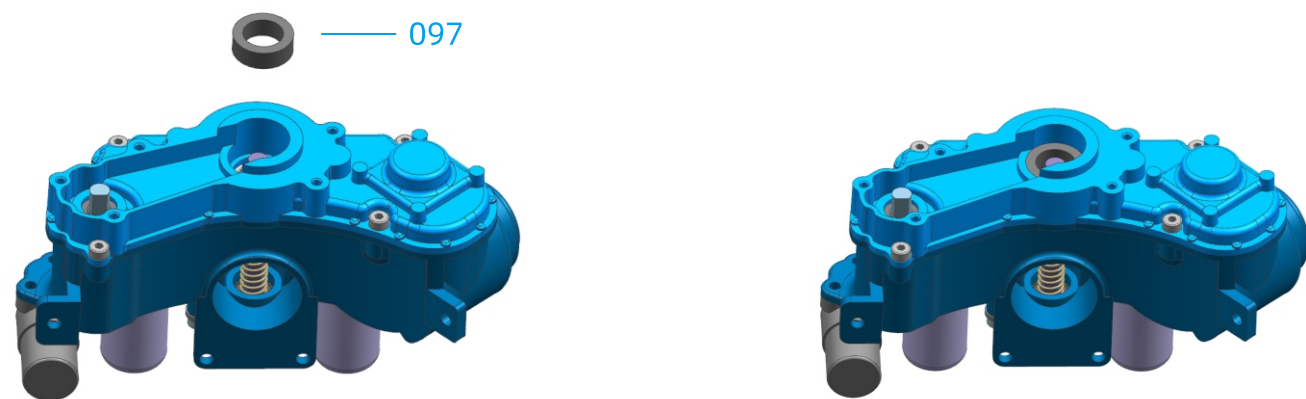
4.13、组装抽料机前轴轴承 Assemble the front axle bearing of the particle extractor



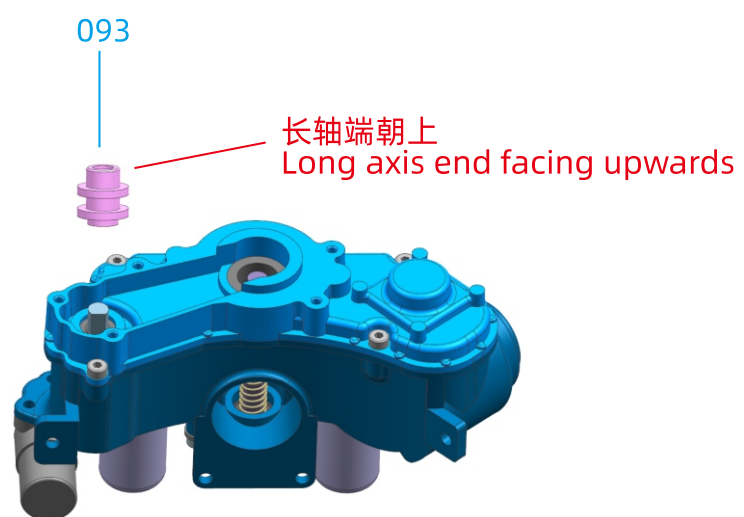
4.14、组装齿轮箱中盖 Assemble the gearbox cover



4.15、组装电机轴轴承Assembly of motor shaft bearings



4.16、组装抽粒机皮带轮Assemble the belt pulley of the particle extractor



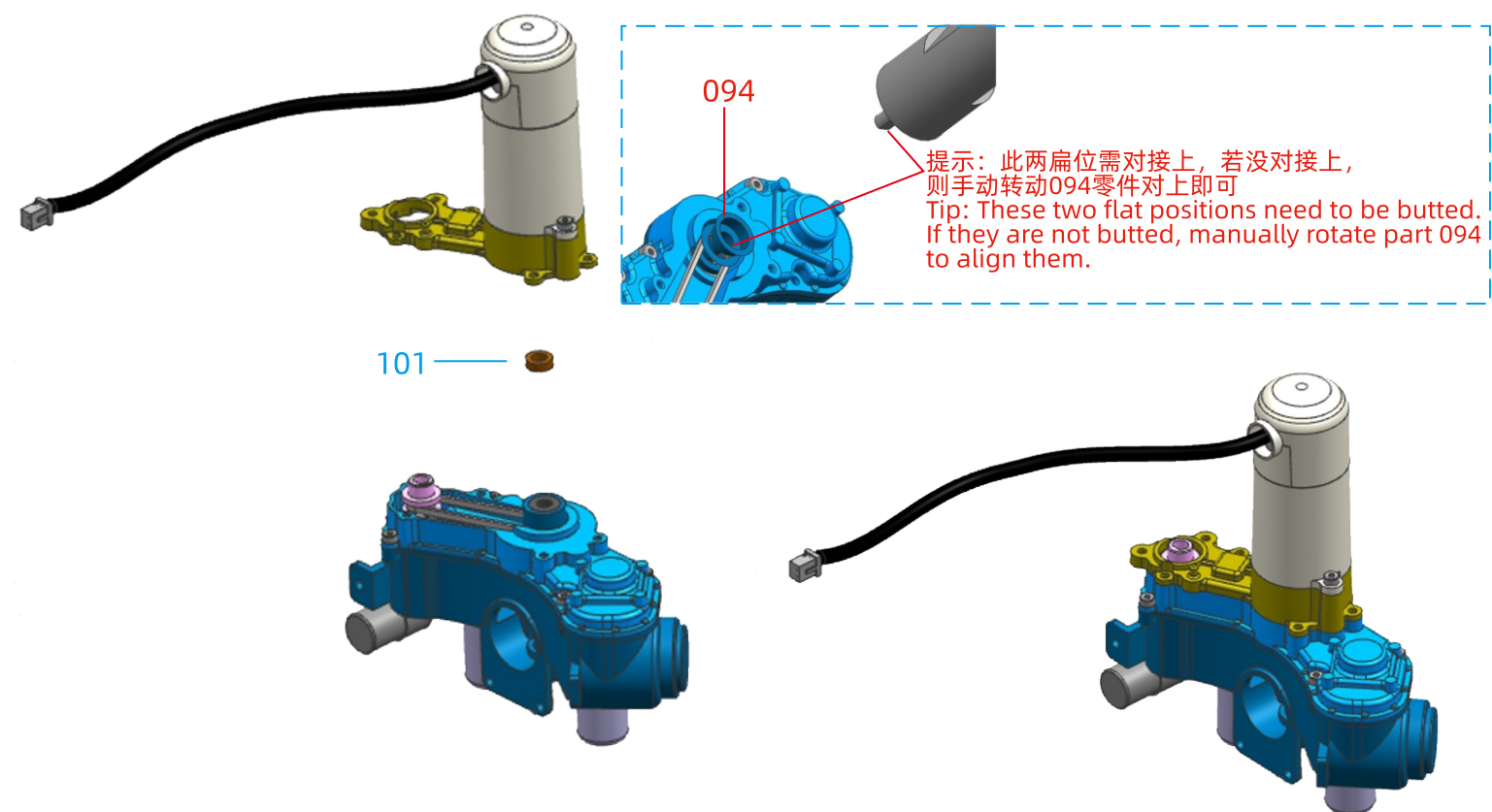
4.17、组装电机皮带轮Assemble the motor pulley



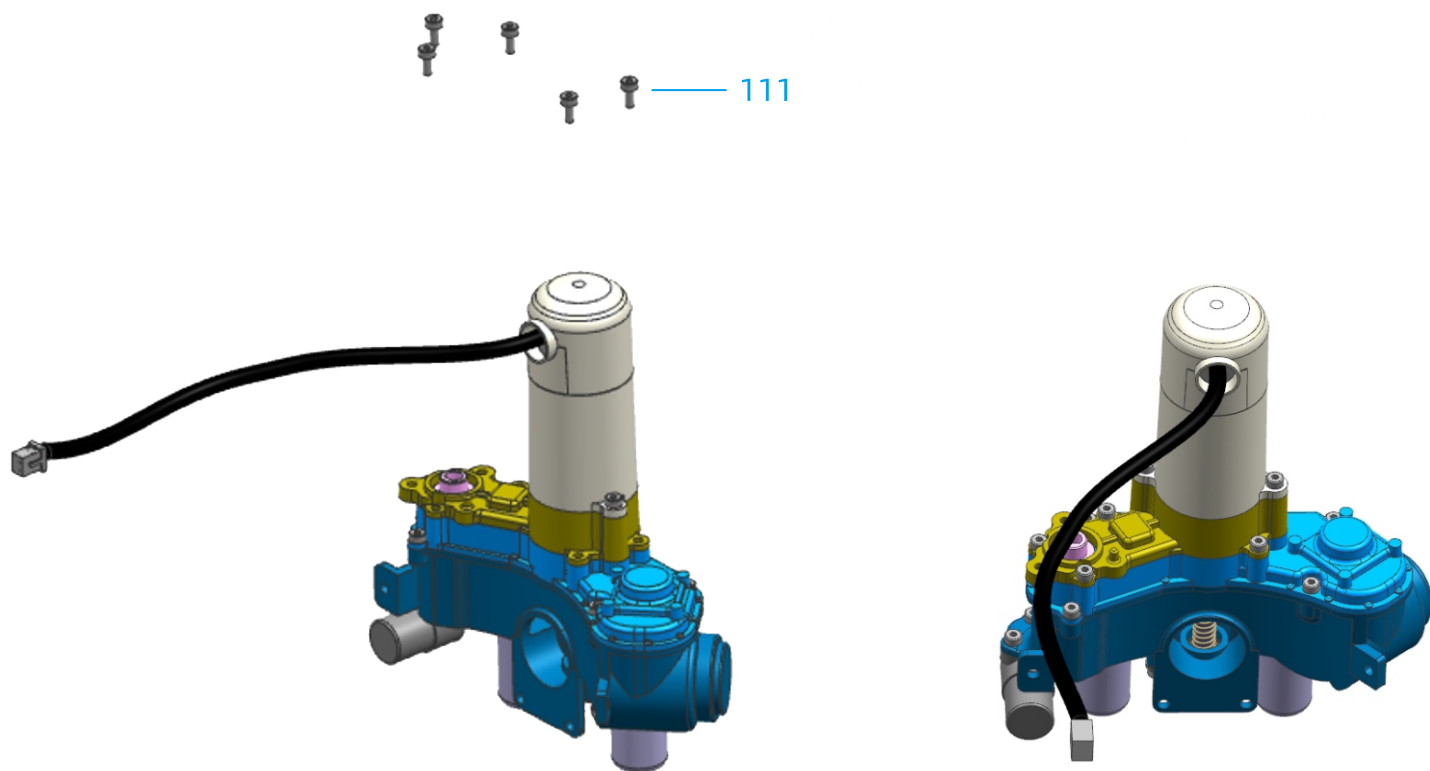
4.18、组装电机轴承Assemble motor bearings



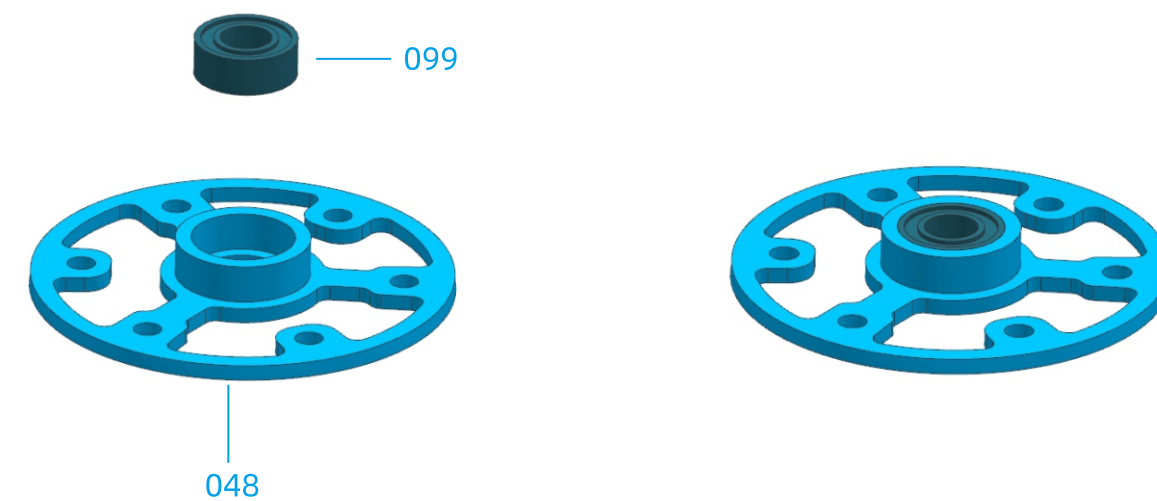
4.19、组装电机轴套 Assemble the motor shaft sleeve



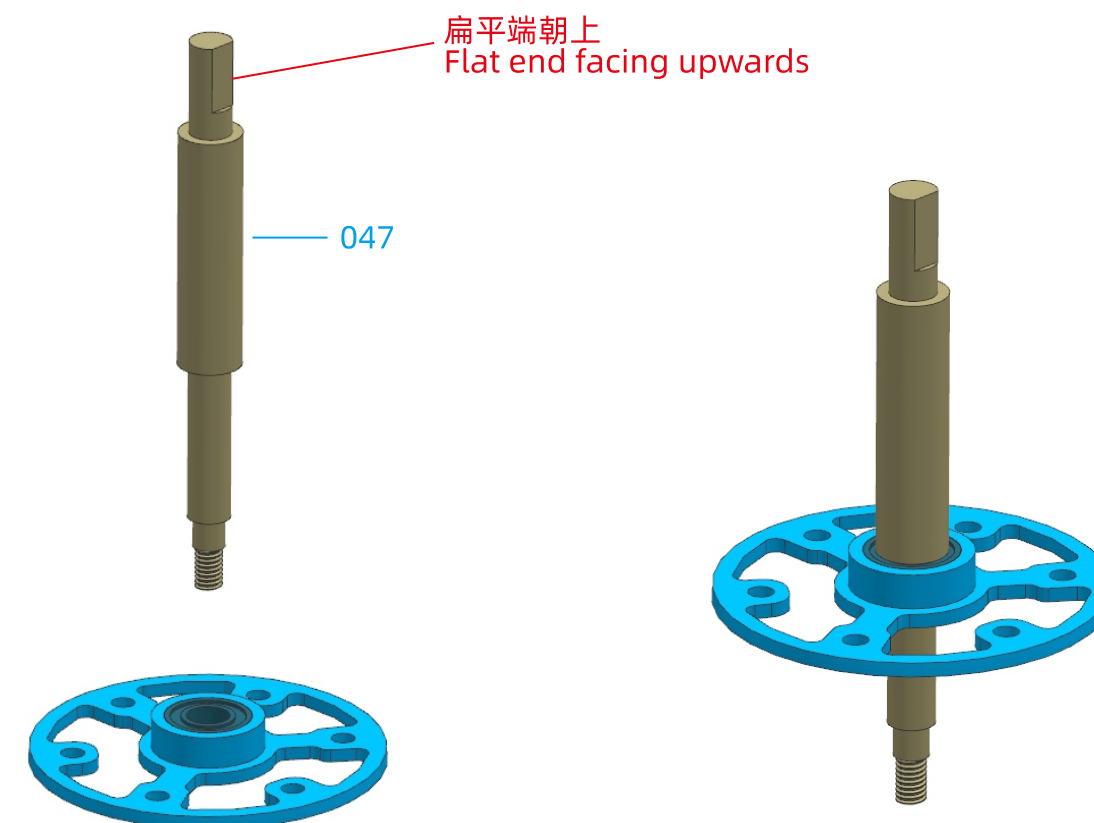
4.20、组装齿轮箱上盖总成 Assemble the upper cover assembly of the gearbox



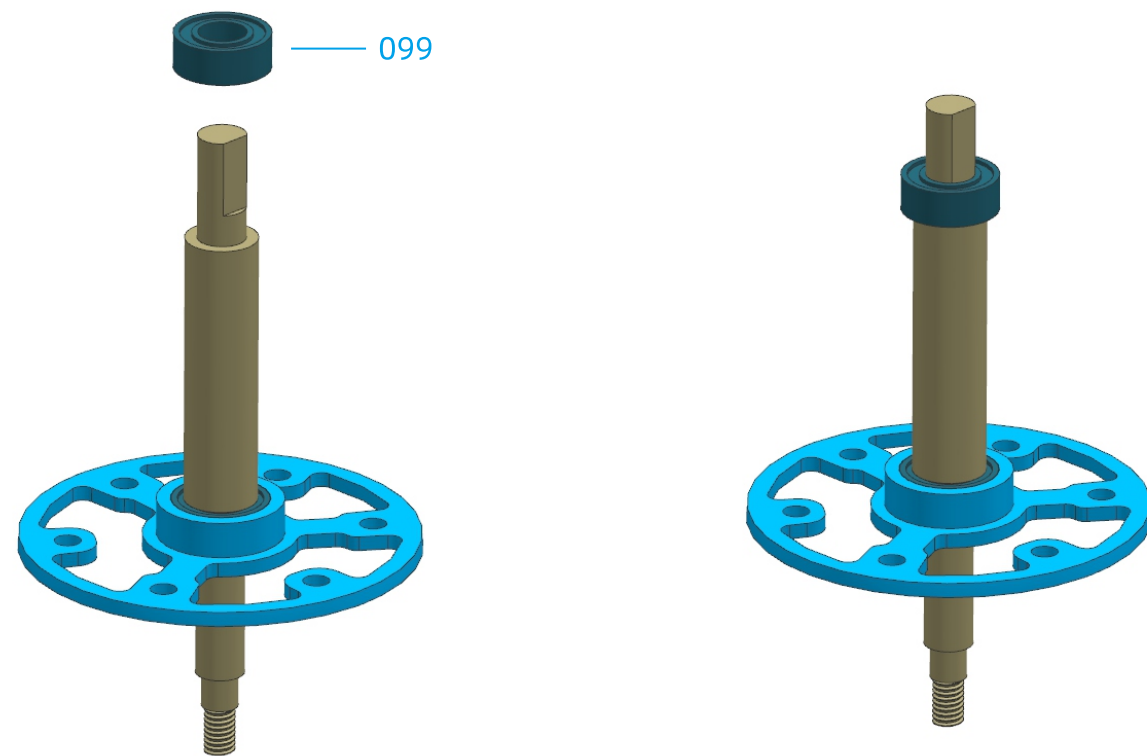
4.21、组装抽粒固定盘 Assemble the fixed disc for particle extraction



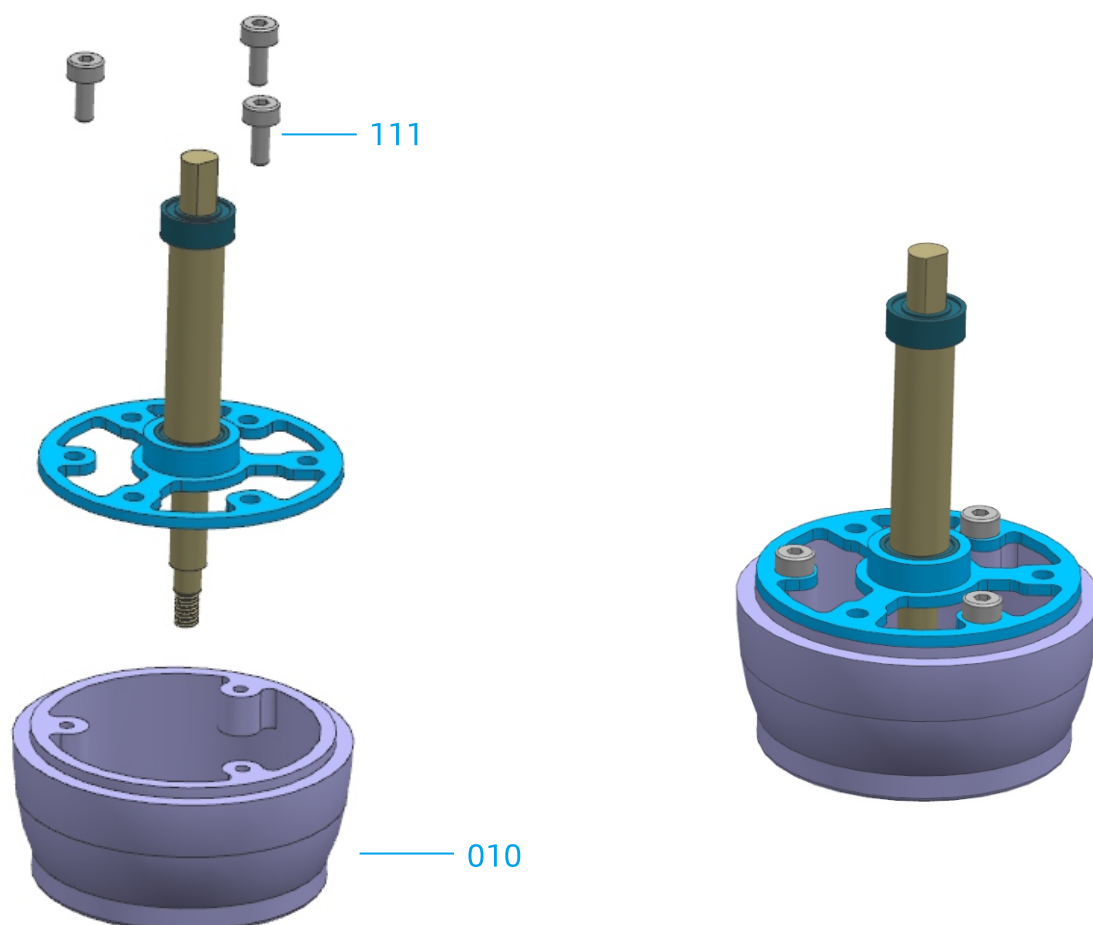
4.22、组装抽粒机后轴 Assemble the rear axle of the particle extractor



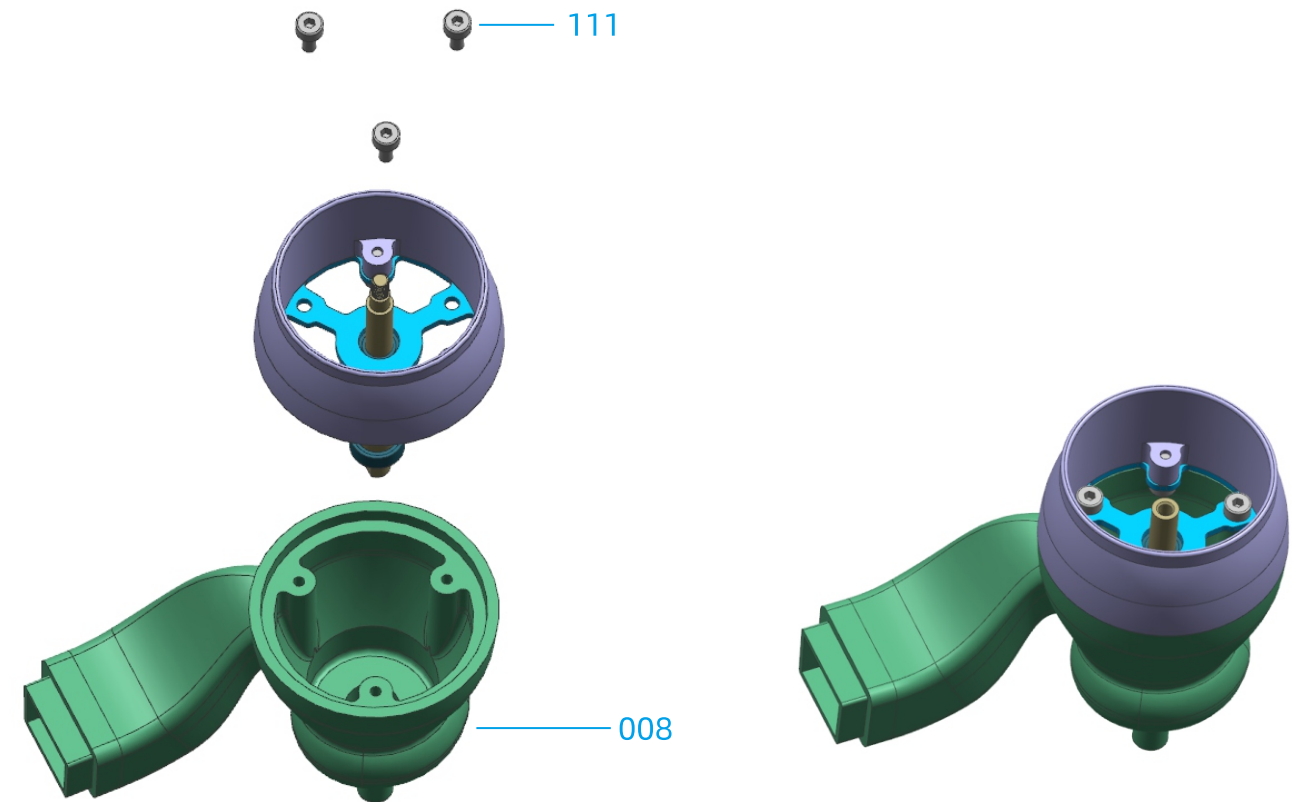
4.23、组装抽粒机后轴承 Assemble the bearing after the particle extractor



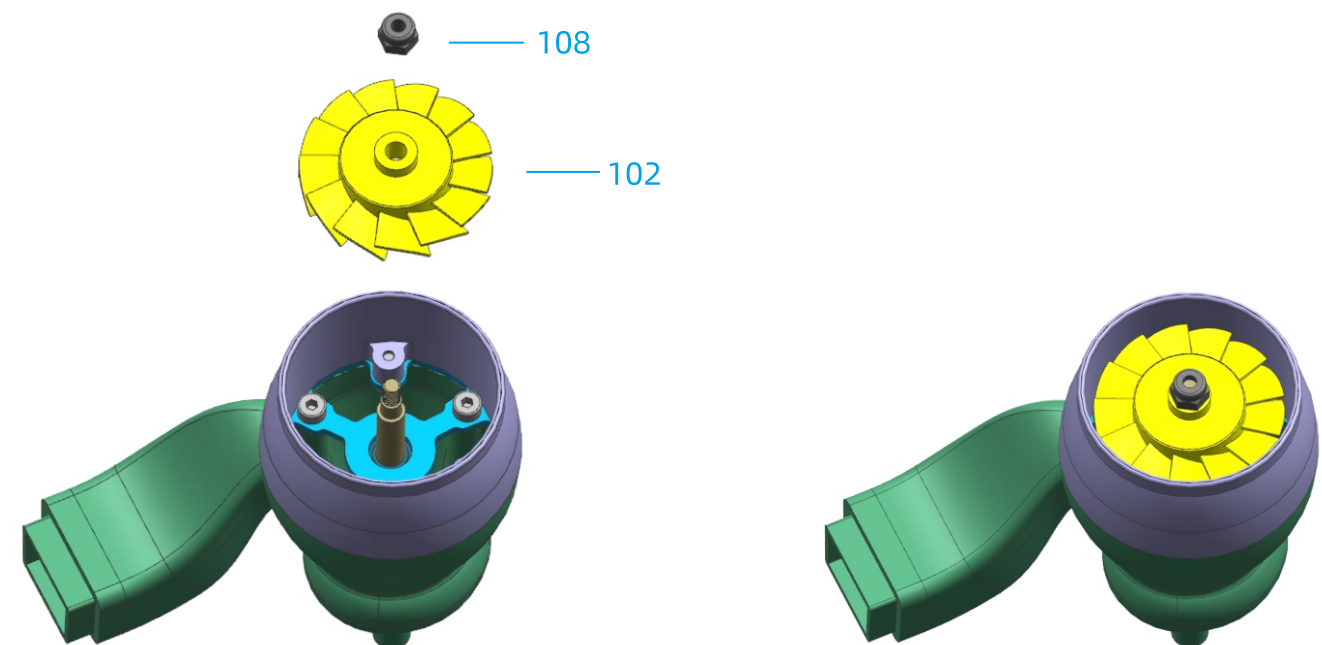
4.24、组装抽粒管帽 Assemble the granular tube cap



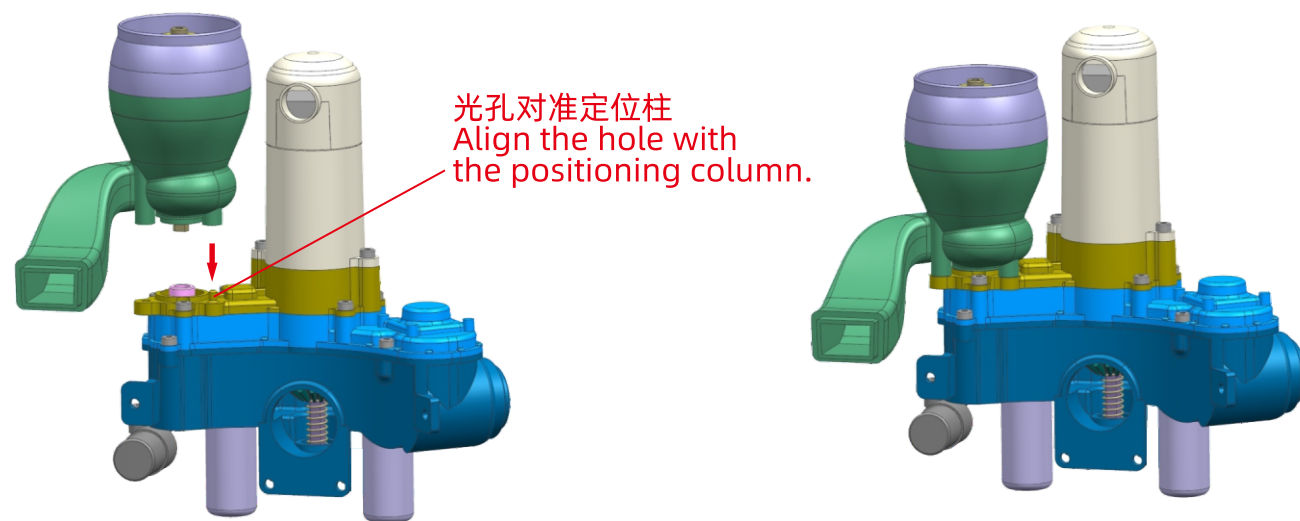
4.25、组装抽粒弯管 Assemble the granular bending tube



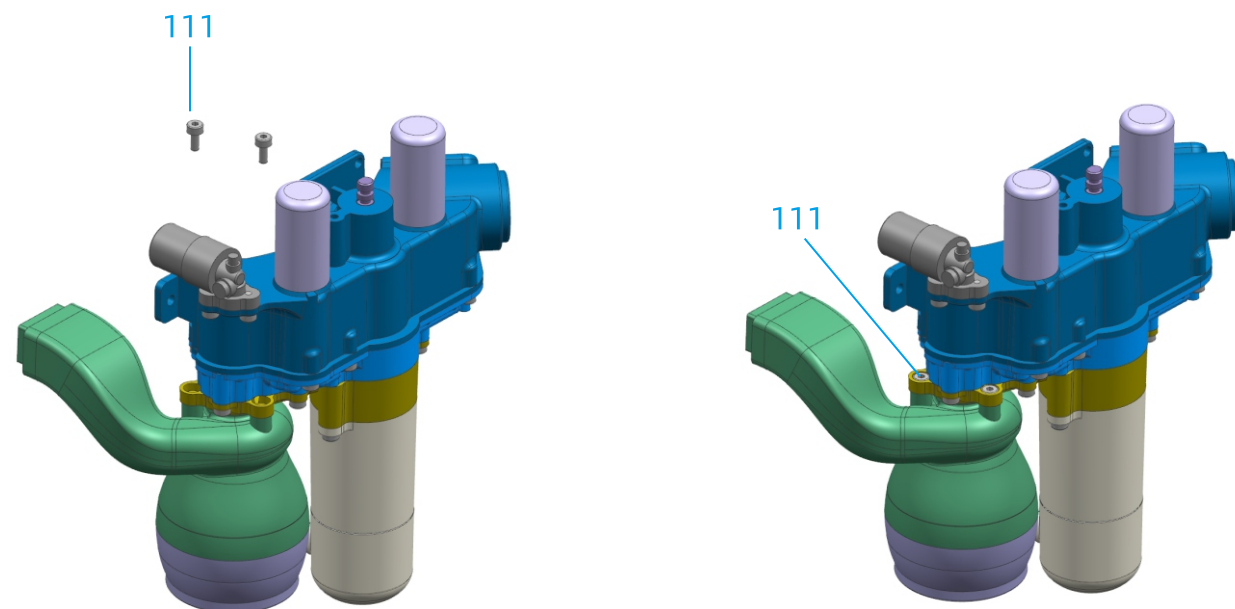
4.26、组装抽粒风扇 Assemble the granule extraction fan



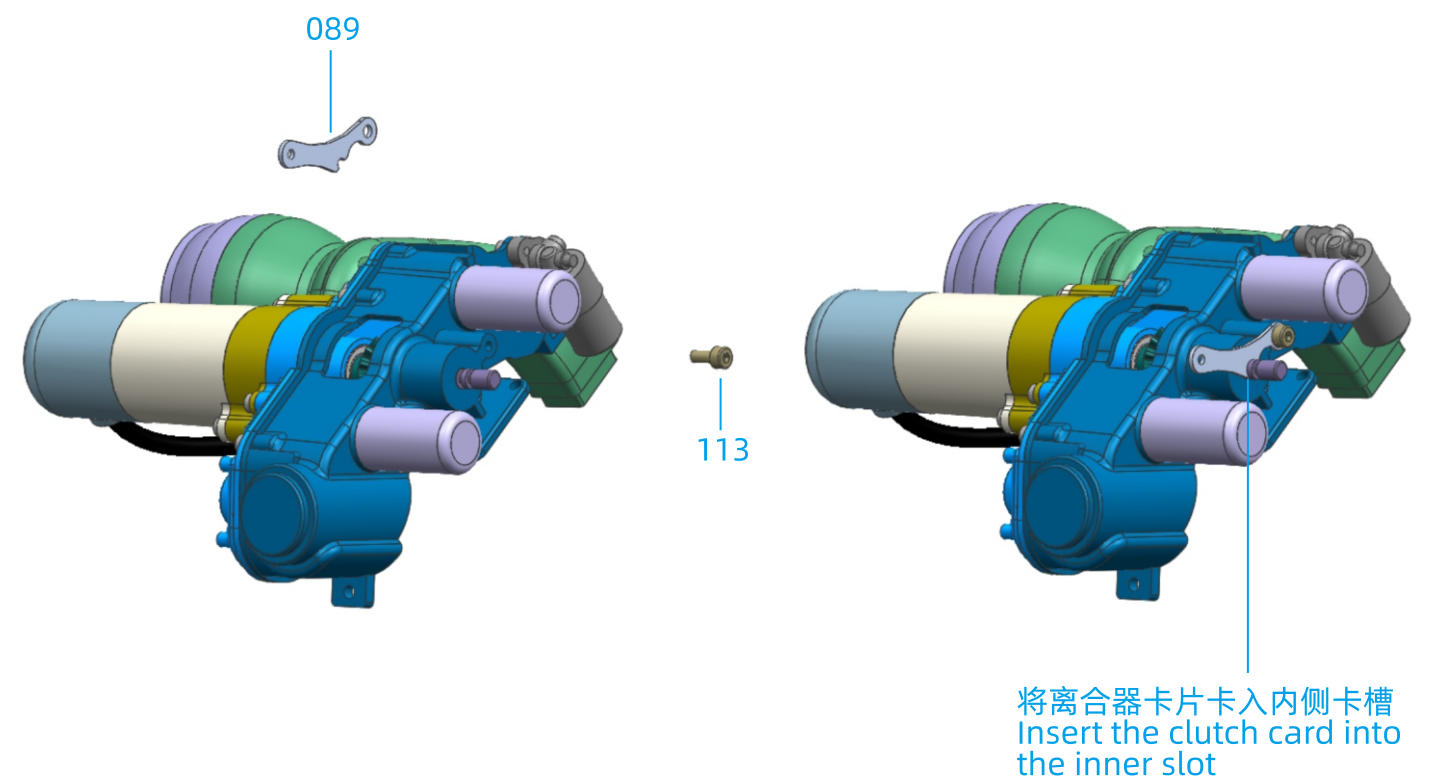
4.27、组装抽粒机组件 Assemble the components of the particle extractor



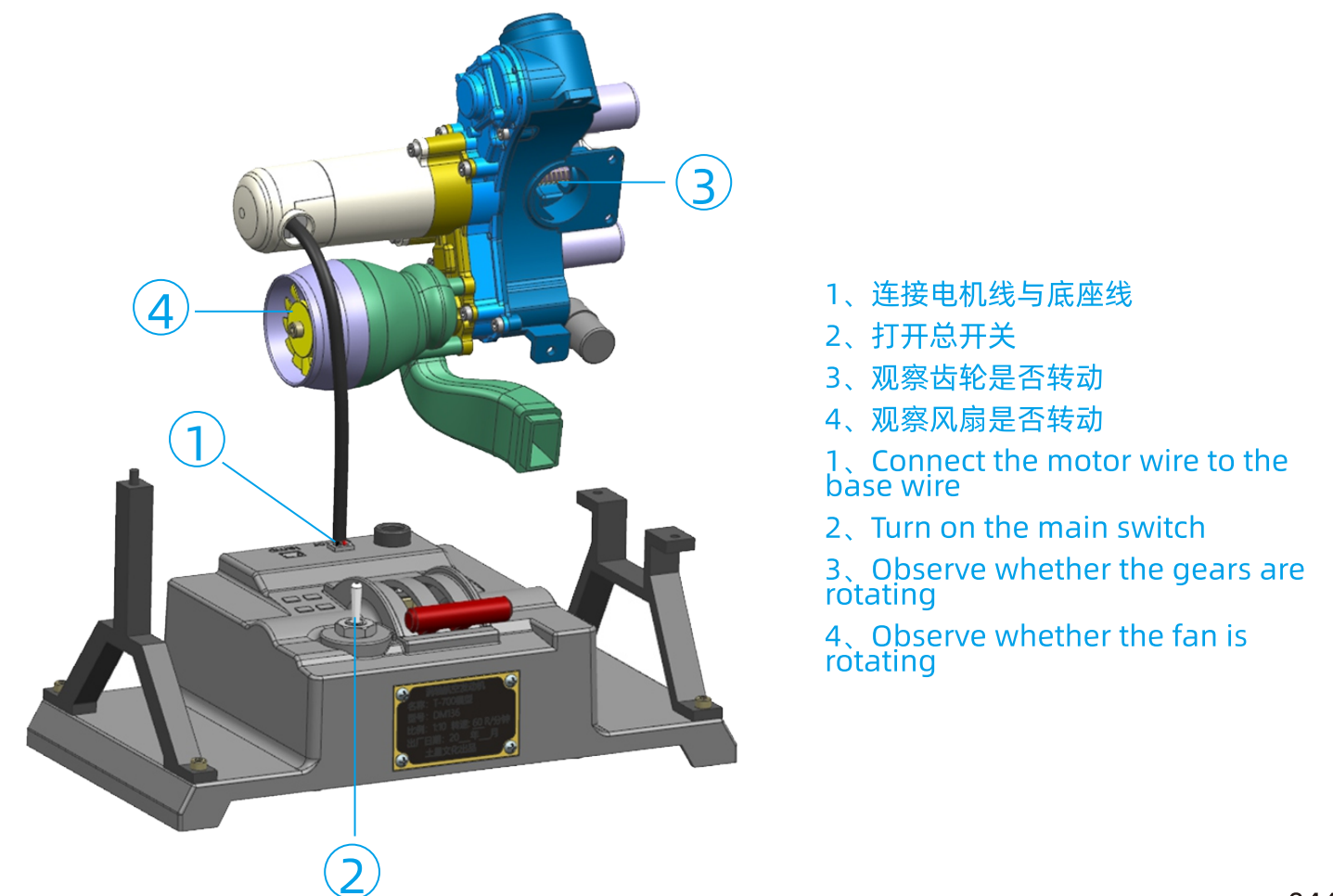
4.28、组装抽粒机螺丝 Assemble the screw of the particle extractor



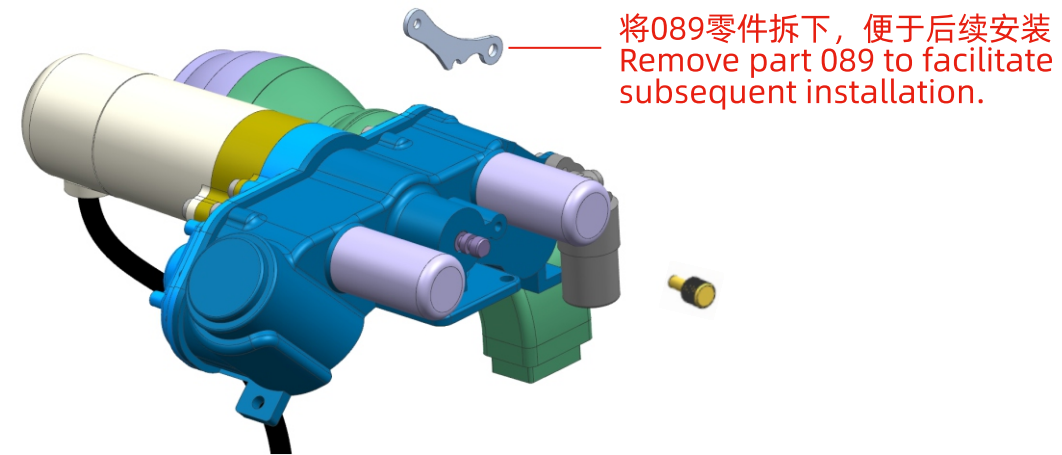
4.29、组装离合器卡片 Assemble clutch card



4.30、测试 Test

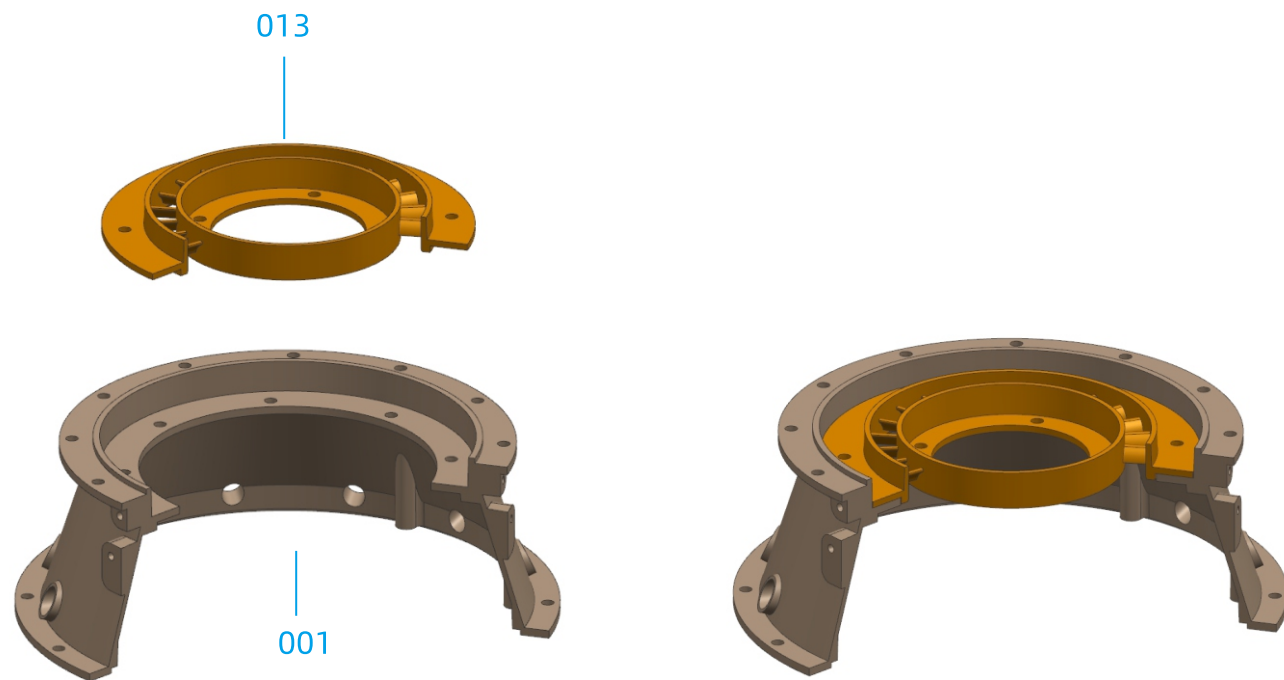


4.31、拆除离合器卡片Remove the clutch card

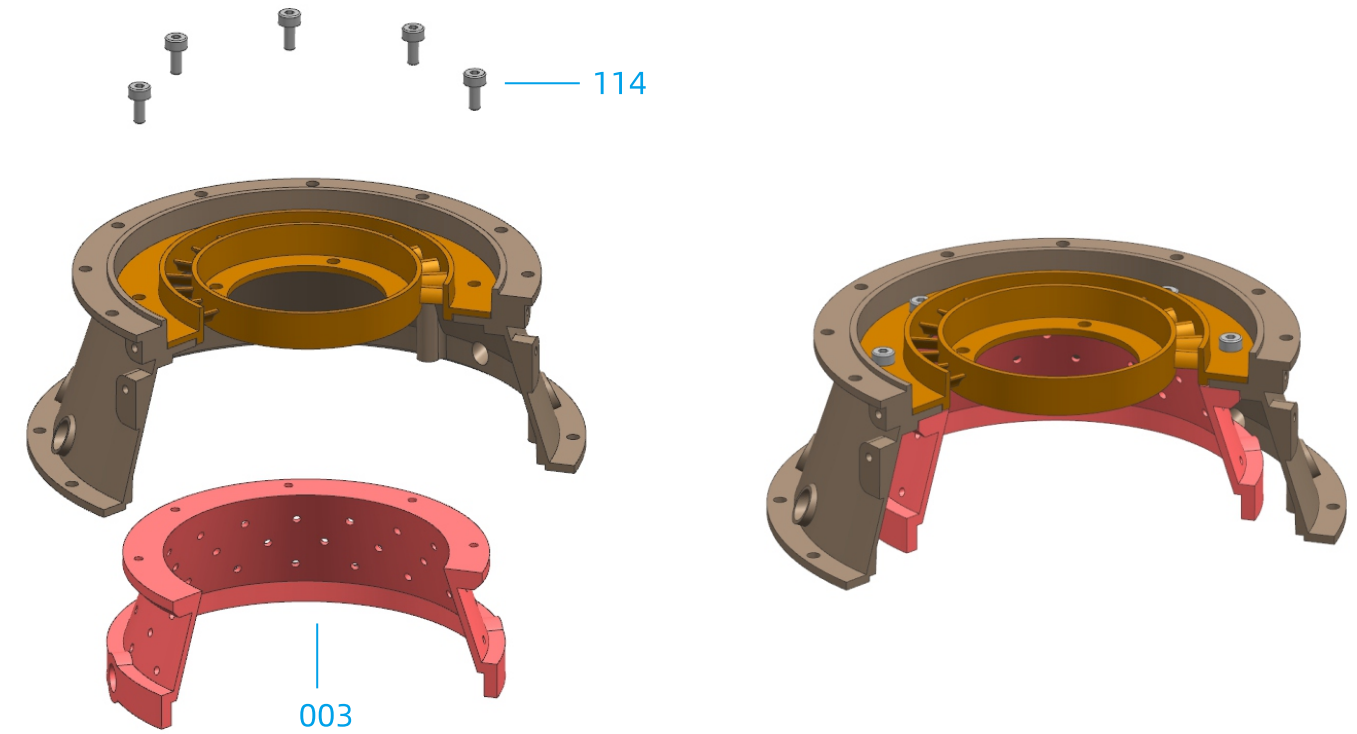


五、燃烧室机匣总成Combustion chamber casing assembly

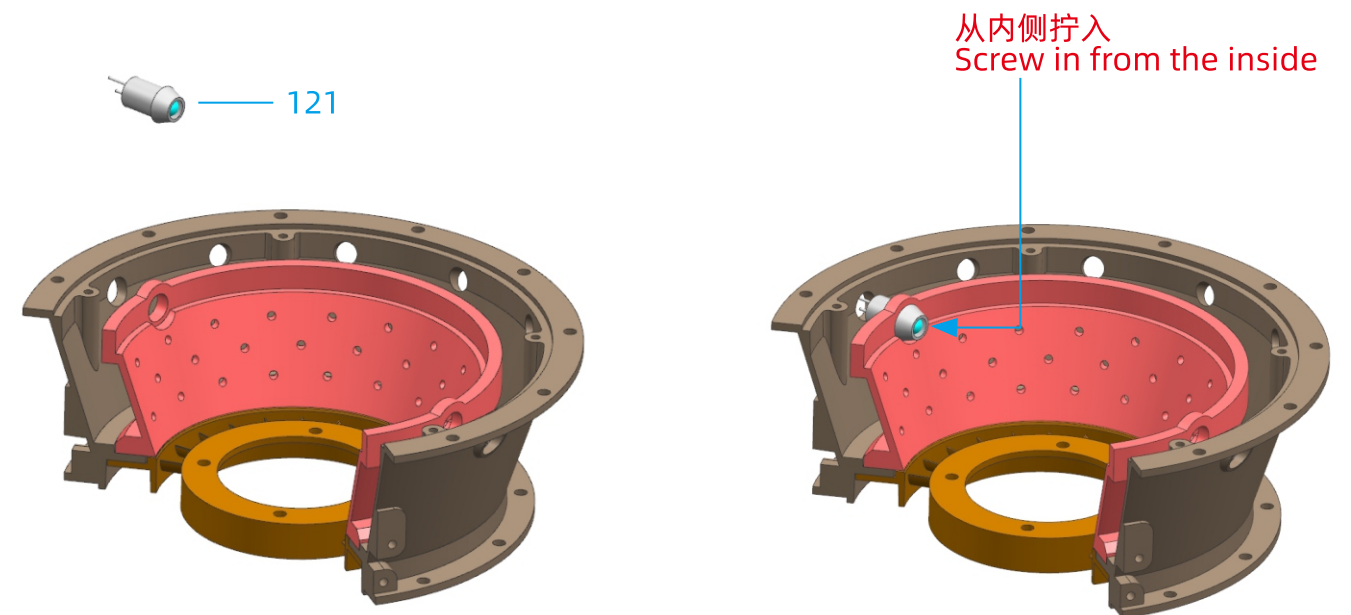
5.1、组装一级高压涡轮静子Assemble the first stage high-pressure turbine stator



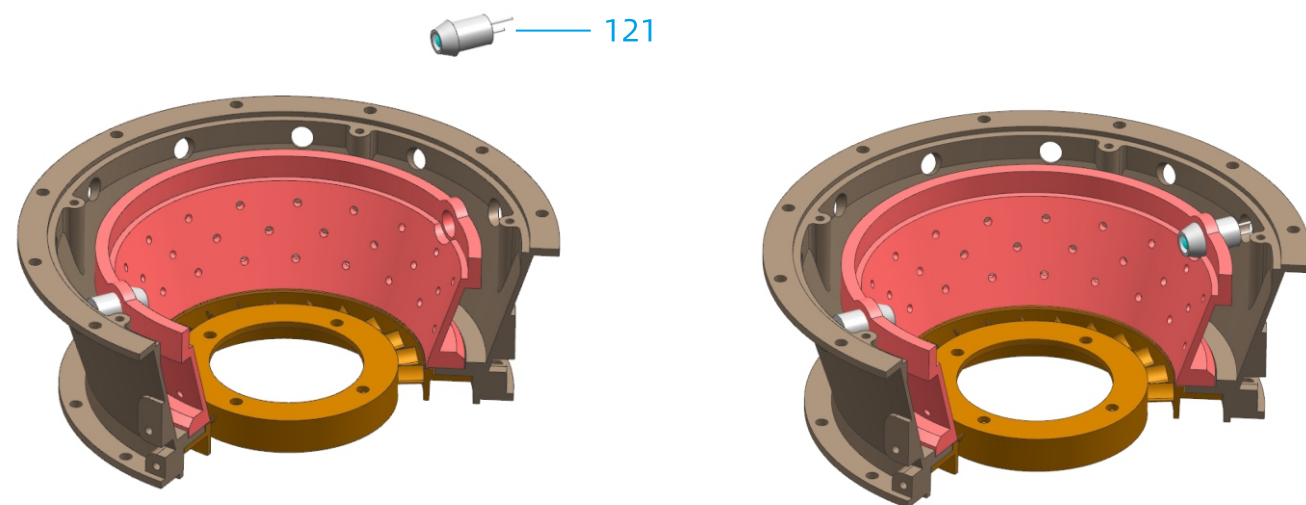
5.2、组装燃烧室外壳Assemble the combustion chamber casing



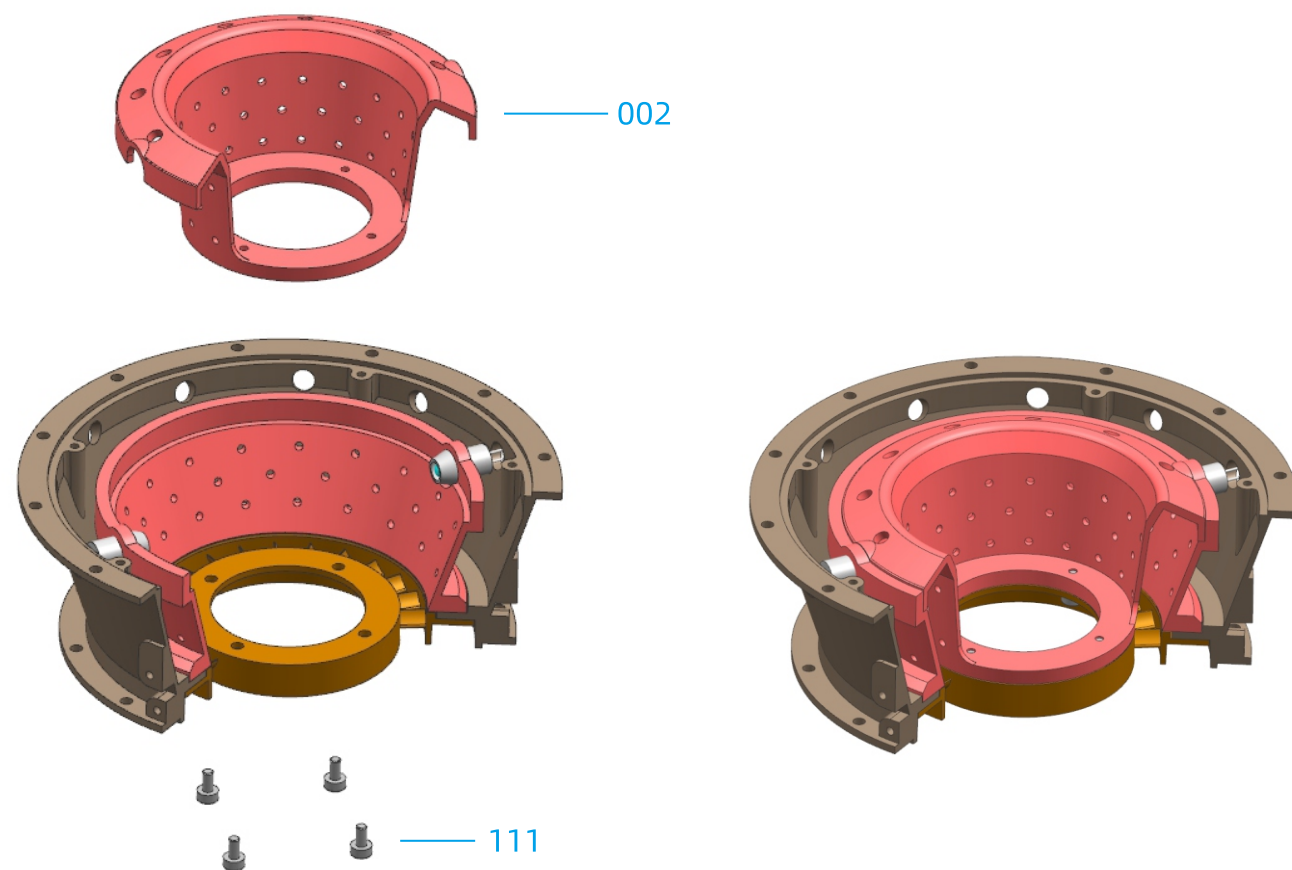
5.3、组装演示灯Assemble demonstration light



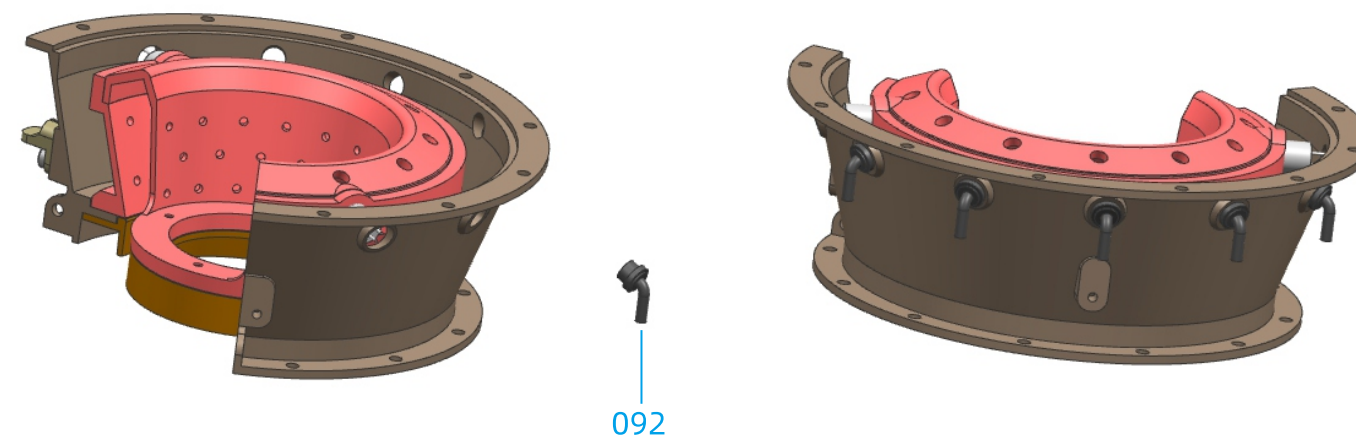
5.4、组装演示灯Assemble demonstration light



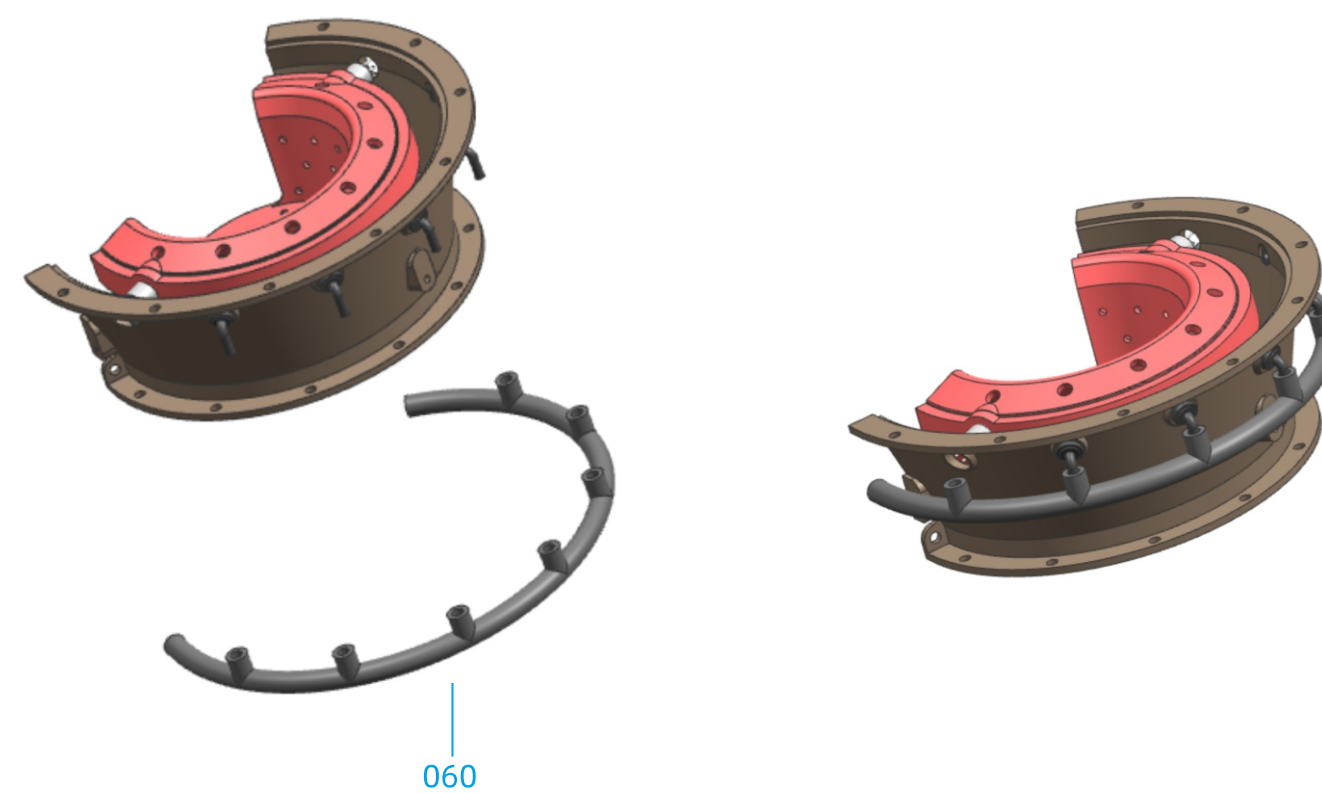
5.5、组装燃烧室内壳Assemble the combustion chamber shell



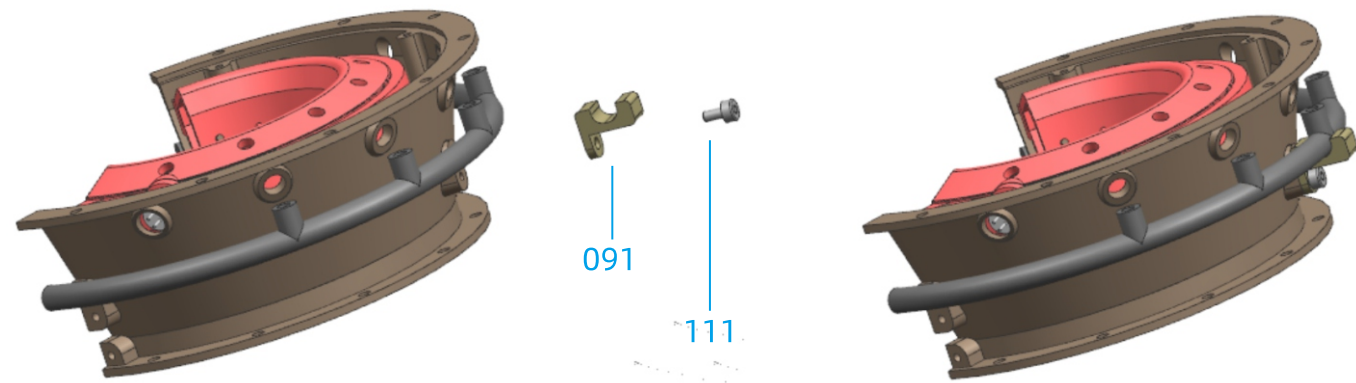
5.6、组装燃油支管Assemble fuel branch pipe



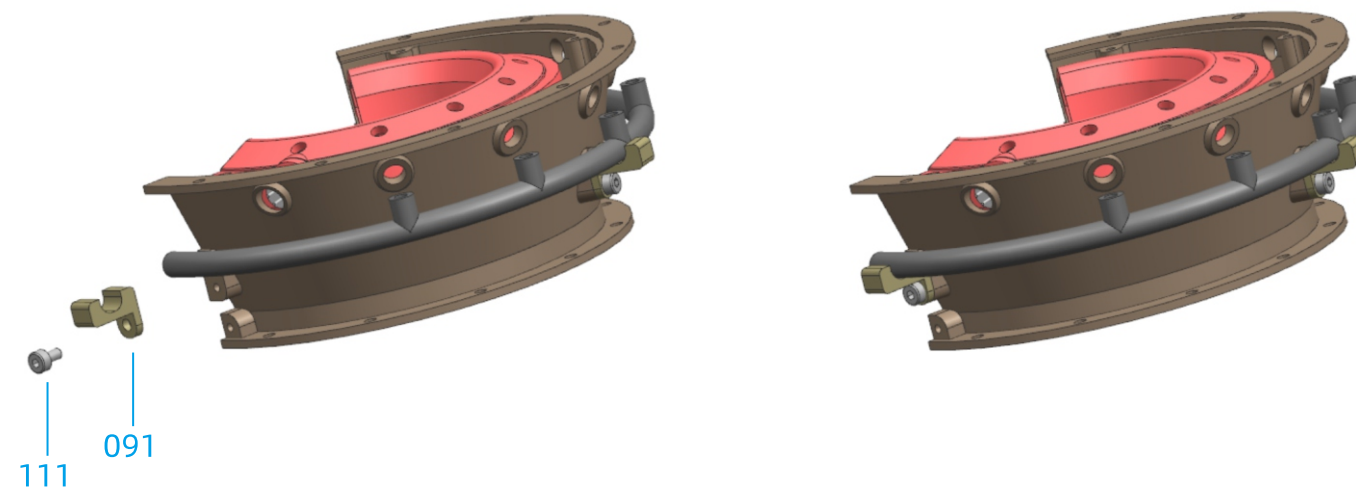
5.7、组装燃油总管Assemble the fuel manifold



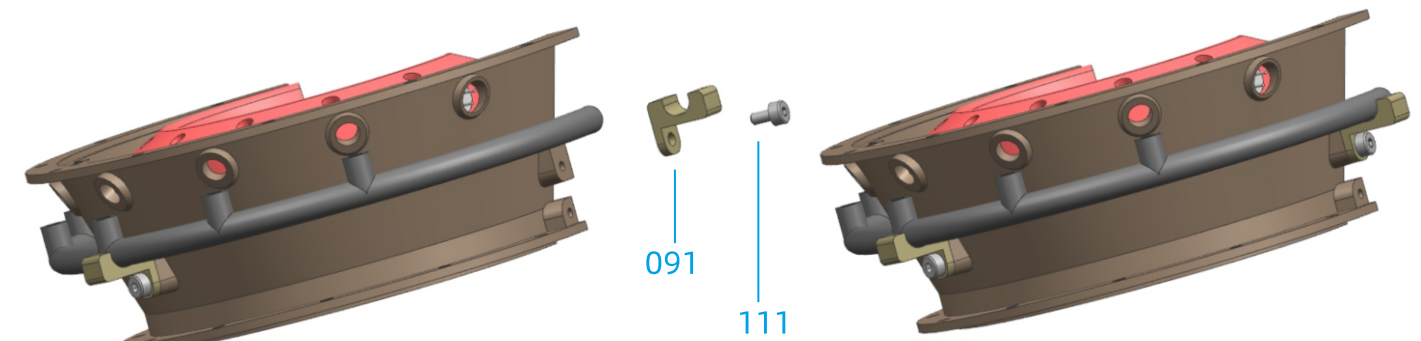
5.8、组装燃油管支架Assemble fuel pipe bracket



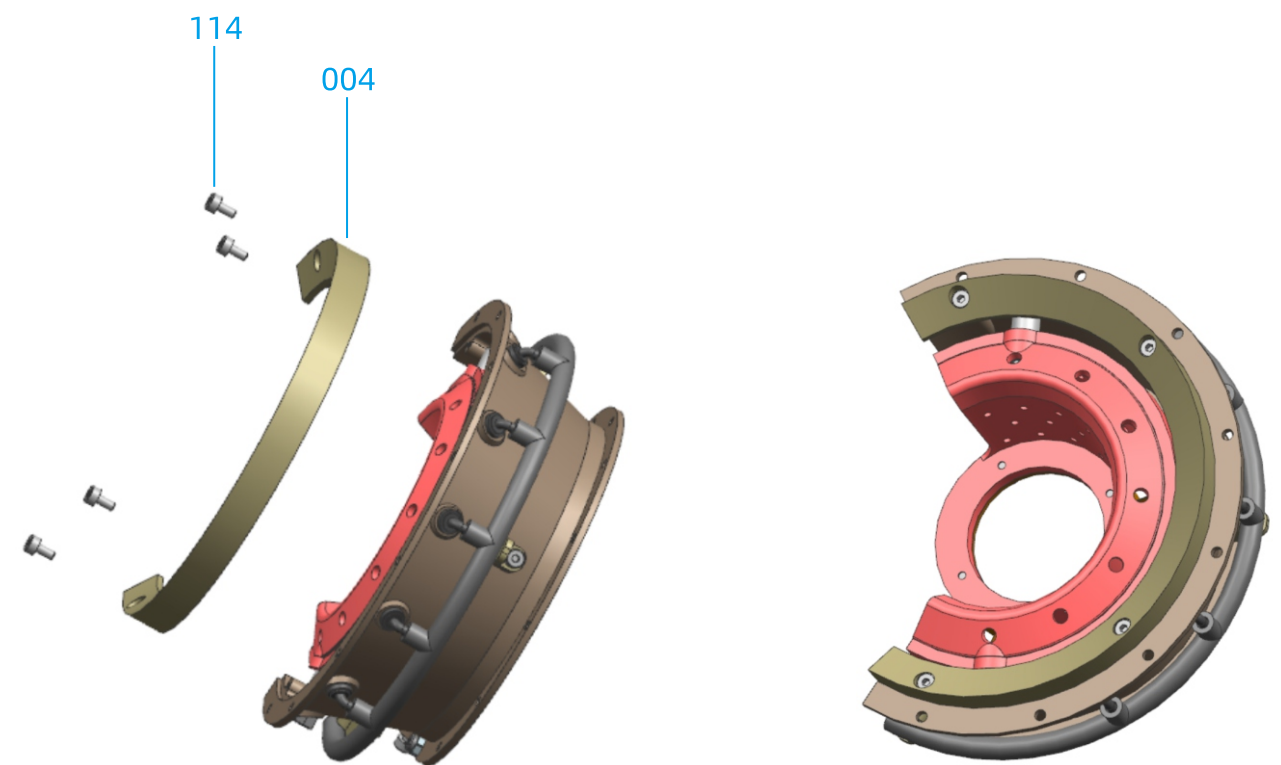
5.9、组装燃油管支架Assemble fuel pipe bracket



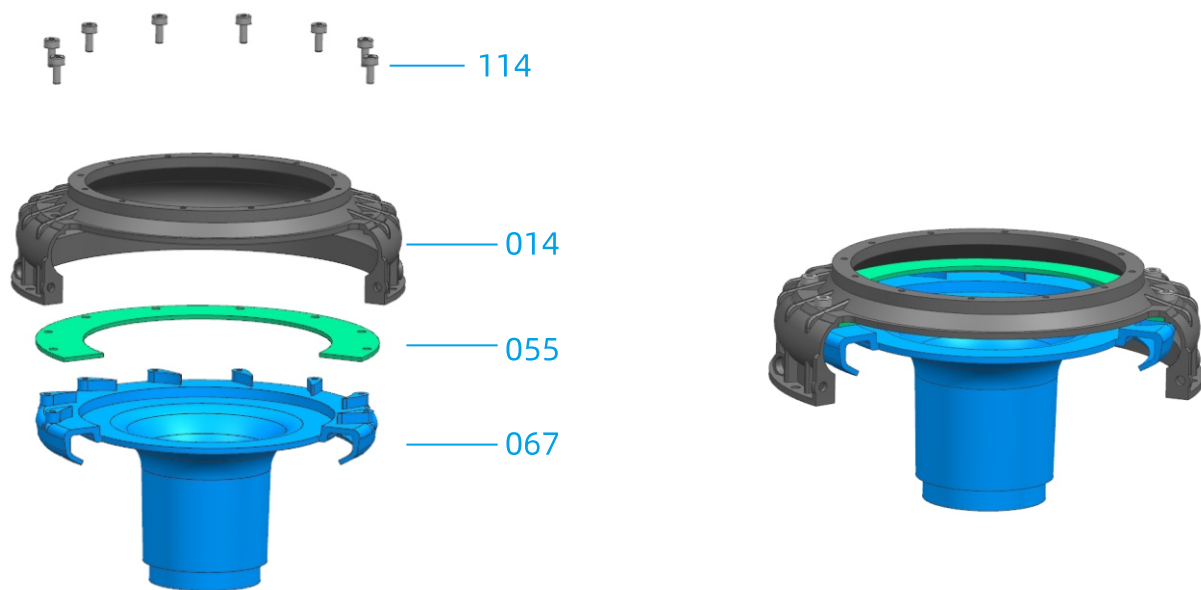
5.10、组装燃油管支架Assemble fuel pipe bracket



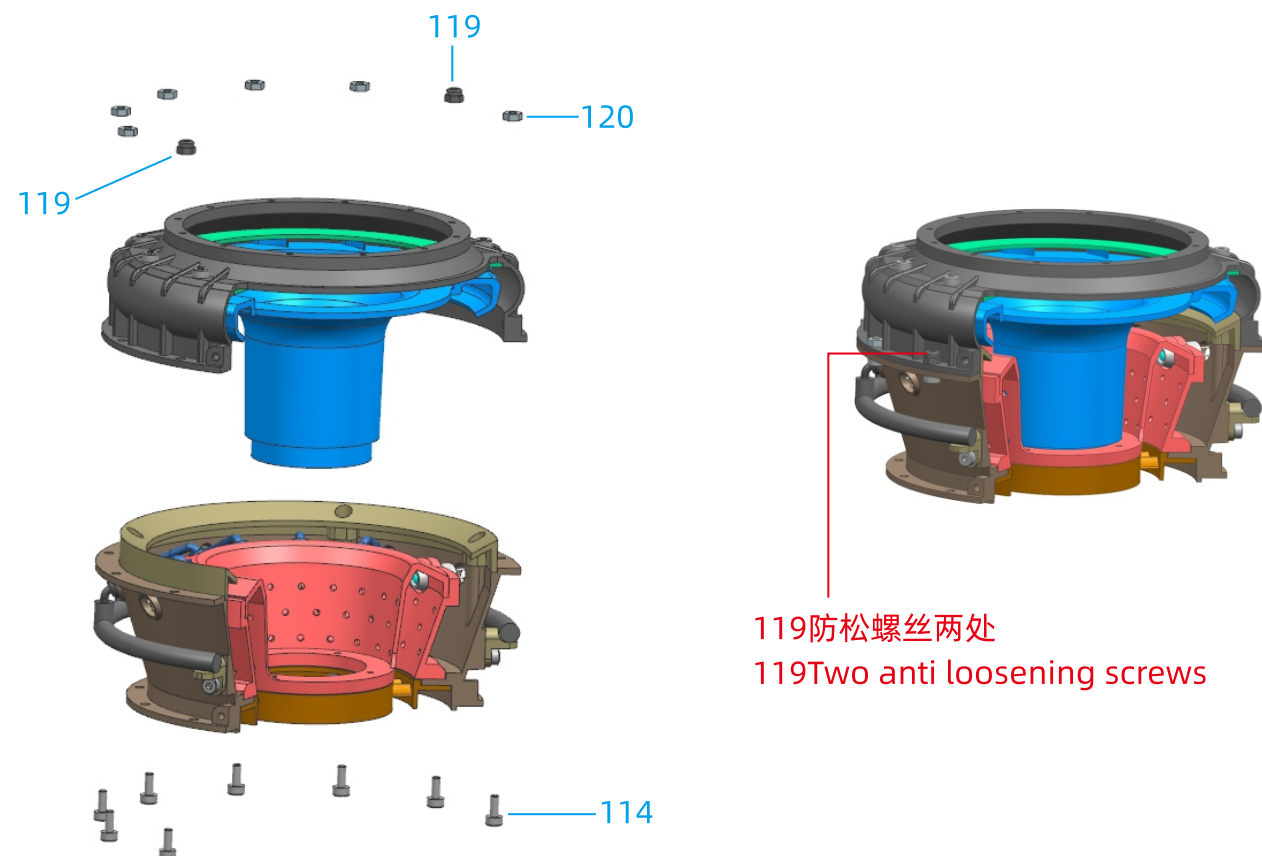
5.11、组装离心压气机出口环Assemble the outlet ring of the centrifugal compressor



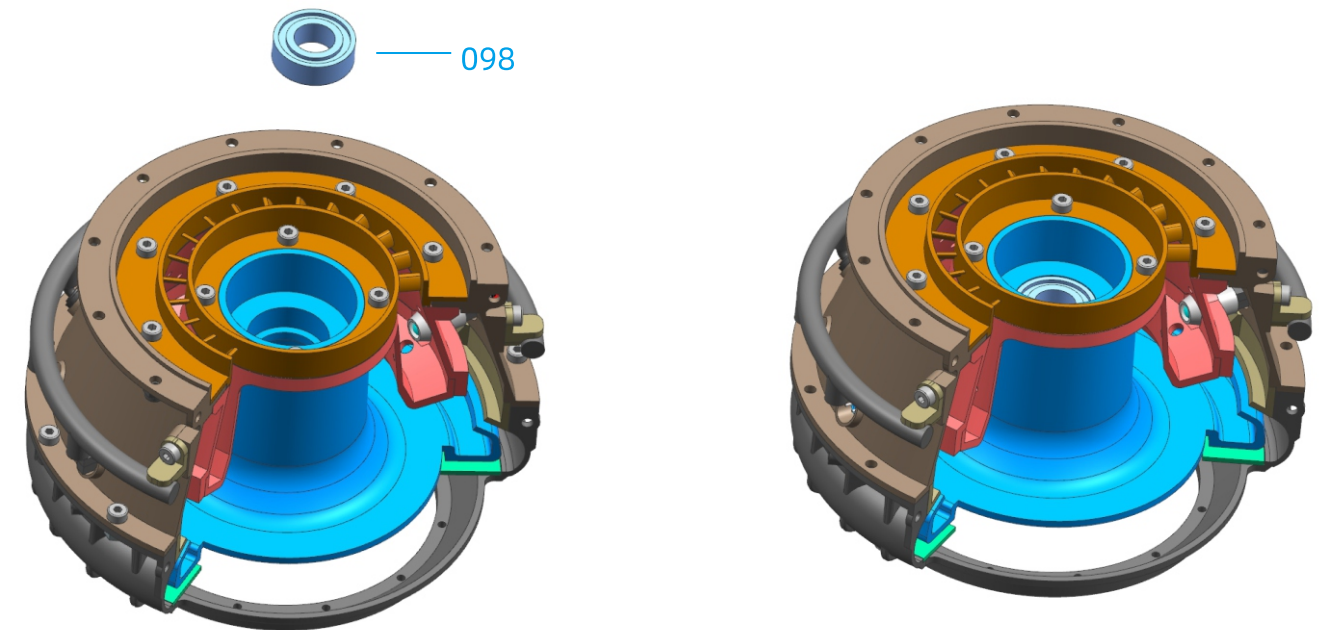
5.12、组装离心压气机外机匣Assemble the outer casing of the centrifugal compressor



5.13、组装燃烧室外机匣组件Assemble the outer casing components of the combustion chamber

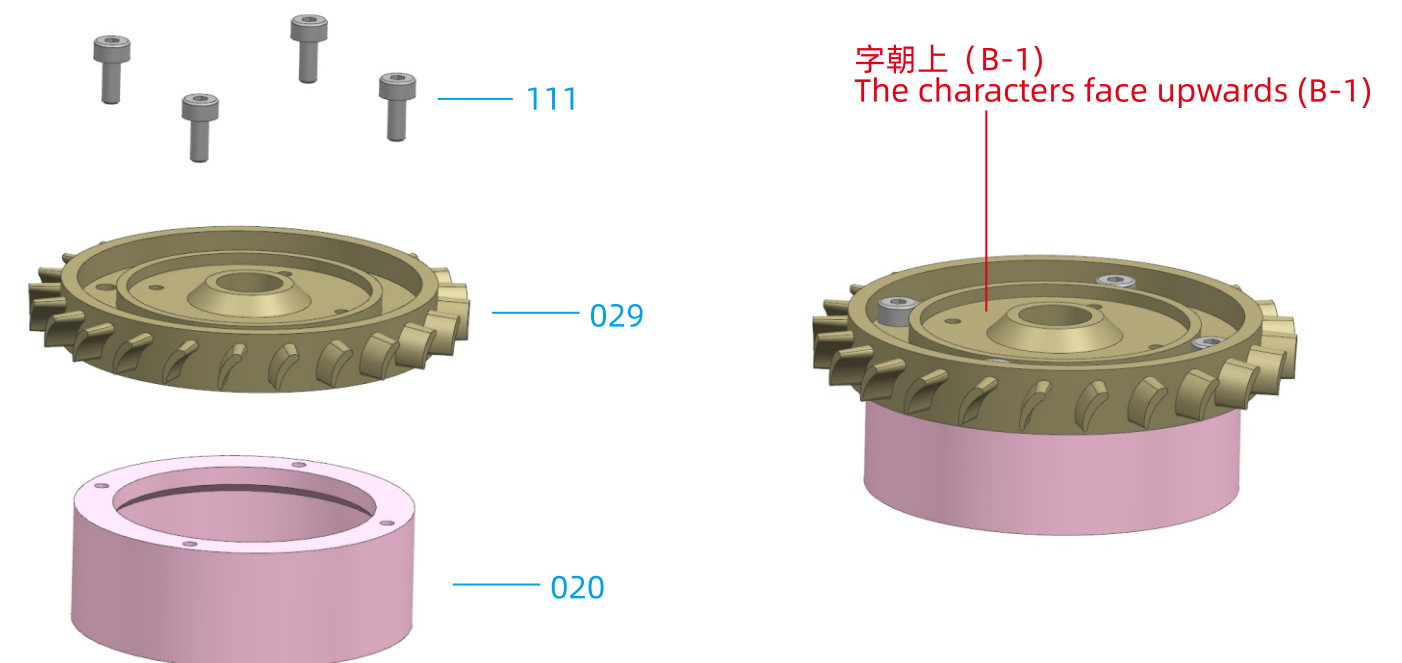


5.14、组装燃烧室组件轴承Assemble combustion chamber components bearings

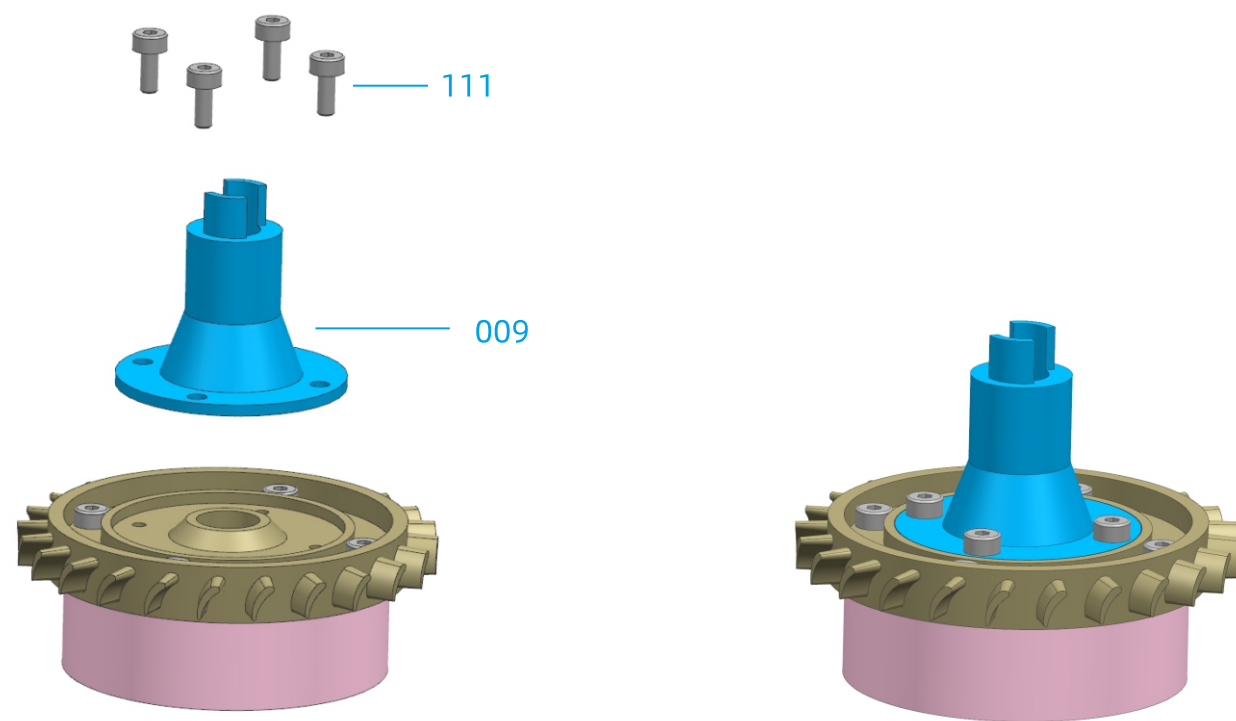


六、组装涡轮组件Assemble turbine components

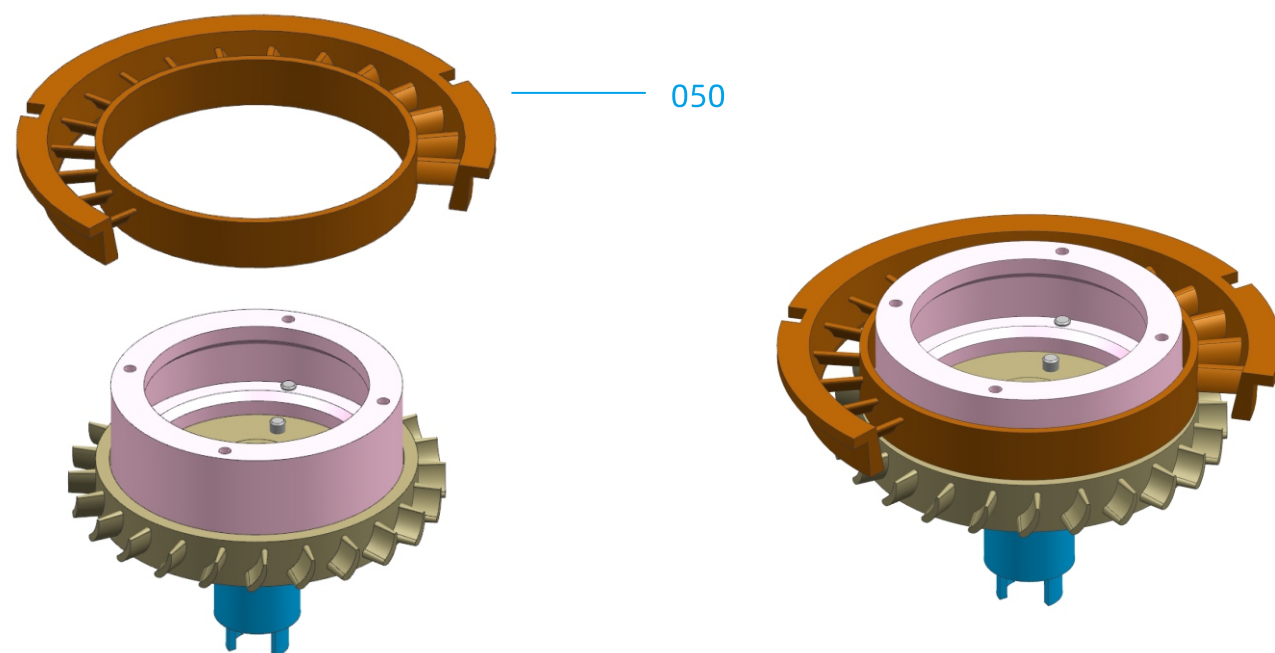
6.1、组装一级高压涡轮转子Assemble the first stage high-pressure vortex rotor



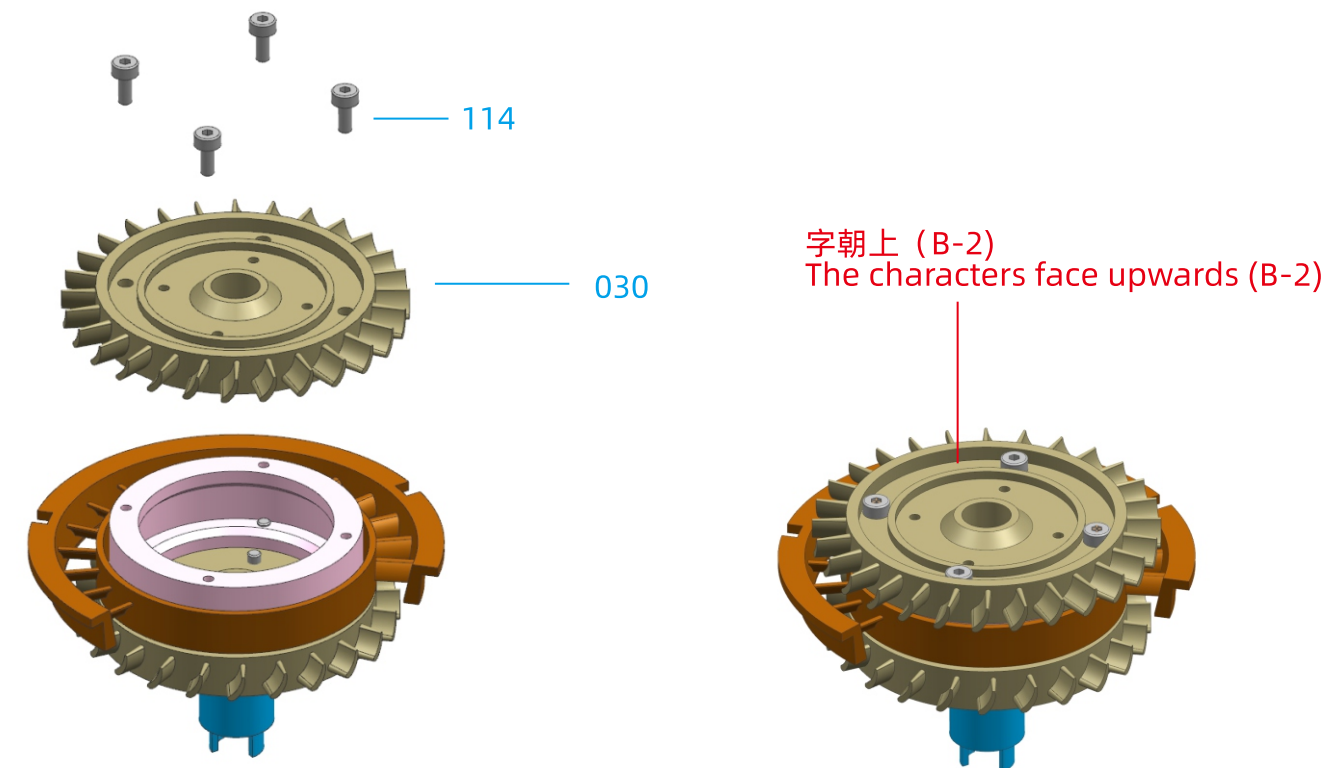
6.2、组装高压涡轮前盘 Assemble the front plate of the high-pressure turbine



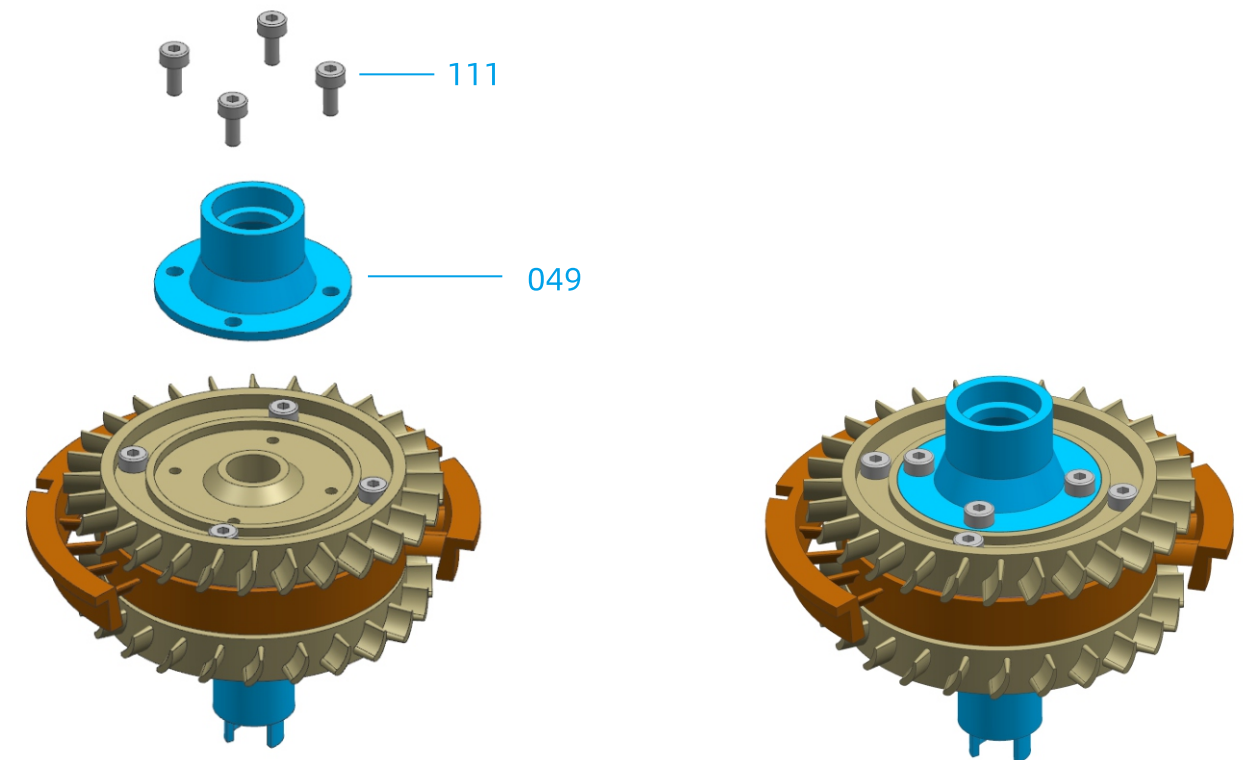
6.3、组装二级高压涡轮静子 Assemble the secondary high-pressure turbine stator



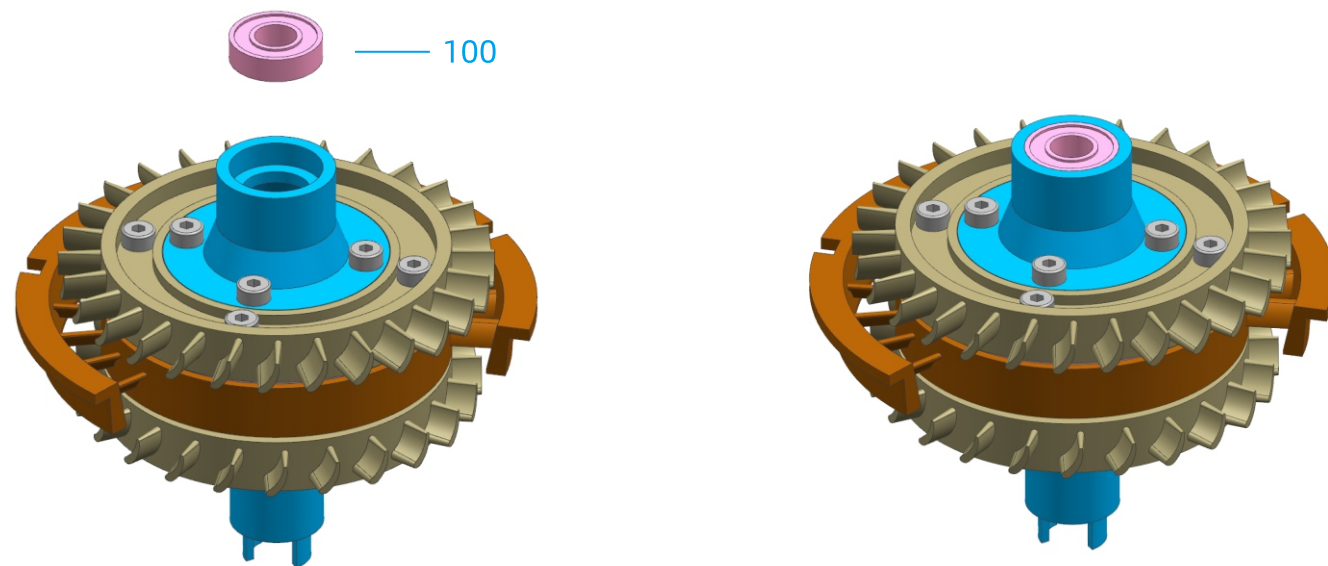
6.4、组装二级高压涡轮转子 Assemble the secondary high-pressure turbine rotor



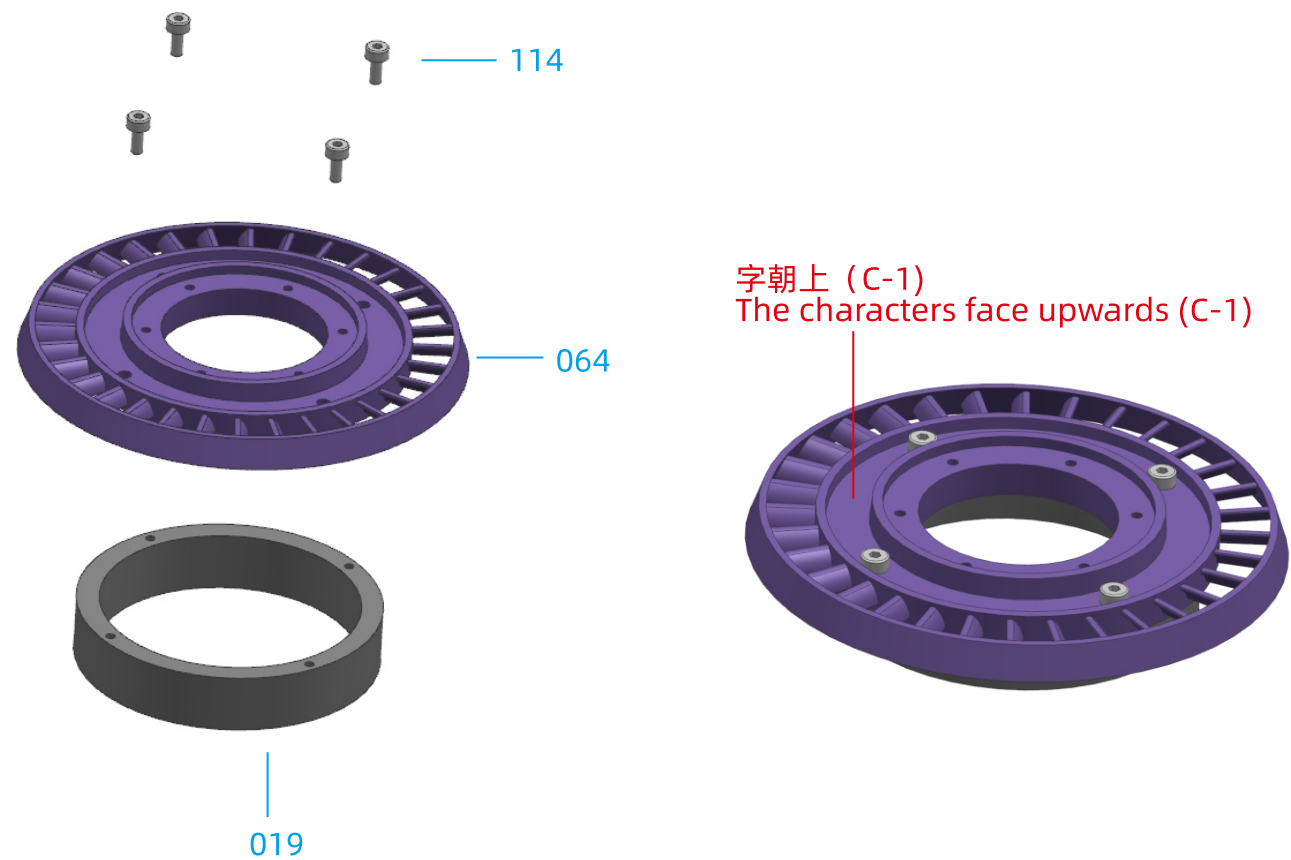
6.5、组高压涡轮后盘 Group high-pressure turbine rear plate



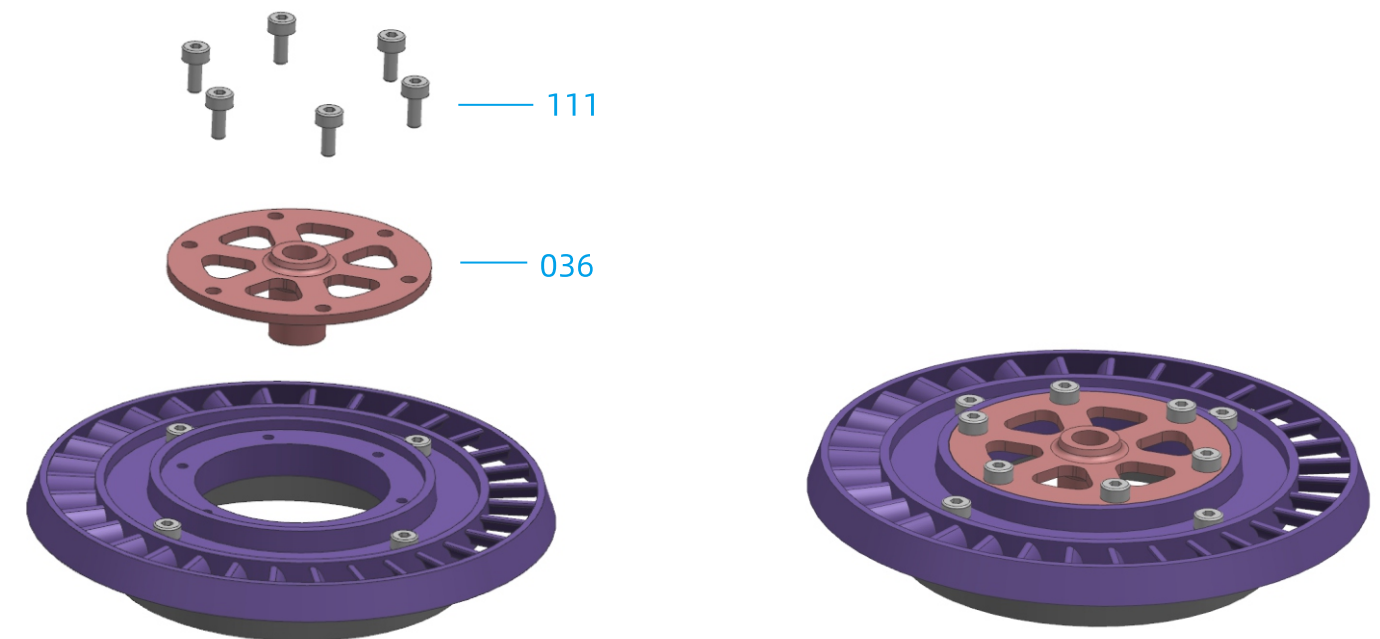
6.6、组装高压涡轮轴承Assembling high-pressure turbine bearings



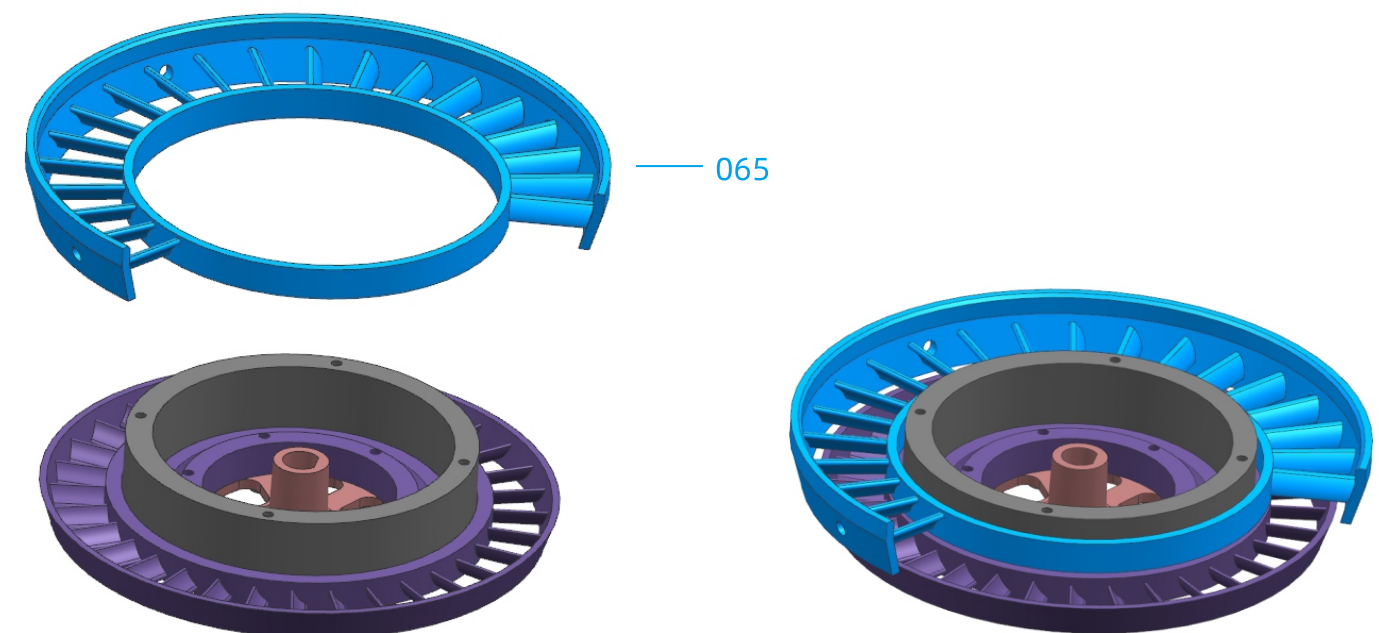
6.7、组装一级低压涡轮转子Assemble the first stage low-pressure turbine rotor



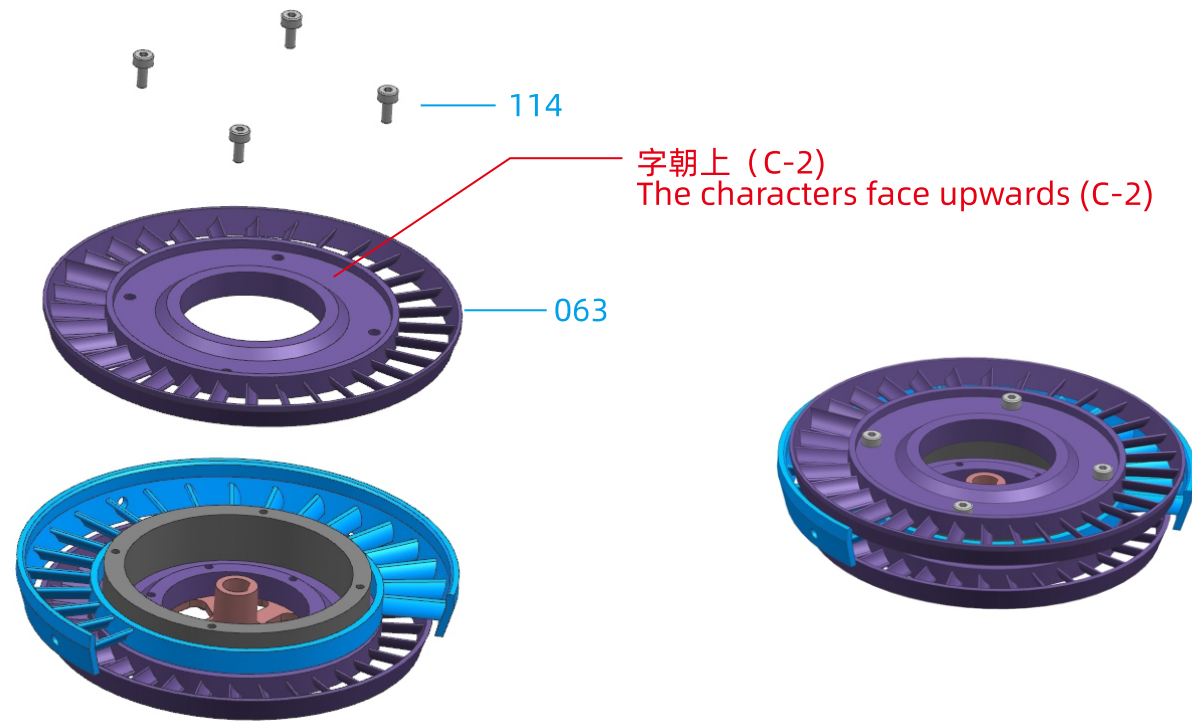
6.8、组装一级低压涡轮固定盘Assemble the first stage low-pressure turbine mounting plate



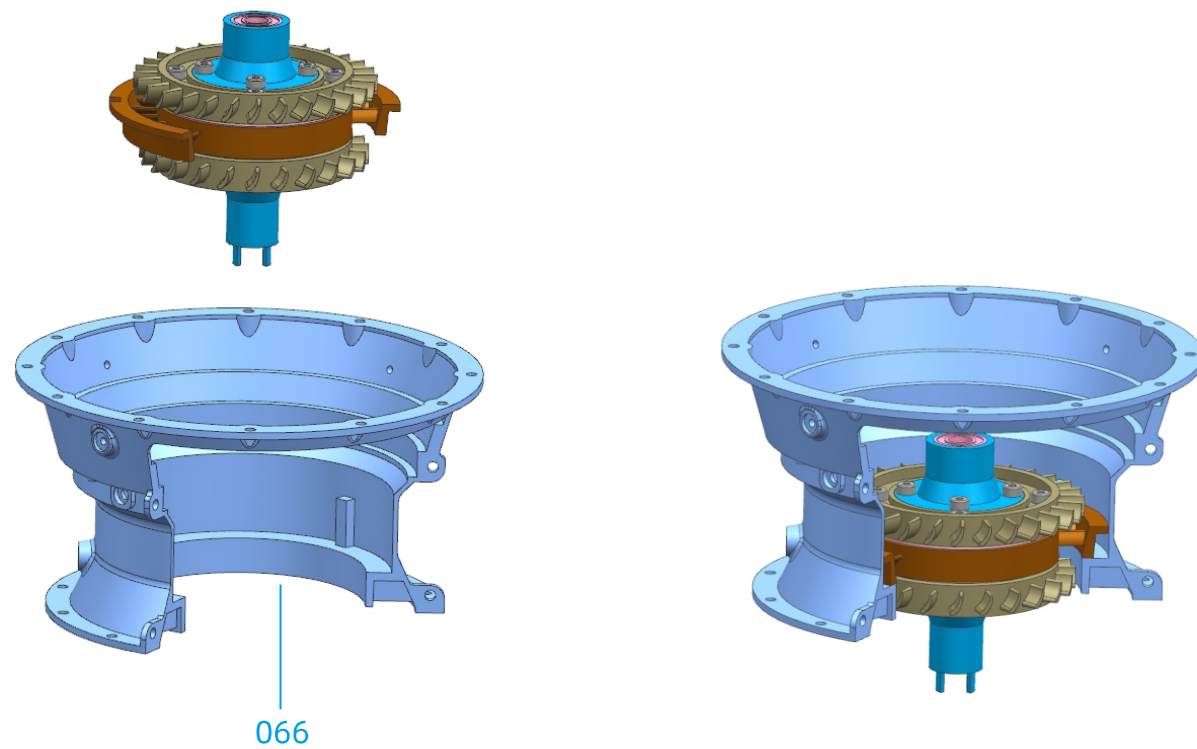
6.9、组装二级低压涡轮静子Assemble the secondary low-pressure turbine stator



6.10、组装二级低压涡轮转子 Assemble the secondary low-pressure turbine rotor



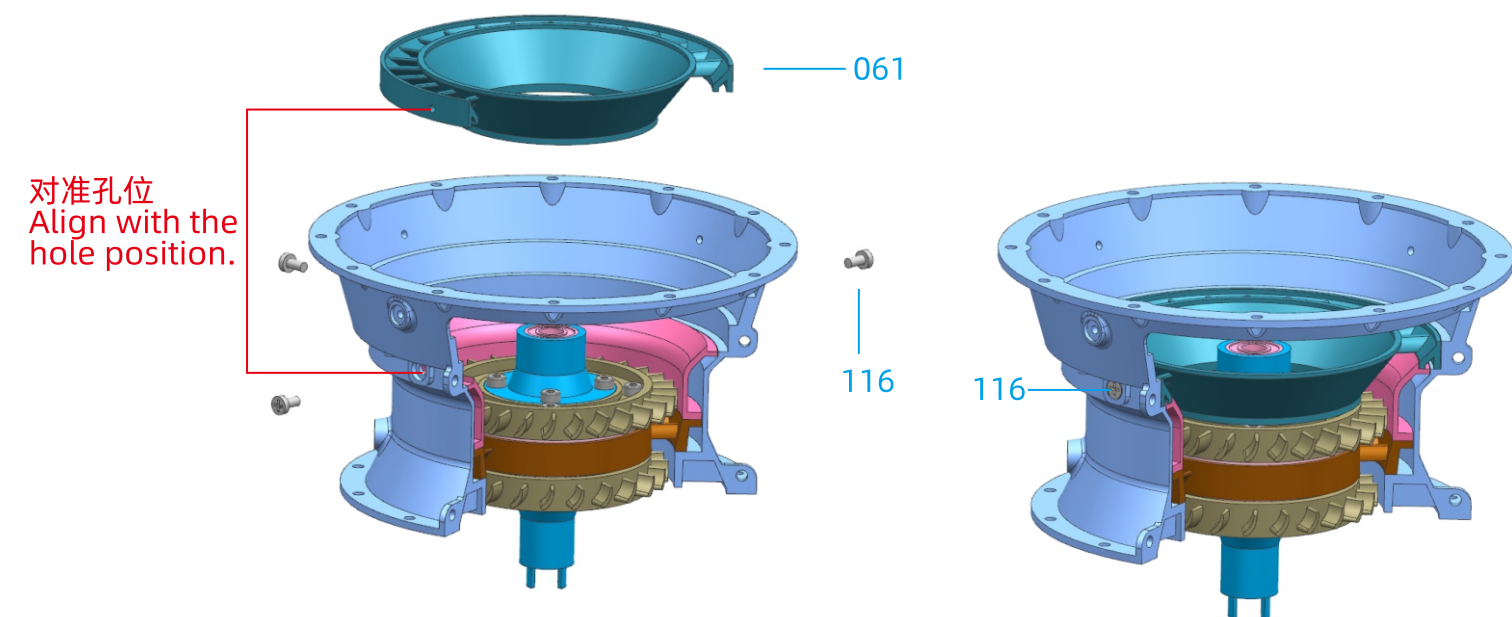
6.11、组装高压涡轮组件 Assemble high-pressure turbine components



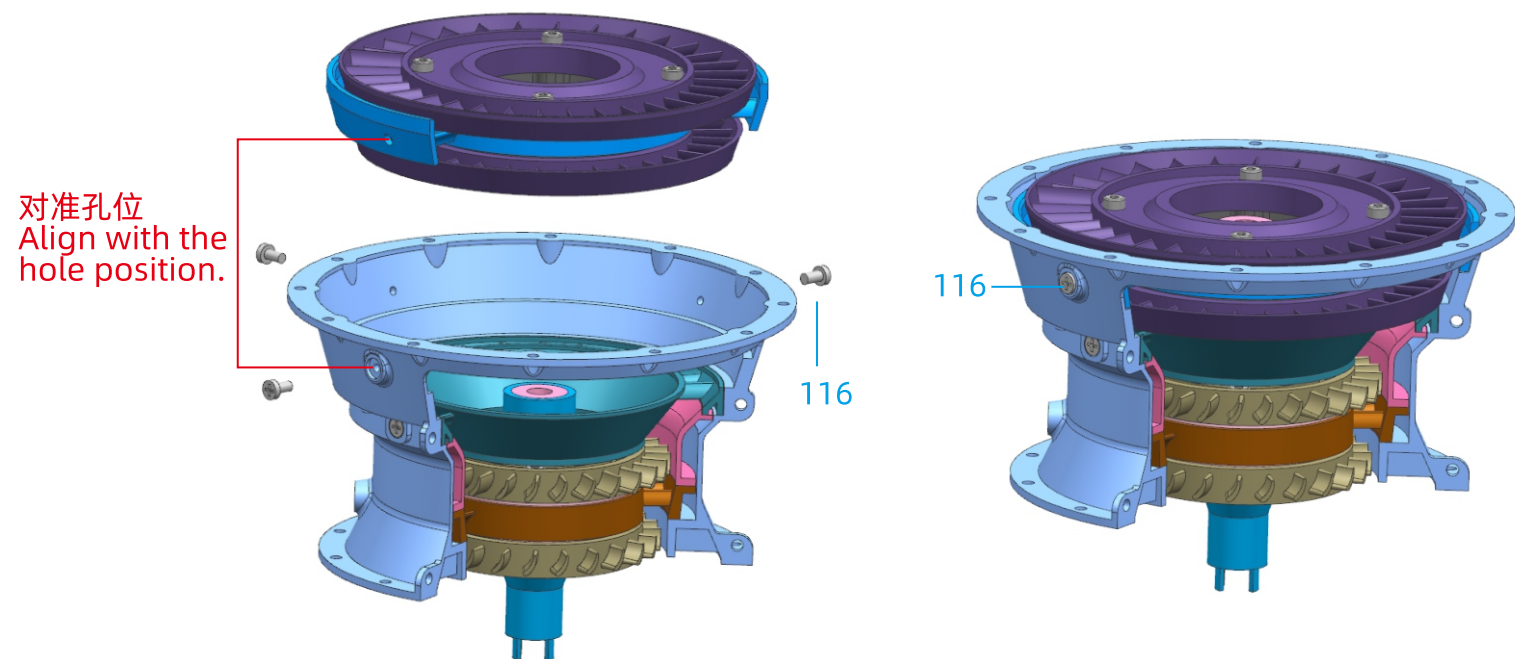
6.12、组装涡轮静子连接环 Assemble the turbine stator connecting ring



6.13、组装一级低压涡轮静子 Assemble the first stage low-pressure turbine stator

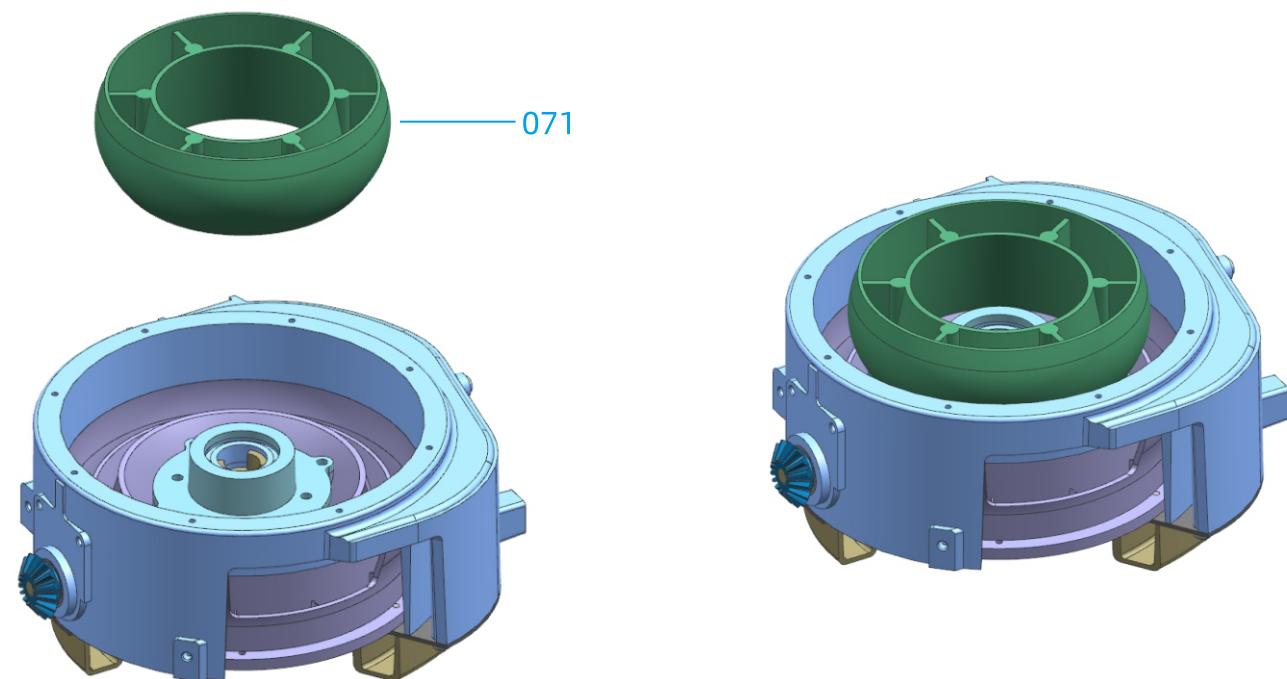


6.14 、 组装低压涡轮组件 Assemble low-pressure turbine components

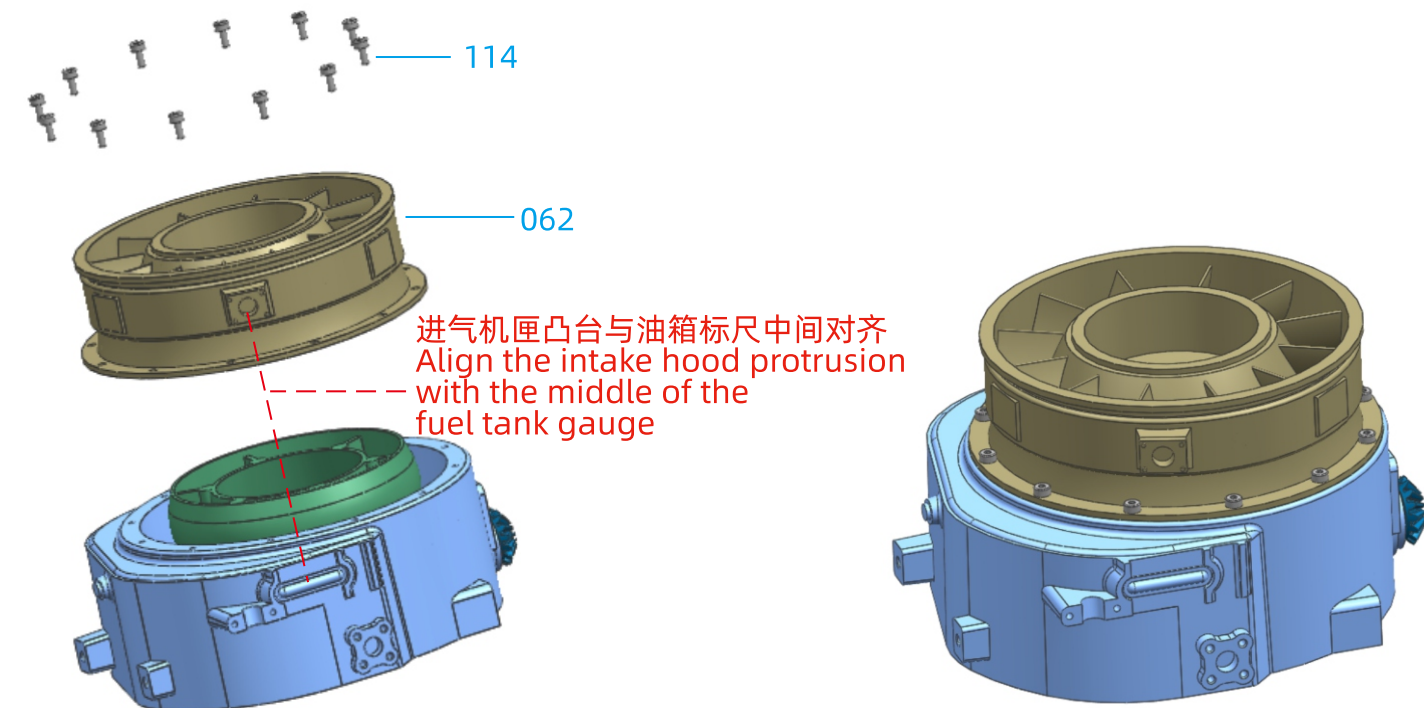


七、 组装进气机匣 Assemble the intake gearbox

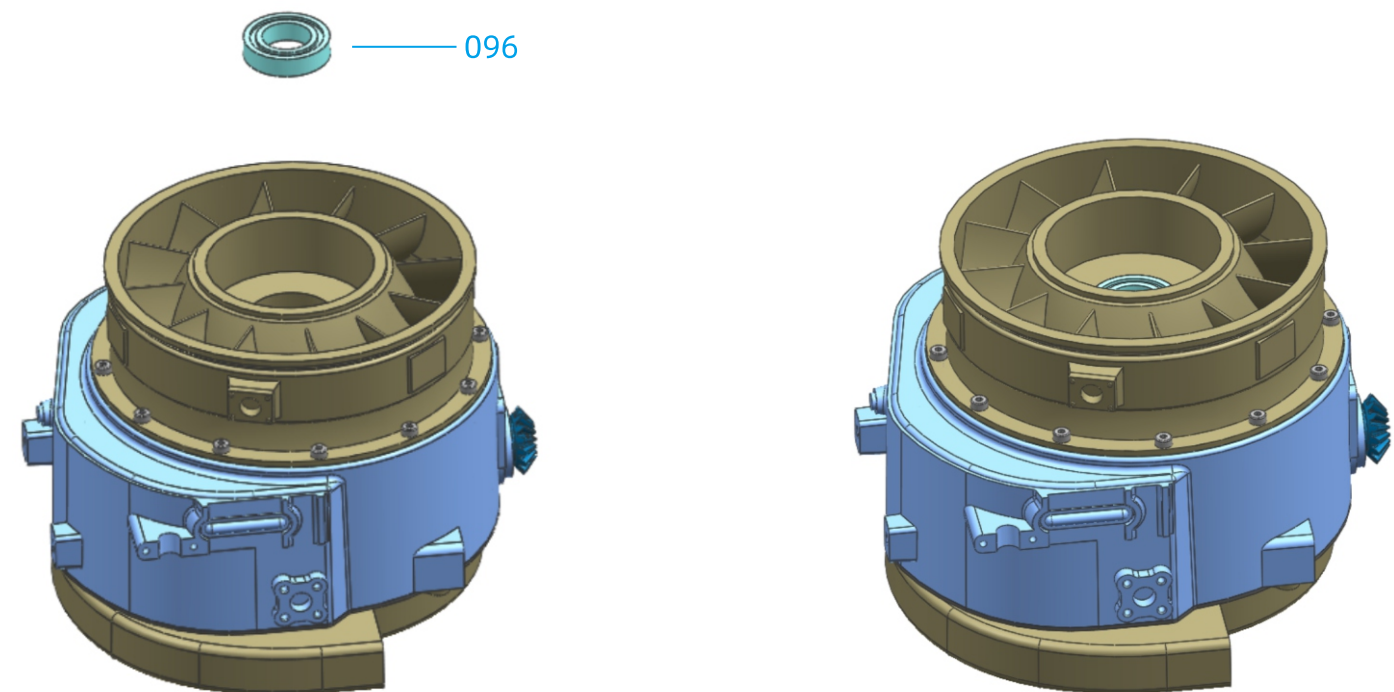
7.1、 组装进气连接机匣 Assemble the intake connection box



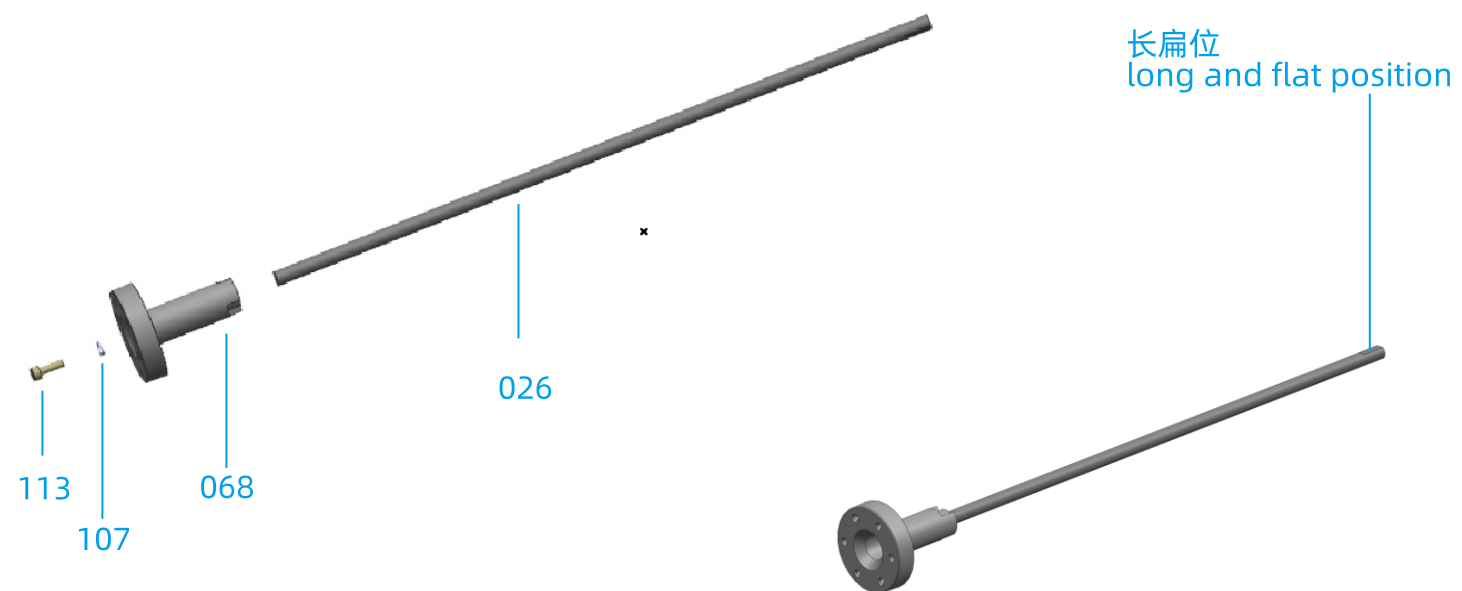
7.2、 组装进气机匣 Assemble the intake gearbox



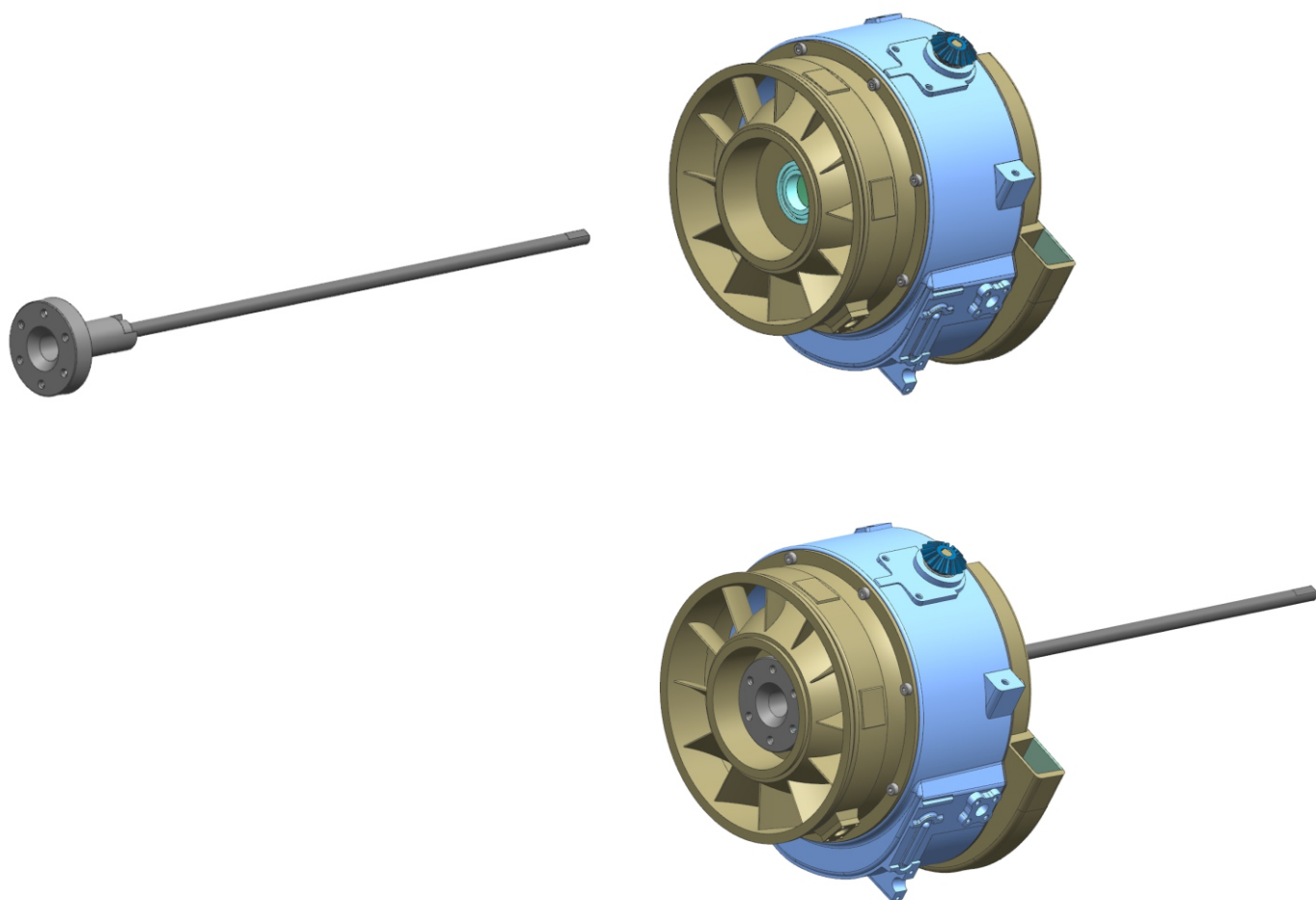
7.3、 组装中心轴前轴承 Assemble the front bearing of the central shaft



7.4、组装中心轴前段Assemble the front section of the central axis

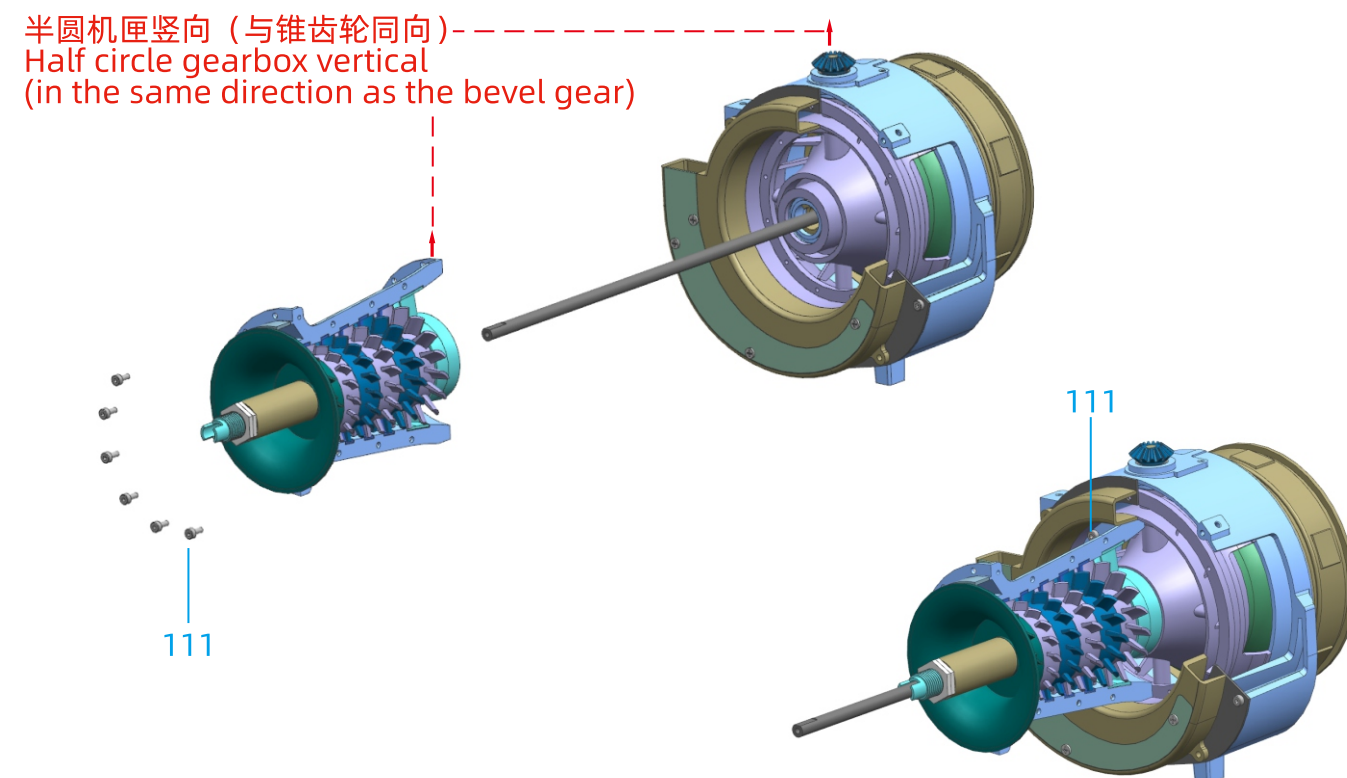


7.5、组装中心轴组件Assemble the central axis component

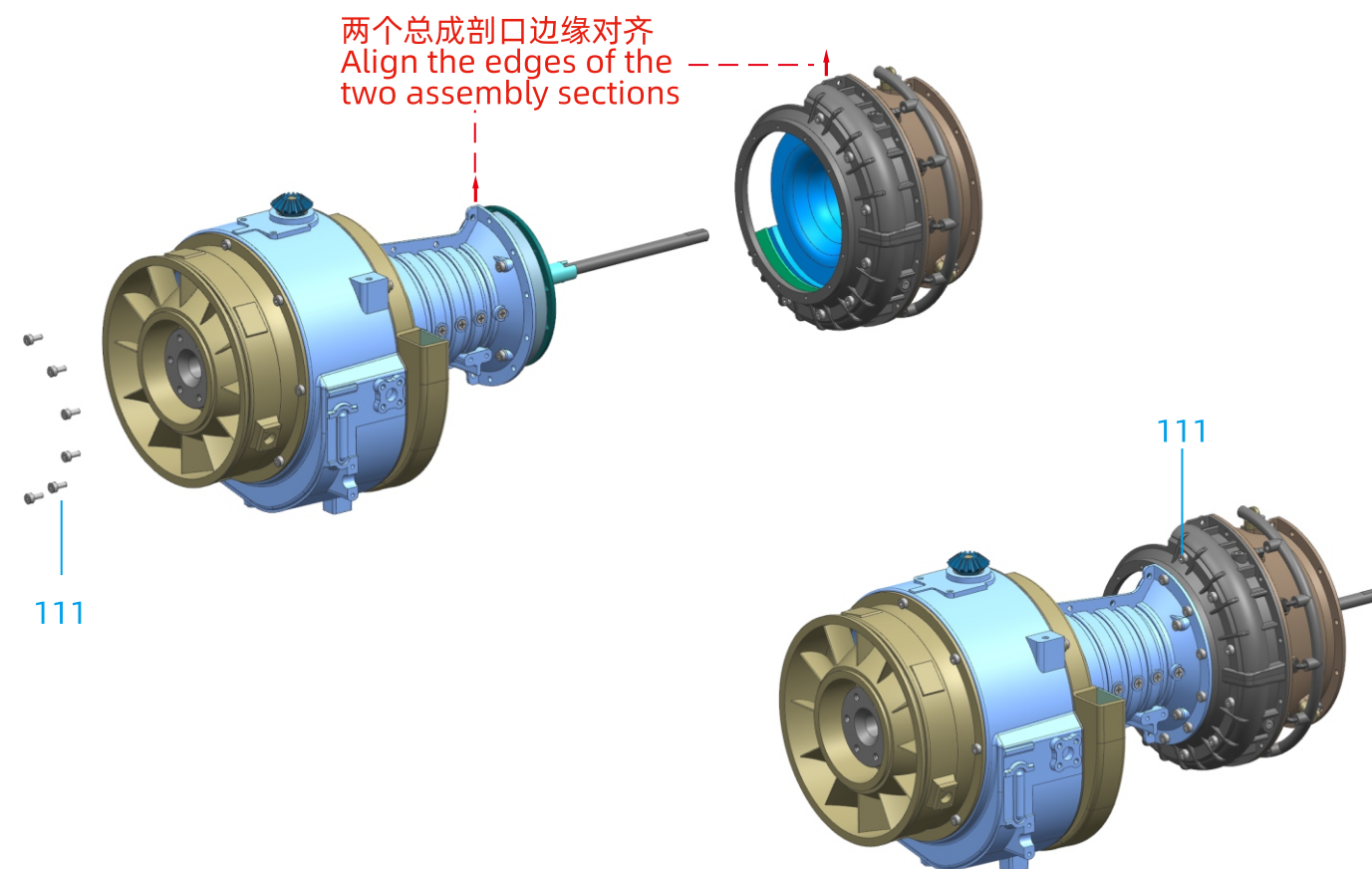


八、组装各总成Assemble each assembly

8.1、组装压气机总成Assemble the compressor assembly

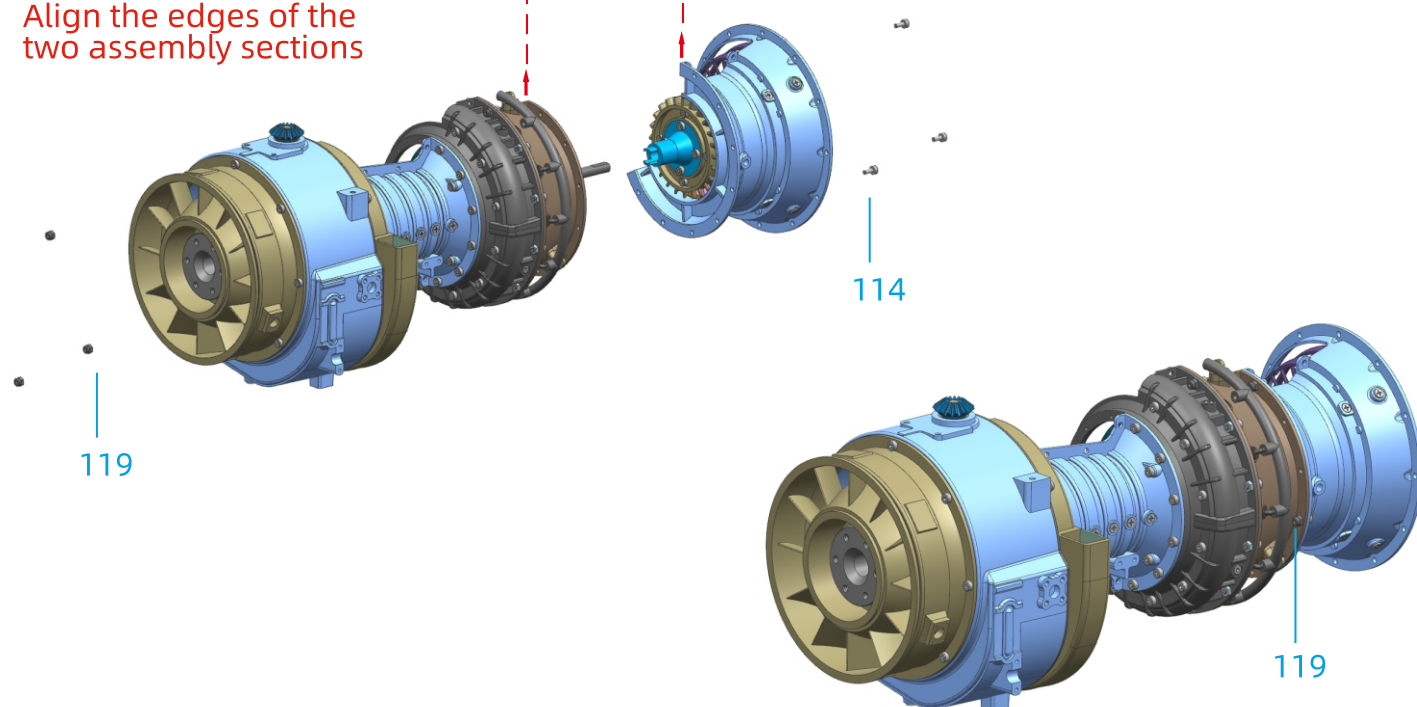


8.2、组装燃烧室总成Assemble the combustion chamber assembly

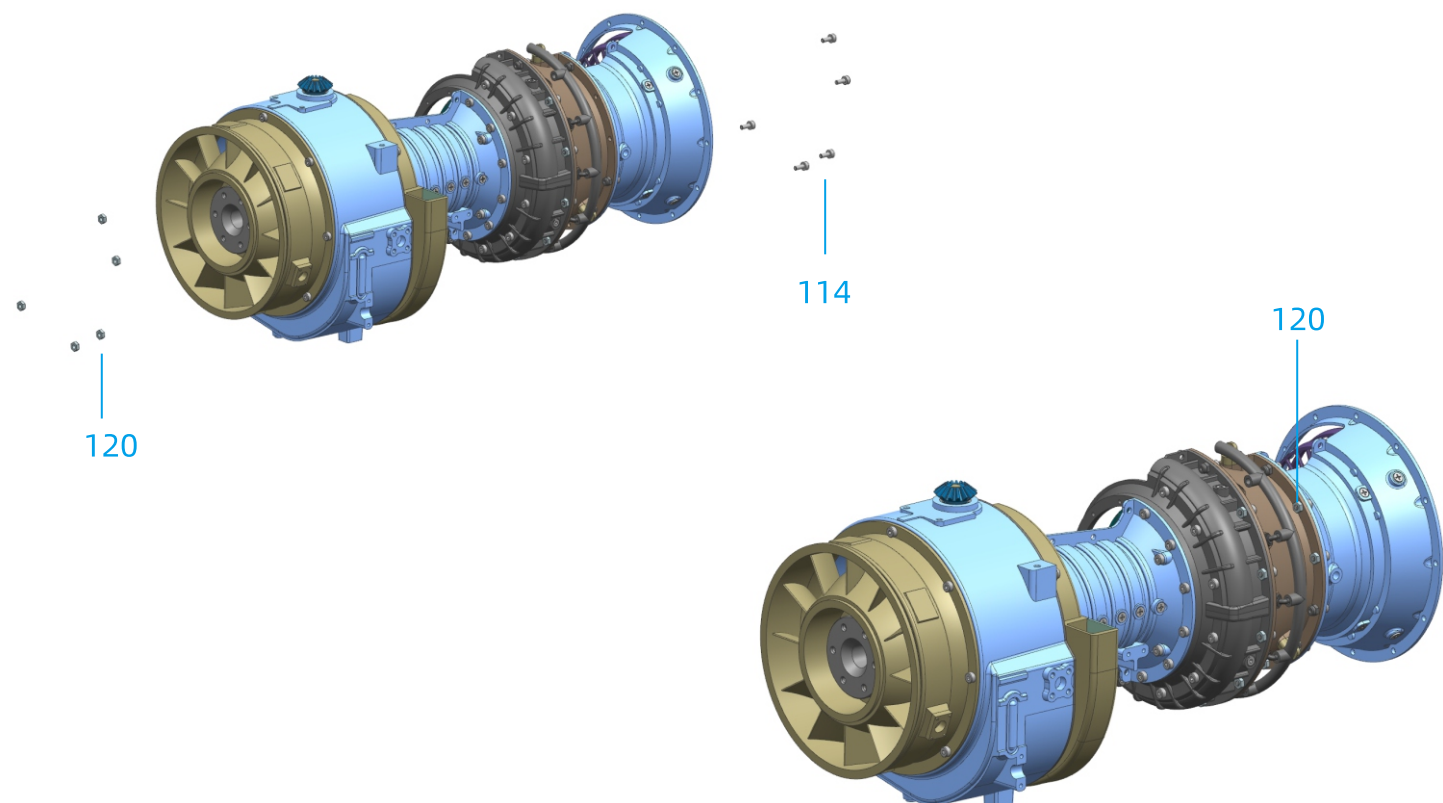


8.3、组装涡轮机匣总成防松螺丝Assemble the anti loosening screws of the turbine casing assembly

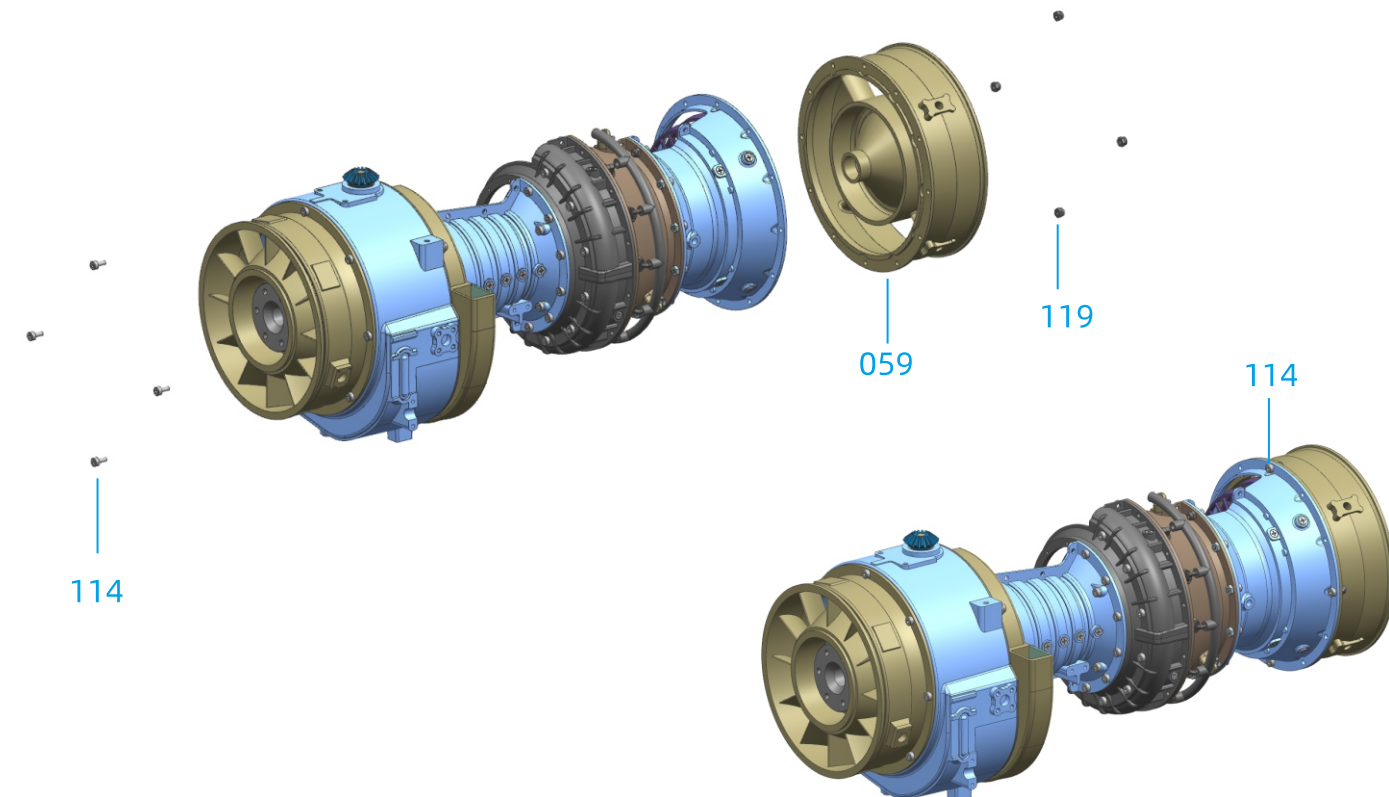
两个总成剖口边缘对齐
Align the edges of the
two assembly sections



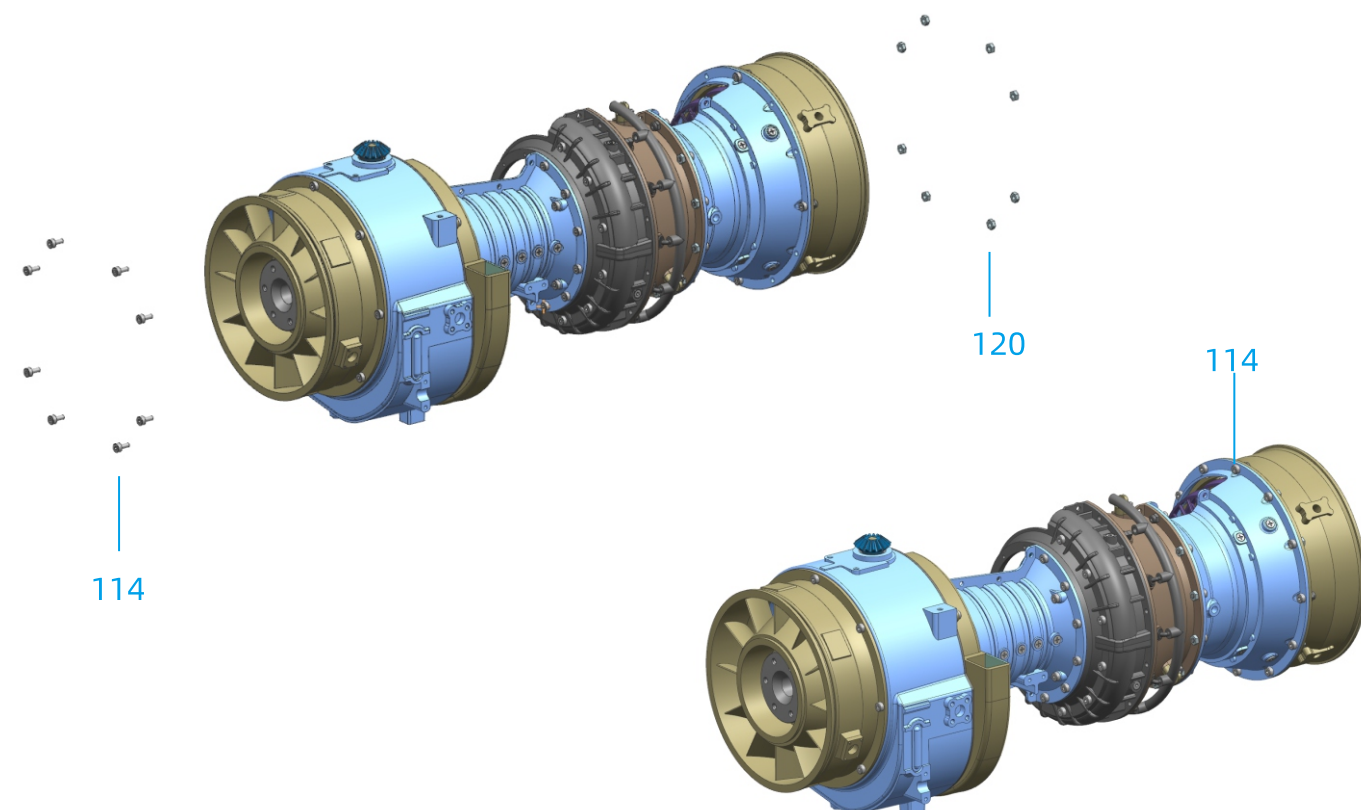
8.4、组装涡轮机匣总成标准螺丝Assemble the standard screws of the turbine casing assembly



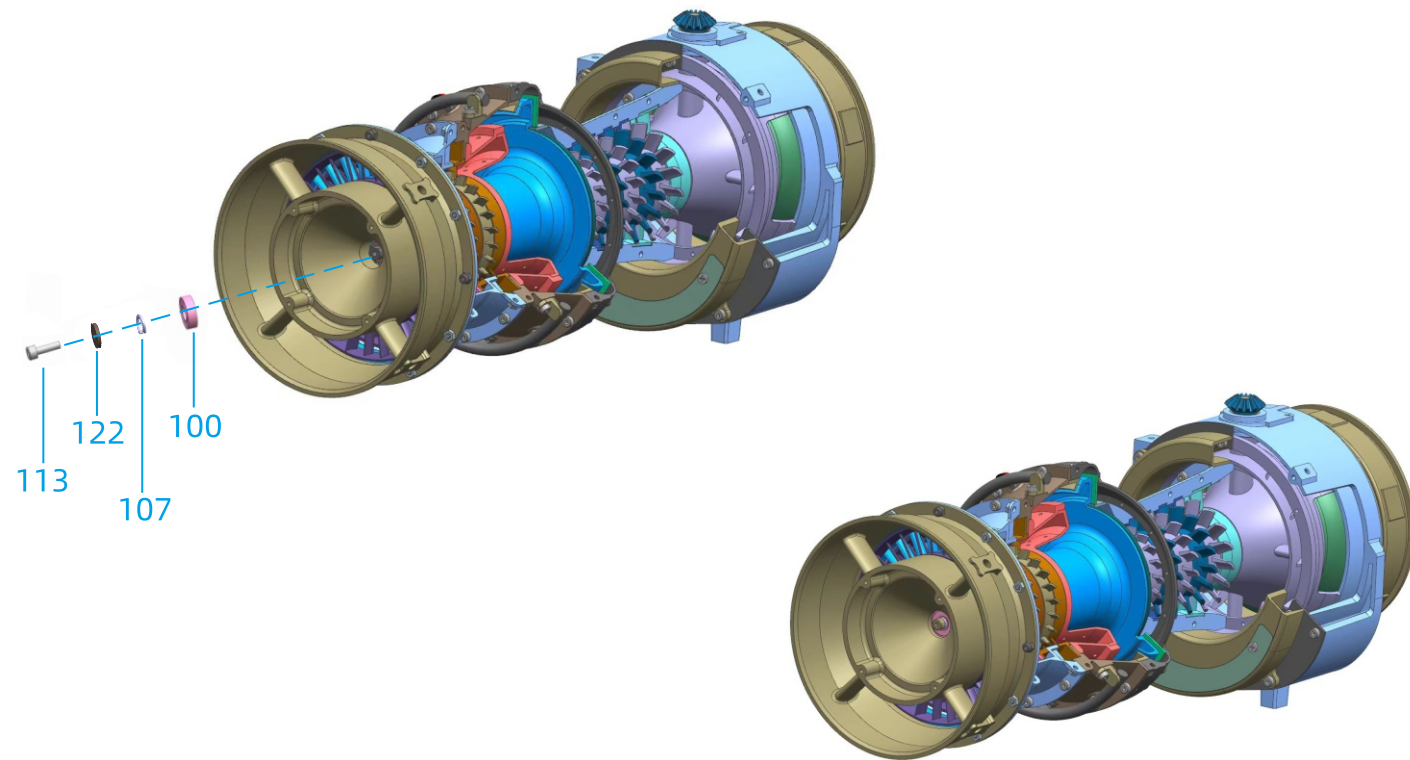
8.5、组装后支撑机匣防松螺丝Assemble and support the anti loosening screws of the receiver



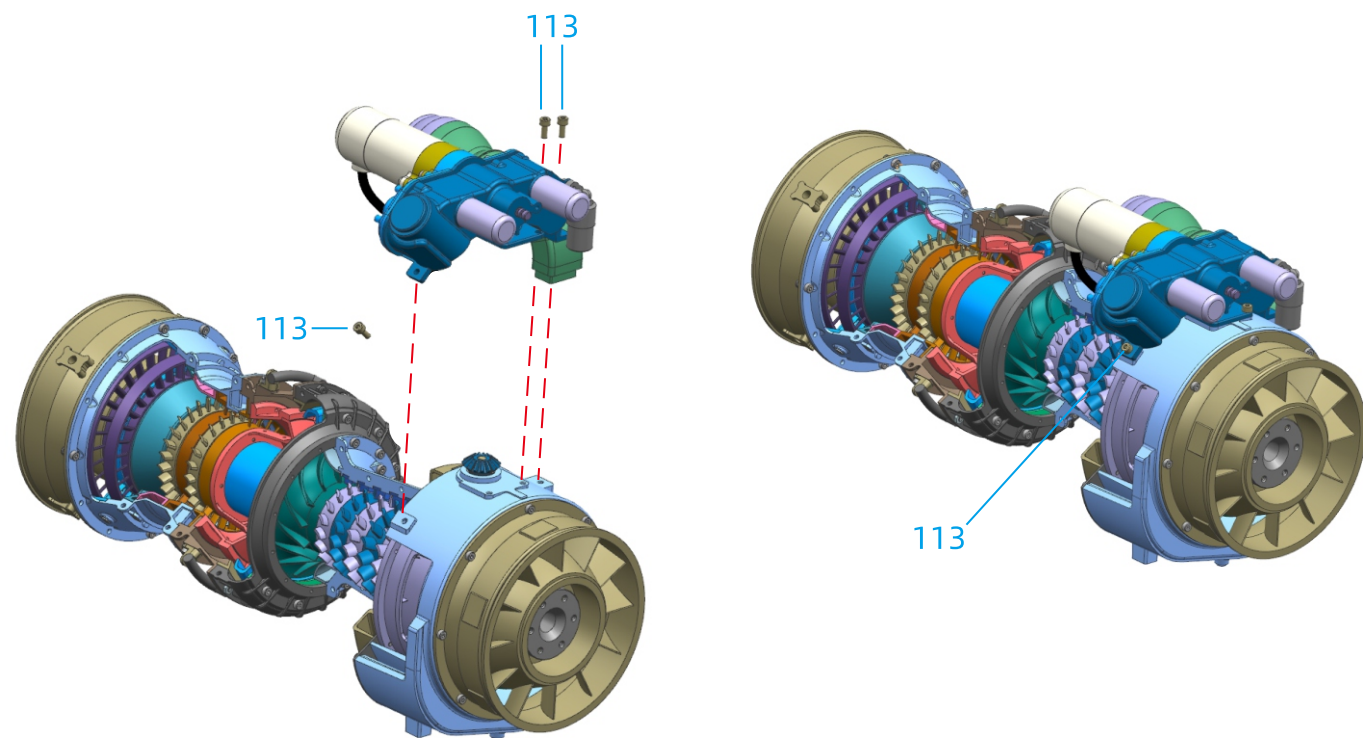
8.6、组装后支撑机匣标准螺丝Standard screws for supporting the receiver after assembly



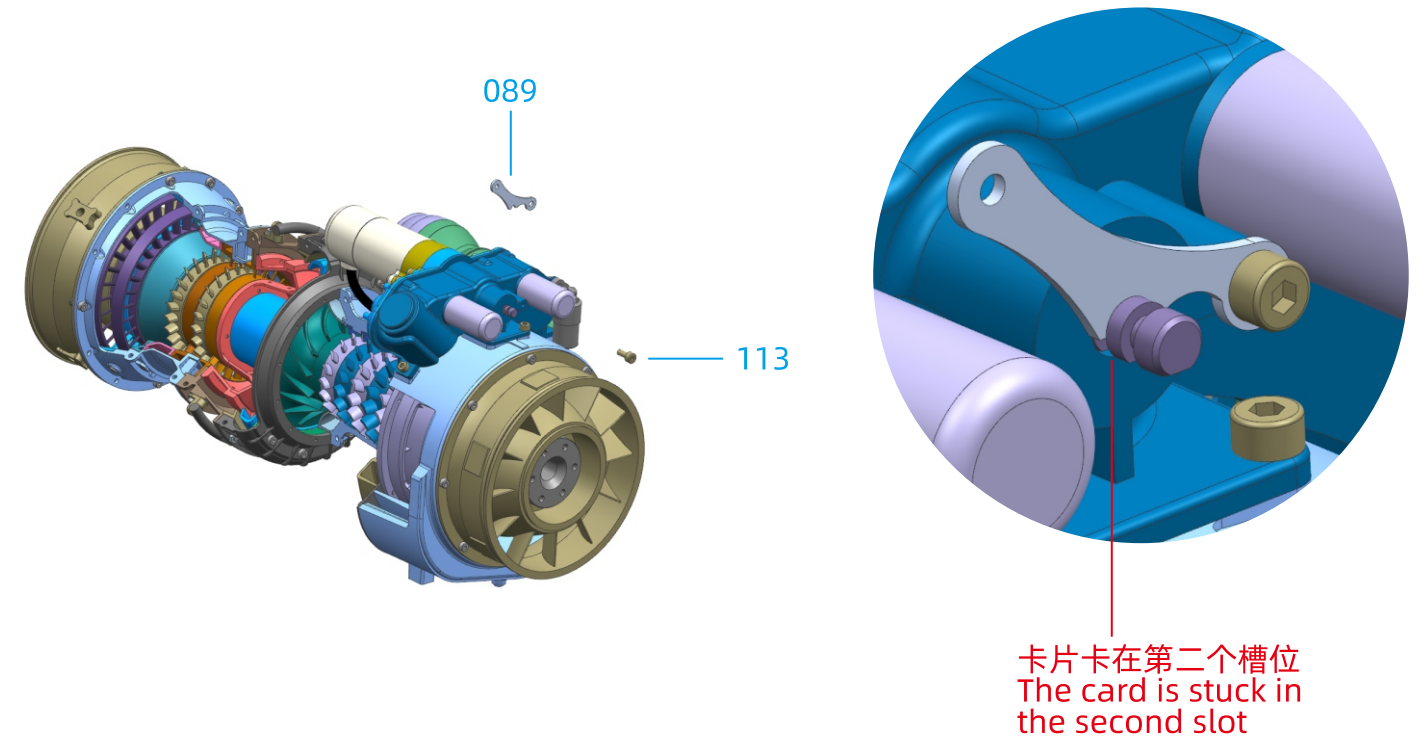
8.7、组装中心轴后轴承Assemble the rear bearing of the central shaft



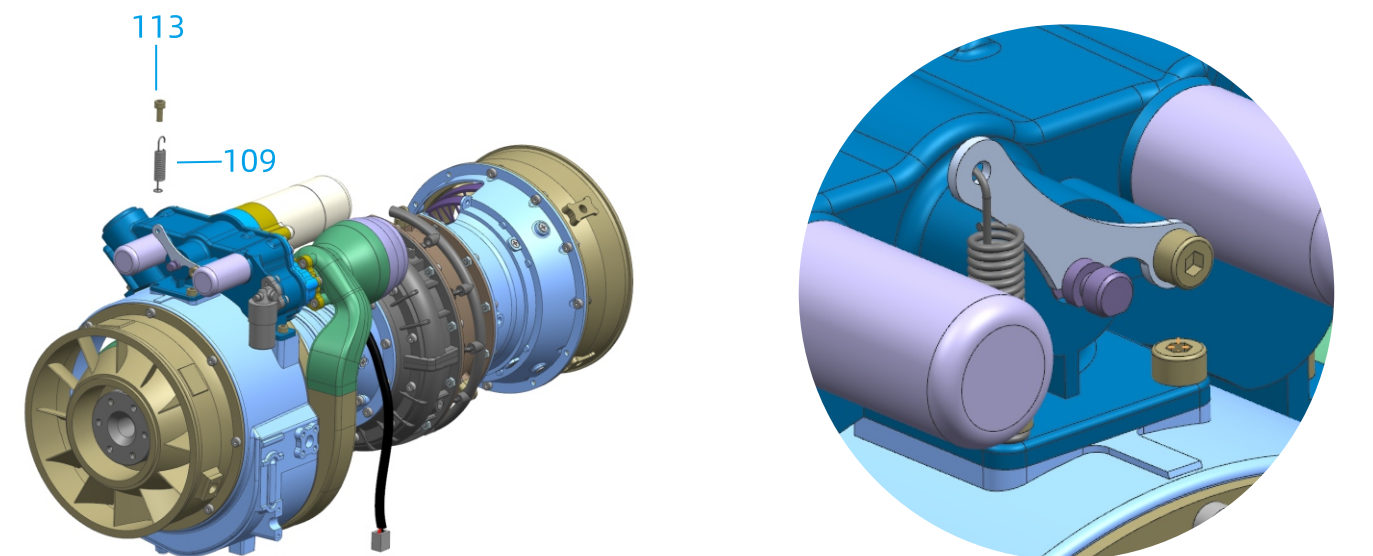
8.8、组装齿轮箱总成Assemble the gearbox assembly



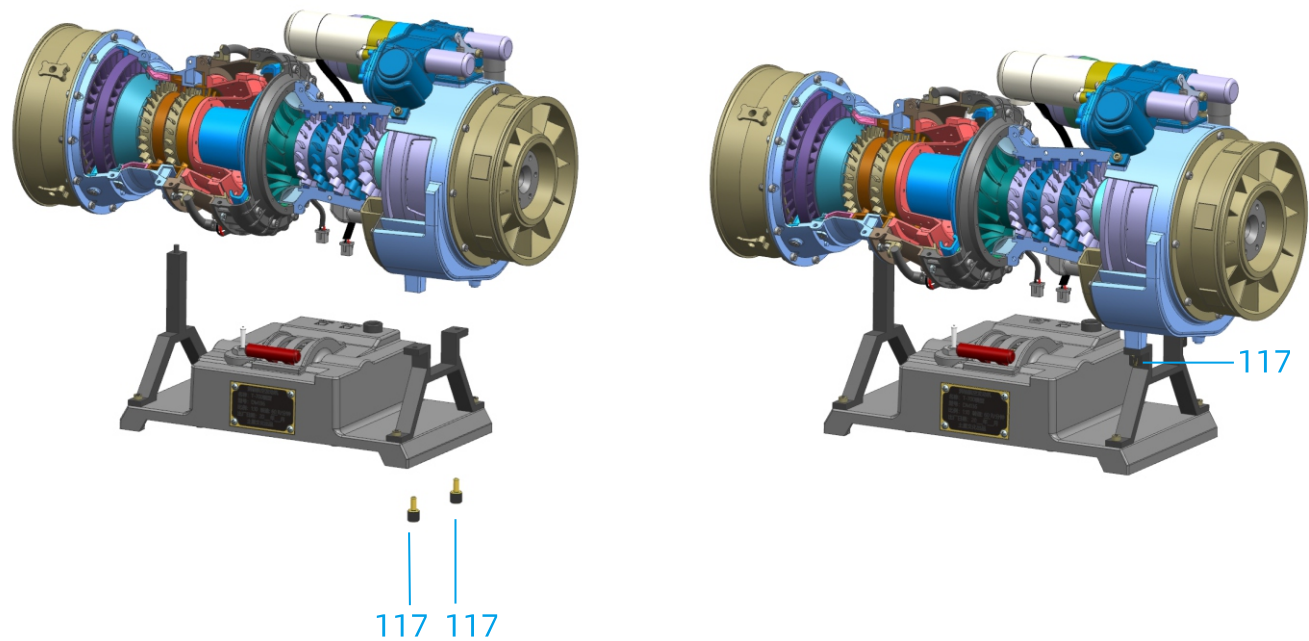
8.9、组装离合器卡片Assemble clutch card



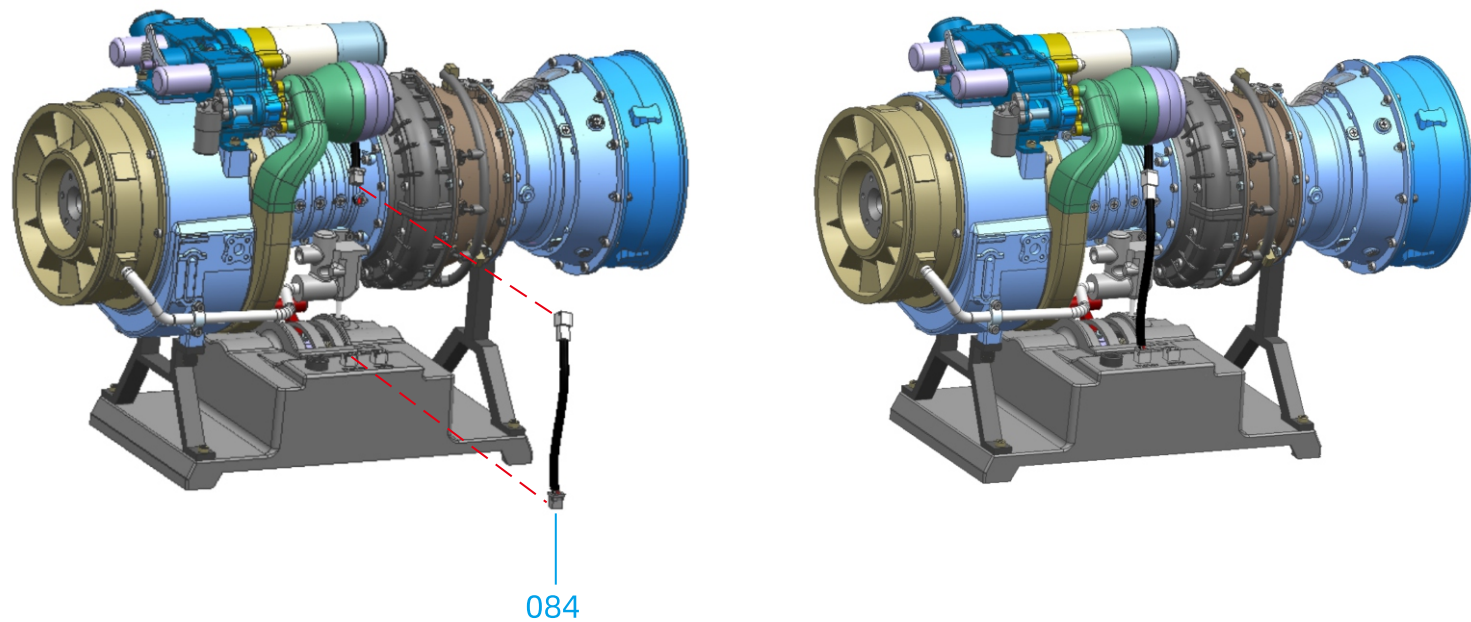
8.10、组装离合器弹簧Assemble clutch spring



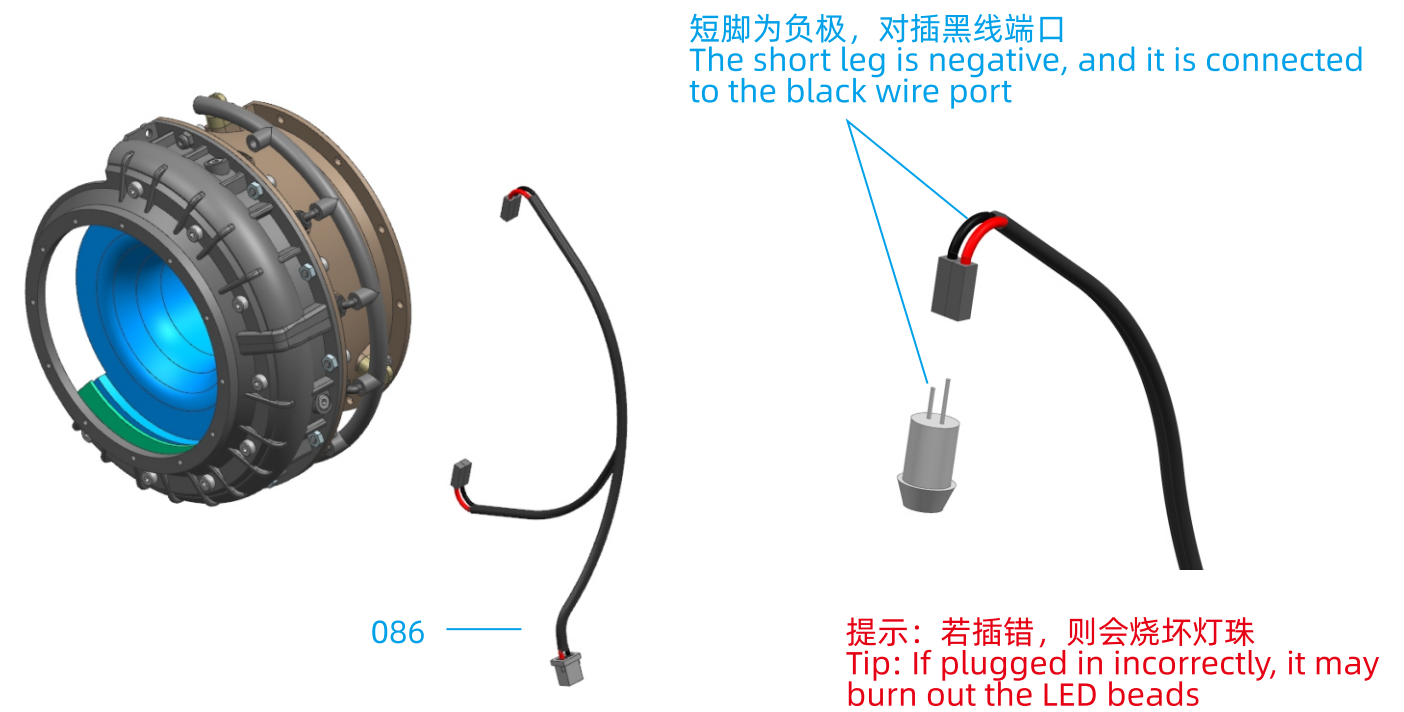
8.11、组装底座Assemble the base



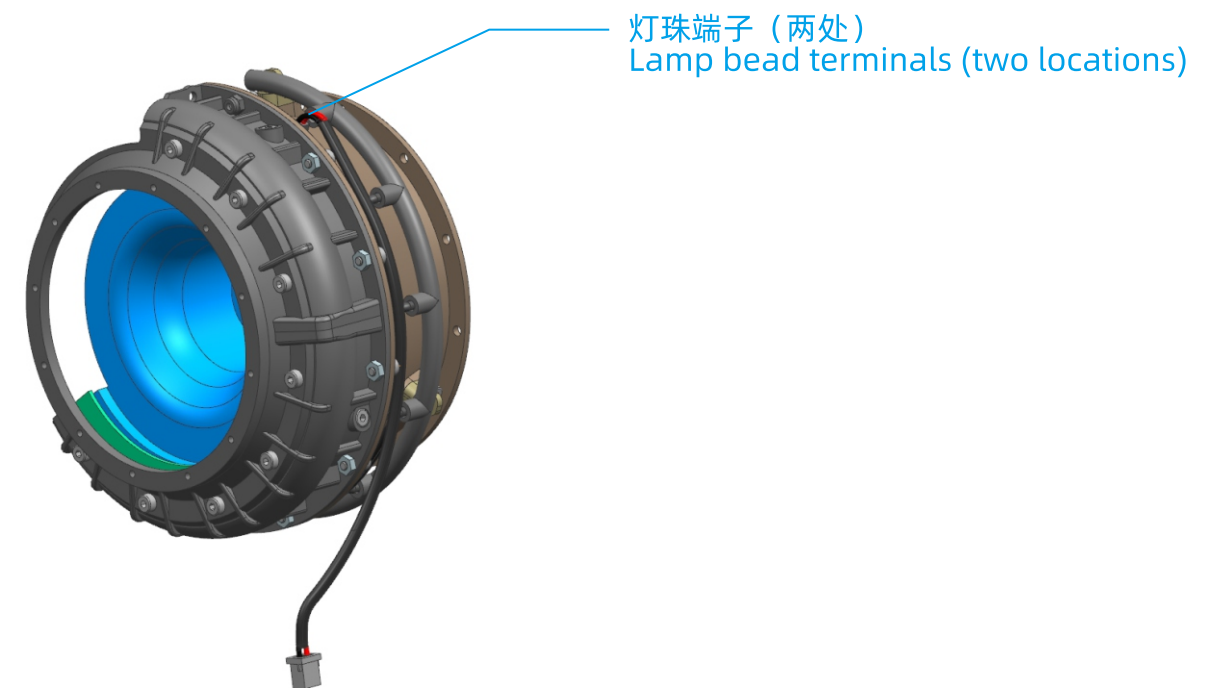
8.12、组装电机连接线Assemble the connecting wires of the motor



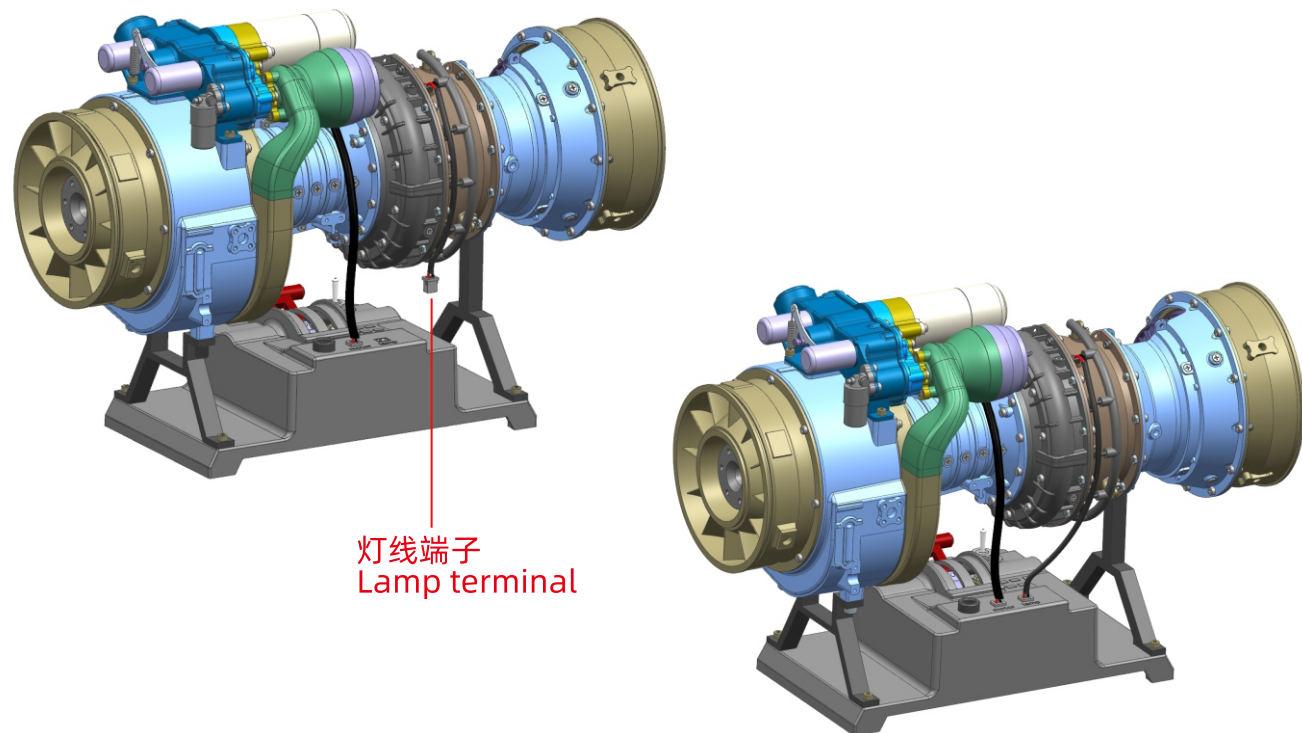
8.13、连接演示灯端子1 Connect the demonstration lamp terminal1



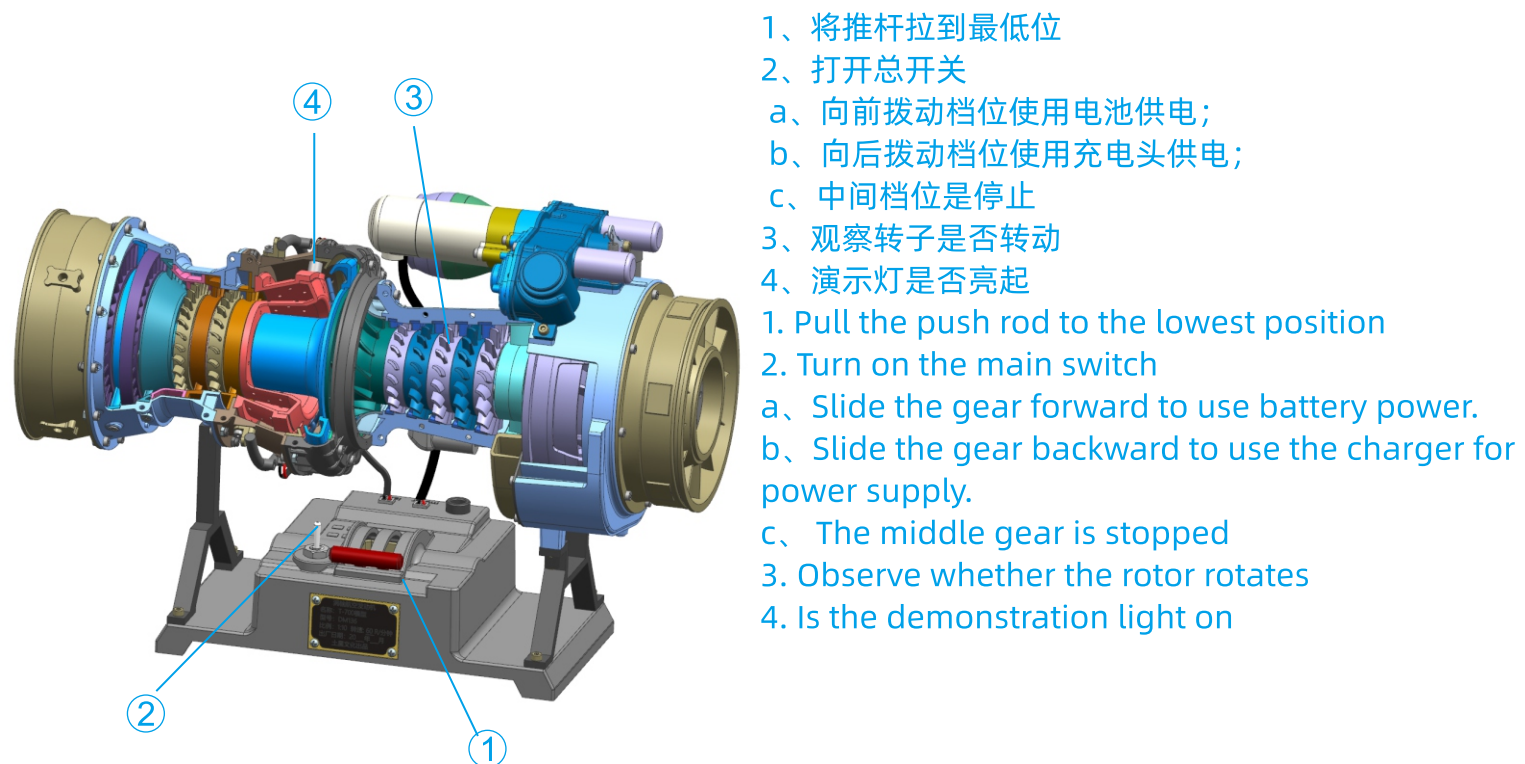
8.14、连接演示灯端子2 Connect the demonstration lamp terminal2



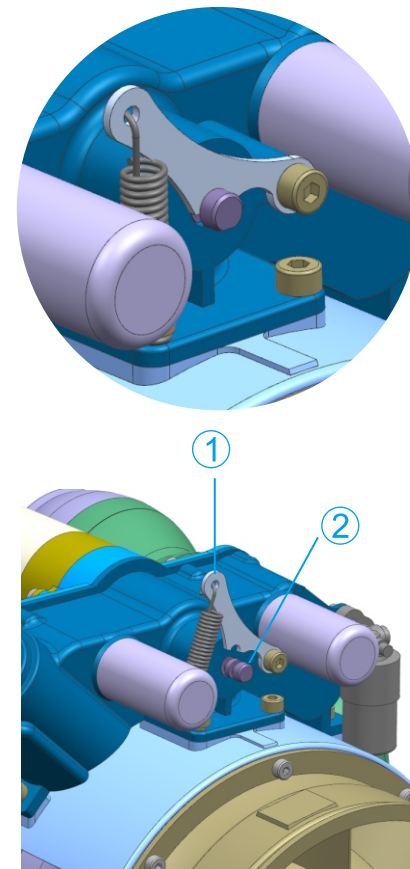
8.15、连接灯端子Connect the lamp terminals



8.16、启动电机结合工作状态Starting motor combined with working status

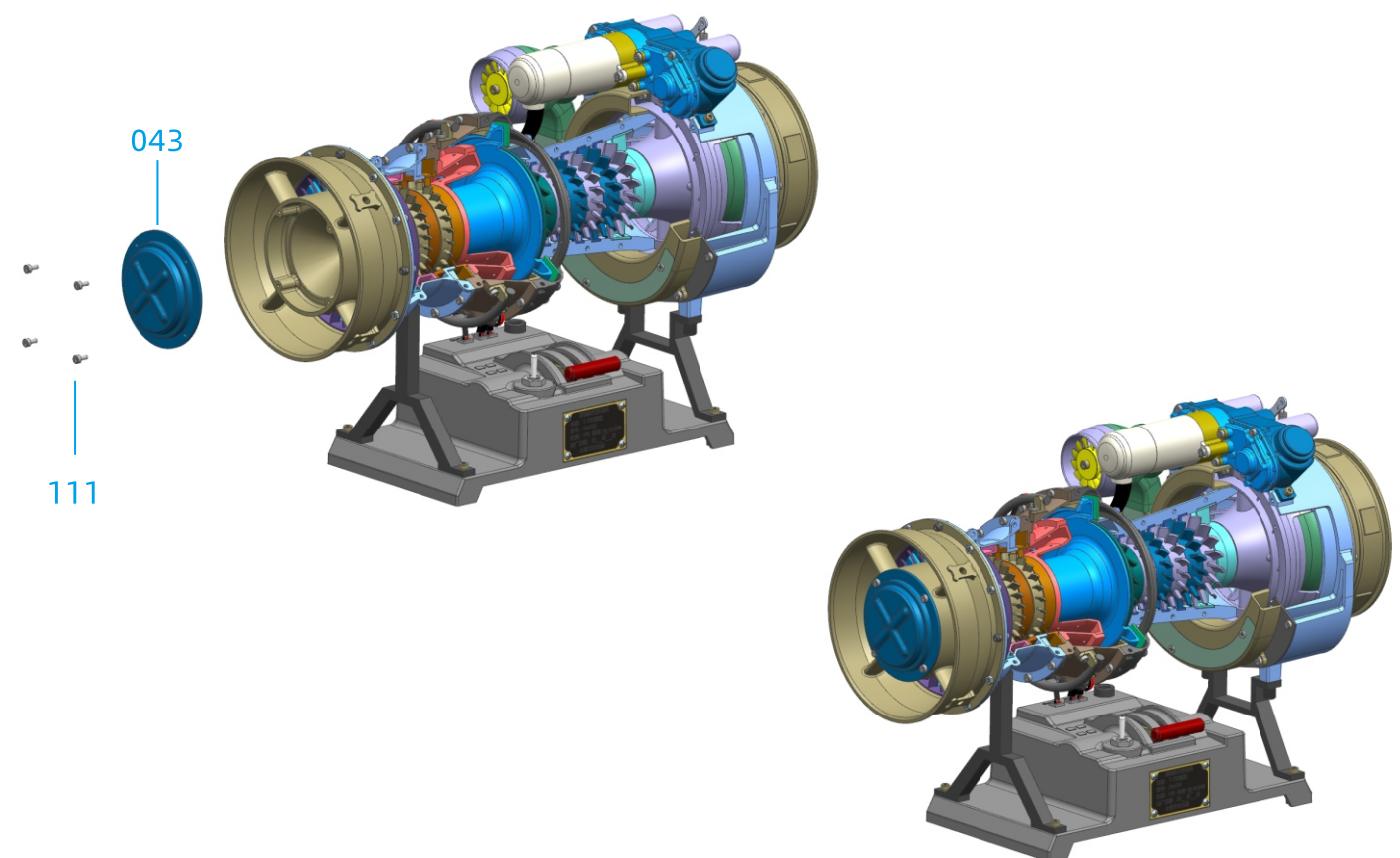


8.17、启动电机脱离工作状态Starting the motor out of working state

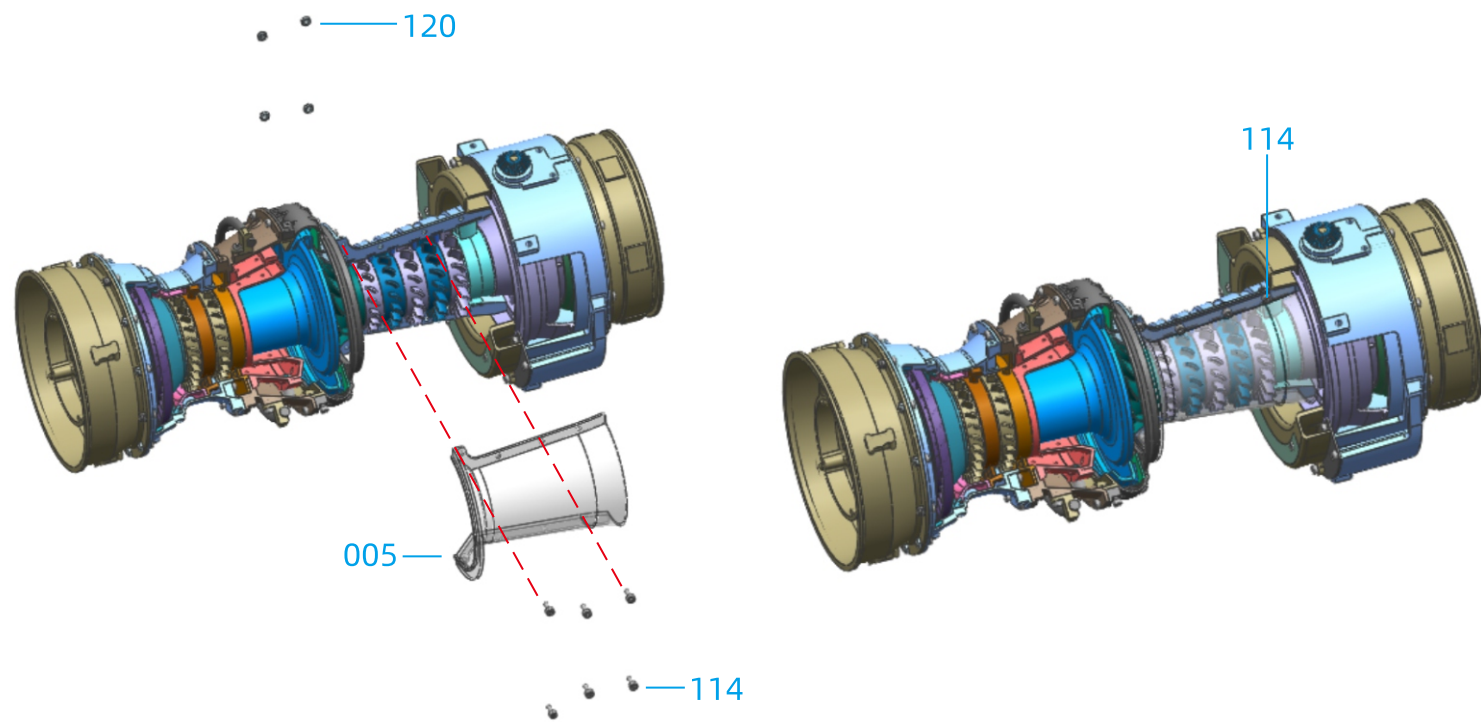


- 1、将卡片抬起
 - 2、将离合器轴向内推进一个卡位，此时离合器处于脱离状态
 - 3、将推杆拉到最低位
 - 4、打开总开关，转子是停止转动的
 - 5、可以手工转动中心轴
1. Lift the card up
 2. Push the clutch shaft inward by one engagement position, and the clutch is in the disengaged state
 3. Pull the push rod to the lowest position
 4. Turn on the main switch, the rotor stops rotating
 5. Can manually rotate the central axis

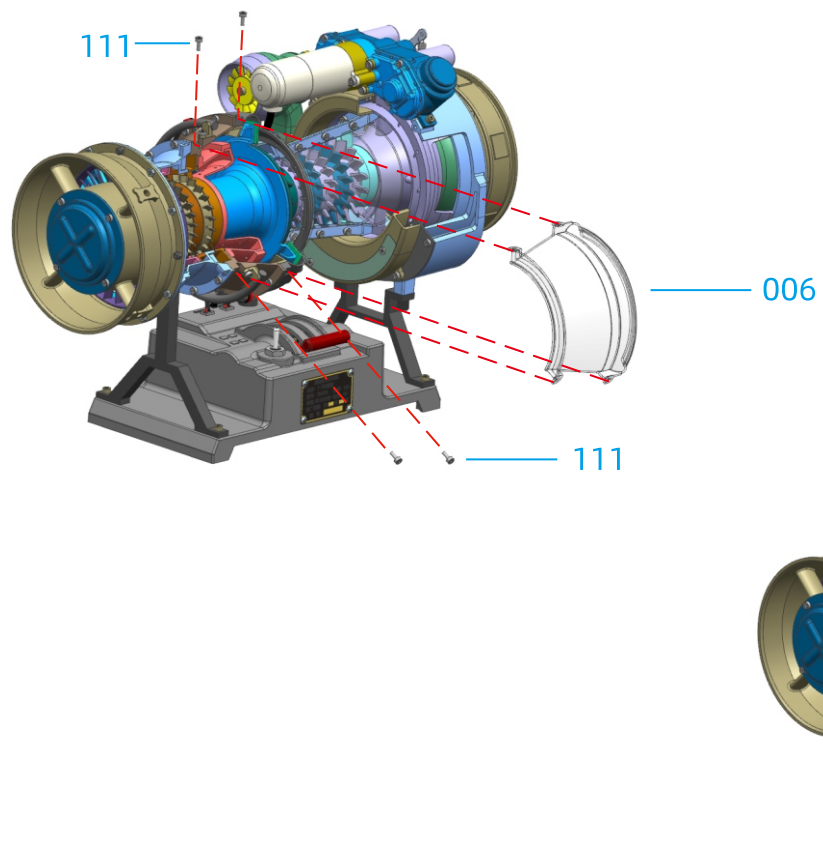
8.18、组装尾端盖Assemble the tail cover



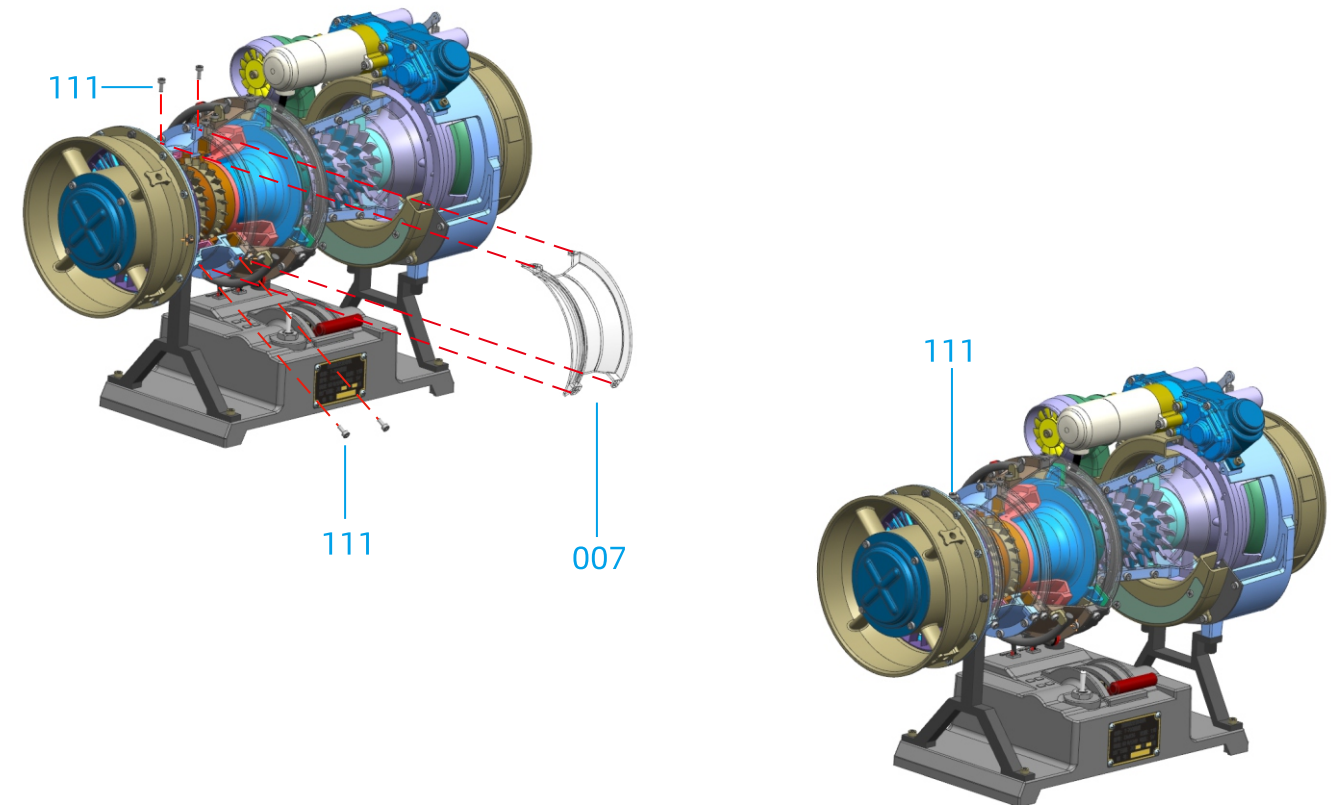
8.19、组装压气机透明罩Assemble the transparent cover of the compressor



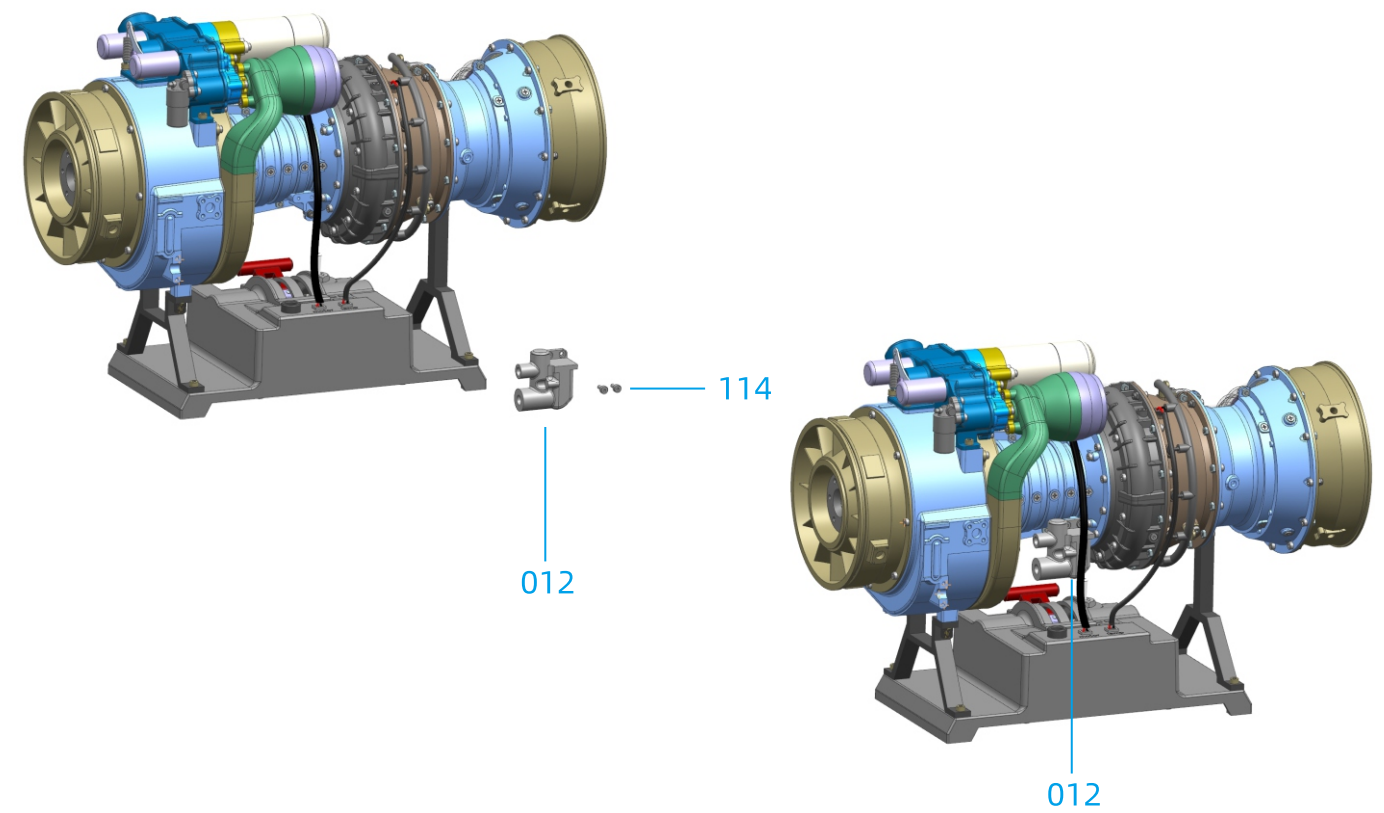
8.20、组装燃烧室透明罩Assemble the transparent cover of the combustion chamber



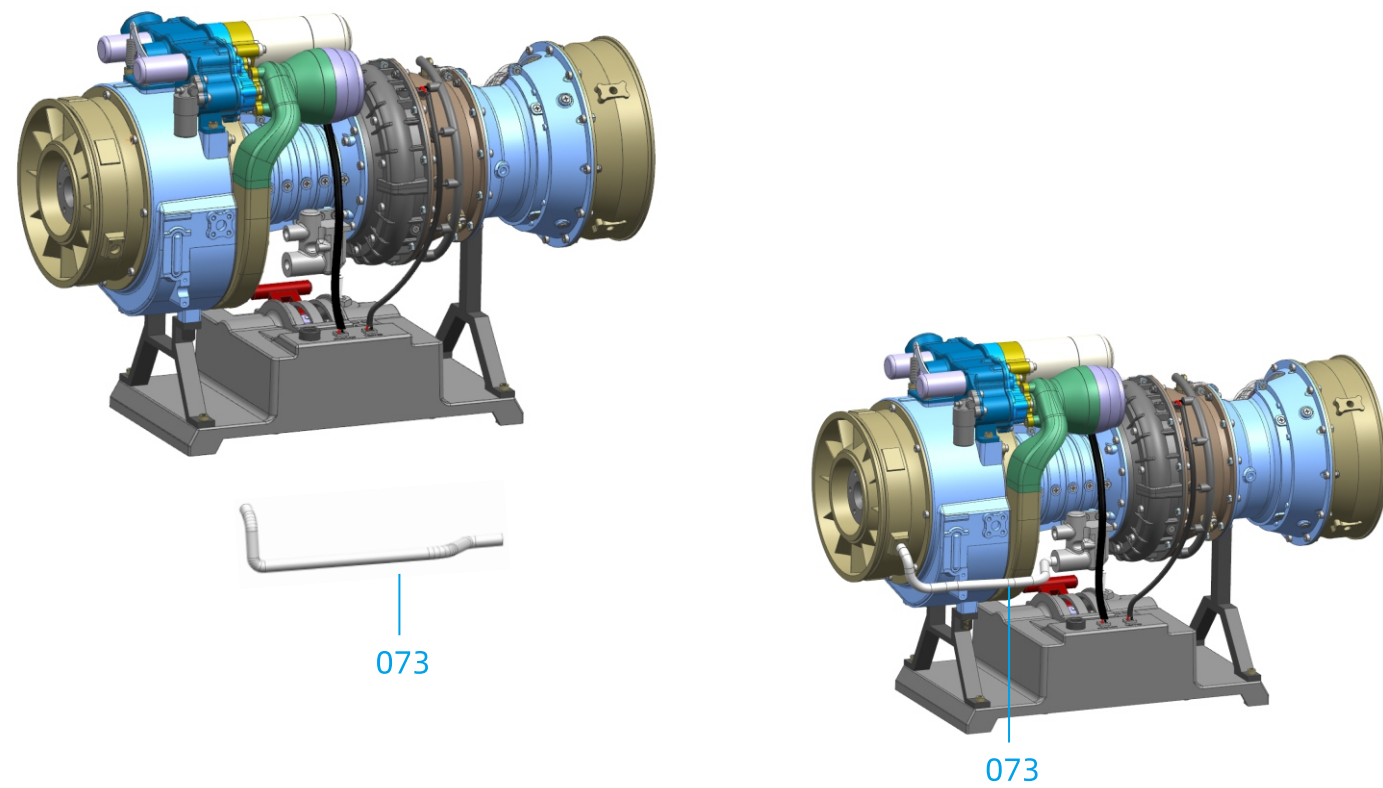
8.21、组装涡轮机匣透明罩Assemble the transparent cover of the turbine casing



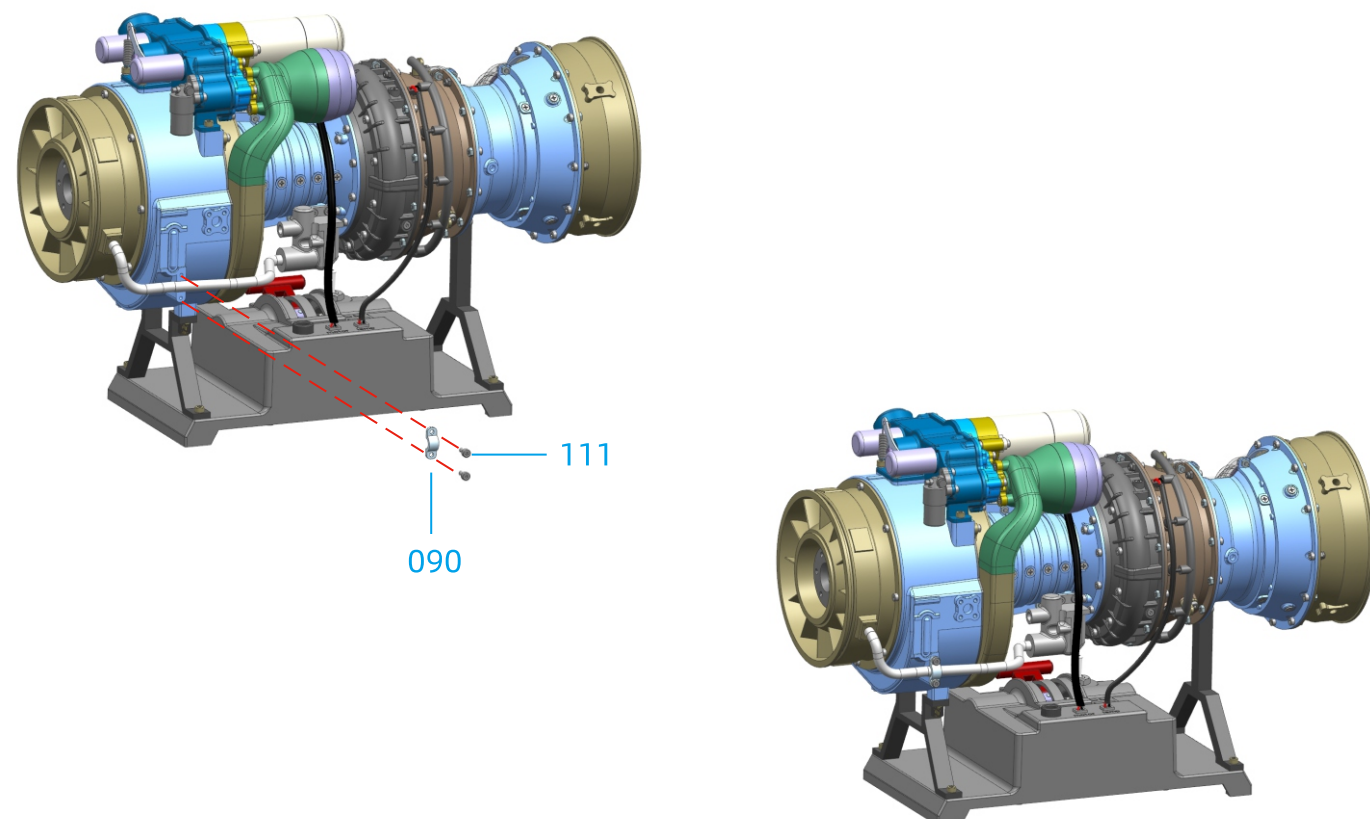
8.22、组装液压阀Assemble hydraulic valve



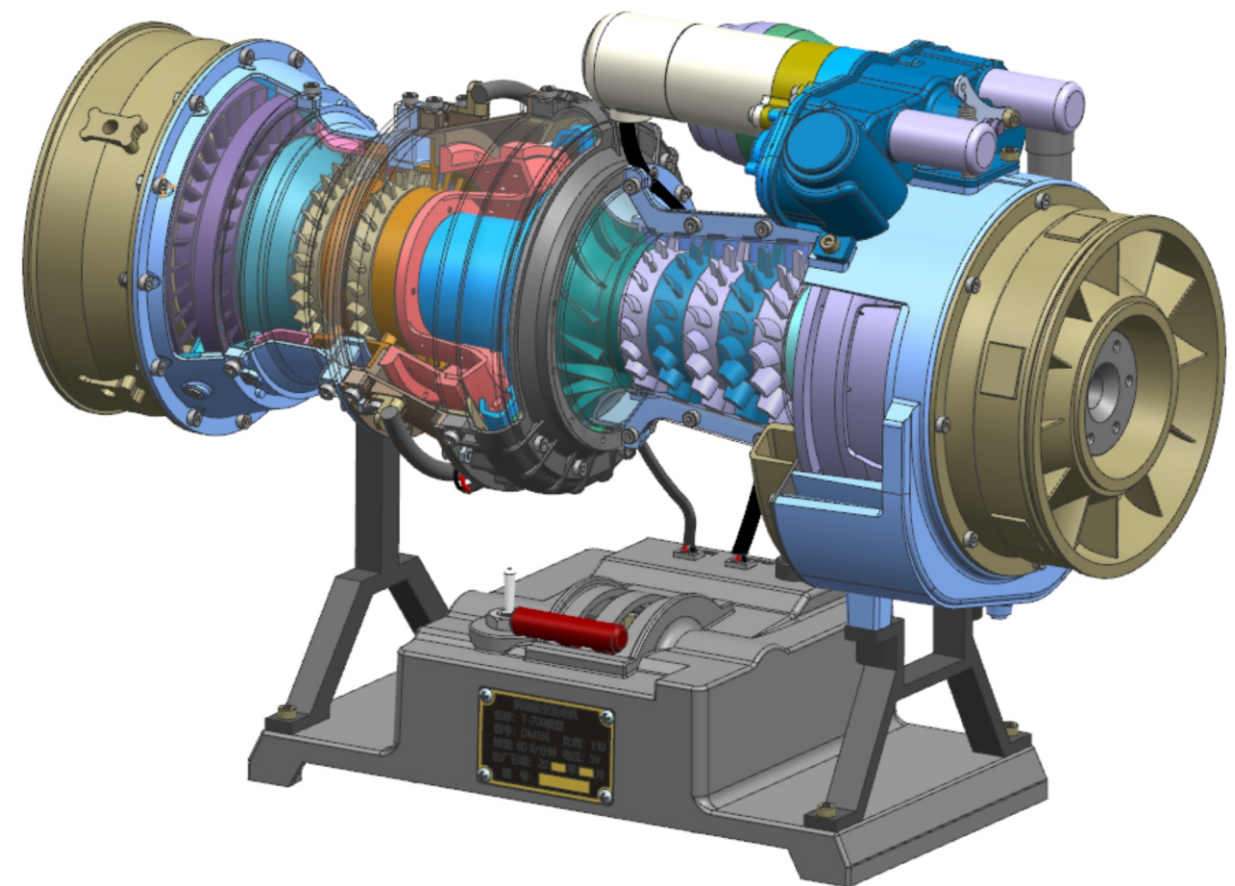
8.23、组装机油管Assemble oil pipe



8.24、组装机油管固定盖板Assemble the oil pipe fixing cover plate



8.25、组装完成Assemble completed



产品基本信息

一、产品参数产

品名称:T-700涡轴发动机

产品型号:DM136

主要材料:铝合金+锌合金+不锈钢

充电电压:直流5V

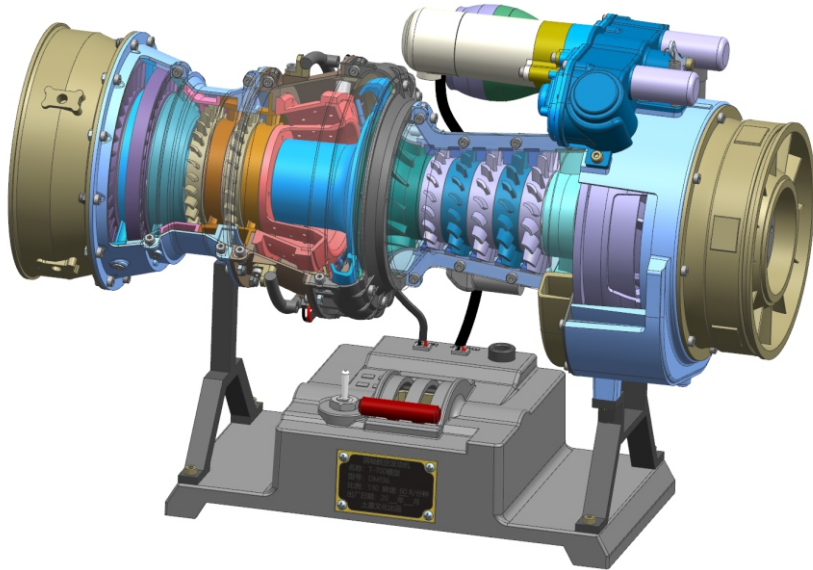
电池容量:800mAh

组装难度:V级

产品标准:GB/T9254-2008

GB/T17626.2-2006

质检:A



二、产品介绍

- 1.土星工匠师系列产品为金属机构组装模型。主要材料选用铝合金表面阳极氧化，产品结构采用真实的工业结构；
- 2.使用各种工具组装零件，安装工序及方法接近实际工业要求；
- 3.该系列产品主要用来提高用户的动手能力、专注力，培养严谨讲秩序的习惯；
- 4.认识各种工业机器，学习各种工业结构，提高用户的探究及创新力。

三、组装要求

- 1.组装前要认真阅读《标准件组装基础知识》，学会基本的标准件组装方法和工具使用；
- 2.要求组装时桌面整洁，防止丢失零件或错装。组装严谨有序，看图仔细，避免组装错误；
- 3.注意说明书中的提示语，注意零件的安装方向，防止理解错误。注意检测环节的要求；
- 4.摩擦部位尽量使用润滑油，防止运转时卡死。紧固螺丝必须安装到底，防止零件松动；
- 5.组装完成后要调试装配间隙及松紧度，有疑问可查询本公司相关网站或微信公众号；
- 6.鼓励在成人看护及确保安全的情况下，使用锉刀、砂纸等简单去材料工具，优化零件；
- 7.鼓励用户在没有安全隐患的情况下，将模型进行零部件修改或总体改装，及具备改装能力。
- 8.说明书后面附零件表，用户可根据列表拆散模型并重新装入盒中；
- 9.如果零件有丢失，可向我公司咨询或采购(土星官方网店)；
- 10.模型结构可能持续优化，如有说明书内容与实物不符，请参考公司最新组装资讯；
- 11.本产品长期不使用可能会造成电池失效、润滑油干枯、产品间隙沉积灰尘等造成产品无法运行的，请更换电池或拆除零件进行清洗。

一、安全须知

- 1.请仔细阅读本手册中的内容，以确保您能够正面且安全的使用本产品；
- 2.该系列产品为工业级别金属机构模型，因此组装和使用该模型需要一定的安全意识，提高安全意识也是该模型的作用之一；
- 3.本模型适合16岁以上的用户使用，相关安全事项仔细阅读本说明提示；
- 4.严禁让儿童或宠物吞咬本产品或其备件，以免造其伤害；
- 5.合理使用组装工具，严格按说明书组装零件，避免强装硬拆，防止划伤。严禁工具或零件尖角部位离眼睛太近，以免挫身体；
- 6.本模型主要由金属零件组成，具有一定的硬度和重量，请妥善放置，避免产品及配件受到强烈冲击和震动，以免砸伤身体或损坏本产品；
- 7.机械运动时，请不要将手指或身体其它部位放入零件运动范围内，避免压伤；
- 8.电线接头须按说明书指示标记连接，避免错接引起电路短路或失灵；
- 9.电池充放电及放置方法请按要求进行，电池停用3个月以上建议更换电池；
- 10.请勿以任何形式强行阻碍零件运转，如需关闭请直接关闭电源即可；
- 11.如对模型进行改装，请留意相关零件参数，避免使用大功率电器动力零件或装置，导致意外；
- 12.请按说明书正确使用本产品的零件，切勿做其它用途。

二、电池和充电注意事项

- 1.本产品配备专用充电线，用户自备电源适配器，其输出DC电压需5V，其输出DC电流不小于1000mA;禁止使用高于6V的适配器给产品充电；
- 2.充电前请确保触点干燥，无脏污，产品不使用或维修拆机时请不要充电；
- 3.不可将电池投入火中，也不能将其暴露在诸如日照、火烤或类似过热的环境中，以免电池漏液、过热、爆裂或起火；
- 4.如果电池更换不当会有爆炸危险，只能用同样类型或等效型电池来更换；
- 5.本产品配备的锂电池，严禁拆卸、挤压、加热或燃烧电池，严禁使用尖锐物、螺丝刀等触碰、撬电池，以上操作可能会引起电池起火或燃烧；
- 6.如果电池在使用、充电或保存过程中有温度过高、变色、起鼓、漏液等异常现象，请停止使用并更换新电池，以免造成安全问题；
- 7.充电时，由于电池温度会升高，请不要将电池和易燃物放在一起(如:床头、衣物、书本等)，以免引发火灾；
- 8.请勿在高温、潮湿等环境中充电，温度以0至35摄氏度为宜;湿度应在65%以下，产品设计使用最高环境温度为45摄氏度；
- 9.为减少儿童触电危险，请在家长或其他监护人的指导下操作。

三、产品声明

- 1.使用本产品前，请您仔细阅读并遵守本手册中的各种说明及警示。对于不正确使用或不遵守本产品相关说明使用所造成的后果，本公司概不负责；
- 2.本产品适合于16岁以上用户使用。因使用本产品年龄偏小或将产品给对本产品相关安全要求不熟悉者使用，造成的安全问题本公司概不负责；
- 3.本产品是工业机构模型，仅作为学习和体验使用。不得将产品作为其它用途使用，否则本公司不承担任何责任；
- 4.本公司在不断提高、完善产品的设计和使用功能，如说明书所载内容与实际产品的内容略有不同，恕无法另行通知，敬请见谅。因此任何以本说明的数据、图片或文字描述为依据的索赔要求将不予受理；
- 5.本着不断完善，持续发展的原则，本公司保留在不预先通知的情况下，对本手册中描述的任何产品细节进行修改和改进的权利；
- 6.产品说明书中的图片用于指导用户操作，仅供参考，具体请以实物为准；
- 7.在使用法律允许的最大限度内，在任何情况下，本公司与其供应商均不对任何特殊、偶然、附带、或间接损失承担责任，无论该损失由何种原因引起；

本手册中含有重要信息，请保留备用。

General information about product

I、Product Parameters Production

Product Name:T-700 Turboshaft Engine

Product Model: DM136

Materials: Aluminum alloy+zinc alloy
+stainless steel

Charging Voltage: 5V DC

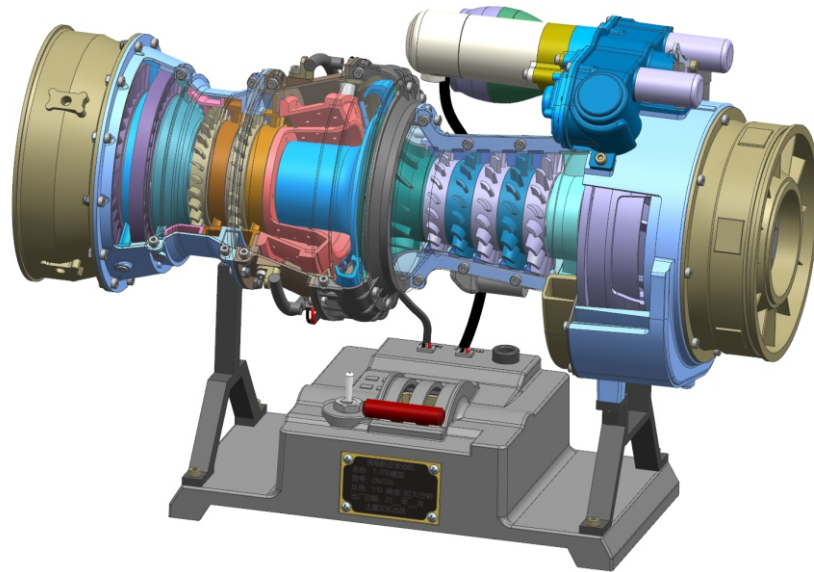
Battery Capacity: 800mAh

Assembly Difficulty: Level V

Product Standard: GB/T9254-2008

GB/T17626.2-2006

Quality Control: A



II.Product description

- 1.Teching Craftsman series of products are metal structure assemblymodels. Its primary material is aluminum alloy with anodized surfaceand the product structure is a real industrial structure;
- 2.Assemble parts using various tools with the installation proceduresand methods substantiallycompliant with practical industrialrequirements;
- 3.This series of products are principally designed to improve users'hands-on ability and concentration,and to develop habits of"preciseness and stress on discipline";
- 4.Learn about various industrial machines, and study various industrialstructures to improve user's capability of research and innovation.

III.Assembly Requirements

- 1.Be sure to read the Basics of Standard Parts Assembly carefully tomaster basic standard parts assembly procedure and the usage of toolsbefore assembly;
- 2.The table shall be kept tidy and clean during assembly to preventparts being lost or incorrectly assembled. Assemble parts in a rigorousand orderly fashion, view the diagrams carefully, and avoid incorrectassembly;
- 3.Pay attention to the prompt text in instruction manual, carefully viewthe part installation orientation, and avoid incorrect comprehension.Pay attention to the requirements on testing;
- 4.Lubricating oil shall be applied to friction areas to the greatest extentto prevent jamming during operation. Fastening screws must bethoroughly mounted to prevent looseness of parts;
- 5.If you have any doubt when adjusting any assembly clearance ortightness after the completion of assembly, please refer to our websiteor WeChat public account;
- 6.Users are encouraged to optimize the parts using material removingtools like files and sand paper with adult care where the personal safety is guaranteed.

- 7.Users are encouraged to perform part modification or overallmodification of model without potential safety hazard so as to developmodification capability as soon as possible;
- 8.The user may disassemble this model and put it in the packageagain according to the parts list attached hereto;
- 9.If any part is lost, please inquire of or purchase it from us (Techingofficial online store);
- 10.The model structure is subject to continual improvement. If the reaobject differs from the instruction manual, please refer to our latestassembly information;
- 11.Once the product fails to function due to battery failure, lubricating oishortage or dust accumulation in product gaps because it is left unusecfor long, it's advisable to change the battery or disassemble and cleanits parts.

Precautions

I.Safety Instruction

- 1.Please read this manual carefully so that you are in a position to use this product correctly and safely;
- 2.This series of products are industrial-level metal models, so itsassembly and use requires certain safety awareness; improvement ofsafety awareness is also a function of the model;
- 3.This model is suitable for users aged 16 and over. Please read thismanual carefully for relevant safety information;
- 4.Strictly prohibit children or pets swallowing or biting this product or itsspare parts, since this may cause injury/damage;
- 5.Use assembly tools rationally, assemble the parts in strict conformitywith the instruction manual, and avoid forcible handling to avoidscratches; keep sharp points of tools or parts away from the eyes toavoid contusions.
- 6.This model is made up of metallic parts mainly, and has a certainlevel of hardness and a certain weight; please place it properly to avoidbodily injuries;Protect the products and accessories aaainst intenseshock and vibration so as to avoid personal injury and product damage;
- 7.During mechanical movement, do not put a finger or any other partof the body within the movement range to avoid contusions;
- 8.Wire connectors must be connected according to the marksspecified in the instruction manual to avoid short-circuit or failurearising from wrong connection;
- 9.Charge, discharge and place the battery as required; it is advised toreplace the battery when it has not been used for 3 months or more;
- 10.Do not prevent any part from running forcibly in any form; to do this,turn off the power directly;
- 11.To refit this model, please pay attention to the relevant partparameters, and avoid using any high-power electric part or device thatmay result in an accident;
- 12.Please use parts of this product properly as per instruction manual.Don't use them for other purposes.

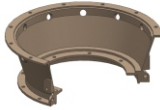
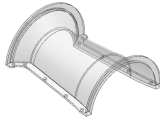
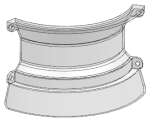
II. Battery and charging precautions

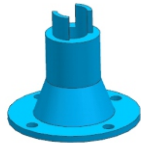
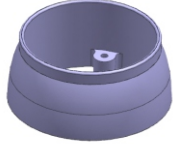
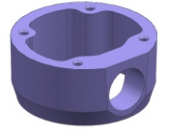
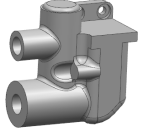
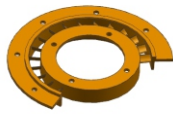
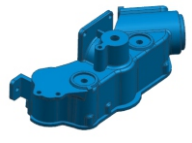
- 1.This product is delivered with dedicated charging cable. Users shaluse their own power adapters; output DC voltage: 5V; output DCcurrent >1000mA;
- 2.Please make sure the contact is dry and free of dirt before charging.Please don't charge the battery if the product is not in use or is in repair
- 3.Don't put the battery in fire or have it exposed to sunlight, fire orsimilar excessively hot environment, since this may lead to leakage,excessively high temperature, bursting or ignition of battery;
- 4.If improper change of battery may cause explosion, the battery mustbe replaced with one of identical or equivalent type;

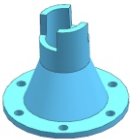
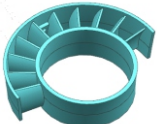
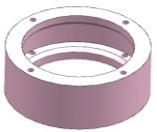
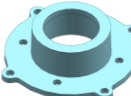
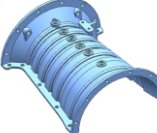
5.Never disassemble, squeeze, heat and set fire to the lithiumbattery delivered with this product, and never touch and pry thebattery using any sharp object or screwdriver, etc., since this maycause the battery to ignite or burn;
6.In the case of excessively high temperature, discolorationbulging, leakage and other anomalies during the use, charging orkeeping of battery, please take it out of service and change it with anew one to avoid safety problem;
7.Since the battery temperature rises when it's being charged,please don't have the batteryto come into contact withinflammables (e.g. bedside, clothing and books, etc.) since this mayresult in a fire;
8.Please don't charge the battery in a moist space with hightemperature; the temperature is recommended to be 0 35° C, andthe humidity shall not exceed 65%; the design max. ambienttemperature for using the product is 45° C;
9.To alleviate the risk of electric shock, children are not allowed touse the product without the help of their parents or other custodians.

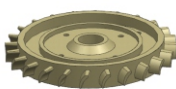
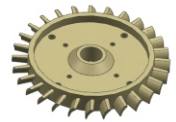
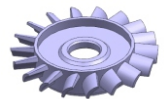
III.Product Declaration

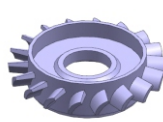
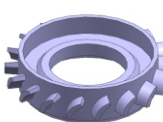
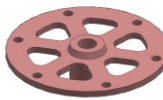
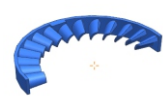
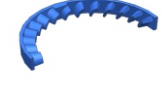
1.Please carefully read and observe various instructions andwarnings in this manual before using this product. Our companyshall not be held responsible for any consequence of failure toproperly use this product or observe related operating instructions;
2.This product is suitable for users aged 16 and over. Our companyshall not be held responsible for any safety problem arising from theuse of this product by too young users or userswho are not familiar with relevant safety requirements;
3.As a model in industrial structure, this product is designedexclusively for learning and experience. Do not use this product forother purposes; otherwise, we will assume no responsibility for any consequence thereof.
4.We have been improving the design and operation features ofour product, so separate notice will not be given for slight differencebetween instruction manual and actual product. Hence, any claimfor compensation filed based on the data, pictures or text of thisinstruction manual will be rejected;
5.For constant improvement and sustainable development, ourcompany reserves the right to modify and improve any productdetail aiven in this manual without prior notice;
6.The pictures in instruction manual guide users for operation, andare thus for indication only; the real product shall prevail;
7. Our company and its suppliers shall not be held responsible forany special, incidental, collateral or indirect loss in any case to thegreatest extent the law permits, regardless of its cause;
Please keep this manual properly since it contains importantinformation.

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
01		燃烧室外机匣 Combustion outdoor casing	1
02		燃烧室内壳 Combustion chamber shell	1
03		燃烧室外壳 Combustion chamber casing	1
04		离心压气机出口环 Outlet ring of the centrifugal compressor	1
05		压气机后机匣 Rear casing of compressor	1
06		燃烧室外罩 Combustion chamber casing	1
07		涡轮机匣罩 Turbine casing cover	1
08		抽粒弯管 Particle extraction pipe bend	1

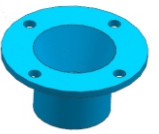
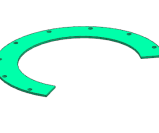
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
09		高压涡轮前盘 High pressure turbine front plate	1
10		抽粒管帽 Particle extraction cap	1
11		中心齿轮座 Central gear seat	1
12		液压阀 Hydraulic valve	1
13		一级高压涡轮静子 First stage high-pressure turbine stator	1
14		离心压气机外机匣 Centrifugal compressor outer casing	1
15		离心压气机 centrifugal compressor	1
16		齿轮箱 Gearbox	1

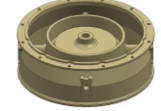
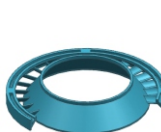
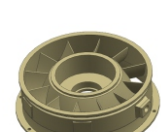
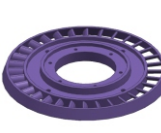
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
17		压气机前盘 Compressor front plate	1
18		一级压气机静子 First stage compressor stator	1
19		低压涡轮连接盘 Low pressure turbine connection plate	1
20		高压涡轮连接盘 High pressure turbine connection plate	1
21		中心齿轮盖 Central gear cover	1
22		压气机前机匣 Compressor front casing	1
23		齿轮箱上盖 Gearbox cover	1
24		齿轮箱中盖 Gearbox cover	1

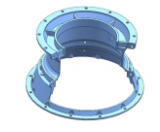
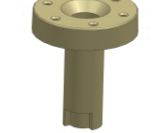
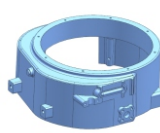
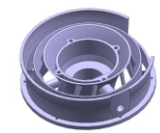
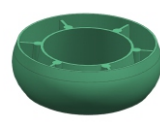
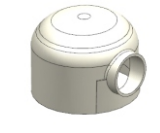
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
25		离心压气机机匣 Centrifugal compressor casing	1
26		中心轴 Axis	1
27		N2 轴 N2 axis	1
28		N2 套筒 N2 sleeve	1
29		一级高压涡轮转子 First stage high-pressure vortex rotor	1
30		二级高压涡轮转子 Secondary high-pressure turbine rotor	1
31		一级压气机转子 First stage compressor rotor	1
32		二级压气机转子 Secondary compressor rotor	1

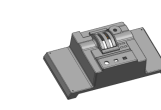
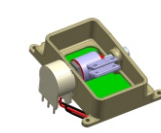
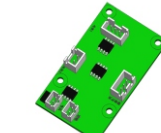
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
33		三级压气机转子 Three-stage compressor rotor	1
34		四级压气机转子 Four stage compressor	1
35		五级压气机转子 Five stage compressor rotor	1
36		一级低压涡轮固定盘 First stage low-pressure turbine fixed disk	1
37		二级压气机静子 Secondary compressor stator	1
38		三级压气机静子 Three-stage compressor stator	1
39		四级压气机静子 Four stage compressor stator	1
40		五级压气机静子 Five stage compressor stator	1

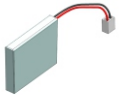
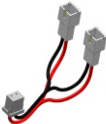
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
41		离心压气机静子 Centrifugal compressor stator	1
42		涡轮静子连接环 Turbine stator connection ring	1
43		尾喷管后盖 Tail nozzle rear cover	1
44		电机 electrical machinery	1
45		电机套 Motor set	1
46		抽粒机前轴 Front axle of particle extractor	1
47		抽粒机后轴 Rear shaft of the pelletizing machine	1
48		抽粒固定盘 Fixed disc for particle extraction	1

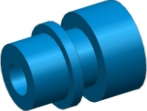
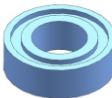
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
49		高压涡轮后盘 High pressure turbine rear plate	1
50		二级高压涡轮静子 Secondary high-pressure turbine stator	1
51		传动轴 transmission shaft	1
52		离合器轴 clutch shaft	1
53		抽粒管连接板 Particle extraction tube connecting plate	1
54		抽粒管封板 Sampling tube sealing plate	1
55		离心机匣连接板 Centrifuge box connecting plate	1
56		离心风管 Centrifugal air duct	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
57		前支架 Front bracket	1
58		后支架 Rear bracket	1
59		尾喷管机匣 Tail nozzle casing	1
60		燃油总管 Fuel manifold	1
61		一级低压涡轮静子 First stage low-pressure turbine stator	1
62		进气机匣 Intake gearbox	1
63		二级低压涡轮转子 Secondary low-pressure turbine rotor	1
64		一级低压涡轮转子 First stage low-pressure turbine rotor	1

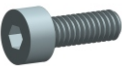
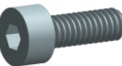
序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
65		二级低压涡轮静子 Secondary low-pressure turbine stator	1
66		涡轮机匣 Turbine casing	1
67		燃烧室内机匣 Combustion chamber casing	1
68		中心轴前段 Front section of central axis	1
69		油箱 fuel tank	1
70		分流机匣 Splitter receiver	1
71		进气连接机匣 Intake connection gearbox	1
72		电机帽 Motor cap	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
73		机油管 Oil pipe	1
74		底座 base	1
75		底板 bottom plate	1
76		电位器总成 Potentiometer assembly	1
79		推杆 push rod	1
80		主板 motherboard	1
81		拨动开关 toggle switch	1
82		充电口 charging port	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
83		电池 batteries	2
84		电机连接线	1
85		电机分流线 motor shunt wire	1
86		灯珠连接线 Connecting wire of the LED lamp bead	1
87		机油过滤器 oil filter	1
88		燃油过滤器 fuel filter	2
89		离合器卡板 Clutch plate	1
90		进油管固定块 Oil inlet pipe fixing block	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
91		燃油管支架 Fuel pipe bracket	3
92		燃油支管 Fuel branch pipe	5
93		抽粒机皮带轮 Granulator belt pulley	1
94		电机皮带轮 motor pulley	1
95		压簧 spring	1
96		轴承12*21-5 bearing12*21-5	5
97		轴承8*12-3.5 bearing8*12-3.5	7
98		轴承8*16-5 bearing8*16-5	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
99		轴承4*8-3 bearing4*8-3	6
100		轴承5*11-3 bearing5*11-3	2
101		电机轴套管 Motor shaft sleeve	1
102		抽粒风扇 Particle extraction fan	1
103		小锥齿轮 bevel pinion	3
104		中心锥齿轮 Central bevel gear	2
105		皮带 belt	1
106		铭牌 nameplate	1

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
107		M2.5弹簧垫片 M2.5 Spring washer	2
108		M2.5防松螺母 M2.5 anti loosening nut	2
109		拉簧 tension spring	1
110		六角螺母 hex nut	2
111		内六角螺钉M2*4 Hexagon socket head cap screw M2*4	100
112		内六角螺钉M2*8 Hexagon socket head cap screw M2*8	5
113		内六角螺钉M2.5*6 Hexagon socket head cap screw M2.5*6	33
114		内六角螺钉M2*6 Hexagon socket head cap screw M2*6	130

序号 Serial Number	零件图片 Parts pictures	品名 Product Name	用量 Dosage
116		平头螺丝 CM2*5 flat head screw CM2*5	21
117		M3手拧螺丝 M3 thumb screw	2
118		蘑菇头螺丝 M2*4 Mushroom head screw M2*4	5
119		M2防松螺母 M2 anti loosening nut	21
120		M2螺母 M2 nut	53
121		灯珠 led	2
122		M2.5垫片 M2.5 washer	2
135		轴承10*19-5 bearing10*19-5	1

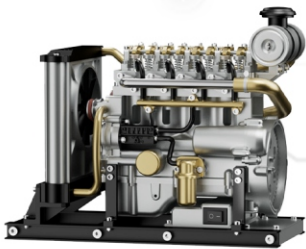
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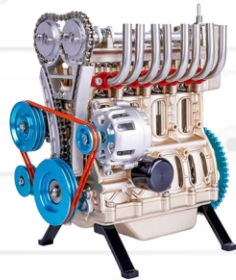
Turbofan engine (DM119)
航空涡扇发动机 (DM119)



V8 Engine (DM118)
V8发动机 (DM118)



Mini diesel engine (DM115)
迷你柴油发动机 (DM115)



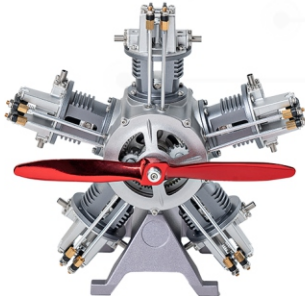
4-Cylinder engine (DM113)
直列四缸发动机 (DM113)



Small bypass turbfan engine (DM135)
小涵道比涡扇发动机 (DM135)



Turbocharged 4-Cylinder Engine (DM111)
涡轮增压四缸发动机 (DM111)



5-Cylinder radial engine (DM116)
星型五缸发动机 (DM116)



Oil pumping unit (DM601)
抽油机 (DM601)



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